Acorn Valley Development
83 Christie Drive
Dorchester
Transportation Impact Assessment

Paradigm Transportation Solutions Limited

2025-04
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ptsl.com

Project Summary

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Acorn Valley Development
83 Christie Drive, Dorchester
Transportation Impact Assessment

Rajan Phillips, P.Eng.

Disclaimer

Executive Summary

Background

Paradigm Transportation Solutions Limited (Paradigm) completed a Transportation Impact Assessment (TIA) in June 2020 for a proposed Residential Subdivision at 83 Christie Drive in Dorchester, Ontario.

The June 2020 TIA was based on a Draft Plan of Subdivision that included areas north and south of Christie Drive and accommodating 466 single family units, 72 townhouse units, and a high-density block with approximately 488 apartment units. 288 of the total number of units were located north of Christie Drive and 738 units were located south of Christie Drive.

The access to the subdivision was based on the westerly extension of Christie Drive from its current terminus at Wheeler Avenue to terminate in a three-leg intersection at Harris Road. Three four-leg accesses were proposed on Christie Drive, with one of them aligned with Wheeler Avenue.

Traffic forecasting and analysis were based on a ten-year horizon, i.e., 2030, with 2019 as base year.

The Draft Plan of Subdivision has since been changed, and the TIA is now updated based on the new subdivision plan. The new plan provides for accommodating 311 single family homes, 56 semi-detached homes, 34 street townhouse units, 204 medium-density apartment units, and 588 high-density apartment units. The distribution of dwelling units provides for 376 units to be located north of Christie Drive and 817 units south of Christe Drive. The access arrangement will be the same as in the earlier plan.

The 2020 TIA was based on traffic counts conducted in August 2019 at five study area intersections. As part of updating the TIA, new traffic counts were conducted in September 2023 at three outer intersections to identify changes in roadway traffic volumes. The 2023 traffic counts indicate that roadway traffic volumes are generally about the same or lower than the traffic volumes in 2019.

Accordingly, the same timeframe for forecasting and analysis is used in the current update as in the 2020 TIA, viz., 2020 as base year and 2030 as horizon year.

The access arrangement will be the same as in the earlier plan. A new road connection between Mill Road and Dorchester Road to the south of Christie Drive is assumed in the current update as in the 2020 TIA.

It is noted that the TIA corresponds to the full development of the subdivision comprising areas both north and south of Christie Drive. The actual development may proceed in phases based on registration of different areas of the subdivision.

TIA Scope

The scope of the Transportation Impact Assessment includes:

- **Study Area Intersections:**
  - Harris Road and Hamilton Road;
  - Wheeler Avenue and Hamilton Road;
  - Westchester Bourne and Donnybrook Drive;
  - Mill Road and Donnybrook Drive;
  - Dorchester Road and Donnybrook Drive;
  - "New Road" and Dorchester Road (future);
  - Harris Road and Christie Drive (future);
  - Christie Drive and Wheeler Avenue (future); and
  - Three access intersections (future).
- **Analysis Periods:** Weekday AM and PM peak hours.
- **Traffic Conditions:** Base Year (2019); Horizon Year (2030).
- **Access Arrangement:** Development is based on the westerly extension of Christie Drive to Harris Road and providing three full access points on Christie Drive, one of them aligned with Wheeler Avenue to the north.
- **Other Area Developments:** The following developments in the area are included in estimating future background traffic volumes.

  Boardwalk at Millpond – Located southeast of the subject site, the development includes 580 units to be completed after 2021.

  187 Dorchester Road – Located south of Byron Avenue between Dorchester Road and Oakwood Drive, the development includes 191 units and commercial uses to be completed by 2023.
- **New Road:** A new road connection between Mill Road and Dorchester Road to the south of Christie Drive.

Conclusions

Based on the investigations carried out, it is concluded that:

- Under existing conditions, all study area intersections are operating at acceptable levels of service and queue lengths during the AM and PM peak hours.
- When completed, the site is forecast to generate a total of 476 AM peak hour trips and 595 PM peak hour trips.
- Under 2030 background traffic conditions, all study area intersections are forecast to operate with acceptable levels of service and queue lengths.
- Under 2030 total traffic conditions, all study area intersections are forecast to operate with acceptable levels of service and queue lengths.
- The proposed site access intersections of Christie Drive with Street F / Street J and Street B / Street H are forecast to operate with acceptable levels of service under Stop Sign control.
- Under Two Way Stop Sign control, no left-turn lanes are warranted at any of the proposed site access intersections. Additionally, these intersections are adequately spaced from one another.
- The proposed multi-use trail (MUT) within the subdivision should be provided with adequate lighting and convenient access locations for pedestrians and cyclists.

Recommendations

Based on the findings and conclusions of this study, it is recommended that the development be considered for approval as proposed.

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Appendices

Figures

Tables

1 Introduction

1.1 Overview

Paradigm Transportation Solutions Limited (Paradigm) completed a Transportation Impact Assessment (TIA) in June 2020 for a proposed Residential Subdivision at 83 Christie Drive in Dorchester, Ontario. The subject site consists of about 100 acres of vacant land and is located north and south of Christie Drive between Harris Road and Mill Road. **Figure 1.1** details the location of the subject development.

The June 2020 TIA was based on a Draft Plan of Subdivision that included areas north and south of Christie Drive and accommodating 466 single family units, 72 townhouse units, and a high-density block with approximately 488 apartment units. 288 of the total number of units were located north of Christie Drive and 738 units were located south of Christie Drive.

The access to the subdivision was based on the westerly extension of Christie Drive from its current terminus at Wheeler Avenue to terminate in a three-leg intersection at Harris Road. Three four-leg accesses were proposed on Christie Drive, with one of them aligned with Wheeler Avenue.

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The Draft Plan of Subdivision has since been changed, and the TIA is now updated based on the new subdivision plan. The new plan provides for accommodating 311 single family homes, 56 semi-detached homes, 34 street townhouse units, 204 medium-density apartment units, and 588 high-density apartment units. The distribution of dwelling units provides for 376 units to be located north of Christie Drive and 817 units south of Christe Drive. The access arrangement will be the same as in the earlier plan.

The 2020 TIA was based on traffic counts conducted in August 2019 at five study area intersections. As part of updating the TIA, new traffic counts were conducted in September 2023 at three outer intersections to identify changes in roadway traffic volumes. The 2023 traffic counts indicate that roadway traffic volumes are generally about the same or lower than the traffic volumes in 2019.

Accordingly, the same timeframe for forecasting and analysis is used in the current update as in the 2020 TIA, viz., 2020 as base year and 2030 as horizon year.

The access arrangement will be the same as in the earlier plan. A new road connection between Mill Road and Dorchester Road to the south of Christie Drive is assumed in the current update as in the 2020 TIA.

It is noted that the TIA corresponds to the full development of the subdivision comprising areas both north and south of Christie Drive. The actual development may proceed in phases based on registration of different areas of the subdivision.

1.2 Purpose and Scope

The purpose of this report is to identify and assess the potential traffic impact resulting from the proposed development. The scope of the study developed in consultation with Middlesex County staff via e-mail in August 2019, includes:

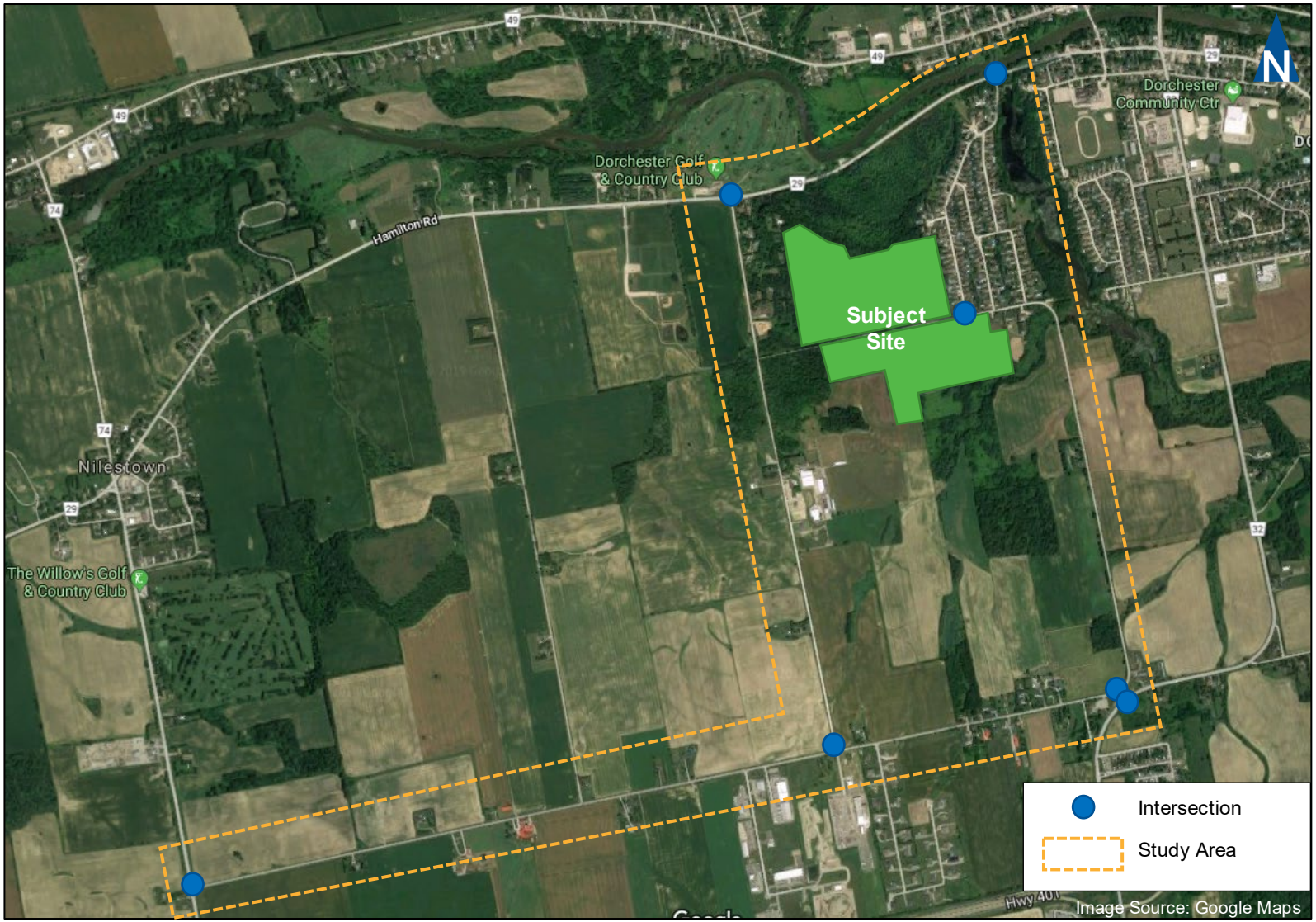
- Document current traffic and site conditions in the vicinity of the proposed development;
- Estimate the background traffic growth in the area including both road traffic and traffic from other new developments in the study area;
- Estimate the additional traffic forecast to be generated by the proposed development;
- Assign the traffic forecasts to the surrounding road network based on existing traffic patterns within the study area;
- Assess future traffic conditions, with and without the development, at the ten-year horizon (2030); and
- Identify any operational concerns and/or mitigation measures that may be required to improve operations.

Based on pre-study consultation with County staff in August 2019, the following intersections were identified for investigation in this study:

- Harris Road and Hamilton Road;
- Wheeler Avenue and Hamilton Road;
- Westchester Bourne and Donnybrook Drive;
- Mill Road and Donnybrook Drive;
- Dorchester Road and Donnybrook Drive;
- “New Road” and Dorchester Road (future);
- Harris Road and Christie Drive (future);
- Christie Drive and Wheeler Avenue (future); and

- Three access intersections (future).

Correspondence with the County regarding the scope of work is included in **Appendix A**.



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Study Area and Subject Development Location

2 Existing Conditions

2.1 Road Network

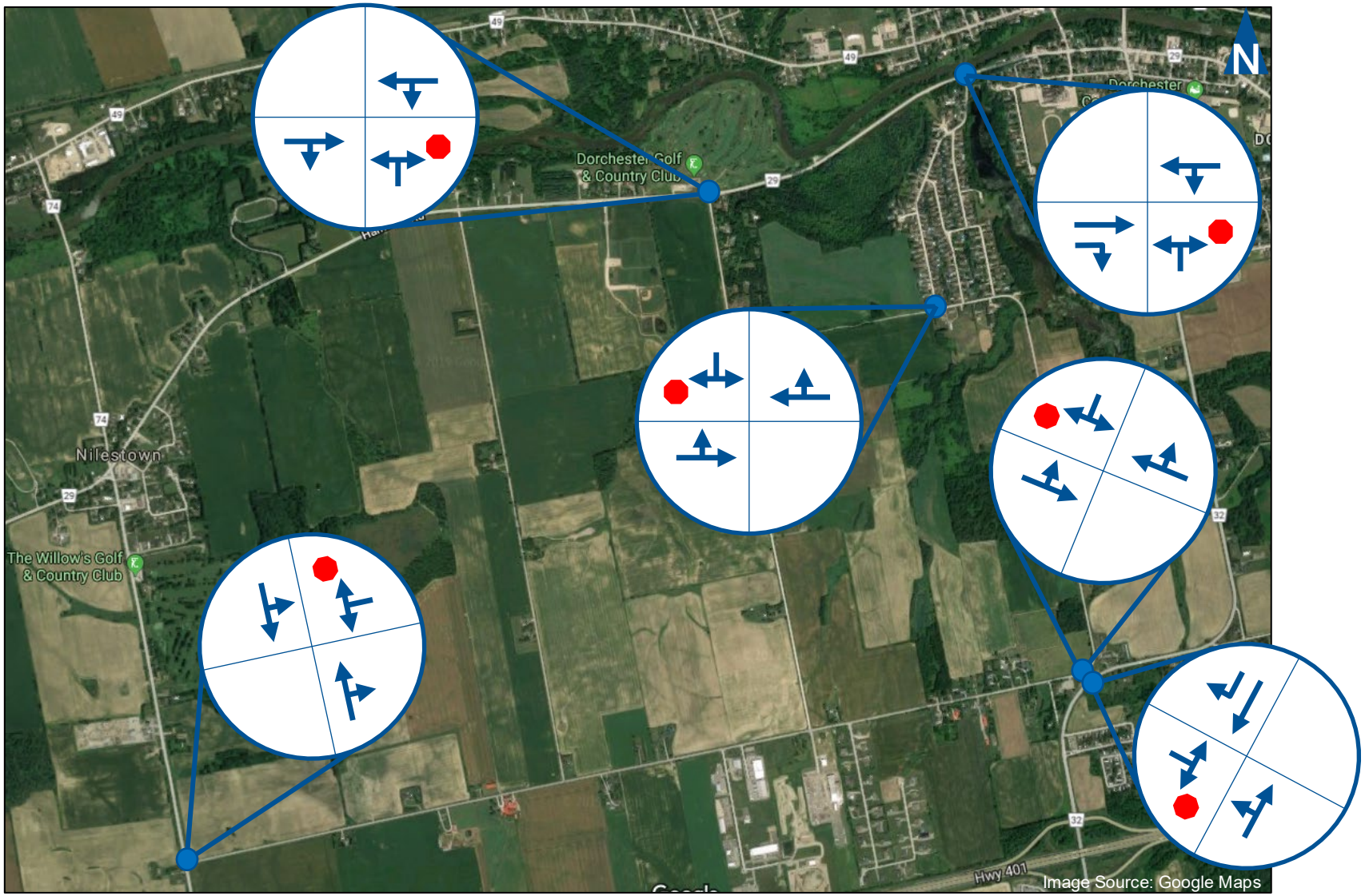
The roadways in the study area are described as follows:

- **Hamilton Road (County Road 29)** is an east-west arterial roadway with a two-lane cross-section. Parking is not permitted on either side of the roadway. West of Wheeler Avenue, the roadway has a rural cross-section. East of Wheeler Avenue, a curb and gutter are provided and sidewalks are provided on the south side of the roadway. Also east of Wheeler Avenue, the posted speed limit is 50 kilometres per hour. West of Wheeler Avenue, sidewalks are not provided and the posted speed limit is 80 kilometres per hour.
- **Harris Road** is an unpaved, north-south roadway with a two-lane rural cross-section. The speed limit is not posted and assumed to be 50 kilometres per hour.
- **Wheeler Avenue** is a north-south local roadway with a two-lane urban cross-section. Parking is permitted on both sides of the roadway. East of Mill Road, sidewalks are provided on the east side of the roadway. The speed limit is not posted and assumed to be 50 kilometres per hour.
- **Christie Drive** is an east-west local roadway with a two-lane rural cross-section. Parking is permitted on both sides of the roadway. The speed limit is not posted and assumed to be 50 kilometres per hour. The roadway currently terminates at Wheeler Avenue, and will be extended to Harris Road as part of the proposed development.
- **Mill Road** is a north-south local roadway with a two-lane rural cross-section. The posted speed limit is 50 kilometres per hour.
- **Westchester Bourne** is a north-south arterial roadway with a two-lane cross-section. In Nilestown, the roadway has an urban cross-section, south of Nilestown, the roadway has a rural cross-section. Sidewalks are not provided on either side of the roadway. The posted speed limit is 80 kilometres per hour.
- **Donnybrook Road** is an east-west local roadway with a two-lane rural cross-section. The speed limit is not posted and assumed to be 50 kilometres per hour.
- **Dorchester Road (County Road 32)** is a north-south arterial roadway. North of The Parkway, a three-lane cross-section is provided with a centre two-way left-turn lane. Sidewalks are provided on both sides of the roadway. From Byron Avenue to The Parkway a sidewalk is provided only on the east side. South of Byron Avenue, no sidewalks are provided. The posted

speed limit north of Byron Avenue is 50 kilometres per hour. South of Byron Avenue the speed limit increases to 80 kilometres per hour.

It is noted that on-street parking is not permitted on any roadways in Thames Centre between 2:00 AM and 7:00 AM. Hamilton Road, Westchester Bourne and Dorchester Road are under the jurisdiction of Middlesex County. All other roadways in the study area are under the jurisdiction of the Municipality of Thames Centre.

Figure 2.1 illustrates the existing lane configurations and traffic controls at the study area intersections. As shown, all study area intersections operate under unsignalized traffic control.



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Existing Lane Configuration and Traffic Control

2.2 Traffic Volumes

Weekday eight-hour turning movement counts for the study area intersections were conducted by Paradigm on 27, August 2019 using Paradigm's Miovision cameras. Because traffic volumes during typical AM and PM peak hours in August tend to be different than non-summer months, a seasonal adjustment factor was applied to the August counts. This adjustment factor was determined based on a count collected by Paradigm in May 2018 at the intersection of Dorchester Road and Hamilton Road. The two-way volumes in August 2019 and May 2018 on Hamilton Road between Wheeler Avenue and Dorchester Road were compared and a seasonal adjustment factor of 1.2 was determined. **Table 2.1** summarizes the AM and PM peak hour two-way volumes on Hamilton Road for both TMCs. To be conservative, the higher adjustment factor was used (1.2).

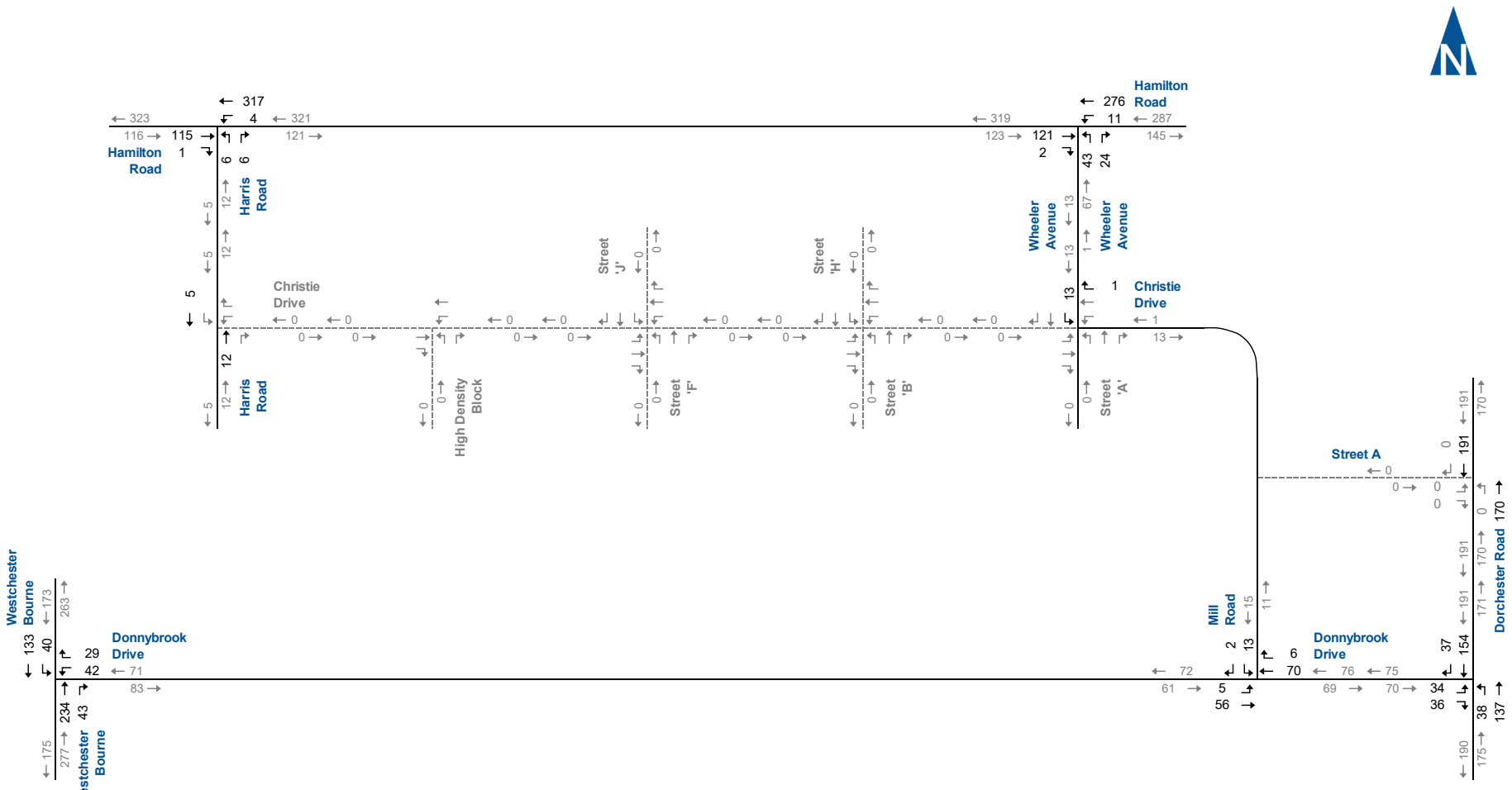
TABLE 2.1: SEASONAL ADJUSTMENT FACTOR

Count	AM Peak Hour	PM Peak Hour
	Two-way Volume	Two-way Volume
May 2018	452	558
August 2019	360	503
Difference	**92**	**55**
Factor	**1.2**	**1.1**

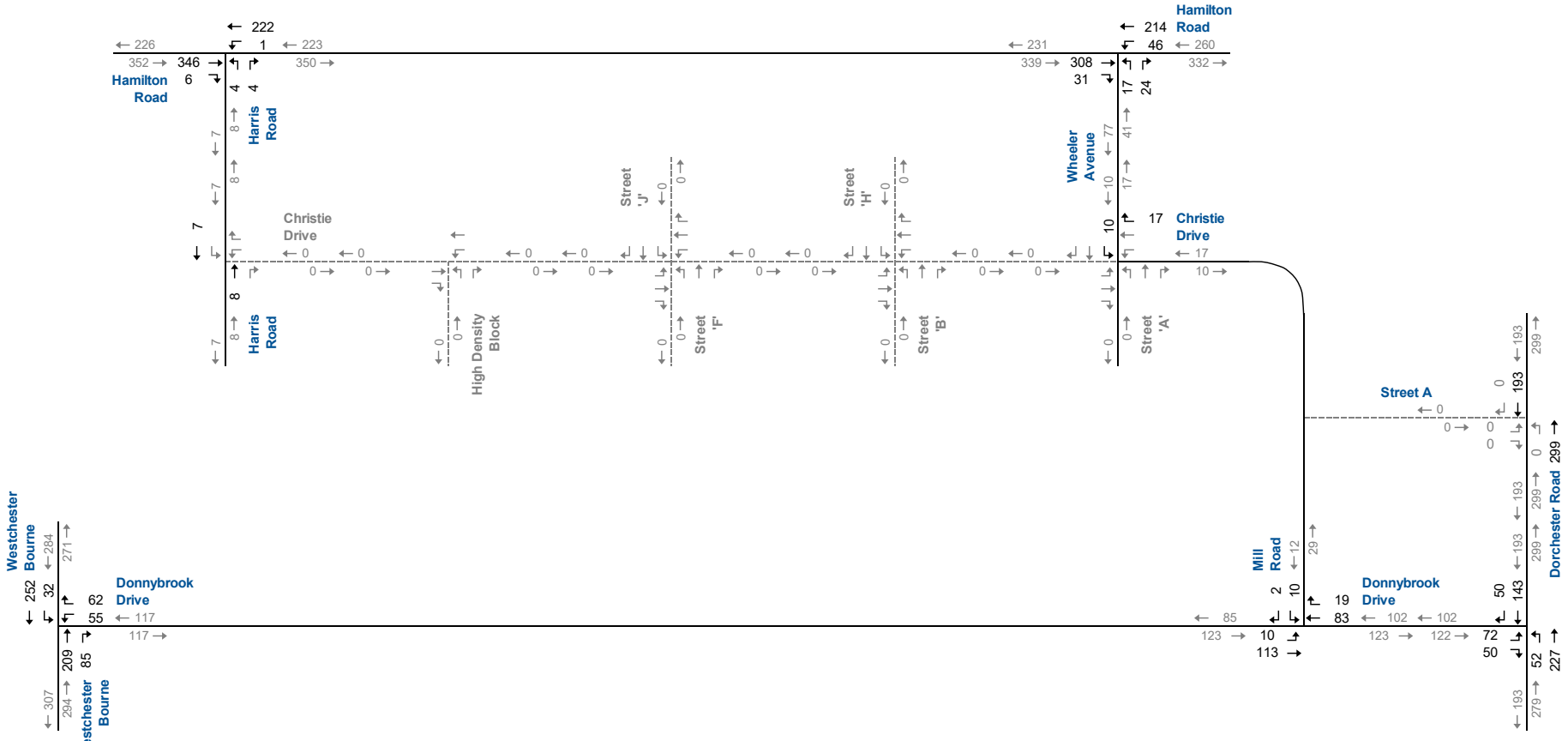
The resulting Base Year traffic volumes for the AM/PM peak hours are illustrated in **Figure 2.2** and **Figure 2.3**, respectively. The detailed TMC data is included in **Appendix B-1**.

New traffic counts were conducted on 12 September 2023 at the intersections of 1) Hamilton Road and Wheeler Avenue; 2) Westchester Bourne and Donnybrook Drive; and 3) Dorchester Road and Donnybrook Drive, to identify changes in roadway traffic volumes. The 2023 traffic counts indicate that roadway traffic volumes are generally about the same or lower than the traffic volumes in 2019.

The September 2023 traffic count data and AM/PM peak hour traffic volumes at the three intersections are included in **Appendix B-2.**



Base Year (2019) Traffic Volumes
AM Peak Hour



Base Year (2019) Traffic Volumes
PM Peak Hour

2.3 Traffic Operations

The operations of the study area intersections were evaluated using Synchro 11. The intersection analysis considered three separate measures of performance:

- The LOS for each turning movement;
- The volume to capacity (v/c) ratio for each turning movement; and
- The 95th percentile queue lengths.

Intersection level of service (LOS) is a recognized method of quantifying the delay experienced by drivers at intersections. The term "Level of Service" denotes how well a traffic movement operates under given traffic demands, lane arrangements, and traffic controls. Each level is determined by the average amount of control delay per vehicle. Control delay is the total delay associated with stopping for a signal or stop sign, and includes four components: deceleration delay, stopped delay, queue move up time and final acceleration delay.

Table 2.2 contains the level of service criteria for signalized roundabouts and stop-controlled intersections. As shown, LOS A indicates small average control delays (less than 10 second per vehicle) whereas LOS F indicates intersection failure, which results in extensive vehicular queues and long delays (over 50 seconds per vehicle at an unsignalized intersection, and over 80 seconds per vehicle at a signalized intersection). LOS D is typically considered acceptable peak-hour performance in an urban setting and lower LOS values are tolerable for short time periods during peak hours when heavier traffic volumes are expected.

TABLE 2.2: VEHICLE LEVEL OF SERVICE DEFINITIONS

LOS	Signalized Intersections Average Total Delay (sec/veh)	Roundabouts Average Total Delay (sec/veh)	Stop-Controlled Intersections Average Total Delay (sec/veh)
A	≤ 10	≤ 10	≤ 10
B	> 10 & ≤ 20	> 10 & ≤ 15	> 10 & ≤ 15
C	> 20 & ≤ 35	> 15 & ≤ 25	> 15 & ≤ 25
D	> 35 & ≤ 55	> 25 & ≤ 35	> 25 & ≤ 35
E	> 55 & ≤ 80	> 35 & ≤ 50	> 35 & ≤ 50
F	> 80	> 50	> 50

The existing intersection operations for the AM and PM peak hours are summarized in **Table 2.3**. As shown, all study area intersections are operating with acceptable levels of service.

Detailed Synchro reports are provided in **Appendix C**.

TABLE 2.3: EXISTING TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																Overall
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hamilton Road & Harris Road	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	11		11	11					0
			V/C		-	-		0.00	-			0.02		0.02						
			Q		-	-		0	-			1		1						
			Ex		-	-		-	-			-		-						
			Avail.		-	-		-	-			-		-						
	Hamilton Road & Wheeler Avenue	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	12		12	12					2
			V/C		-	-		0.01	-			0.12		0.12						
			Q		-	-		0	-			3		3						
			Ex		-	20		-	-			-		-						
			Avail.		-	20		-	-			-		-						
	Donnybrook Drive & Westchester Bourne	TWSC	LOS					B		B	B		-	-	A	A	A		A	A
			Delay					13		13	13		-	-	0	8	0		2	2
			V/C					0.15		0.15			-	-		0.04	-			
			Q					4		4			-	-		1	-			
			Ex					-		-			-	-		-	-			
			Avail.					-		-			-	-		-	-			
	Donnybrook Drive & Mill Road	TWSC	LOS	A	A		A		-	-	A					A	A		A	A
			Delay	7	0		1		-	-	0					9	0		9	1
			V/C	0.00	-				-	-						0.02	0.00			
			Q	0	-				-	-						1	0			
			Ex	-	-				-	-						-	-			
			Avail.	-	-				-	-						-	-			
	"New Road" & Dorchester Road	TWSC	LOS	B		B	B					A	-		A		-	-	A	A
			Delay	11		11	11					8	-		2		-	-	0	2
			V/C	0.12		0.12						0.03	-				-	-		
			Q	3		3						1	-				-	-		
			Ex	-		-						45	-				-	-		
			Avail.	-		-						44	-				-	-		
PM Peak Hour	Hamilton Road & Harris Road	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	11		11	11					0
			V/C		-	-		0.00	-			0.01		0.01						
			Q		-	-		0	-			0		0						
			Ex		-	-		-	-			-		-						
			Avail.		-	-		-	-			-		-						
	Hamilton Road & Wheeler Avenue	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		1	12		12	12					1
			V/C		-	-		0.04	-			0.08		0.08						
			Q		-	-		1	-			2		2						
			Ex		-	20		-	-			-		-						
			Avail.		-	20		-	-			-		-						
	Donnybrook Drive & Westchester Bourne	TWSC	LOS					B		B	B		-	-	A	A	A		A	A
			Delay					14		14	14		-	-	0	8	0		1	3
			V/C					0.25		0.25			-	-		0.03	-			
			Q					8		8			-	-		1	-			
			Ex					-		-			-	-		-	-			
			Avail.					-		-			-	-		-	-			
	Donnybrook Drive & Mill Road	TWSC	LOS	A	A		A		-	-	A					A	A		A	A
			Delay	8	0		1		-	-	0					10	10		10	1
			V/C	0.01	-				-	-						0.02	0.02			
			Q	0	-				-	-						1	1			
			Ex	-	-				-	-						-	-			
			Avail.	-	-				-	-						-	-			
	"New Road" & Dorchester Road	TWSC	LOS	B		B	B					A	-		A		-	-	A	A
			Delay	15		15	15					8	-		2		-	-	0	4
			V/C	0.29		0.29						0.05	-				-	-		
			Q	1		1						0	-				-	-		
			Ex	-		-						45	-				-	-		
			Avail.	-		-						45	-				-	-		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length
Ex. - Existing Available Storage
Avail. - Available Storage

TCS - Traffic Control Signal
TWSC - Two-Way Stop Control

3 Development Concept

3.1 Description

The proposed residential subdivision is located to the north and south of Christie Drive between Wheeler Avenue and Harris Road. The development is sized to potentially include:

- 311 single family units;
- 56 semi-detached homes;
- 34 street townhouse units;
- 204 medium-density apartment units; and
- 588 high-density apartment units.

Of the total unit count of 1193 units, 376 units are located north of Christie Drive and 817 are located to the south.

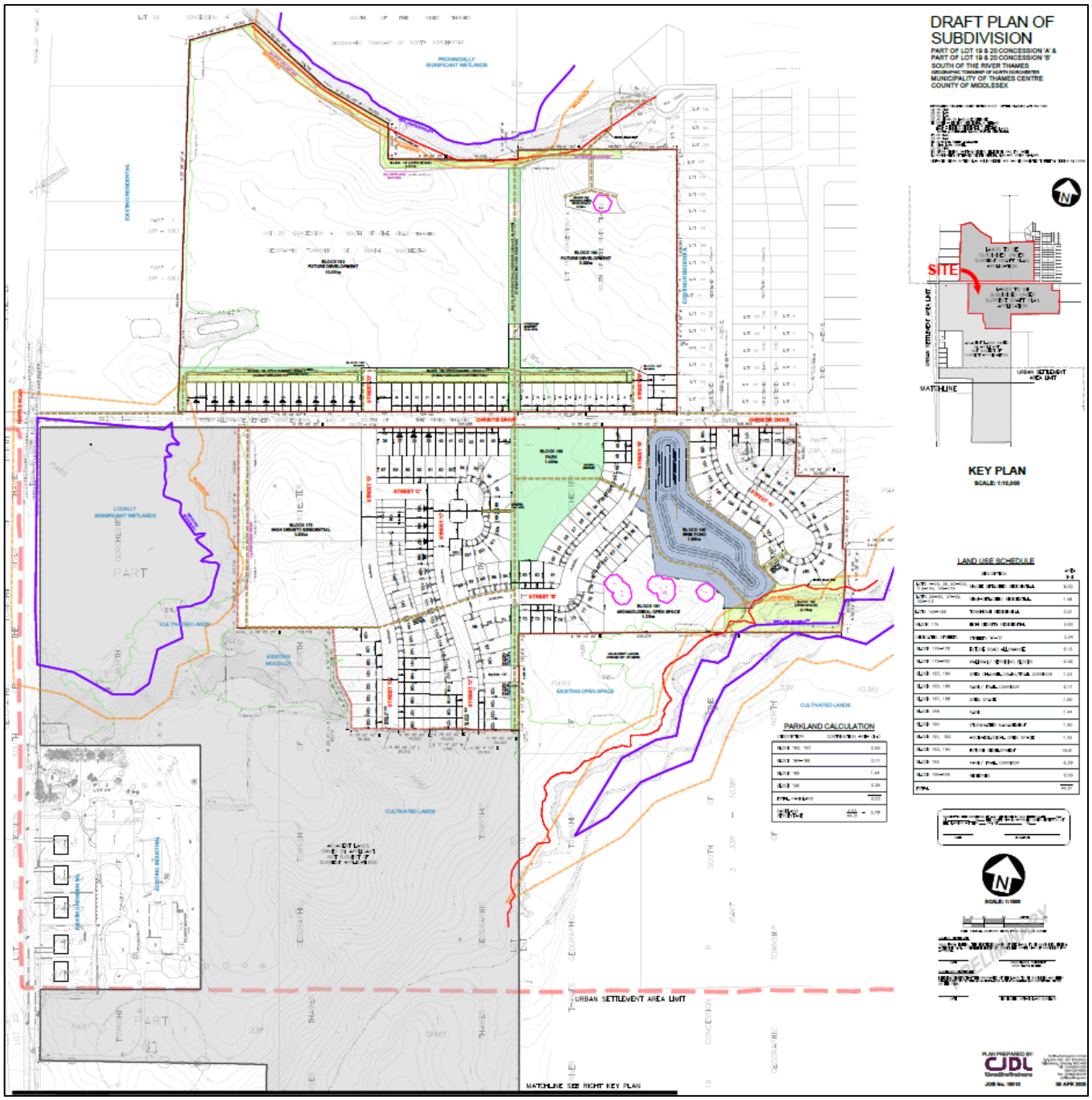
The development will provide for the extension of Christie Drive from its current terminus at Wheeler Avenue to Harris Road. Three vehicular accesses to the development are proposed. All accesses are four-leg intersections on Christie Drive. One of the accesses will be in line with Wheeler Avenue.

The subdivision plan also provides for a green space corridor behind the row of residential lots on the north side of Christie Drive.

It is noted that the TIA corresponds to the full development of the subdivision comprising areas both north and south of Christie Drive. The actual development may proceed in phases based on registration of different areas of the subdivision.

The proposed subdivision plan is illustrated in **Figure 3.1**.

It is also noted that at the southerly limit of the development, the subdivision road system provides for extending two north-south roads to connect with potential future development of the vacant lands to the south.



Draft Plan of Subdivision

83 Christie Drive Dorchester TIA Update
230556 (190317)

Figure 3.1

3.2 Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual[1] equations were used to estimate the peak hour traffic volumes generated by the subject development based on the following ITE Land Use Codes:

- 210, Single Family Detached Housing;
- 215, Single Family Attached Housing;
- 221, Multifamily Housing (Mid Rise); and
- 222, Multifamily Housing (High Rise).

The resulting trip generation is summarized in **Table 3.1**. As shown, the development will generate 476 AM peak hour trips and 595 PM peak hour trips (previously 533 and 692) at full build-out.

TABLE 3.1: TRIP GENERATION

Land Use Code	Units	Rate	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
North of Christie Drive								
LUC 210 - Single Family Detached Housing	171	Eq	29	86	**115**	100	59	**159**
LUC 215 - Single Family Attached Housing	30	Eq	3	10	**14**	10	7	**17**
LUC 221 - Multifamily Housing (Mid-Rise)	136	Eq	12	40	**52**	33	21	**54**
Facing Christie Drive								
LUC 210 - Single Family Detached Housing	47	Eq	8	24	**31**	27	16	**43**
LUC 215 - Single Family Attached Housing	6	Eq	1	2	**3**	2	1	**4**
LUC 222 - Multifamily Housing (High-Rise)	588	Eq	38	110	**148**	109	67	**176**
South of Christie Drive								
LUC 210 - Single Family Detached Housing	93	Eq	16	47	**63**	55	32	**86**
LUC 215 - Single Family Attached Housing	54	Eq	6	19	**25**	18	12	**30**
LUC 221 - Multifamily Housing (Mid-Rise)	68	Eq	6	20	**25**	16	10	**26**
Total Trip Generation	**1,193**		**119**	**358**	**476**	**370**	**225**	**595**

LUC 210 | **AM:** Ln(T) = 0.91 Ln(X) + 0.12 | **PM:** Ln(T) = 0.94 Ln(X) + 0.27
LUC 215 | **AM:** T = 0.52(X) - 5.70 | **PM:** T = 0.60(X) - 3.93
LUC 221 | **AM:** T = 0.44(X) - 11.61 | **PM:** T = 0.39(X) + 0.34
LUC 222 | **AM:** T = 0.22(X) + 18.85 | **PM:** T = 0.26(X) + 23.12

3.3 Trip Distribution and Assignment

The estimated site generated trips were assigned to the road network based on the existing distribution of traffic within the study area. Trips to/from each site access were assigned separately for units north and south of Christie Drive and fronting onto Christie Drive. The distribution took into consideration the driver convenience of using the shortest

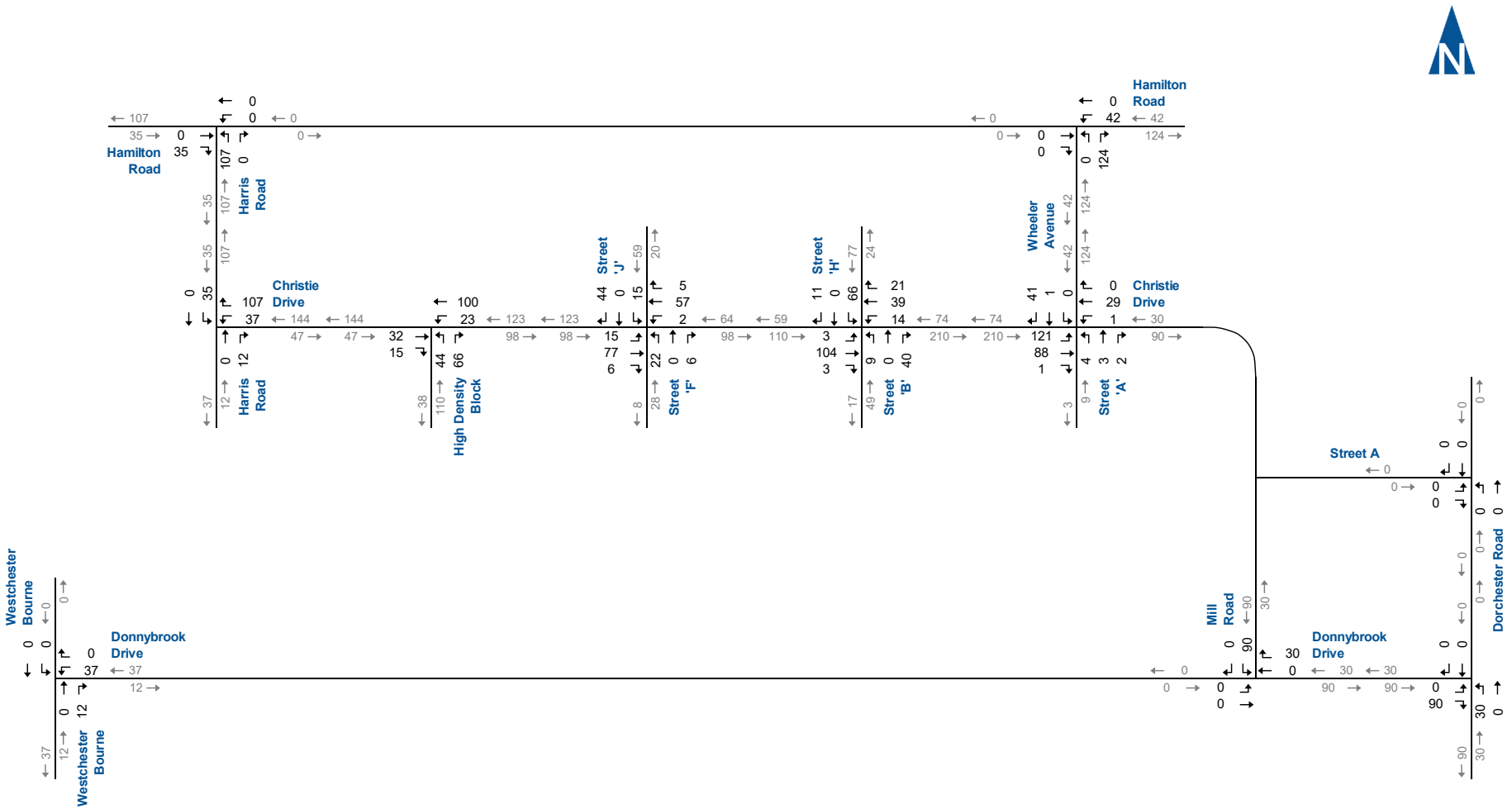
[1] Institute of Transportation Engineers, *Trip Generation Manual,* 11th ed., (Washington, DC: ITE, 2021).

travel path. **Table 3.2** summarizes the trip distribution proportions applied to development traffic volumes.

TABLE 3.2: TRIP DISTRIBUTION

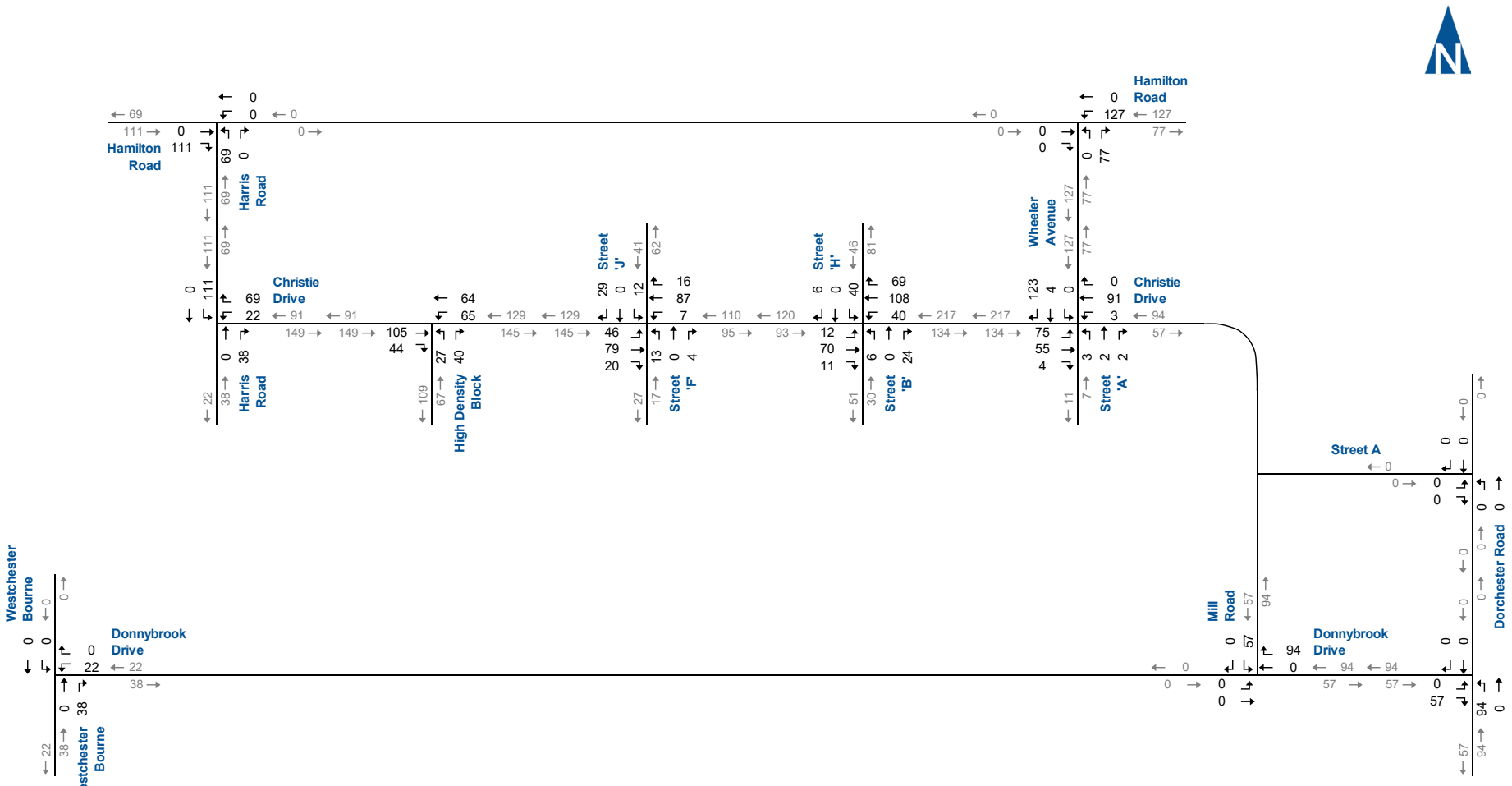
Direction	Route	Distribution
East	Hamilton Road	35%
West	Hamilton Road	30%
South	Dorchester Road	25%
	Westchester Bourne	10%
Total		**100%**

Using the trip generation and trip distribution estimates, the site traffic was assigned to the road network. **Figure 3.2** and **Figure 3.3** illustrate the trip assignment for the site generated trips.



Site Generated Traffic
AM Peak Hour

Figure 3.2



Site Generated Traffic
PM Peak Hour

4 Evaluation of Future Traffic Conditions

The assessment of future traffic conditions contained in this section includes estimates of future background and total traffic and analysis for the 2030 horizon.

4.1 2030 Future Background Traffic Operations

4.1.1 Road Network Improvements

The 2030 background analysis includes the addition of a “New Road” (referred to as “Street A” in the Boardwalk at Mill Pond TIA) connecting Mill Road with Dorchester Road approximately 670 metres south of Christie Drive/Bryon Avenue.

4.1.2 Generalized Background Traffic Volumes

To derive the 2030 generalized background road traffic volumes, a growth rate of 2% per annum compounded for 11 years (total growth of 24.3%) was applied to the existing traffic volumes. This growth rate was developed using historical traffic counts available on Middlesex County’s website. Traffic counts on Westchester Bourne from 2015 were compared with the 2019 TMC conducted by Paradigm.

It is noted that previous TIAs for developments in the area used growth rates of 0.5% and 1%. However, to remain conservative, the growth rate of 2% was used.

4.1.3 Other Area Developments

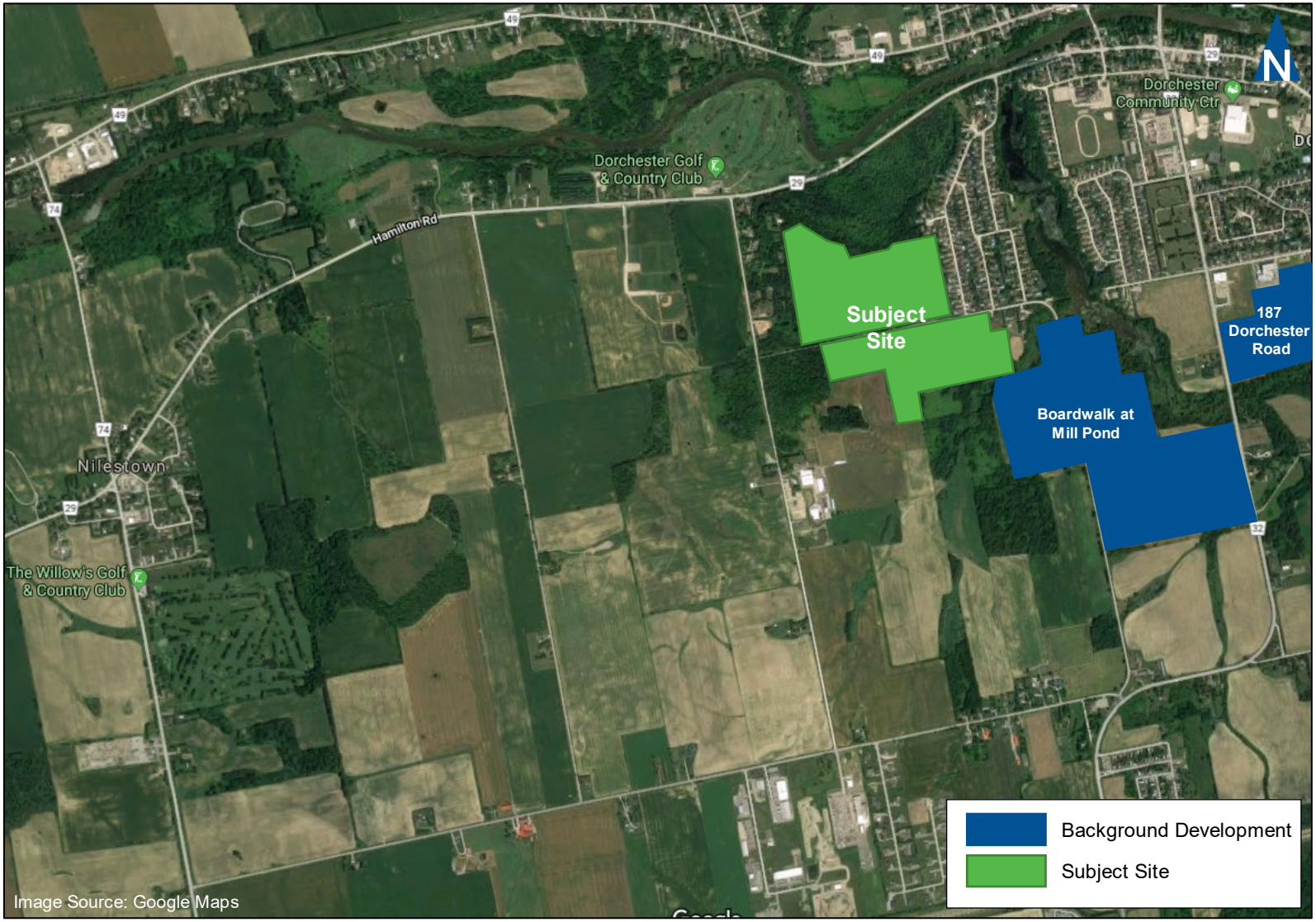
Several nearby future developments were included in the background traffic forecast over and above the generalized background traffic growth. The following is a summary of these developments:

- **Boardwalk at Millpond** – Located southeast of the subject site, south of Christie Drive with most units east of Mill Road and west of Dorchester Road. The development is proposed to yield approximately 580 units, including single family units and townhouses, with a build-out year beyond 2021; and
- **187 Dorchester Road** – Located south of Byron Avenue between Dorchester Road and Oakwood Drive. The development is proposed to yield 191 units with some commercial space and expected to be fully build-out by 2023.

The other area development traffic was assigned to the study road network using the trip assignment detailed in the other area development TIAs. The location of each development is shown in

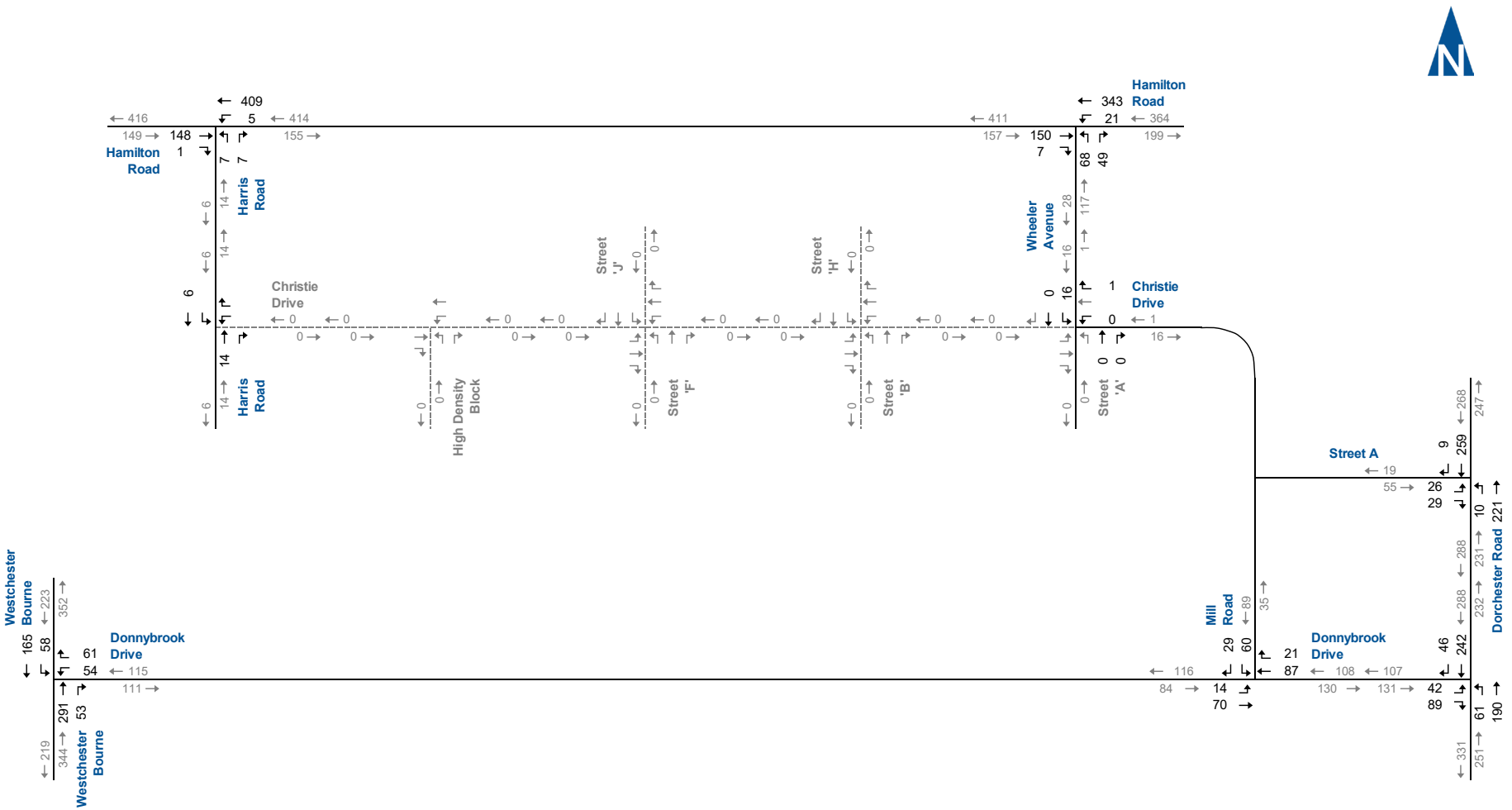
Figure 4.1. The site trip assignment for each background development is included in **Appendix D.**

The background development traffic was added to the generalized traffic volume increase to achieve the total background traffic volumes. **Figure 4.2** and **Figure 4.3** illustrate the 2030 background AM and PM peak hour traffic volumes, respectively.



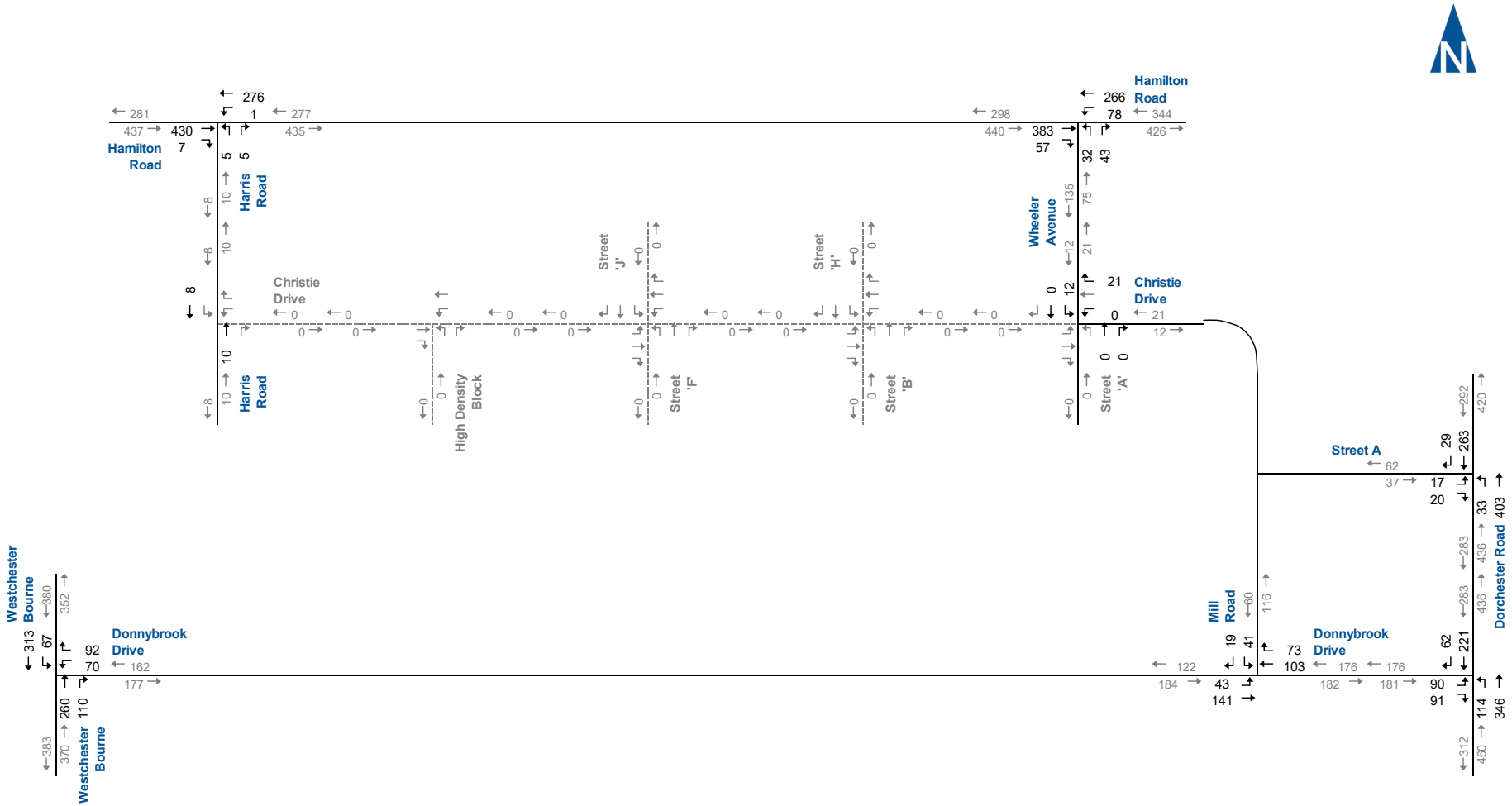
paradigm TRANSPORTATION SOLUTIONS LIMITED

Background Development Locations



2030 Background Traffic Forecasts
AM Peak Hour

Figure 4.2



2030 Background Traffic Forecasts
PM Peak Hour

4.1.4 2030 Background Traffic Operations

Based on the forecast 2030 background traffic volumes, operational analyses have been conducted using Synchro 11 to determine the weekday AM and PM peak hour operational performance of the study area intersection.

The results of the 2030 background traffic analyses are summarized in **Table 4.1**.

As shown, all intersections are forecast to operate with acceptable levels of service and queue lengths.

The Synchro 11 reports are included in **Appendix E**.

TABLE 4.1: 2030 BACKGROUND OPERATIONS SUMMARY

Analysis Period	Intersection	Control Type	MOE	Direction / Movement / Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Hamilton Road & Harris Road	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	11		11	11					0
			V/C		-	-		0.00	-			0.03		0.03						
			Q		-	-		0	-			1		1						
			Ex		-	-		-	-			-		-						
			Avail.		-	-		-	-			-		-						
	Hamilton Road & Wheeler Avenue	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	13		13	13					3
			V/C		-	-		0.02	-			0.22		0.22						
			Q		-	-		0	-			6		6						
			Ex		-	20		-	-			-		-						
			Avail.		-	20		-	-			-		-						
	Donnybrook Drive & Westchester Bourne	TWSC	LOS					B		B	B		-	-	A	A	A		A	A
			Delay					14		14	14		-	-	0	8	0		2	3
			V/C					0.25		0.25			-	-		0.06	-			
			Q					8		8			-	-		2	-			
			Ex					-		-			-	-		-	-			
			Avail.					-		-			-	-		-	-			
	Donnybrook Drive & Mill Road	TWSC	LOS	A	A		A		-	-	A					A	A		A	A
			Delay	8	0		1		-	-	0					10	0		10	4
			V/C	0.01	-				-	-						0.12	0.00			
			Q	0	-				-	-						3	0			
			Ex	-	-				-	-						-	-			
			Avail.	-	-				-	-						-	-			
	Donnybrook Drive & Dorchester Road	TWSC	LOS	B		B	B					A	-		A		-	-	A	A
			Delay	13		13	13					8	-		2		-	-	0	3
			V/C	0.24		0.24						0.06	-				-	-		
			Q	8		8						2	-				-	-		
			Ex	-		-						45	-				-	-		
			Avail.	-		-						44	-				-	-		
	"New Road" & Dorchester Road	TWSC	LOS	B		B	B					A	A		A		-	-	A	A
			Delay	12		12	12					8	0		0		-	-	0	1
			V/C	0.10		0.10						0.01	-				-	-		
			Q	2		2						0	-				-	-		
			Ex	-		-						-	-				-	-		
			Avail.	-		-						-	-				-	-		
PM Peak Hour	Hamilton Road & Harris Road	TWSC	LOS		-	-	A	A	A		A	B		B	B					A
			Delay		-	-	0	8	0		0	11		11	11					0
			V/C		-	-		0.00	-			0.01		0.01						
			Q		-	-		0	-			1		1						
			Ex		-	-		-	-			-		-						
			Avail.		-	-		-	-			-		-						
	Hamilton Road & Wheeler Avenue	TWSC	LOS		-	-	A	A	A		A	C		C	C					A
			Delay		-	-	0	9	0		2	16		16	16					2
			V/C		-	-		0.08	-			0.19		0.19						
			Q		-	-		2	-			5		5						
			Ex		-	20		-	-			-		-						
			Avail.		-	20		-	-			-		-						
	Donnybrook Drive & Westchester Bourne	TWSC	LOS					C		C	C		-	-	A	A	A		A	A
			Delay					18		18	18		-	-	0	8	0		2	4
			V/C					0.39		0.39			-	-		0.06	-			
			Q					14		14			-	-		2	-			
			Ex					-		-			-	-		-	-			
			Avail.					-		-			-	-		-	-			
	Donnybrook Drive & Mill Road	TWSC	LOS	A	A		A		-	-	A					B	B		B	A
			Delay	8	0		2		-	-	0					11	11		11	2
			V/C	0.03	-				-	-						0.10	0.10			
			Q	1	-				-	-						2	2			
			Ex	-	-				-	-						-	-			
			Avail.	-	-				-	-						-	-			
	Donnybrook Drive & Dorchester Road	TWSC	LOS	C		C	C					A	-		A		-	-	A	A
			Delay	22		22	22					8	-		2		-	-	0	5
			V/C	0.49		0.49						0.10	-				-	-		
			Q	3		3						0	-				-	-		
			Ex	-		-						45	-				-	-		
			Avail.	-		-						45	-				-	-		
	"New Road" & Dorchester Road	TWSC	LOS	B		B	B					A	A		A		-	-	A	A
			Delay	13		13	13					8	0		1		-	-	0	1
			V/C	0.09		0.09						0.03	-				-	-		
			Q	2		2						1	-				-	-		
			Ex	-		-						-	-				-	-		
			Avail.	-		-						-	-				-	-		

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds

Q - 95th Percentile Queue Length
Ex. - Existing Available Storage
Avail. - Available Storage

TCS - Traffic Control Signal
TWSC - Two-Way Stop Control

4.2 2030 Future Total Traffic Operations

4.2.1 Road Network Improvements

In addition to the “New Road” between Mill Road and Dorchester Road, as included in the 2030 background analysis, the 2030 total traffic analysis includes the extension of Christie Drive from Wheeler Avenue to Harris Road. The three proposed site accesses connect to this extension.

4.2.2 Traffic Volumes

To establish the 2030 total traffic volumes, the traffic generated by the subject site at full development was added to the 2030 background traffic volumes.

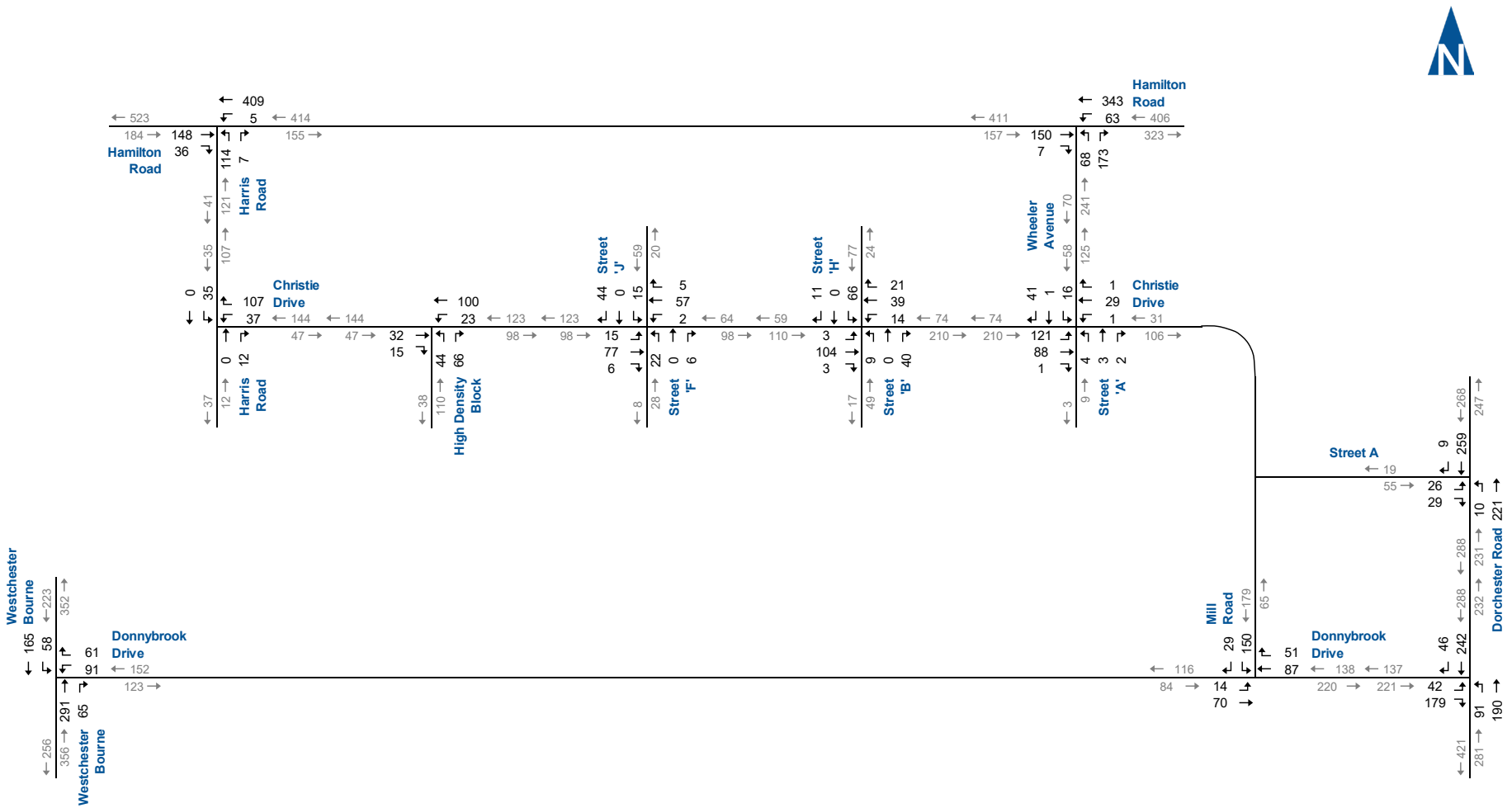
Figure 4.4 and **Figure 4.5** illustrate the AM and PM peak hour total traffic volumes for the 2030 horizon year, respectively.

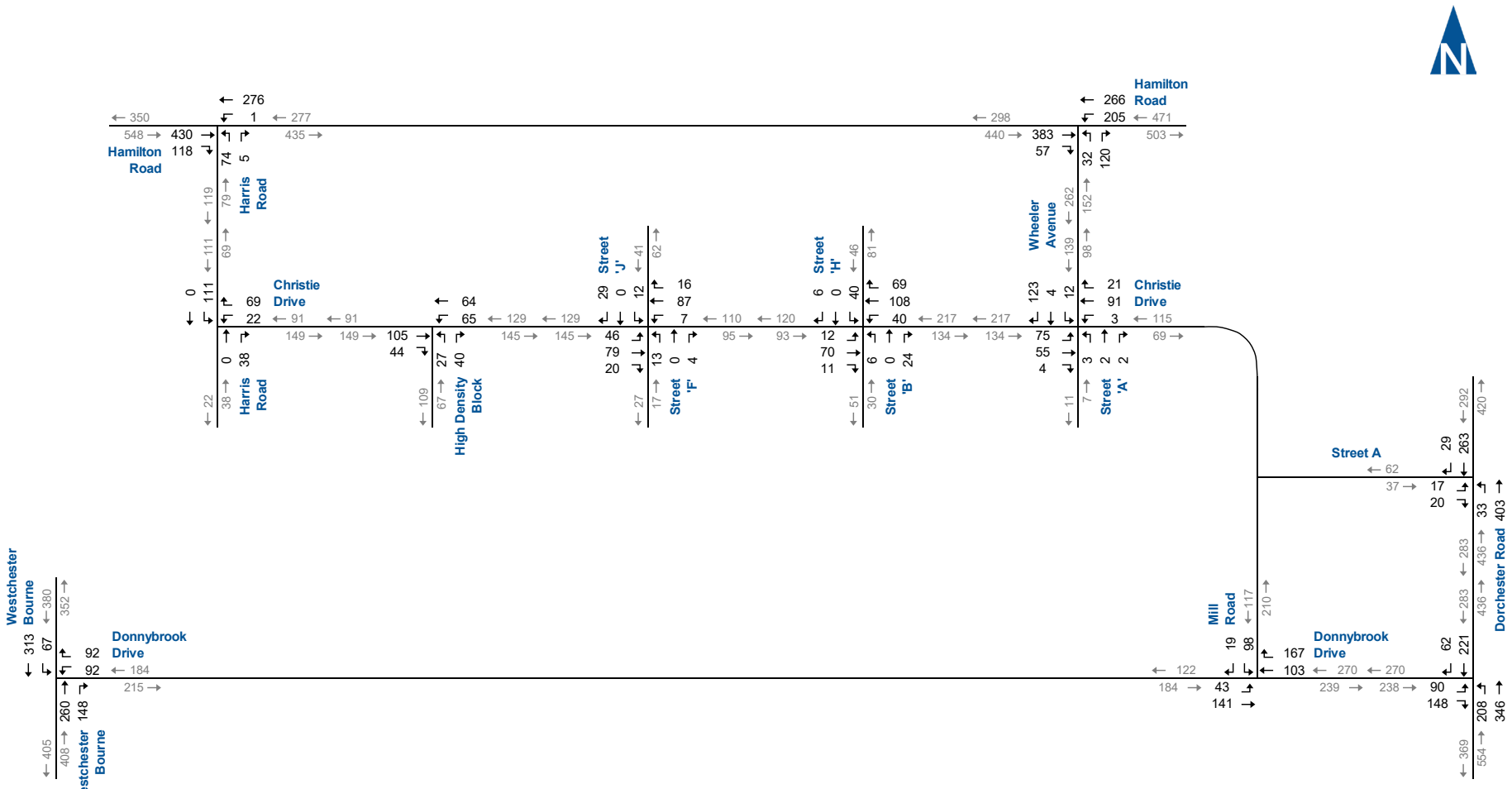
4.2.3 Traffic Operations

Level of service analyses were conducted using Synchro 11 for the AM and PM peak hour total traffic conditions at the study area intersections.

Table 4.2 and **Table 4.3** summarize the results of the AM and PM peak hour analysis, respectively. As shown, all intersections are forecast to operate with acceptable levels of service and queue lengths.

The Synchro 11 reports are included in **Appendix F**.


Hamilton Road
Harris Road
Christie Drive
Street 'J'
Street 'H'
Wheeler Avenue
Hamilton Road
Harris Road
High Density Block
Street 'F'
Street 'B'
Street 'A'
Westchester Bourne
Donnybrook Drive
Mill Road
Street A
Dorchester Road
Donnybrook Drive
Westchester Bourne



2030 Total Traffic Forecasts
PM Peak Hour

TABLE 4.2: 2030 TOTAL TRAFFIC OPERATIONS SUMMARY – AM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Harris Rd & Hamilton Rd	TWSC	LOS		A	>	**A**	<	A		**A**	C		>	**C**					
			Delay		0	>	**0**	<	8		**0**	16		>	**16**					
			V/C		0.00	>		<	0.00			0.29		>						
			Q		0	>		<	0			9		>						
	Wheeler Ave & Hamilton Rd	TWSC	LOS		A	A	**A**	<	A		**A**	B		>	**B**					
			Delay		0	0	**0**	<	8		**1**	14		>	**14**					
			V/C		0.00	0.00		<	0.05			0.40		>						
			Q		0	0		<	2			14		>						
			Stor.		-	30		<	-			-		>						
			Avail.		-	30		<	-			-		>						
	Street A/Wheeler Ave & Christie Dr	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	<	A	>	**A**	
			Delay	<	8	>	**4**	<	7	>	**0**	<	12	>	**12**	<	10	>	**10**	
			V/C	<	0.08	>		<	0.00	>		<	0.02	>		<	0.08	>		
			Q	<	2	>		<	0	>		<	1	>		<	2	>		
	Westchester Bourne & Donnybrook Dr	TWSC	LOS					C		>	**C**		A	>	**A**	<	A		**A**	
			Delay					17		>	**17**		0	>	**0**	<	8		**2**	
			V/C					0.35		>			0.00	>		<	0.06			
			Q					12		>			0	>		<	2			
	Donnybrook Dr & Mill Rd	TWSC	LOS	<	A		**A**		A	>	**A**					B		>	**B**	
			Delay	<	8		**1**		0	>	**0**					11		>	**11**	
			V/C	<	0.01				0.00	>						0.25		>		
			Q	<	0				0	>						8		>		
	Dorchester Rd & Donnybrook Dr	TWSC	LOS	B		>	**B**					A	A		**A**		A	>	**A**	
			Delay	15		>	**15**					8	0		**3**		0	>	**0**	
			V/C	0.39		>						0.09	0.00				0.00	>		
			Q	14		>						2	0				0	>		
			Stor.	-		>						45	-				-	>		
			Avail.	-		>						43	-				-	>		
	Dorchester Road & "New Road"	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	
			Delay	12		>	**12**					<	8		**0**		0	>	**0**	
			V/C	0.10		>						<	0.01				0.00	>		
			Q	2		>						<	0				0	>		
	Harris Rd & Christie Dr	TWSC	LOS					A		>	**A**		A	>	**A**	<	A		**A**	
			Delay					9		>	**9**		0	>	**0**	<	7		**7**	
			V/C					0.15		>			0.00	>		<	0.02			
			Q					4		>			0	>		<	1			
	Street F/Street J & Christie Dr	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	
			Delay	<	7	>	**1**	<	7	>	**0**	<	10	>	**10**	<	9	>	**9**	
			V/C	<	0.01	>		<	0.00	>		<	0.04	>		<	0.07	>		
			Q	<	0	>		<	0	>		<	1	>		<	2	>		
	Street B/Street H & Christie Dr	TWSC	LOS	<	A	>	**A**	<	A	>	**A**	<	A	>	**A**	<	B	>	**B**	
			Delay	<	7	>	**0**	<	8	>	**1**	<	9	>	**9**	<	11	>	**11**	
			V/C	<	0.00	>		<	0.01	>		<	0.06	>		<	0.12	>		
			Q	<	0	>		<	0	>		<	2	>		<	3	>		
	High Density Block & Christie Dr	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					
			Delay		0	>	**0**	<	7		**1**	10		>	**10**					
			V/C		0.00	>		<	0.02			0.13		>						
			Q		0	>		<	0			4		>						

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 4.3: 2030 TOTAL TRAFFIC OPERATIONS SUMMARY – PM PEAK HOUR

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																	
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
PM Peak Hour	Harris Rd & Hamilton Rd	TWSC	LOS		A	>	A	<	A		A	C		>	C					
			Delay		0	>	0	<	9		0	19		>	19					
			V/C		0.00	>		<	0.00			0.25		>						
			Q		0	>		<	0			8		>						
	Wheeler Ave & Hamilton Rd	TWSC	LOS		A	A	A	<	A		A	C		>	C					
			Delay		0	0	0	<	9		4	20		>	20					
			V/C		0.00	0.00		<	0.20			0.41		>						
			Q		0	0		<	6			15		>						
			Stor.		-	30		<	-			-		>						
			Avail.		-	30		<	-			-		>						
	Street A/Wheeler Ave & Christie Dr	TWSC	LOS	<	A	>	A	<	A	>	A	<	B	>	B	<	A	>	A	
			Delay	<	8	>	4	<	7	>	0	<	12	>	12	<	10	>	10	
			V/C	<	0.06	>		<	0.00	>		<	0.01	>		<	0.17	>		
			Q	<	2	>		<	0	>		<	0	>		<	4	>		
	Westchester Bourne & Donnybrook Dr	TWSC	LOS					C		>	C		A	>	A	<	A		A	
			Delay					22		>	22		0	>	0	<	8		2	
			V/C					0.48		>			0.00	>		<	0.07			
			Q					20		>			0	>		<	2			
	Donnybrook Dr & Mill Rd	TWSC	LOS	<	A		A		A	>	A					B		>	B	
			Delay	<	8		2		0	>	0					13		>	13	
			V/C	<	0.04				0.00	>						0.22		>		
			Q	<	1				0	>						6		>		
	Dorchester Rd & Donnybrook Dr	TWSC	LOS	E		>	E					A	A		A		A	>	A	
			Delay	38		>	38					9	0		3		0	>	0	
			V/C	0.73		>						0.19	0.00				0.00	>		
			Q	42		>						5	0				0	>		
			Stor.	-		>						45	-				-	>		
			Avail.	-		>						40	-				-	>		
	Dorchester Road & Street A	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	13		>	13					<	8		1		0	>	0	
			V/C	0.09		>						<	0.03				0.00	>		
			Q	2		>						<	1				0	>		
	Harris Rd & Christie Dr	TWSC	LOS					A		>	A		A	>	A	<	A		A	
			Delay					9		>	9		0	>	0	<	8		8	
			V/C					0.11		>			0.00	>		<	0.08			
			Q					3		>			0	>		<	2			
	Street F/Street J & Christie Dr	TWSC	LOS	<	A	>	A	<	A	>	A	<	B	>	B	<	A	>	A	
			Delay	<	8	>	2	<	7	>	0	<	11	>	11	<	10	>	10	
			V/C	<	0.03	>		<	0.01	>		<	0.03	>		<	0.05	>		
			Q	<	1	>		<	0	>		<	1	>		<	2	>		
	Street B/Street H & Christie Dr	TWSC	LOS	<	A	>	A	<	A	>	A	<	A	>	A	<	B	>	B	
			Delay	<	8	>	1	<	8	>	1	<	9	>	9	<	12	>	12	
			V/C	<	0.01	>		<	0.03	>		<	0.04	>		<	0.09	>		
			Q	<	0	>		<	1	>		<	1	>		<	2	>		
	High Density Block & Christie Dr	TWSC	LOS		A	>	A	<	A		A	B		>	B					
			Delay		0	>	0	<	8		4	10		>	10					
			V/C		0.00	>		<	0.05			0.10		>						
			Q		0	>		<	2			2		>						

MOE - Measure of Effectiveness
LOS - Level of Service
Delay - Average Delay per Vehicle in Seconds
V/C - Volume to Capacity Ratio
Q - 95th Percentile Queue Length (m)
Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

5 Access Review and Active Transportation

5.1 Site Accesses

5.1.1 Left-Turn Lanes

The intersections of Christie Drive with the High Density Block Driveway, Street F / Street J, Street B / Street H, and Street A / Wheeler Avenue were assessed for the need for left-turn lanes on Christie Drive.

The intersections were assessed using MTO's left-turn lane warrant[2] for a two-lane cross-section at an unsignalized intersection with a design speed of 60 kilometres (10 kilometre over the posted speed limit). The need for a left-turn lane is a function of the number of left-turning vehicles, and the number of advancing and opposing vehicles. The warrant analysis indicated that left-turn lanes are not warranted at any of the site access intersections.

Appendix G contains the left-turn lane warrants.

5.1.2 Intersection Spacing

The Transportation Association of Canada's (TAC) Geometric Design Guidelines for Canadian Roads[3] (GDGCR) specifies that "along local roads, the minimum spacing between four-legged intersections is normally 60 m. Where the adjacent intersections are three-legged, a minimum spacing of 40 m is acceptable".

All site access intersections are spaced greater than 60 metres from their adjacent intersections on Christie Drive.

5.2 Active Transportation

The proposed multi-use trail (MUT) behind the residential lots facing Christie Drive, on north side, will provide a connection for cyclists and pedestrians traveling through the development. Within the development, the trail should be provided with adequate lighting and convenient access locations for pedestrians and cyclists.

---

[2] Ontario Ministry of Transportation. 2017. *Ministry of Transportation of Ontario Design Supplement for Transportation Association of Canada's Geometric Design Guide for Canadian Roads.* June 2017.

[3] Transportation Association of Canada. 2017. *Geometric Design Guide for Canadian Roads. Section 9.4.2.3*. June 2017.

6 Conclusions and Recommendations

6.1 Conclusions

Based on the investigations carried out, it is concluded that:

- Under existing conditions, all study area intersections are operating at acceptable levels of service and queue lengths during the AM and PM peak hours.
- When completed, the site is forecast to generate a total of 476 AM peak hour trips and 595 PM peak hour trips.
- Under 2030 background traffic conditions, all study area intersections are forecast to operate with acceptable levels of service and queue lengths.
- Under 2030 total traffic conditions, all study area intersections are forecast to operate with acceptable levels of service and queue lengths.
- The proposed site access intersections of Christie Drive with Street F / Street J and Street B / Street H are forecast to operate with acceptable levels of service under Stop Sign control.
- Under Two Way Stop Sign control, no left-turn lanes are warranted at any of the proposed site access intersections. Additionally, these intersections are adequately spaced from one another.
- The proposed multi-use trail (MUT) within the subdivision should be provided with adequate lighting and convenient access locations for pedestrians and cyclists.

6.2 Recommendations

Based on the findings and conclusions of this study, it is recommended that the development be considered for approval as proposed.

Appendix A

Pre-Study Consultation

Kayla Royce

From: Chris Traini <ctraini@middlesex.ca>
Sent: August 16, 2019 11:13 AM
To: Kayla Royce; Mike LeBlanc
Cc: Rajan Philips; Deren Lyle
Subject: RE: 190317 (83 Christie Dr) - Scope Request

That would be my preference, both for the intersection analysis and the traffic counts. Thank you Kayla.
Chris

From: Kayla Royce [mailto:kroyce@ptsl.com]
Sent: Friday, August 16, 2019 11:12 AM
To: Chris Traini <ctraini@middlesex.ca>; Mike LeBlanc <mleblanc@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; Deren Lyle <dlyle@cjdleng.com>
Subject: [EXTERNAL] RE: 190317 (83 Christie Dr) - Scope Request

Hi Chris,

Thank you for the quick response.

We will include the intersection of **Donnybrook Road and Westchester Bourne** in our analysis (and exclude Hamilton Road and Wester Bourne Road). – **please advise if this is acceptable**

Would it be acceptable to the County if we conducted the counts in August? If needed, we could apply a seasonal adjustment.

Kayla Royce, MEng, P.Eng.
Transportation Engineer

Paradigm Transportation Solutions Limited
p: 416.479.9684 x508

From: Chris Traini <ctraini@middlesex.ca>
Sent: August 16, 2019 10:17 AM
To: Kayla Royce <kroyce@ptsl.com>; Mike LeBlanc <mleblanc@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; Deren Lyle <dlyle@cjdleng.com>
Subject: RE: 190317 (83 Christie Dr) - Scope Request

Hi Kayla,

Since Hamilton Road and Westchester Bourne is a signalized intersection I would prefer that the analysis include Donnybrook Road and Westchester Bourne as originally proposed.

The approximate ten year planning window of 2030 is acceptable, as long as the full build subdivision traffic is being considered.

The County would rely on Paradigm to estimate a reasonable traffic growth rate.

The County traffic count data is available on our website www.middlesex.ca and we do not collect traffic counts at specific intersections.

If you have any other questions please let me know.

Chris Traini, P.Eng.
County Engineer
County of Middlesex
ctraini@middlesex.ca
(519) 434-7321 ext. 2264

From: Kayla Royce [mailto:kroyce@ptsl.com]
Sent: Thursday, August 15, 2019 3:07 PM
To: Mike LeBlanc <mleblanc@thamescentre.on.ca>; Chris Traini <ctraini@middlesex.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; Deren Lyle <dlyle@cjdleng.com>
Subject: [EXTERNAL] 190317 (83 Christie Dr) - Scope Request

Hi Chris and Mike,

Paradigm has been retained to conduct a Transportation Impact Assessment for a proposed residential subdivision development located north and south of Christie Drive to the east of Harris Road in Dorchester (83 Christie Drive).
500 residential units are proposed along with three accesses to the development– all accesses are to be four-legged intersections on Christie Drive. One access will be in line with the existing Wheeler Ave.
See **attached** for the proposed development concept plan.

Our proposed scope was developed using the City of London TIA Guidelines and takes into account the following:

-

Proposed TIS Scope (for your review and approval)

Study Area Intersections:

- County staff have suggested seven intersections (per **attached** sketch) for analysis. Based on our preliminary review, the subject lands are likely to have significant trip distribution to/from west on Hamilton Road (29) rather than west on Hwy 401 via Donnybrook/Westchester Bourne (74). For this

reason, we are suggesting to include the intersection of Hamilton Road & Westchester Bourne in the analysis and exclude the Westchester/Donnybrook intersection and Westchester/Hwy 401 ramp intersection. **Please advise if this is acceptable.**

The proposed **existing** study area intersections are:

- Wheeler Ave and Hamilton Rd (unsignalized)
- Harris Road and Hamilton Rd (unsignalized)
- Donnybrook Dr and Dorchester Rd (unsignalized)
- Donnybrook Dr and Mill Rd?? (unsignalized) (can this be counted along with Donnybrook and Dorchester?
- Hamilton Road (County Road 29) and Westchester Bourne (County rd 74) (unsignalized)
- Christie Dr and Wheeler Ave – a future access (unsignalized)

- Two future roadway intersections:
  - Street A and Dorchester (south of Christie and north of Donnybrook – see intersection 4 on attached intersection sketch)
  - Harris Road and Christie Drive
- Two proposed site accesses along Christie Dr

Transportation Data:

- **Please advise** of available traffic data for the study area intersections.
- If no recent count data is available, we will conduct 8-hour TMCs at the study area intersections.

Traffic Forecasting:

- Forecasting will be done for weekday AM and PM peak hours.
- The ten year horizon (2029 or 2030) is suggested for horizon year for analysis. (The development is in preliminary planning stages. So, we are suggesting a single 10-year (2029 or 2030) horizon for long term traffic forecasting and analysis. Interim TIS updates can be provided later once development phasing is known.) **Please advise if this is acceptable.**
- **Please advise** regarding an annual growth rate to be applied to represent general traffic growth,
- We will include traffic from the Boardwalk development (Mill Pond lands) and the 187 Dorchester Rd development in our background traffic analysis
- **Please advise** if there are any other proposed or in-stream developments that impact our study area intersections that should also be included in our background analysis.
- Trip generation will be based on the appropriate land use categories and data in the 10th Edition of the ITE Trip Generation Manual (relevant data sheets from the manual will be included in the appendices).
- Trip distribution will be estimated based on the existing traffic patterns in the study area.
- Background traffic will be combined with site traffic to estimate total traffic forecasts for the horizon year.

Analysis:

- Synchro 9 software will be used to conduct an operational analysis for the AM and PM peak hours at the study area intersections for existing conditions, horizon year background and total forecasts.
- The need for road improvements (e.g. provision of auxiliary turn lanes) and/or modifications to traffic control devices) to address any deficiencies will be determined. An assessment of whether these measures are required due to non-site traffic (i.e. Existing or Future Background) or the increase in traffic resulting from the proposed development will be completed.

Documentation:

- Hard copies and PDF of TIA report with technical appendices. Synchro files provided as necessary.

In addition to the information requests included in the points above, please advise if the scope is sufficient or where it should be modified.

Regards,

Kayla Royce, MEng, P.Eng.
Transportation Engineer

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
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Appendix B-1

2019 Turning Movement Count Data

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Christie Drive & Wheeler Avenue
Site Code:
Start Date: 08/27/2019

Direction (Westbound)

Start Time	Lights	Mediums	Articulated Trucks	Bicycles on Road	Total
6:00 AM	0	0	0	0	0
6:15 AM	0	0	0	0	0
6:30 AM	0	0	0	0	0
6:45 AM	0	0	0	0	0
7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	1	0	0	0	1
8:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	2	0	0	0	2
12:30 PM	0	1	0	0	1
12:45 PM	0	0	0	0	0
1:00 PM	1	0	0	0	1
1:15 PM	0	0	0	0	0
1:30 PM	0	0	0	0	0
1:45 PM	2	0	0	0	2
3:00 PM	1	0	0	0	1
3:15 PM	1	0	0	0	1
3:30 PM	3	0	0	0	3
3:45 PM	6	0	0	0	6
4:00 PM	1	0	0	0	1
4:15 PM	6	0	0	0	6
4:30 PM	1	0	0	0	1
4:45 PM	2	0	0	0	2
5:00 PM	2	0	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	3	0	0	0	3
5:45 PM	2	0	0	0	2
Total	35	1	0	0	36
Total %	97.2	2.8	0.0	0.0	100.0
AM Times	7:00 AM	6:00 AM	6:00 AM	6:00 AM	7:00 AM
AM Peaks	1	0	0	0	1
PM Times	3:30 PM	12:00 PM	12:00 PM	3:45 PM	3:45 PM
PM Peaks	16	1	0	0	14

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Christie Drive & Wheeler Avenue
Site Code:
Start Date: 08/27/2019

Direction (Eastbound)

Start Time	Lights	Mediums	Articulated Trucks	Bicycles on Road	Total
6:00 AM	1	0	0	0	1
6:15 AM	1	0	0	0	1
6:30 AM	1	0	0	0	1
6:45 AM	1	0	0	0	1
7:00 AM	5	0	0	0	5
7:15 AM	2	0	0	0	2
7:30 AM	2	0	0	0	2
7:45 AM	2	0	0	0	2
8:00 AM	1	0	0	0	1
8:15 AM	1	0	0	0	1
8:30 AM	2	0	0	0	2
8:45 AM	2	0	0	0	2
12:00 PM	1	0	0	0	1
12:15 PM	2	0	0	0	2
12:30 PM	2	0	0	0	2
12:45 PM	0	0	0	0	0
1:00 PM	1	0	0	0	1
1:15 PM	0	0	0	0	0
1:30 PM	2	0	0	0	2
1:45 PM	0	0	0	0	0
3:00 PM	2	0	0	0	2
3:15 PM	1	0	0	0	1
3:30 PM	2	0	0	0	2
3:45 PM	1	0	0	0	1
4:00 PM	2	0	0	0	2
4:15 PM	0	0	0	0	0
4:30 PM	3	0	0	2	5
4:45 PM	0	0	0	0	0
5:00 PM	2	0	0	0	2
5:15 PM	3	0	0	0	3
5:30 PM	1	0	0	0	1
5:45 PM	1	0	0	0	1
Total	47	0	0	2	49
Total %	95.9	0.0	0.0	4.1	100.0
AM Times	7:00 AM	6:00 AM	6:00 AM	6:00 AM	7:00 AM
AM Peaks	11	0	0	0	11
PM Times	3:30 PM	12:00 PM	12:00 PM	3:45 PM	3:45 PM
PM Peaks	5	0	0	2	8

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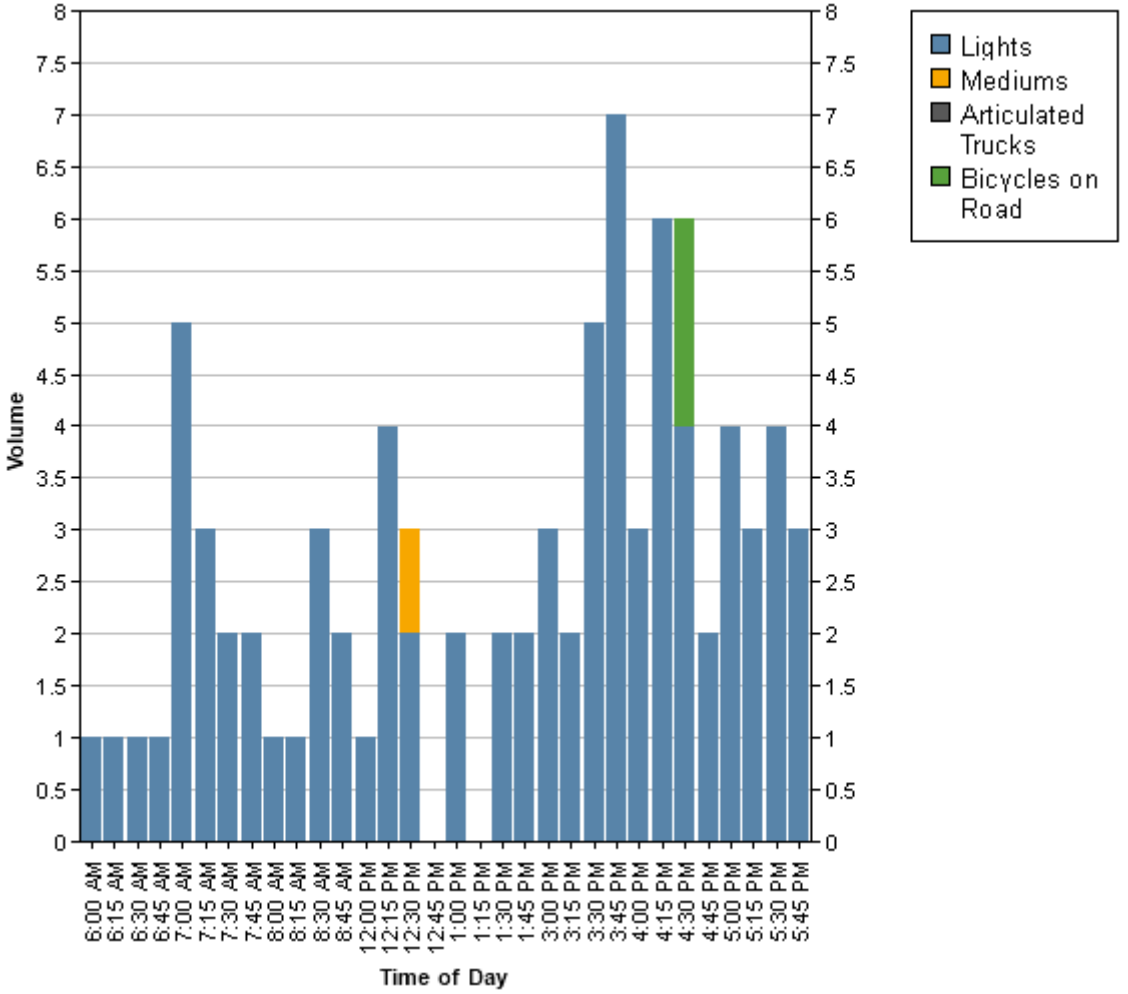

Paradigm Transportation Solutions Limited
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Count Name: Christie Drive & Wheeler Avenue
Site Code:
Start Date: 08/27/2019

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019

Turning Movement Data

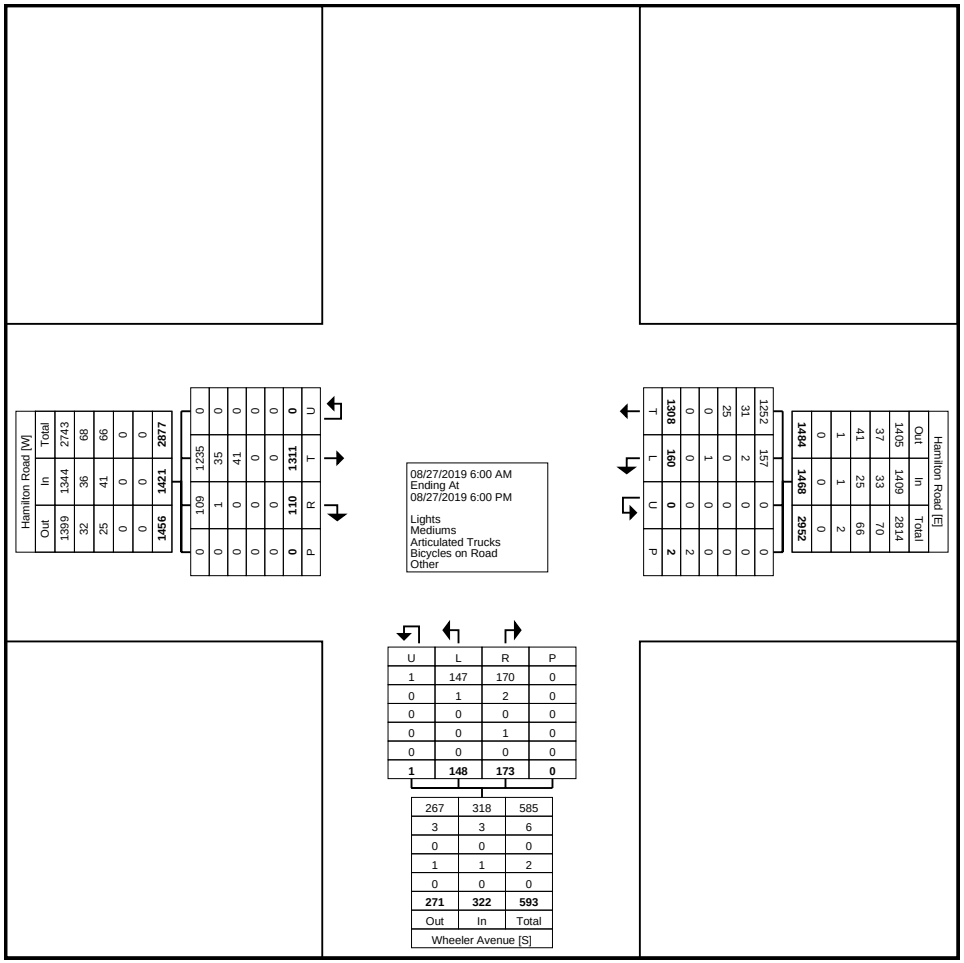
Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					Int. Total
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
6:00 AM	13	1	0	0	14	0	13	0	0	13	3	0	0	0	3	30
6:15 AM	30	0	0	0	30	1	17	0	0	18	8	3	1	0	12	60
6:30 AM	26	1	0	0	27	2	31	0	0	33	9	3	0	0	12	72
6:45 AM	13	1	0	0	14	0	33	0	0	33	5	2	0	0	7	54
Hourly Total	82	3	0	0	85	3	94	0	0	97	25	8	1	0	34	216
7:00 AM	18	1	0	0	19	2	38	0	0	40	7	6	0	0	13	72
7:15 AM	34	1	0	0	35	3	68	0	0	71	7	3	0	0	10	116
7:30 AM	16	0	0	0	16	1	70	0	0	71	14	8	0	0	22	109
7:45 AM	31	0	0	0	31	1	33	0	0	34	10	5	0	0	15	80
Hourly Total	99	2	0	0	101	7	209	0	0	216	38	22	0	0	60	377
8:00 AM	20	1	0	0	21	4	59	0	0	63	5	4	0	0	9	93
8:15 AM	35	3	0	0	38	1	43	0	0	44	9	6	0	0	15	97
8:30 AM	23	1	0	0	24	6	46	0	0	52	5	8	0	0	13	89
8:45 AM	39	0	0	0	39	3	41	0	0	44	1	10	0	0	11	94
Hourly Total	117	5	0	0	122	14	189	0	0	203	20	28	0	0	48	373
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	34	1	0	0	35	3	43	0	0	46	4	5	0	0	9	90
12:15 PM	41	3	0	0	44	5	38	0	0	43	2	8	0	0	10	97
12:30 PM	33	5	0	0	38	5	39	0	0	44	2	6	0	0	8	90
12:45 PM	32	4	0	0	36	3	27	0	0	30	6	4	0	0	10	76
Hourly Total	140	13	0	0	153	16	147	0	0	163	14	23	0	0	37	353
1:00 PM	31	2	0	0	33	7	37	0	0	44	2	4	0	0	6	83
1:15 PM	40	1	0	0	41	1	36	0	0	37	3	8	0	0	11	89
1:30 PM	49	4	0	0	53	7	32	0	0	39	4	3	0	0	7	99
1:45 PM	39	3	0	0	42	6	48	0	0	54	3	4	0	0	7	103
Hourly Total	159	10	0	0	169	21	153	0	0	174	12	19	0	0	31	374
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	40	3	0	0	43	2	33	0	0	35	5	8	0	0	13	91
3:15 PM	45	3	0	0	48	8	63	0	0	71	1	4	0	0	5	124
3:30 PM	55	8	0	0	63	9	38	0	0	47	4	7	0	0	11	121
3:45 PM	75	3	0	0	78	7	46	0	0	53	0	4	0	0	4	135
Hourly Total	215	17	0	0	232	26	180	0	0	206	10	23	0	0	33	471
4:00 PM	45	6	0	0	51	13	47	0	0	60	3	8	0	0	11	122
4:15 PM	59	11	0	0	70	3	48	0	1	51	3	8	0	0	11	132
4:30 PM	70	7	0	0	77	12	35	0	1	47	7	9	0	0	16	140
4:45 PM	60	11	0	0	71	9	45	0	0	54	4	5	0	0	9	134

Hourly Total	234	35	0	0	269	37	175	0	2	212	17	30	0	0	47	528
5:00 PM	59	3	0	0	62	12	38	0	0	50	4	5	0	0	9	121
5:15 PM	68	4	0	0	72	5	47	0	0	52	4	7	0	0	11	135
5:30 PM	70	8	0	0	78	12	48	0	0	60	2	3	0	0	5	143
5:45 PM	68	10	0	0	78	7	28	0	0	35	2	5	0	0	7	120
Hourly Total	265	25	0	0	290	36	161	0	0	197	12	20	0	0	32	519
Grand Total	1311	110	0	0	1421	160	1308	0	2	1468	148	173	1	0	322	3211
Approach %	92.3	7.7	0.0	-	-	10.9	89.1	0.0	-	-	46.0	53.7	0.3	-	-	-
Total %	40.8	3.4	0.0	-	44.3	5.0	40.7	0.0	-	45.7	4.6	5.4	0.0	-	10.0	-
Lights	1235	109	0	-	1344	157	1252	0	-	1409	147	170	1	-	318	3071
% Lights	94.2	99.1	-	-	94.6	98.1	95.7	-	-	96.0	99.3	98.3	100.0	-	98.8	95.6
Mediums	35	1	0	-	36	2	31	0	-	33	1	2	0	-	3	72
% Mediums	2.7	0.9	-	-	2.5	1.3	2.4	-	-	2.2	0.7	1.2	0.0	-	0.9	2.2
Articulated Trucks	41	0	0	-	41	0	25	0	-	25	0	0	0	-	0	66
% Articulated Trucks	3.1	0.0	-	-	2.9	0.0	1.9	-	-	1.7	0.0	0.0	0.0	-	0.0	2.1
Bicycles on Road	0	0	0	-	0	1	0	0	-	1	0	1	0	-	1	2
% Bicycles on Road	0.0	0.0	-	-	0.0	0.6	0.0	-	-	0.1	0.0	0.6	0.0	-	0.3	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019

Turning Movement Peak Hour Data (7:15 AM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:15 AM	34	1	0	0	35	3	68	0	0	71	7	3	0	0	10	116
7:30 AM	16	0	0	0	16	1	70	0	0	71	14	8	0	0	22	109
7:45 AM	31	0	0	0	31	1	33	0	0	34	10	5	0	0	15	80
8:00 AM	20	1	0	0	21	4	59	0	0	63	5	4	0	0	9	93
Total	101	2	0	0	103	9	230	0	0	239	36	20	0	0	56	398
Approach %	98.1	1.9	0.0	-	-	3.8	96.2	0.0	-	-	64.3	35.7	0.0	-	-	-
Total %	25.4	0.5	0.0	-	25.9	2.3	57.8	0.0	-	60.1	9.0	5.0	0.0	-	14.1	-
PHF	0.743	0.500	0.000	-	0.736	0.563	0.821	0.000	-	0.842	0.643	0.625	0.000	-	0.636	0.858
Lights	86	2	0	-	88	9	220	0	-	229	36	20	0	-	56	373
% Lights	85.1	100.0	-	-	85.4	100.0	95.7	-	-	95.8	100.0	100.0	-	-	100.0	93.7
Mediums	11	0	0	-	11	0	2	0	-	2	0	0	0	-	0	13
% Mediums	10.9	0.0	-	-	10.7	0.0	0.9	-	-	0.8	0.0	0.0	-	-	0.0	3.3
Articulated Trucks	4	0	0	-	4	0	8	0	-	8	0	0	0	-	0	12
% Articulated Trucks	4.0	0.0	-	-	3.9	0.0	3.5	-	-	3.3	0.0	0.0	-	-	0.0	3.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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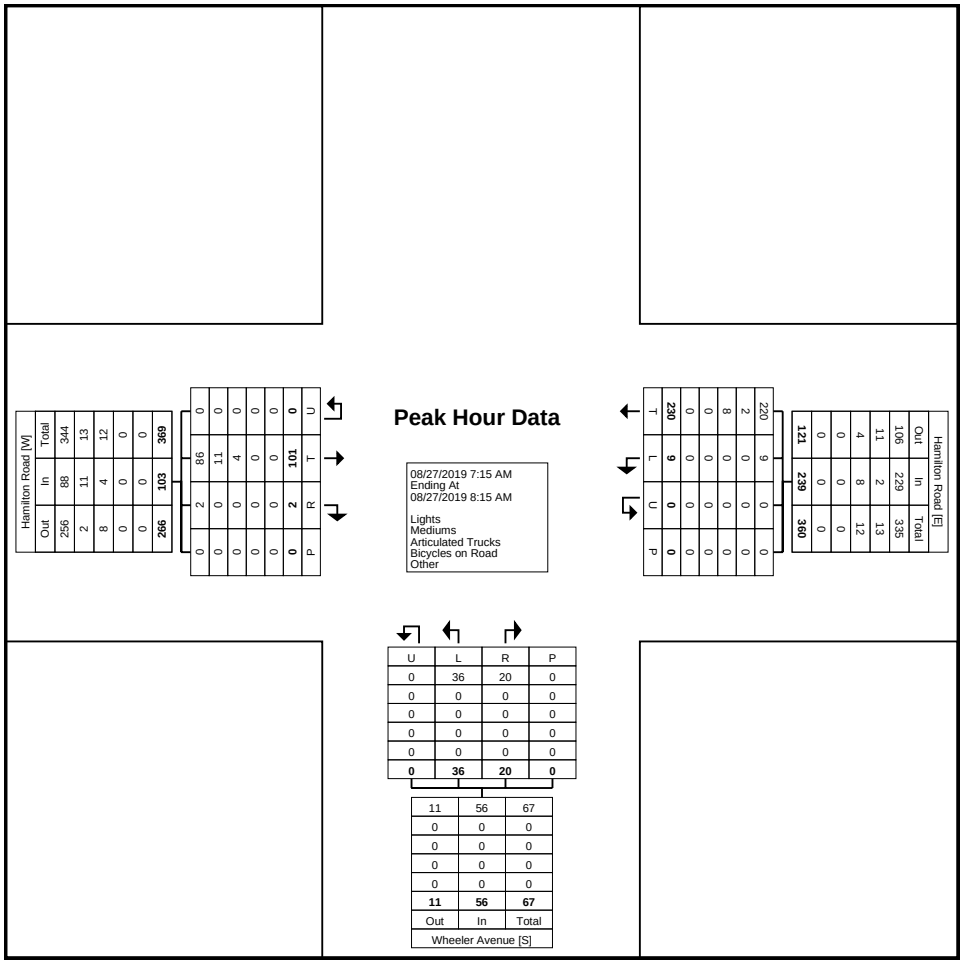


Turning Movement Peak Hour Data Plot (7:15 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019

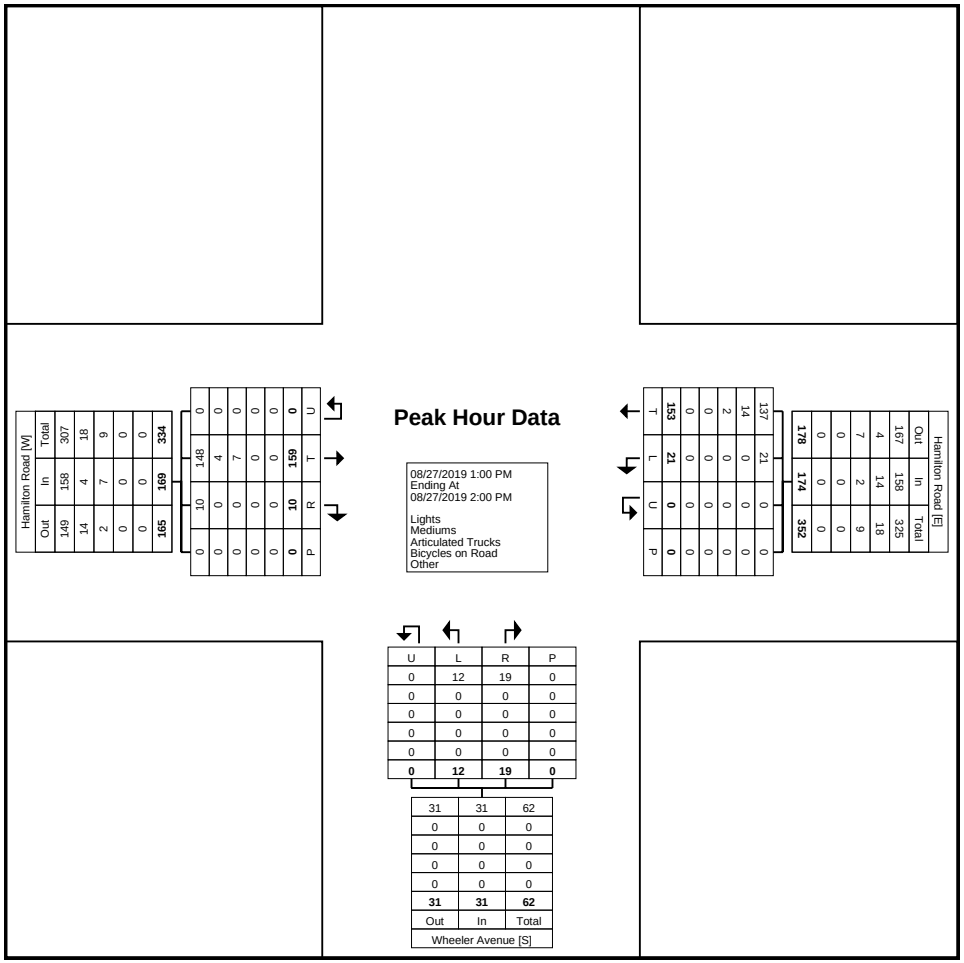
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
1:00 PM	31	2	0	0	33	7	37	0	0	44	2	4	0	0	6	83
1:15 PM	40	1	0	0	41	1	36	0	0	37	3	8	0	0	11	89
1:30 PM	49	4	0	0	53	7	32	0	0	39	4	3	0	0	7	99
1:45 PM	39	3	0	0	42	6	48	0	0	54	3	4	0	0	7	103
Total	159	10	0	0	169	21	153	0	0	174	12	19	0	0	31	374
Approach %	94.1	5.9	0.0	-	-	12.1	87.9	0.0	-	-	38.7	61.3	0.0	-	-	-
Total %	42.5	2.7	0.0	-	45.2	5.6	40.9	0.0	-	46.5	3.2	5.1	0.0	-	8.3	-
PHF	0.811	0.625	0.000	-	0.797	0.750	0.797	0.000	-	0.806	0.750	0.594	0.000	-	0.705	0.908
Lights	148	10	0	-	158	21	137	0	-	158	12	19	0	-	31	347
% Lights	93.1	100.0	-	-	93.5	100.0	89.5	-	-	90.8	100.0	100.0	-	-	100.0	92.8
Mediums	4	0	0	-	4	0	14	0	-	14	0	0	0	-	0	18
% Mediums	2.5	0.0	-	-	2.4	0.0	9.2	-	-	8.0	0.0	0.0	-	-	0.0	4.8
Articulated Trucks	7	0	0	-	7	0	2	0	-	2	0	0	0	-	0	9
% Articulated Trucks	4.4	0.0	-	-	4.1	0.0	1.3	-	-	1.1	0.0	0.0	-	-	0.0	2.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (1:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019

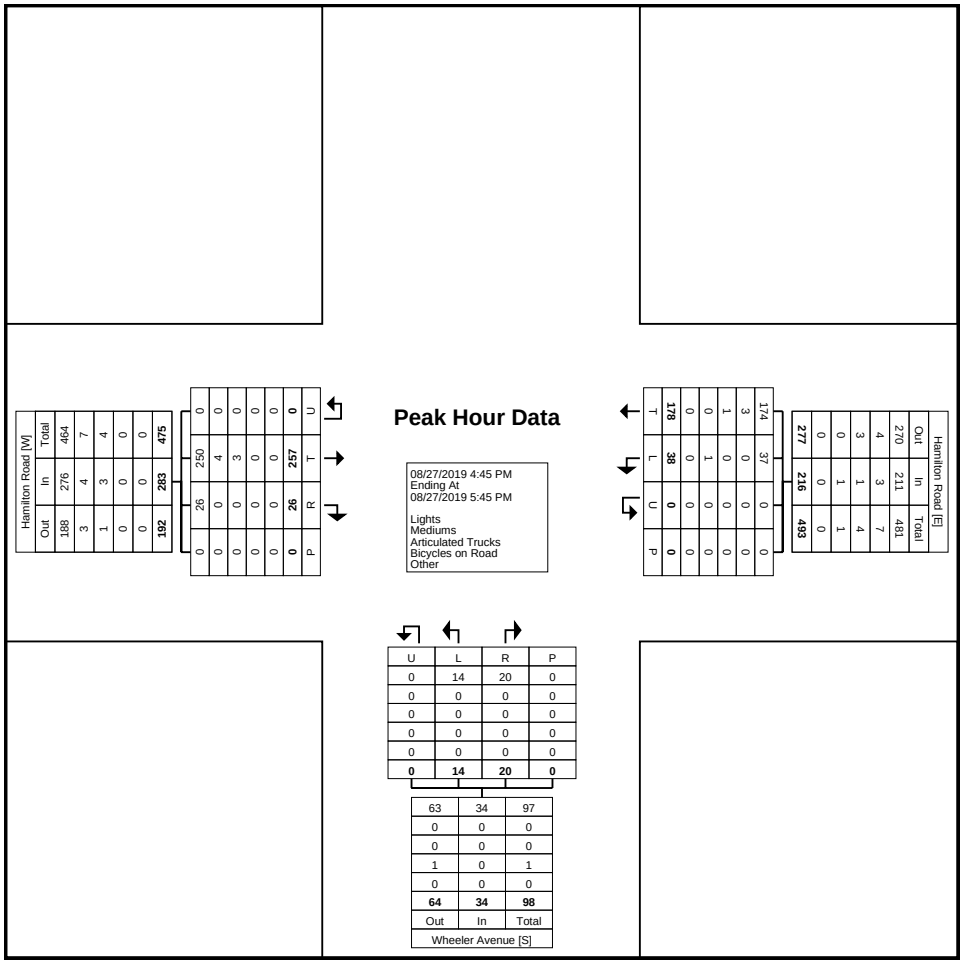
Turning Movement Peak Hour Data (4:45 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
4:45 PM	60	11	0	0	71	9	45	0	0	54	4	5	0	0	9	134
5:00 PM	59	3	0	0	62	12	38	0	0	50	4	5	0	0	9	121
5:15 PM	68	4	0	0	72	5	47	0	0	52	4	7	0	0	11	135
5:30 PM	70	8	0	0	78	12	48	0	0	60	2	3	0	0	5	143
Total	257	26	0	0	283	38	178	0	0	216	14	20	0	0	34	533
Approach %	90.8	9.2	0.0	-	-	17.6	82.4	0.0	-	-	41.2	58.8	0.0	-	-	-
Total %	48.2	4.9	0.0	-	53.1	7.1	33.4	0.0	-	40.5	2.6	3.8	0.0	-	6.4	-
PHF	0.918	0.591	0.000	-	0.907	0.792	0.927	0.000	-	0.900	0.875	0.714	0.000	-	0.773	0.932
Lights	250	26	0	-	276	37	174	0	-	211	14	20	0	-	34	521
% Lights	97.3	100.0	-	-	97.5	97.4	97.8	-	-	97.7	100.0	100.0	-	-	100.0	97.7
Mediums	4	0	0	-	4	0	3	0	-	3	0	0	0	-	0	7
% Mediums	1.6	0.0	-	-	1.4	0.0	1.7	-	-	1.4	0.0	0.0	-	-	0.0	1.3
Articulated Trucks	3	0	0	-	3	0	1	0	-	1	0	0	0	-	0	4
% Articulated Trucks	1.2	0.0	-	-	1.1	0.0	0.6	-	-	0.5	0.0	0.0	-	-	0.0	0.8
Bicycles on Road	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	-	-	0.0	2.6	0.0	-	-	0.5	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Wheeler Avenue & Hamilton Road
Site Code:
Start Date: 08/27/2019

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019

Turning Movement Data

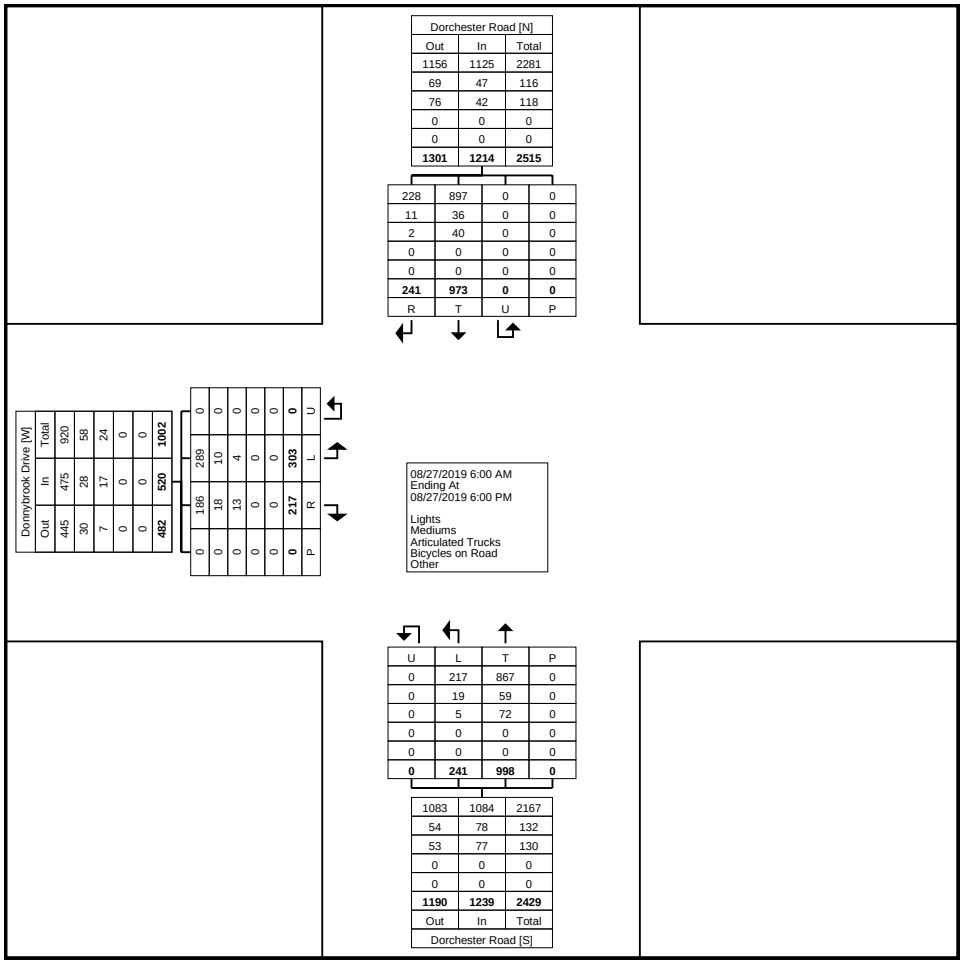
Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
6:00 AM	3	6	0	0	9	6	7	0	0	13	16	2	0	0	18	40
6:15 AM	1	6	0	0	7	7	9	0	0	16	23	3	0	0	26	49
6:30 AM	7	2	0	0	9	5	16	0	0	21	34	5	0	0	39	69
6:45 AM	4	7	0	0	11	10	18	0	0	28	27	5	0	0	32	71
Hourly Total	15	21	0	0	36	28	50	0	0	78	100	15	0	0	115	229
7:00 AM	2	10	0	0	12	6	16	0	0	22	27	3	0	0	30	64
7:15 AM	2	5	0	0	7	15	19	0	0	34	29	14	0	0	43	84
7:30 AM	3	8	0	0	11	4	21	0	0	25	56	8	0	0	64	100
7:45 AM	5	10	0	0	15	8	27	0	0	35	30	9	0	0	39	89
Hourly Total	12	33	0	0	45	33	83	0	0	116	142	34	0	0	176	337
8:00 AM	4	6	0	0	10	3	33	0	0	36	39	9	0	0	48	94
8:15 AM	6	7	0	0	13	9	26	0	0	35	35	4	0	0	39	87
8:30 AM	6	11	0	0	17	14	20	0	0	34	26	5	0	0	31	82
8:45 AM	12	6	0	0	18	6	35	0	0	41	28	13	0	0	41	100
Hourly Total	28	30	0	0	58	32	114	0	0	146	128	31	0	0	159	363
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	20	9	0	0	29	4	24	0	0	28	28	7	0	0	35	92
12:15 PM	11	5	0	0	16	12	26	0	0	38	28	18	0	0	46	100
12:30 PM	9	5	0	0	14	3	31	0	0	34	31	8	0	0	39	87
12:45 PM	9	6	0	0	15	5	31	0	0	36	24	4	0	0	28	79
Hourly Total	49	25	0	0	74	24	112	0	0	136	111	37	0	0	148	358
1:00 PM	10	7	0	0	17	6	26	0	0	32	27	12	0	0	39	88
1:15 PM	4	5	0	0	9	6	32	0	0	38	33	4	0	0	37	84
1:30 PM	14	6	0	0	20	7	25	0	0	32	23	5	0	0	28	80
1:45 PM	8	3	0	0	11	7	30	0	0	37	17	8	0	0	25	73
Hourly Total	36	21	0	0	57	26	113	0	0	139	100	29	0	0	129	325
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	10	5	0	0	15	5	33	0	0	38	30	7	0	0	37	90
3:15 PM	10	5	0	0	15	6	45	0	0	51	27	11	0	0	38	104
3:30 PM	17	6	0	0	23	11	30	0	0	41	38	6	0	0	44	108
3:45 PM	14	9	0	0	23	12	37	0	0	49	27	11	0	0	38	110
Hourly Total	51	25	0	0	76	34	145	0	0	179	122	35	0	0	157	412
4:00 PM	14	7	0	0	21	9	41	0	0	50	26	8	0	0	34	105
4:15 PM	15	10	0	0	25	9	53	0	0	62	28	9	0	0	37	124
4:30 PM	16	16	0	0	32	13	58	0	0	71	38	14	0	0	52	155
4:45 PM	14	6	0	0	20	4	44	0	0	48	35	7	0	0	42	110

Hourly Total	59	39	0	0	98	35	196	0	0	231	127	38	0	0	165	494
5:00 PM	13	5	0	0	18	6	36	0	0	42	41	3	0	0	44	104
5:15 PM	17	5	0	0	22	9	48	0	0	57	26	12	0	0	38	117
5:30 PM	12	7	0	0	19	6	53	0	0	59	39	4	0	0	43	121
5:45 PM	11	6	0	0	17	8	48	0	0	56	37	3	0	0	40	113
Hourly Total	53	23	0	0	76	29	185	0	0	214	143	22	0	0	165	455
Grand Total	303	217	0	0	520	241	998	0	0	1239	973	241	0	0	1214	2973
Approach %	58.3	41.7	0.0	-	-	19.5	80.5	0.0	-	-	80.1	19.9	0.0	-	-	-
Total %	10.2	7.3	0.0	-	17.5	8.1	33.6	0.0	-	41.7	32.7	8.1	0.0	-	40.8	-
Lights	289	186	0	-	475	217	867	0	-	1084	897	228	0	-	1125	2684
% Lights	95.4	85.7	-	-	91.3	90.0	86.9	-	-	87.5	92.2	94.6	-	-	92.7	90.3
Mediums	10	18	0	-	28	19	59	0	-	78	36	11	0	-	47	153
% Mediums	3.3	8.3	-	-	5.4	7.9	5.9	-	-	6.3	3.7	4.6	-	-	3.9	5.1
Articulated Trucks	4	13	0	-	17	5	72	0	-	77	40	2	0	-	42	136
% Articulated Trucks	1.3	6.0	-	-	3.3	2.1	7.2	-	-	6.2	4.1	0.8	-	-	3.5	4.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019

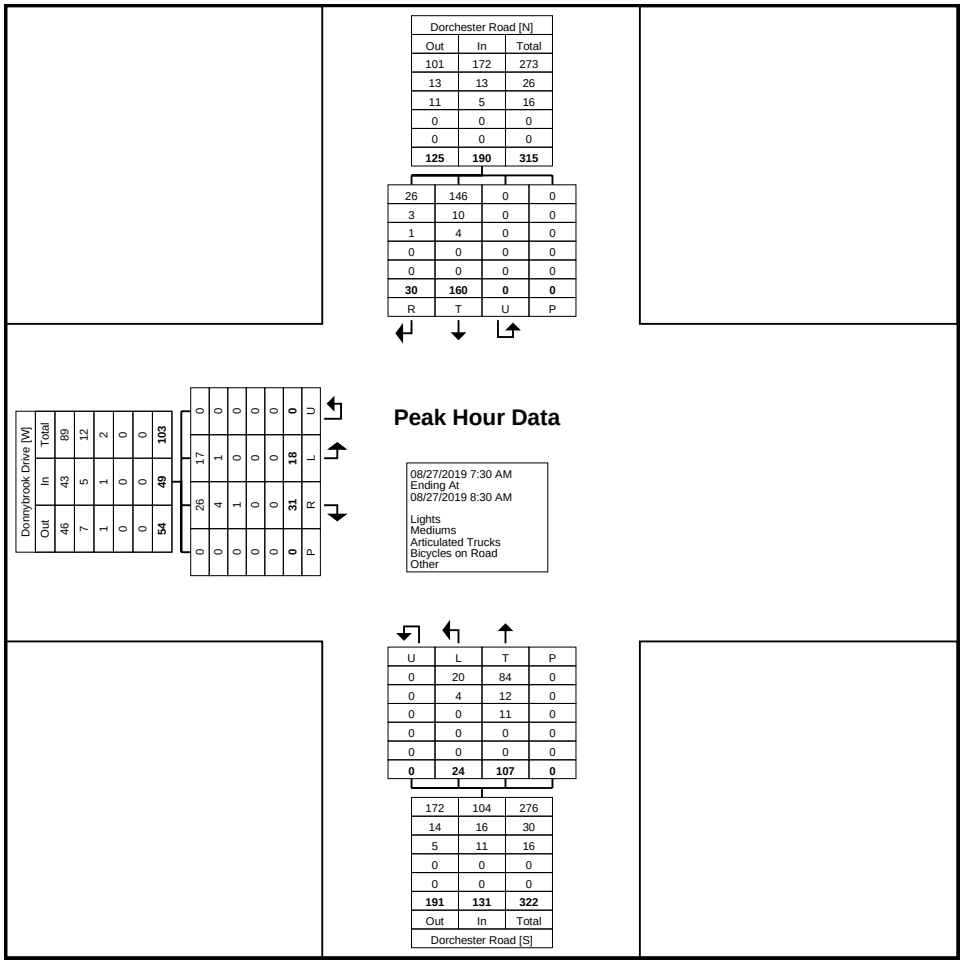
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:30 AM	3	8	0	0	11	4	21	0	0	25	56	8	0	0	64	100
7:45 AM	5	10	0	0	15	8	27	0	0	35	30	9	0	0	39	89
8:00 AM	4	6	0	0	10	3	33	0	0	36	39	9	0	0	48	94
8:15 AM	6	7	0	0	13	9	26	0	0	35	35	4	0	0	39	87
Total	18	31	0	0	49	24	107	0	0	131	160	30	0	0	190	370
Approach %	36.7	63.3	0.0	-	-	18.3	81.7	0.0	-	-	84.2	15.8	0.0	-	-	-
Total %	4.9	8.4	0.0	-	13.2	6.5	28.9	0.0	-	35.4	43.2	8.1	0.0	-	51.4	-
PHF	0.750	0.775	0.000	-	0.817	0.667	0.811	0.000	-	0.910	0.714	0.833	0.000	-	0.742	0.925
Lights	17	26	0	-	43	20	84	0	-	104	146	26	0	-	172	319
% Lights	94.4	83.9	-	-	87.8	83.3	78.5	-	-	79.4	91.3	86.7	-	-	90.5	86.2
Mediums	1	4	0	-	5	4	12	0	-	16	10	3	0	-	13	34
% Mediums	5.6	12.9	-	-	10.2	16.7	11.2	-	-	12.2	6.3	10.0	-	-	6.8	9.2
Articulated Trucks	0	1	0	-	1	0	11	0	-	11	4	1	0	-	5	17
% Articulated Trucks	0.0	3.2	-	-	2.0	0.0	10.3	-	-	8.4	2.5	3.3	-	-	2.6	4.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (7:30 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019

Turning Movement Peak Hour Data (12:00 PM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
12:00 PM	20	9	0	0	29	4	24	0	0	28	28	7	0	0	35	92
12:15 PM	11	5	0	0	16	12	26	0	0	38	28	18	0	0	46	100
12:30 PM	9	5	0	0	14	3	31	0	0	34	31	8	0	0	39	87
12:45 PM	9	6	0	0	15	5	31	0	0	36	24	4	0	0	28	79
Total	49	25	0	0	74	24	112	0	0	136	111	37	0	0	148	358
Approach %	66.2	33.8	0.0	-	-	17.6	82.4	0.0	-	-	75.0	25.0	0.0	-	-	-
Total %	13.7	7.0	0.0	-	20.7	6.7	31.3	0.0	-	38.0	31.0	10.3	0.0	-	41.3	-
PHF	0.613	0.694	0.000	-	0.638	0.500	0.903	0.000	-	0.895	0.895	0.514	0.000	-	0.804	0.895
Lights	45	22	0	-	67	23	95	0	-	118	99	35	0	-	134	319
% Lights	91.8	88.0	-	-	90.5	95.8	84.8	-	-	86.8	89.2	94.6	-	-	90.5	89.1
Mediums	2	2	0	-	4	1	8	0	-	9	3	2	0	-	5	18
% Mediums	4.1	8.0	-	-	5.4	4.2	7.1	-	-	6.6	2.7	5.4	-	-	3.4	5.0
Articulated Trucks	2	1	0	-	3	0	9	0	-	9	9	0	0	-	9	21
% Articulated Trucks	4.1	4.0	-	-	4.1	0.0	8.0	-	-	6.6	8.1	0.0	-	-	6.1	5.9
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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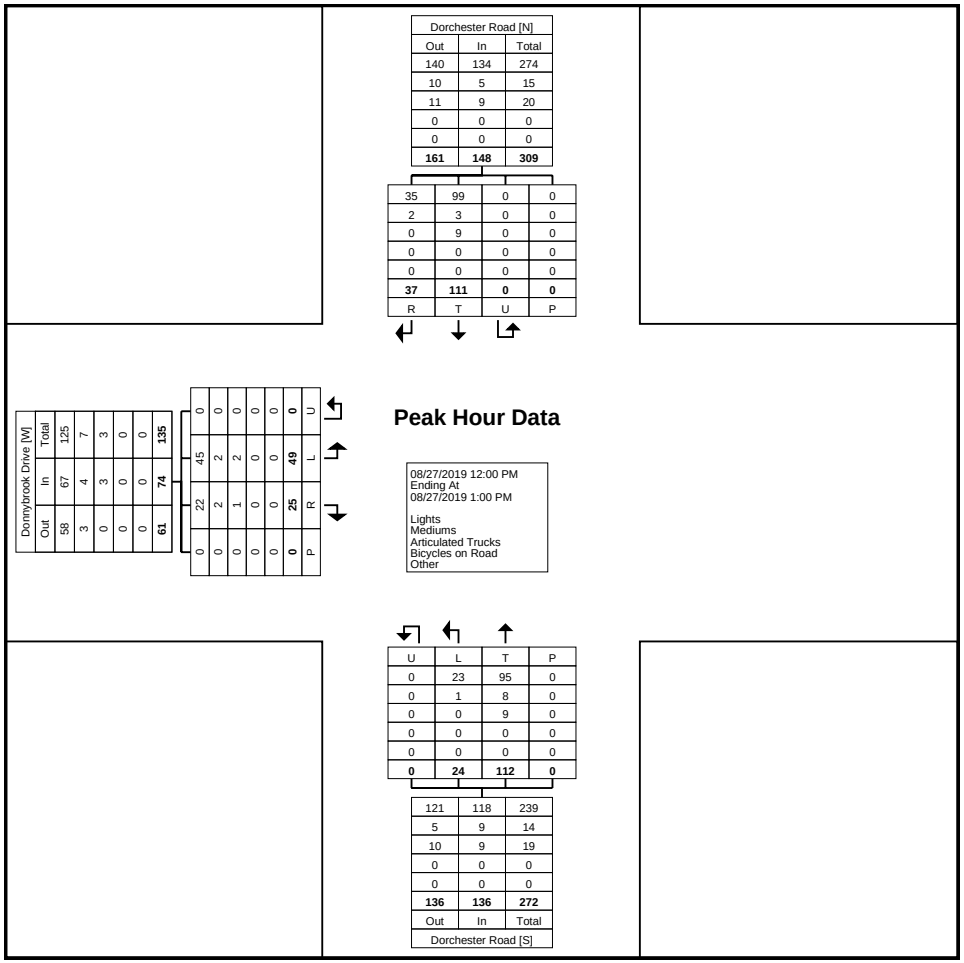
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (12:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019

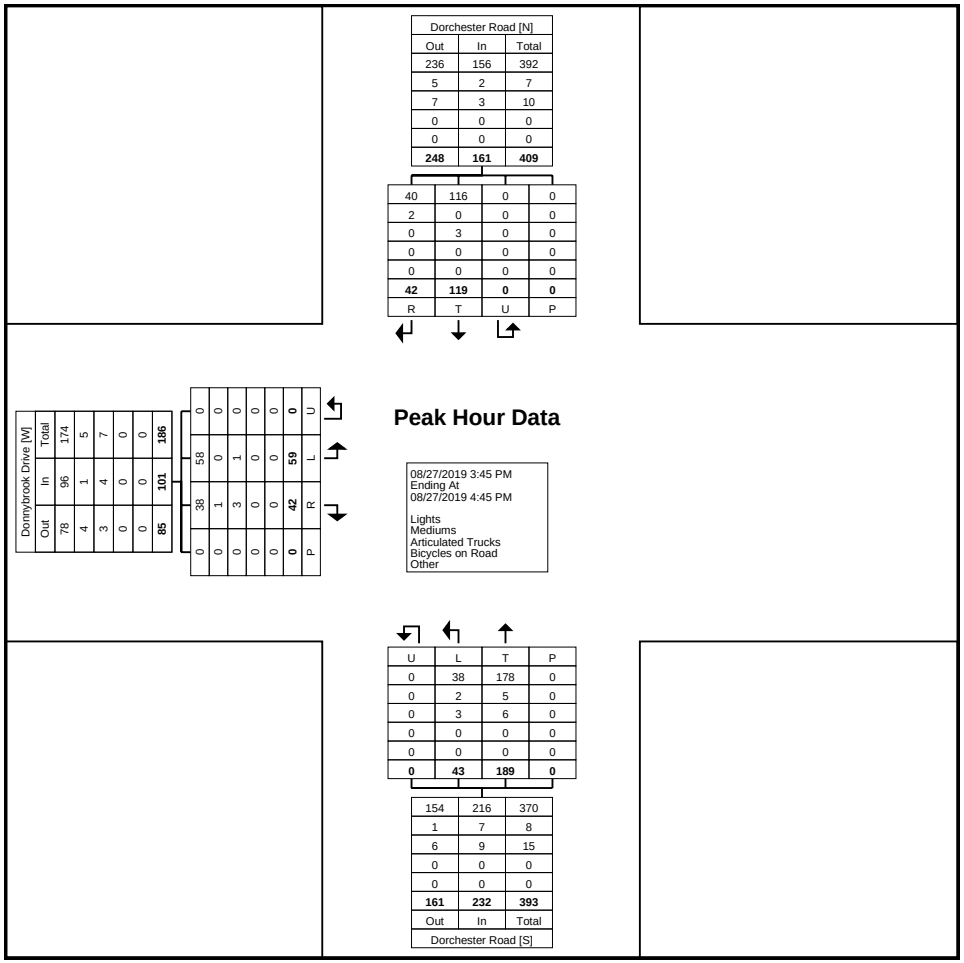
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
3:45 PM	14	9	0	0	23	12	37	0	0	49	27	11	0	0	38	110
4:00 PM	14	7	0	0	21	9	41	0	0	50	26	8	0	0	34	105
4:15 PM	15	10	0	0	25	9	53	0	0	62	28	9	0	0	37	124
4:30 PM	16	16	0	0	32	13	58	0	0	71	38	14	0	0	52	155
Total	59	42	0	0	101	43	189	0	0	232	119	42	0	0	161	494
Approach %	58.4	41.6	0.0	-	-	18.5	81.5	0.0	-	-	73.9	26.1	0.0	-	-	-
Total %	11.9	8.5	0.0	-	20.4	8.7	38.3	0.0	-	47.0	24.1	8.5	0.0	-	32.6	-
PHF	0.922	0.656	0.000	-	0.789	0.827	0.815	0.000	-	0.817	0.783	0.750	0.000	-	0.774	0.797
Lights	58	38	0	-	96	38	178	0	-	216	116	40	0	-	156	468
% Lights	98.3	90.5	-	-	95.0	88.4	94.2	-	-	93.1	97.5	95.2	-	-	96.9	94.7
Mediums	0	1	0	-	1	2	5	0	-	7	0	2	0	-	2	10
% Mediums	0.0	2.4	-	-	1.0	4.7	2.6	-	-	3.0	0.0	4.8	-	-	1.2	2.0
Articulated Trucks	1	3	0	-	4	3	6	0	-	9	3	0	0	-	3	16
% Articulated Trucks	1.7	7.1	-	-	4.0	7.0	3.2	-	-	3.9	2.5	0.0	-	-	1.9	3.2
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (3:45 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Dorchester Road
Site Code:
Start Date: 08/27/2019

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019

Turning Movement Data

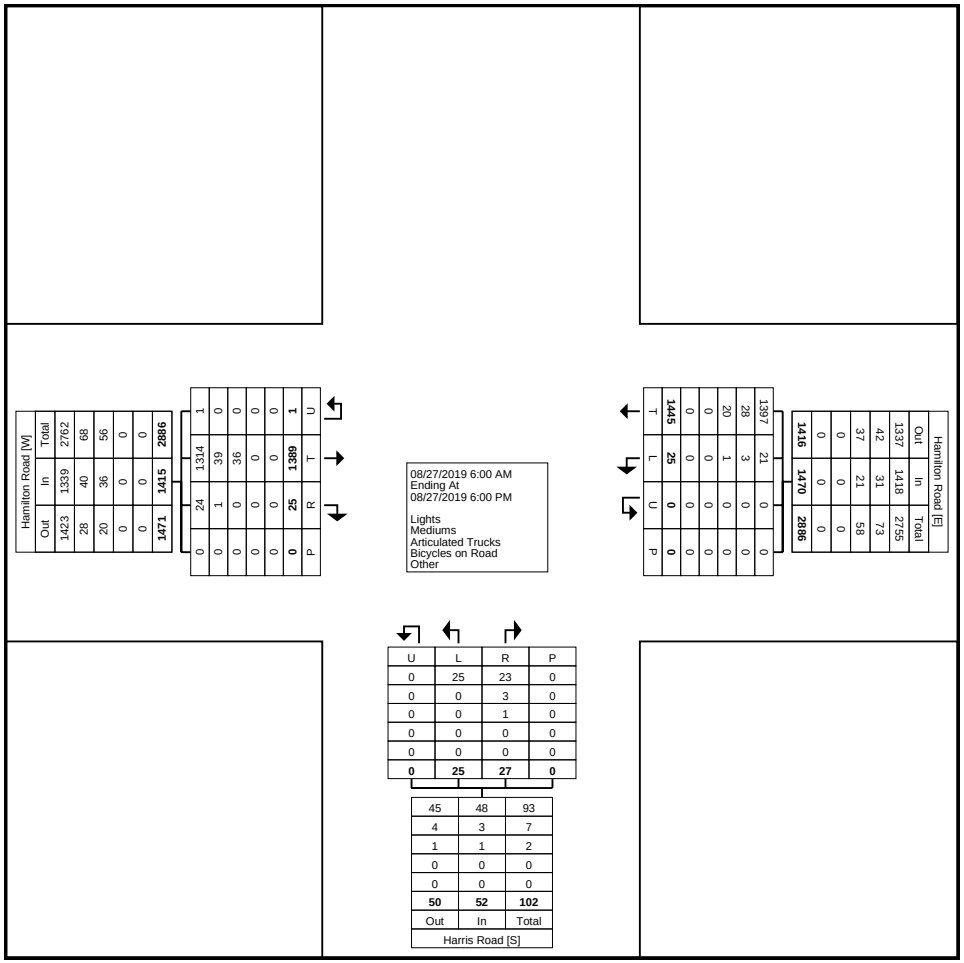
Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Harris Road Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
6:00 AM	11	0	0	0	11	0	13	0	0	13	0	1	0	0	1	25
6:15 AM	24	0	0	0	24	0	21	0	0	21	0	0	0	0	0	45
6:30 AM	29	0	0	0	29	0	45	0	0	45	0	0	0	0	0	74
6:45 AM	14	0	0	0	14	2	42	0	0	44	0	0	0	0	0	58
Hourly Total	78	0	0	0	78	2	121	0	0	123	0	1	0	0	1	202
7:00 AM	19	0	0	0	19	0	39	0	0	39	0	0	0	0	0	58
7:15 AM	32	1	0	0	33	2	74	0	0	76	0	2	0	0	2	111
7:30 AM	15	0	0	0	15	0	81	0	0	81	4	0	0	0	4	100
7:45 AM	29	0	0	0	29	0	48	0	0	48	0	1	0	0	1	78
Hourly Total	95	1	0	0	96	2	242	0	0	244	4	3	0	0	7	347
8:00 AM	20	0	0	0	20	1	61	0	0	62	1	2	0	0	3	85
8:15 AM	39	1	1	0	41	1	54	0	0	55	2	1	0	0	3	99
8:30 AM	22	0	0	0	22	0	51	0	0	51	2	1	0	0	3	76
8:45 AM	41	1	0	0	42	2	43	0	0	45	1	1	0	0	2	89
Hourly Total	122	2	1	0	125	4	209	0	0	213	6	5	0	0	11	349
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	30	2	0	0	32	1	45	0	0	46	0	1	0	0	1	79
12:15 PM	42	2	0	0	44	0	39	0	0	39	1	2	0	0	3	86
12:30 PM	38	0	0	0	38	1	38	0	0	39	3	1	0	0	4	81
12:45 PM	35	0	0	0	35	1	29	0	0	30	0	2	0	0	2	67
Hourly Total	145	4	0	0	149	3	151	0	0	154	4	6	0	0	10	313
1:00 PM	31	2	0	0	33	1	40	0	0	41	1	0	0	0	1	75
1:15 PM	40	1	0	0	41	1	37	0	0	38	0	1	0	0	1	80
1:30 PM	53	1	0	0	54	0	35	0	0	35	1	2	0	0	3	92
1:45 PM	38	2	0	0	40	0	52	0	0	52	0	0	0	0	0	92
Hourly Total	162	6	0	0	168	2	164	0	0	166	2	3	0	0	5	339
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	38	0	0	0	38	0	37	0	0	37	1	1	0	0	2	77
3:15 PM	55	3	0	0	58	0	69	0	0	69	1	0	0	0	1	128
3:30 PM	57	0	0	0	57	4	45	0	0	49	1	0	0	0	1	107
3:45 PM	76	0	0	0	76	1	49	0	0	50	2	3	0	0	5	131
Hourly Total	226	3	0	0	229	5	200	0	0	205	5	4	0	0	9	443
4:00 PM	57	0	0	0	57	1	48	0	0	49	1	0	0	0	1	107
4:15 PM	62	1	0	0	63	1	51	0	0	52	0	1	0	0	1	116
4:30 PM	80	0	0	0	80	1	43	0	0	44	0	1	0	0	1	125
4:45 PM	66	2	0	0	68	0	49	0	0	49	1	0	0	0	1	118

Hourly Total	265	3	0	0	268	3	191	0	0	194	2	2	0	0	4	466
5:00 PM	67	3	0	0	70	0	44	0	0	44	0	1	0	0	1	115
5:15 PM	75	0	0	0	75	0	49	0	0	49	2	1	0	0	3	127
5:30 PM	75	3	0	0	78	3	43	0	0	46	0	1	0	0	1	125
5:45 PM	79	0	0	0	79	1	31	0	0	32	0	0	0	0	0	111
Hourly Total	296	6	0	0	302	4	167	0	0	171	2	3	0	0	5	478
Grand Total	1389	25	1	0	1415	25	1445	0	0	1470	25	27	0	0	52	2937
Approach %	98.2	1.8	0.1	-	-	1.7	98.3	0.0	-	-	48.1	51.9	0.0	-	-	-
Total %	47.3	0.9	0.0	-	48.2	0.9	49.2	0.0	-	50.1	0.9	0.9	0.0	-	1.8	-
Lights	1314	24	1	-	1339	21	1397	0	-	1418	25	23	0	-	48	2805
% Lights	94.6	96.0	100.0	-	94.6	84.0	96.7	-	-	96.5	100.0	85.2	-	-	92.3	95.5
Mediums	39	1	0	-	40	3	28	0	-	31	0	3	0	-	3	74
% Mediums	2.8	4.0	0.0	-	2.8	12.0	1.9	-	-	2.1	0.0	11.1	-	-	5.8	2.5
Articulated Trucks	36	0	0	-	36	1	20	0	-	21	0	1	0	-	1	58
% Articulated Trucks	2.6	0.0	0.0	-	2.5	4.0	1.4	-	-	1.4	0.0	3.7	-	-	1.9	2.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019

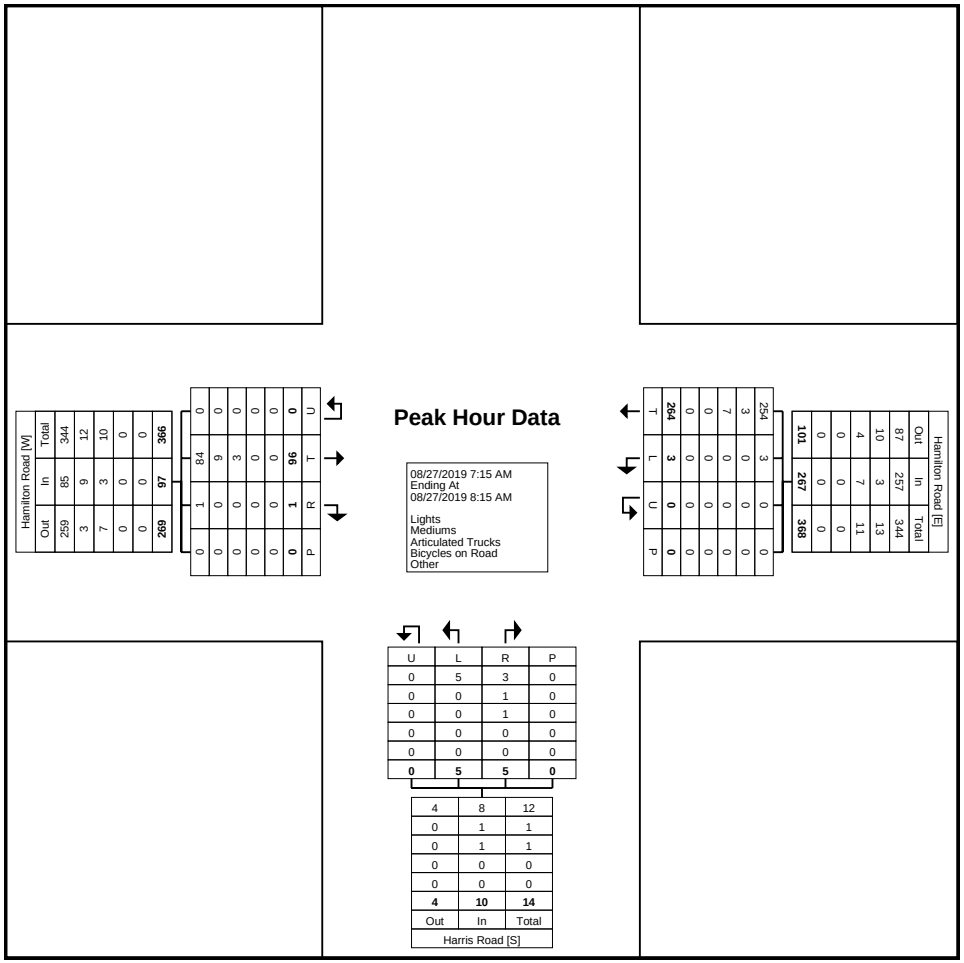
Turning Movement Peak Hour Data (7:15 AM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Harris Road Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:15 AM	32	1	0	0	33	2	74	0	0	76	0	2	0	0	2	111
7:30 AM	15	0	0	0	15	0	81	0	0	81	4	0	0	0	4	100
7:45 AM	29	0	0	0	29	0	48	0	0	48	0	1	0	0	1	78
8:00 AM	20	0	0	0	20	1	61	0	0	62	1	2	0	0	3	85
Total	96	1	0	0	97	3	264	0	0	267	5	5	0	0	10	374
Approach %	99.0	1.0	0.0	-	-	1.1	98.9	0.0	-	-	50.0	50.0	0.0	-	-	-
Total %	25.7	0.3	0.0	-	25.9	0.8	70.6	0.0	-	71.4	1.3	1.3	0.0	-	2.7	-
PHF	0.750	0.250	0.000	-	0.735	0.375	0.815	0.000	-	0.824	0.313	0.625	0.000	-	0.625	0.842
Lights	84	1	0	-	85	3	254	0	-	257	5	3	0	-	8	350
% Lights	87.5	100.0	-	-	87.6	100.0	96.2	-	-	96.3	100.0	60.0	-	-	80.0	93.6
Mediums	9	0	0	-	9	0	3	0	-	3	0	1	0	-	1	13
% Mediums	9.4	0.0	-	-	9.3	0.0	1.1	-	-	1.1	0.0	20.0	-	-	10.0	3.5
Articulated Trucks	3	0	0	-	3	0	7	0	-	7	0	1	0	-	1	11
% Articulated Trucks	3.1	0.0	-	-	3.1	0.0	2.7	-	-	2.6	0.0	20.0	-	-	10.0	2.9
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019

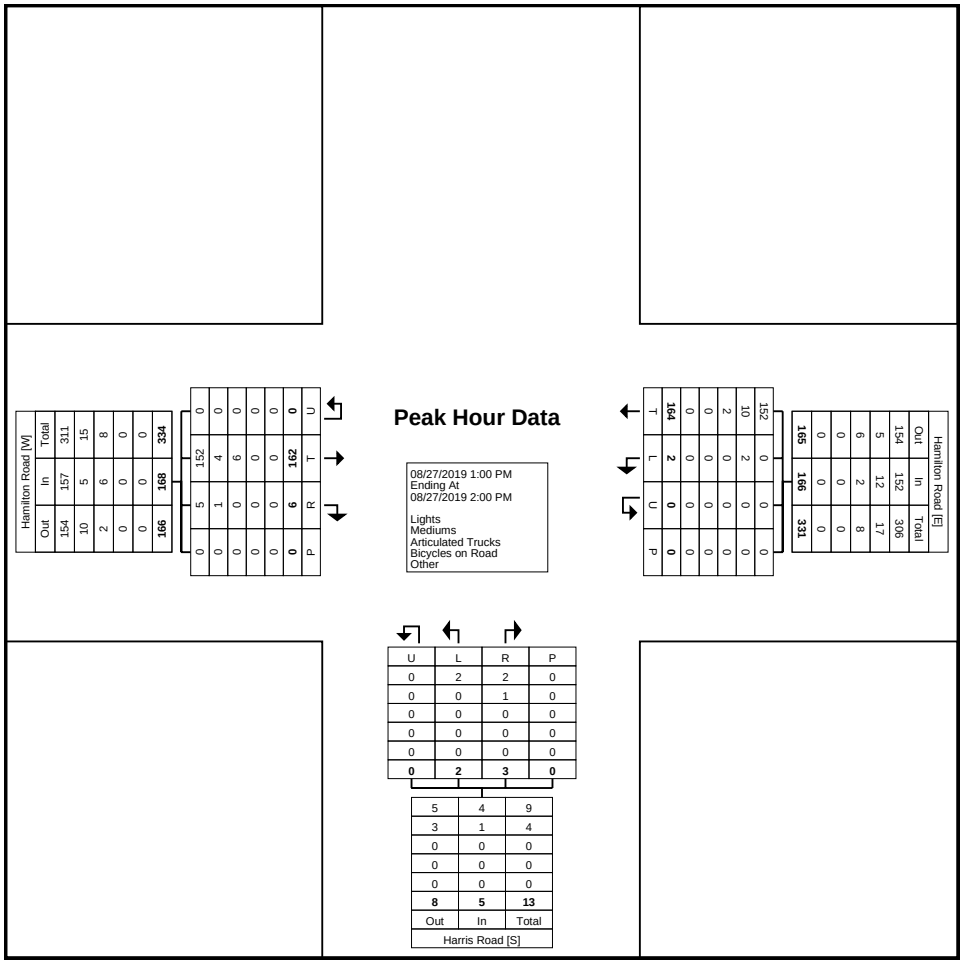
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Harris Road Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
1:00 PM	31	2	0	0	33	1	40	0	0	41	1	0	0	0	1	75
1:15 PM	40	1	0	0	41	1	37	0	0	38	0	1	0	0	1	80
1:30 PM	53	1	0	0	54	0	35	0	0	35	1	2	0	0	3	92
1:45 PM	38	2	0	0	40	0	52	0	0	52	0	0	0	0	0	92
Total	162	6	0	0	168	2	164	0	0	166	2	3	0	0	5	339
Approach %	96.4	3.6	0.0	-	-	1.2	98.8	0.0	-	-	40.0	60.0	0.0	-	-	-
Total %	47.8	1.8	0.0	-	49.6	0.6	48.4	0.0	-	49.0	0.6	0.9	0.0	-	1.5	-
PHF	0.764	0.750	0.000	-	0.778	0.500	0.788	0.000	-	0.798	0.500	0.375	0.000	-	0.417	0.921
Lights	152	5	0	-	157	0	152	0	-	152	2	2	0	-	4	313
% Lights	93.8	83.3	-	-	93.5	0.0	92.7	-	-	91.6	100.0	66.7	-	-	80.0	92.3
Mediums	4	1	0	-	5	2	10	0	-	12	0	1	0	-	1	18
% Mediums	2.5	16.7	-	-	3.0	100.0	6.1	-	-	7.2	0.0	33.3	-	-	20.0	5.3
Articulated Trucks	6	0	0	-	6	0	2	0	-	2	0	0	0	-	0	8
% Articulated Trucks	3.7	0.0	-	-	3.6	0.0	1.2	-	-	1.2	0.0	0.0	-	-	0.0	2.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (1:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019

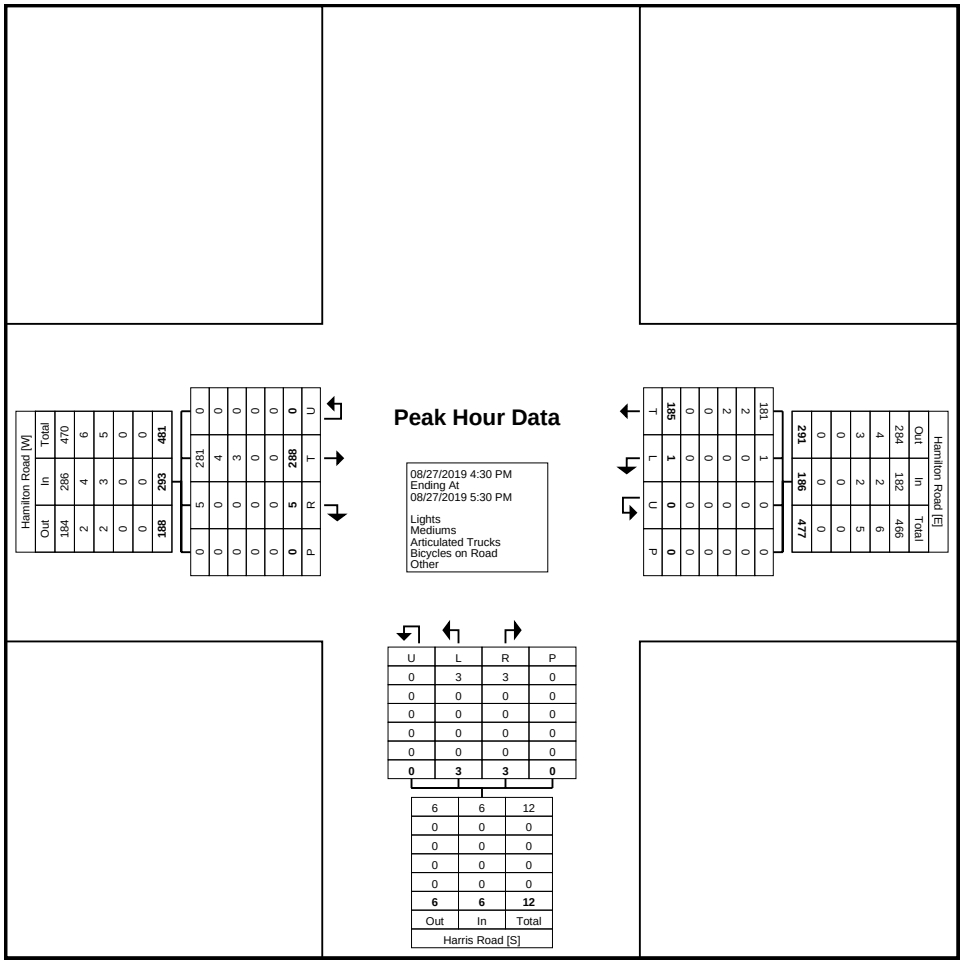
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Harris Road Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
4:30 PM	80	0	0	0	80	1	43	0	0	44	0	1	0	0	1	125
4:45 PM	66	2	0	0	68	0	49	0	0	49	1	0	0	0	1	118
5:00 PM	67	3	0	0	70	0	44	0	0	44	0	1	0	0	1	115
5:15 PM	75	0	0	0	75	0	49	0	0	49	2	1	0	0	3	127
Total	288	5	0	0	293	1	185	0	0	186	3	3	0	0	6	485
Approach %	98.3	1.7	0.0	-	-	0.5	99.5	0.0	-	-	50.0	50.0	0.0	-	-	-
Total %	59.4	1.0	0.0	-	60.4	0.2	38.1	0.0	-	38.4	0.6	0.6	0.0	-	1.2	-
PHF	0.900	0.417	0.000	-	0.916	0.250	0.944	0.000	-	0.949	0.375	0.750	0.000	-	0.500	0.955
Lights	281	5	0	-	286	1	181	0	-	182	3	3	0	-	6	474
% Lights	97.6	100.0	-	-	97.6	100.0	97.8	-	-	97.8	100.0	100.0	-	-	100.0	97.7
Mediums	4	0	0	-	4	0	2	0	-	2	0	0	0	-	0	6
% Mediums	1.4	0.0	-	-	1.4	0.0	1.1	-	-	1.1	0.0	0.0	-	-	0.0	1.2
Articulated Trucks	3	0	0	-	3	0	2	0	-	2	0	0	0	-	0	5
% Articulated Trucks	1.0	0.0	-	-	1.0	0.0	1.1	-	-	1.1	0.0	0.0	-	-	0.0	1.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Harris Road & Hamilton Road
Site Code:
Start Date: 08/27/2019

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019

Turning Movement Data

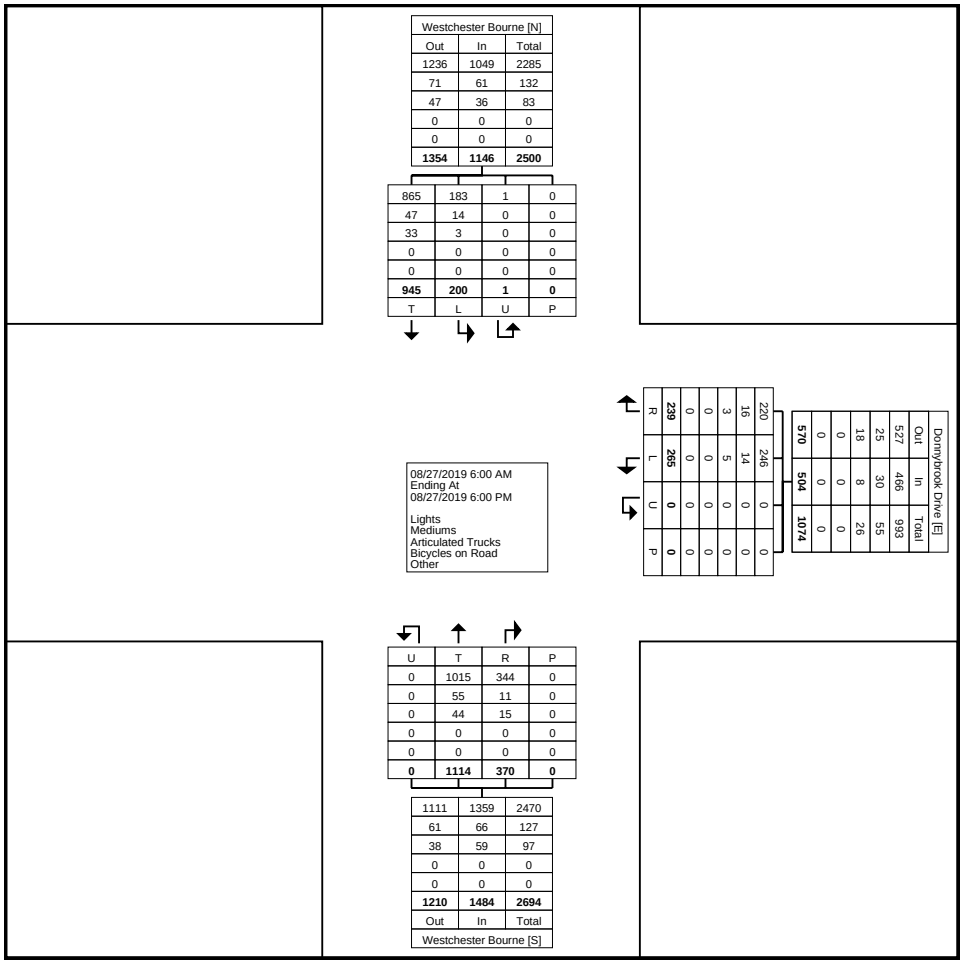
Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
6:00 AM	2	4	0	0	6	25	2	0	0	27	6	10	0	0	16	49
6:15 AM	4	4	0	0	8	36	15	0	0	51	13	17	0	0	30	89
6:30 AM	5	4	0	0	9	34	11	0	0	45	9	29	0	0	38	92
6:45 AM	3	7	0	0	10	39	15	0	0	54	9	17	0	0	26	90
Hourly Total	14	19	0	0	33	134	43	0	0	177	37	73	0	0	110	320
7:00 AM	9	5	0	0	14	28	5	0	0	33	10	16	0	0	26	73
7:15 AM	10	10	0	0	20	52	10	0	0	62	11	24	0	0	35	117
7:30 AM	10	4	0	0	14	45	14	0	0	59	6	29	0	0	35	108
7:45 AM	12	5	0	0	17	52	7	0	0	59	10	38	0	0	48	124
Hourly Total	41	24	0	0	65	177	36	0	0	213	37	107	0	0	144	422
8:00 AM	3	5	0	0	8	46	5	0	0	51	6	20	0	0	26	85
8:15 AM	5	6	0	0	11	46	9	0	0	55	5	23	0	0	28	94
8:30 AM	9	6	0	0	15	29	6	0	0	35	4	24	0	0	28	78
8:45 AM	11	11	0	0	22	33	9	0	0	42	2	22	0	0	24	88
Hourly Total	28	28	0	0	56	154	29	0	0	183	17	89	0	0	106	345
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	6	3	0	0	9	34	9	0	0	43	3	15	0	0	18	70
12:15 PM	11	4	0	0	15	25	11	0	0	36	3	14	0	0	17	68
12:30 PM	10	8	0	0	18	24	13	0	0	37	6	20	0	0	26	81
12:45 PM	6	3	0	0	9	23	10	0	0	33	4	25	0	0	29	71
Hourly Total	33	18	0	0	51	106	43	0	0	149	16	74	0	0	90	290
1:00 PM	10	9	0	0	19	33	8	0	0	41	8	23	0	0	31	91
1:15 PM	2	8	0	0	10	18	10	0	0	28	3	14	0	0	17	55
1:30 PM	8	5	0	0	13	33	10	0	0	43	8	18	0	0	26	82
1:45 PM	3	6	0	0	9	28	16	0	0	44	5	29	0	0	34	87
Hourly Total	23	28	0	0	51	112	44	0	0	156	24	84	0	0	108	315
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	5	9	0	0	14	33	16	0	0	49	8	23	0	0	31	94
3:15 PM	7	3	0	0	10	34	14	0	0	48	10	39	0	0	49	107
3:30 PM	11	10	0	0	21	42	16	0	0	58	4	42	0	0	46	125
3:45 PM	10	12	0	0	22	34	16	0	0	50	9	40	0	0	49	121
Hourly Total	33	34	0	0	67	143	62	0	0	205	31	144	0	0	175	447
4:00 PM	17	17	0	0	34	41	14	0	0	55	4	40	0	0	44	133
4:15 PM	17	11	0	0	28	22	12	0	0	34	4	44	0	0	48	110
4:30 PM	17	11	0	0	28	43	26	0	0	69	10	59	0	0	69	166
4:45 PM	6	15	0	0	21	29	10	0	0	39	5	50	0	0	55	115

Hourly Total	57	54	0	0	111	135	62	0	0	197	23	193	0	0	216	524
5:00 PM	11	16	0	0	27	43	15	0	0	58	4	53	0	0	57	142
5:15 PM	12	10	0	0	22	59	20	0	0	79	8	48	1	0	57	158
5:30 PM	6	2	0	0	8	17	8	0	0	25	0	47	0	0	47	80
5:45 PM	7	6	0	0	13	34	8	0	0	42	3	33	0	0	36	91
Hourly Total	36	34	0	0	70	153	51	0	0	204	15	181	1	0	197	471
Grand Total	265	239	0	0	504	1114	370	0	0	1484	200	945	1	0	1146	3134
Approach %	52.6	47.4	0.0	-	-	75.1	24.9	0.0	-	-	17.5	82.5	0.1	-	-	-
Total %	8.5	7.6	0.0	-	16.1	35.5	11.8	0.0	-	47.4	6.4	30.2	0.0	-	36.6	-
Lights	246	220	0	-	466	1015	344	0	-	1359	183	865	1	-	1049	2874
% Lights	92.8	92.1	-	-	92.5	91.1	93.0	-	-	91.6	91.5	91.5	100.0	-	91.5	91.7
Mediums	14	16	0	-	30	55	11	0	-	66	14	47	0	-	61	157
% Mediums	5.3	6.7	-	-	6.0	4.9	3.0	-	-	4.4	7.0	5.0	0.0	-	5.3	5.0
Articulated Trucks	5	3	0	-	8	44	15	0	-	59	3	33	0	-	36	103
% Articulated Trucks	1.9	1.3	-	-	1.6	3.9	4.1	-	-	4.0	1.5	3.5	0.0	-	3.1	3.3
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019

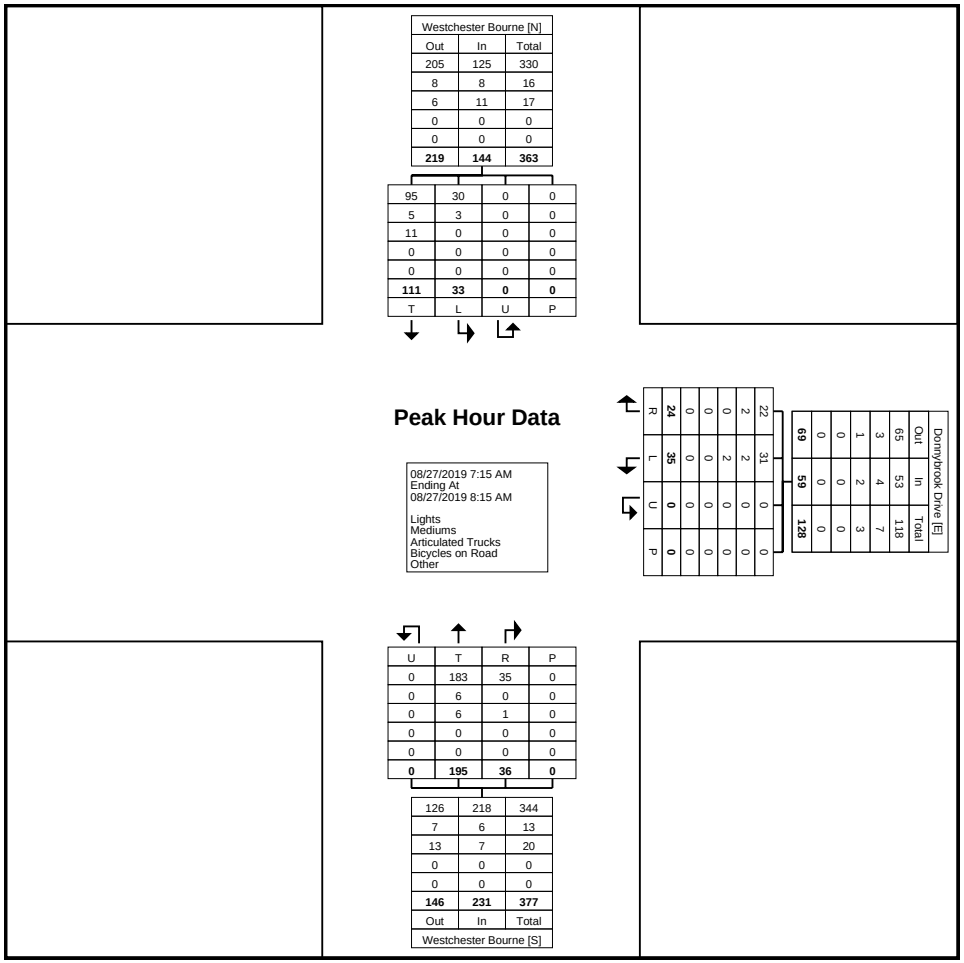
Turning Movement Peak Hour Data (7:15 AM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:15 AM	10	10	0	0	20	52	10	0	0	62	11	24	0	0	35	117
7:30 AM	10	4	0	0	14	45	14	0	0	59	6	29	0	0	35	108
7:45 AM	12	5	0	0	17	52	7	0	0	59	10	38	0	0	48	124
8:00 AM	3	5	0	0	8	46	5	0	0	51	6	20	0	0	26	85
Total	35	24	0	0	59	195	36	0	0	231	33	111	0	0	144	434
Approach %	59.3	40.7	0.0	-	-	84.4	15.6	0.0	-	-	22.9	77.1	0.0	-	-	-
Total %	8.1	5.5	0.0	-	13.6	44.9	8.3	0.0	-	53.2	7.6	25.6	0.0	-	33.2	-
PHF	0.729	0.600	0.000	-	0.738	0.938	0.643	0.000	-	0.931	0.750	0.730	0.000	-	0.750	0.875
Lights	31	22	0	-	53	183	35	0	-	218	30	95	0	-	125	396
% Lights	88.6	91.7	-	-	89.8	93.8	97.2	-	-	94.4	90.9	85.6	-	-	86.8	91.2
Mediums	2	2	0	-	4	6	0	0	-	6	3	5	0	-	8	18
% Mediums	5.7	8.3	-	-	6.8	3.1	0.0	-	-	2.6	9.1	4.5	-	-	5.6	4.1
Articulated Trucks	2	0	0	-	2	6	1	0	-	7	0	11	0	-	11	20
% Articulated Trucks	5.7	0.0	-	-	3.4	3.1	2.8	-	-	3.0	0.0	9.9	-	-	7.6	4.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019

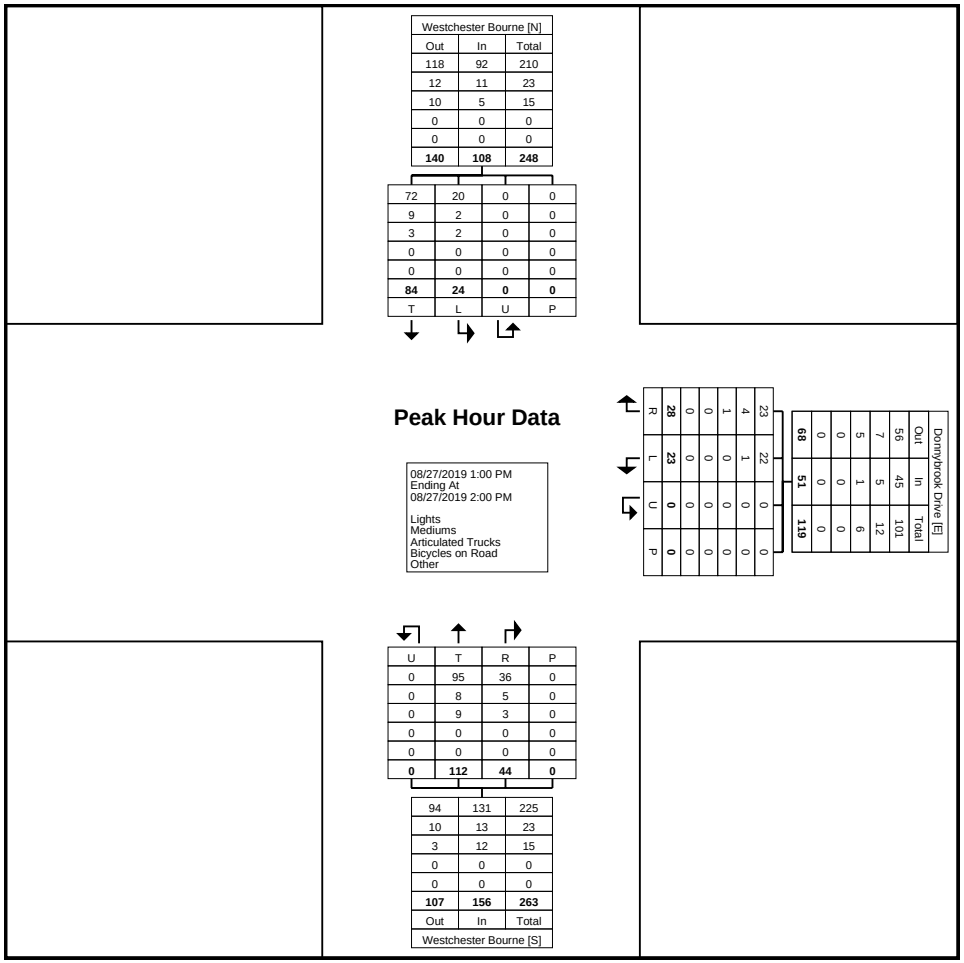
Turning Movement Peak Hour Data (1:00 PM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
1:00 PM	10	9	0	0	19	33	8	0	0	41	8	23	0	0	31	91
1:15 PM	2	8	0	0	10	18	10	0	0	28	3	14	0	0	17	55
1:30 PM	8	5	0	0	13	33	10	0	0	43	8	18	0	0	26	82
1:45 PM	3	6	0	0	9	28	16	0	0	44	5	29	0	0	34	87
Total	23	28	0	0	51	112	44	0	0	156	24	84	0	0	108	315
Approach %	45.1	54.9	0.0	-	-	71.8	28.2	0.0	-	-	22.2	77.8	0.0	-	-	-
Total %	7.3	8.9	0.0	-	16.2	35.6	14.0	0.0	-	49.5	7.6	26.7	0.0	-	34.3	-
PHF	0.575	0.778	0.000	-	0.671	0.848	0.688	0.000	-	0.886	0.750	0.724	0.000	-	0.794	0.865
Lights	22	23	0	-	45	95	36	0	-	131	20	72	0	-	92	268
% Lights	95.7	82.1	-	-	88.2	84.8	81.8	-	-	84.0	83.3	85.7	-	-	85.2	85.1
Mediums	1	4	0	-	5	8	5	0	-	13	2	9	0	-	11	29
% Mediums	4.3	14.3	-	-	9.8	7.1	11.4	-	-	8.3	8.3	10.7	-	-	10.2	9.2
Articulated Trucks	0	1	0	-	1	9	3	0	-	12	2	3	0	-	5	18
% Articulated Trucks	0.0	3.6	-	-	2.0	8.0	6.8	-	-	7.7	8.3	3.6	-	-	4.6	5.7
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (1:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019

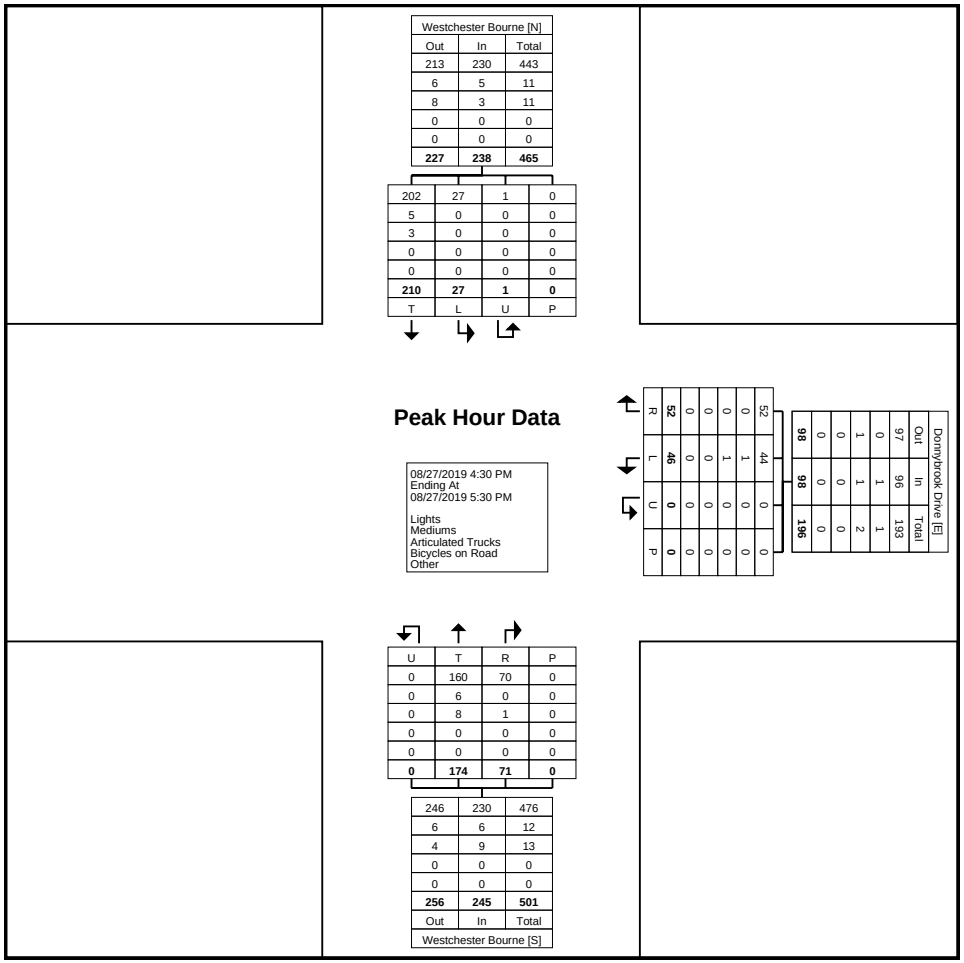
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
4:30 PM	17	11	0	0	28	43	26	0	0	69	10	59	0	0	69	166
4:45 PM	6	15	0	0	21	29	10	0	0	39	5	50	0	0	55	115
5:00 PM	11	16	0	0	27	43	15	0	0	58	4	53	0	0	57	142
5:15 PM	12	10	0	0	22	59	20	0	0	79	8	48	1	0	57	158
Total	46	52	0	0	98	174	71	0	0	245	27	210	1	0	238	581
Approach %	46.9	53.1	0.0	-	-	71.0	29.0	0.0	-	-	11.3	88.2	0.4	-	-	-
Total %	7.9	9.0	0.0	-	16.9	29.9	12.2	0.0	-	42.2	4.6	36.1	0.2	-	41.0	-
PHF	0.676	0.813	0.000	-	0.875	0.737	0.683	0.000	-	0.775	0.675	0.890	0.250	-	0.862	0.875
Lights	44	52	0	-	96	160	70	0	-	230	27	202	1	-	230	556
% Lights	95.7	100.0	-	-	98.0	92.0	98.6	-	-	93.9	100.0	96.2	100.0	-	96.6	95.7
Mediums	1	0	0	-	1	6	0	0	-	6	0	5	0	-	5	12
% Mediums	2.2	0.0	-	-	1.0	3.4	0.0	-	-	2.4	0.0	2.4	0.0	-	2.1	2.1
Articulated Trucks	1	0	0	-	1	8	1	0	-	9	0	3	0	-	3	13
% Articulated Trucks	2.2	0.0	-	-	1.0	4.6	1.4	-	-	3.7	0.0	1.4	0.0	-	1.3	2.2
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Westchester Bourne
Site Code:
Start Date: 08/27/2019

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019

Turning Movement Data

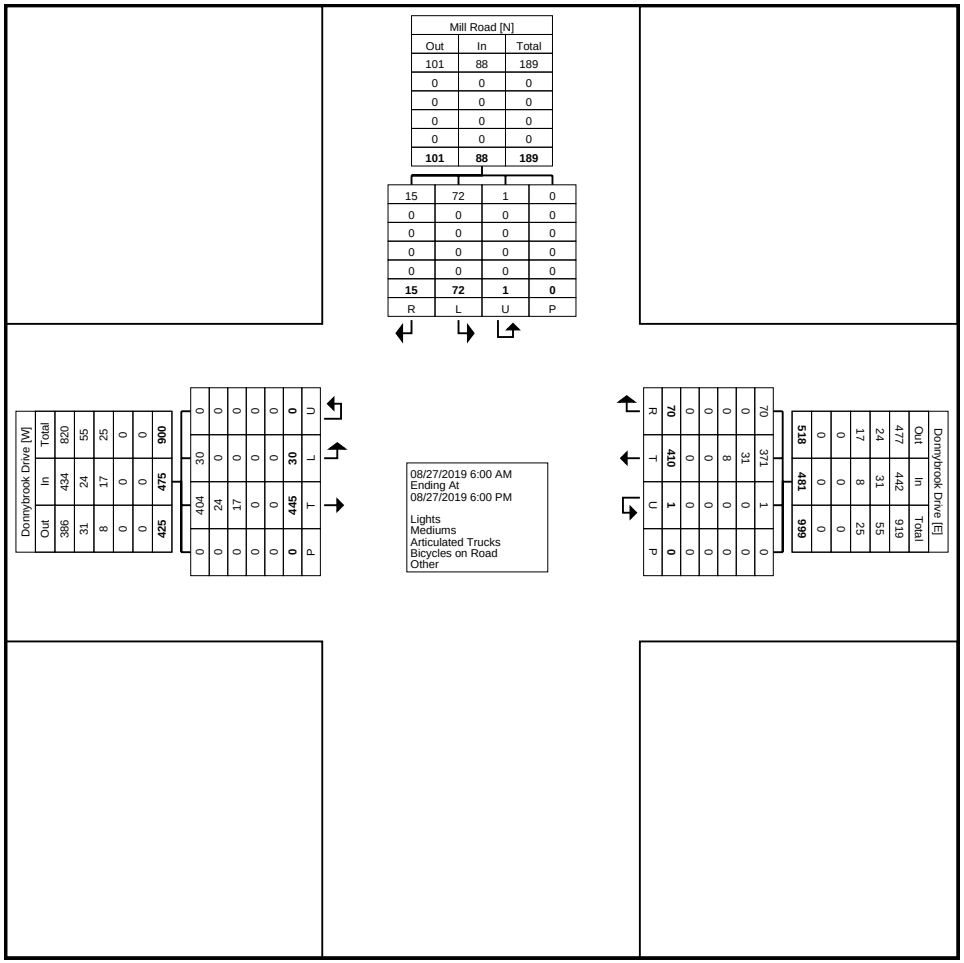
Start Time	Donnybrook Drive Eastbound					Donnybrook Drive Westbound					Mill Road Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
6:00 AM	0	8	0	0	8	6	0	0	0	6	1	0	0	0	1	15
6:15 AM	0	3	0	0	3	10	0	0	0	10	3	1	0	0	4	17
6:30 AM	0	8	0	0	8	10	0	0	0	10	1	1	0	0	2	20
6:45 AM	0	8	0	0	8	17	0	0	0	17	3	0	0	0	3	28
Hourly Total	0	27	0	0	27	43	0	0	0	43	8	2	0	0	10	80
7:00 AM	0	7	0	0	7	9	0	0	0	9	6	1	0	0	7	23
7:15 AM	0	4	0	0	4	25	3	0	0	28	3	1	1	0	5	37
7:30 AM	0	7	0	0	7	13	0	0	0	13	2	0	0	0	2	22
7:45 AM	1	11	0	0	12	16	0	0	0	16	3	2	0	0	5	33
Hourly Total	1	29	0	0	30	63	3	0	0	66	14	4	1	0	19	115
8:00 AM	0	8	0	0	8	12	0	0	0	12	3	0	0	0	3	23
8:15 AM	2	12	0	0	14	13	1	0	0	14	2	0	0	0	2	30
8:30 AM	1	13	0	0	14	17	2	0	0	19	4	1	0	0	5	38
8:45 AM	1	14	0	0	15	16	2	0	0	18	2	1	0	0	3	36
Hourly Total	4	47	0	0	51	58	5	0	0	63	11	2	0	0	13	127
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	0	27	0	0	27	10	1	0	0	11	2	1	0	0	3	41
12:15 PM	2	14	0	0	16	24	6	0	0	30	2	0	0	0	2	48
12:30 PM	1	11	0	0	12	10	1	0	0	11	4	0	0	0	4	27
12:45 PM	1	12	0	0	13	10	1	0	0	11	2	0	0	0	2	26
Hourly Total	4	64	0	0	68	54	9	0	0	63	10	1	0	0	11	142
1:00 PM	0	16	0	0	16	15	3	0	0	18	1	0	0	0	1	35
1:15 PM	1	8	0	0	9	7	1	0	0	8	2	0	0	0	2	19
1:30 PM	2	16	0	0	18	10	2	0	0	12	3	0	0	0	3	33
1:45 PM	0	11	0	0	11	13	3	0	0	16	1	0	0	0	1	28
Hourly Total	3	51	0	0	54	45	9	0	0	54	7	0	0	0	7	115
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	1	17	0	0	18	8	2	0	0	10	1	0	0	0	1	29
3:15 PM	1	13	0	0	14	15	2	0	0	17	1	0	0	0	1	32
3:30 PM	1	20	0	0	21	13	4	0	0	17	1	0	0	0	1	39
3:45 PM	4	22	0	0	26	19	4	0	0	23	1	2	0	0	3	52
Hourly Total	7	72	0	0	79	55	12	0	0	67	4	2	0	0	6	152
4:00 PM	0	20	0	0	20	13	4	0	0	17	2	0	0	0	2	39
4:15 PM	3	22	0	0	25	13	5	0	0	18	2	0	0	0	2	45
4:30 PM	1	30	0	0	31	24	3	0	0	27	3	0	0	0	3	61
4:45 PM	2	17	0	0	19	7	4	0	0	11	2	1	0	0	3	33

Hourly Total	6	89	0	0	95	57	16	0	0	73	9	1	0	0	10	178
5:00 PM	1	17	0	0	18	6	4	0	0	10	2	0	0	0	2	30
5:15 PM	2	18	0	0	20	18	2	0	0	20	4	2	0	0	6	46
5:30 PM	0	15	0	0	15	5	4	1	0	10	2	0	0	0	2	27
5:45 PM	2	16	0	0	18	6	6	0	0	12	1	1	0	0	2	32
Hourly Total	5	66	0	0	71	35	16	1	0	52	9	3	0	0	12	135
Grand Total	30	445	0	0	475	410	70	1	0	481	72	15	1	0	88	1044
Approach %	6.3	93.7	0.0	-	-	85.2	14.6	0.2	-	-	81.8	17.0	1.1	-	-	-
Total %	2.9	42.6	0.0	-	45.5	39.3	6.7	0.1	-	46.1	6.9	1.4	0.1	-	8.4	-
Lights	30	404	0	-	434	371	70	1	-	442	72	15	1	-	88	964
% Lights	100.0	90.8	-	-	91.4	90.5	100.0	100.0	-	91.9	100.0	100.0	100.0	-	100.0	92.3
Mediums	0	24	0	-	24	31	0	0	-	31	0	0	0	-	0	55
% Mediums	0.0	5.4	-	-	5.1	7.6	0.0	0.0	-	6.4	0.0	0.0	0.0	-	0.0	5.3
Articulated Trucks	0	17	0	-	17	8	0	0	-	8	0	0	0	-	0	25
% Articulated Trucks	0.0	3.8	-	-	3.6	2.0	0.0	0.0	-	1.7	0.0	0.0	0.0	-	0.0	2.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019

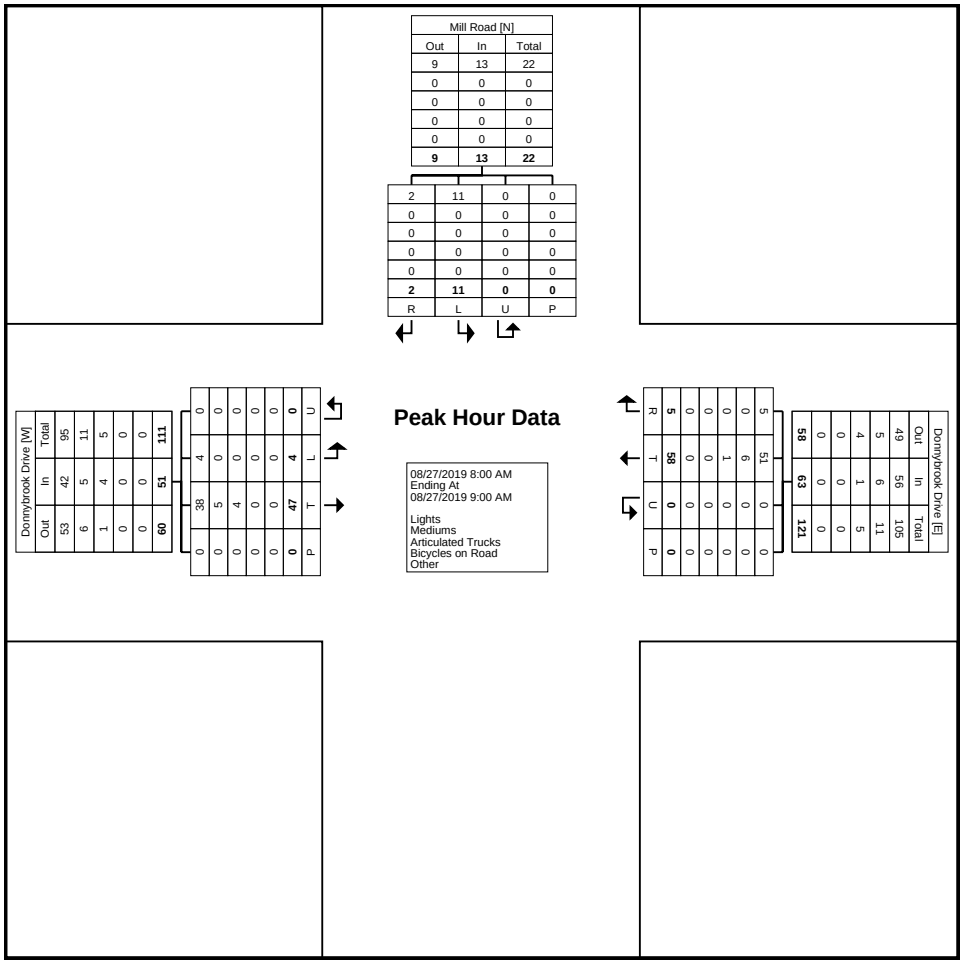
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Donnybrook Drive Eastbound					Donnybrook Drive Westbound					Mill Road Southbound					
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
8:00 AM	0	8	0	0	8	12	0	0	0	12	3	0	0	0	3	23
8:15 AM	2	12	0	0	14	13	1	0	0	14	2	0	0	0	2	30
8:30 AM	1	13	0	0	14	17	2	0	0	19	4	1	0	0	5	38
8:45 AM	1	14	0	0	15	16	2	0	0	18	2	1	0	0	3	36
Total	4	47	0	0	51	58	5	0	0	63	11	2	0	0	13	127
Approach %	7.8	92.2	0.0	-	-	92.1	7.9	0.0	-	-	84.6	15.4	0.0	-	-	-
Total %	3.1	37.0	0.0	-	40.2	45.7	3.9	0.0	-	49.6	8.7	1.6	0.0	-	10.2	-
PHF	0.500	0.839	0.000	-	0.850	0.853	0.625	0.000	-	0.829	0.688	0.500	0.000	-	0.650	0.836
Lights	4	38	0	-	42	51	5	0	-	56	11	2	0	-	13	111
% Lights	100.0	80.9	-	-	82.4	87.9	100.0	-	-	88.9	100.0	100.0	-	-	100.0	87.4
Mediums	0	5	0	-	5	6	0	0	-	6	0	0	0	-	0	11
% Mediums	0.0	10.6	-	-	9.8	10.3	0.0	-	-	9.5	0.0	0.0	-	-	0.0	8.7
Articulated Trucks	0	4	0	-	4	1	0	0	-	1	0	0	0	-	0	5
% Articulated Trucks	0.0	8.5	-	-	7.8	1.7	0.0	-	-	1.6	0.0	0.0	-	-	0.0	3.9
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (8:00 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019

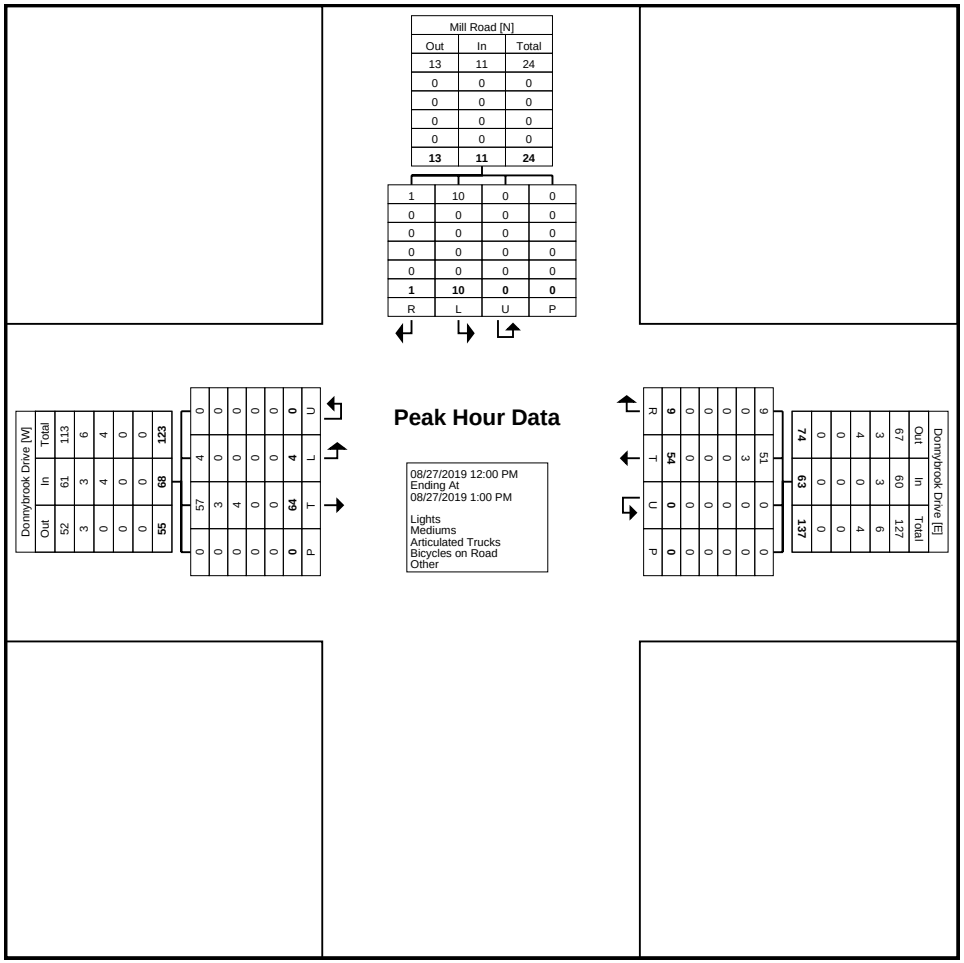
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Donnybrook Drive Eastbound					Donnybrook Drive Westbound					Mill Road Southbound					
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
12:00 PM	0	27	0	0	27	10	1	0	0	11	2	1	0	0	3	41
12:15 PM	2	14	0	0	16	24	6	0	0	30	2	0	0	0	2	48
12:30 PM	1	11	0	0	12	10	1	0	0	11	4	0	0	0	4	27
12:45 PM	1	12	0	0	13	10	1	0	0	11	2	0	0	0	2	26
Total	4	64	0	0	68	54	9	0	0	63	10	1	0	0	11	142
Approach %	5.9	94.1	0.0	-	-	85.7	14.3	0.0	-	-	90.9	9.1	0.0	-	-	-
Total %	2.8	45.1	0.0	-	47.9	38.0	6.3	0.0	-	44.4	7.0	0.7	0.0	-	7.7	-
PHF	0.500	0.593	0.000	-	0.630	0.563	0.375	0.000	-	0.525	0.625	0.250	0.000	-	0.688	0.740
Lights	4	57	0	-	61	51	9	0	-	60	10	1	0	-	11	132
% Lights	100.0	89.1	-	-	89.7	94.4	100.0	-	-	95.2	100.0	100.0	-	-	100.0	93.0
Mediums	0	3	0	-	3	3	0	0	-	3	0	0	0	-	0	6
% Mediums	0.0	4.7	-	-	4.4	5.6	0.0	-	-	4.8	0.0	0.0	-	-	0.0	4.2
Articulated Trucks	0	4	0	-	4	0	0	0	-	0	0	0	0	-	0	4
% Articulated Trucks	0.0	6.3	-	-	5.9	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	2.8
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (12:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019

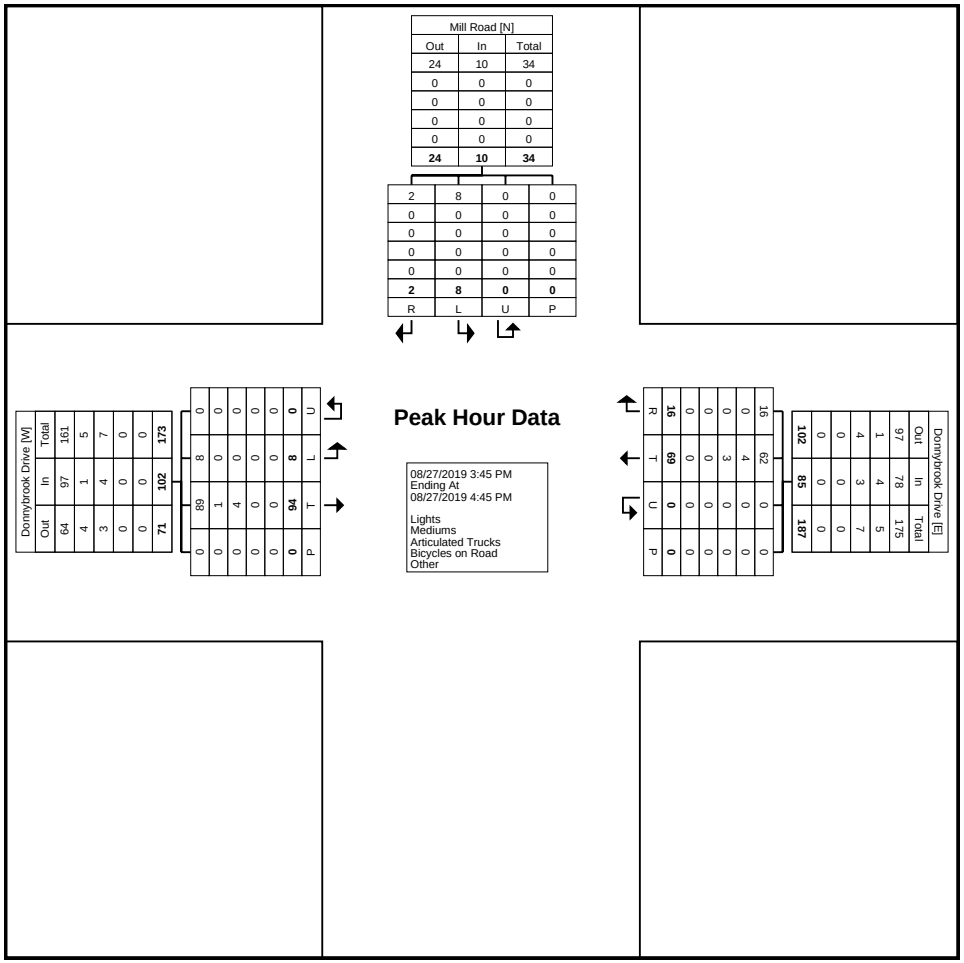
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Donnybrook Drive Eastbound					Donnybrook Drive Westbound					Mill Road Southbound					
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
3:45 PM	4	22	0	0	26	19	4	0	0	23	1	2	0	0	3	52
4:00 PM	0	20	0	0	20	13	4	0	0	17	2	0	0	0	2	39
4:15 PM	3	22	0	0	25	13	5	0	0	18	2	0	0	0	2	45
4:30 PM	1	30	0	0	31	24	3	0	0	27	3	0	0	0	3	61
Total	8	94	0	0	102	69	16	0	0	85	8	2	0	0	10	197
Approach %	7.8	92.2	0.0	-	-	81.2	18.8	0.0	-	-	80.0	20.0	0.0	-	-	-
Total %	4.1	47.7	0.0	-	51.8	35.0	8.1	0.0	-	43.1	4.1	1.0	0.0	-	5.1	-
PHF	0.500	0.783	0.000	-	0.823	0.719	0.800	0.000	-	0.787	0.667	0.250	0.000	-	0.833	0.807
Lights	8	89	0	-	97	62	16	0	-	78	8	2	0	-	10	185
% Lights	100.0	94.7	-	-	95.1	89.9	100.0	-	-	91.8	100.0	100.0	-	-	100.0	93.9
Mediums	0	1	0	-	1	4	0	0	-	4	0	0	0	-	0	5
% Mediums	0.0	1.1	-	-	1.0	5.8	0.0	-	-	4.7	0.0	0.0	-	-	0.0	2.5
Articulated Trucks	0	4	0	-	4	3	0	0	-	3	0	0	0	-	0	7
% Articulated Trucks	0.0	4.3	-	-	3.9	4.3	0.0	-	-	3.5	0.0	0.0	-	-	0.0	3.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019



Turning Movement Peak Hour Data Plot (3:45 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Donnybrook Drive & Mill Road
Site Code:
Start Date: 08/27/2019

Appendix B-2

2023 Turning Movement Count Data

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

Turning Movement Data

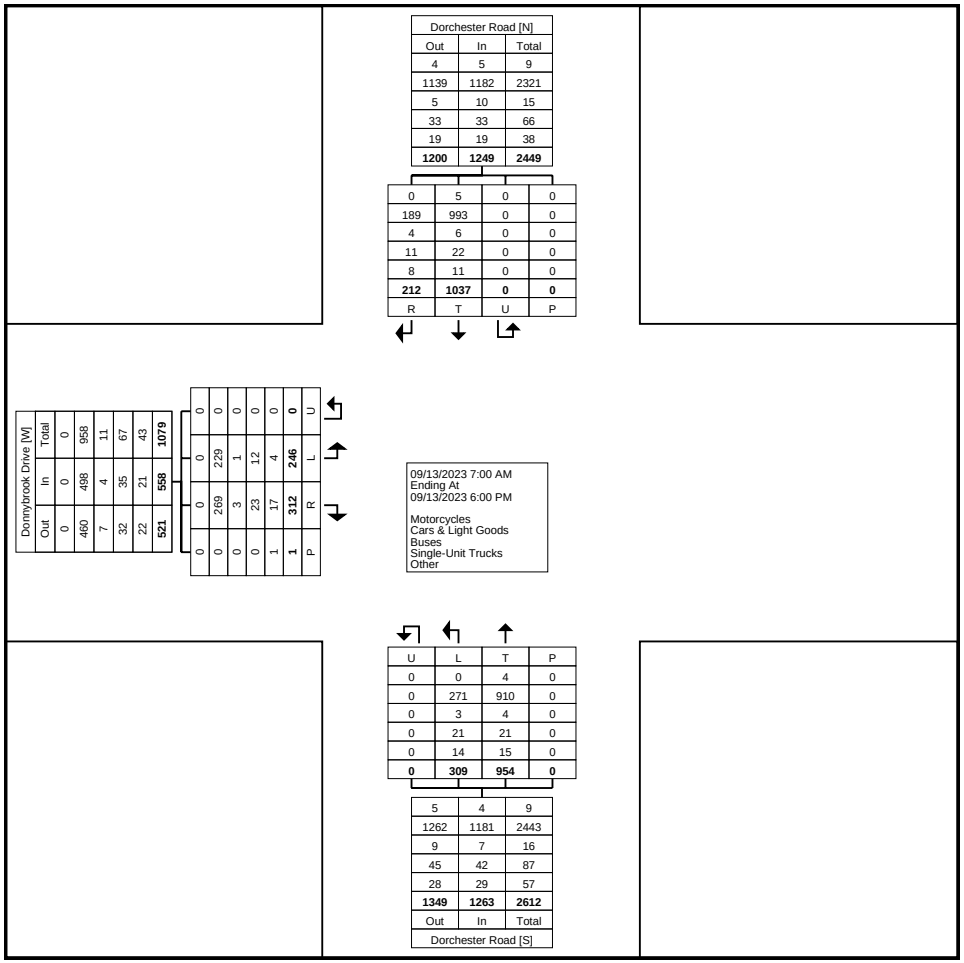
Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	4	4	0	0	8	9	12	0	0	21	30	4	0	0	34	63
7:15 AM	3	10	0	0	13	3	15	0	0	18	27	3	0	0	30	61
7:30 AM	5	13	0	0	18	8	25	0	0	33	37	5	0	0	42	93
7:45 AM	4	11	0	0	15	10	35	0	0	45	27	9	0	0	36	96
Hourly Total	16	38	0	0	54	30	87	0	0	117	121	21	0	0	142	313
8:00 AM	3	10	0	0	13	6	40	0	0	46	34	3	0	0	37	96
8:15 AM	2	17	0	0	19	9	32	0	0	41	52	8	0	0	60	120
8:30 AM	9	15	0	0	24	9	28	0	0	37	36	8	0	0	44	105
8:45 AM	6	18	0	0	24	10	37	0	0	47	37	5	0	0	42	113
Hourly Total	20	60	0	0	80	34	137	0	0	171	159	24	0	0	183	434
9:00 AM	5	7	0	0	12	9	21	0	0	30	32	4	0	0	36	78
9:15 AM	12	13	0	0	25	6	11	0	0	17	32	6	0	0	38	80
9:30 AM	6	9	0	0	15	4	24	0	0	28	24	1	0	0	25	68
9:45 AM	2	7	0	0	9	3	21	0	0	24	27	10	0	0	37	70
Hourly Total	25	36	0	0	61	22	77	0	0	99	115	21	0	0	136	296
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	8	10	0	0	18	11	26	0	0	37	24	11	0	0	35	90
12:15 PM	16	9	0	0	25	6	24	0	0	30	16	8	0	0	24	79
12:30 PM	10	6	0	0	16	12	27	0	0	39	29	14	0	0	43	98
12:45 PM	5	2	0	0	7	6	33	0	0	39	32	9	0	0	41	87
Hourly Total	39	27	0	0	66	35	110	0	0	145	101	42	0	0	143	354
1:00 PM	9	10	0	0	19	10	24	0	0	34	26	5	0	0	31	84
1:15 PM	11	2	0	0	13	9	26	0	0	35	29	3	0	0	32	80
1:30 PM	4	3	0	1	7	7	20	0	0	27	33	7	0	0	40	74
1:45 PM	5	11	0	0	16	10	18	0	0	28	20	6	0	0	26	70
Hourly Total	29	26	0	1	55	36	88	0	0	124	108	21	0	0	129	308
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	13	10	0	0	23	7	31	0	0	38	34	7	0	0	41	102
3:15 PM	15	7	0	0	22	9	40	0	0	49	34	9	0	0	43	114
3:30 PM	8	11	0	0	19	9	35	0	0	44	42	7	0	0	49	112
3:45 PM	13	10	0	0	23	10	38	0	0	48	35	6	0	0	41	112
Hourly Total	49	38	0	0	87	35	144	0	0	179	145	29	0	0	174	440
4:00 PM	12	12	0	0	24	8	45	0	0	53	41	5	0	0	46	123
4:15 PM	12	12	0	0	24	19	44	0	0	63	40	10	0	0	50	137
4:30 PM	12	13	0	0	25	18	32	0	0	50	48	8	0	0	56	131
4:45 PM	9	11	0	0	20	13	31	0	0	44	33	6	0	0	39	103

Hourly Total	45	48	0	0	93	58	152	0	0	210	162	29	0	0	191	494
5:00 PM	4	13	0	0	17	17	39	0	0	56	42	6	0	0	48	121
5:15 PM	6	5	0	0	11	14	47	0	0	61	28	5	0	0	33	105
5:30 PM	5	8	0	0	13	16	35	0	0	51	27	10	0	0	37	101
5:45 PM	8	13	0	0	21	12	38	0	0	50	29	4	0	0	33	104
Hourly Total	23	39	0	0	62	59	159	0	0	218	126	25	0	0	151	431
Grand Total	246	312	0	1	558	309	954	0	0	1263	1037	212	0	0	1249	3070
Approach %	44.1	55.9	0.0	-	-	24.5	75.5	0.0	-	-	83.0	17.0	0.0	-	-	-
Total %	8.0	10.2	0.0	-	18.2	10.1	31.1	0.0	-	41.1	33.8	6.9	0.0	-	40.7	-
Motorcycles	0	0	0	-	0	0	4	0	-	4	5	0	0	-	5	9
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.3	0.5	0.0	-	-	0.4	0.3
Cars & Light Goods	229	269	0	-	498	271	910	0	-	1181	993	189	0	-	1182	2861
% Cars & Light Goods	93.1	86.2	-	-	89.2	87.7	95.4	-	-	93.5	95.8	89.2	-	-	94.6	93.2
Buses	1	3	0	-	4	3	4	0	-	7	6	4	0	-	10	21
% Buses	0.4	1.0	-	-	0.7	1.0	0.4	-	-	0.6	0.6	1.9	-	-	0.8	0.7
Single-Unit Trucks	12	23	0	-	35	21	21	0	-	42	22	11	0	-	33	110
% Single-Unit Trucks	4.9	7.4	-	-	6.3	6.8	2.2	-	-	3.3	2.1	5.2	-	-	2.6	3.6
Articulated Trucks	4	14	0	-	18	14	15	0	-	29	11	8	0	-	19	66
% Articulated Trucks	1.6	4.5	-	-	3.2	4.5	1.6	-	-	2.3	1.1	3.8	-	-	1.5	2.1
Bicycles on Road	0	3	0	-	3	0	0	0	-	0	0	0	0	-	0	3
% Bicycles on Road	0.0	1.0	-	-	0.5	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

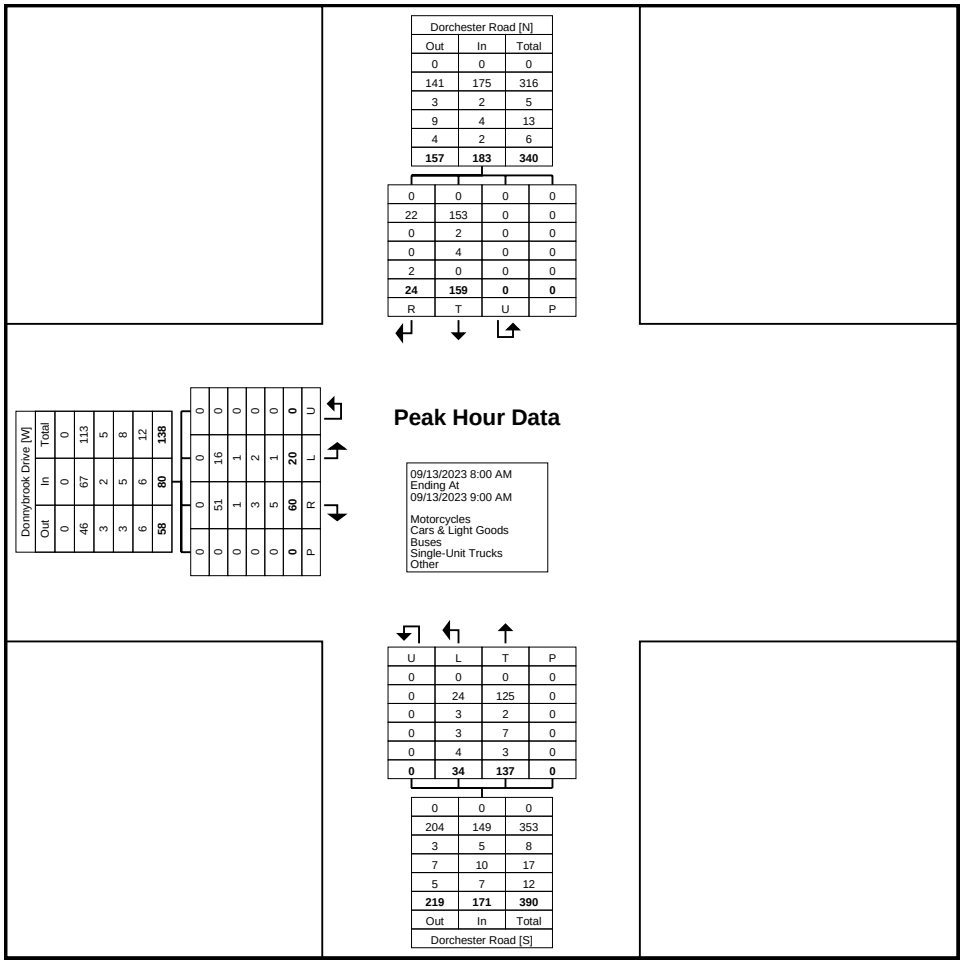
Turning Movement Peak Hour Data (8:00 AM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
8:00 AM	3	10	0	0	13	6	40	0	0	46	34	3	0	0	37	96
8:15 AM	2	17	0	0	19	9	32	0	0	41	52	8	0	0	60	120
8:30 AM	9	15	0	0	24	9	28	0	0	37	36	8	0	0	44	105
8:45 AM	6	18	0	0	24	10	37	0	0	47	37	5	0	0	42	113
Total	20	60	0	0	80	34	137	0	0	171	159	24	0	0	183	434
Approach %	25.0	75.0	0.0	-	-	19.9	80.1	0.0	-	-	86.9	13.1	0.0	-	-	-
Total %	4.6	13.8	0.0	-	18.4	7.8	31.6	0.0	-	39.4	36.6	5.5	0.0	-	42.2	-
PHF	0.556	0.833	0.000	-	0.833	0.850	0.856	0.000	-	0.910	0.764	0.750	0.000	-	0.763	0.904
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Cars & Light Goods	16	51	0	-	67	24	125	0	-	149	153	22	0	-	175	391
% Cars & Light Goods	80.0	85.0	-	-	83.8	70.6	91.2	-	-	87.1	96.2	91.7	-	-	95.6	90.1
Buses	1	1	0	-	2	3	2	0	-	5	2	0	0	-	2	9
% Buses	5.0	1.7	-	-	2.5	8.8	1.5	-	-	2.9	1.3	0.0	-	-	1.1	2.1
Single-Unit Trucks	2	3	0	-	5	3	7	0	-	10	4	0	0	-	4	19
% Single-Unit Trucks	10.0	5.0	-	-	6.3	8.8	5.1	-	-	5.8	2.5	0.0	-	-	2.2	4.4
Articulated Trucks	1	4	0	-	5	4	3	0	-	7	0	2	0	-	2	14
% Articulated Trucks	5.0	6.7	-	-	6.3	11.8	2.2	-	-	4.1	0.0	8.3	-	-	1.1	3.2
Bicycles on Road	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Bicycles on Road	0.0	1.7	-	-	1.3	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Peak Hour Data Plot (8:00 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

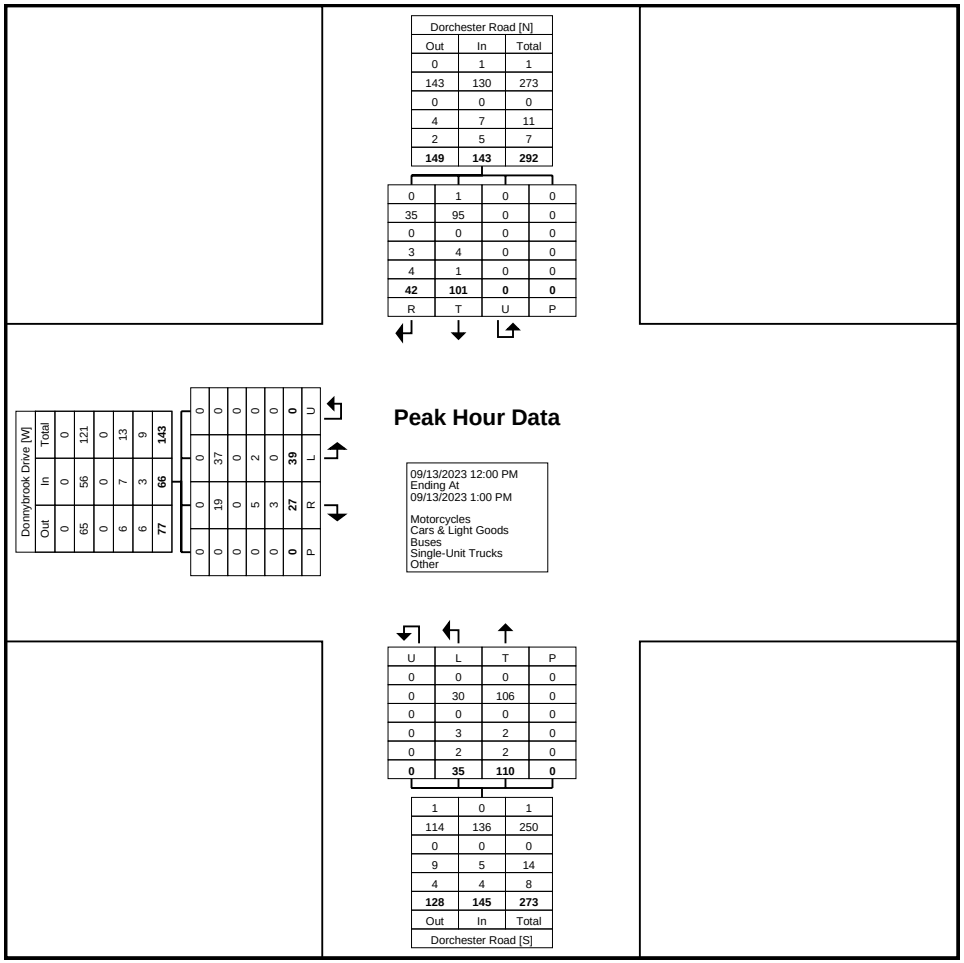
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
12:00 PM	8	10	0	0	18	11	26	0	0	37	24	11	0	0	35	90
12:15 PM	16	9	0	0	25	6	24	0	0	30	16	8	0	0	24	79
12:30 PM	10	6	0	0	16	12	27	0	0	39	29	14	0	0	43	98
12:45 PM	5	2	0	0	7	6	33	0	0	39	32	9	0	0	41	87
Total	39	27	0	0	66	35	110	0	0	145	101	42	0	0	143	354
Approach %	59.1	40.9	0.0	-	-	24.1	75.9	0.0	-	-	70.6	29.4	0.0	-	-	-
Total %	11.0	7.6	0.0	-	18.6	9.9	31.1	0.0	-	41.0	28.5	11.9	0.0	-	40.4	-
PHF	0.609	0.675	0.000	-	0.660	0.729	0.833	0.000	-	0.929	0.789	0.750	0.000	-	0.831	0.903
Motorcycles	0	0	0	-	0	0	0	0	-	0	1	0	0	-	1	1
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	1.0	0.0	-	-	0.7	0.3
Cars & Light Goods	37	19	0	-	56	30	106	0	-	136	95	35	0	-	130	322
% Cars & Light Goods	94.9	70.4	-	-	84.8	85.7	96.4	-	-	93.8	94.1	83.3	-	-	90.9	91.0
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	2	5	0	-	7	3	2	0	-	5	4	3	0	-	7	19
% Single-Unit Trucks	5.1	18.5	-	-	10.6	8.6	1.8	-	-	3.4	4.0	7.1	-	-	4.9	5.4
Articulated Trucks	0	3	0	-	3	2	2	0	-	4	1	4	0	-	5	12
% Articulated Trucks	0.0	11.1	-	-	4.5	5.7	1.8	-	-	2.8	1.0	9.5	-	-	3.5	3.4
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

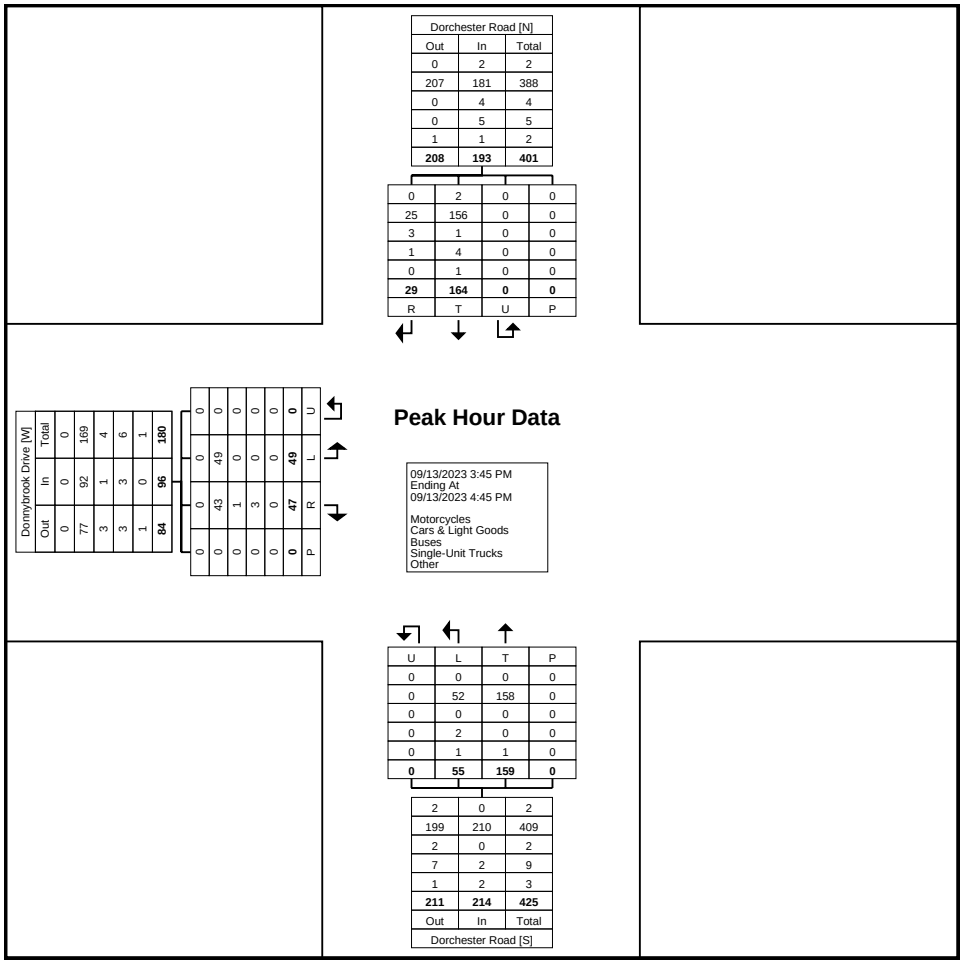
Turning Movement Peak Hour Data (3:45 PM)

Start Time	Donnybrook Drive Eastbound					Dorchester Road Northbound					Dorchester Road Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
3:45 PM	13	10	0	0	23	10	38	0	0	48	35	6	0	0	41	112
4:00 PM	12	12	0	0	24	8	45	0	0	53	41	5	0	0	46	123
4:15 PM	12	12	0	0	24	19	44	0	0	63	40	10	0	0	50	137
4:30 PM	12	13	0	0	25	18	32	0	0	50	48	8	0	0	56	131
Total	49	47	0	0	96	55	159	0	0	214	164	29	0	0	193	503
Approach %	51.0	49.0	0.0	-	-	25.7	74.3	0.0	-	-	85.0	15.0	0.0	-	-	-
Total %	9.7	9.3	0.0	-	19.1	10.9	31.6	0.0	-	42.5	32.6	5.8	0.0	-	38.4	-
PHF	0.942	0.904	0.000	-	0.960	0.724	0.883	0.000	-	0.849	0.854	0.725	0.000	-	0.862	0.918
Motorcycles	0	0	0	-	0	0	0	0	-	0	2	0	0	-	2	2
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	1.2	0.0	-	-	1.0	0.4
Cars & Light Goods	49	43	0	-	92	52	158	0	-	210	156	25	0	-	181	483
% Cars & Light Goods	100.0	91.5	-	-	95.8	94.5	99.4	-	-	98.1	95.1	86.2	-	-	93.8	96.0
Buses	0	1	0	-	1	0	0	0	-	0	1	3	0	-	4	5
% Buses	0.0	2.1	-	-	1.0	0.0	0.0	-	-	0.0	0.6	10.3	-	-	2.1	1.0
Single-Unit Trucks	0	3	0	-	3	2	0	0	-	2	4	1	0	-	5	10
% Single-Unit Trucks	0.0	6.4	-	-	3.1	3.6	0.0	-	-	0.9	2.4	3.4	-	-	2.6	2.0
Articulated Trucks	0	0	0	-	0	1	1	0	-	2	1	0	0	-	1	3
% Articulated Trucks	0.0	0.0	-	-	0.0	1.8	0.6	-	-	0.9	0.6	0.0	-	-	0.5	0.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Dorchetser Road & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Peak Hour Data Plot (3:45 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023

Turning Movement Data

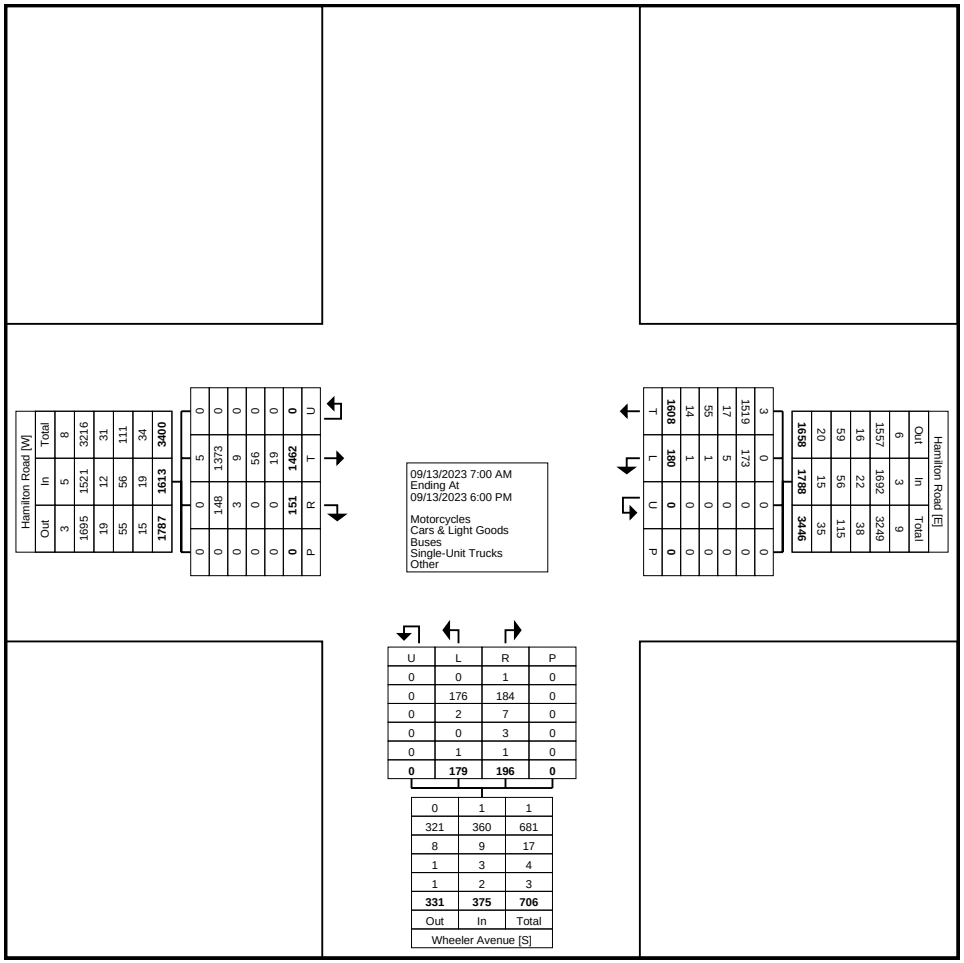
Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	31	1	0	0	32	1	56	0	0	57	12	6	0	0	18	107
7:15 AM	26	1	0	0	27	0	50	0	0	50	12	4	0	0	16	93
7:30 AM	28	0	0	0	28	0	74	0	0	74	19	4	0	0	23	125
7:45 AM	46	0	0	0	46	5	67	0	0	72	5	3	0	0	8	126
Hourly Total	131	2	0	0	133	6	247	0	0	253	48	17	0	0	65	451
8:00 AM	64	2	0	0	66	2	76	0	0	78	11	7	0	0	18	162
8:15 AM	37	4	0	0	41	2	56	0	0	58	10	9	0	0	19	118
8:30 AM	26	4	0	0	30	4	52	0	0	56	5	8	0	0	13	99
8:45 AM	54	2	0	0	56	7	42	0	0	49	3	11	0	0	14	119
Hourly Total	181	12	0	0	193	15	226	0	0	241	29	35	0	0	64	498
9:00 AM	35	2	0	0	37	7	46	0	0	53	7	8	0	0	15	105
9:15 AM	33	3	0	0	36	3	40	0	0	43	4	4	0	0	8	87
9:30 AM	23	3	0	0	26	12	36	0	0	48	1	8	0	0	9	83
9:45 AM	40	4	0	0	44	2	36	0	0	38	4	7	0	0	11	93
Hourly Total	131	12	0	0	143	24	158	0	0	182	16	27	0	0	43	368
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	28	1	0	0	29	7	53	0	0	60	7	14	0	0	21	110
12:15 PM	39	5	0	0	44	2	46	0	0	48	3	4	0	0	7	99
12:30 PM	29	5	0	0	34	6	38	0	0	44	5	3	0	0	8	86
12:45 PM	35	4	0	0	39	2	36	0	0	38	1	8	0	0	9	86
Hourly Total	131	15	0	0	146	17	173	0	0	190	16	29	0	0	45	381
1:00 PM	39	5	0	0	44	5	42	0	0	47	3	8	0	0	11	102
1:15 PM	44	3	0	0	47	7	39	0	0	46	4	5	0	0	9	102
1:30 PM	25	4	0	0	29	4	52	0	0	56	6	4	0	0	10	95
1:45 PM	31	3	0	0	34	1	27	0	0	28	3	4	0	0	7	69
Hourly Total	139	15	0	0	154	17	160	0	0	177	16	21	0	0	37	368
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	54	4	0	0	58	5	43	0	0	48	1	3	0	0	4	110
3:15 PM	63	9	0	0	72	10	51	0	0	61	3	7	0	0	10	143
3:30 PM	56	8	0	0	64	10	49	0	0	59	2	6	0	0	8	131
3:45 PM	57	14	0	0	71	13	51	0	0	64	6	2	0	0	8	143
Hourly Total	230	35	0	0	265	38	194	0	0	232	12	18	0	0	30	527
4:00 PM	61	5	0	0	66	6	78	0	0	84	4	4	0	0	8	158
4:15 PM	79	4	0	0	83	10	39	0	0	49	8	4	0	0	12	144
4:30 PM	59	14	0	0	73	7	69	0	0	76	4	5	0	0	9	158
4:45 PM	64	9	0	0	73	8	52	0	0	60	6	3	0	0	9	142

Hourly Total	263	32	0	0	295	31	238	0	0	269	22	16	0	0	38	602
5:00 PM	66	11	0	0	77	8	61	0	0	69	3	5	0	0	8	154
5:15 PM	73	6	0	0	79	5	57	0	0	62	7	12	0	0	19	160
5:30 PM	63	5	0	0	68	11	54	0	0	65	5	5	0	0	10	143
5:45 PM	54	6	0	0	60	8	40	0	0	48	5	11	0	0	16	124
Hourly Total	256	28	0	0	284	32	212	0	0	244	20	33	0	0	53	581
Grand Total	1462	151	0	0	1613	180	1608	0	0	1788	179	196	0	0	375	3776
Approach %	90.6	9.4	0.0	-	-	10.1	89.9	0.0	-	-	47.7	52.3	0.0	-	-	-
Total %	38.7	4.0	0.0	-	42.7	4.8	42.6	0.0	-	47.4	4.7	5.2	0.0	-	9.9	-
Motorcycles	5	0	0	-	5	0	3	0	-	3	0	1	0	-	1	9
% Motorcycles	0.3	0.0	-	-	0.3	0.0	0.2	-	-	0.2	0.0	0.5	-	-	0.3	0.2
Cars & Light Goods	1373	148	0	-	1521	173	1519	0	-	1692	176	184	0	-	360	3573
% Cars & Light Goods	93.9	98.0	-	-	94.3	96.1	94.5	-	-	94.6	98.3	93.9	-	-	96.0	94.6
Buses	9	3	0	-	12	5	17	0	-	22	2	7	0	-	9	43
% Buses	0.6	2.0	-	-	0.7	2.8	1.1	-	-	1.2	1.1	3.6	-	-	2.4	1.1
Single-Unit Trucks	56	0	0	-	56	1	55	0	-	56	0	3	0	-	3	115
% Single-Unit Trucks	3.8	0.0	-	-	3.5	0.6	3.4	-	-	3.1	0.0	1.5	-	-	0.8	3.0
Articulated Trucks	19	0	0	-	19	0	13	0	-	13	1	0	0	-	1	33
% Articulated Trucks	1.3	0.0	-	-	1.2	0.0	0.8	-	-	0.7	0.6	0.0	-	-	0.3	0.9
Bicycles on Road	0	0	0	-	0	1	1	0	-	2	0	1	0	-	1	3
% Bicycles on Road	0.0	0.0	-	-	0.0	0.6	0.1	-	-	0.1	0.0	0.5	-	-	0.3	0.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023

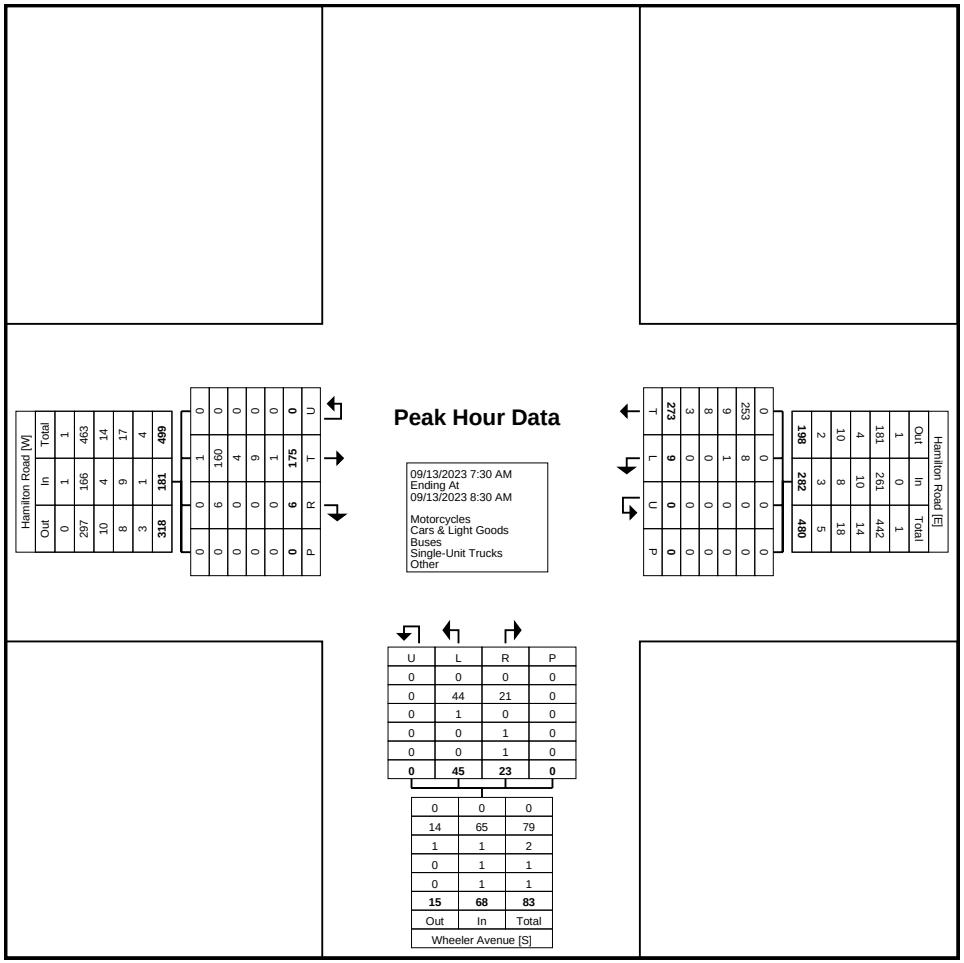
Turning Movement Peak Hour Data (7:30 AM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
7:30 AM	28	0	0	0	28	0	74	0	0	74	19	4	0	0	23	125
7:45 AM	46	0	0	0	46	5	67	0	0	72	5	3	0	0	8	126
8:00 AM	64	2	0	0	66	2	76	0	0	78	11	7	0	0	18	162
8:15 AM	37	4	0	0	41	2	56	0	0	58	10	9	0	0	19	118
Total	175	6	0	0	181	9	273	0	0	282	45	23	0	0	68	531
Approach %	96.7	3.3	0.0	-	-	3.2	96.8	0.0	-	-	66.2	33.8	0.0	-	-	-
Total %	33.0	1.1	0.0	-	34.1	1.7	51.4	0.0	-	53.1	8.5	4.3	0.0	-	12.8	-
PHF	0.684	0.375	0.000	-	0.686	0.450	0.898	0.000	-	0.904	0.592	0.639	0.000	-	0.739	0.819
Motorcycles	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	0.6	0.0	-	-	0.6	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.2
Cars & Light Goods	160	6	0	-	166	8	253	0	-	261	44	21	0	-	65	492
% Cars & Light Goods	91.4	100.0	-	-	91.7	88.9	92.7	-	-	92.6	97.8	91.3	-	-	95.6	92.7
Buses	4	0	0	-	4	1	9	0	-	10	1	0	0	-	1	15
% Buses	2.3	0.0	-	-	2.2	11.1	3.3	-	-	3.5	2.2	0.0	-	-	1.5	2.8
Single-Unit Trucks	9	0	0	-	9	0	8	0	-	8	0	1	0	-	1	18
% Single-Unit Trucks	5.1	0.0	-	-	5.0	0.0	2.9	-	-	2.8	0.0	4.3	-	-	1.5	3.4
Articulated Trucks	1	0	0	-	1	0	3	0	-	3	0	0	0	-	0	4
% Articulated Trucks	0.6	0.0	-	-	0.6	0.0	1.1	-	-	1.1	0.0	0.0	-	-	0.0	0.8
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	4.3	-	-	1.5	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Peak Hour Data Plot (7:30 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023

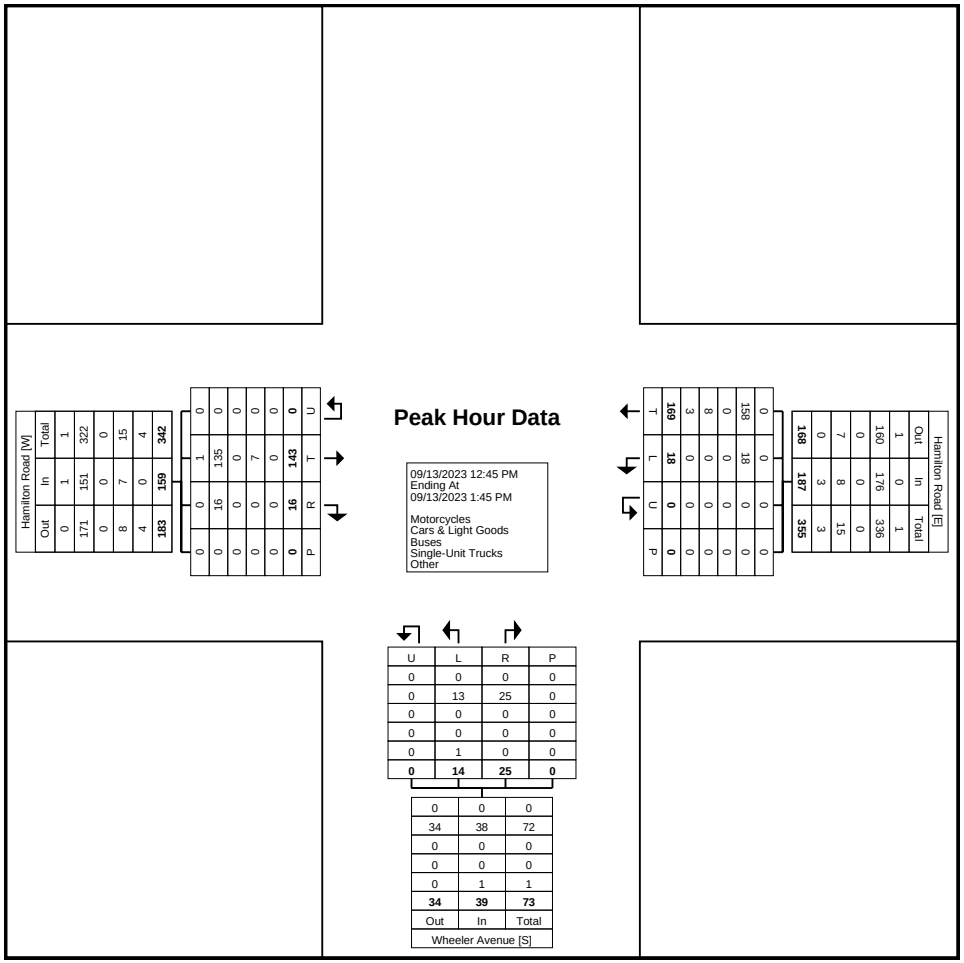
Turning Movement Peak Hour Data (12:45 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
12:45 PM	35	4	0	0	39	2	36	0	0	38	1	8	0	0	9	86
1:00 PM	39	5	0	0	44	5	42	0	0	47	3	8	0	0	11	102
1:15 PM	44	3	0	0	47	7	39	0	0	46	4	5	0	0	9	102
1:30 PM	25	4	0	0	29	4	52	0	0	56	6	4	0	0	10	95
Total	143	16	0	0	159	18	169	0	0	187	14	25	0	0	39	385
Approach %	89.9	10.1	0.0	-	-	9.6	90.4	0.0	-	-	35.9	64.1	0.0	-	-	-
Total %	37.1	4.2	0.0	-	41.3	4.7	43.9	0.0	-	48.6	3.6	6.5	0.0	-	10.1	-
PHF	0.813	0.800	0.000	-	0.846	0.643	0.813	0.000	-	0.835	0.583	0.781	0.000	-	0.886	0.944
Motorcycles	1	0	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	0.7	0.0	-	-	0.6	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.3
Cars & Light Goods	135	16	0	-	151	18	158	0	-	176	13	25	0	-	38	365
% Cars & Light Goods	94.4	100.0	-	-	95.0	100.0	93.5	-	-	94.1	92.9	100.0	-	-	97.4	94.8
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	7	0	0	-	7	0	8	0	-	8	0	0	0	-	0	15
% Single-Unit Trucks	4.9	0.0	-	-	4.4	0.0	4.7	-	-	4.3	0.0	0.0	-	-	0.0	3.9
Articulated Trucks	0	0	0	-	0	0	3	0	-	3	1	0	0	-	1	4
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	1.8	-	-	1.6	7.1	0.0	-	-	2.6	1.0
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023



Hamilton Road [W]	U	T	R	P	Total
Out	0	171	8	4	**183**
In	1	151	0	0	**159**
Total	1	322	0	15	4	**342**

U	L	R	P
0	0	0	0
0	13	25	0
0	0	0	0
0	0	0	0
0	1	0	0
0	**14**	**25**	**0**

Out	In	Total
0	0	0
34	38	72
0	0	0
0	0	0
0	1	1
34	**39**	**73**

Hamilton Road [E]	T	L	U	P	Total
Out	160	1	0	0	1
In	176	0	0	0	0
Total	336	1	0	0	1
	0	7	0	0	7
	3	8	0	0	8
	3	15	0	0	15
	355	**187**	**0**	**0**	**168**

Turning Movement Peak Hour Data Plot (12:45 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023

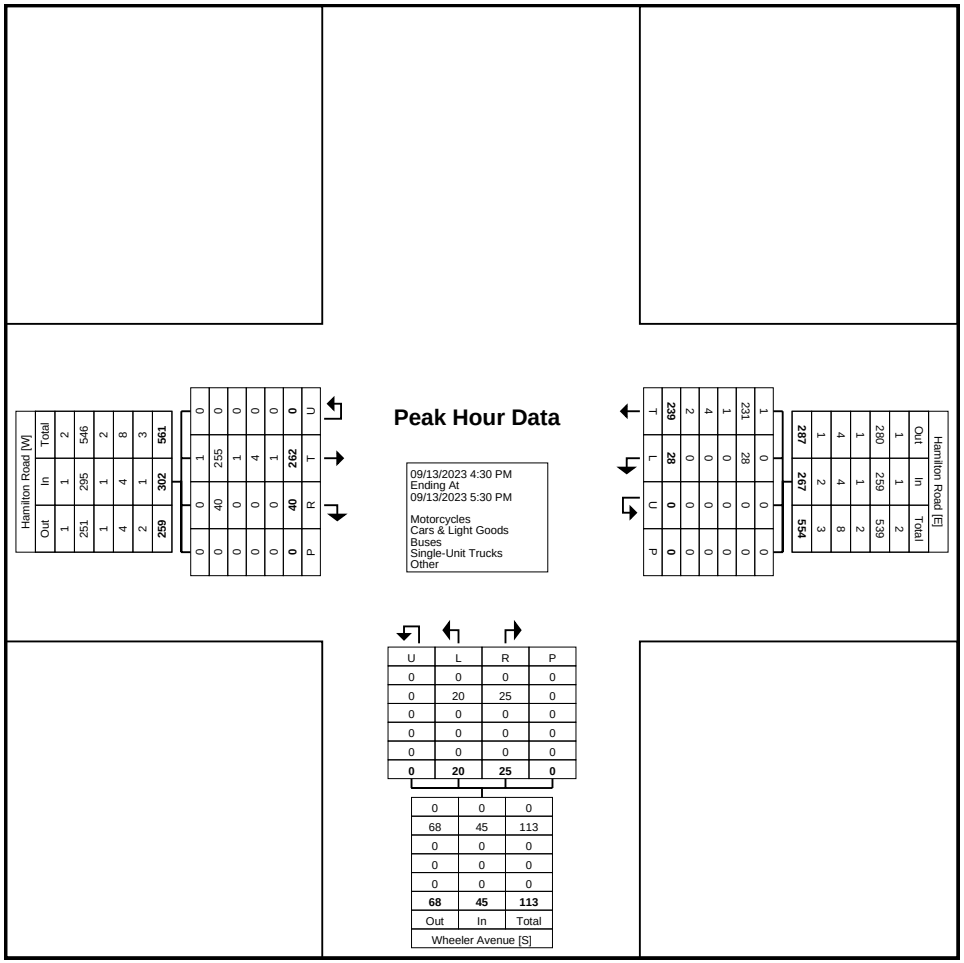
Turning Movement Peak Hour Data (4:30 PM)

Start Time	Hamilton Road Eastbound					Hamilton Road Westbound					Wheeler Avenue Northbound					
	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	Int. Total
4:30 PM	59	14	0	0	73	7	69	0	0	76	4	5	0	0	9	158
4:45 PM	64	9	0	0	73	8	52	0	0	60	6	3	0	0	9	142
5:00 PM	66	11	0	0	77	8	61	0	0	69	3	5	0	0	8	154
5:15 PM	73	6	0	0	79	5	57	0	0	62	7	12	0	0	19	160
Total	262	40	0	0	302	28	239	0	0	267	20	25	0	0	45	614
Approach %	86.8	13.2	0.0	-	-	10.5	89.5	0.0	-	-	44.4	55.6	0.0	-	-	-
Total %	42.7	6.5	0.0	-	49.2	4.6	38.9	0.0	-	43.5	3.3	4.1	0.0	-	7.3	-
PHF	0.897	0.714	0.000	-	0.956	0.875	0.866	0.000	-	0.878	0.714	0.521	0.000	-	0.592	0.959
Motorcycles	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Motorcycles	0.4	0.0	-	-	0.3	0.0	0.4	-	-	0.4	0.0	0.0	-	-	0.0	0.3
Cars & Light Goods	255	40	0	-	295	28	231	0	-	259	20	25	0	-	45	599
% Cars & Light Goods	97.3	100.0	-	-	97.7	100.0	96.7	-	-	97.0	100.0	100.0	-	-	100.0	97.6
Buses	1	0	0	-	1	0	1	0	-	1	0	0	0	-	0	2
% Buses	0.4	0.0	-	-	0.3	0.0	0.4	-	-	0.4	0.0	0.0	-	-	0.0	0.3
Single-Unit Trucks	4	0	0	-	4	0	4	0	-	4	0	0	0	-	0	8
% Single-Unit Trucks	1.5	0.0	-	-	1.3	0.0	1.7	-	-	1.5	0.0	0.0	-	-	0.0	1.3
Articulated Trucks	1	0	0	-	1	0	2	0	-	2	0	0	0	-	0	3
% Articulated Trucks	0.4	0.0	-	-	0.3	0.0	0.8	-	-	0.7	0.0	0.0	-	-	0.0	0.5
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Hamilton Road & Wheeler Avenue
Site Code: 230556
Start Date: 09/13/2023



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

Turning Movement Data

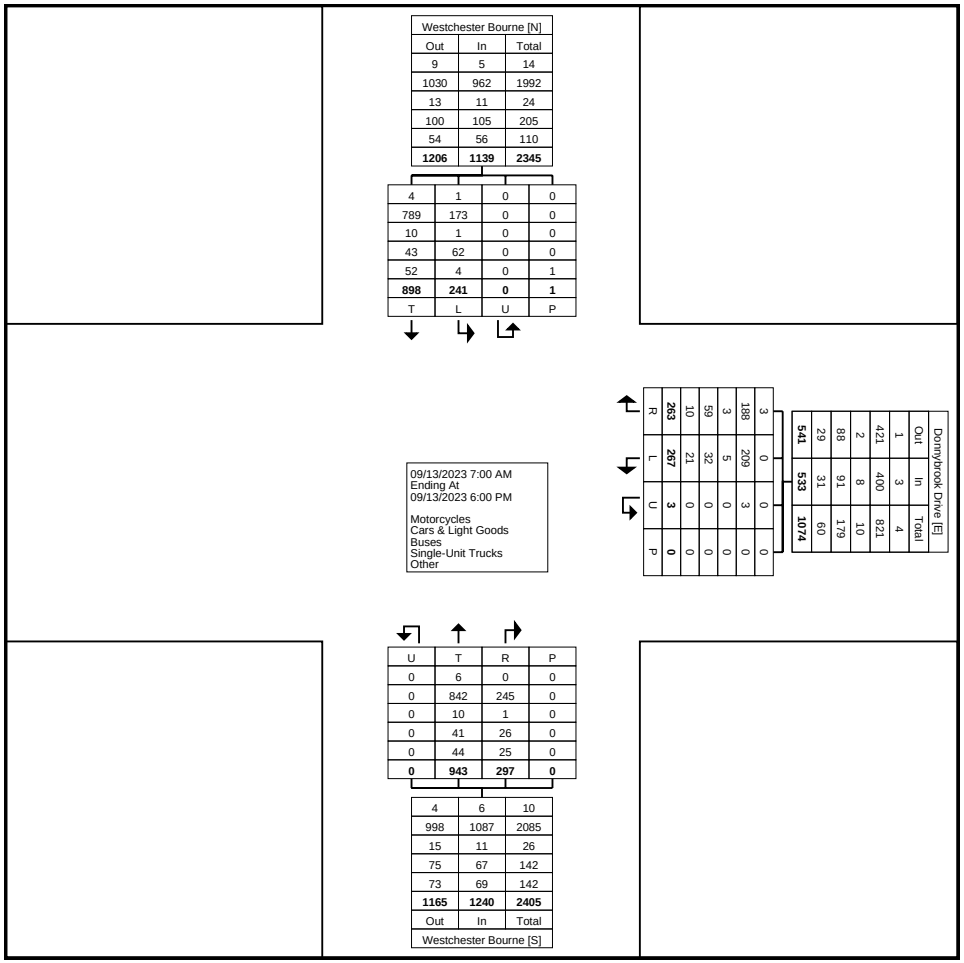
Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	4	9	0	0	13	26	10	0	0	36	9	35	0	0	44	93
7:15 AM	7	11	0	0	18	28	8	0	0	36	7	33	0	0	40	94
7:30 AM	9	9	0	0	18	26	11	0	0	37	9	27	0	0	36	91
7:45 AM	12	7	0	0	19	43	11	0	0	54	11	29	0	0	40	113
Hourly Total	32	36	0	0	68	123	40	0	0	163	36	124	0	0	160	391
8:00 AM	7	5	0	0	12	28	12	0	0	40	16	15	0	0	31	83
8:15 AM	9	11	1	0	21	28	5	0	0	33	5	10	0	0	15	69
8:30 AM	10	8	0	0	18	29	7	0	0	36	1	22	0	0	23	77
8:45 AM	5	4	0	0	9	31	7	0	0	38	10	15	0	0	25	72
Hourly Total	31	28	1	0	60	116	31	0	0	147	32	62	0	0	94	301
9:00 AM	8	8	0	0	16	18	7	0	0	25	12	24	0	0	36	77
9:15 AM	11	10	0	0	21	19	8	0	0	27	5	19	0	1	24	72
9:30 AM	7	6	0	0	13	25	5	0	0	30	7	31	0	0	38	81
9:45 AM	7	5	1	0	13	15	4	0	0	19	4	19	0	0	23	55
Hourly Total	33	29	1	0	63	77	24	0	0	101	28	93	0	1	121	285
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12:00 PM	9	7	0	0	16	18	7	0	0	25	9	31	0	0	40	81
12:15 PM	3	8	0	0	11	24	17	0	0	41	7	22	0	0	29	81
12:30 PM	11	9	0	0	20	29	8	0	0	37	12	19	0	0	31	88
12:45 PM	3	12	0	0	15	21	9	0	0	30	4	13	0	0	17	62
Hourly Total	26	36	0	0	62	92	41	0	0	133	32	85	0	0	117	312
1:00 PM	7	8	0	0	15	19	4	0	0	23	12	24	0	0	36	74
1:15 PM	2	14	0	0	16	12	10	0	0	22	6	10	0	0	16	54
1:30 PM	10	9	0	0	19	25	2	0	0	27	6	17	0	0	23	69
1:45 PM	10	10	0	0	20	30	9	0	0	39	6	23	0	0	29	88
Hourly Total	29	41	0	0	70	86	25	0	0	111	30	74	0	0	104	285
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	11	8	0	0	19	28	13	0	0	41	13	39	0	0	52	112
3:15 PM	8	10	0	0	18	32	12	0	0	44	7	26	0	0	33	95
3:30 PM	14	10	0	0	24	25	14	0	0	39	8	34	0	0	42	105
3:45 PM	9	8	0	0	17	33	17	0	0	50	3	29	0	0	32	99
Hourly Total	42	36	0	0	78	118	56	0	0	174	31	128	0	0	159	411
4:00 PM	11	11	0	0	22	40	10	0	0	50	7	40	0	0	47	119
4:15 PM	11	5	0	0	16	41	16	0	0	57	7	47	0	0	54	127
4:30 PM	16	9	0	0	25	33	12	0	0	45	4	43	0	0	47	117
4:45 PM	11	7	0	0	18	44	13	0	0	57	4	46	0	0	50	125

Hourly Total	49	32	0	0	81	158	51	0	0	209	22	176	0	0	198	488
5:00 PM	13	10	1	0	24	46	5	0	0	51	7	44	0	0	51	126
5:15 PM	3	5	0	0	8	53	8	0	0	61	5	49	0	0	54	123
5:30 PM	5	4	0	0	9	38	4	0	0	42	11	32	0	0	43	94
5:45 PM	4	6	0	0	10	36	12	0	0	48	7	31	0	0	38	96
Hourly Total	25	25	1	0	51	173	29	0	0	202	30	156	0	0	186	439
Grand Total	267	263	3	0	533	943	297	0	0	1240	241	898	0	1	1139	2912
Approach %	50.1	49.3	0.6	-	-	76.0	24.0	0.0	-	-	21.2	78.8	0.0	-	-	-
Total %	9.2	9.0	0.1	-	18.3	32.4	10.2	0.0	-	42.6	8.3	30.8	0.0	-	39.1	-
Motorcycles	0	3	0	-	3	6	0	0	-	6	1	4	0	-	5	14
% Motorcycles	0.0	1.1	0.0	-	0.6	0.6	0.0	-	-	0.5	0.4	0.4	-	-	0.4	0.5
Cars & Light Goods	209	188	3	-	400	842	245	0	-	1087	173	789	0	-	962	2449
% Cars & Light Goods	78.3	71.5	100.0	-	75.0	89.3	82.5	-	-	87.7	71.8	87.9	-	-	84.5	84.1
Buses	5	3	0	-	8	10	1	0	-	11	1	10	0	-	11	30
% Buses	1.9	1.1	0.0	-	1.5	1.1	0.3	-	-	0.9	0.4	1.1	-	-	1.0	1.0
Single-Unit Trucks	32	59	0	-	91	41	26	0	-	67	62	43	0	-	105	263
% Single-Unit Trucks	12.0	22.4	0.0	-	17.1	4.3	8.8	-	-	5.4	25.7	4.8	-	-	9.2	9.0
Articulated Trucks	20	9	0	-	29	43	25	0	-	68	4	49	0	-	53	150
% Articulated Trucks	7.5	3.4	0.0	-	5.4	4.6	8.4	-	-	5.5	1.7	5.5	-	-	4.7	5.2
Bicycles on Road	1	1	0	-	2	1	0	0	-	1	0	3	0	-	3	6
% Bicycles on Road	0.4	0.4	0.0	-	0.4	0.1	0.0	-	-	0.1	0.0	0.3	-	-	0.3	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

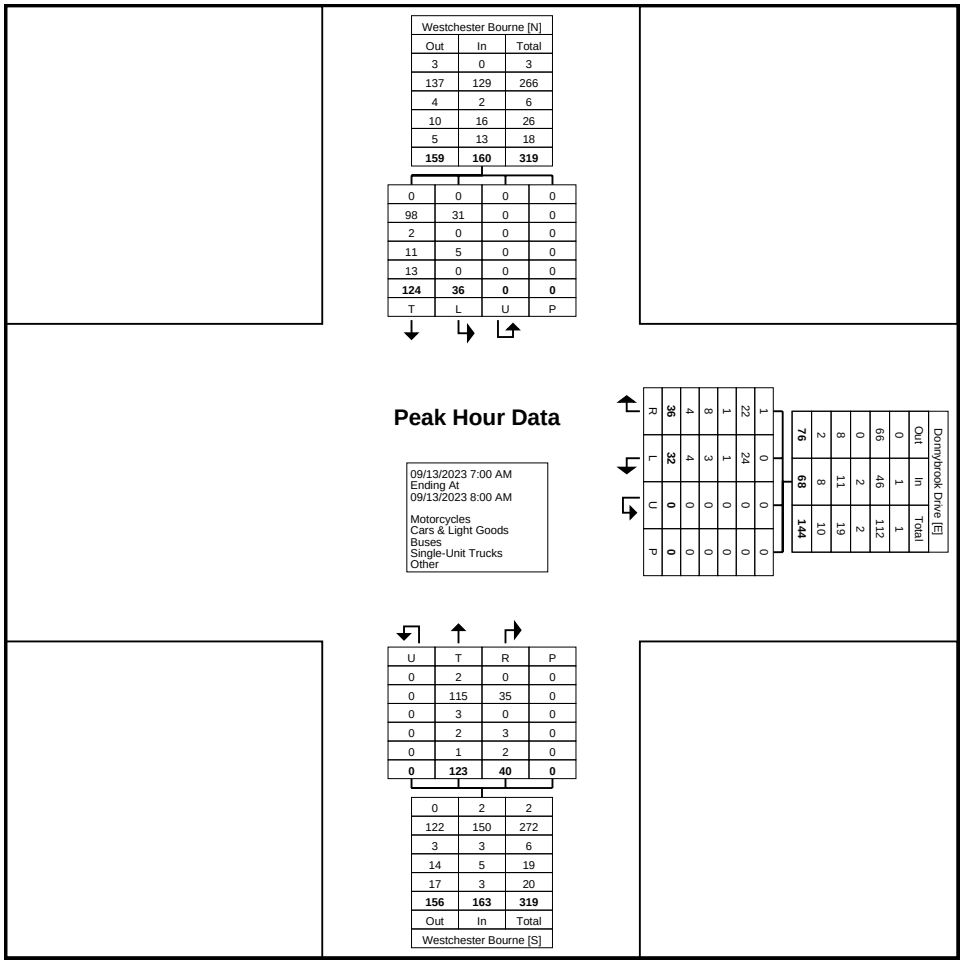
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	4	9	0	0	13	26	10	0	0	36	9	35	0	0	44	93
7:15 AM	7	11	0	0	18	28	8	0	0	36	7	33	0	0	40	94
7:30 AM	9	9	0	0	18	26	11	0	0	37	9	27	0	0	36	91
7:45 AM	12	7	0	0	19	43	11	0	0	54	11	29	0	0	40	113
Total	32	36	0	0	68	123	40	0	0	163	36	124	0	0	160	391
Approach %	47.1	52.9	0.0	-	-	75.5	24.5	0.0	-	-	22.5	77.5	0.0	-	-	-
Total %	8.2	9.2	0.0	-	17.4	31.5	10.2	0.0	-	41.7	9.2	31.7	0.0	-	40.9	-
PHF	0.667	0.818	0.000	-	0.895	0.715	0.909	0.000	-	0.755	0.818	0.886	0.000	-	0.909	0.865
Motorcycles	0	1	0	-	1	2	0	0	-	2	0	0	0	-	0	3
% Motorcycles	0.0	2.8	-	-	1.5	1.6	0.0	-	-	1.2	0.0	0.0	-	-	0.0	0.8
Cars & Light Goods	24	22	0	-	46	115	35	0	-	150	31	98	0	-	129	325
% Cars & Light Goods	75.0	61.1	-	-	67.6	93.5	87.5	-	-	92.0	86.1	79.0	-	-	80.6	83.1
Buses	1	1	0	-	2	3	0	0	-	3	0	2	0	-	2	7
% Buses	3.1	2.8	-	-	2.9	2.4	0.0	-	-	1.8	0.0	1.6	-	-	1.3	1.8
Single-Unit Trucks	3	8	0	-	11	2	3	0	-	5	5	11	0	-	16	32
% Single-Unit Trucks	9.4	22.2	-	-	16.2	1.6	7.5	-	-	3.1	13.9	8.9	-	-	10.0	8.2
Articulated Trucks	4	4	0	-	8	1	2	0	-	3	0	13	0	-	13	24
% Articulated Trucks	12.5	11.1	-	-	11.8	0.8	5.0	-	-	1.8	0.0	10.5	-	-	8.1	6.1
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

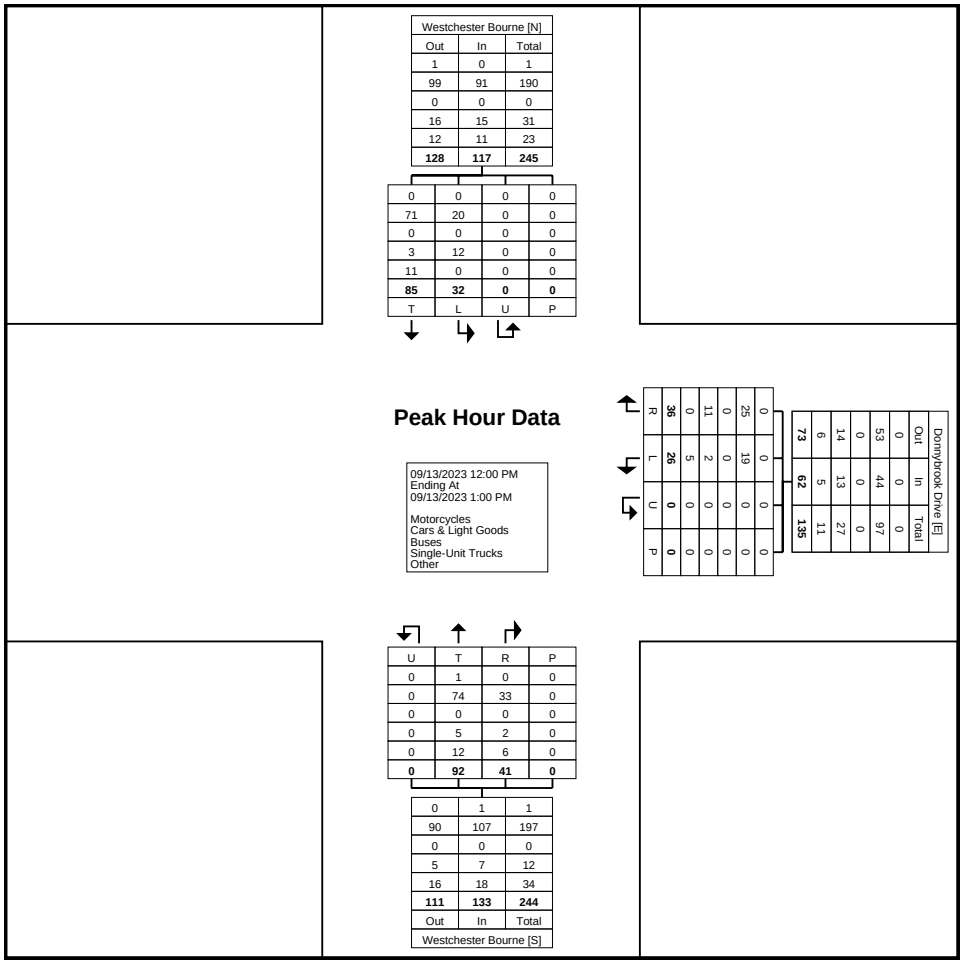
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
12:00 PM	9	7	0	0	16	18	7	0	0	25	9	31	0	0	40	81
12:15 PM	3	8	0	0	11	24	17	0	0	41	7	22	0	0	29	81
12:30 PM	11	9	0	0	20	29	8	0	0	37	12	19	0	0	31	88
12:45 PM	3	12	0	0	15	21	9	0	0	30	4	13	0	0	17	62
Total	26	36	0	0	62	92	41	0	0	133	32	85	0	0	117	312
Approach %	41.9	58.1	0.0	-	-	69.2	30.8	0.0	-	-	27.4	72.6	0.0	-	-	-
Total %	8.3	11.5	0.0	-	19.9	29.5	13.1	0.0	-	42.6	10.3	27.2	0.0	-	37.5	-
PHF	0.591	0.750	0.000	-	0.775	0.793	0.603	0.000	-	0.811	0.667	0.685	0.000	-	0.731	0.886
Motorcycles	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	1
% Motorcycles	0.0	0.0	-	-	0.0	1.1	0.0	-	-	0.8	0.0	0.0	-	-	0.0	0.3
Cars & Light Goods	19	25	0	-	44	74	33	0	-	107	20	71	0	-	91	242
% Cars & Light Goods	73.1	69.4	-	-	71.0	80.4	80.5	-	-	80.5	62.5	83.5	-	-	77.8	77.6
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	2	11	0	-	13	5	2	0	-	7	12	3	0	-	15	35
% Single-Unit Trucks	7.7	30.6	-	-	21.0	5.4	4.9	-	-	5.3	37.5	3.5	-	-	12.8	11.2
Articulated Trucks	5	0	0	-	5	11	6	0	-	17	0	10	0	-	10	32
% Articulated Trucks	19.2	0.0	-	-	8.1	12.0	14.6	-	-	12.8	0.0	11.8	-	-	8.5	10.3
Bicycles on Road	0	0	0	-	0	1	0	0	-	1	0	1	0	-	1	2
% Bicycles on Road	0.0	0.0	-	-	0.0	1.1	0.0	-	-	0.8	0.0	1.2	-	-	0.9	0.6
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



Turning Movement Peak Hour Data Plot (12:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
519-896-3163 cbowness@ptsl.com

Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023

Turning Movement Peak Hour Data (4:15 PM)

Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
4:15 PM	11	5	0	0	16	41	16	0	0	57	7	47	0	0	54	127
4:30 PM	16	9	0	0	25	33	12	0	0	45	4	43	0	0	47	117
4:45 PM	11	7	0	0	18	44	13	0	0	57	4	46	0	0	50	125
5:00 PM	13	10	1	0	24	46	5	0	0	51	7	44	0	0	51	126
Total	51	31	1	0	83	164	46	0	0	210	22	180	0	0	202	495
Approach %	61.4	37.3	1.2	-	-	78.1	21.9	0.0	-	-	10.9	89.1	0.0	-	-	-
Total %	10.3	6.3	0.2	-	16.8	33.1	9.3	0.0	-	42.4	4.4	36.4	0.0	-	40.8	-
PHF	0.797	0.775	0.250	-	0.830	0.891	0.719	0.000	-	0.921	0.786	0.957	0.000	-	0.935	0.974
Motorcycles	0	1	0	-	1	3	0	0	-	3	0	2	0	-	2	6
% Motorcycles	0.0	3.2	0.0	-	1.2	1.8	0.0	-	-	1.4	0.0	1.1	-	-	1.0	1.2
Cars & Light Goods	43	27	1	-	71	149	37	0	-	186	20	166	0	-	186	443
% Cars & Light Goods	84.3	87.1	100.0	-	85.5	90.9	80.4	-	-	88.6	90.9	92.2	-	-	92.1	89.5
Buses	1	0	0	-	1	2	0	0	-	2	0	1	0	-	1	4
% Buses	2.0	0.0	0.0	-	1.2	1.2	0.0	-	-	1.0	0.0	0.6	-	-	0.5	0.8
Single-Unit Trucks	5	2	0	-	7	5	2	0	-	7	1	5	0	-	6	20
% Single-Unit Trucks	9.8	6.5	0.0	-	8.4	3.0	4.3	-	-	3.3	4.5	2.8	-	-	3.0	4.0
Articulated Trucks	2	0	0	-	2	5	7	0	-	12	1	5	0	-	6	20
% Articulated Trucks	3.9	0.0	0.0	-	2.4	3.0	15.2	-	-	5.7	4.5	2.8	-	-	3.0	4.0
Bicycles on Road	0	1	0	-	1	0	0	0	-	0	0	1	0	-	1	2
% Bicycles on Road	0.0	3.2	0.0	-	1.2	0.0	0.0	-	-	0.0	0.0	0.6	-	-	0.5	0.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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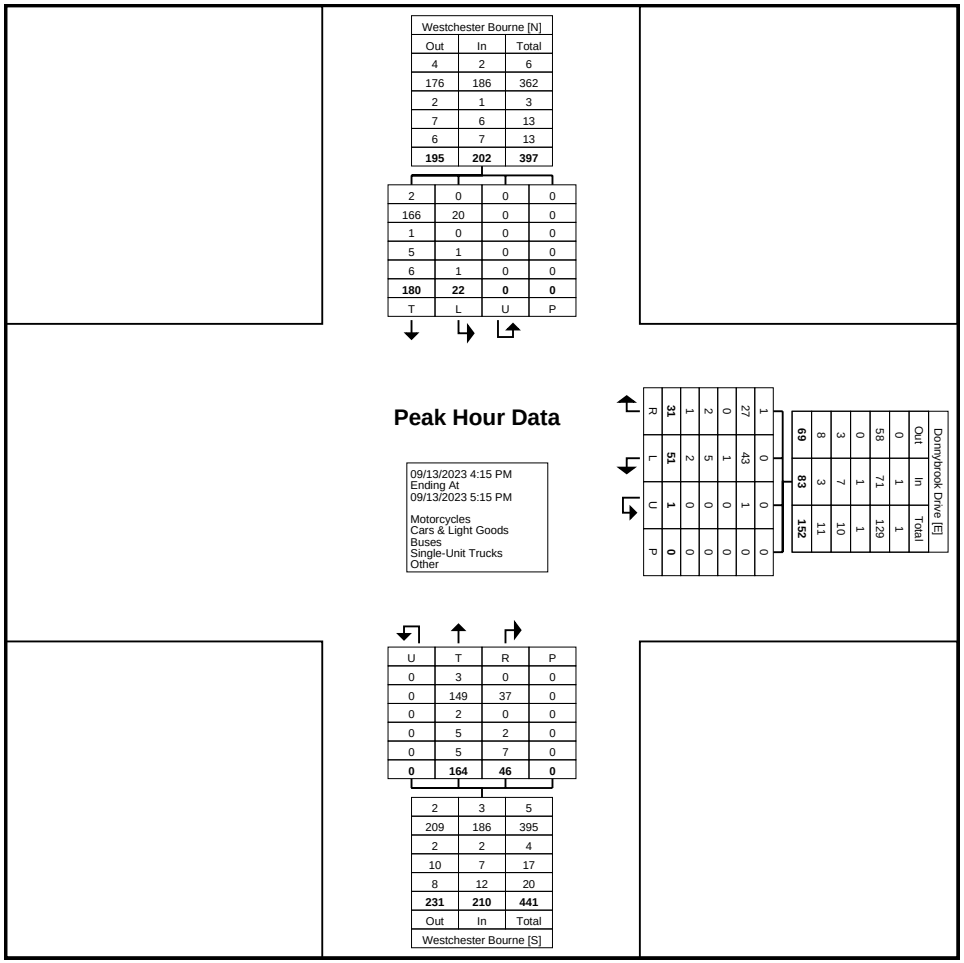
Count Name: Westchester Bourne & Donnybrook Drive
Site Code: 230556
Start Date: 09/13/2023



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

Appendix C

Existing Traffic Operations Reports

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	115	1	4	317	6	6
Future Vol, veh/h	115	1	4	317	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	13	0	0	4	0	40
Mvmt Flow	137	1	5	377	7	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	138	0	525	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	387	-
Critical Hdwy	-	-	4.1	-	6.4	6.6
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.66
Pot Cap-1 Maneuver	-	-	1458	-	516	819
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1458	-	514	819
Mov Cap-2 Maneuver	-	-	-	-	514	-
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	688	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	632	-	-	1458	-
HCM Lane V/C Ratio	0.023	-	-	0.003	-
HCM Control Delay (s)	10.8	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	121	2	11	276	43	24
Future Vol, veh/h	121	2	11	276	43	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	15	0	0	5	0	0
Mvmt Flow	141	2	13	321	50	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	488	141
Stage 1	-	-	-	-	141	-
Stage 2	-	-	-	-	347	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1452	-	543	912
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	720	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1452	-	537	912
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	712	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	630	-	-	1452	-
HCM Lane V/C Ratio	0.124	-	-	0.009	-
HCM Control Delay (s)	11.5	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	42	29	234	43	40	133
Future Vol, veh/h	42	29	234	43	40	133
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, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	11	8	6	3	9	14
Mvmt Flow	48	33	266	49	45	151

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	532	291	0	0	315	0
Stage 1	291	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.51	6.28	-	-	4.19	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.372	-	-	2.281	-
Pot Cap-1 Maneuver	493	734	-	-	1207	-
Stage 1	738	-	-	-	-	-
Stage 2	778	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	473	734	-	-	1207	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	746	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	1.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	1207	-
HCM Lane V/C Ratio	-	-	0.146	0.038	-
HCM Control Delay (s)	-	-	12.6	8.1	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	56	70	6	13	2
Future Vol, veh/h	5	56	70	6	13	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	19	12	0	0	0
Mvmt Flow	6	67	83	7	15	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	90	0	-	0	166	87
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	79	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1518	-	-	-	829	977
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1518	-	-	-	826	977
Mov Cap-2 Maneuver	-	-	-	-	826	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	949	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1518	-	-	-	843
HCM Lane V/C Ratio	0.004	-	-	-	0.021
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	36	38	137	154	37
Future Vol, veh/h	34	36	38	137	154	37
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	-	450	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	6	16	17	22	9	13
Mvmt Flow	37	40	42	151	169	41

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	425	190	210	0	-	0
Stage 1	190	-	-	-	-	-
Stage 2	235	-	-	-	-	-
Critical Hdwy	6.46	6.36	4.27	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.444	2.353	-	-	-
Pot Cap-1 Maneuver	578	817	1276	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	559	817	1276	-	-	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	795	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.1	1.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1276	-	667	-	-
HCM Lane V/C Ratio	0.033	-	0.115	-	-
HCM Control Delay (s)	7.9	-	11.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	346	6	1	222	4	4
Future Vol, veh/h	346	6	1	222	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	360	6	1	231	4	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	366	0	596	363
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1204	-	470	686
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	470	686
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	708	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	-	-	1204	-
HCM Lane V/C Ratio	0.015	-	-	0.001	-
HCM Control Delay (s)	11.5	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	31	46	214	17	24
Future Vol, veh/h	308	31	46	214	17	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	331	33	49	230	18	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	364	0	659	331
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	328	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1206	-	432	715
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	734	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1206	-	412	715
Mov Cap-2 Maneuver	-	-	-	-	412	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	700	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	548	-	-	1206	-
HCM Lane V/C Ratio	0.08	-	-	0.041	-
HCM Control Delay (s)	12.1	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	17	10	0
Future Vol, veh/h	0	0	0	17	10	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	18	11	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	18	0	-	0	9	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1599	-	-	-	1011	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	1011	1073
Mov Cap-2 Maneuver	-	-	-	-	1011	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	1011
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	62	209	85	32	252
Future Vol, veh/h	55	62	209	85	32	252
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, %	0	-	0	-	-	0
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	0	8	1	0	4
Mvmt Flow	63	70	238	97	36	286

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	645	287	0	0	335	0
Stage 1	287	-	-	-	-	-
Stage 2	358	-	-	-	-	-
Critical Hdwy	6.48	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	427	757	-	-	1236	-
Stage 1	748	-	-	-	-	-
Stage 2	694	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	412	757	-	-	1236	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	543	1236	-
HCM Lane V/C Ratio	-	-	0.245	0.029	-
HCM Control Delay (s)	-	-	13.8	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	113	83	19	10	2
Future Vol, veh/h	10	113	83	19	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	1	10	0	0	0
Mvmt Flow	12	140	102	23	12	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	125	0	-	0	278	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	164	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1474	-	-	-	716	944
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1474	-	-	-	710	944
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	870	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1474	-	-	-	741
HCM Lane V/C Ratio	0.008	-	-	-	0.02
HCM Control Delay (s)	7.5	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	50	52	227	143	50
Future Vol, veh/h	72	50	52	227	143	50
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	-	450	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	10	12	6	3	5
Mvmt Flow	90	63	65	284	179	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	625	211	242	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	414	-	-	-	-	-
Critical Hdwy	6.42	6.3	4.22	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.39	2.308	-	-	-
Pot Cap-1 Maneuver	449	809	1268	-	-	-
Stage 1	824	-	-	-	-	-
Stage 2	667	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	426	809	1268	-	-	-
Mov Cap-2 Maneuver	426	-	-	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	667	-	-	-	-	-

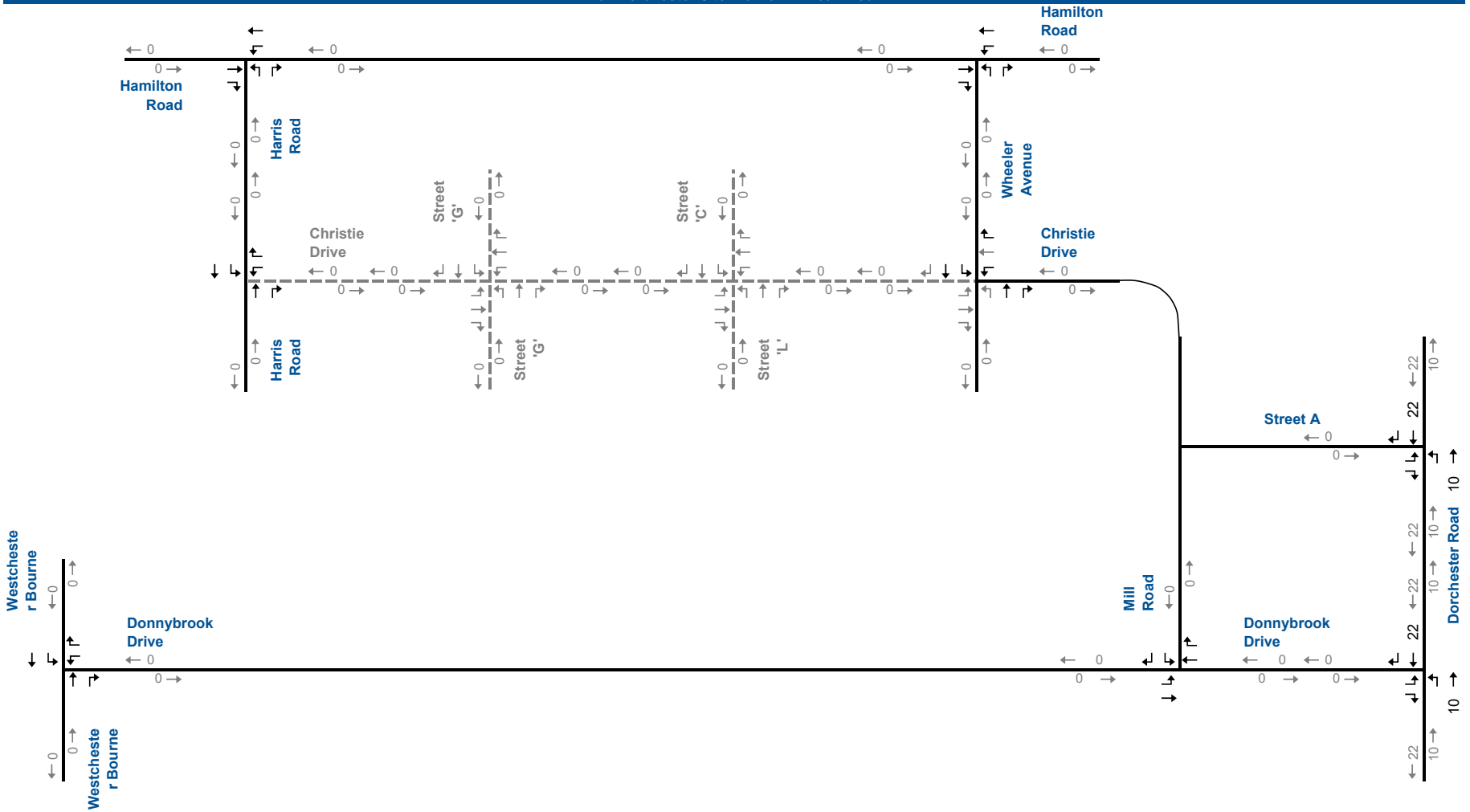
Approach	EB	NB	SB
HCM Control Delay, s	14.5	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1268	-	529	-	-
HCM Lane V/C Ratio	0.051	-	0.288	-	-
HCM Control Delay (s)	8	-	14.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1.2	-	-

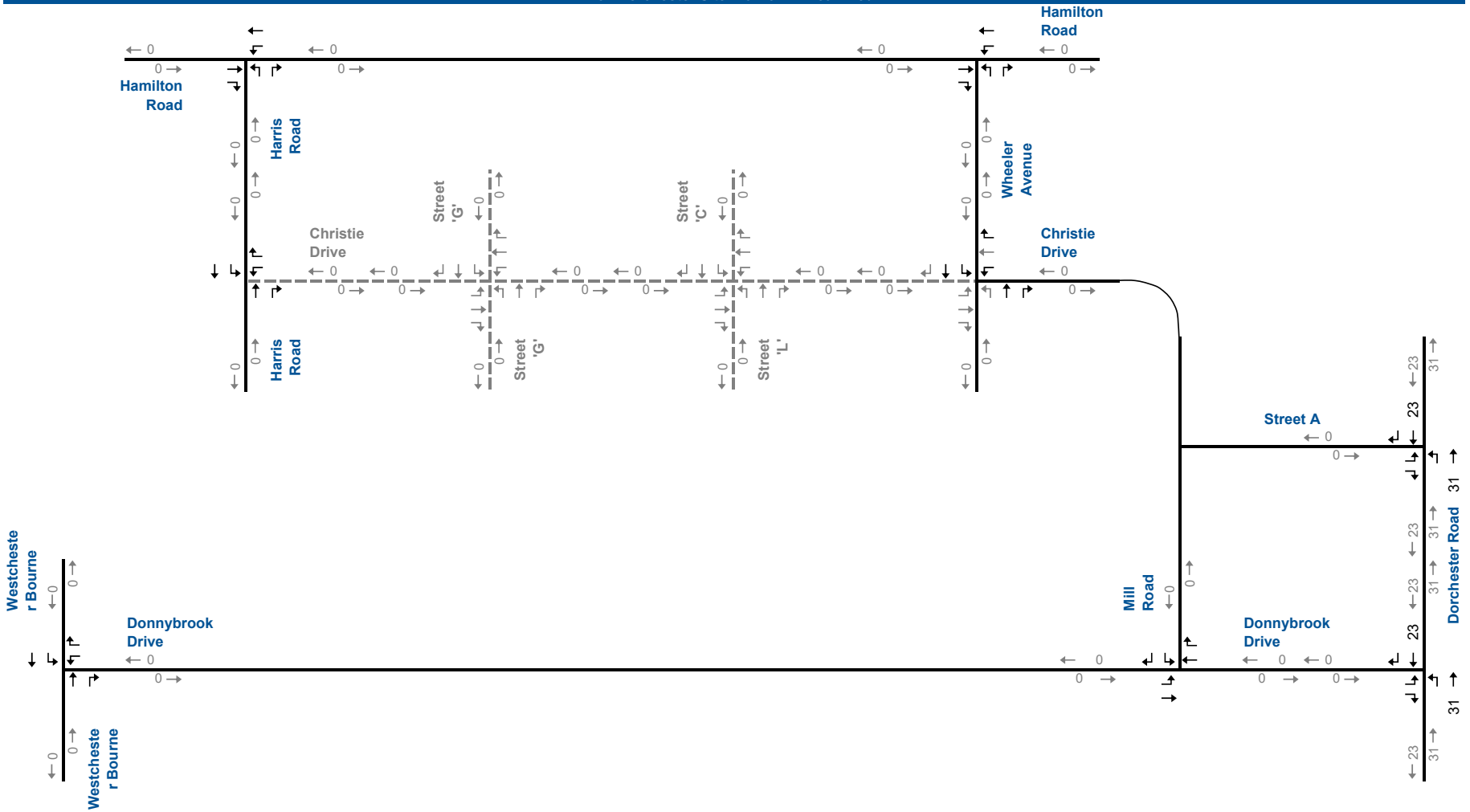
Appendix D

Background Development Traffic Volumes

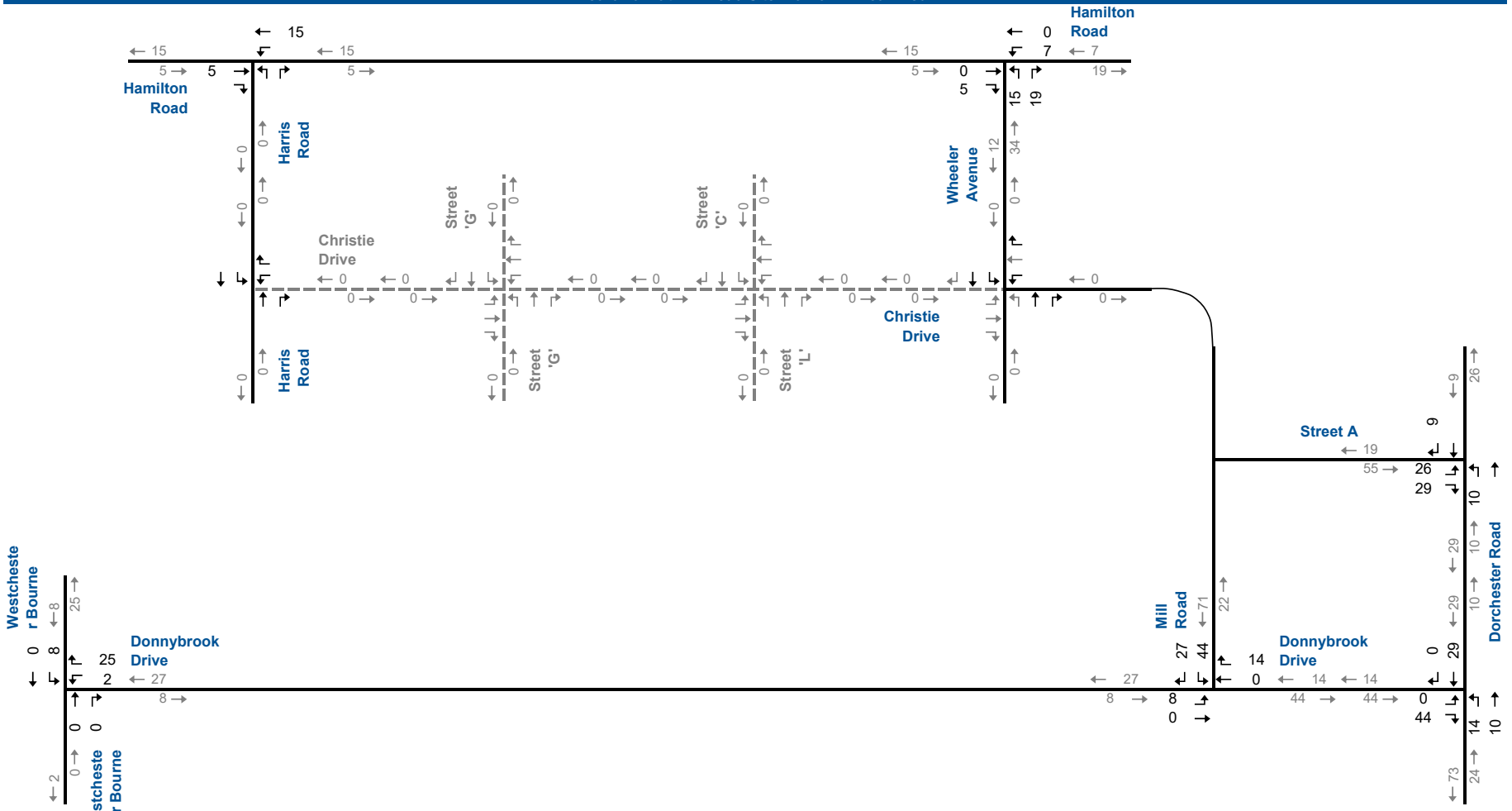
187 Dorchester Site Traffic PM Peak Hour



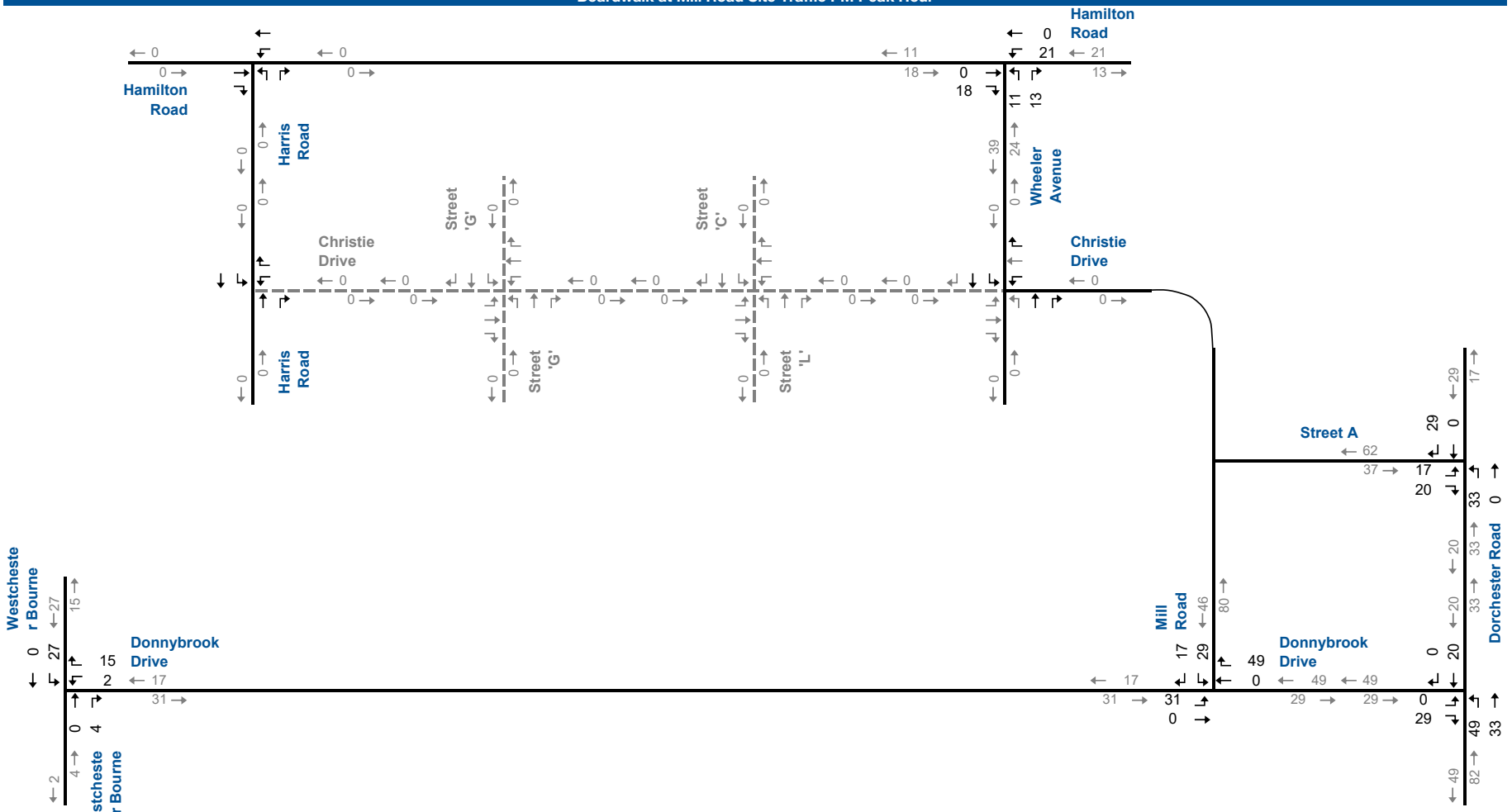
187 Dorchester Site Traffic PM Peak Hour

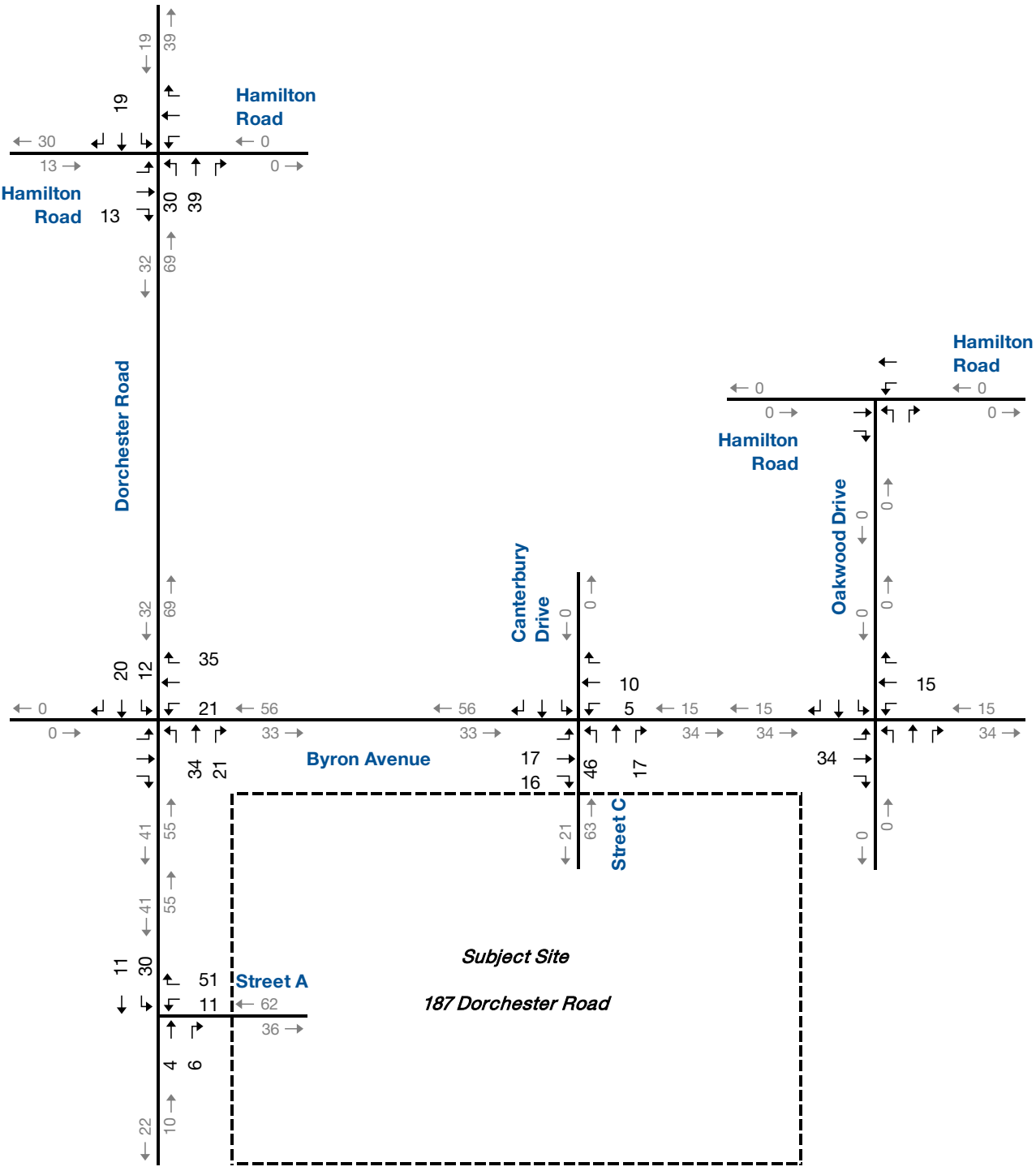


Boardwalk at Mill Road Site Traffic AM Peak Hour

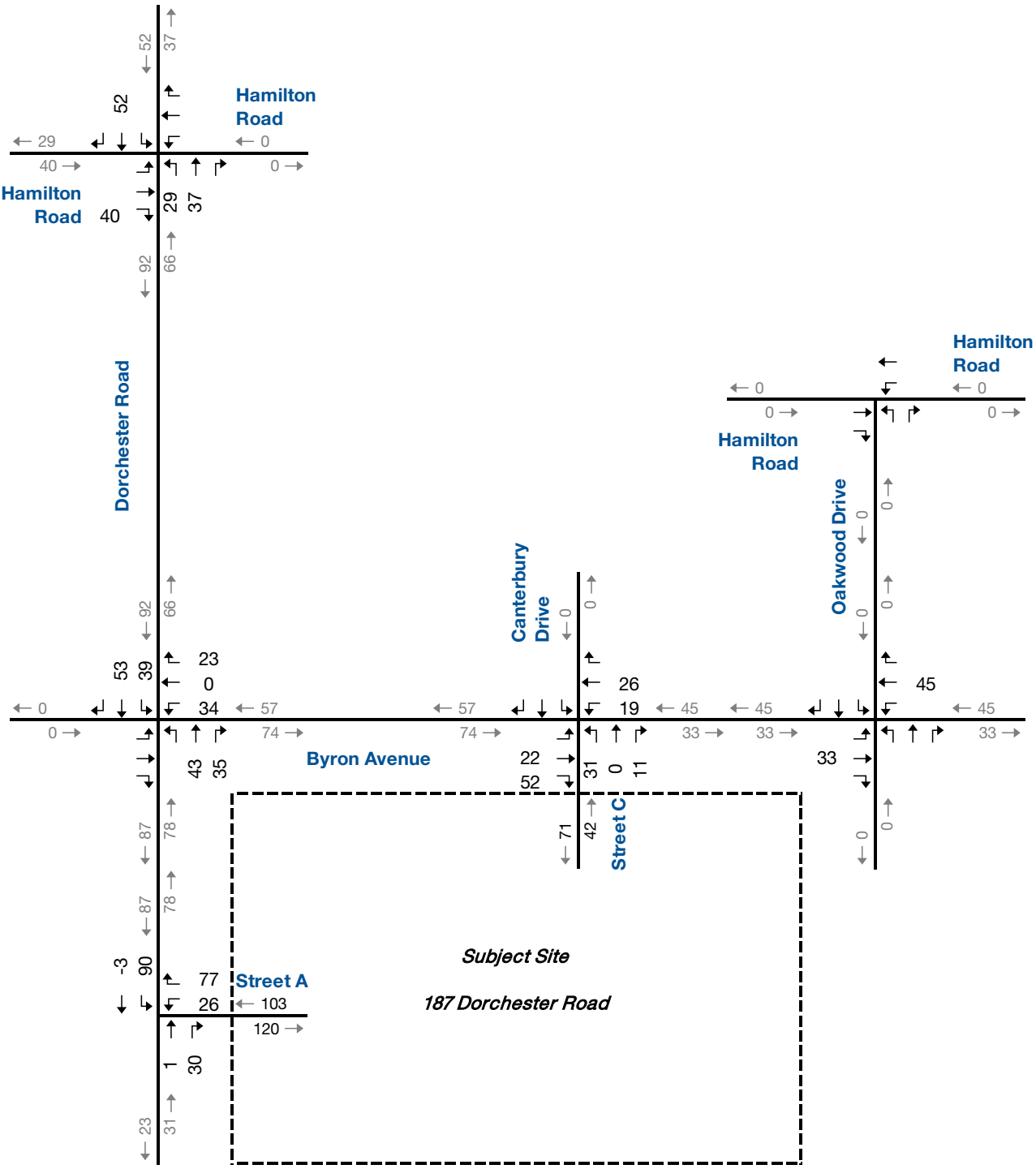


Boardwalk at Mill Road Site Traffic PM Peak Hour





Site Generated Traffic Forecast
AM Peak Hour



Site Generated Traffic Forecast
PM Peak Hour

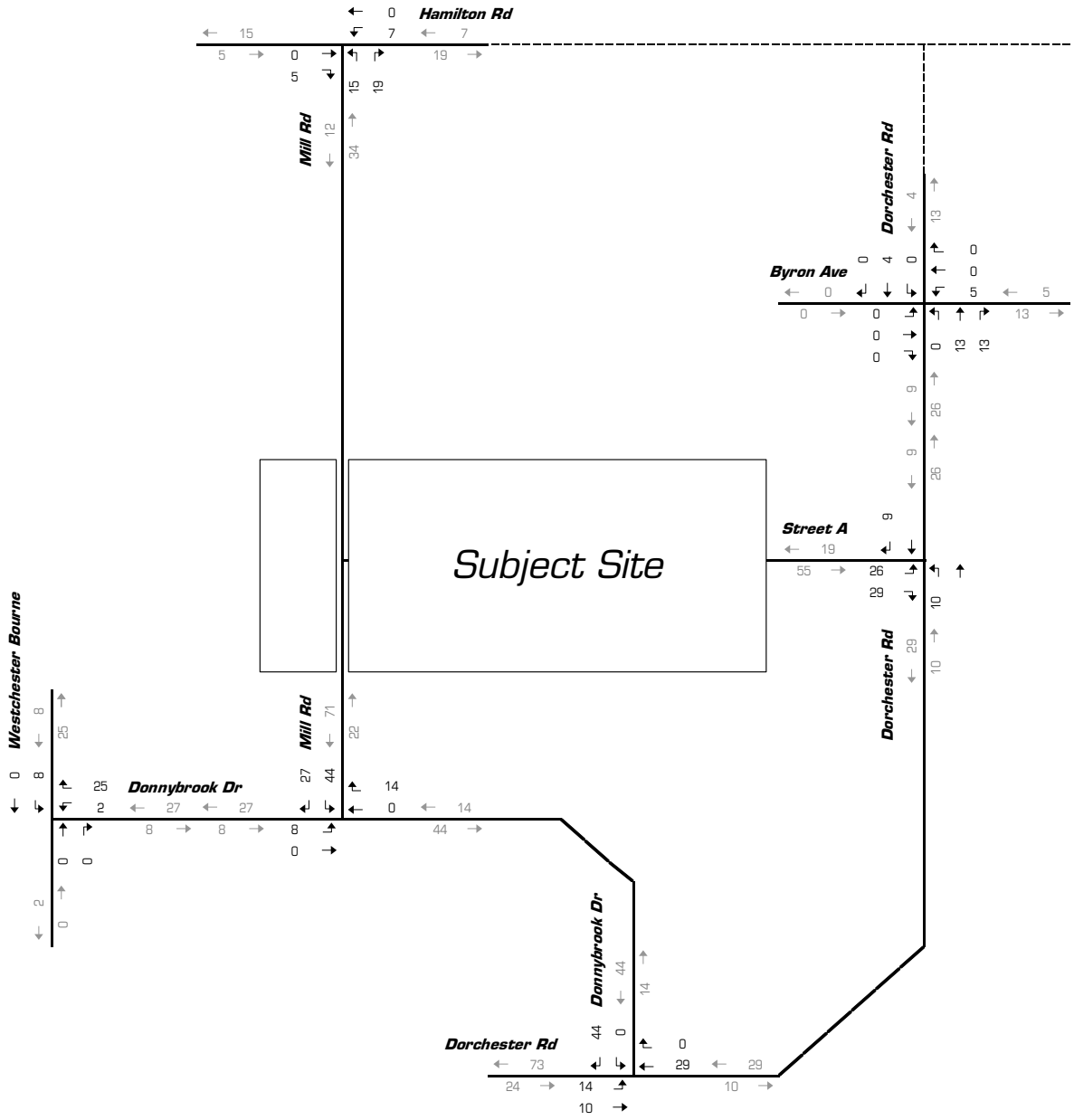


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Figure 4.2A

Site Generated Traffic – AM Peak Hour

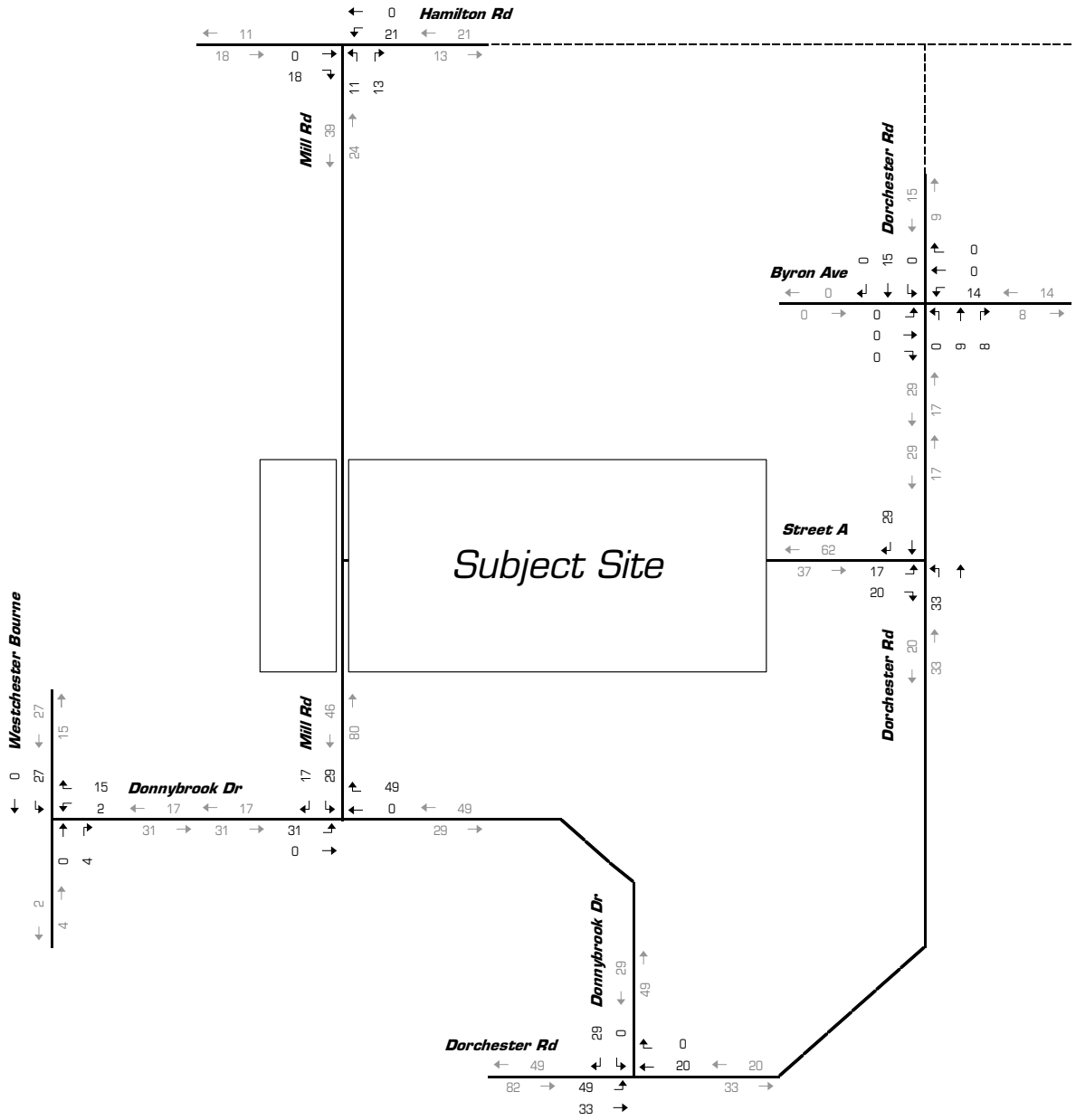

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Figure 4.2B

Site Generated Traffic – PM Peak Hour

Appendix E

2030 Background Traffic Operations Reports

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	1	5	409	7	7
Future Vol, veh/h	148	1	5	409	7	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	4	0	40
Mvmt Flow	161	1	5	445	8	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	617	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	-	-	4.1	-	6.4	6.6
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.66
Pot Cap-1 Maneuver	-	-	1429	-	457	793
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1429	-	455	793
Mov Cap-2 Maneuver	-	-	-	-	455	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	578	-	-	1429	-
HCM Lane V/C Ratio	0.026	-	-	0.004	-
HCM Control Delay (s)	11.4	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	7	21	343	68	49
Future Vol, veh/h	150	7	21	343	68	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	0	5	0	0
Mvmt Flow	163	8	23	373	74	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	582	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	419	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1418	-	479	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	469	887
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	655	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	584	-	-	1418	-
HCM Lane V/C Ratio	0.218	-	-	0.016	-
HCM Control Delay (s)	12.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	1	16	0
Future Vol, veh/h	0	0	0	1	16	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	1	17	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	1	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1022	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1022	1084
Mov Cap-2 Maneuver	-	-	-	-	1022	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	1022
HCM Lane V/C Ratio	-	-	-	-	0.017
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	54	61	291	53	58	165
Future Vol, veh/h	54	61	291	53	58	165
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	8	6	3	9	14
Mvmt Flow	59	66	316	58	63	179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	650	345	0	0	374	0
Stage 1	345	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.51	6.28	-	-	4.19	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.372	-	-	2.281	-
Pot Cap-1 Maneuver	420	684	-	-	1147	-
Stage 1	697	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	394	684	-	-	1147	-
Mov Cap-2 Maneuver	394	-	-	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	684	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	2.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	508	1147	-
HCM Lane V/C Ratio	-	-	0.246	0.055	-
HCM Control Delay (s)	-	-	14.4	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	1	0.2	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	70	87	21	60	29
Future Vol, veh/h	14	70	87	21	60	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	19	12	0	0	0
Mvmt Flow	15	76	95	23	65	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	118	0	-	0	213	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1483	-	-	-	780	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1483	-	-	-	771	953
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1483	-	-	-	822
HCM Lane V/C Ratio	0.01	-	-	-	0.118
HCM Control Delay (s)	7.5	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	89	61	190	242	46
Future Vol, veh/h	42	89	61	190	242	46
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	-	450	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	16	17	22	9	13
Mvmt Flow	46	97	66	207	263	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	627	288	313	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.46	6.36	4.27	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.444	2.353	-	-	-
Pot Cap-1 Maneuver	441	719	1167	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	713	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	416	719	1167	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	583	-	-
HCM Lane V/C Ratio	0.057	-	0.244	-	-
HCM Control Delay (s)	8.3	-	13.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	29	10	221	259	9
Future Vol, veh/h	26	29	10	221	259	9
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, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	32	11	240	282	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	549	287	292	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	497	752	1270	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	752	1270	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	602	-	-
HCM Lane V/C Ratio	0.009	-	0.099	-	-
HCM Control Delay (s)	7.9	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	430	7	1	276	5	5
Future Vol, veh/h	430	7	1	276	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	467	8	1	300	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	475	0	773	471
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1098	-	370	597
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1098	-	370	597
Mov Cap-2 Maneuver	-	-	-	-	370	-
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	457	-	-	1098	-
HCM Lane V/C Ratio	0.024	-	-	0.001	-
HCM Control Delay (s)	13.1	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	383	57	78	266	32	43
Future Vol, veh/h	383	57	78	266	32	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	416	62	85	289	35	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	478	0	875	416
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	459	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1095	-	322	641
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1095	-	292	641
Mov Cap-2 Maneuver	-	-	-	-	292	-
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	582	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	425	-	-	1095	-
HCM Lane V/C Ratio	0.192	-	-	0.077	-
HCM Control Delay (s)	15.5	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.3	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	21	12	0
Future Vol, veh/h	0	0	0	21	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	23	13	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	23	0	-	0	12	12
Stage 1	-	-	-	-	12	-
Stage 2	-	-	-	-	0	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1592	-	-	-	1008	1069
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1592	-	-	-	1008	1069
Mov Cap-2 Maneuver	-	-	-	-	1008	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1592	-	-	-	1008
HCM Lane V/C Ratio	-	-	-	-	0.013
HCM Control Delay (s)	0	-	-	-	8.6
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	70	92	260	110	67	313
Future Vol, veh/h	70	92	260	110	67	313
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	0	8	1	0	4
Mvmt Flow	76	100	283	120	73	340

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	829	343	0	0	403	0
Stage 1	343	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.48	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	332	704	-	-	1167	-
Stage 1	705	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	306	704	-	-	1167	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	559	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	18	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	451	1167	-
HCM Lane V/C Ratio	-	-	0.39	0.062	-
HCM Control Delay (s)	-	-	18	8.3	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.8	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	141	103	73	41	19
Future Vol, veh/h	43	141	103	73	41	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	0	0
Mvmt Flow	47	153	112	79	45	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	191	0	-	0	399	152
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1395	-	-	-	611	900
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1395	-	-	-	588	900
Mov Cap-2 Maneuver	-	-	-	-	588	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1395	-	-	-	661
HCM Lane V/C Ratio	0.034	-	-	-	0.099
HCM Control Delay (s)	7.7	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	90	91	114	346	221	62
Future Vol, veh/h	90	91	114	346	221	62
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	-	450	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	12	6	3	5
Mvmt Flow	98	99	124	376	240	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	898	274	307	0	-	0
Stage 1	274	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.42	6.3	4.22	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.39	2.308	-	-	-
Pot Cap-1 Maneuver	310	746	1199	-	-	-
Stage 1	772	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	278	746	1199	-	-	-
Mov Cap-2 Maneuver	278	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.9	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1199	-	406	-	-
HCM Lane V/C Ratio	0.103	-	0.485	-	-
HCM Control Delay (s)	8.3	-	21.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.6	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	20	33	403	263	29
Future Vol, veh/h	17	20	33	403	263	29
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, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	22	36	438	286	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	812	302	318	0	-	0
Stage 1	302	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	348	738	1242	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	738	1242	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	475	-	-
HCM Lane V/C Ratio	0.029	-	0.085	-	-
HCM Control Delay (s)	8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Appendix F

2030 Total Traffic Operations Reports

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	148	36	5	409	114	7
Future Volume (vph)	148	36	5	409	114	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974				0.992	
Flt Protected				0.999	0.955	
Satd. Flow (prot)	1675	0	0	1826	1757	0
Flt Permitted				0.999	0.955	
Satd. Flow (perm)	1675	0	0	1826	1757	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	597.0			1196.5	631.4	
Travel Time (s)	26.9			53.8	45.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	13%	0%	0%	4%	0%	40%
Adj. Flow (vph)	161	39	5	445	124	8
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	0	0	450	132	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	148	36	5	409	114	7
Future Vol, veh/h	148	36	5	409	114	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	0	0	4	0	40
Mvmt Flow	161	39	5	445	124	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	636	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	-	-	4.1	-	6.4	6.6
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.66
Pot Cap-1 Maneuver	-	-	1384	-	445	773
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1384	-	443	773
Mov Cap-2 Maneuver	-	-	-	-	443	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	640	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	16.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	-	-	1384	-
HCM Lane V/C Ratio	0.29	-	-	0.004	-
HCM Control Delay (s)	16.1	-	-	7.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	150	7	63	343	68	173
Future Volume (vph)	150	7	63	343	68	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.903	
Flt Protected				0.992	0.986	
Satd. Flow (prot)	1652	1615	0	1808	1692	0
Flt Permitted				0.992	0.986	
Satd. Flow (perm)	1652	1615	0	1808	1692	0
Link Speed (k/h)	50			80	50	
Link Distance (m)	1196.5			175.5	195.2	
Travel Time (s)	86.1			7.9	14.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	15%	0%	0%	5%	0%	0%
Adj. Flow (vph)	163	8	68	373	74	188
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	8	0	441	262	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

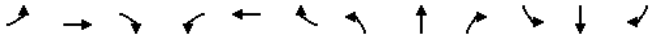
Intersection	
Int Delay, s/veh	4.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	7	63	343	68	173
Future Vol, veh/h	150	7	63	343	68	173
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	30	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	0	5	0	0
Mvmt Flow	163	8	68	373	74	188

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	672	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	509	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1418	-	424	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	608	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1418	-	399	887
Mov Cap-2 Maneuver	-	-	-	-	399	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	572	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	659	-	-	1418	-
HCM Lane V/C Ratio	0.398	-	-	0.048	-
HCM Control Delay (s)	14	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	88	1	1	29	1	4	3	2	16	1	41
Future Volume (vph)	121	88	1	1	29	1	4	3	2	16	1	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.996			0.970			0.904	
Flt Protected		0.972			0.999			0.978			0.987	
Satd. Flow (prot)	0	1809	0	0	1853	0	0	1767	0	0	1662	0
Flt Permitted		0.972			0.999			0.978			0.987	
Satd. Flow (perm)	0	1809	0	0	1853	0	0	1767	0	0	1662	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		201.7			280.2			84.0			222.9	
Travel Time (s)		14.5			20.2			6.0			16.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	132	96	1	1	32	1	4	3	2	17	1	45
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	229	0	0	34	0	0	9	0	0	63	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	121	88	1	1	29	1	4	3	2	16	1	41
Future Vol, veh/h	121	88	1	1	29	1	4	3	2	16	1	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	96	1	1	32	1	4	3	2	17	1	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	33	0	0	97	0	0	419	396	97	398	396	33
Stage 1	-	-	-	-	-	-	361	361	-	35	35	-
Stage 2	-	-	-	-	-	-	58	35	-	363	361	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1579	-	-	1496	-	-	544	541	959	562	541	1041
Stage 1	-	-	-	-	-	-	657	626	-	981	866	-
Stage 2	-	-	-	-	-	-	954	866	-	656	626	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1579	-	-	1496	-	-	485	493	959	520	493	1041
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	493	-	520	493	-
Stage 1	-	-	-	-	-	-	599	571	-	895	865	-
Stage 2	-	-	-	-	-	-	911	865	-	594	571	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0.2	11.7	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	548	1579	-	-	1496	-	-	804
HCM Lane V/C Ratio	0.018	0.083	-	-	0.001	-	-	0.078
HCM Control Delay (s)	11.7	7.5	0	-	7.4	0	-	9.9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	0.3

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	61	291	65	58	165
Future Volume (vph)	91	61	291	65	58	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.946		0.975			
Flt Protected	0.971					0.987
Satd. Flow (prot)	1590	0	1757	0	0	1664
Flt Permitted	0.971					0.987
Satd. Flow (perm)	1590	0	1757	0	0	1664
Link Speed (k/h)	50		80			80
Link Distance (m)	738.9		447.4			418.4
Travel Time (s)	53.2		20.1			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	8%	6%	3%	9%	14%
Adj. Flow (vph)	99	66	316	71	63	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	0	387	0	0	242
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

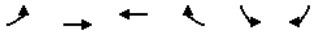
Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	61	291	65	58	165
Future Vol, veh/h	91	61	291	65	58	165
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	11	8	6	3	9	14
Mvmt Flow	99	66	316	71	63	179

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	657	352	0	0	387	0
Stage 1	352	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.51	6.28	-	-	4.19	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.372	-	-	2.281	-
Pot Cap-1 Maneuver	416	678	-	-	1134	-
Stage 1	692	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	390	678	-	-	1134	-
Mov Cap-2 Maneuver	390	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	683	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	2.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	470	1134	-
HCM Lane V/C Ratio	-	-	0.352	0.056	-
HCM Control Delay (s)	-	-	16.8	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	70	87	51	150	29
Future Volume (vph)	14	70	87	51	150	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.950		0.978	
Flt Protected		0.992			0.960	
Satd. Flow (prot)	0	1627	1678	0	1784	0
Flt Permitted		0.992			0.960	
Satd. Flow (perm)	0	1627	1678	0	1784	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		271.9	37.2		248.0	
Travel Time (s)		19.6	2.7		17.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	19%	12%	0%	0%	0%
Adj. Flow (vph)	15	76	95	55	163	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	91	150	0	195	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	70	87	51	150	29
Future Vol, veh/h	14	70	87	51	150	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	19	12	0	0	0
Mvmt Flow	15	76	95	55	163	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	150	0	-	0	229	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	106	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1444	-	-	-	764	933
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1444	-	-	-	756	933
Mov Cap-2 Maneuver	-	-	-	-	756	-
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1444	-	-	-	780
HCM Lane V/C Ratio	0.011	-	-	-	0.249
HCM Control Delay (s)	7.5	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	179	91	190	242	46
Future Volume (vph)	42	179	91	190	242	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	45.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.891				0.978	
Flt Protected	0.991		0.950			
Satd. Flow (prot)	1470	0	1543	1557	1695	0
Flt Permitted	0.991		0.950			
Satd. Flow (perm)	1470	0	1543	1557	1695	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	37.2			282.3	477.5	
Travel Time (s)	2.7			12.7	21.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	6%	16%	17%	22%	9%	13%
Adj. Flow (vph)	46	195	99	207	263	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	241	0	99	207	313	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	179	91	190	242	46
Future Vol, veh/h	42	179	91	190	242	46
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	-	45	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	6	16	17	22	9	13
Mvmt Flow	46	195	99	207	263	50

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	693	288	313	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.46	6.36	4.27	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.444	2.353	-	-	-
Pot Cap-1 Maneuver	403	719	1167	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	665	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	369	719	1167	-	-	-
Mov Cap-2 Maneuver	369	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	2.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	609	-	-
HCM Lane V/C Ratio	0.085	-	0.394	-	-
HCM Control Delay (s)	8.4	-	14.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.9	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	26	29	10	221	259	9
Future Volume (vph)	26	29	10	221	259	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.928				0.995	
Flt Protected	0.977			0.998		
Satd. Flow (prot)	1689	0	0	1859	1853	0
Flt Permitted	0.977			0.998		
Satd. Flow (perm)	1689	0	0	1859	1853	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	617.6			185.9	220.9	
Travel Time (s)	44.5			8.4	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	28	32	11	240	282	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	0	251	292	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	26	29	10	221	259	9
Future Vol, veh/h	26	29	10	221	259	9
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, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	32	11	240	282	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	549	287	292	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	497	752	1270	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	752	1270	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	602	-	-
HCM Lane V/C Ratio	0.009	-	0.099	-	-
HCM Control Delay (s)	7.9	0	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	107	0	12	35	0
Future Volume (vph)	37	107	0	12	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.900		0.865			
Flt Protected	0.987					0.950
Satd. Flow (prot)	1655	0	1611	0	0	1770
Flt Permitted	0.987					0.950
Satd. Flow (perm)	1655	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	266.1		209.0			631.4
Travel Time (s)	19.2		15.0			45.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	116	0	13	38	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	0	13	0	0	38
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.9%		ICU Level of Service A	
Analysis Period (min) 15			

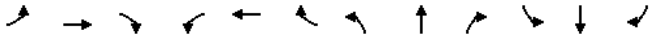
Intersection	
Int Delay, s/veh	8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	37	107	0	12	35	0
Future Vol, veh/h	37	107	0	12	35	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	116	0	13	38	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	83	7	0	0	13	0
Stage 1	7	-	-	-	-	-
Stage 2	76	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	919	1075	-	-	1606	-
Stage 1	1016	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	897	1075	-	-	1606	-
Mov Cap-2 Maneuver	897	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	924	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	7.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1023	1606	-
HCM Lane V/C Ratio	-	-	0.153	0.024	-
HCM Control Delay (s)	-	-	9.2	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	77	6	2	57	5	22	0	6	15	0	44
Future Volume (vph)	15	77	6	2	57	5	22	0	6	15	0	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.990			0.970			0.899	
Flt Protected		0.993			0.999			0.963			0.988	
Satd. Flow (prot)	0	1833	0	0	1842	0	0	1740	0	0	1655	0
Flt Permitted		0.993			0.999			0.963			0.988	
Satd. Flow (perm)	0	1833	0	0	1842	0	0	1740	0	0	1655	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		207.3			185.4			80.0			93.6	
Travel Time (s)		14.9			13.3			5.8			6.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	84	7	2	62	5	24	0	7	16	0	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	107	0	0	69	0	0	31	0	0	64	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

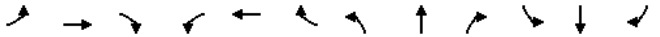
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	77	6	2	57	5	22	0	6	15	0	44
Future Vol, veh/h	15	77	6	2	57	5	22	0	6	15	0	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	84	7	2	62	5	24	0	7	16	0	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	67	0	0	91	0	0	213	191	88	192	192	65
Stage 1	-	-	-	-	-	-	120	120	-	69	69	-
Stage 2	-	-	-	-	-	-	93	71	-	123	123	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1535	-	-	1504	-	-	744	704	970	768	703	999
Stage 1	-	-	-	-	-	-	884	796	-	941	837	-
Stage 2	-	-	-	-	-	-	914	836	-	881	794	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1535	-	-	1504	-	-	702	696	970	756	695	999
Mov Cap-2 Maneuver	-	-	-	-	-	-	702	696	-	756	695	-
Stage 1	-	-	-	-	-	-	874	787	-	931	836	-
Stage 2	-	-	-	-	-	-	869	835	-	865	785	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.2	10	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	746	1535	-	-	1504	-	-	924
HCM Lane V/C Ratio	0.041	0.011	-	-	0.001	-	-	0.069
HCM Control Delay (s)	10	7.4	0	-	7.4	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	104	3	14	39	21	9	0	40	66	0	11
Future Volume (vph)	3	104	3	14	39	21	9	0	40	66	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.961			0.890			0.981	
Flt Protected		0.999			0.991			0.991			0.959	
Satd. Flow (prot)	0	1855	0	0	1774	0	0	1643	0	0	1752	0
Flt Permitted		0.999			0.991			0.991			0.959	
Satd. Flow (perm)	0	1855	0	0	1774	0	0	1643	0	0	1752	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		185.4			201.7			63.6			84.3	
Travel Time (s)		13.3			14.5			4.6			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	113	3	15	42	23	10	0	43	72	0	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	0	0	80	0	0	53	0	0	84	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	104	3	14	39	21	9	0	40	66	0	11
Future Vol, veh/h	3	104	3	14	39	21	9	0	40	66	0	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	113	3	15	42	23	10	0	43	72	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	65	0	0	116	0	0	211	216	115	226	206	54
Stage 1	-	-	-	-	-	-	121	121	-	84	84	-
Stage 2	-	-	-	-	-	-	90	95	-	142	122	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1537	-	-	1473	-	-	746	682	937	729	691	1013
Stage 1	-	-	-	-	-	-	883	796	-	924	825	-
Stage 2	-	-	-	-	-	-	917	816	-	861	795	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1537	-	-	1473	-	-	730	673	937	688	682	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	730	673	-	688	682	-
Stage 1	-	-	-	-	-	-	881	794	-	922	816	-
Stage 2	-	-	-	-	-	-	896	807	-	819	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	1.4	9.3	10.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	891	1537	-	-	1473	-	-	721
HCM Lane V/C Ratio	0.06	0.002	-	-	0.01	-	-	0.116
HCM Control Delay (s)	9.3	7.3	0	-	7.5	0	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	32	15	23	100	44	66
Future Volume (vph)	32	15	23	100	44	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.958				0.919	
Flt Protected				0.991	0.980	
Satd. Flow (prot)	1785	0	0	1846	1678	0
Flt Permitted				0.991	0.980	
Satd. Flow (perm)	1785	0	0	1846	1678	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	266.1			207.3	81.2	
Travel Time (s)	19.2			14.9	5.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	16	25	109	48	72
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	134	120	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	32	15	23	100	44	66
Future Vol, veh/h	32	15	23	100	44	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	16	25	109	48	72

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	51	0	202	43
Stage 1	-	-	-	-	43	-
Stage 2	-	-	-	-	159	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1555	-	787	1027
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	870	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1555	-	774	1027
Mov Cap-2 Maneuver	-	-	-	-	774	-
Stage 1	-	-	-	-	979	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	908	-	-	1555	-
HCM Lane V/C Ratio	0.132	-	-	0.016	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	430	118	1	276	74	5
Future Volume (vph)	430	118	1	276	74	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.971				0.992	
Flt Protected					0.955	
Satd. Flow (prot)	1816	0	0	1863	1800	0
Flt Permitted					0.955	
Satd. Flow (perm)	1816	0	0	1863	1800	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	597.0			1196.5	631.4	
Travel Time (s)	26.9			53.8	45.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	0%	0%	2%	0%	0%
Adj. Flow (vph)	467	128	1	300	80	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	595	0	0	301	85	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	430	118	1	276	74	5
Future Vol, veh/h	430	118	1	276	74	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	0	0	2	0	0
Mvmt Flow	467	128	1	300	80	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	595	0	833	531
Stage 1	-	-	-	-	531	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	991	-	341	552
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	991	-	341	552
Mov Cap-2 Maneuver	-	-	-	-	341	-
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	754	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	349	-	-	991	-
HCM Lane V/C Ratio	0.246	-	-	0.001	-
HCM Control Delay (s)	18.6	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1	-	-	0	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	383	57	205	266	32	120
Future Volume (vph)	383	57	205	266	32	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)		30.0	0.0		0.0	0.0
Storage Lanes		1	0		1	0
Taper Length (m)			7.5		7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.894	
Flt Protected				0.979	0.990	
Satd. Flow (prot)	1845	1615	0	1839	1682	0
Flt Permitted				0.979	0.990	
Satd. Flow (perm)	1845	1615	0	1839	1682	0
Link Speed (k/h)	50			80	50	
Link Distance (m)	1196.5			175.5	195.2	
Travel Time (s)	86.1			7.9	14.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	0%	0%	2%	0%	0%
Adj. Flow (vph)	416	62	223	289	35	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	416	62	0	512	165	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	383	57	205	266	32	120
Future Vol, veh/h	383	57	205	266	32	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	30	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	0	0	2	0	0
Mvmt Flow	416	62	223	289	35	130

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	478	0	1151	416
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	735	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1095	-	221	641
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	478	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1095	-	167	641
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	670	-
Stage 2	-	-	-	-	362	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	401	-	-	1095	-
HCM Lane V/C Ratio	0.412	-	-	0.203	-
HCM Control Delay (s)	20.1	-	-	9.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0.8	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	55	4	3	91	21	3	2	2	12	4	123
Future Volume (vph)	75	55	4	3	91	21	3	2	2	12	4	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.975			0.961			0.880	
Flt Protected		0.973			0.999			0.979			0.996	
Satd. Flow (prot)	0	1805	0	0	1814	0	0	1753	0	0	1633	0
Flt Permitted		0.973			0.999			0.979			0.996	
Satd. Flow (perm)	0	1805	0	0	1814	0	0	1753	0	0	1633	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		200.7			280.2			91.1			222.9	
Travel Time (s)		14.5			20.2			6.6			16.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	82	60	4	3	99	23	3	2	2	13	4	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	146	0	0	125	0	0	7	0	0	151	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	55	4	3	91	21	3	2	2	12	4	123
Future Vol, veh/h	75	55	4	3	91	21	3	2	2	12	4	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	60	4	3	99	23	3	2	2	13	4	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	122	0	0	64	0	0	412	354	62	345	345	111
Stage 1	-	-	-	-	-	-	226	226	-	117	117	-
Stage 2	-	-	-	-	-	-	186	128	-	228	228	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1465	-	-	1538	-	-	550	571	1003	609	578	942
Stage 1	-	-	-	-	-	-	777	717	-	888	799	-
Stage 2	-	-	-	-	-	-	816	790	-	775	715	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1465	-	-	1538	-	-	448	537	1003	578	543	942
Mov Cap-2 Maneuver	-	-	-	-	-	-	448	537	-	578	543	-
Stage 1	-	-	-	-	-	-	732	675	-	836	797	-
Stage 2	-	-	-	-	-	-	695	788	-	726	674	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.3	0.2	11.5	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	564	1465	-	-	1538	-	-	876
HCM Lane V/C Ratio	0.013	0.056	-	-	0.002	-	-	0.172
HCM Control Delay (s)	11.5	7.6	0	-	7.3	0	-	10
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.6

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	92	260	148	67	313
Future Volume (vph)	92	92	260	148	67	313
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.932		0.951			
Flt Protected	0.976					0.991
Satd. Flow (prot)	1662	0	1713	0	0	1823
Flt Permitted	0.976					0.991
Satd. Flow (perm)	1662	0	1713	0	0	1823
Link Speed (k/h)	50		80			80
Link Distance (m)	738.9		447.4			418.4
Travel Time (s)	53.2		20.1			18.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	8%	0%	8%	1%	0%	4%
Adj. Flow (vph)	100	100	283	161	73	340
Shared Lane Traffic (%)						
Lane Group Flow (vph)	200	0	444	0	0	413
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 63.6%		ICU Level of Service B	
Analysis Period (min) 15			

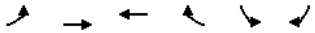
Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	92	92	260	148	67	313
Future Vol, veh/h	92	92	260	148	67	313
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	8	0	8	1	0	4
Mvmt Flow	100	100	283	161	73	340

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	850	364	0	0	444	0
Stage 1	364	-	-	-	-	-
Stage 2	486	-	-	-	-	-
Critical Hdwy	6.48	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.48	-	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-	-
Follow-up Hdwy	3.572	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	323	685	-	-	1127	-
Stage 1	690	-	-	-	-	-
Stage 2	606	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	297	685	-	-	1127	-
Mov Cap-2 Maneuver	297	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	558	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	1.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	414	1127	-
HCM Lane V/C Ratio	-	-	0.483	0.065	-
HCM Control Delay (s)	-	-	21.6	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	2.6	0.2	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	141	103	167	98	19
Future Volume (vph)	43	141	103	167	98	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.916		0.978	
Flt Protected		0.988			0.960	
Satd. Flow (prot)	0	1863	1677	0	1784	0
Flt Permitted		0.988			0.960	
Satd. Flow (perm)	0	1863	1677	0	1784	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		271.9	37.2		248.0	
Travel Time (s)		19.6	2.7		17.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	10%	0%	0%	0%
Adj. Flow (vph)	47	153	112	182	107	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	200	294	0	128	0
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	43	141	103	167	98	19
Future Vol, veh/h	43	141	103	167	98	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	1	10	0	0	0
Mvmt Flow	47	153	112	182	107	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	294	0	-	0	450	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1279	-	-	-	571	843
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1279	-	-	-	548	843
Mov Cap-2 Maneuver	-	-	-	-	548	-
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	SB
HCM Control Delay, s	1.9	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1279	-	-	-	581
HCM Lane V/C Ratio	0.037	-	-	-	0.219
HCM Control Delay (s)	7.9	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	90	148	208	346	221	62
Future Volume (vph)	90	148	208	346	221	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	45.0			0.0
Storage Lanes	1	0	1			0
Taper Length (m)	7.5		7.5			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.916				0.971	
Flt Protected	0.981		0.950			
Satd. Flow (prot)	1596	0	1612	1792	1784	0
Flt Permitted	0.981		0.950			
Satd. Flow (perm)	1596	0	1612	1792	1784	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	37.2			282.3	477.5	
Travel Time (s)	2.7			12.7	21.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	10%	12%	6%	3%	5%
Adj. Flow (vph)	98	161	226	376	240	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	259	0	226	376	307	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	90	148	208	346	221	62
Future Vol, veh/h	90	148	208	346	221	62
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	-	45	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	10	12	6	3	5
Mvmt Flow	98	161	226	376	240	67

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1102	274	307	0	-	0
Stage 1	274	-	-	-	-	-
Stage 2	828	-	-	-	-	-
Critical Hdwy	6.42	6.3	4.22	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.39	2.308	-	-	-
Pot Cap-1 Maneuver	234	746	1199	-	-	-
Stage 1	772	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	746	1199	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	429	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	38.3	3.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1199	-	354	-	-
HCM Lane V/C Ratio	0.189	-	0.731	-	-
HCM Control Delay (s)	8.7	-	38.3	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.7	-	5.6	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	20	33	403	263	29
Future Volume (vph)	17	20	33	403	263	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926				0.986	
Flt Protected	0.978			0.996		
Satd. Flow (prot)	1687	0	0	1855	1837	0
Flt Permitted	0.978			0.996		
Satd. Flow (perm)	1687	0	0	1855	1837	0
Link Speed (k/h)	50			80	80	
Link Distance (m)	617.6			185.9	220.9	
Travel Time (s)	44.5			8.4	9.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	22	36	438	286	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	0	474	318	0
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	20	33	403	263	29
Future Vol, veh/h	17	20	33	403	263	29
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, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	22	36	438	286	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	812	302	318	0	-	0
Stage 1	302	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	348	738	1242	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	335	738	1242	-	-	-
Mov Cap-2 Maneuver	335	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1242	-	475	-	-
HCM Lane V/C Ratio	0.029	-	0.085	-	-
HCM Control Delay (s)	8	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	22	69	0	38	111	0
Future Volume (vph)	22	69	0	38	111	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.898		0.865			
Flt Protected	0.988					0.950
Satd. Flow (prot)	1653	0	1611	0	0	1770
Flt Permitted	0.988					0.950
Satd. Flow (perm)	1653	0	1611	0	0	1770
Link Speed (k/h)	50		50			50
Link Distance (m)	266.1		209.0			631.4
Travel Time (s)	19.2		15.0			45.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	24	75	0	41	121	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	99	0	41	0	0	121
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.0%		ICU Level of Service A	
Analysis Period (min) 15			

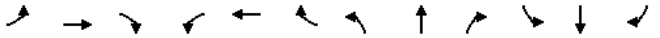
Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	22	69	0	38	111	0
Future Vol, veh/h	22	69	0	38	111	0
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, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	75	0	41	121	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	263	21	0	0	41	0
Stage 1	21	-	-	-	-	-
Stage 2	242	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	726	1056	-	-	1568	-
Stage 1	1002	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	670	1056	-	-	1568	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	7.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	927	1568	-
HCM Lane V/C Ratio	-	-	0.107	0.077	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	79	20	7	87	16	13	0	4	12	0	29
Future Volume (vph)	46	79	20	7	87	16	13	0	4	12	0	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.981			0.981			0.970			0.904	
Flt Protected		0.984			0.997			0.963			0.986	
Satd. Flow (prot)	0	1798	0	0	1822	0	0	1740	0	0	1660	0
Flt Permitted		0.984			0.997			0.963			0.986	
Satd. Flow (perm)	0	1798	0	0	1822	0	0	1740	0	0	1660	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		195.6			198.2			80.0			93.6	
Travel Time (s)		14.1			14.3			5.8			6.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	86	22	8	95	17	14	0	4	13	0	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	158	0	0	120	0	0	18	0	0	45	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			

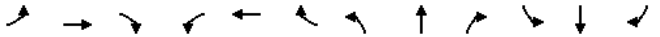
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	79	20	7	87	16	13	0	4	12	0	29
Future Vol, veh/h	46	79	20	7	87	16	13	0	4	12	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	86	22	8	95	17	14	0	4	13	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	112	0	0	108	0	0	333	325	97	319	328	104
Stage 1	-	-	-	-	-	-	197	197	-	120	120	-
Stage 2	-	-	-	-	-	-	136	128	-	199	208	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1478	-	-	1483	-	-	620	593	959	634	591	951
Stage 1	-	-	-	-	-	-	805	738	-	884	796	-
Stage 2	-	-	-	-	-	-	867	790	-	803	730	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1478	-	-	1483	-	-	580	568	959	611	566	951
Mov Cap-2 Maneuver	-	-	-	-	-	-	580	568	-	611	566	-
Stage 1	-	-	-	-	-	-	776	711	-	852	791	-
Stage 2	-	-	-	-	-	-	833	785	-	771	704	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.5	10.8	9.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	639	1478	-	-	1483	-	-	818
HCM Lane V/C Ratio	0.029	0.034	-	-	0.005	-	-	0.054
HCM Control Delay (s)	10.8	7.5	0	-	7.4	0	-	9.7
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	70	11	40	108	69	6	0	24	40	0	6
Future Volume (vph)	12	70	11	40	108	69	6	0	24	40	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.957			0.894			0.981	
Flt Protected		0.994			0.991			0.990			0.959	
Satd. Flow (prot)	0	1822	0	0	1767	0	0	1649	0	0	1752	0
Flt Permitted		0.994			0.991			0.990			0.959	
Satd. Flow (perm)	0	1822	0	0	1767	0	0	1649	0	0	1752	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		198.2			200.7			63.6			84.3	
Travel Time (s)		14.3			14.5			4.6			6.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	76	12	43	117	75	7	0	26	43	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	101	0	0	235	0	0	33	0	0	50	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	70	11	40	108	69	6	0	24	40	0	6
Future Vol, veh/h	12	70	11	40	108	69	6	0	24	40	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	76	12	43	117	75	7	0	26	43	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	88	0	0	352	386	82	362	355	155
Stage 1	-	-	-	-	-	-	108	108	-	241	241	-
Stage 2	-	-	-	-	-	-	244	278	-	121	114	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1508	-	-	603	548	978	594	571	891
Stage 1	-	-	-	-	-	-	897	806	-	762	706	-
Stage 2	-	-	-	-	-	-	760	680	-	883	801	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1508	-	-	579	525	978	560	547	891
Mov Cap-2 Maneuver	-	-	-	-	-	-	579	525	-	560	547	-
Stage 1	-	-	-	-	-	-	888	798	-	754	683	-
Stage 2	-	-	-	-	-	-	730	658	-	851	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	1.4	9.4	11.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	860	1381	-	-	1508	-	-	589
HCM Lane V/C Ratio	0.038	0.009	-	-	0.029	-	-	0.085
HCM Control Delay (s)	9.4	7.6	0	-	7.5	0	-	11.7
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.3

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	105	44	65	64	27	40
Future Volume (vph)	105	44	65	64	27	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.960				0.919	
Flt Protected				0.975	0.980	
Satd. Flow (prot)	1788	0	0	1816	1678	0
Flt Permitted				0.975	0.980	
Satd. Flow (perm)	1788	0	0	1816	1678	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	266.1			195.6	116.7	
Travel Time (s)	19.2			14.1	8.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	114	48	71	70	29	43
Shared Lane Traffic (%)						
Lane Group Flow (vph)	162	0	0	141	72	0
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	44	65	64	27	40
Future Vol, veh/h	105	44	65	64	27	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	114	48	71	70	29	43

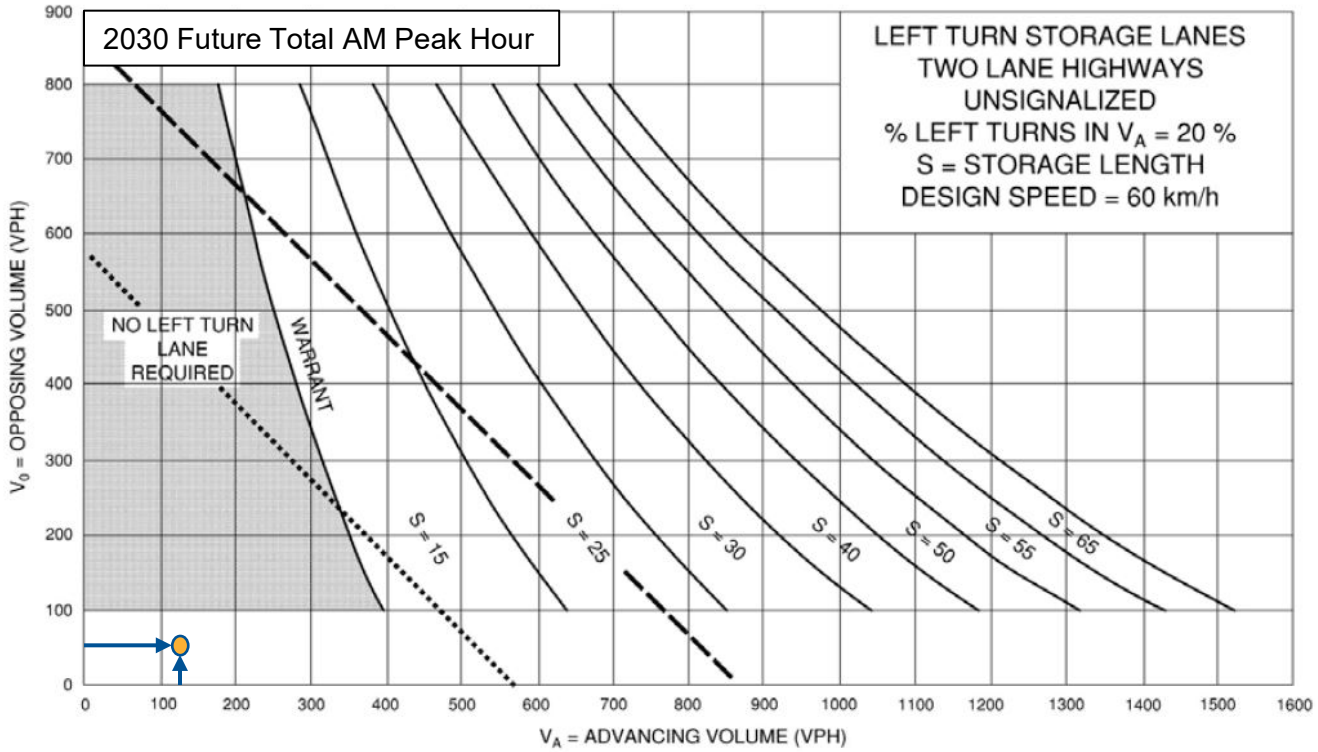
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	350	138
Stage 1	-	-	-	-	138	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1417	-	647	910
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	823	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	613	910
Mov Cap-2 Maneuver	-	-	-	-	613	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	780	-

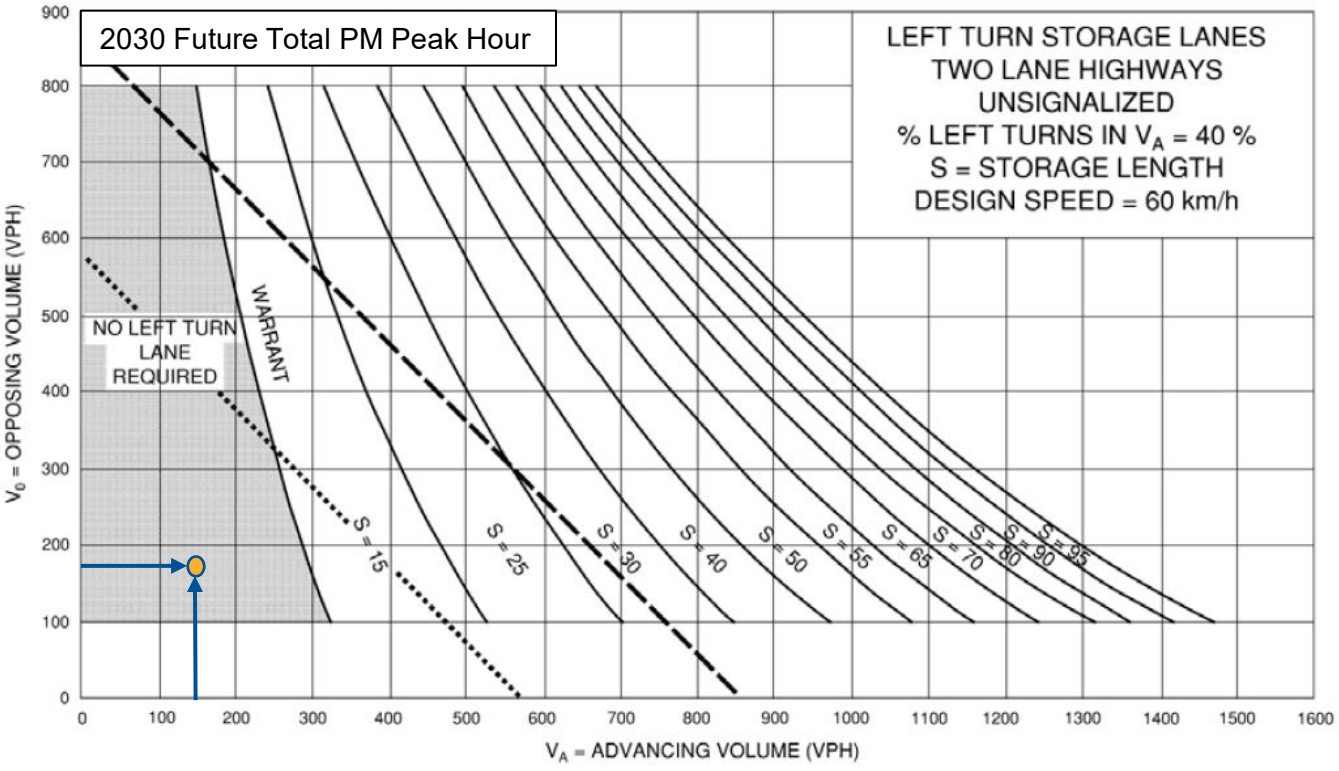
Approach	EB	WB	NB
HCM Control Delay, s	0	3.9	10.2
HCM LOS			B

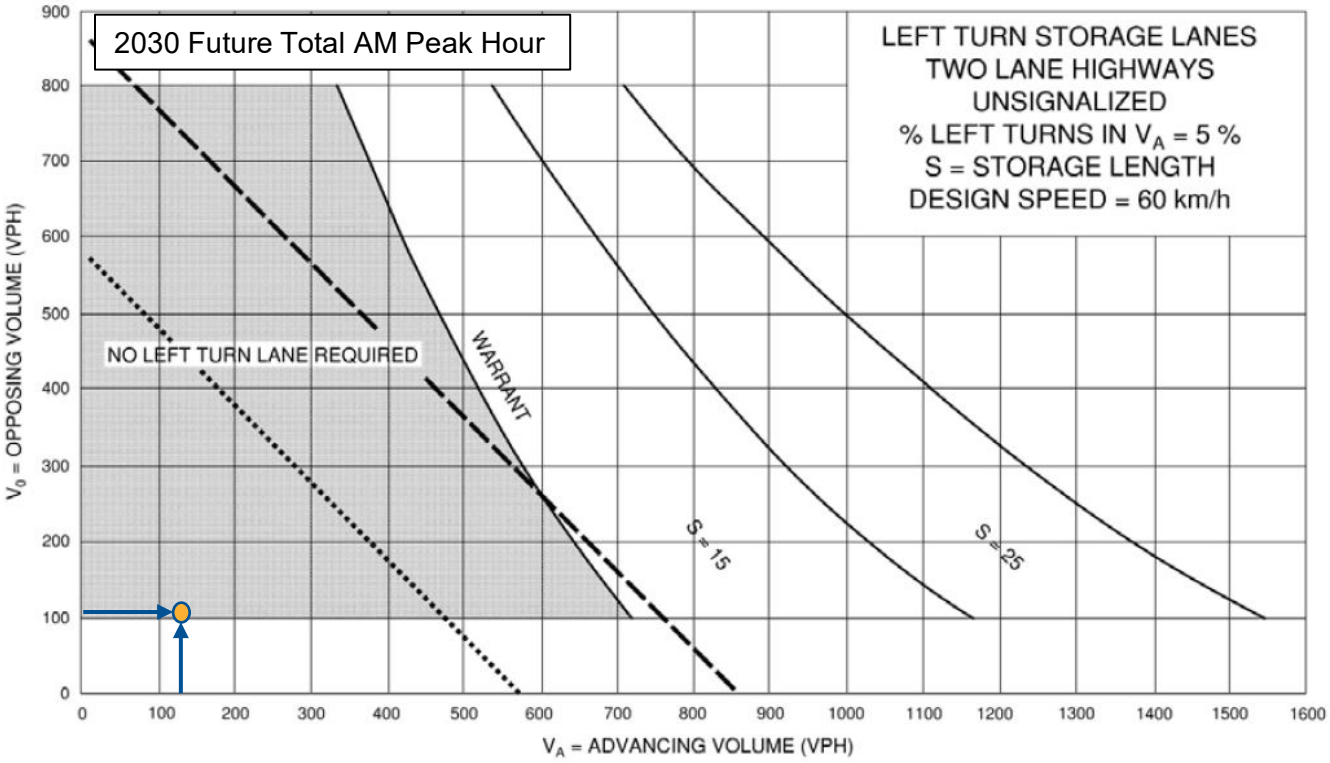
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	761	-	-	1417	-
HCM Lane V/C Ratio	0.096	-	-	0.05	-
HCM Control Delay (s)	10.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2	-

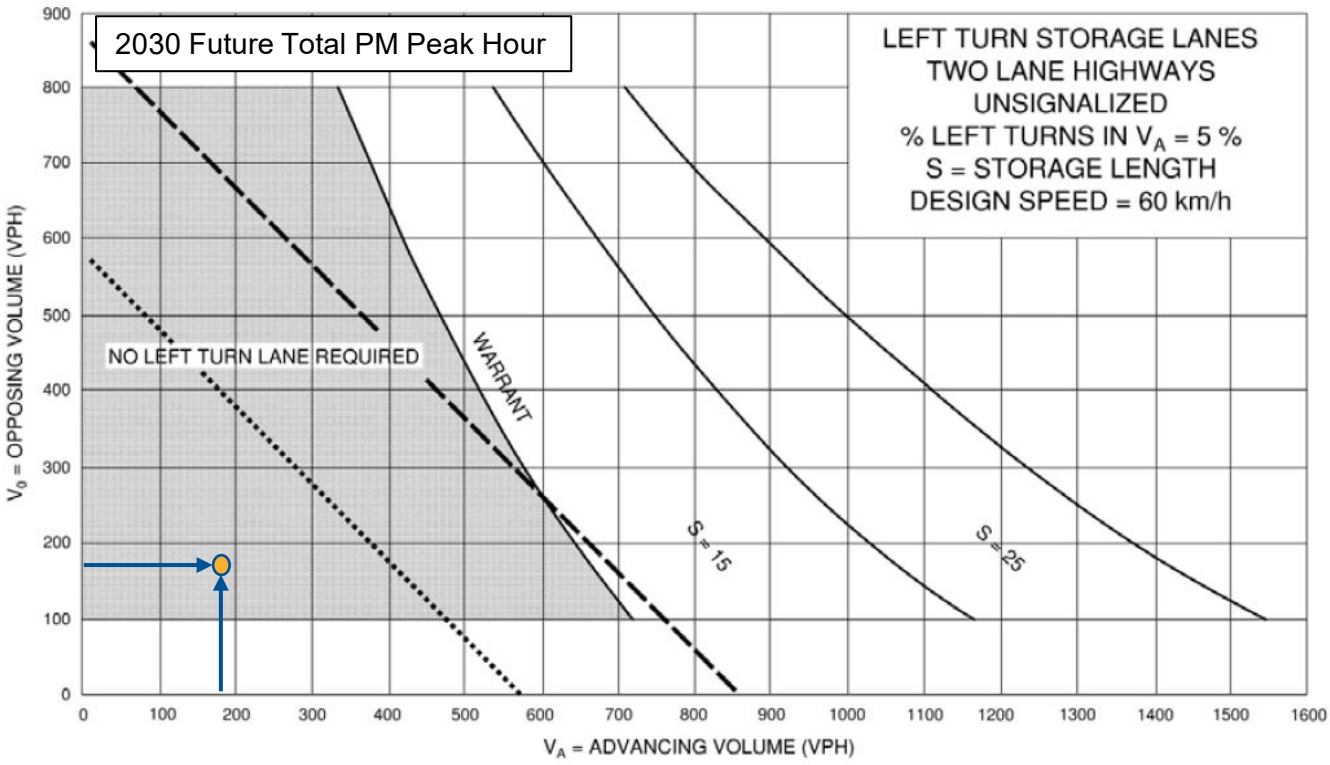
Appendix G

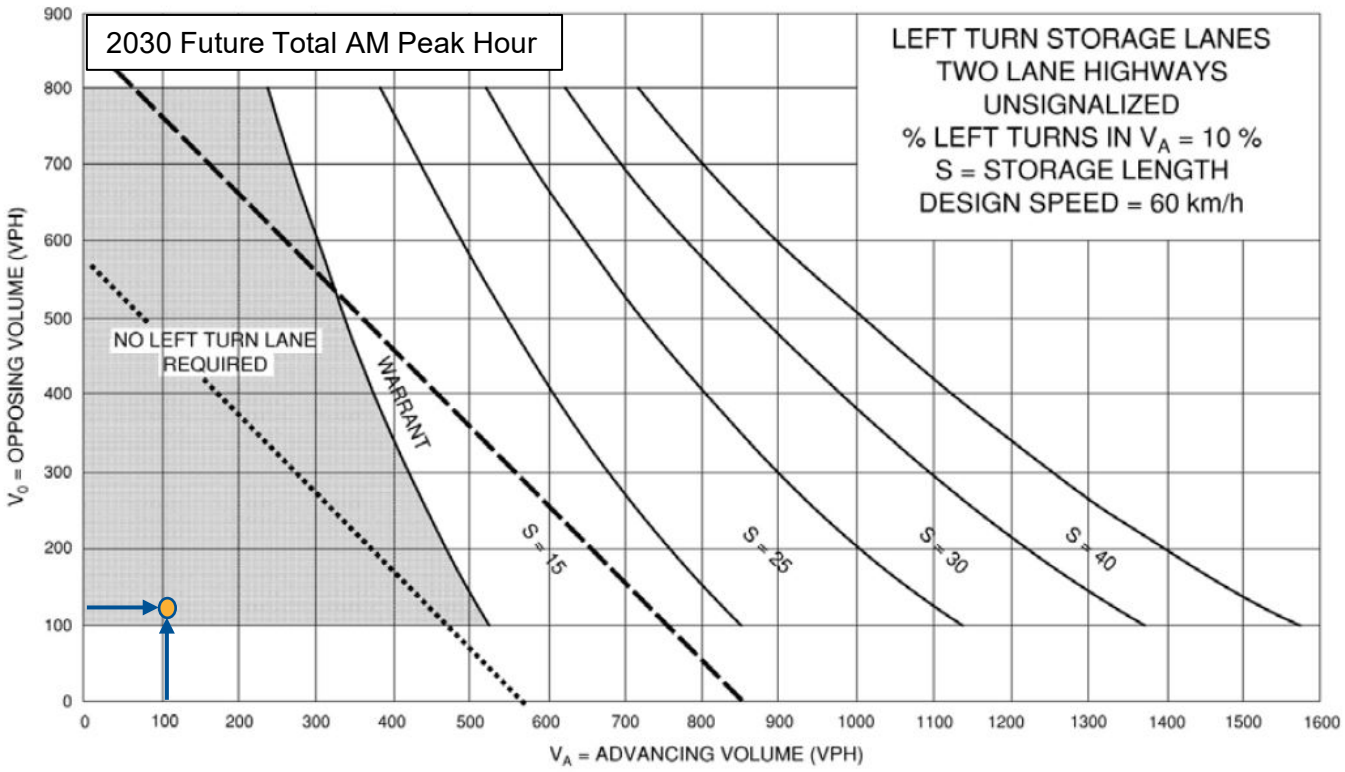
Left-Turn Lane Warrant Nomographs

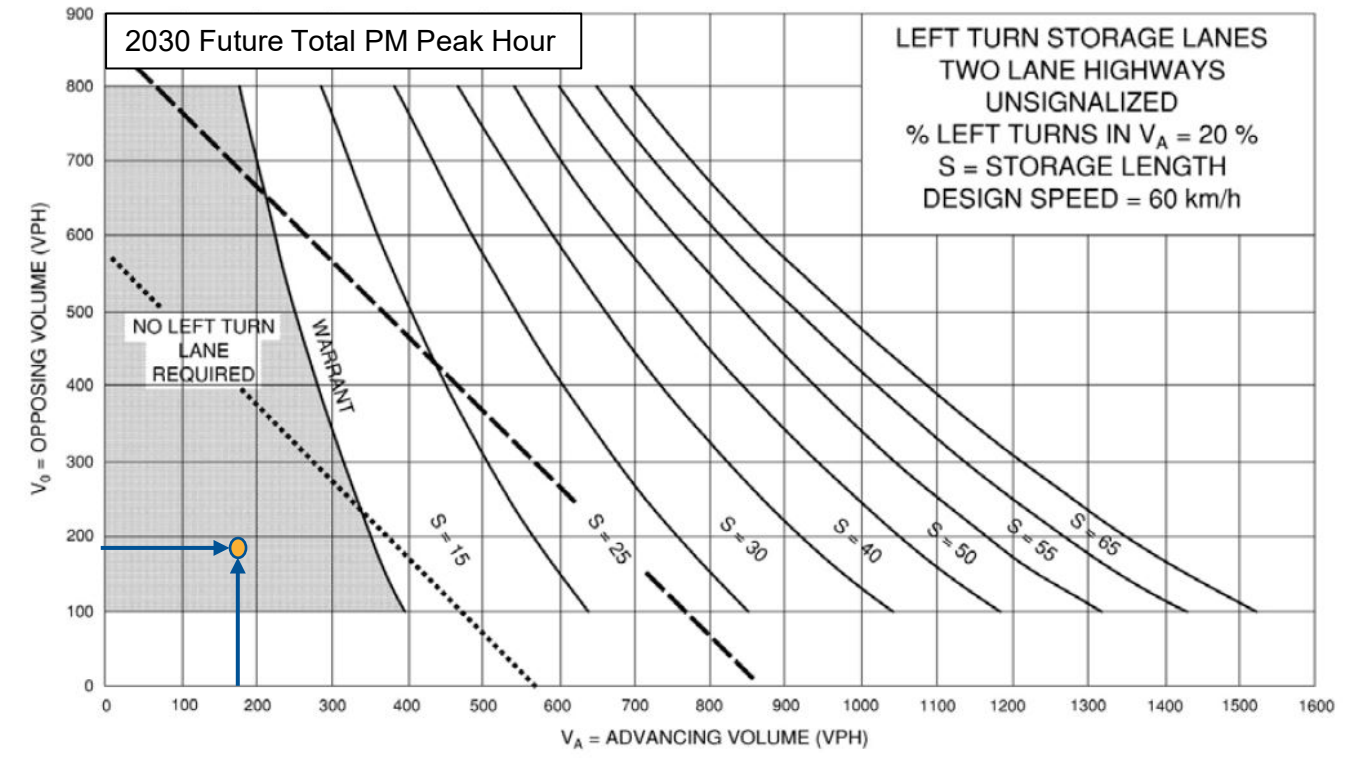

2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 20 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)

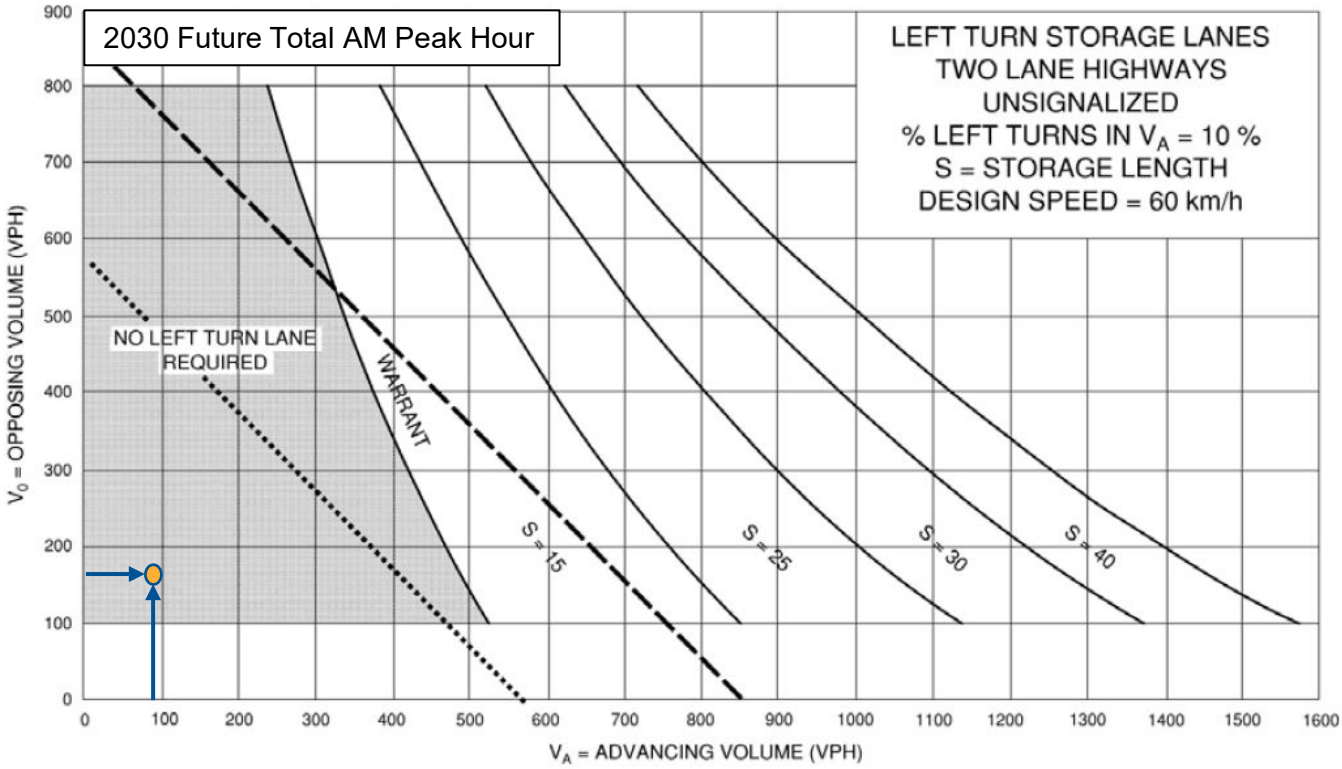

2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 40 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
S = 70
S = 80
S = 90
S = 95
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 20 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
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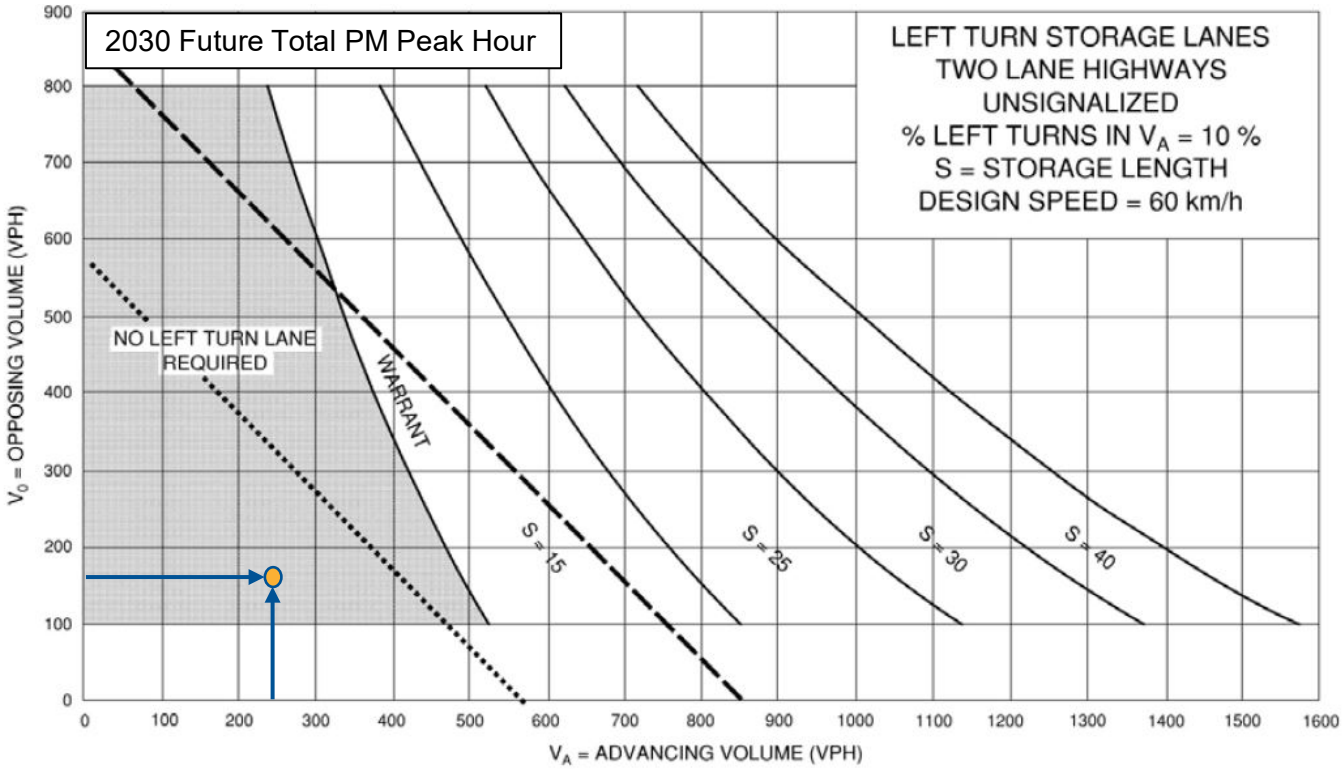
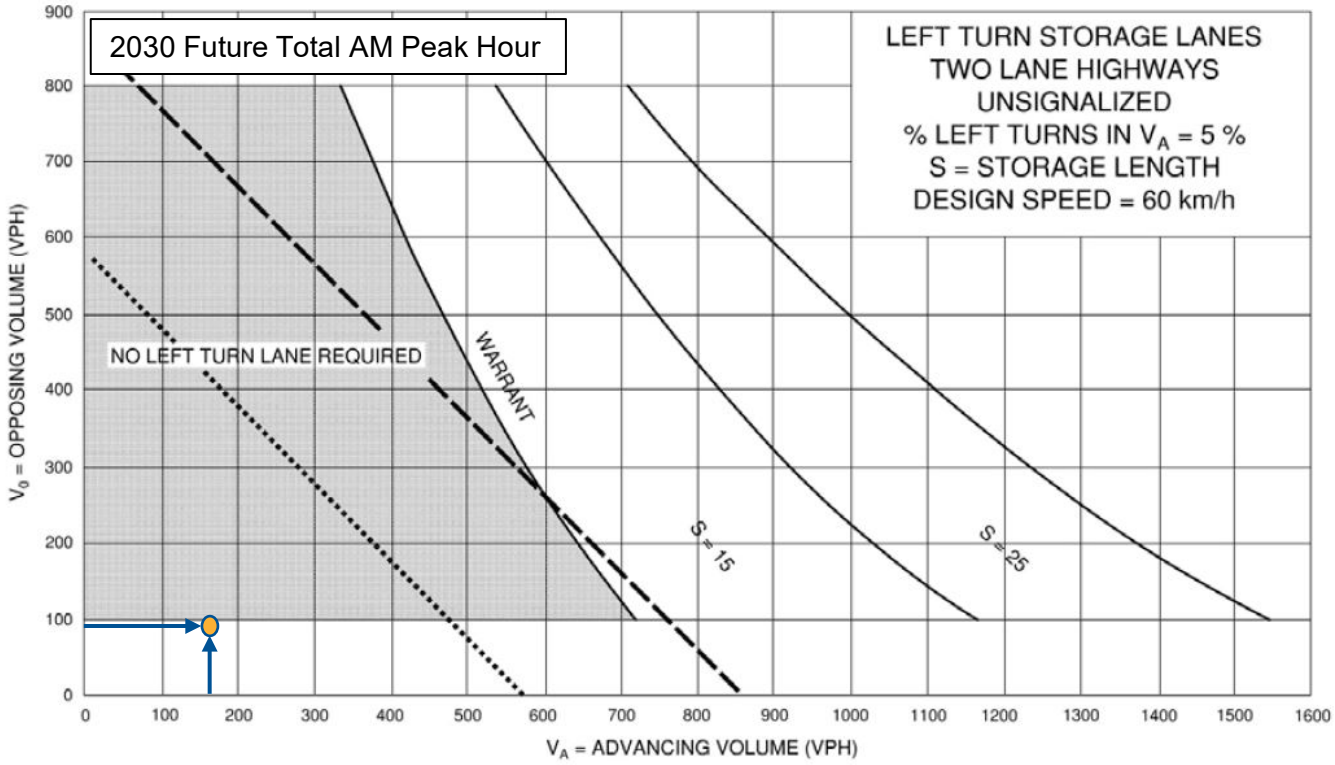
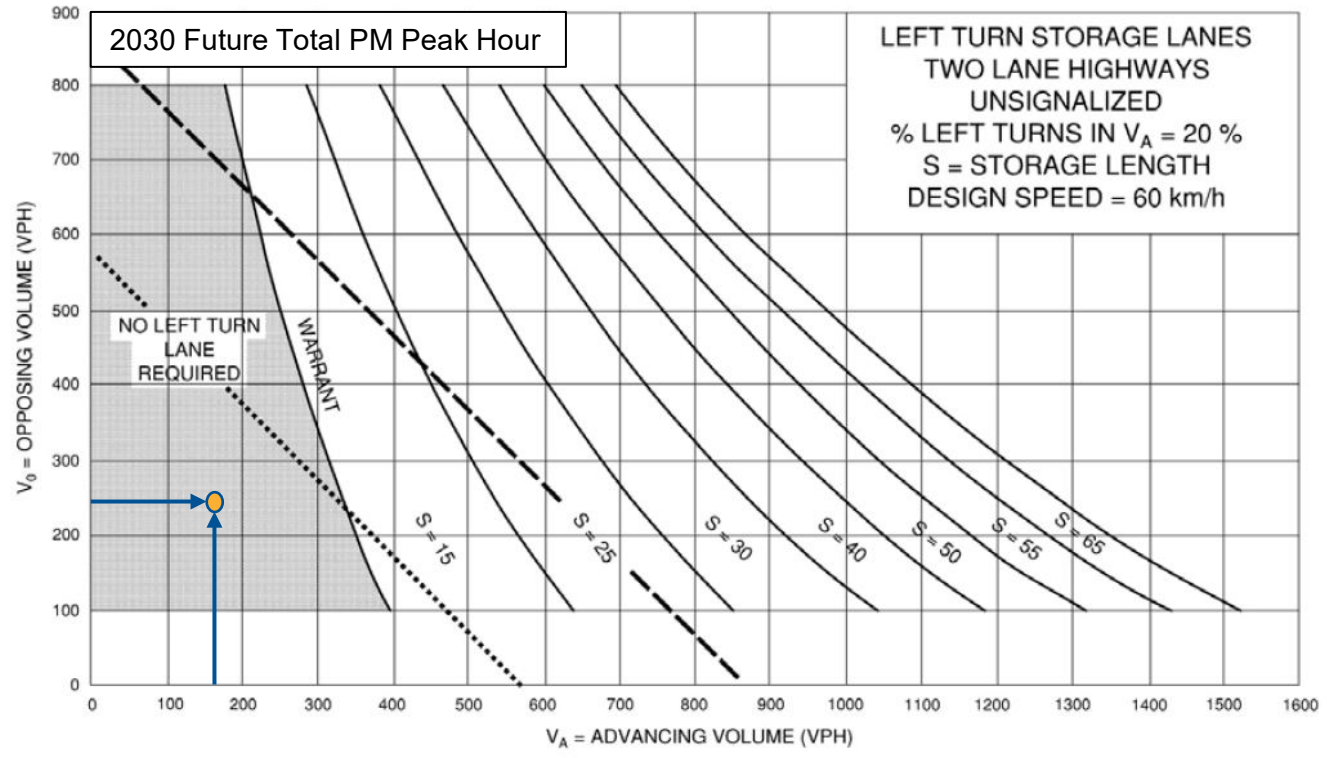
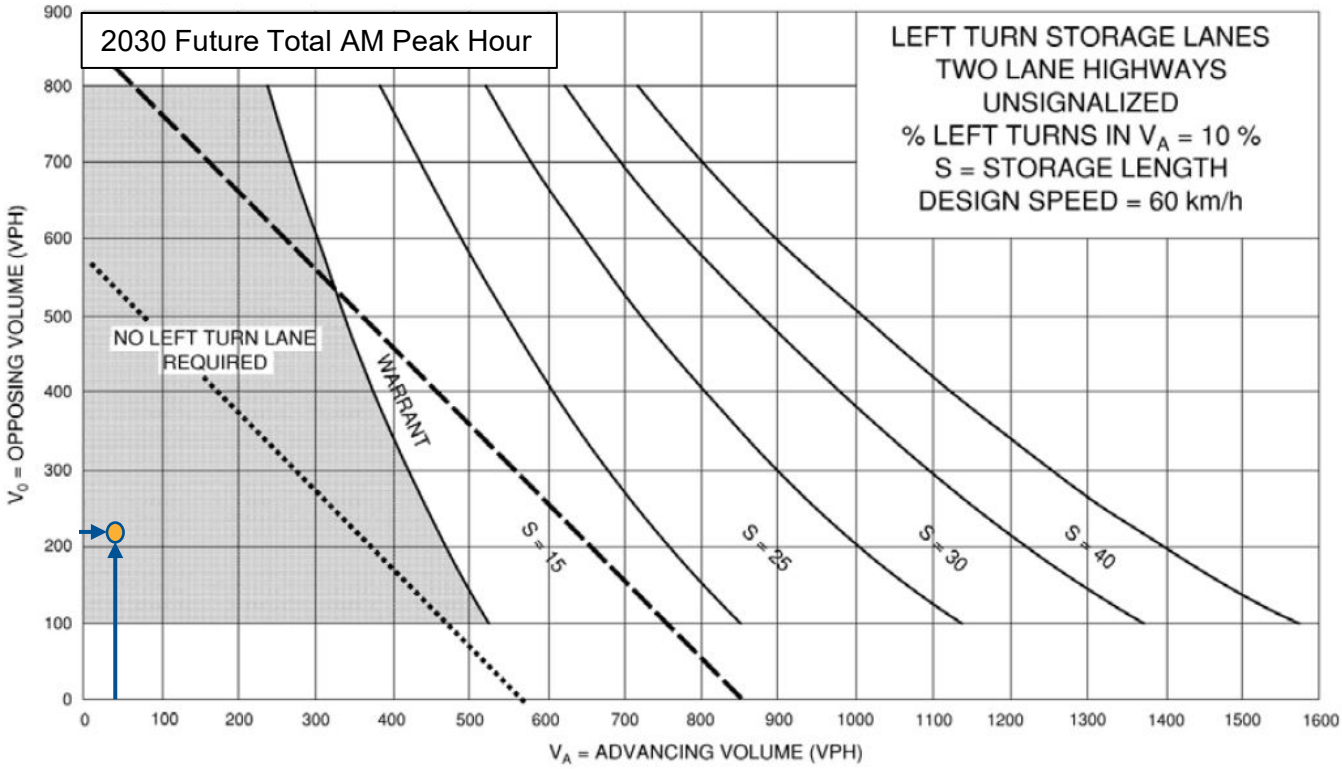
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 5 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 20 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
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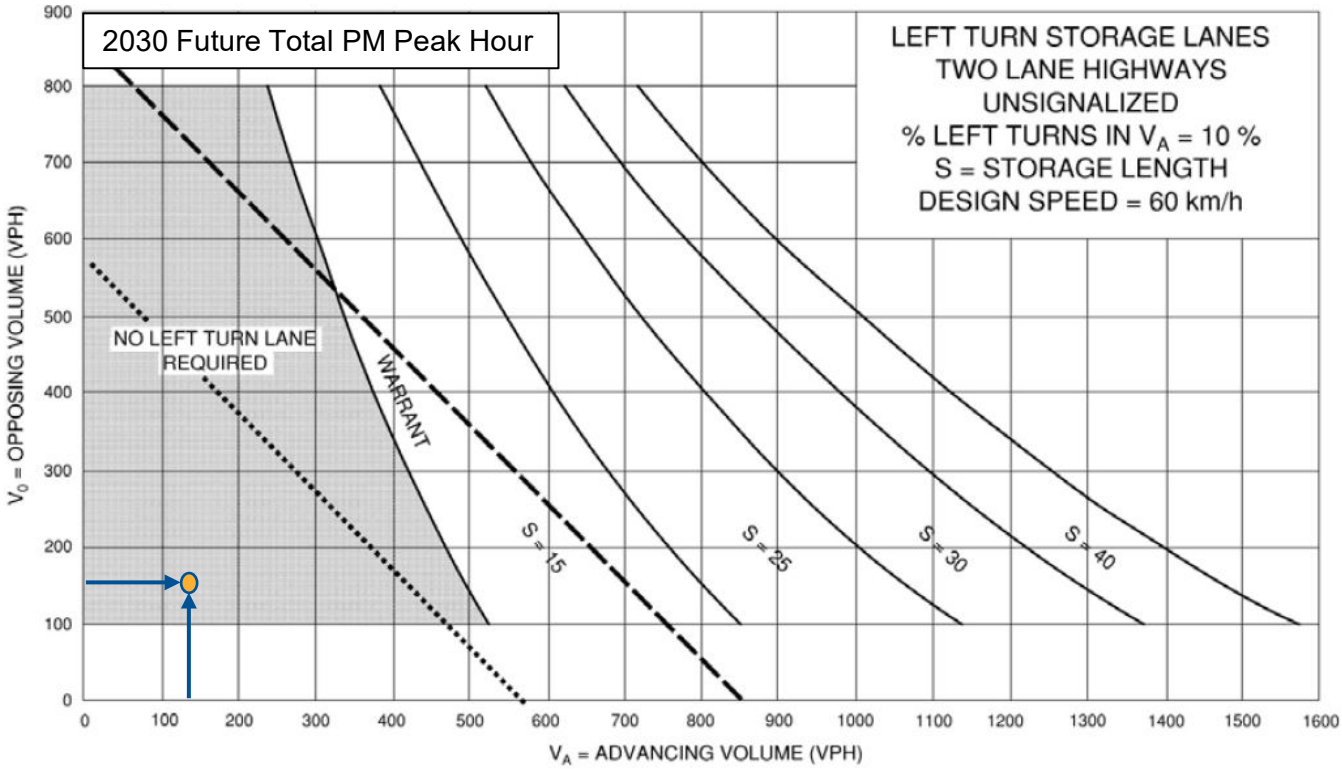
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
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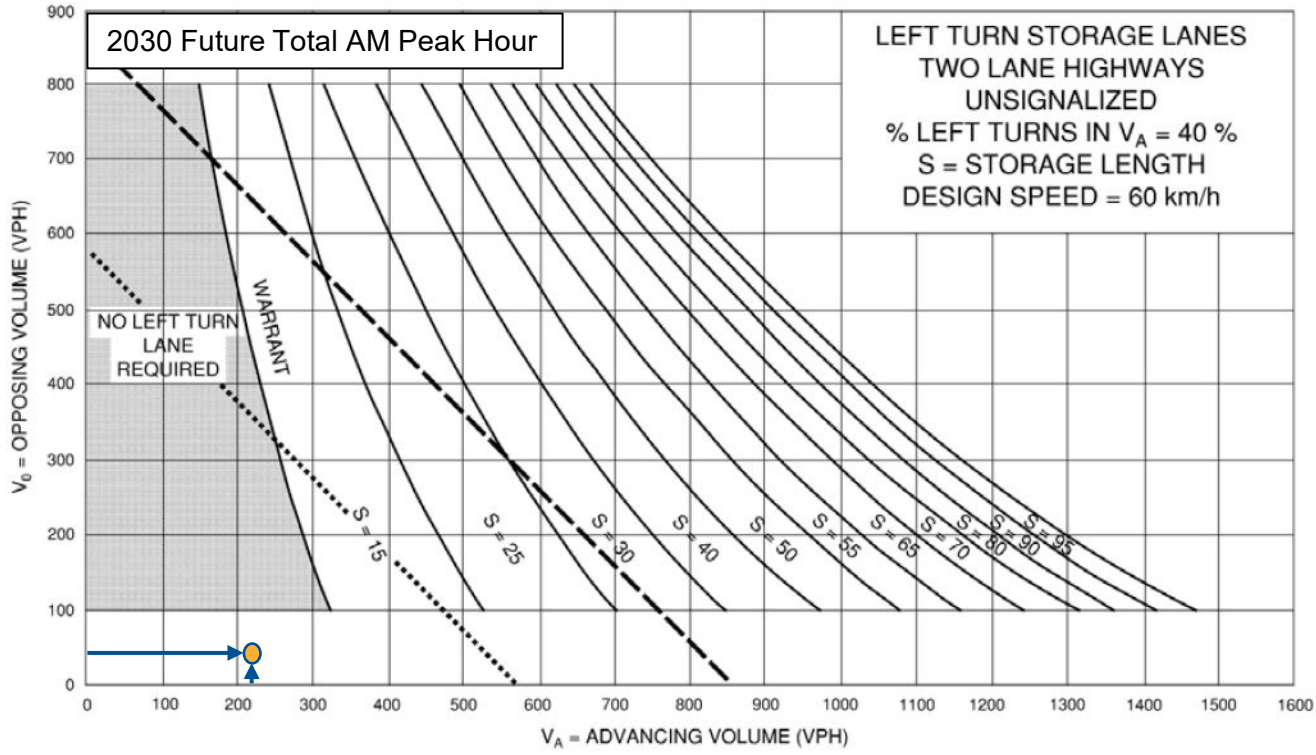
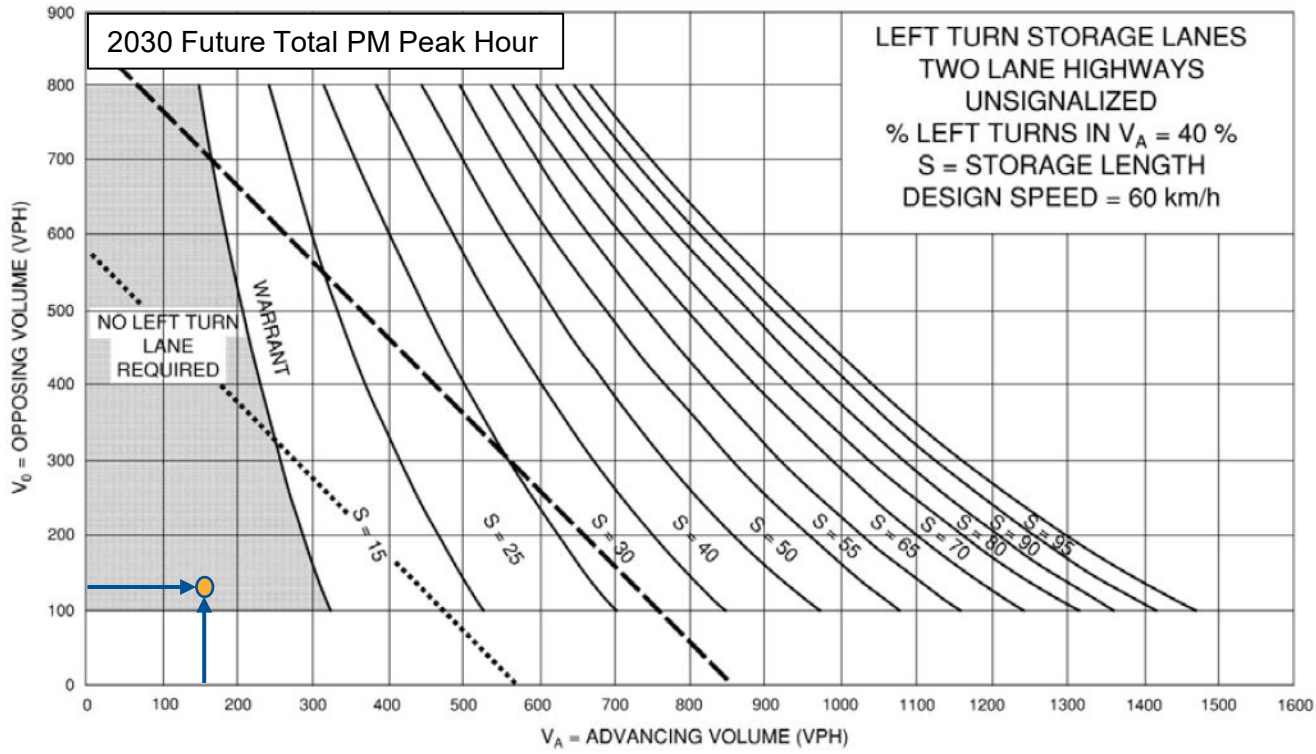
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600


2030 Future Total AM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 40 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
S = 70
S = 80
S = 90
S = 95
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)


2030 Future Total PM Peak Hour
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 40 %
S = STORAGE LENGTH
DESIGN SPEED = 60 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S = 15
S = 25
S = 30
S = 40
S = 50
S = 55
S = 65
S = 70
S = 80
S = 90
S = 95
V_0 = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)