3004 Westchester Bourne, Dorchester Industrial Subdivision Transportation Impact Assessment

Paradigm Transportation Solutions Limited

2024-12
220784

ptsl.com

Project Summary

Project Number:

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Date and Version:

2024-12
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Client:

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3004 Westchester Bourne, Dorchester Industrial Subdivision Transportation Impact Assessment

Rajan Philips, P.Eng.

Disclaimer

Executive Summary

Content

Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Transportation Impact Assessment (TIA) for a proposed Industrial Subdivision located at 3004 Westchester Bourne in Dorchester, Thames Centre, Middlesex County.

This TIA includes an analysis of existing traffic conditions, a description of the proposed subdivision, analysis of future traffic conditions, and assessment of subdivision traffic impacts with recommendations as appropriate to accommodate the proposed industrial subdivision.

Development Concept

The subject site is located on east side of Westchester Bourne, approximately 725 metres north of Highway 401. The site is proposed to be developed as industrial subdivision comprising multiple development blocks with an all-moves access on Westchester Bourne across from Bradley Avenue to the west.

The subdivision is assumed to be built-out by 2030.

TIA Scope

The scope of the Transportation Impact Assessment for the proposed development includes:

- **Study Area Intersections:**
  - Westchester Bourne and Bradley Avenue (unsignalized);
  - Westchester Bourne and Donnybrook Drive (unsignalized);
  - Westchester Bourne and Hwy 401 NRT (unsignalized); and
  - Westchester Bourne and Hwy 401 SRT (unsignalized).
- **Analysis Periods:** Weekday AM and PM peak hours.
- **Traffic Conditions:** Existing (2024), year of development build-out (2030), five years after build-out (2035), and ten years after build-out (2040).

Conclusions

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

- **Existing Traffic Conditions:** All study area intersections are currently operating at acceptable levels of service.
- **Development Trip Generation:** The development is forecast to generate 434 trips during the AM and PM peak hours.
- **Background Traffic Conditions:** All study area intersections are forecast to operate at acceptable levels of service under 2030, 2035, and 2040 background traffic conditions.
- **Total Traffic Conditions:** All study area intersections are forecast to operate at acceptable levels of service under 2030, 2035, and 2040 total traffic conditions.
- **Site Driveway:** The site driveway intersection on Westchester Bourne is forecast to operate at acceptable levels of service under 2030, 2035, and 2040 total traffic conditions. It is noted that the westbound (outbound) left-turn movement is forecast to operate at LOS F with v/c ratio of 0.98 under 2040 total traffic conditions. It is noted that high delays are expected for side-street traffic at a stop-controlled intersection with an arterial roadway.

  It is also noted that an auxiliary southbound left-turn lane is warranted with 15 metres of storage on Westchester Bourne at the site driveway under 2035 and 2040 total traffic conditions.
- **Highway 401 Interchange Ramp Terminals at Westchester Bourne:** The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours under all traffic conditions.

Recommendations

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

Contents

Appendices

Figures

Tables

1 Introduction

1.1 Overview

Paradigm Transportation Solutions Limited (Paradigm) has been retained to conduct this Transportation Impact Assessment (TIA) for a proposed Industrial Subdivision located at 3004 Westchester Bourne in Dorchester, Thames Centre, Middlesex County. **Figure 1.1** details the subject development location.

The subject site is located on east side of Westchester Bourne, approximately 725 metres north of Highway 401. The site is proposed to be developed as industrial subdivision comprising multiple development blocks with an all-moves access on Westchester Bourne across from Bradley Avenue to the west.

The subdivision is assumed to be built-out by 2030.

1.2 Purpose and Scope

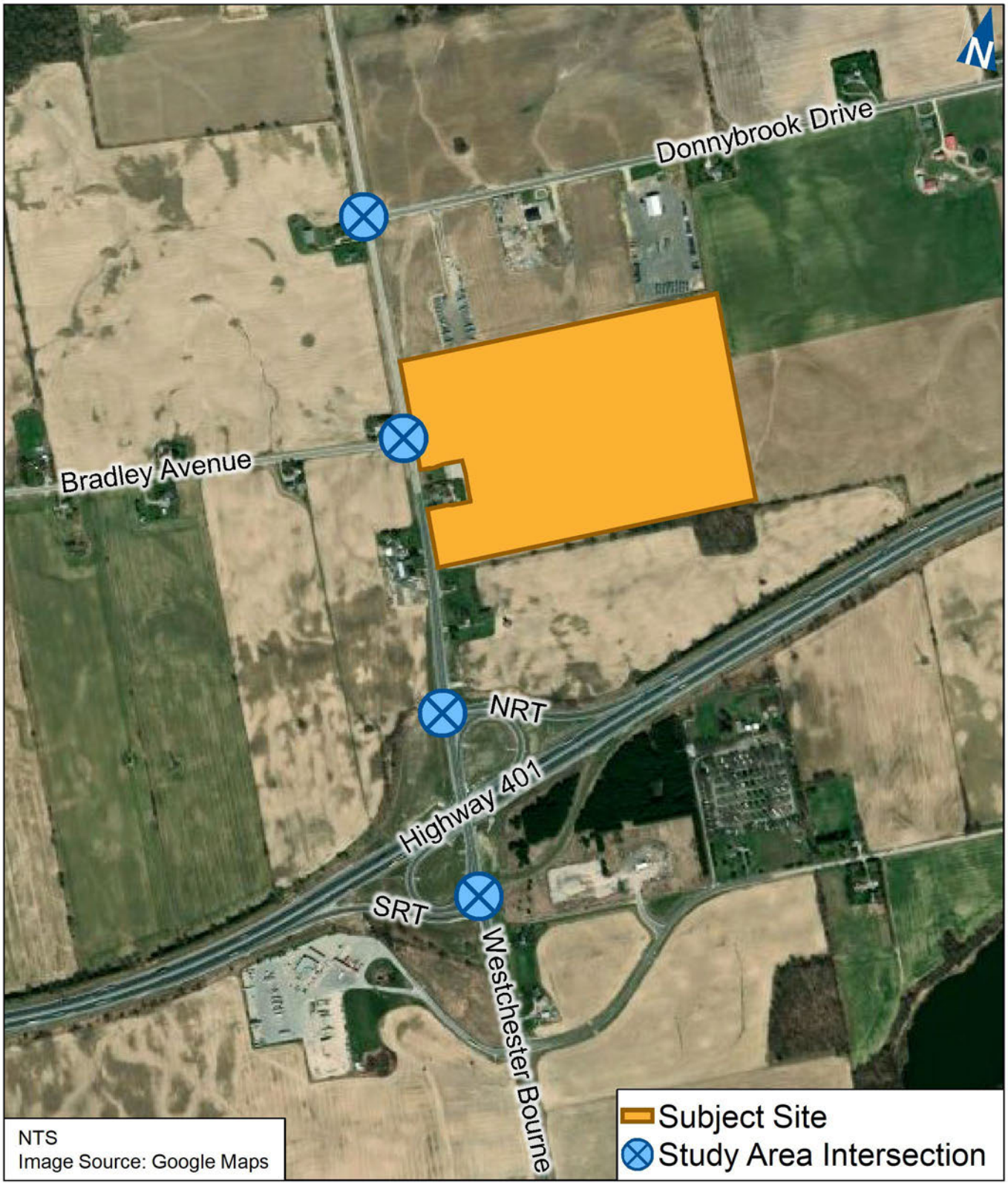
The purpose of this report is to identify and assess the potential traffic impact resulting from the proposed development. The scope of the study, developed in consultation with Municipal of Thames Centre, Middlesex County, and MTO staff via e-mail in February 2023, includes:

- assessment of the current traffic and site conditions within the study area;
- estimates of background traffic growth for year of development build-out (2030), five years after build-out (2035), and ten years after build-out (2040);
- estimates of additional traffic generated by the subject site;
- analyses of the impact of the future traffic on the surrounding road network, including the following study area intersections:
  - Westchester Bourne and Bradley Avenue (unsignalized);
  - Westchester Bourne and Donnybrook Drive (unsignalized);
  - Westchester Bourne and Hwy 401 NRT (unsignalized); and
  - Westchester Bourne and Hwy 401 SRT (unsignalized).
- recommendations, if necessary, to mitigate the site generated traffic in a satisfactory manner.

Appendix A contains the pre-study consultation material and responses from the Municiaplity, County, and MTO.

This study has been prepared in accordance with the requirements detailed by the MTO Traffic Impact Study Guidelines[1].

[1] MTO, General Guidelines for Preparation of Traffic Impact Studies, March 2023.



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Location of Subject Site

3004 Westchester Bourne, Dorchester TIA
220784

Figure 1.1

2 Existing Conditions

2.1 Existing Roadways

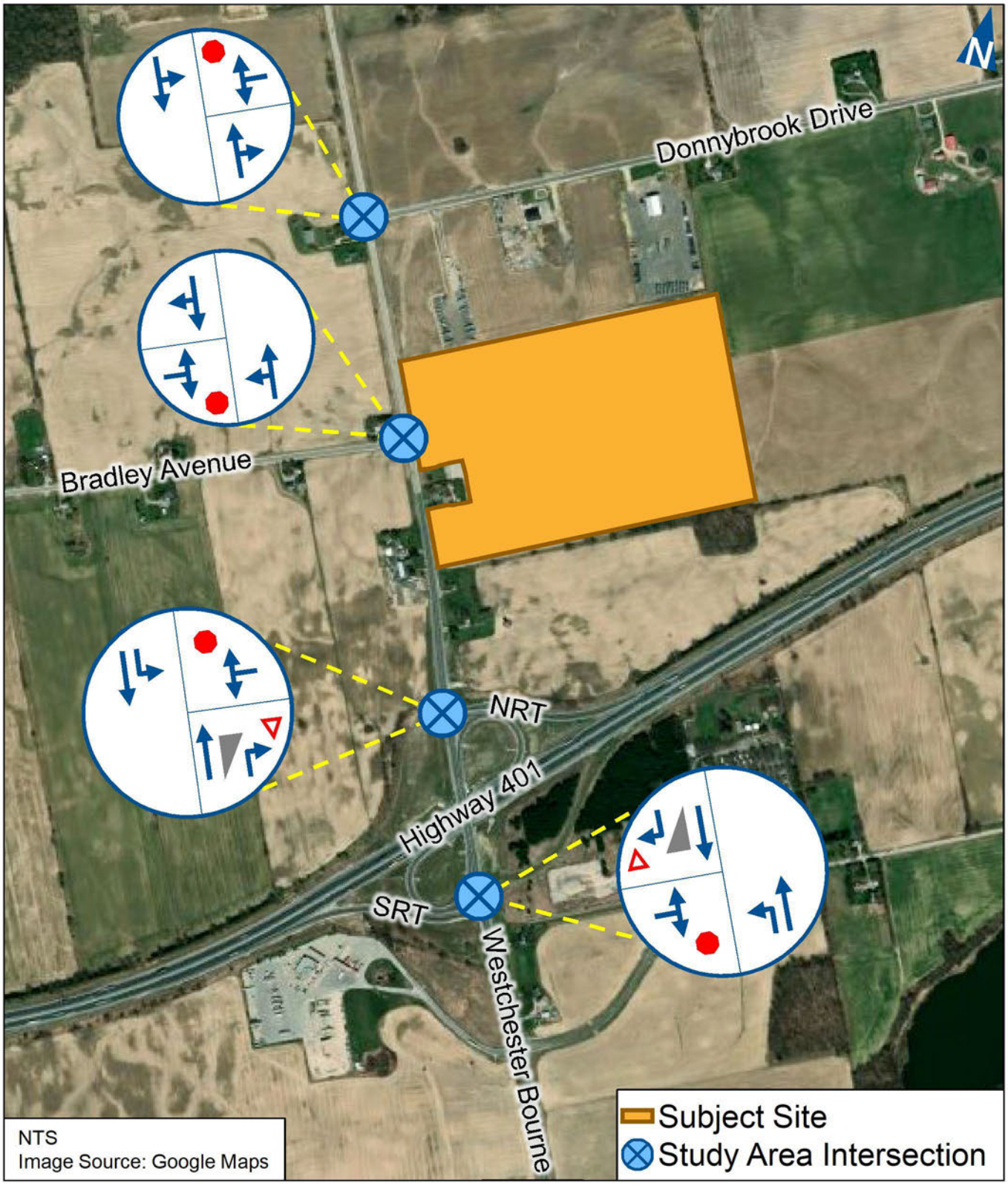
The main roadways near the subject development considered in assessing the traffic impacts of the development include:

- **Highway 401** is an east-west provincial highway with eastbound and westbound ramp terminal intersections on Westchester Bourne.
- **Westchester Bourne (Middlesex Road 74)** is a north-south county arterial road[2] with a two-lane cross-section. Paved shoulders are provided south of Bradley Avenue, and gravel shoulders are provided to the north. The posted speed limit is 80 km/h.
- **Bradley Avenue (Middlesex Road 75)** is an east-west county arterial road with a two-lane cross-section. Gravel shoulders are provided on both sides of the roadway. The posted speed limit is 80 km/h.
- **Donnybrook Road (Middlesex Road 78)** is an east-west county arterial road with a two-lane cross-section. Gravel shoulders are provided on both sides of the roadway. The posted speed limit is 80 km/h.

Side-street stop-control is provided at all study area intersections.

Figure 2.1 illustrates the traffic control and lane configuration at the study area intersections.

[2] *County of Middlesex Official Plan, Schedule B: Transportation*, 07 July 2023.



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Existing Lane Configuration and Traffic Control

3004 Westchester Bourne, Dorchester TIA
220784

Figure 2.1

2.2 Transit Service

Middlesex County Connect transit does not currently provide transit service in the area.

2.3 Traffic Volumes

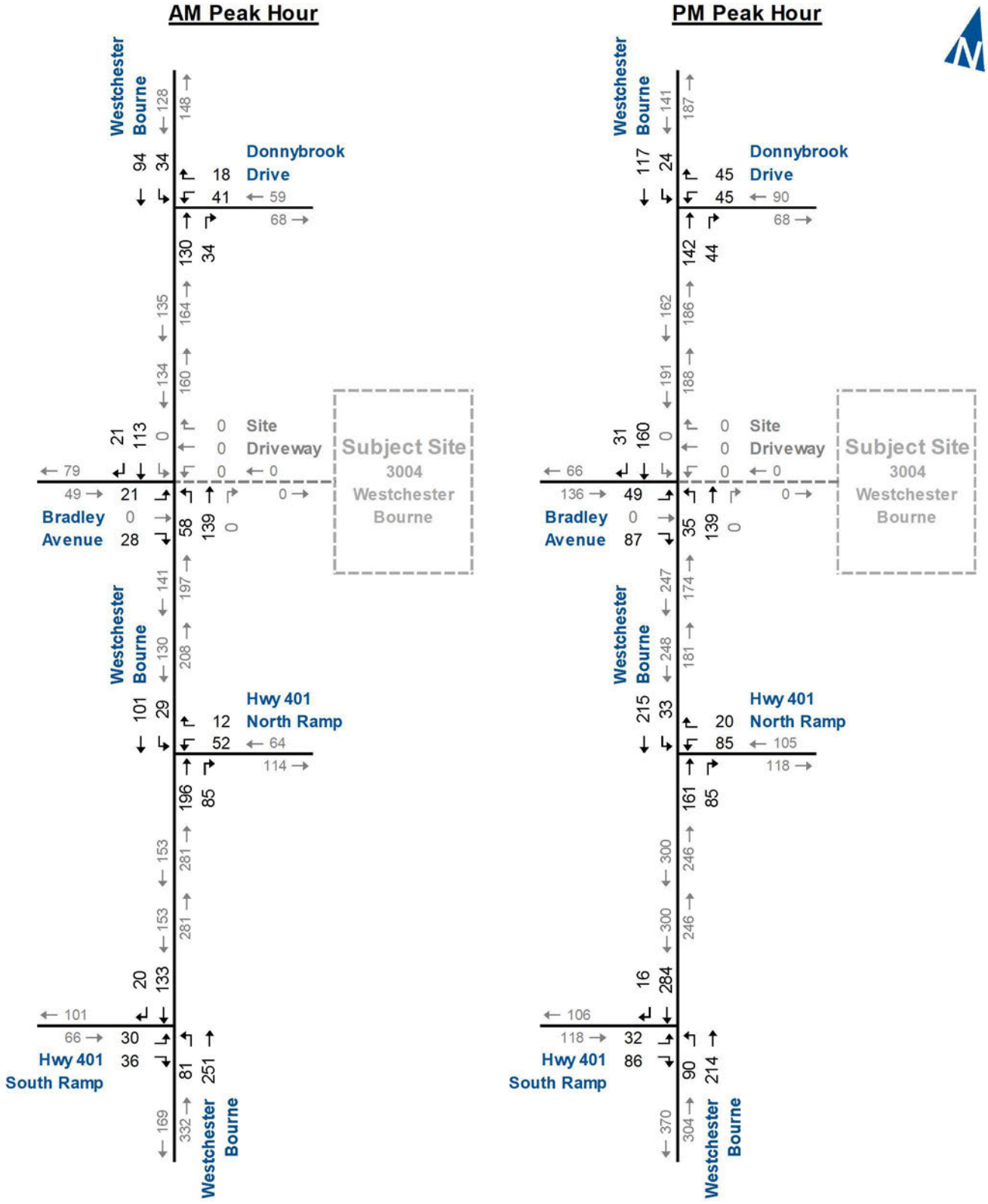
Paradigm conducted turning movement counts at the study area intersections on 14 February 2024.

Figure 2.2 illustrates the existing AM and PM weekday peak hour turning movement traffic volumes. **Table 2.1** summarizes the peak hours at each intersection.

TABLE 2.1: INTERSECTION PEAK HOURS

Intersection	AM Peak Hour	PM Peak Hour
Westchester Bourne and Bradley Avenue	7:15 – 8:15	4:00 – 5:00
Westchester Bourne and Donnybrook Drive	7:15 – 8:15	3:30 – 4:30
Westchester Bourne and Hwy 401 NRT	7:00 – 8:00	4:00 – 5:00
Westchester Bourne and Hwy 401 SRT	7:00 – 8:00	4:00 – 5:00

Appendix B contains the detailed traffic counts for the study area intersections.



Existing Traffic Volumes

3004 Westchester Bourne, Dorchester TIA
220784

Figure 2.2

2.4 Traffic Operations

The level of service conditions at the study area intersections have been assessed through intersection operational analysis using Synchro 11.

Intersection level of service (LOS) is a recognized method of quantifying the average delay experienced by drivers at intersections. It is based on the delay experienced by individual vehicles executing the various movements. The delay is related to the number of vehicles intending to make a particular movement, compared to the estimated capacity for that movement. The capacity is based on several criteria related to the opposing traffic flows and intersection geometry.

The highest possible rating is LOS A, under which the average total delay is equal or less than 10.0 seconds per vehicle. When the average delay exceeds 80 seconds for signalized intersections, 50 seconds for unsignalized intersections or when the volume to capacity (v/c) ratio is greater than 1.00, the movement is classed as LOS F and remedial measures are usually implemented if they are feasible. LOS E is usually used as a guideline for the determination of road improvement needs on through lanes, while LOS F may be acceptable for left-turn movements at peak times, depending on delays.

Movements are considered critical under the following conditions:

- Signalized Intersections: Movements with a v/c ratio greater than 0.85; and
- Ramp Intersections: movements with a v/c ratio greater than 0.75.

Table 2.2 summarizes the results of the intersection operational analysis under existing conditions, including the AM and PM peak hour LOS, v/c ratios, and 95th percentile queues experienced.

The results indicate that the study area intersections are operating at acceptable levels of service, and with no problem movements.

Appendix C contains the detailed Synchro 11 reports.

TABLE 2.2: 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					11		>	11		0	>	0	<	8		2	
			V/C					0.10		>			0.00	>		<	0.03			
			Q					2		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	10		>	10					<	8		2		0	>	0	
			V/C	0.07		>						<	0.04				0.00	>		
			Q	2		>						<	1				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					12		>	12		0	0	0	8	0		2	
			V/C					0.12		>			0.00	0.00		0.03	0.00			
			Q					3		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	12		>	12					8	0		2		0	0	0	
			V/C	0.12		>						0.07	0.00				0.00	0.00		
			Q	3		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					11		>	11		0	>	0	<	8		1	
			V/C					0.14		>			0.00	>		<	0.02			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	11		>	11					<	8		2		0	>	0	
			V/C	0.20		>						<	0.03				0.00	>		
			Q	6		>						<	1				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					14		>	14		0	0	0	8	0		1	
			V/C					0.22		>			0.00	0.00		0.03	0.00			
			Q					6		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	14		>	14					8	0		2		0	0	0	
			V/C	0.23		>						0.08	0.00				0.00	0.00		
			Q	7		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		

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

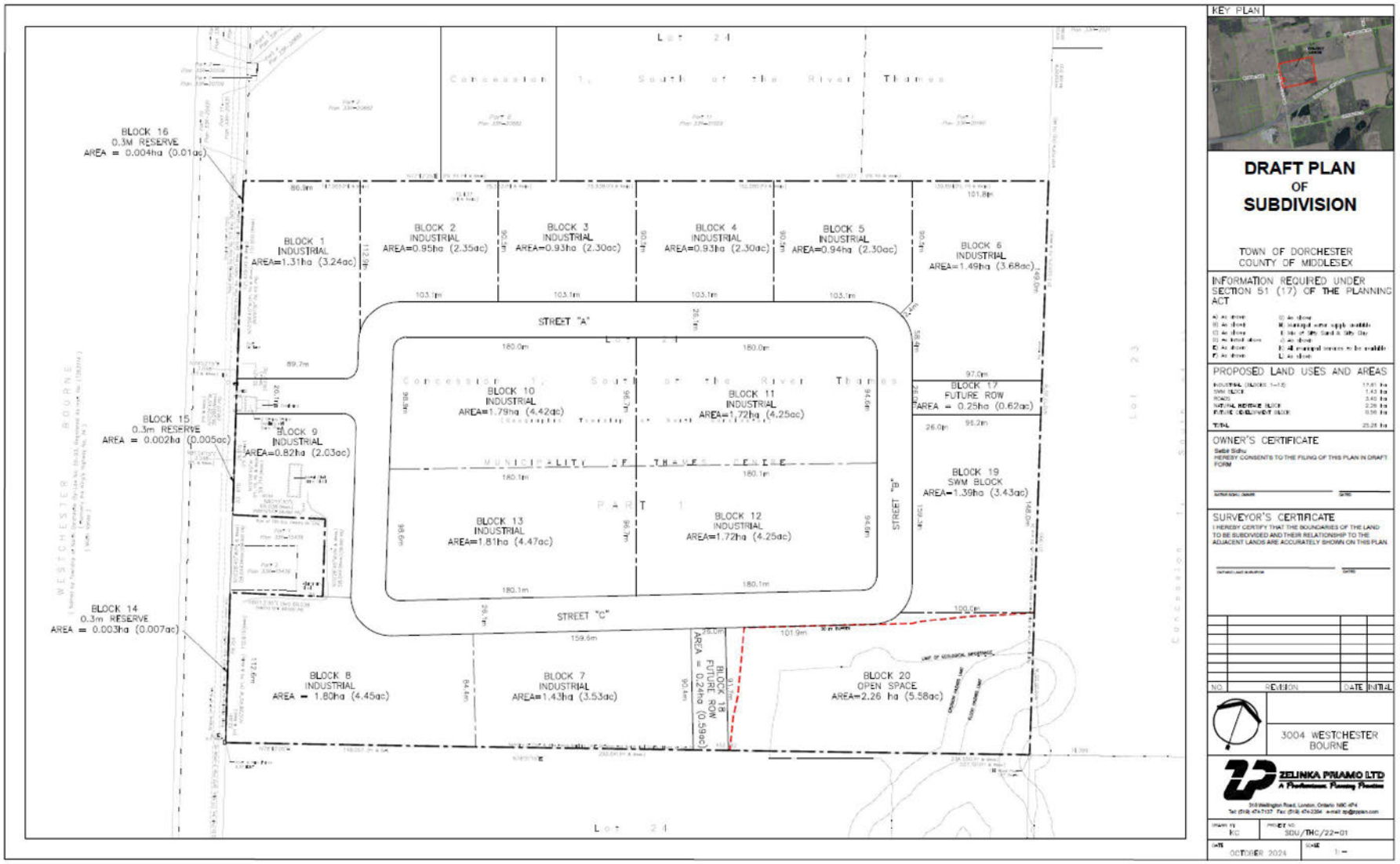
3 Development Concept

3.1 Development Description

The subject site is located on east side of Westchester Bourne, approximately 725 metres north of Highway 401. The site is proposed to be developed as industrial subdivision comprising multiple development blocks with an all-moves access on Westchester Bourne across from Bradley Avenue to the west.

The subdivision is assumed to be built-out by 2030.

Figure 3.1 shows the draft plan of subdivision.



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Draft Plan of Subdivision

3004 Westchester Bourne, Dorchester TIA
220784

Figure 3.1

3.2 Development Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual[3] rates were used to estimate the peak hour traffic volumes generated by the subject development based on the ITE Land Use Code 130, Industrial Park.

Table 3.1 summarizes the forecast number of net new trips generated by the proposed development, broken down by vehicle type. The truck trips shown in **Table 3.1** are Passenger Car Equivalent (PCE) volumes, which have been calculated by multiplying the truck trips by a conversion factor of 2[4].

A block coverage of 60% for the industrial use has been assumed based on information obtained from the client.

Table 3.1 summarizes the forecast number of net new trips generated by the proposed development.

TABLE 3.1: TRIP GENERATION

Land Use Code	Developable Area (ha)	Maximum Coverage	Gross Floor Area	AM Peak Hour				PM Peak Hour			
				Rate	In	Out	Total	Rate	In	Out	Total
130: Industrial Park, Passenger Cars	17.64	60%	1,140,000 sq. ft.	0.34	314	74	**388**	0.34	85	303	**388**
130: Industrial Park, Trucks (in PCEs)				0.04	28	18	**46**	0.04	17	29	**46**
Total Trip Generation					**342**	**92**	**434**		**102**	**332**	**434**

3.3 Development Trip Distribution and Assignment

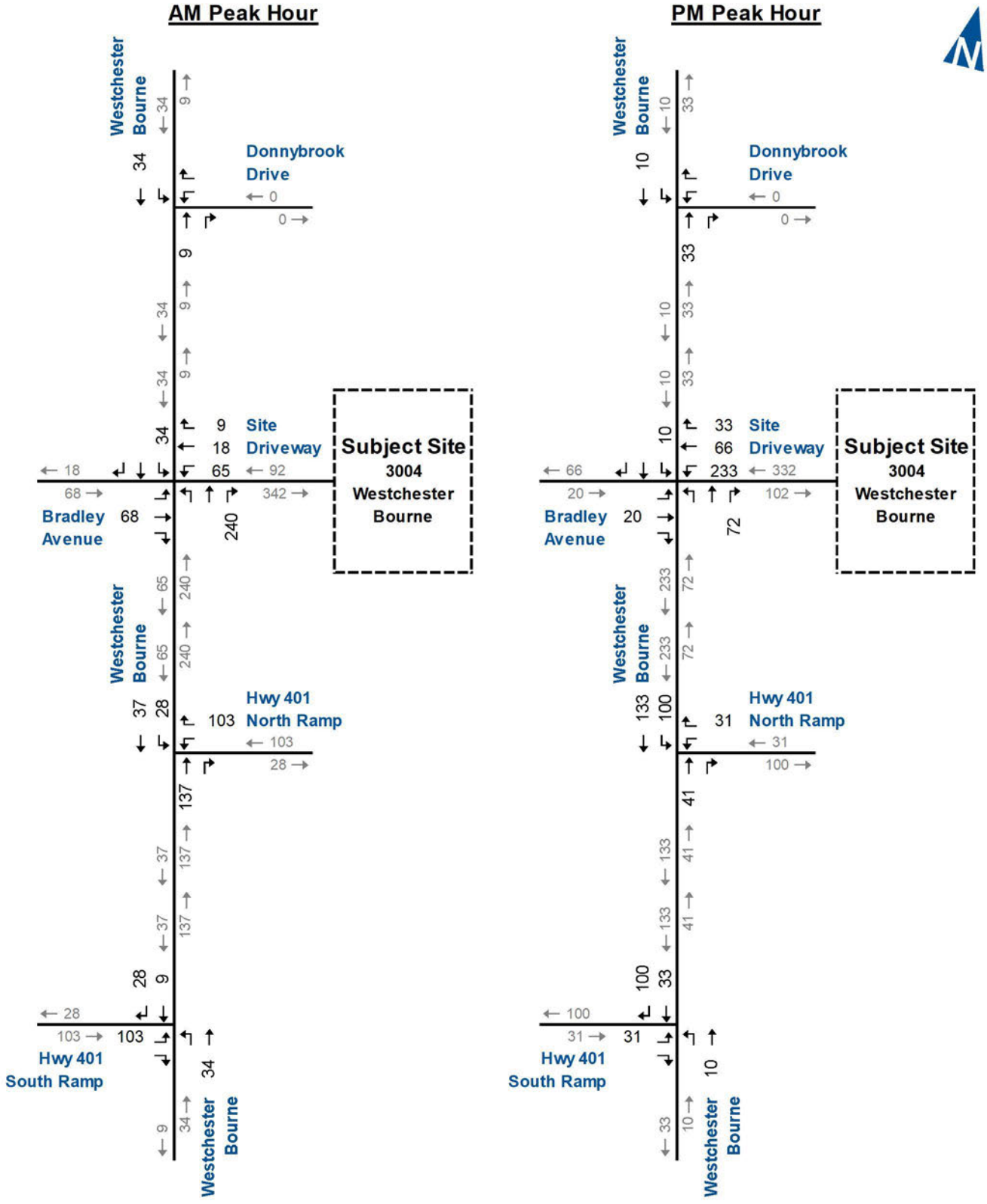
The trip distribution was determined based on existing traffic patterns within the study area, and the connections to Highway 401 to the south and to the City of London to the west. **Table 3.2** displays the breakdown of trip distributions used in this study.

TABLE 3.2: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	Distribution
North via Westchester Bourne	10%
South via Westchester Bourne	10%
East via Highway 401 NRT	30%
West via Highway 401 SRT	30%
West via Bradley Avenue	20%
Total	**100%**

[3] Institute of Transportation Engineers, *Trip Generation Manual,* 11th ed., (Washington, DC: ITE, 2021).
[4] Canadian Capacity Guide, February 2008.

Figure 3.2 illustrates the site-generated traffic volumes for the AM and PM peak hours.



Site Generated Traffic Volumes

4 Evaluation of Future Traffic Conditions

The assessment of future traffic conditions contained in this section includes estimates of future background and total traffic volumes, and the analyses for the year of development build-out (2030), five years after build-out (2035), and ten years after build-out (2040).

4.1 Background Traffic Forecasts

In order to derive the generalized background traffic volumes, a growth rate of 1.0% per annum was applied to the existing roadway traffic volumes at the Highway 401 ramp terminal intersections, and a growth rate of 2.0% per annum was applied to the Bradley Avenue and Donnybrook Drive intersections. This growth rate was confirmed with Municipality, County, and MTO during the pre-study consultation.

No background developments were identified by the Municiaplity or County during the pre-study consultation.

4.2 2030 Background Traffic Operations

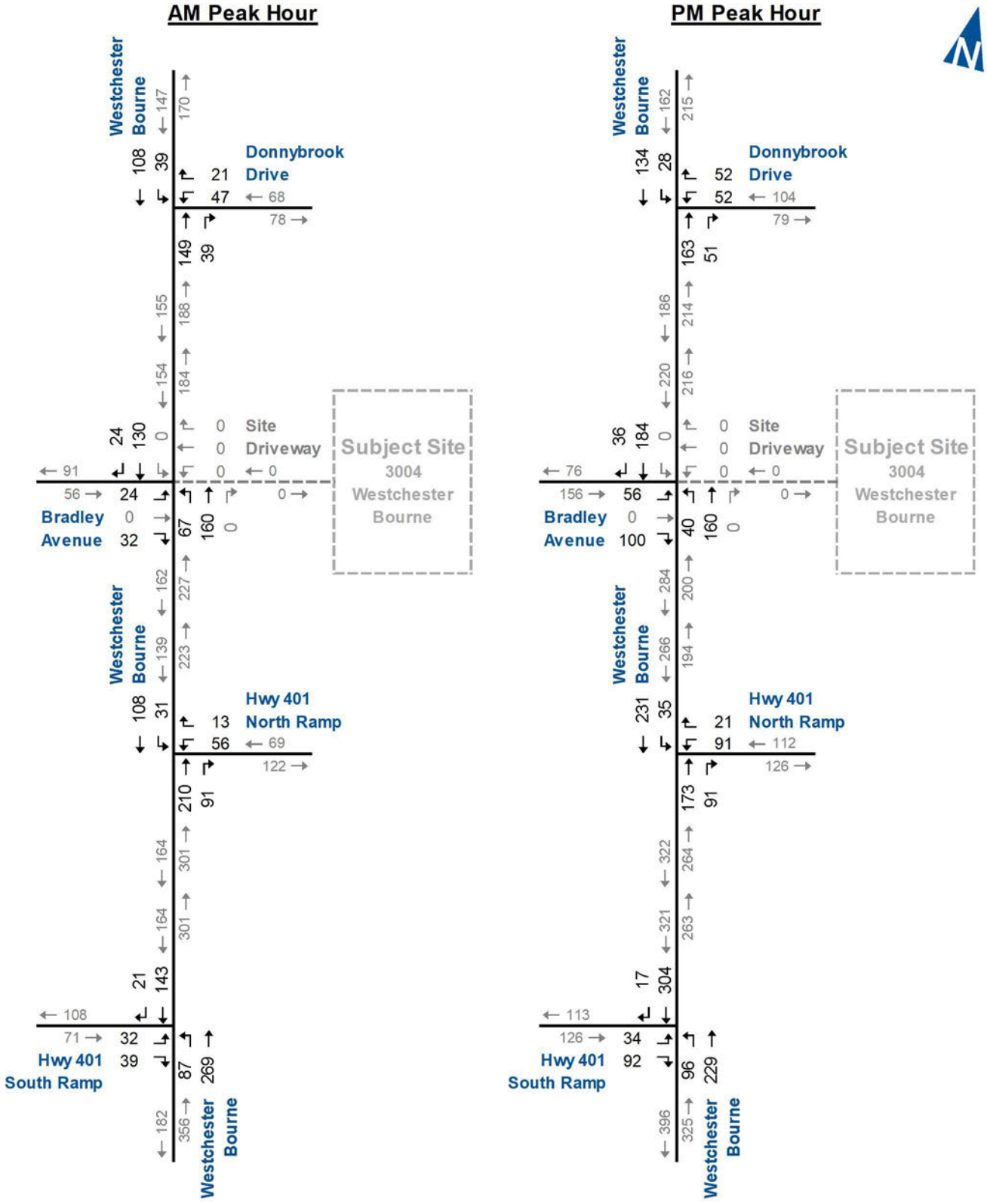
Figure 4.1 illustrates the 2030 background traffic volumes, including road traffic growth.

The 2030 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

Table 4.1 summarizes the results of the 2030 background traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

Appendix D contains the supporting detailed Synchro 11 reports.



2030 Background Traffic Volumes

3004 Westchester Bourne, Dorchester TIA
220784

Figure 4.1

TABLE 4.1: 2030 BACKGROUND 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		2	
			V/C					0.12		>			0.00	>		<	0.03			
			Q					3		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	11		>	11					<	8		2		0	>	0	
			V/C	0.09		>						<	0.05				0.00	>		
			Q	2		>						<	2				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					12		>	12		0	0	0	8	0		2	
			V/C					0.13		>			0.00	0.00		0.03	0.00			
			Q					4		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	12		>	12					8	0		2		0	0	0	
			V/C	0.14		>						0.07	0.00				0.00	0.00		
			Q	4		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					11		>	11		0	>	0	<	8		1	
			V/C					0.17		>			0.00	>		<	0.02			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	12		>	12					<	8		2		0	>	0	
			V/C	0.25		>						<	0.03				0.00	>		
			Q	8		>						<	1				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					14		>	14		0	0	0	8	0		1	
			V/C					0.24		>			0.00	0.00		0.03	0.00			
			Q					7		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	14		>	14					8	0		2		0	0	0	
			V/C	0.26		>						0.09	0.00				0.00	0.00		
			Q	8		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		

MOE - Measure of Effectiveness
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Stor. - Existing Storage (m)
Avail. - Available Storage (m)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

4.3 2030 Total Traffic Operations

Figure 4.2 illustrates the 2030 total traffic volumes, including trips generated by the proposed development.

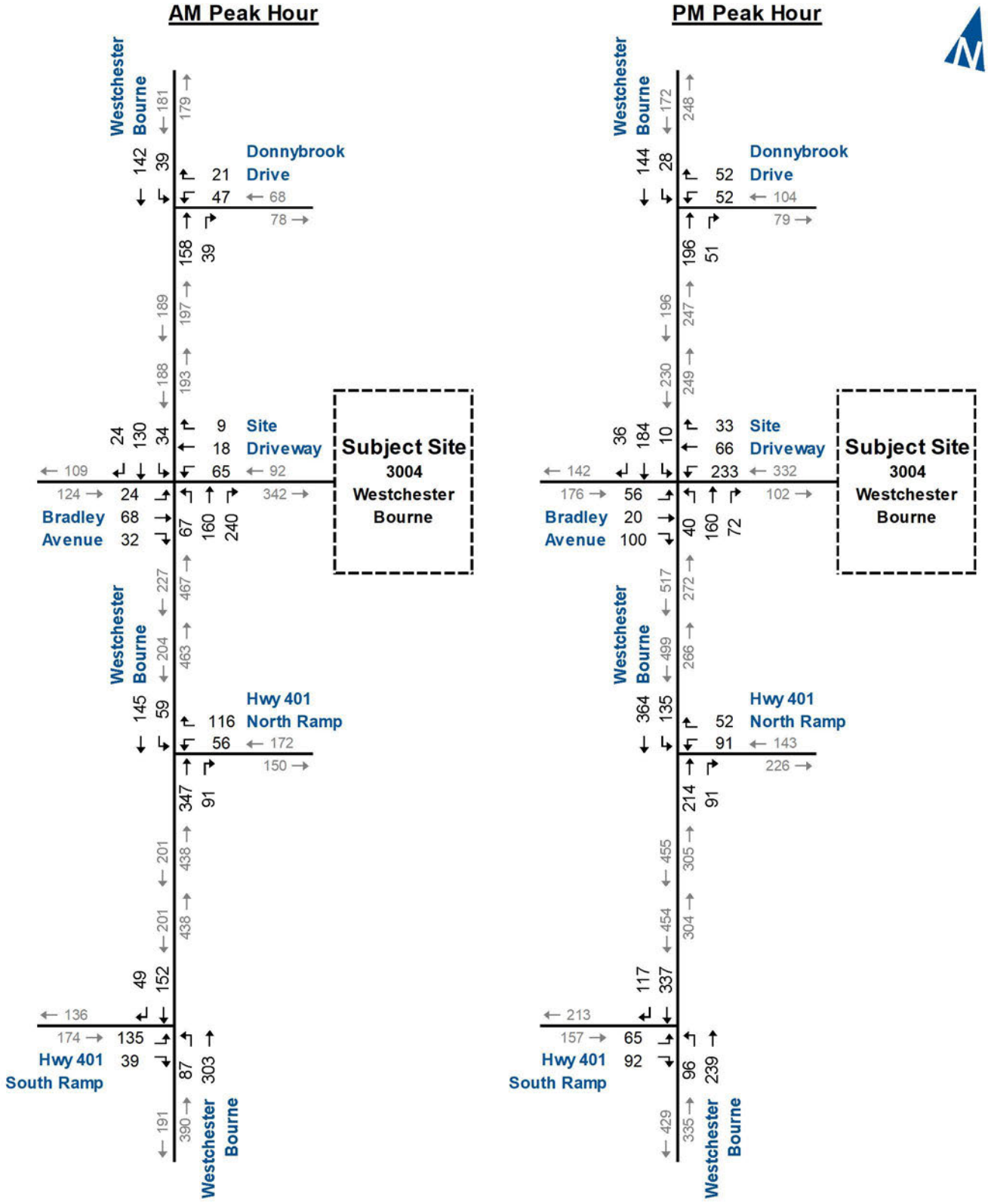
The 2030 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.2 summarizes the results of the 2030 total traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

The site access intersection on Westchester Bourne is noted to operate at acceptable levels of service.

Appendix E contains the supporting detailed Synchro 11 reports.



2030 Total Traffic Volumes

3004 Westchester Bourne, Dorchester TIA
220784

Figure 4.2

TABLE 4.2: 2030 TOTAL 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		2	
			V/C					0.13		>			0.00	>		<	0.03			
			Q					3		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	C	>	C	D	B	>	C	<	A	>	A	<	A	>	A	
			Delay	<	22	>	22	26	15	>	23	<	8	>	1	<	8	>	2	
			V/C	<	0.39	>		0.30	0.07	>		<	0.05	>		<	0.03	>		
			Q	<	14	>		9	2	>		<	2	>		<	1	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					C		>	C		A	A	A	A	A		A	
			Delay					16		>	16		0	0	0	9	0		2	
			V/C					0.36		>			0.00	0.00		0.06	0.00			
			Q					12		>			0	0		2	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		128	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	20		>	20					8	0		2		0	0	0	
			V/C	0.44		>						0.07	0.00				0.00	0.00		
			Q	16		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		1	
			V/C					0.18		>			0.00	>		<	0.02			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	C	>	C	E	B	>	E	<	A	>	A	<	A	>	A	
			Delay	<	16	>	16	45	14	>	36	<	8	>	1	<	8	>	0	
			V/C	<	0.37	>		0.77	0.22	>		<	0.03	>		<	0.01	>		
			Q	<	13	>		46	6	>		<	1	>		<	0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					D		>	D		A	A	A	A	A		A	
			Delay					27		>	27		0	0	0	8	0		2	
			V/C					0.49		>			0.00	0.00		0.11	0.00			
			Q					20		>			0	0		3	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		127	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	18		>	18					9	0		2		0	0	0	
			V/C	0.39		>						0.09	0.00				0.00	0.00		
			Q	14		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		

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

4.4 2035 Background Traffic Operations

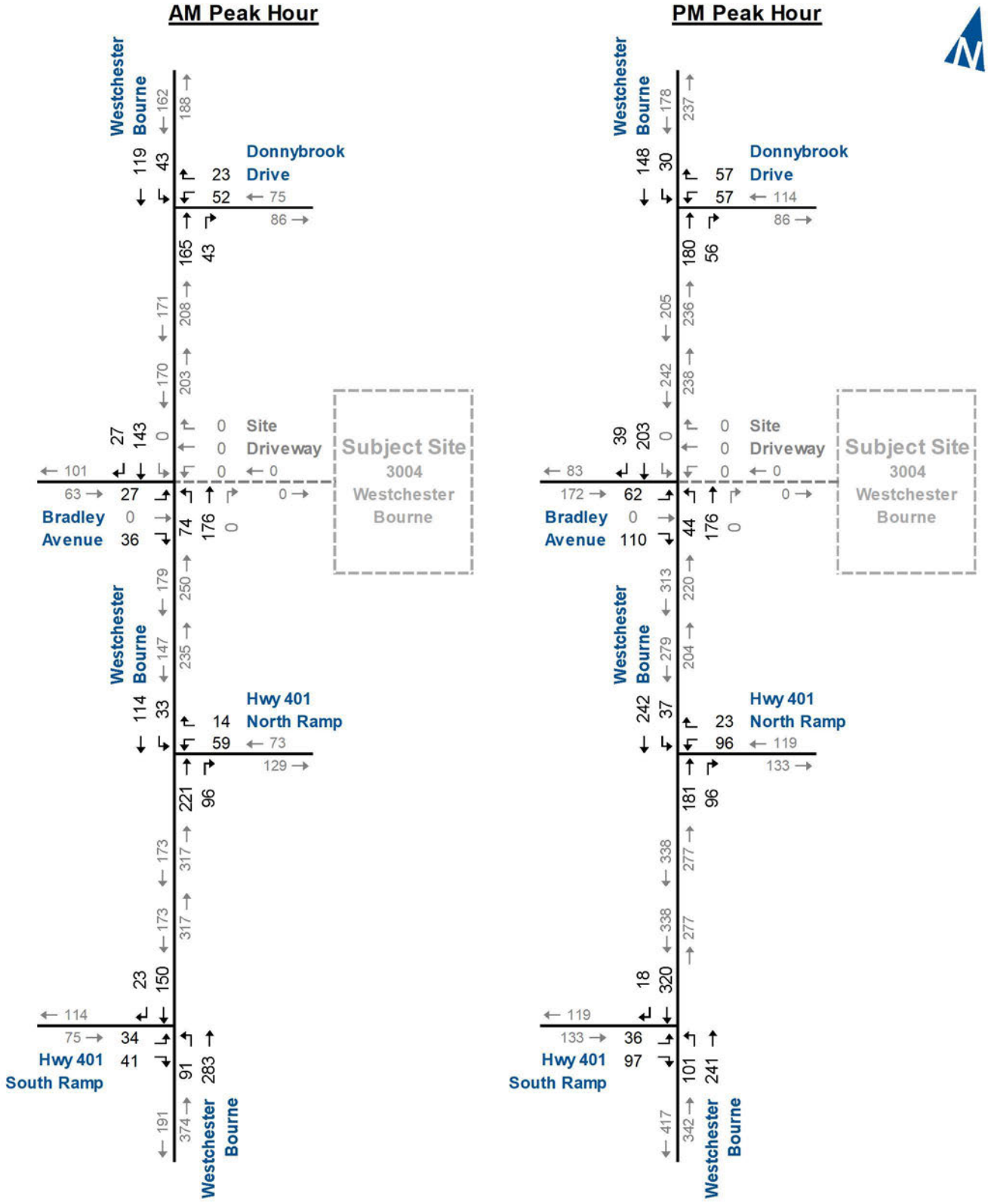
Figure 4.3 illustrates the 2035 background traffic volumes, including road traffic growth.

The 2035 background traffic volumes have been analyzed using the same methodology as under 2030 background traffic conditions.

Table 4.3 summarizes the results of the 2035 background traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

Appendix F contains the supporting detailed Synchro 11 reports.



2035 Background Traffic Volumes

TABLE 4.3: 2035 BACKGROUND 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		2	
			V/C					0.14		>			0.00	>		<	0.04			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	11		>	11					<	8		2		0	>	0	
			V/C	0.11		>						<	0.06				0.00	>		
			Q	3		>						<	2				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					13		>	13		0	0	0	8	0		2	
			V/C					0.14		>			0.00	0.00		0.03	0.00			
			Q					4		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	13		>	13					8	0		2		0	0	0	
			V/C	0.15		>						0.07	0.00				0.00	0.00		
			Q	4		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		1	
			V/C					0.19		>			0.00	>		<	0.03			
			Q					5		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	13		>	13					<	8		2		0	>	0	
			V/C	0.29		>						<	0.04				0.00	>		
			Q	9		>						<	1				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					C		>	C		A	A	A	A	A		A	
			Delay					15		>	15		0	0	0	8	0		1	
			V/C					0.27		>			0.00	0.00		0.03	0.00			
			Q					8		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	15		>	15					9	0		2		0	0	0	
			V/C	0.29		>						0.10	0.00				0.00	0.00		
			Q	9		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		

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

4.5 2035 Total Traffic Operations

Figure 4.4 illustrates the 2035 total traffic volumes, including trips generated by the proposed development.

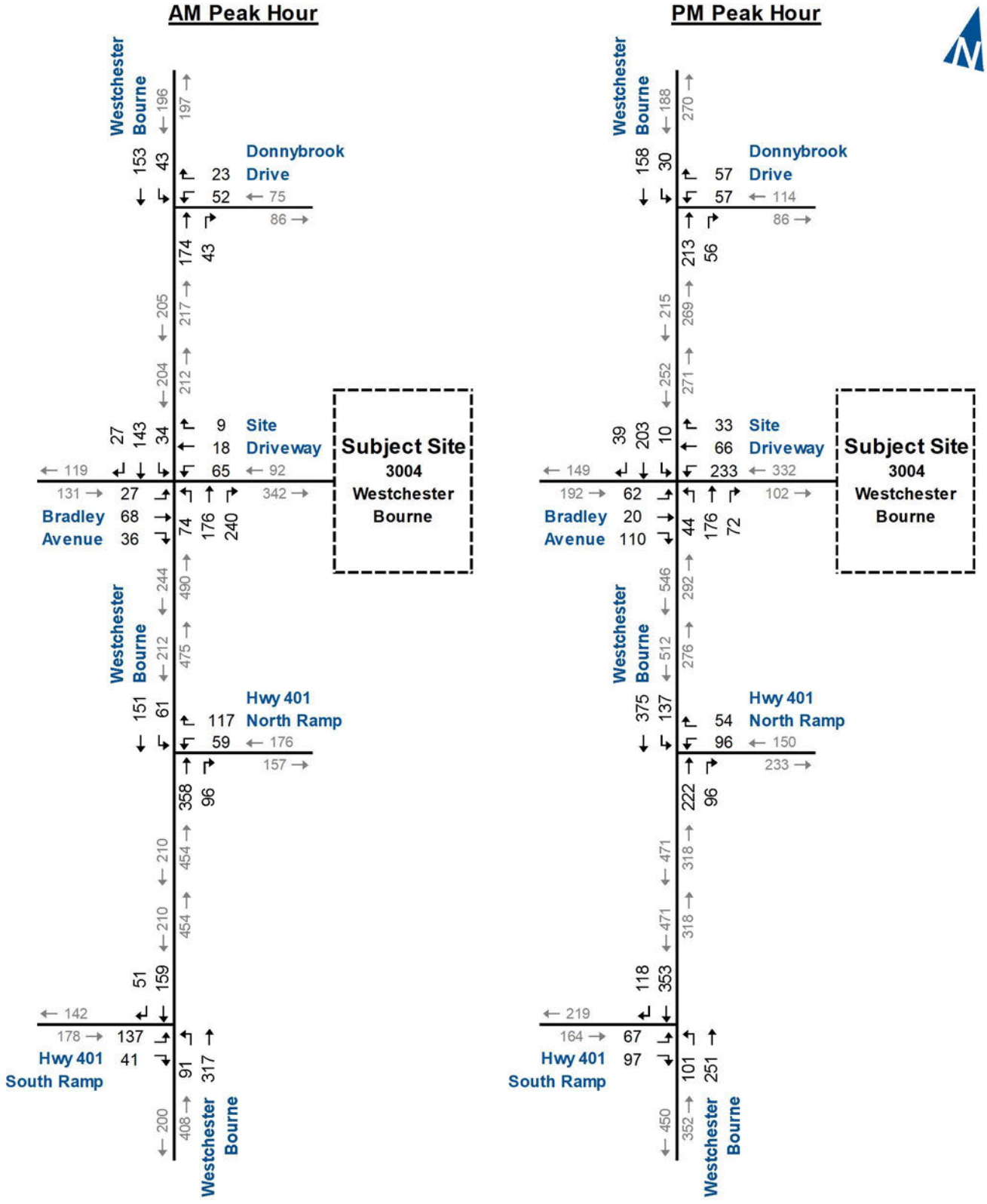
The 2035 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.4 summarizes the results of the 2035 total traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

The westbound (outbound) movement at the site access intersection on Westchester Bourne is noted to operate at LOS F with a v/c ratio of 0.86 during the PM peak hour. High delays are expected on a side-street stop-controlled movement to a county arterial roadway.

Appendix G contains the supporting detailed Synchro 11 reports.



2035 Total Traffic Volumes

TABLE 4.4: 2035 TOTAL 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					13		>	13		0	>	0	<	8		2	
			V/C					0.15		>			0.00	>		<	0.04			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	C	>	C	D	C	>	D	<	A	>	A	<	A	>	A	
			Delay	<	24	>	24	30	15	>	26	<	8	>	1	<	8	>	1	
			V/C	<	0.43	>		0.33	0.08	>		<	0.06	>		<	0.03	>		
			Q	<	16	>		10	2	>		<	2	>		<	1	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					C		>	C		A	A	A	A	A		A	
			Delay					16		>	16		0	0	0	9	0		2	
			V/C					0.38		>			0.00	0.00		0.07	0.00			
			Q					14		>			0	0		2	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		128	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	21		>	21					8	0		2		0	0	0	
			V/C	0.47		>						0.07	0.00				0.00	0.00		
			Q	18		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					12		>	12		0	>	0	<	8		1	
			V/C					0.20		>			0.00	>		<	0.03			
			Q					6		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	C	>	C	F	B	>	E	<	A	>	A	<	A	>	A	
			Delay	<	18	>	18	62	15	>	48	<	8	>	1	<	8	>	0	
			V/C	<	0.43	>		0.86	0.23	>		<	0.04	>		<	0.01	>		
			Q	<	16	>		57	7	>		<	1	>		<	0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					D		>	D		A	A	A	A	A		A	
			Delay					30		>	30		0	0	0	8	0		2	
			V/C					0.54		>			0.00	0.00		0.12	0.00			
			Q					22		>			0	0		3	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		127	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	20		>	20					9	0		2		0	0	0	
			V/C	0.42		>						0.10	0.00				0.00	0.00		
			Q	16		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		

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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

4.6 2040 Background Traffic Operations

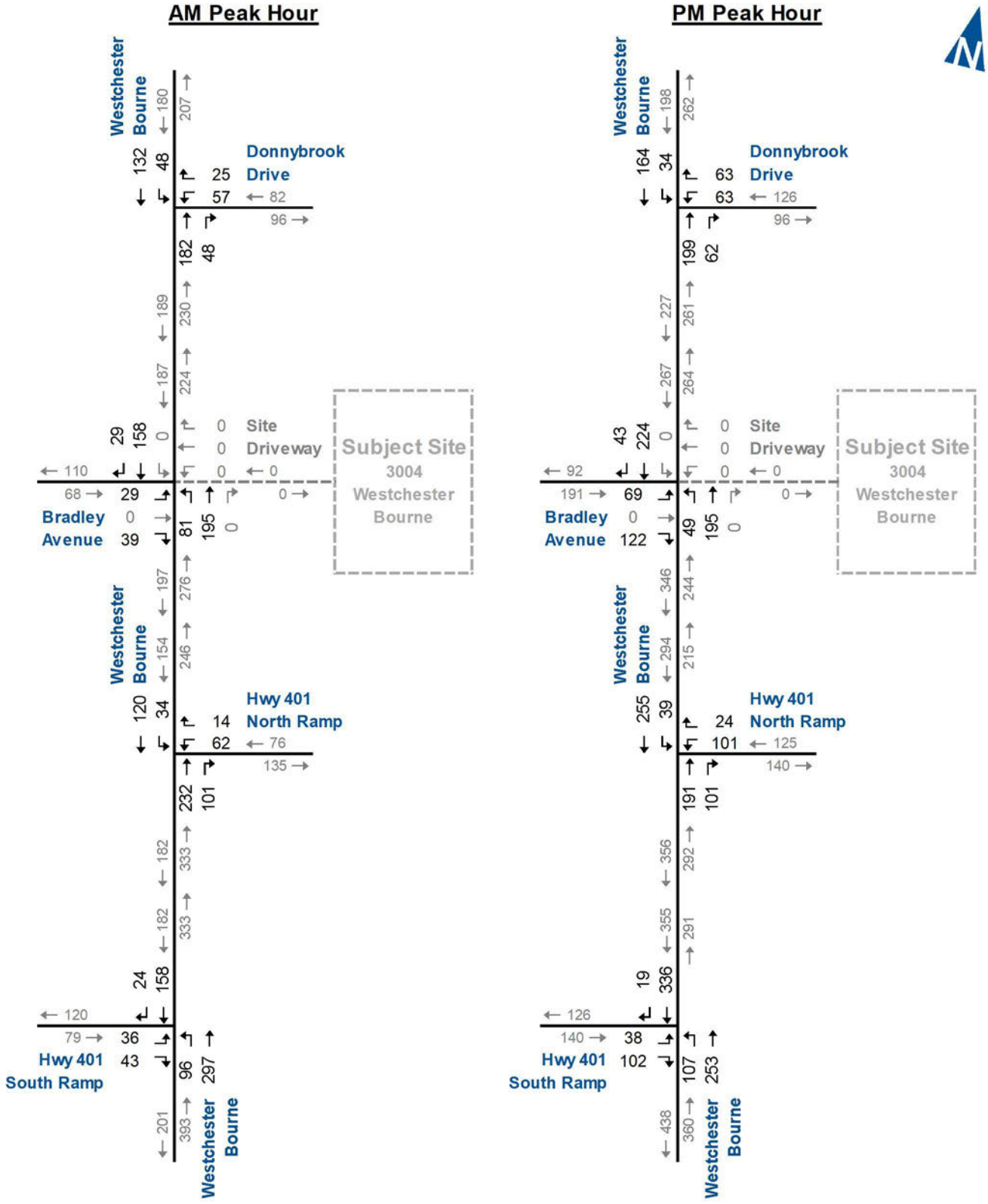
Figure 4.5 illustrates the 2040 background traffic volumes, including road traffic growth.

The 2040 background traffic volumes have been analyzed using the same methodology as under 2030 and 2035 background traffic conditions.

Table 4.5 summarizes the results of the 2040 background traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

Appendix H contains the supporting detailed Synchro 11 reports.



2040 Background Traffic Volumes

TABLE 4.5: 2040 BACKGROUND 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					13		>	13		0	>	0	<	8		2	
			V/C					0.16		>			0.00	>		<	0.04			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	12		>	12					<	8		2		0	>	0	
			V/C	0.12		>						<	0.06				0.00	>		
			Q	3		>						<	2				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					B		>	B		A	A	A	A	A		A	
			Delay					13		>	13		0	0	0	8	0		2	
			V/C					0.15		>			0.00	0.00		0.03	0.00			
			Q					4		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	B		>	B					A	A		A		A	A	A	
			Delay	13		>	13					8	0		2		0	0	0	
			V/C	0.17		>						0.08	0.00				0.00	0.00		
			Q	4		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					13		>	13		0	>	0	<	8		1	
			V/C					0.23		>			0.00	>		<	0.03			
			Q					7		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue	TWSC	LOS	B		>	B					<	A		A		A	>	A	
			Delay	14		>	14					<	8		2		0	>	0	
			V/C	0.34		>						<	0.04				0.00	>		
			Q	11		>						<	1				0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					C		>	C		A	A	A	A	A		A	
			Delay					16		>	16		0	0	0	8	0		1	
			V/C					0.29		>			0.00	0.00		0.03	0.00			
			Q					9		>			0	0		1	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		129	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	16		>	16					9	0		3		0	0	0	
			V/C	0.32		>						0.10	0.00				0.00	0.00		
			Q	10		>						3	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						127	-				-	-		

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

4.7 2040 Total Traffic Operations

Figure 4.6 illustrates the 2040 total traffic volumes, including trips generated by the proposed development.

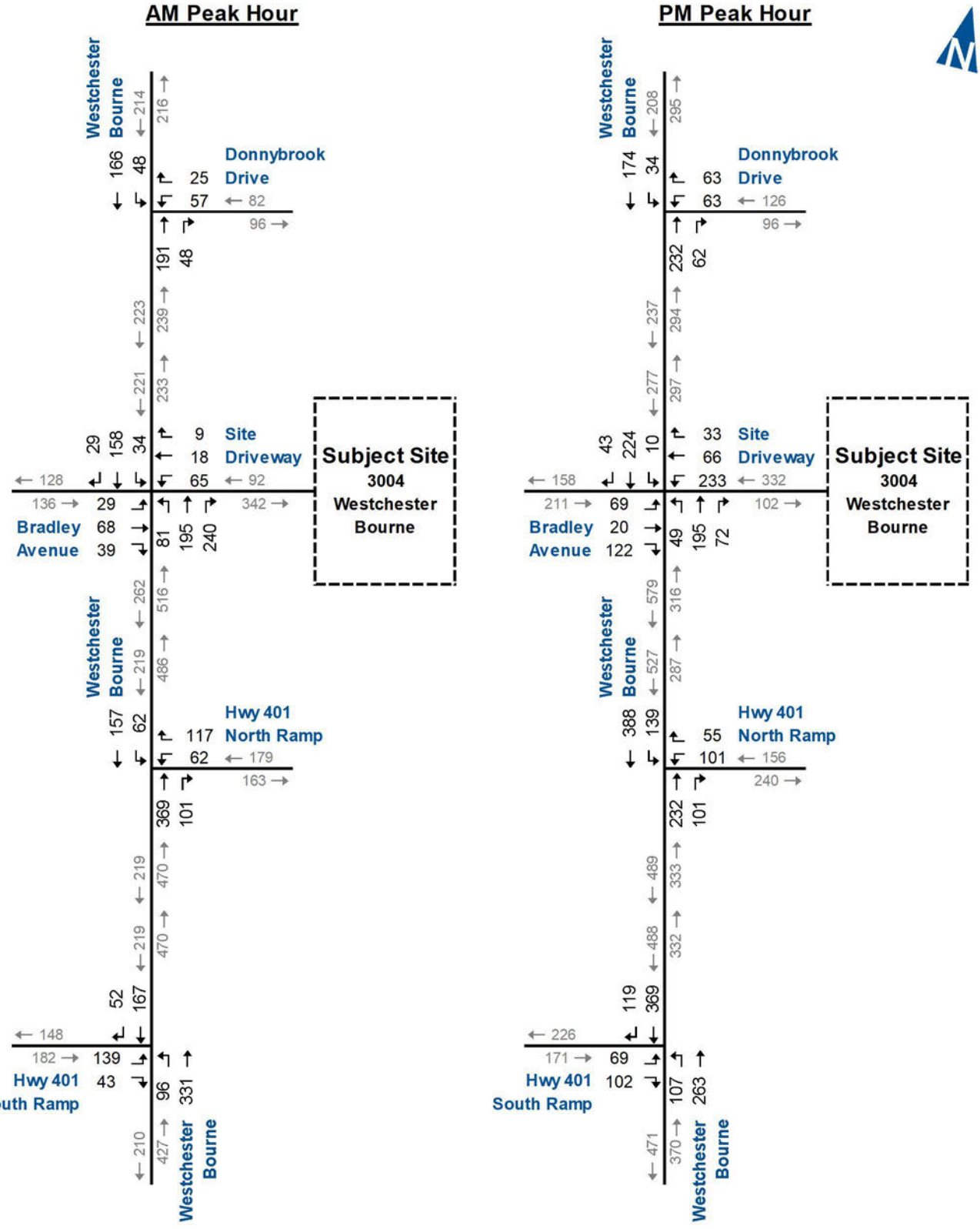
The 2040 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.6 summarizes the results of the 2040 total traffic operations. The results indicate that the study area intersections are forecast to operate at acceptable levels of service during the AM and PM peak hours.

The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours.

Similar to under 2035 total traffic conditions, the westbound (outbound) movement at the site access intersection on Westchester Bourne is noted to operate at LOS F with a v/c ratio of 0.98 during the PM peak hour. High delays are expected on a side-street stop-controlled movement to a county arterial roadway.

Appendix I contains the supporting detailed Synchro 11 reports.



2040 Total Traffic Volumes

TABLE 4.6: 2040 TOTAL 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	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					13		>	13		0	>	0	<	8		2	
			V/C					0.17		>			0.00	>		<	0.04			
			Q					4		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	D	>	D	E	C	>	D	<	A	>	A	<	A	>	A	
			Delay	<	27	>	27	35	16	>	30	<	8	>	1	<	8	>	1	
			V/C	<	0.48	>		0.38	0.08	>		<	0.06	>		<	0.03	>		
			Q	<	19	>		12	2	>		<	2	>		<	1	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					C		>	C		A	A	A	A	A		A	
			Delay					17		>	17		0	0	0	9	0		2	
			V/C					0.40		>			0.00	0.00		0.07	0.00			
			Q					14		>			0	0		2	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		128	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	23		>	23					8	0		2		0	0	0	
			V/C	0.50		>						0.08	0.00				0.00	0.00		
			Q	20		>						2	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						128	-				-	-		
PM Peak Hour	Westchester Bourne & Donnybrook Drive	TWSC	LOS					B		>	B		A	>	A	<	A		A	
			Delay					13		>	13		0	>	0	<	8		1	
			V/C					0.24		>			0.00	>		<	0.03			
			Q					7		>			0	>		<	1			
	Westchester Bourne & Bradley Avenue/Site Driveway	TWSC	LOS	<	C	>	C	F	C	>	F	<	A	>	A	<	A	>	A	
			Delay	<	21	>	21	93	16	>	70	<	8	>	1	<	8	>	0	
			V/C	<	0.51	>		0.98	0.25	>		<	0.04	>		<	0.01	>		
			Q	<	21	>		71	8	>		<	1	>		<	0	>		
	Westchester Bourne & Highway 401 NRT	TWSC	LOS					D		>	D		A	A	A	A	A		A	
			Delay					34		>	34		0	0	0	8	0		2	
			V/C					0.58		>			0.00	0.00		0.12	0.00			
			Q					26		>			0	0		3	0			
			Stor.					-		>			-	-		130	-			
			Avail.					-		>			-	-		127	-			
	Westchester Bourne & Highway 401 SRT	TWSC	LOS	C		>	C					A	A		A		A	A	A	
			Delay	21		>	21					9	0		2		0	0	0	
			V/C	0.46		>						0.11	0.00				0.00	0.00		
			Q	18		>						3	0				0	0		
			Stor.	-		>						130	-				-	-		
			Avail.	-		>						127	-				-	-		

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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

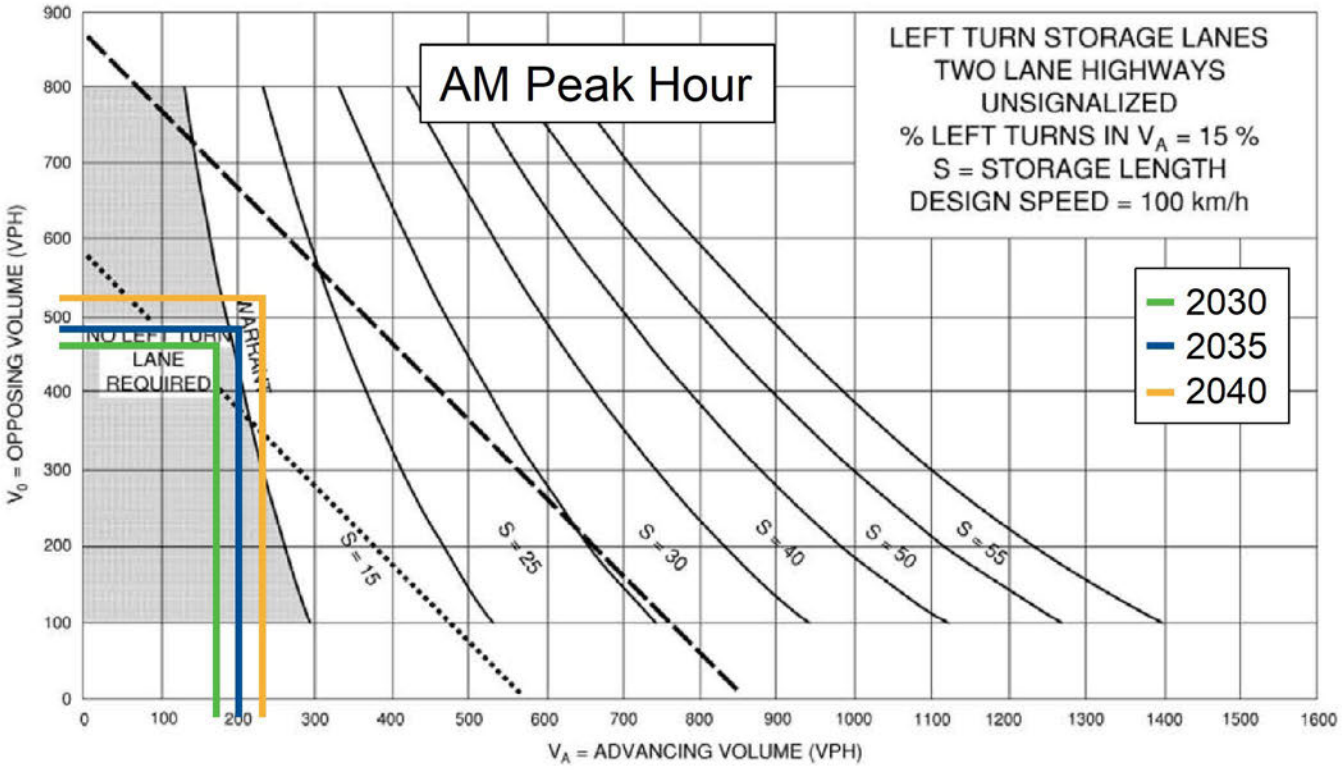
4.8 Left-Turn Lane

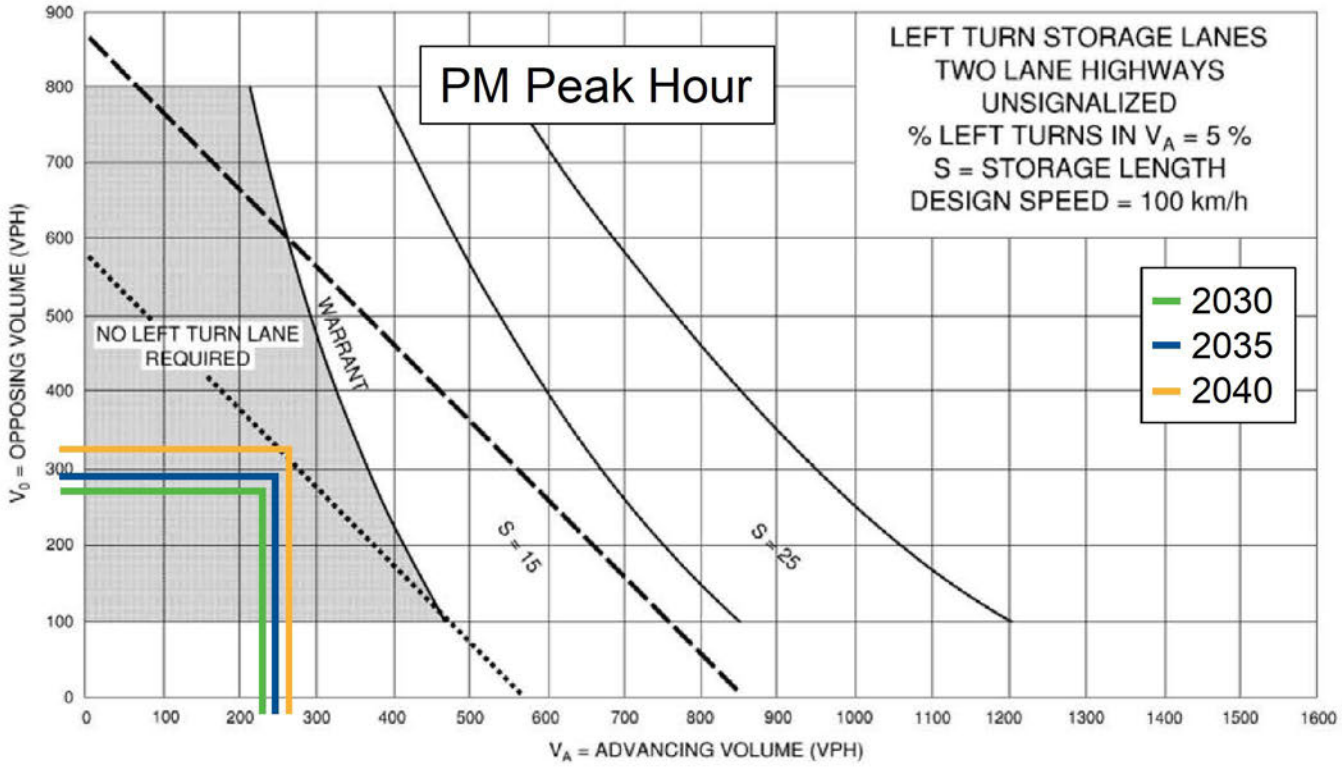
The need for an auxiliary southbound left-turn turning lane on Westchester Bourne at the site driveway was assessed based on the requirements and procedures detailed in the Ministry of Transportation Design Supplement for the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads[5]. The assessment is based on the nomographs for left-turn lanes on a two-lane undivided highway at an unsignalized intersection with a design speed of 20 kilometres per hour over the posted speed limit (100 km/h).

Based on these criteria, a southbound left-turn lane on Westchester Bourne at the site driveway is warranted with 15 metres of storage under 2035 and 2040 total traffic conditions.

Figure 4.7 contains the warrant nomographs.

[5] *MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads*, June 2017.





paradigm TRANSPORTATION SOLUTIONS LIMITED

Westchester Bourne and Site Driveway
Southbound Left-Turn Lane
2040 Total Traffic Conditions

5 Conclusions and Recommendations

5.1 Conclusions

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

- **Existing Traffic Conditions:** All study area intersections are currently operating at acceptable levels of service.
- **Development Trip Generation:** The development is forecast to generate 434 trips during the AM and PM peak hours.
- **Background Traffic Conditions:** All study area intersections are forecast to operate at acceptable levels of service under 2030, 2035, and 2040 background traffic conditions.
- **Total Traffic Conditions:** All study area intersections are forecast to operate at acceptable levels of service under 2030, 2035, and 2040 total traffic conditions.
- **Site Driveway:** The site driveway intersection on Westchester Bourne is forecast to operate at acceptable levels of service under 2030, 2035, and 2040 total traffic conditions. It is noted that the westbound (outbound) left-turn movement is forecast to operate at LOS F with v/c ratio of 0.98 under 2040 total traffic conditions. It is noted that high delays are expected for side-street traffic at a stop-controlled intersection with an arterial roadway.

  It is also noted that an auxiliary southbound left-turn lane is warranted with 15 metres of storage on Westchester Bourne at the site driveway under 2035 and 2040 total traffic conditions.
- **Highway 401 Interchange Ramp Terminals at Westchester Bourne:** The two Highway 401 ramp terminal intersections at Westchester Bourne are noted to operate at acceptable levels of service during both peak hours under all traffic conditions.

5.2 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

From: Johnston, Jeremiah (MTO)
To: Rajan Philips; Patrick Neal
Cc: katelyn.c@zpplan.com
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation
Date: March 9, 2023 7:01:59 AM
Attachments: image001.png
image002.png
image003.jpg
image004.png
image005.jpg
image006.png
image016.png
image018.png
image019.png
image021.png
image007.png
image008.png
image009.png

Hi Patrick and Rajan,

See requirements from MTO Traffic Office below provided in red below. Requirements are inclusive of what I had previously indicated for the property immediately south of 3004 Westchester Bourne.

Based on the above we will prepare the TIS in accordance with MTO TIS Guidelines (February 2021) with the following principles and assumptions and ask for these to be reviewed/confirmed:

- Weekday AM and PM peak hours of analysis.
- Study Area Intersections:
  - Bradley Avenue / Access intersection on Westchester Bourne (unsignalized).
  - Westchester Bourne & Donnybrook Drive (unsignalized).
  - Hwy 401 & Westchester Bourne North Ramp Terminal (unsignalized).
  - Hwy 401 & Westchester Bourne South Ramp Terminal (unsignalized).
- **We will conduct traffic counts at the above intersections.** Eight (8) hour turning movement count (as a minimum) is required to be able to assess if signals are warranted for existing and background conditions.
- Horizon Year: (1) anticipated year of development completion; (2) five years after development; and (3) ten years after development.
- Background Growth: 2.0% compounded per annum, **please confirm**. Use a Growth Rate of 1%
- Background Developments: **Please confirm** and provide corresponding site statistics or TIS.
- Roadway Improvements: **Please confirm.**
- Trip Generation: will be based on ITE Trip Generation Manual 11th Edition. Use the guiding principles included in the ITE's Trip Generation Handbook for the selection between rates and equations.
- Trip Distribution: Existing traffic patterns.
- Synchro Parameters: PHF of 0.92 and Saturation Flow Rate of 1900.

MTO anticipates a pre-study meeting.

If there are any questions please let me know.

Thank you,

Jeremiah Johnston Corridor Management Planner
Corridor Management Section
Ministry of Transportation Operations Branch West
659 Exeter Road, London, ON N6E 1L3
M: (226)-980-6407

From: Johnston, Jeremiah (MTO)
Sent: February 22, 2023 9:22 AM
To: Rajan Philips <rphilips@ptsl.com>
Cc: Patrick Neal <pneal@ptsl.com>; katelyn.c@zpplan.com
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Rajan,

I would hold off until I can provide MTO Traffic comments on the ToR.

Thank you,

Jeremiah Johnston Corridor Management Planner
Corridor Management Section
Ministry of Transportation Operations Branch West
659 Exeter Road, London, ON N6E 1L3
M: (226)-980-6407

From: Rajan Philips <rphilips@ptsl.com>
Sent: February 22, 2023 9:09 AM
To: Marc Bancroft <MBancroft@thamescentre.on.ca>; Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>; Jarrod Craven <JCraven@thamescentre.on.ca>; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>
Cc: katelyn.c@zpplan.com; Patrick Neal <pneal@ptsl.com>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Thanks, Marc, Jeremiah,

We have all the information to go ahead with the TIS.

Based on the access requirement, the draft plan for 3004 will have to be modified. We will co-ordinate that with Katelyn.

Thanks again.

Regards,

Rajan Philips, M.Sc. (PI), P.Eng.
Senior Transportation Consultant

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
p: 519.896.3163 x207
e: rphilips@ptsl.com
w: www.ptsl.com

From: Marc Bancroft <MBancroft@thamescentre.on.ca>
Sent: Wednesday, February 22, 2023 9:02 AM
To: Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>; Jarrod Craven <JCraven@thamescentre.on.ca>; Rajan Philips <rphilips@ptsl.com>; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>
Cc: katelyn.c@zpplan.com; Patrick Neal <pneal@ptsl.com>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Good morning,

Following MTO's requirements outlined below and consistent with the discussion at the pre-consultation meeting for 3004 Westchester Bourne, access for 3124 Westchester Bourne will need to be through the 3004 Westchester Bourne lands. As such, the Municipality will expect an internal future road connection on the 3004 Westchester Bourne lands for eventual extension into 3124 Westchester Bourne.

Thank ou

Marc Bancroft
Director of Planning & Development Services
Municipality of Thames Centre | mbancroft@thamescentre.on.ca
4305 Hamilton Road, | Dorchester, Ontario, N0L 1G3
Tel: 519.268.7334 Ext. 223 | Fax: 519.268.3928

From: Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>
Sent: Tuesday, February 21, 2023 3:29 PM
To: Jarrod Craven <JCraven@thamescentre.on.ca>; Rajan Philips <rphilips@ptsl.com>; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>
Cc: Marc Bancroft <MBancroft@thamescentre.on.ca>; katelyn.c@zpplan.com; Patrick Neal <pneal@ptsl.com>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Jarrod and Rajan,

I've provided MTO access requirements below, 3124 Westchester Bourne does not have the frontage required along the Municipal road to achieve the desirable or minimum spacing requirements for a Parclo A-4 Interchange.

The proposed development does not meet the desirable spacing either, however considering the location of the Bradly Road intersection MTO will allow a variance from the desirable spacing.

The County should also have the opportunity to comment with any of their requirements.

Thank you,

Jeremiah Johnston Corridor Management Planner
Corridor Management Section
Ministry of Transportation Operations Branch West
659 Exeter Road, London, ON N6E 1L3
M: (226)-980-6407

From: Marc Bancroft <MBancroft@thamescentre.on.ca>
Sent: February 21, 2023 2:04 PM
To: Jarrod Craven <JCraven@thamescentre.on.ca>; Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com
Cc: 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Patrick Neal <pneal@ptsl.com>; Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>

Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Rajan,

For 3124 Westchester Bourne, assume the same land use for 3004 Westchester Bourne, being industrial lands. For access, I would defer to the County and/or MTO.

Thank you

Marc Bancroft
Director of Planning & Development Services
Municipality of Thames Centre | mbancroft@thamescentre.on.ca
4305 Hamilton Road, | Dorchester, Ontario, N0L 1G3
Tel: 519.268.7334 Ext. 223 | Fax: 519.268.3928

From: Jarrod Craven <JCraven@thamescentre.on.ca>
Sent: Tuesday, February 21, 2023 2:02 PM
To: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com
Cc: 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Marc Bancroft <MBancroft@thamescentre.on.ca>; Patrick Neal <pneal@ptsl.com>; Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Rajan/Katelyn,

Because WestchesterBourne (CR74) is a County Road, these questions should be directed to the Middlesex County Engineer, Chris Traini as well as our Director of Planning and Development Services, Marc Bancroft for comment.

Thanks,

Jarrod Craven
Director of Public Works
Municipality of Thames Centre | jcraven@thamescentre.on.ca
4305 Hamilton Road, | Dorchester, Ontario, N0L 1G3
Tel: 519.268.7334 Ext. 245 | Fax: 519.268.3928

From: Rajan Philips <rphilips@ptsl.com>
Sent: Tuesday, February 21, 2023 1:32 PM
To: Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>; Jarrod Craven <JCraven@thamescentre.on.ca>; Patrick Neal <pneal@ptsl.com>
Cc: katelyn.c@zpplan.com; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Marc Bancroft <MBancroft@thamescentre.on.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Jeremiah, Jarrod,

Thank you for your emails and clarifications.

I think there are two issues here re 3124 Westchester Bourne.

First, we would be happy to include 3124 for future background traffic estimates provided there is some information on potential land uses for this property.
Without land use information for 3124, we cannot include it for background traffic estimates.

The second issue is access to 3124 through 3004 Westchester Bourne. This is a valid concern for MTO if future access cannot be provided on Westchester Bourne given the distance from Hwy 401 interchange ramp terminals.

I would defer this to Katelyn Crowley to discuss this with Jarrod.

Thanks and Regards,

Rajan Philips, M.Sc. (Pl), P.Eng.
Senior Transportation Consultant

Paradigm Transportation Solutions Limited
5A-150 Pinebush Road, Cambridge ON N1R 8J8
p: 519.896.3163 x207
e: rphilips@ptsl.com
w: www.ptsl.com

From: Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>
Sent: Tuesday, February 21, 2023 11:44 AM
To: Jarrod Craven <JCraven@thamescentre.on.ca>; Patrick Neal <pneal@ptsl.com>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Marc Bancroft <MBancroft@thamescentre.on.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Patrick,

I believe my email was mis understood, it's not that there is an active file at 3124 Westchester Bourne. It is that the property of 3124 Westchester Bourne should be taken into account of the trip generation as any future development of that site will not qualify for and Entrance from Westchester Bourne. Access to 3124 Westchester Bourne would need to be from the municipal roads internal to 3004 Westchester Bourne, or by an easement.

I will provide further comment related to this once I have all Traffic comments back.

Thank you,

Jeremiah Johnston Corridor Management Planner
Corridor Management Section
Ministry of Transportation Operations Branch West
659 Exeter Road, London, ON N6E 1L3

M: (226)-980-6407

From: Jarrod Craven <JCraven@thamescentre.on.ca>
Sent: February 21, 2023 11:36 AM
To: Patrick Neal <pneal@ptsl.com>; Marc Bancroft <MBancroft@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

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Hi Patrick,

To Thames Centre's knowledge there has not been one completed for this application or this property in the past.

Jarrod Craven
Director of Public Works
Municipality of Thames Centre | jcraven@thamescentre.on.ca
4305 Hamilton Road, | Dorchester, Ontario, N0L 1G3
Tel: 519.268.7334 Ext. 245 | Fax: 519.268.3928

From: Patrick Neal <pneal@ptsl.com>
Sent: Tuesday, February 21, 2023 10:07 AM
To: Jarrod Craven <JCraven@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com; Marc Bancroft <MBancroft@thamescentre.on.ca>; 'ctraini@middlesex.ca' <ctraini@middlesex.ca>; Johnston, Jeremiah (MTO) <Jeremiah.Johnston@ontario.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

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Hi Jarrod,

Can you please advise if there is a TIS available for the lands at 3124 Westchester Bourne, mentioned by Jeremiah (email attached)? If not, can you please provide any relevant development details for the property?

Regards,

Patrick Neal, EIT
Transportation Consultant
ParadigmEmailLogo

Paradigm Transportation Solutions Limited
p: 416.479.9684 x510
m: 416.688.7338

From: Jarrod Craven <JCraven@thamescentre.on.ca>
Sent: Wednesday, February 15, 2023 10:17 AM
To: Chris Traini <ctraini@middlesex.ca>; Patrick Neal <pneal@ptsl.com>; 'Mentley, Ryan (MTO)' <ryan.mentley@ontario.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com; Marc Bancroft <MBancroft@thamescentre.on.ca>
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Patrick,

Thames Centre has the same comments as the County. The 2.0% growth assumption should suffice for the TIS.

Thanks,

Jarrod Craven
Director of Public Works
Municipality of Thames Centre | jcraven@thamescentre.on.ca
4305 Hamilton Road, | Dorchester, Ontario, N0L 1G3
Tel: 519.268.7334 Ext. 245 | Fax: 519.268.3928

From: Chris Traini <ctraini@middlesex.ca>
Sent: Wednesday, February 15, 2023 9:51 AM
To: Patrick Neal <pneal@ptsl.com>; 'Mentley, Ryan (MTO)' <ryan.mentley@ontario.ca>; Jarrod Craven <JCraven@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com
Subject: RE: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi Patrick,

What are you asking about roadway improvements? The County doesn't have information on other developments or TIS in the area and is fine with the 2.0% background growth assumption.

Chris

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

From: Patrick Neal <pneal@ptsl.com>
Sent: Monday, February 13, 2023 11:37 AM
To: 'Mentley, Ryan (MTO)' <ryan.mentley@ontario.ca>; Chris Traini <ctraini@middlesex.ca>; 'JCraven@thamescentre.on.ca' <jcraven@thamescentre.on.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; katelyn.c@zpplan.com
Subject: (220784) 3004 Westchester Bourne, Dorchester TIS - Pre-Study Consultation

Hi All,

We have been retained to complete the Transportation Impact Study (TIS) for the proposed Industrial Subdivision at 3004 Westchester Bourne, Dorchester, Thames Centre, Middlesex County.

The subject site is located on east side of Westchester Bourne, approximately 725 metres north of Highway 401. The site is proposed to be developed as industrial subdivision comprising multiple development blocks with an all-moves access on Westchester Bourne across from Bradley Avenue to the west.

A Draft Plan of Subdivision is attached.

Based on the above we will prepare the TIS in accordance with MTO TIS Guidelines (February 2021) with the following principles and assumptions and ask for these to be reviewed/confirmed:

- Weekday AM and PM peak hours of analysis.
- Study Area Intersections:
  - Bradley Avenue / Access intersection on Westchester Bourne (unsignalized).
  - Westchester Bourne & Donnybrook Drive (unsignalized).
  - Hwy 401 & Westchester Bourne North Ramp Terminal (unsignalized).
  - Hwy 401 & Westchester Bourne South Ramp Terminal (unsignalized).
- **We will conduct traffic counts at the above intersections.**
- Horizon Year: (1) anticipated year of development completion; (2) five years after development; and (3) ten years after development.
- Background Growth: 2.0% compounded per annum, **please confirm**.
- Background Developments: **Please confirm** and provide corresponding site statistics or TIS.
- Roadway Improvements: **Please confirm.**
- Trip Generation: will be based on ITE Trip Generation Manual 11th Edition.
- Trip Distribution: Existing traffic patterns.
- Synchro Parameters: PHF of 0.92 and Saturation Flow Rate of 1900.

Please let us know if you have any questions or comments.

Regards,

Patrick Neal, EIT
Transportation Consultant
ParadigmEmailLogo

Paradigm Transportation Solutions Limited
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Appendix B

Existing Traffic Data

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: 220784
Start Date: 02/14/2023

Turning Movement Data

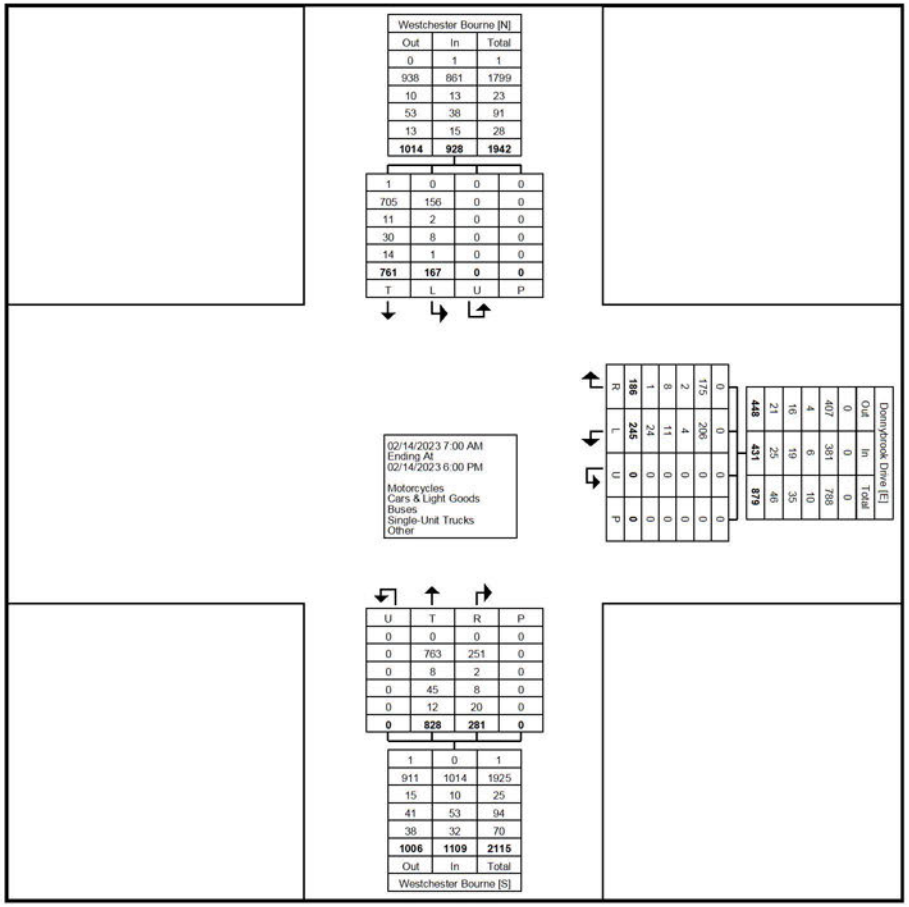
Start Time	Donnybrook Drive Westbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Int. Total
7:00 AM	5	9	0	0	14	29	7	0	0	36	8	19	0	0	27	77
7:15 AM	11	1	0	0	12	33	9	0	0	42	7	23	0	0	30	84
7:30 AM	13	5	0	0	18	38	8	0	0	46	3	24	0	0	27	91
7:45 AM	7	5	0	0	12	37	10	0	0	47	15	24	0	0	39	98
Hourly Total	36	20	0	0	56	137	34	0	0	171	33	90	0	0	123	350
8:00 AM	10	7	0	0	17	22	7	0	0	29	9	23	0	0	32	78
8:15 AM	7	4	0	0	11	23	5	0	0	28	5	22	0	0	27	66
8:30 AM	6	5	0	0	11	30	10	0	0	40	4	17	0	0	21	72
8:45 AM	8	5	0	0	13	30	5	0	0	35	9	23	0	0	32	80
Hourly Total	31	21	0	0	52	105	27	0	0	132	27	85	0	0	112	296
9:00 AM	7	7	0	0	14	21	10	0	0	31	3	16	0	0	19	64
9:15 AM	4	4	0	0	8	14	5	0	0	19	5	13	0	0	18	45
9:30 AM	10	4	0	0	14	22	9	0	0	31	5	17	0	0	22	67
9:45 AM	2	4	0	0	6	23	5	0	0	28	4	21	0	0	25	59
Hourly Total	23	19	0	0	42	80	29	0	0	109	17	67	0	0	84	235
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	7	6	0	0	13	15	7	0	0	22	1	11	0	0	12	47
11:15 AM	5	4	0	0	9	8	5	0	0	13	1	21	0	0	22	44
11:30 AM	7	11	0	0	18	22	9	0	0	31	6	15	0	0	21	70
11:45 AM	4	7	0	0	11	16	12	0	0	28	3	15	0	0	18	57
Hourly Total	23	28	0	0	51	61	33	0	0	94	11	62	0	0	73	218
12:00 PM	11	5	0	0	16	21	7	0	0	28	5	21	0	0	26	70
12:15 PM	9	5	0	0	14	17	11	0	0	28	4	23	0	0	27	69
12:30 PM	6	5	0	0	11	18	13	0	0	31	3	15	0	0	18	60
12:45 PM	4	9	0	0	13	25	11	0	0	36	3	14	0	0	17	66
Hourly Total	30	24	0	0	54	81	42	0	0	123	15	73	0	0	88	265
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	5	1	0	0	6	26	7	0	0	33	11	32	0	0	43	82
3:15 PM	3	2	0	0	5	28	8	0	0	36	2	40	0	0	42	83
3:30 PM	7	10	0	0	17	42	10	0	0	52	4	21	0	0	25	94
3:45 PM	6	17	0	0	23	31	10	0	0	41	8	38	0	0	46	110
Hourly Total	21	30	0	0	51	127	35	0	0	162	25	131	0	0	156	369
4:00 PM	15	10	0	0	25	36	15	0	0	51	8	31	0	0	39	115
4:15 PM	17	8	0	0	25	33	9	0	0	42	4	27	0	0	31	98
4:30 PM	15	5	0	0	20	24	10	0	0	34	5	33	0	0	38	92
4:45 PM	8	4	0	0	12	29	15	0	0	44	6	47	0	0	53	109

Hourly Total	55	27	0	0	82	122	49	0	0	171	23	138	0	0	161	414
5:00 PM	12	6	0	0	18	35	4	0	0	39	5	43	0	0	48	105
5:15 PM	6	7	0	0	13	33	13	0	0	46	6	34	0	0	40	99
5:30 PM	4	3	0	0	7	34	8	0	0	42	4	12	0	0	16	65
5:45 PM	4	1	0	0	5	13	7	0	0	20	1	26	0	0	27	52
Hourly Total	26	17	0	0	43	115	32	0	0	147	16	115	0	0	131	321
Grand Total	245	186	0	0	431	828	281	0	0	1109	167	761	0	0	928	2468
Approach %	56.8	43.2	0.0	-	-	74.7	25.3	0.0	-	-	18.0	82.0	0.0	-	-	-
Total %	9.9	7.5	0.0	-	17.5	33.5	11.4	0.0	-	44.9	6.8	30.8	0.0	-	37.6	-
Motorcycles	0	0	0	-	0	0	0	0	-	0	0	1	0	-	1	1
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.1	-	-	0.1	0.0
Cars & Light Goods	206	175	0	-	381	763	251	0	-	1014	156	705	0	-	861	2256
% Cars & Light Goods	84.1	94.1	-	-	88.4	92.1	89.3	-	-	91.4	93.4	92.6	-	-	92.8	91.4
Buses	4	2	0	-	6	8	2	0	-	10	2	11	0	-	13	29
% Buses	1.6	1.1	-	-	1.4	1.0	0.7	-	-	0.9	1.2	1.4	-	-	1.4	1.2
Single-Unit Trucks	11	8	0	-	19	45	8	0	-	53	8	30	0	-	38	110
% Single-Unit Trucks	4.5	4.3	-	-	4.4	5.4	2.8	-	-	4.8	4.8	3.9	-	-	4.1	4.5
Articulated Trucks	24	1	0	-	25	12	20	0	-	32	1	14	0	-	15	72
% Articulated Trucks	9.8	0.5	-	-	5.8	1.4	7.1	-	-	2.9	0.6	1.8	-	-	1.6	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: Westchester Bourne & Donnybrook Drive
Site Code: 220784
Start Date: 02/14/2023



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: 220784
Start Date: 02/14/2023

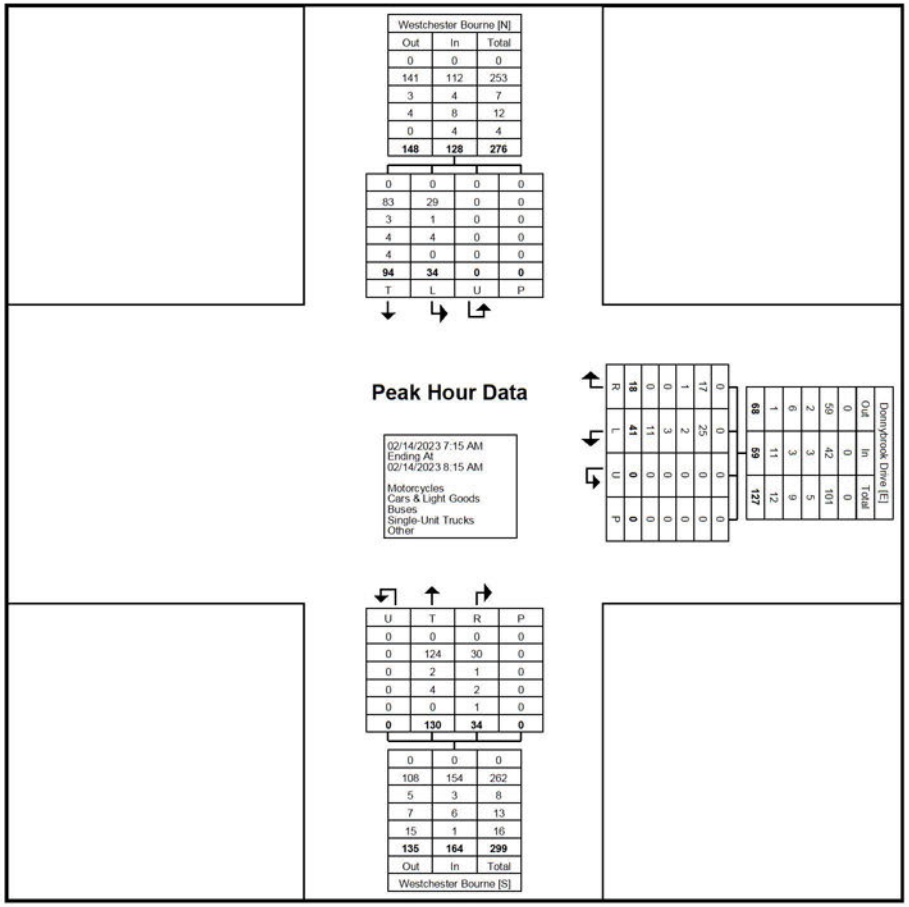
Turning Movement Peak Hour Data (7:15 AM)

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	11	1	0	0	12	33	9	0	0	42	7	23	0	0	30	84
7:30 AM	13	5	0	0	18	38	8	0	0	46	3	24	0	0	27	91
7:45 AM	7	5	0	0	12	37	10	0	0	47	15	24	0	0	39	98
8:00 AM	10	7	0	0	17	22	7	0	0	29	9	23	0	0	32	78
Total	41	18	0	0	59	130	34	0	0	164	34	94	0	0	128	351
Approach %	69.5	30.5	0.0	-	-	79.3	20.7	0.0	-	-	26.6	73.4	0.0	-	-	-
Total %	11.7	5.1	0.0	-	16.8	37.0	9.7	0.0	-	46.7	9.7	26.8	0.0	-	36.5	-
PHF	0.788	0.643	0.000	-	0.819	0.855	0.850	0.000	-	0.872	0.567	0.979	0.000	-	0.821	0.895
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	25	17	0	-	42	124	30	0	-	154	29	83	0	-	112	308
% Cars & Light Goods	61.0	94.4	-	-	71.2	95.4	88.2	-	-	93.9	85.3	88.3	-	-	87.5	87.7
Buses	2	1	0	-	3	2	1	0	-	3	1	3	0	-	4	10
% Buses	4.9	5.6	-	-	5.1	1.5	2.9	-	-	1.8	2.9	3.2	-	-	3.1	2.8
Single-Unit Trucks	3	0	0	-	3	4	2	0	-	6	4	4	0	-	8	17
% Single-Unit Trucks	7.3	0.0	-	-	5.1	3.1	5.9	-	-	3.7	11.8	4.3	-	-	6.3	4.8
Articulated Trucks	11	0	0	-	11	0	1	0	-	1	0	4	0	-	4	16
% Articulated Trucks	26.8	0.0	-	-	18.6	0.0	2.9	-	-	0.6	0.0	4.3	-	-	3.1	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: Westchester Bourne & Donnybrook Drive
Site Code: 220784
Start Date: 02/14/2023



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: Westchester Bourne & Donnybrook Drive
Site Code: 220784
Start Date: 02/14/2023

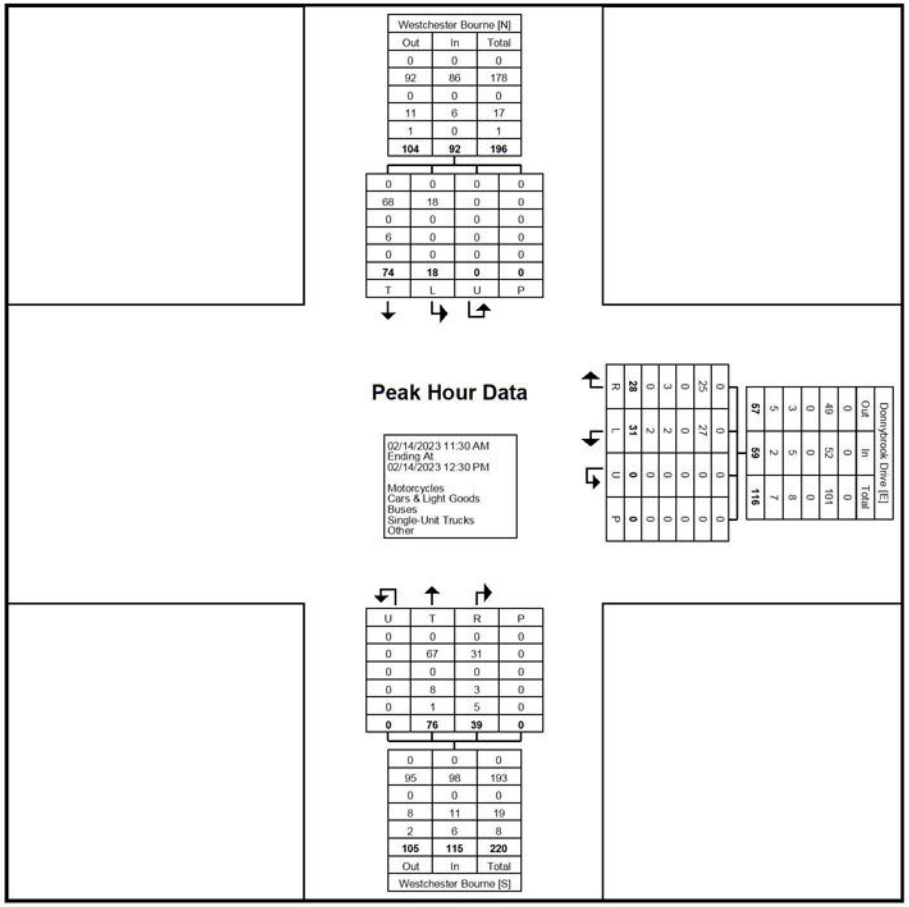
Turning Movement Peak Hour Data (11:30 AM)

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
11:30 AM	7	11	0	0	18	22	9	0	0	31	6	15	0	0	21	70
11:45 AM	4	7	0	0	11	16	12	0	0	28	3	15	0	0	18	57
12:00 PM	11	5	0	0	16	21	7	0	0	28	5	21	0	0	26	70
12:15 PM	9	5	0	0	14	17	11	0	0	28	4	23	0	0	27	69
Total	31	28	0	0	59	76	39	0	0	115	18	74	0	0	92	266
Approach %	52.5	47.5	0.0	-	-	66.1	33.9	0.0	-	-	19.6	80.4	0.0	-	-	-
Total %	11.7	10.5	0.0	-	22.2	28.6	14.7	0.0	-	43.2	6.8	27.8	0.0	-	34.6	-
PHF	0.705	0.636	0.000	-	0.819	0.864	0.813	0.000	-	0.927	0.750	0.804	0.000	-	0.852	0.950
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	27	25	0	-	52	67	31	0	-	98	18	68	0	-	86	236
% Cars & Light Goods	87.1	89.3	-	-	88.1	88.2	79.5	-	-	85.2	100.0	91.9	-	-	93.5	88.7
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	3	0	-	5	8	3	0	-	11	0	6	0	-	6	22
% Single-Unit Trucks	6.5	10.7	-	-	8.5	10.5	7.7	-	-	9.6	0.0	8.1	-	-	6.5	8.3
Articulated Trucks	2	0	0	-	2	1	5	0	-	6	0	0	0	-	0	8
% Articulated Trucks	6.5	0.0	-	-	3.4	1.3	12.8	-	-	5.2	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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: 220784
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (11:30 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: 220784
Start Date: 02/14/2023

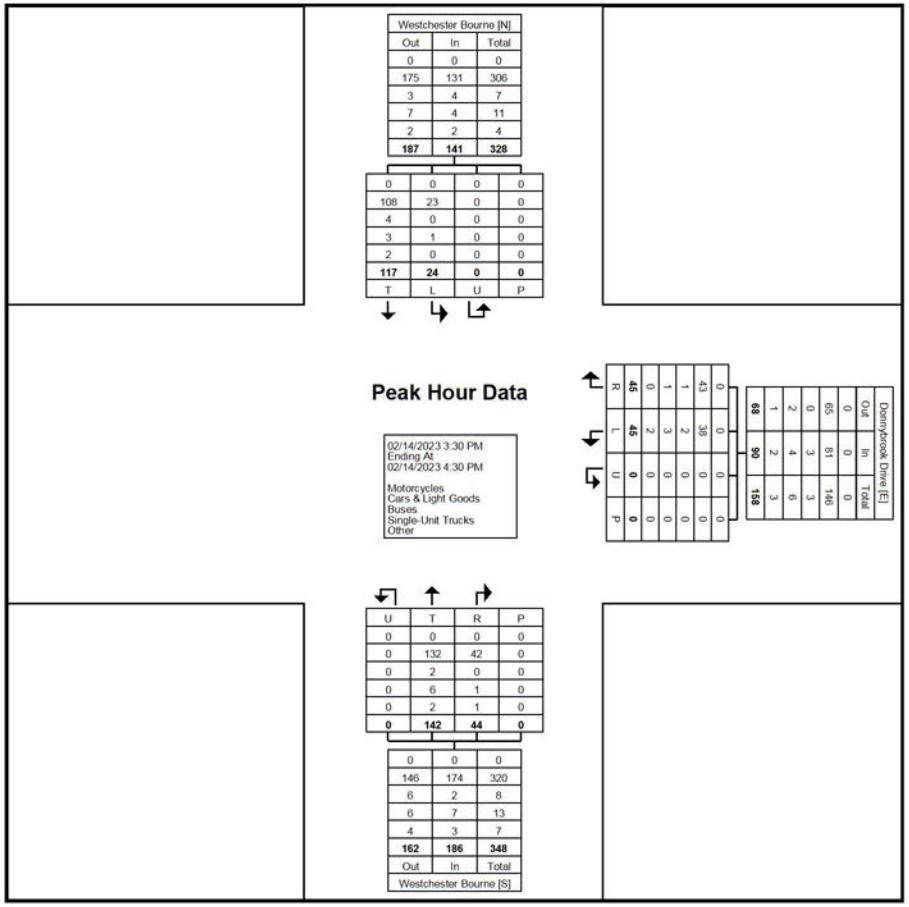
Turning Movement Peak Hour Data (3:30 PM)

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
3:30 PM	7	10	0	0	17	42	10	0	0	52	4	21	0	0	25	94
3:45 PM	6	17	0	0	23	31	10	0	0	41	8	38	0	0	46	110
4:00 PM	15	10	0	0	25	36	15	0	0	51	8	31	0	0	39	115
4:15 PM	17	8	0	0	25	33	9	0	0	42	4	27	0	0	31	98
Total	45	45	0	0	90	142	44	0	0	186	24	117	0	0	141	417
Approach %	50.0	50.0	0.0	-	-	76.3	23.7	0.0	-	-	17.0	83.0	0.0	-	-	-
Total %	10.8	10.8	0.0	-	21.6	34.1	10.6	0.0	-	44.6	5.8	28.1	0.0	-	33.8	-
PHF	0.662	0.662	0.000	-	0.900	0.845	0.733	0.000	-	0.894	0.750	0.770	0.000	-	0.766	0.907
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	38	43	0	-	81	132	42	0	-	174	23	108	0	-	131	386
% Cars & Light Goods	84.4	95.6	-	-	90.0	93.0	95.5	-	-	93.5	95.8	92.3	-	-	92.9	92.6
Buses	2	1	0	-	3	2	0	0	-	2	0	4	0	-	4	9
% Buses	4.4	2.2	-	-	3.3	1.4	0.0	-	-	1.1	0.0	3.4	-	-	2.8	2.2
Single-Unit Trucks	3	1	0	-	4	6	1	0	-	7	1	3	0	-	4	15
% Single-Unit Trucks	6.7	2.2	-	-	4.4	4.2	2.3	-	-	3.8	4.2	2.6	-	-	2.8	3.6
Articulated Trucks	2	0	0	-	2	2	1	0	-	3	0	2	0	-	2	7
% Articulated Trucks	4.4	0.0	-	-	2.2	1.4	2.3	-	-	1.6	0.0	1.7	-	-	1.4	1.7
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: Westchester Bourne & Donnybrook Drive
Site Code: 220784
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (3:30 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Westchester Bourne & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Data

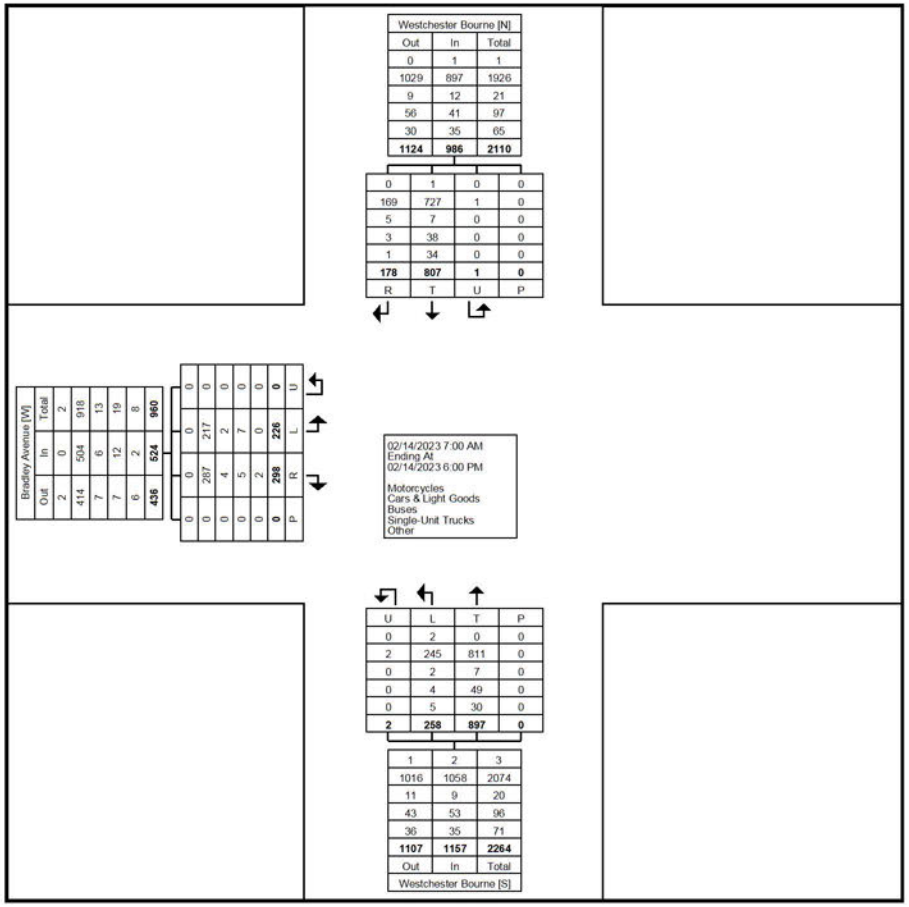
Start Time	Bradley Avenue Eastbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:00 AM	2	5	0	0	7	15	35	0	0	50	18	5	0	0	23	80
7:15 AM	3	9	0	0	12	14	37	0	0	51	33	1	0	0	34	97
7:30 AM	5	7	0	0	12	15	39	0	0	54	28	7	0	0	35	101
7:45 AM	6	5	0	0	11	15	41	0	0	56	28	5	0	0	33	100
Hourly Total	16	26	0	0	42	59	152	0	0	211	107	18	0	0	125	378
8:00 AM	7	7	0	0	14	14	22	0	0	36	24	8	0	0	32	82
8:15 AM	5	11	0	0	16	9	23	0	0	32	19	7	0	0	26	74
8:30 AM	6	3	0	0	9	5	35	0	0	40	21	2	0	0	23	72
8:45 AM	1	5	0	0	6	9	33	0	0	42	27	2	0	0	29	77
Hourly Total	19	26	0	0	45	37	113	0	0	150	91	19	0	0	110	305
9:00 AM	5	11	0	0	16	6	27	0	0	33	17	8	0	0	25	74
9:15 AM	3	3	0	0	6	5	16	0	0	21	16	1	0	0	17	44
9:30 AM	4	5	0	0	9	7	27	0	0	34	15	10	0	0	25	68
9:45 AM	5	7	0	0	12	5	23	0	0	28	19	5	0	0	24	64
Hourly Total	17	26	0	0	43	23	93	0	0	116	67	24	0	0	91	250
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	3	5	0	0	8	8	19	0	0	27	13	5	0	0	18	53
11:15 AM	6	3	0	0	9	2	11	0	0	13	20	3	0	0	23	45
11:30 AM	8	4	0	0	12	4	20	0	0	24	19	6	0	0	25	61
11:45 AM	6	5	0	0	11	5	22	0	0	27	16	3	0	0	19	57
Hourly Total	23	17	0	0	40	19	72	0	0	91	68	17	0	0	85	216
12:00 PM	6	7	0	0	13	6	22	1	0	29	25	7	0	0	32	74
12:15 PM	6	6	0	0	12	3	22	0	0	25	21	10	0	0	31	68
12:30 PM	6	3	0	0	9	4	26	0	0	30	14	8	0	0	22	61
12:45 PM	12	6	0	0	18	4	24	0	0	28	17	1	0	0	18	64
Hourly Total	30	22	0	0	52	17	94	1	0	112	77	26	0	0	103	267
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	16	10	0	0	26	6	17	0	0	23	29	3	0	0	32	81
3:15 PM	7	10	0	0	17	13	28	0	0	41	30	7	0	0	37	95
3:30 PM	10	3	0	0	13	6	41	0	0	47	26	5	0	0	31	91
3:45 PM	6	17	0	0	23	7	34	0	0	41	36	6	0	0	42	106
Hourly Total	39	40	0	0	79	32	120	0	0	152	121	21	0	0	142	373
4:00 PM	14	19	0	0	33	10	37	0	0	47	37	7	0	0	44	124
4:15 PM	7	19	0	0	26	10	34	0	0	44	34	10	0	0	44	114
4:30 PM	16	26	0	0	42	11	26	1	0	38	44	6	0	0	50	130
4:45 PM	12	23	0	0	35	4	42	0	0	46	45	8	0	0	53	134

Hourly Total	49	87	0	0	136	35	139	1	0	175	160	31	0	0	191	502
5:00 PM	8	12	0	0	20	10	30	0	0	40	46	9	0	0	55	115
5:15 PM	11	19	0	0	30	15	36	0	0	51	32	9	0	0	41	122
5:30 PM	11	15	0	0	26	6	29	0	0	35	13	2	1	0	16	77
5:45 PM	3	8	0	0	11	5	19	0	0	24	25	2	0	0	27	62
Hourly Total	33	54	0	0	87	36	114	0	0	150	116	22	1	0	139	376
Grand Total	226	298	0	0	524	258	897	2	0	1157	807	178	1	0	986	2667
Approach %	43.1	56.9	0.0	-	-	22.3	77.5	0.2	-	-	81.8	18.1	0.1	-	-	-
Total %	8.5	11.2	0.0	-	19.6	9.7	33.6	0.1	-	43.4	30.3	6.7	0.0	-	37.0	-
Motorcycles	0	0	0	-	0	2	0	0	-	2	1	0	0	-	1	3
% Motorcycles	0.0	0.0	-	-	0.0	0.8	0.0	0.0	-	0.2	0.1	0.0	0.0	-	0.1	0.1
Cars & Light Goods	217	287	0	-	504	245	811	2	-	1058	727	169	1	-	897	2459
% Cars & Light Goods	96.0	96.3	-	-	96.2	95.0	90.4	100.0	-	91.4	90.1	94.9	100.0	-	91.0	92.2
Buses	2	4	0	-	6	2	7	0	-	9	7	5	0	-	12	27
% Buses	0.9	1.3	-	-	1.1	0.8	0.8	0.0	-	0.8	0.9	2.8	0.0	-	1.2	1.0
Single-Unit Trucks	7	5	0	-	12	4	49	0	-	53	38	3	0	-	41	106
% Single-Unit Trucks	3.1	1.7	-	-	2.3	1.6	5.5	0.0	-	4.6	4.7	1.7	0.0	-	4.2	4.0
Articulated Trucks	0	2	0	-	2	5	28	0	-	33	34	1	0	-	35	70
% Articulated Trucks	0.0	0.7	-	-	0.4	1.9	3.1	0.0	-	2.9	4.2	0.6	0.0	-	3.5	2.6
Bicycles on Road	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.2	0.0	-	0.2	0.0	0.0	0.0	-	0.0	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: Westchester Bourne & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023



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 & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023

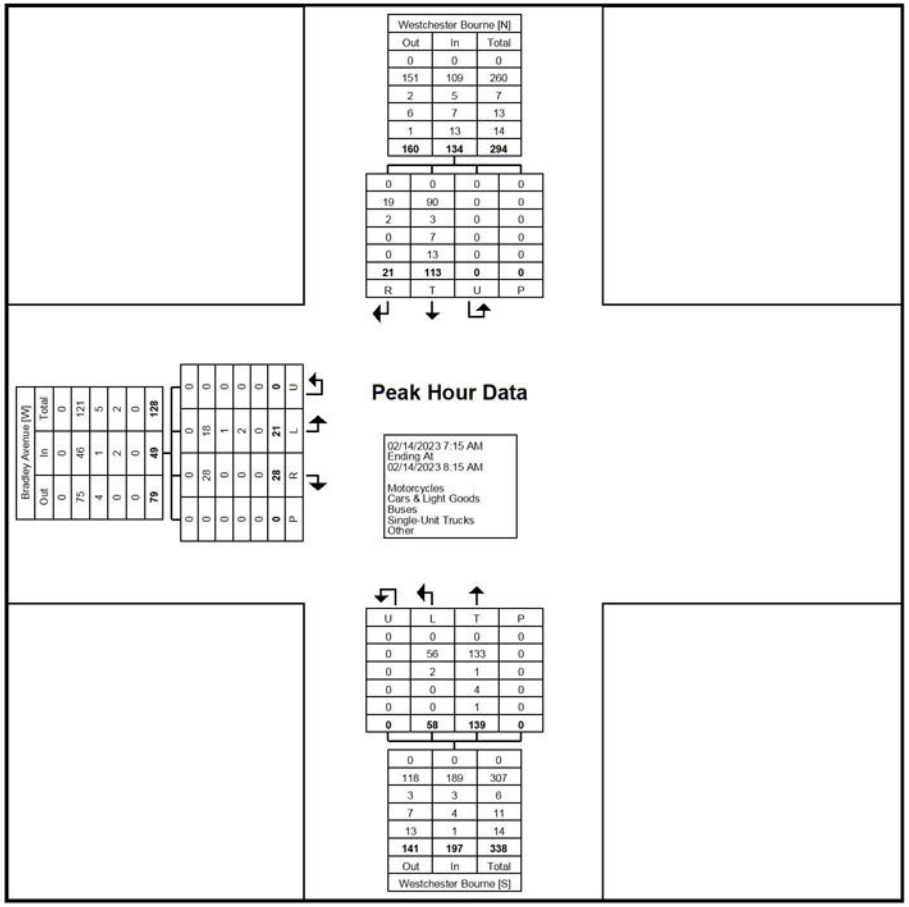
Turning Movement Peak Hour Data (7:15 AM)

Start Time	Bradley Avenue Eastbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
7:15 AM	3	9	0	0	12	14	37	0	0	51	33	1	0	0	34	97
7:30 AM	5	7	0	0	12	15	39	0	0	54	28	7	0	0	35	101
7:45 AM	6	5	0	0	11	15	41	0	0	56	28	5	0	0	33	100
8:00 AM	7	7	0	0	14	14	22	0	0	36	24	8	0	0	32	82
Total	21	28	0	0	49	58	139	0	0	197	113	21	0	0	134	380
Approach %	42.9	57.1	0.0	-	-	29.4	70.6	0.0	-	-	84.3	15.7	0.0	-	-	-
Total %	5.5	7.4	0.0	-	12.9	15.3	36.6	0.0	-	51.8	29.7	5.5	0.0	-	35.3	-
PHF	0.750	0.778	0.000	-	0.875	0.967	0.848	0.000	-	0.879	0.856	0.656	0.000	-	0.957	0.941
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	18	28	0	-	46	56	133	0	-	189	90	19	0	-	109	344
% Cars & Light Goods	85.7	100.0	-	-	93.9	96.6	95.7	-	-	95.9	79.6	90.5	-	-	81.3	90.5
Buses	1	0	0	-	1	2	1	0	-	3	3	2	0	-	5	9
% Buses	4.8	0.0	-	-	2.0	3.4	0.7	-	-	1.5	2.7	9.5	-	-	3.7	2.4
Single-Unit Trucks	2	0	0	-	2	0	4	0	-	4	7	0	0	-	7	13
% Single-Unit Trucks	9.5	0.0	-	-	4.1	0.0	2.9	-	-	2.0	6.2	0.0	-	-	5.2	3.4
Articulated Trucks	0	0	0	-	0	0	1	0	-	1	13	0	0	-	13	14
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.7	-	-	0.5	11.5	0.0	-	-	9.7	3.7
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: Westchester Bourne & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023



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: Westchester Bourne & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023

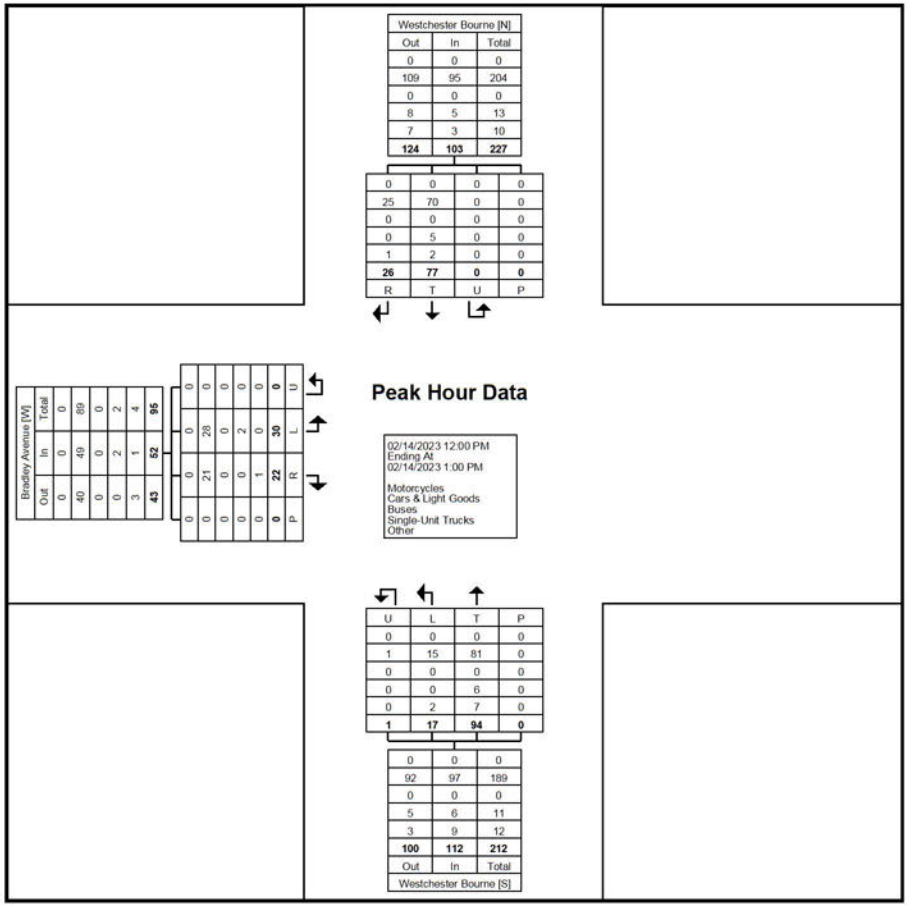
Turning Movement Peak Hour Data (12:00 PM)

Start Time	Bradley Avenue Eastbound					Westchester Bourne Northbound					Westchester Bourne 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	6	7	0	0	13	6	22	1	0	29	25	7	0	0	32	74
12:15 PM	6	6	0	0	12	3	22	0	0	25	21	10	0	0	31	68
12:30 PM	6	3	0	0	9	4	26	0	0	30	14	8	0	0	22	61
12:45 PM	12	6	0	0	18	4	24	0	0	28	17	1	0	0	18	64
Total	30	22	0	0	52	17	94	1	0	112	77	26	0	0	103	267
Approach %	57.7	42.3	0.0	-	-	15.2	83.9	0.9	-	-	74.8	25.2	0.0	-	-	-
Total %	11.2	8.2	0.0	-	19.5	6.4	35.2	0.4	-	41.9	28.8	9.7	0.0	-	38.6	-
PHF	0.625	0.786	0.000	-	0.722	0.708	0.904	0.250	-	0.933	0.770	0.650	0.000	-	0.805	0.902
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	0.0
Cars & Light Goods	28	21	0	-	49	15	81	1	-	97	70	25	0	-	95	241
% Cars & Light Goods	93.3	95.5	-	-	94.2	88.2	86.2	100.0	-	86.6	90.9	96.2	-	-	92.2	90.3
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	0.0
Single-Unit Trucks	2	0	0	-	2	0	6	0	-	6	5	0	0	-	5	13
% Single-Unit Trucks	6.7	0.0	-	-	3.8	0.0	6.4	0.0	-	5.4	6.5	0.0	-	-	4.9	4.9
Articulated Trucks	0	1	0	-	1	2	7	0	-	9	2	1	0	-	3	13
% Articulated Trucks	0.0	4.5	-	-	1.9	11.8	7.4	0.0	-	8.0	2.6	3.8	-	-	2.9	4.9
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	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 & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023



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 & Bradley Avenue
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Bradley Avenue Eastbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
4:00 PM	14	19	0	0	33	10	37	0	0	47	37	7	0	0	44	124
4:15 PM	7	19	0	0	26	10	34	0	0	44	34	10	0	0	44	114
4:30 PM	16	26	0	0	42	11	26	1	0	38	44	6	0	0	50	130
4:45 PM	12	23	0	0	35	4	42	0	0	46	45	8	0	0	53	134
Total	49	87	0	0	136	35	139	1	0	175	160	31	0	0	191	502
Approach %	36.0	64.0	0.0	-	-	20.0	79.4	0.6	-	-	83.8	16.2	0.0	-	-	-
Total %	9.8	17.3	0.0	-	27.1	7.0	27.7	0.2	-	34.9	31.9	6.2	0.0	-	38.0	-
PHF	0.766	0.837	0.000	-	0.810	0.795	0.827	0.250	-	0.931	0.889	0.775	0.000	-	0.901	0.937
Motorcycles	0	0	0	-	0	2	0	0	-	2	0	0	0	-	0	2
% Motorcycles	0.0	0.0	-	-	0.0	5.7	0.0	0.0	-	1.1	0.0	0.0	-	-	0.0	0.4
Cars & Light Goods	49	85	0	-	134	32	129	1	-	162	153	29	0	-	182	478
% Cars & Light Goods	100.0	97.7	-	-	98.5	91.4	92.8	100.0	-	92.6	95.6	93.5	-	-	95.3	95.2
Buses	0	1	0	-	1	0	1	0	-	1	0	1	0	-	1	3
% Buses	0.0	1.1	-	-	0.7	0.0	0.7	0.0	-	0.6	0.0	3.2	-	-	0.5	0.6
Single-Unit Trucks	0	1	0	-	1	1	8	0	-	9	3	1	0	-	4	14
% Single-Unit Trucks	0.0	1.1	-	-	0.7	2.9	5.8	0.0	-	5.1	1.9	3.2	-	-	2.1	2.8
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	4	0	0	-	4	4
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	2.5	0.0	-	-	2.1	0.8
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.7	0.0	-	0.6	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
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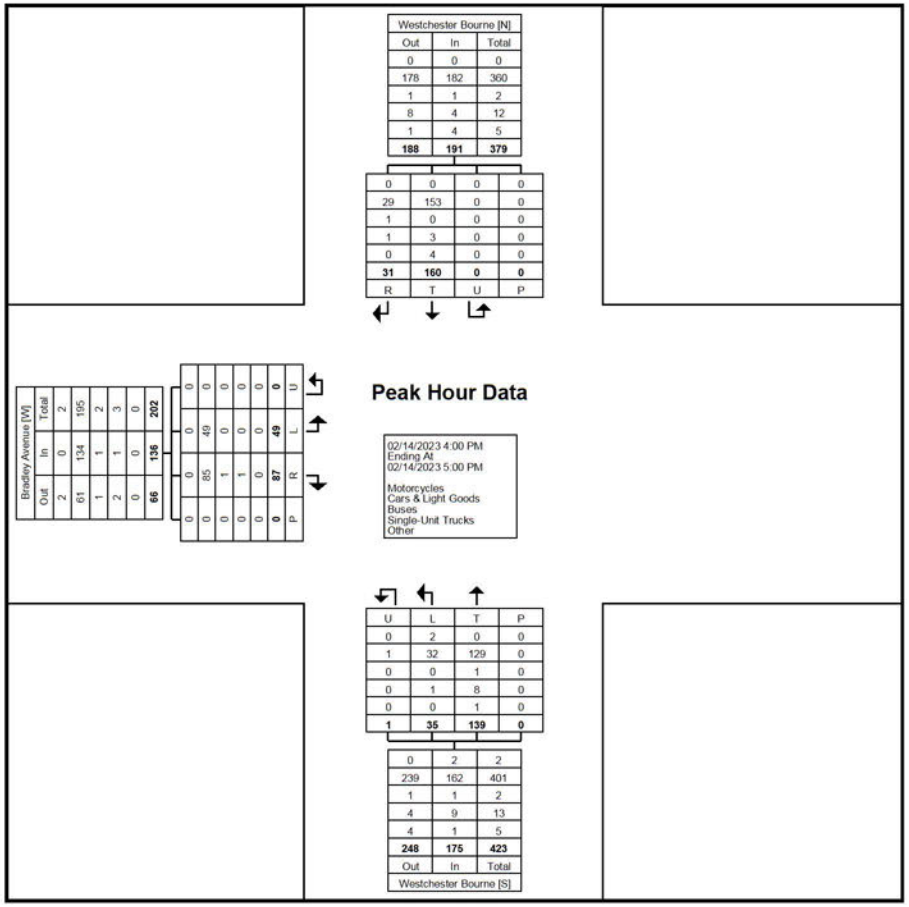
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Westchester Bourne & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Data

Start Time	Highway 401 North Ramp 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	13	3	0	0	16	49	0	0	0	49	5	17	0	0	22	87
7:15 AM	8	3	0	0	11	47	0	0	0	47	10	32	0	0	42	100
7:30 AM	19	3	0	0	22	48	0	0	0	48	8	26	0	0	34	104
7:45 AM	12	3	0	0	15	52	0	0	0	52	6	26	0	0	32	99
Hourly Total	52	12	0	0	64	196	0	0	0	196	29	101	0	0	130	390
8:00 AM	8	4	0	0	12	32	0	0	0	32	8	22	0	0	30	74
8:15 AM	3	2	1	0	6	33	0	0	0	33	5	25	0	0	30	69
8:30 AM	7	6	0	0	13	33	0	0	0	33	5	17	0	0	22	68
8:45 AM	4	1	0	0	5	38	0	0	0	38	5	28	0	0	33	76
Hourly Total	22	13	1	0	36	136	0	0	0	136	23	92	0	0	115	287
9:00 AM	4	1	1	0	6	33	0	0	0	33	5	24	0	0	29	68
9:15 AM	4	3	0	0	7	18	0	0	0	18	1	16	0	0	17	42
9:30 AM	10	0	0	0	10	33	0	0	0	33	4	16	0	0	20	63
9:45 AM	4	0	0	0	4	29	0	0	0	29	5	24	0	0	29	62
Hourly Total	22	4	1	0	27	113	0	0	0	113	15	80	0	0	95	235
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	15	3	0	0	18	24	0	0	0	24	4	15	0	0	19	61
11:15 AM	9	0	0	0	9	12	0	0	0	12	2	19	0	0	21	42
11:30 AM	8	2	1	0	11	23	0	0	0	23	4	19	0	0	23	57
11:45 AM	15	1	0	0	16	28	0	0	0	28	4	17	0	0	21	65
Hourly Total	47	6	1	0	54	87	0	0	0	87	14	70	0	0	84	225
12:00 PM	3	2	0	0	5	26	0	0	0	26	10	25	0	0	35	66
12:15 PM	8	2	0	0	10	27	0	0	0	27	5	23	0	0	28	65
12:30 PM	6	1	0	0	7	27	0	0	0	27	2	15	0	0	17	51
12:45 PM	14	2	0	0	16	27	0	0	0	27	7	15	0	0	22	65
Hourly Total	31	7	0	0	38	107	0	0	0	107	24	78	0	0	102	247
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	13	1	0	0	14	24	0	0	0	24	6	28	0	0	34	72
3:15 PM	33	7	0	0	40	32	0	0	0	32	7	37	0	0	44	116
3:30 PM	17	9	0	0	26	40	0	0	0	40	6	23	0	0	29	95
3:45 PM	16	11	0	0	27	31	1	0	0	32	4	48	0	0	52	111
Hourly Total	79	28	0	0	107	127	1	0	0	128	23	136	0	0	159	394
4:00 PM	22	3	0	0	25	43	0	0	0	43	7	48	0	0	55	123
4:15 PM	24	5	1	0	30	40	0	0	0	40	7	47	0	0	54	124
4:30 PM	23	3	0	0	26	35	0	0	0	35	10	59	0	0	69	130
4:45 PM	16	9	0	0	25	43	0	0	0	43	9	61	0	0	70	138

Hourly Total	85	20	1	0	106	161	0	0	0	161	33	215	0	0	248	515
5:00 PM	20	5	0	0	25	35	0	0	0	35	15	44	0	0	59	119
5:15 PM	13	11	0	0	24	42	0	0	0	42	5	45	0	0	50	116
5:30 PM	15	0	0	0	15	34	0	0	0	34	5	26	0	0	31	80
5:45 PM	20	1	0	0	21	23	0	0	0	23	11	21	0	0	32	76
Hourly Total	68	17	0	0	85	134	0	0	0	134	36	136	0	0	172	391
Grand Total	406	107	4	0	517	1061	1	0	0	1062	197	908	0	0	1105	2684
Approach %	78.5	20.7	0.8	-	-	99.9	0.1	0.0	-	-	17.8	82.2	0.0	-	-	-
Total %	15.1	4.0	0.1	-	19.3	39.5	0.0	0.0	-	39.6	7.3	33.8	0.0	-	41.2	-
Motorcycles	0	0	0	-	0	3	0	0	-	3	0	1	0	-	1	4
% Motorcycles	0.0	0.0	0.0	-	0.0	0.3	0.0	-	-	0.3	0.0	0.1	-	-	0.1	0.1
Cars & Light Goods	284	86	2	-	372	981	1	0	-	982	172	838	0	-	1010	2364
% Cars & Light Goods	70.0	80.4	50.0	-	72.0	92.5	100.0	-	-	92.5	87.3	92.3	-	-	91.4	88.1
Buses	1	3	0	-	4	6	0	0	-	6	0	11	0	-	11	21
% Buses	0.2	2.8	0.0	-	0.8	0.6	0.0	-	-	0.6	0.0	1.2	-	-	1.0	0.8
Single-Unit Trucks	19	7	0	-	26	45	0	0	-	45	7	35	0	-	42	113
% Single-Unit Trucks	4.7	6.5	0.0	-	5.0	4.2	0.0	-	-	4.2	3.6	3.9	-	-	3.8	4.2
Articulated Trucks	102	11	2	-	115	25	0	0	-	25	18	23	0	-	41	181
% Articulated Trucks	25.1	10.3	50.0	-	22.2	2.4	0.0	-	-	2.4	9.1	2.5	-	-	3.7	6.7
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	-	0.0	0.1	0.0	-	-	0.1	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
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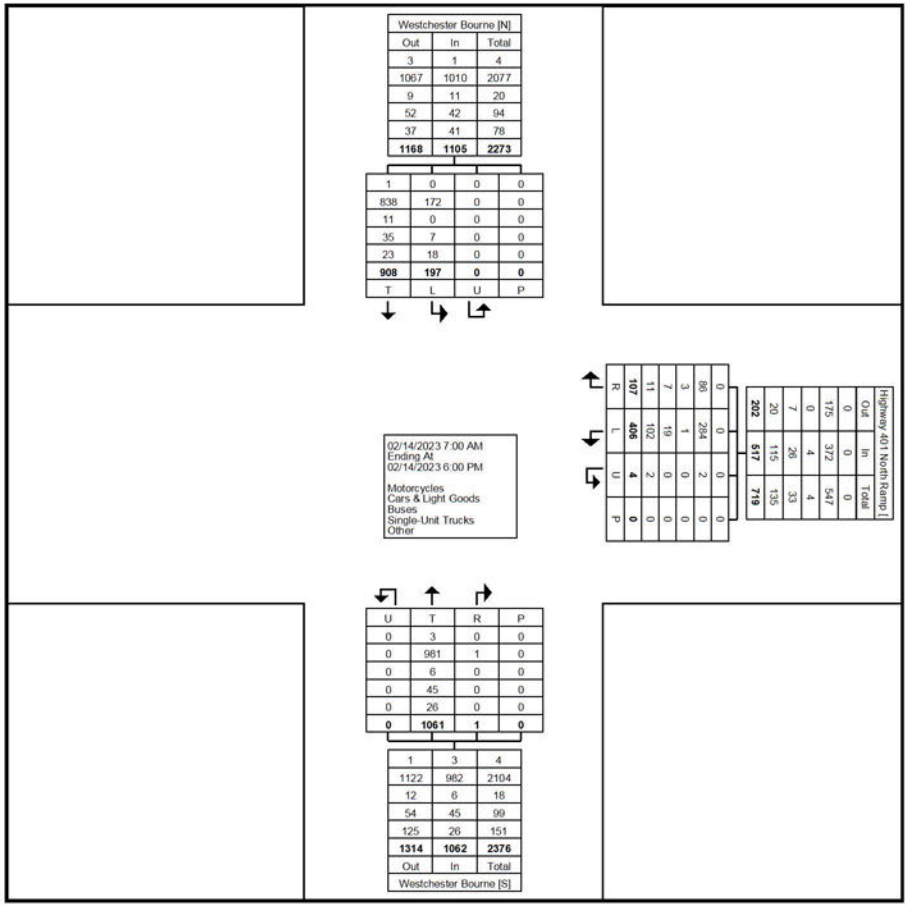
Count Name: Westchester Bourne & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023



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 & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023

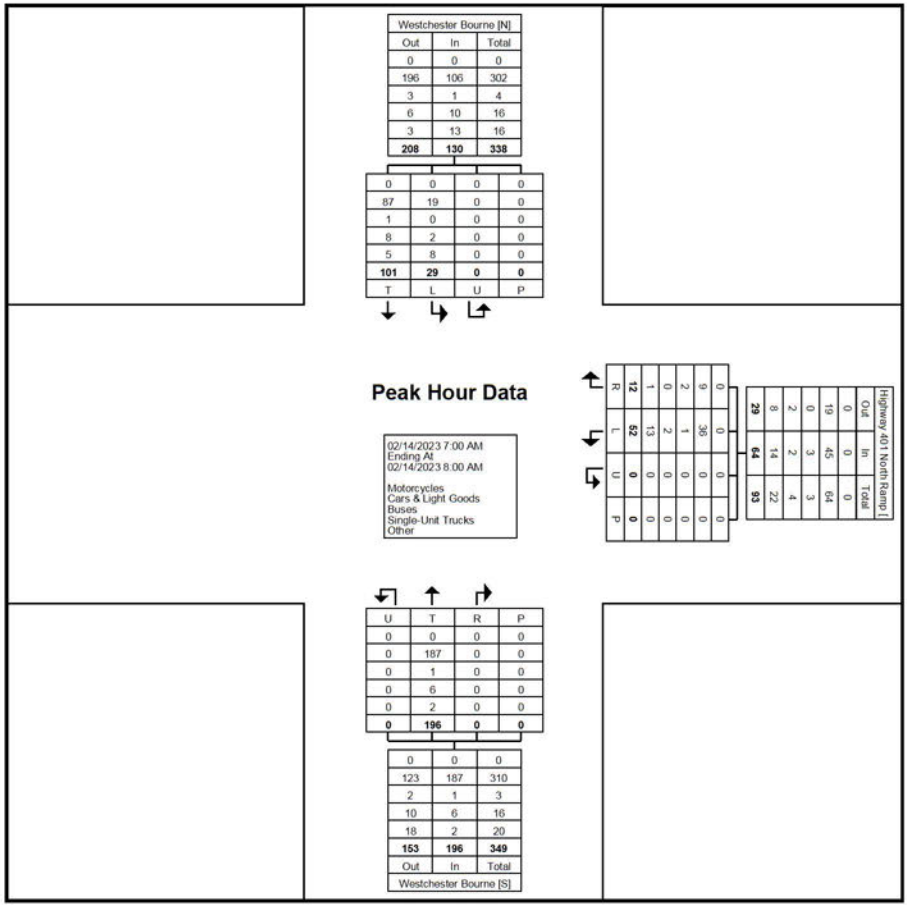
Turning Movement Peak Hour Data (7:00 AM)

Start Time	Highway 401 North Ramp 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	13	3	0	0	16	49	0	0	0	49	5	17	0	0	22	87
7:15 AM	8	3	0	0	11	47	0	0	0	47	10	32	0	0	42	100
7:30 AM	19	3	0	0	22	48	0	0	0	48	8	26	0	0	34	104
7:45 AM	12	3	0	0	15	52	0	0	0	52	6	26	0	0	32	99
Total	52	12	0	0	64	196	0	0	0	196	29	101	0	0	130	390
Approach %	81.3	18.8	0.0	-	-	100.0	0.0	0.0	-	-	22.3	77.7	0.0	-	-	-
Total %	13.3	3.1	0.0	-	16.4	50.3	0.0	0.0	-	50.3	7.4	25.9	0.0	-	33.3	-
PHF	0.684	1.000	0.000	-	0.727	0.942	0.000	0.000	-	0.942	0.725	0.789	0.000	-	0.774	0.938
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
Cars & Light Goods	36	9	0	-	45	187	0	0	-	187	19	87	0	-	106	338
% Cars & Light Goods	69.2	75.0	-	-	70.3	95.4	-	-	-	95.4	65.5	86.1	-	-	81.5	86.7
Buses	1	2	0	-	3	1	0	0	-	1	0	1	0	-	1	5
% Buses	1.9	16.7	-	-	4.7	0.5	-	-	-	0.5	0.0	1.0	-	-	0.8	1.3
Single-Unit Trucks	2	0	0	-	2	6	0	0	-	6	2	8	0	-	10	18
% Single-Unit Trucks	3.8	0.0	-	-	3.1	3.1	-	-	-	3.1	6.9	7.9	-	-	7.7	4.6
Articulated Trucks	13	1	0	-	14	2	0	0	-	2	8	5	0	-	13	29
% Articulated Trucks	25.0	8.3	-	-	21.9	1.0	-	-	-	1.0	27.6	5.0	-	-	10.0	7.4
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
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 & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023



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

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Westchester Bourne & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Peak Hour Data (11:30 AM)

Start Time	Highway 401 North Ramp 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
11:30 AM	8	2	1	0	11	23	0	0	0	23	4	19	0	0	23	57
11:45 AM	15	1	0	0	16	28	0	0	0	28	4	17	0	0	21	65
12:00 PM	3	2	0	0	5	26	0	0	0	26	10	25	0	0	35	66
12:15 PM	8	2	0	0	10	27	0	0	0	27	5	23	0	0	28	65
Total	34	7	1	0	42	104	0	0	0	104	23	84	0	0	107	253
Approach %	81.0	16.7	2.4	-	-	100.0	0.0	0.0	-	-	21.5	78.5	0.0	-	-	-
Total %	13.4	2.8	0.4	-	16.6	41.1	0.0	0.0	-	41.1	9.1	33.2	0.0	-	42.3	-
PHF	0.567	0.875	0.250	-	0.656	0.929	0.000	0.000	-	0.929	0.575	0.840	0.000	-	0.764	0.958
Motorcycles	0	0	0	-	0	1	0	0	-	1	0	0	0	-	0	1
% Motorcycles	0.0	0.0	0.0	-	0.0	1.0	-	-	-	1.0	0.0	0.0	-	-	0.0	0.4
Cars & Light Goods	23	4	1	-	28	91	0	0	-	91	21	79	0	-	100	219
% Cars & Light Goods	67.6	57.1	100.0	-	66.7	87.5	-	-	-	87.5	91.3	94.0	-	-	93.5	86.6
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	1	1	0	-	2	5	0	0	-	5	1	5	0	-	6	13
% Single-Unit Trucks	2.9	14.3	0.0	-	4.8	4.8	-	-	-	4.8	4.3	6.0	-	-	5.6	5.1
Articulated Trucks	10	2	0	-	12	7	0	0	-	7	1	0	0	-	1	20
% Articulated Trucks	29.4	28.6	0.0	-	28.6	6.7	-	-	-	6.7	4.3	0.0	-	-	0.9	7.9
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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519-896-3163 cbowness@ptsl.com

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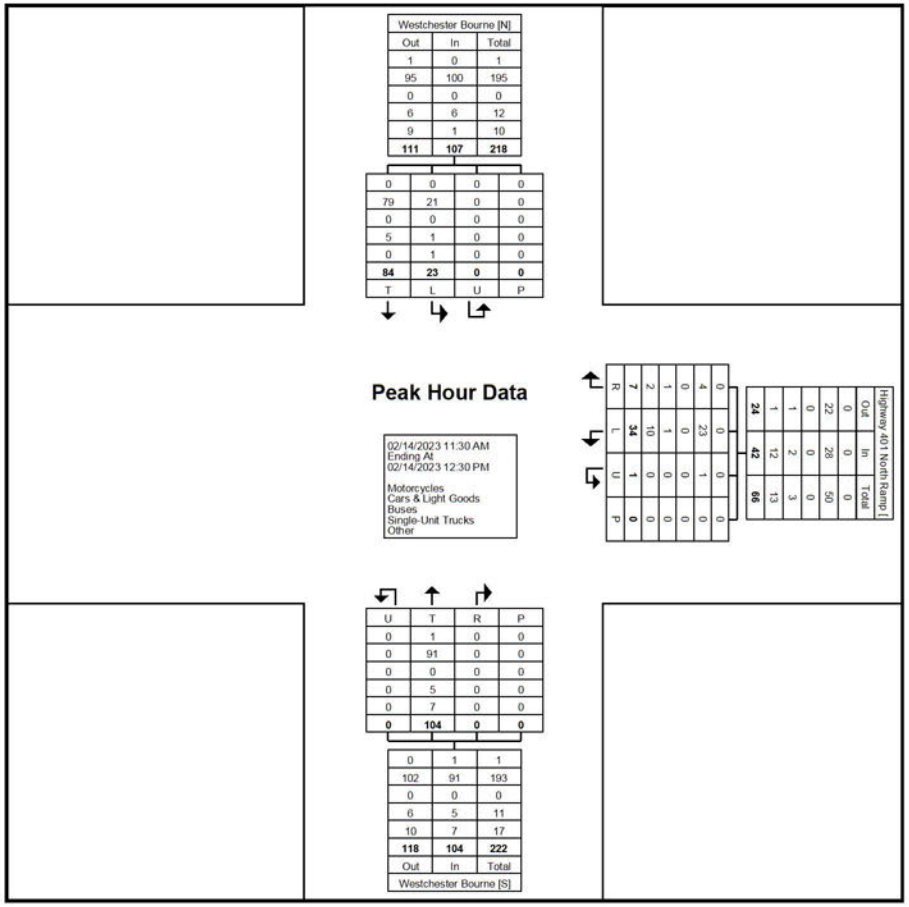
Site Code: 220784
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (11:30 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Westchester Bourne & Highway 401 North Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Highway 401 North Ramp 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
4:00 PM	22	3	0	0	25	43	0	0	0	43	7	48	0	0	55	123
4:15 PM	24	5	1	0	30	40	0	0	0	40	7	47	0	0	54	124
4:30 PM	23	3	0	0	26	35	0	0	0	35	10	59	0	0	69	130
4:45 PM	16	9	0	0	25	43	0	0	0	43	9	61	0	0	70	138
Total	85	20	1	0	106	161	0	0	0	161	33	215	0	0	248	515
Approach %	80.2	18.9	0.9	-	-	100.0	0.0	0.0	-	-	13.3	86.7	0.0	-	-	-
Total %	16.5	3.9	0.2	-	20.6	31.3	0.0	0.0	-	31.3	6.4	41.7	0.0	-	48.2	-
PHF	0.885	0.556	0.250	-	0.883	0.936	0.000	0.000	-	0.936	0.825	0.881	0.000	-	0.886	0.933
Motorcycles	0	0	0	-	0	2	0	0	-	2	0	0	0	-	0	2
% Motorcycles	0.0	0.0	0.0	-	0.0	1.2	-	-	-	1.2	0.0	0.0	-	-	0.0	0.4
Cars & Light Goods	58	17	0	-	75	151	0	0	-	151	30	209	0	-	239	465
% Cars & Light Goods	68.2	85.0	0.0	-	70.8	93.8	-	-	-	93.8	90.9	97.2	-	-	96.4	90.3
Buses	0	0	0	-	0	1	0	0	-	1	0	1	0	-	1	2
% Buses	0.0	0.0	0.0	-	0.0	0.6	-	-	-	0.6	0.0	0.5	-	-	0.4	0.4
Single-Unit Trucks	4	2	0	-	6	6	0	0	-	6	0	4	0	-	4	16
% Single-Unit Trucks	4.7	10.0	0.0	-	5.7	3.7	-	-	-	3.7	0.0	1.9	-	-	1.6	3.1
Articulated Trucks	23	1	1	-	25	0	0	0	-	0	3	1	0	-	4	29
% Articulated Trucks	27.1	5.0	100.0	-	23.6	0.0	-	-	-	0.0	9.1	0.5	-	-	1.6	5.6
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	-	0.0	0.6	-	-	-	0.6	0.0	0.0	-	-	0.0	0.2
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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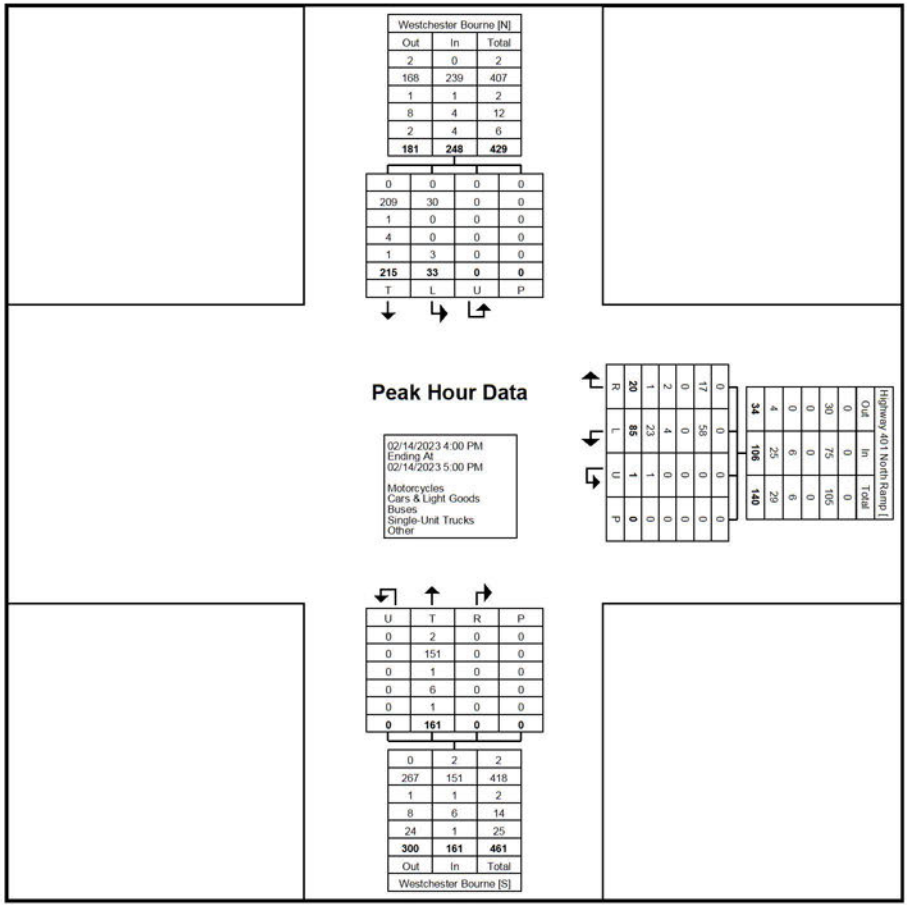
Site Code: 220784
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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Count Name: Westchester Bourne & Highway 401 South Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Data

Start Time	Highway 401 South Ramp Eastbound					Westchester Bourne Northbound					Westchester Bourne 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	11	6	0	0	17	17	53	0	0	70	27	0	0	0	27	114
7:15 AM	4	12	0	0	16	21	66	0	0	87	36	0	0	0	36	139
7:30 AM	7	5	0	0	12	21	61	0	0	82	43	0	0	0	43	137
7:45 AM	8	13	1	0	22	22	71	0	0	93	27	0	0	0	27	142
Hourly Total	30	36	1	0	67	81	251	0	0	332	133	0	0	0	133	532
8:00 AM	1	8	0	0	9	11	41	0	0	52	26	0	0	0	26	87
8:15 AM	1	13	0	0	14	26	52	0	0	78	22	0	0	0	22	114
8:30 AM	7	9	0	0	16	19	36	0	0	55	23	0	0	0	23	94
8:45 AM	5	13	0	0	18	17	55	0	0	72	28	0	0	0	28	118
Hourly Total	14	43	0	0	57	73	184	0	0	257	99	0	0	0	99	413
9:00 AM	3	12	0	0	15	18	38	0	0	56	24	0	0	0	24	95
9:15 AM	3	16	0	0	19	11	25	0	0	36	22	0	0	0	22	77
9:30 AM	6	16	0	0	22	11	39	0	0	50	24	0	0	0	24	96
9:45 AM	5	10	0	0	15	16	34	0	0	50	26	0	0	0	26	91
Hourly Total	17	54	0	0	71	56	136	0	0	192	96	0	0	0	96	359
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00 AM	0	14	0	0	14	10	3	0	0	13	28	0	0	0	28	55
11:15 AM	2	15	2	0	19	11	22	0	0	33	25	0	0	0	25	77
11:30 AM	4	15	0	0	19	3	37	0	0	40	25	0	0	0	25	84
11:45 AM	6	14	0	0	20	10	35	0	0	45	31	0	0	0	31	96
Hourly Total	12	58	2	0	72	34	97	0	0	131	109	0	0	0	109	312
12:00 PM	4	12	0	0	16	14	38	0	0	52	25	0	0	0	25	93
12:15 PM	7	14	0	0	21	7	29	0	0	36	27	0	0	0	27	84
12:30 PM	6	10	0	0	16	13	35	0	0	48	20	0	0	0	20	84
12:45 PM	4	16	0	0	20	7	35	0	0	42	28	0	0	0	28	90
Hourly Total	21	52	0	0	73	41	137	0	0	178	100	0	0	0	100	351
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3:00 PM	5	13	0	0	18	23	37	0	0	60	38	0	0	0	38	116
3:15 PM	1	19	0	0	20	10	40	0	0	50	70	0	0	0	70	140
3:30 PM	9	18	0	0	27	25	42	0	0	67	38	0	0	0	38	132
3:45 PM	3	19	0	0	22	11	40	0	0	51	59	0	0	0	59	132
Hourly Total	18	69	0	0	87	69	159	0	0	228	205	0	0	0	205	520
4:00 PM	8	23	0	0	31	29	56	0	0	85	67	0	0	0	67	183
4:15 PM	7	22	0	0	29	19	53	0	0	72	69	0	0	0	69	170
4:30 PM	11	21	0	0	32	25	44	0	0	69	77	0	0	0	77	178
4:45 PM	6	20	0	0	26	17	61	0	0	78	71	0	0	0	71	175

Hourly Total	32	86	0	0	118	90	214	0	0	304	284	0	0	0	284	706
5:00 PM	7	19	0	0	26	15	45	0	0	60	57	0	0	0	57	143
5:15 PM	9	23	0	0	32	12	48	0	0	60	53	0	0	0	53	145
5:30 PM	10	21	0	0	31	14	36	0	0	50	41	0	0	0	41	122
5:45 PM	2	13	0	0	15	4	27	0	0	31	36	1	0	0	37	83
Hourly Total	28	76	0	0	104	45	156	0	0	201	187	1	0	0	188	493
Grand Total	172	474	3	0	649	489	1334	0	0	1823	1213	1	0	0	1214	3686
Approach %	26.5	73.0	0.5	-	-	26.8	73.2	0.0	-	-	99.9	0.1	0.0	-	-	-
Total %	4.7	12.9	0.1	-	17.6	13.3	36.2	0.0	-	49.5	32.9	0.0	0.0	-	32.9	-
Motorcycles	0	0	0	-	0	0	3	0	-	3	1	0	0	-	1	4
% Motorcycles	0.0	0.0	0.0	-	0.0	0.0	0.2	-	-	0.2	0.1	0.0	-	-	0.1	0.1
Cars & Light Goods	149	343	3	-	495	357	1164	0	-	1521	1038	0	0	-	1038	3054
% Cars & Light Goods	86.6	72.4	100.0	-	76.3	73.0	87.3	-	-	83.4	85.6	0.0	-	-	85.5	82.9
Buses	0	2	0	-	2	1	7	0	-	8	11	0	0	-	11	21
% Buses	0.0	0.4	0.0	-	0.3	0.2	0.5	-	-	0.4	0.9	0.0	-	-	0.9	0.6
Single-Unit Trucks	9	15	0	-	24	19	58	0	-	77	49	0	0	-	49	150
% Single-Unit Trucks	5.2	3.2	0.0	-	3.7	3.9	4.3	-	-	4.2	4.0	0.0	-	-	4.0	4.1
Articulated Trucks	14	114	0	-	128	112	101	0	-	213	114	1	0	-	115	456
% Articulated Trucks	8.1	24.1	0.0	-	19.7	22.9	7.6	-	-	11.7	9.4	100.0	-	-	9.5	12.4
Bicycles on Road	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Bicycles on Road	0.0	0.0	0.0	-	0.0	0.0	0.1	-	-	0.1	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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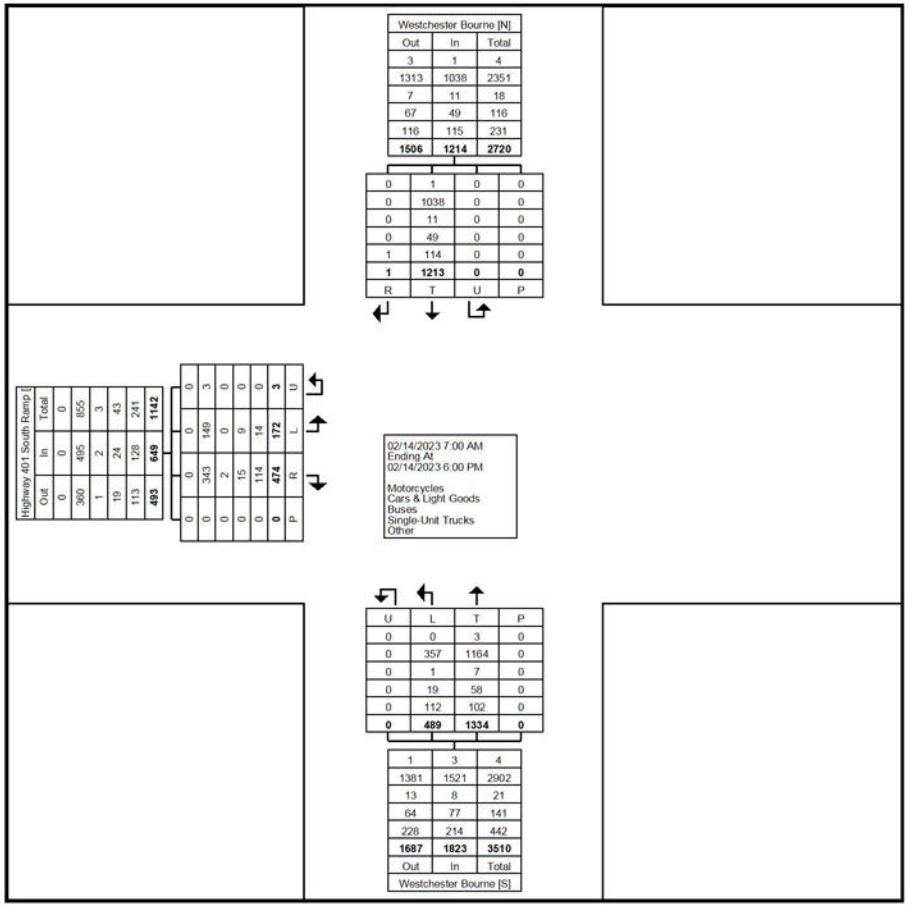

Turning Movement Data Plot

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Turning Movement Peak Hour Data (7:00 AM)

Start Time	Highway 401 South Ramp Eastbound					Westchester Bourne Northbound					Westchester Bourne 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	11	6	0	0	17	17	53	0	0	70	27	0	0	0	27	114
7:15 AM	4	12	0	0	16	21	66	0	0	87	36	0	0	0	36	139
7:30 AM	7	5	0	0	12	21	61	0	0	82	43	0	0	0	43	137
7:45 AM	8	13	1	0	22	22	71	0	0	93	27	0	0	0	27	142
Total	30	36	1	0	67	81	251	0	0	332	133	0	0	0	133	532
Approach %	44.8	53.7	1.5	-	-	24.4	75.6	0.0	-	-	100.0	0.0	0.0	-	-	-
Total %	5.6	6.8	0.2	-	12.6	15.2	47.2	0.0	-	62.4	25.0	0.0	0.0	-	25.0	-
PHF	0.682	0.692	0.250	-	0.761	0.920	0.884	0.000	-	0.892	0.773	0.000	0.000	-	0.773	0.937
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	28	24	1	-	53	68	228	0	-	296	110	0	0	-	110	459
% Cars & Light Goods	93.3	66.7	100.0	-	79.1	84.0	90.8	-	-	89.2	82.7	-	-	-	82.7	86.3
Buses	0	1	0	-	1	0	1	0	-	1	2	0	0	-	2	4
% Buses	0.0	2.8	0.0	-	1.5	0.0	0.4	-	-	0.3	1.5	-	-	-	1.5	0.8
Single-Unit Trucks	1	2	0	-	3	3	6	0	-	9	8	0	0	-	8	20
% Single-Unit Trucks	3.3	5.6	0.0	-	4.5	3.7	2.4	-	-	2.7	6.0	-	-	-	6.0	3.8
Articulated Trucks	1	9	0	-	10	10	16	0	-	26	13	0	0	-	13	49
% Articulated Trucks	3.3	25.0	0.0	-	14.9	12.3	6.4	-	-	7.8	9.8	-	-	-	9.8	9.2
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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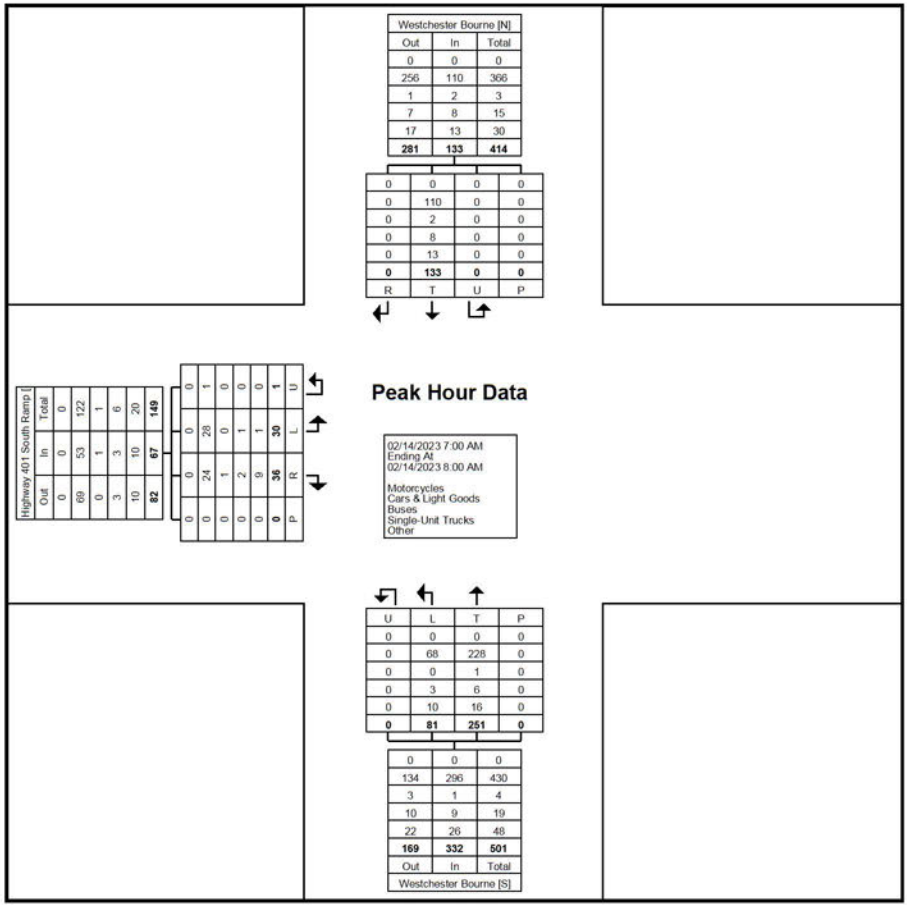
Site Code: 220784
Start Date: 02/14/2023



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 & Highway 401 South Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Peak Hour Data (11:30 AM)

Start Time	Highway 401 South Ramp Eastbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
11:30 AM	4	15	0	0	19	3	37	0	0	40	25	0	0	0	25	84
11:45 AM	6	14	0	0	20	10	35	0	0	45	31	0	0	0	31	96
12:00 PM	4	12	0	0	16	14	38	0	0	52	25	0	0	0	25	93
12:15 PM	7	14	0	0	21	7	29	0	0	36	27	0	0	0	27	84
Total	21	55	0	0	76	34	139	0	0	173	108	0	0	0	108	357
Approach %	27.6	72.4	0.0	-	-	19.7	80.3	0.0	-	-	100.0	0.0	0.0	-	-	-
Total %	5.9	15.4	0.0	-	21.3	9.5	38.9	0.0	-	48.5	30.3	0.0	0.0	-	30.3	-
PHF	0.750	0.917	0.000	-	0.905	0.607	0.914	0.000	-	0.832	0.871	0.000	0.000	-	0.871	0.930
Motorcycles	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.7	-	-	0.6	0.0	-	-	-	0.0	0.3
Cars & Light Goods	15	35	0	-	50	14	114	0	-	128	94	0	0	-	94	272
% Cars & Light Goods	71.4	63.6	-	-	65.8	41.2	82.0	-	-	74.0	87.0	-	-	-	87.0	76.2
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
Single-Unit Trucks	3	2	0	-	5	2	8	0	-	10	5	0	0	-	5	20
% Single-Unit Trucks	14.3	3.6	-	-	6.6	5.9	5.8	-	-	5.8	4.6	-	-	-	4.6	5.6
Articulated Trucks	3	18	0	-	21	18	16	0	-	34	9	0	0	-	9	64
% Articulated Trucks	14.3	32.7	-	-	27.6	52.9	11.5	-	-	19.7	8.3	-	-	-	8.3	17.9
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
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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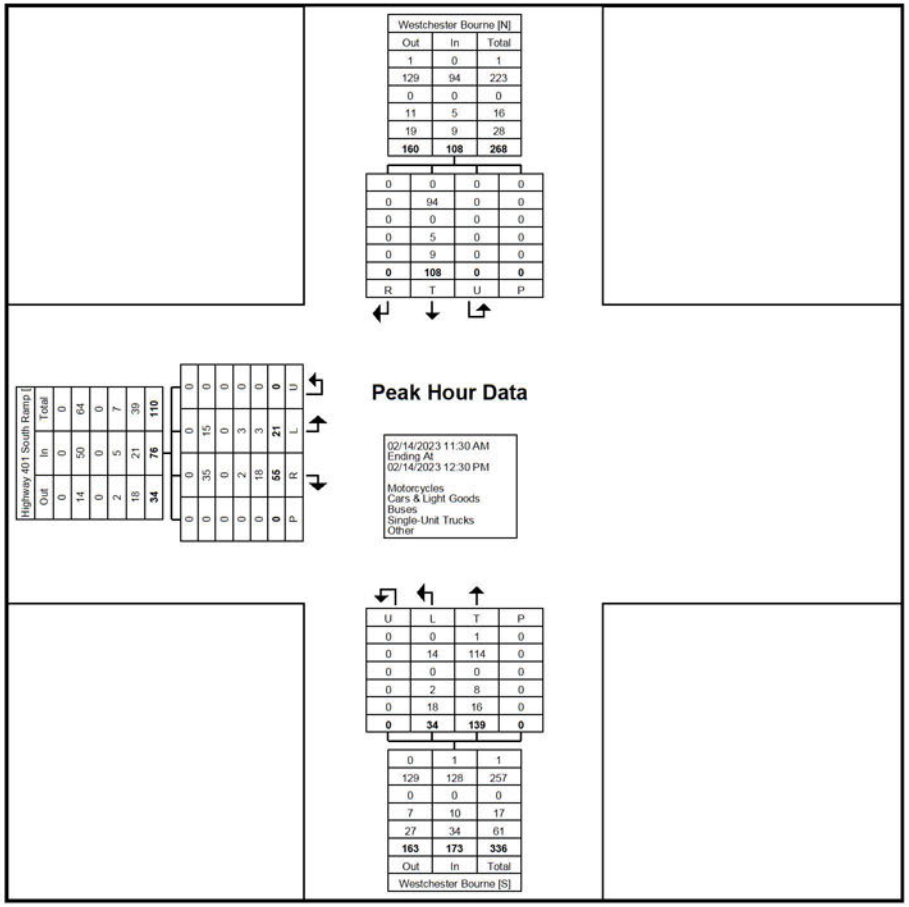
Count Name: Westchester Bourne & Highway 401 South Ramp
Site Code: 220784
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (11:30 AM)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Westchester Bourne & Highway 401 South Ramp
Site Code: 220784
Start Date: 02/14/2023

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Highway 401 South Ramp Eastbound					Westchester Bourne Northbound					Westchester Bourne Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
4:00 PM	8	23	0	0	31	29	56	0	0	85	67	0	0	0	67	183
4:15 PM	7	22	0	0	29	19	53	0	0	72	69	0	0	0	69	170
4:30 PM	11	21	0	0	32	25	44	0	0	69	77	0	0	0	77	178
4:45 PM	6	20	0	0	26	17	61	0	0	78	71	0	0	0	71	175
Total	32	86	0	0	118	90	214	0	0	304	284	0	0	0	284	706
Approach %	27.1	72.9	0.0	-	-	29.6	70.4	0.0	-	-	100.0	0.0	0.0	-	-	-
Total %	4.5	12.2	0.0	-	16.7	12.7	30.3	0.0	-	43.1	40.2	0.0	0.0	-	40.2	-
PHF	0.727	0.935	0.000	-	0.922	0.776	0.877	0.000	-	0.894	0.922	0.000	0.000	-	0.922	0.964
Motorcycles	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.9	-	-	0.7	0.0	-	-	-	0.0	0.3
Cars & Light Goods	31	70	0	-	101	73	190	0	-	263	253	0	0	-	253	617
% Cars & Light Goods	96.9	81.4	-	-	85.6	81.1	88.8	-	-	86.5	89.1	-	-	-	89.1	87.4
Buses	0	0	0	-	0	0	1	0	-	1	0	0	0	-	0	1
% Buses	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.3	0.0	-	-	-	0.0	0.1
Single-Unit Trucks	1	2	0	-	3	3	12	0	-	15	7	0	0	-	7	25
% Single-Unit Trucks	3.1	2.3	-	-	2.5	3.3	5.6	-	-	4.9	2.5	-	-	-	2.5	3.5
Articulated Trucks	0	14	0	-	14	14	9	0	-	23	24	0	0	-	24	61
% Articulated Trucks	0.0	16.3	-	-	11.9	15.6	4.2	-	-	7.6	8.5	-	-	-	8.5	8.6
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
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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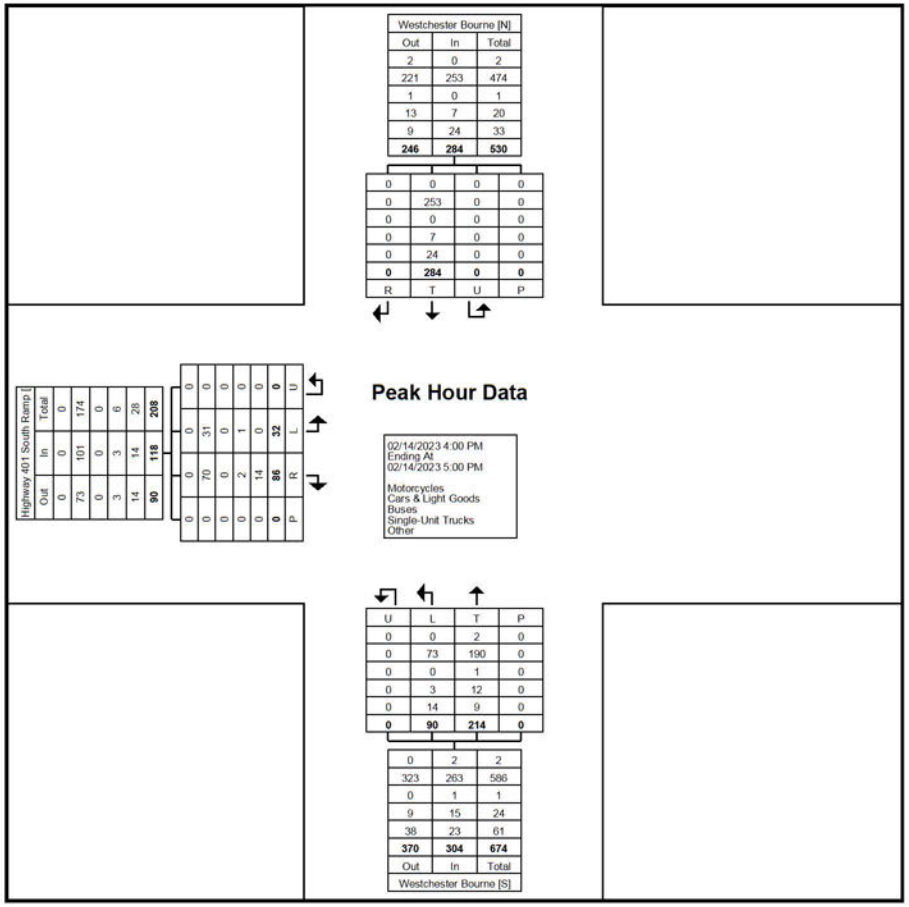
Start Date: 02/14/2023



Turning Movement Peak Hour Data Plot (4:00 PM)

Appendix C

Existing Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	41	18	130	34	34	94
Future Volume (vph)	41	18	130	34	34	94
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		0.972			
Flt Protected	0.967					0.987
Satd. Flow (prot)	1425	0	1772	0	0	1708
Flt Permitted	0.967					0.987
Satd. Flow (perm)	1425	0	1772	0	0	1708
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	45	20	141	37	37	102
Shared Lane Traffic (%)						
Lane Group Flow (vph)	65	0	178	0	0	139
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

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	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	18	130	34	34	94
Future Vol, veh/h	41	18	130	34	34	94
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, %	34	0	3	9	12	9
Mvmt Flow	45	20	141	37	37	102

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	336	160	0	0	178	0
Stage 1	160	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	599	890	-	-	1340	-
Stage 1	797	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	890	-	-	1340	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	797	-	-	-	-	-
Stage 2	760	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	651	1340	-
HCM Lane V/C Ratio	-	-	0.099	0.028	-
HCM Control Delay (s)	-	-	11.1	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	21	28	58	139	113	21
Future Volume (vph)	21	28	58	139	113	21
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	0.924				0.979	
Flt Protected	0.979			0.985		
Satd. Flow (prot)	1647	0	0	1820	1615	0
Flt Permitted	0.979			0.985		
Satd. Flow (perm)	1647	0	0	1820	1615	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	4%	18%	0%
Adj. Flow (vph)	23	30	63	151	123	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	53	0	0	214	146	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.1%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	28	58	139	113	21
Future Vol, veh/h	21	28	58	139	113	21
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, %	10	0	0	4	18	0
Mvmt Flow	23	30	63	151	123	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	412	135	146	0	-	0
Stage 1	135	-	-	-	-	-
Stage 2	277	-	-	-	-	-
Critical Hdwy	6.5	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	581	919	1448	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	752	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	554	919	1448	-	-	-
Mov Cap-2 Maneuver	554	-	-	-	-	-
Stage 1	831	-	-	-	-	-
Stage 2	752	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1448	-	717	-	-
HCM Lane V/C Ratio	0.044	-	0.074	-	-
HCM Control Delay (s)	7.6	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	12	196	85	29	101
Future Volume (vph)	52	12	196	85	29	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1423	0	1845	1615	1337	1681
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1423	0	1845	1615	1337	1681
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	57	13	213	92	32	110
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	0	213	92	32	110
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	12	196	85	29	101
Future Vol, veh/h	52	12	196	85	29	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	57	13	213	92	32	110

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	387	213	0	0	213	0
Stage 1	213	-	-	-	-	-
Stage 2	174	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	567	812	-	-	1184	-
Stage 1	762	-	-	-	-	-
Stage 2	795	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	552	812	-	-	1184	-
Mov Cap-2 Maneuver	552	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	587	1184	-
HCM Lane V/C Ratio	-	-	0.119	0.027	-
HCM Control Delay (s)	-	-	12	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	30	36	81	251	133	20
Future Volume (vph)	30	36	81	251	133	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.927					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1435	0	1556	1743	1610	1615
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1435	0	1556	1743	1610	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	33	39	88	273	145	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	72	0	88	273	145	22
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	36	81	251	133	20
Future Vol, veh/h	30	36	81	251	133	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	33	39	88	273	145	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	594	145	145	0	-	0
Stage 1	145	-	-	-	-	-
Stage 2	449	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	459	831	1356	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	633	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	831	1356	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	633	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1356	-	583	-	-
HCM Lane V/C Ratio	0.065	-	0.123	-	-
HCM Control Delay (s)	7.8	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	45	45	142	44	24	117
Future Volume (vph)	45	45	142	44	24	117
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		0.968			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1739	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1739	0	0	1812
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	49	49	154	48	26	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	98	0	202	0	0	153
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	45	142	44	24	117
Future Vol, veh/h	45	45	142	44	24	117
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	2	6	5	4	4
Mvmt Flow	49	49	154	48	26	127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	357	178	0	0	202	0
Stage 1	178	-	-	-	-	-
Stage 2	179	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	624	865	-	-	1358	-
Stage 1	832	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	611	865	-	-	1358	-
Mov Cap-2 Maneuver	611	-	-	-	-	-
Stage 1	832	-	-	-	-	-
Stage 2	814	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	716	1358	-
HCM Lane V/C Ratio	-	-	0.137	0.019	-
HCM Control Delay (s)	-	-	10.8	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	49	87	35	139	160	31
Future Volume (vph)	49	87	35	139	160	31
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	0.913				0.978	
Flt Protected	0.982			0.990		
Satd. Flow (prot)	1693	0	0	1785	1790	0
Flt Permitted	0.982			0.990		
Satd. Flow (perm)	1693	0	0	1785	1790	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	3%	6%	4%	3%
Adj. Flow (vph)	53	95	38	151	174	34
Shared Lane Traffic (%)						
Lane Group Flow (vph)	148	0	0	189	208	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	49	87	35	139	160	31
Future Vol, veh/h	49	87	35	139	160	31
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, %	0	1	3	6	4	3
Mvmt Flow	53	95	38	151	174	34

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	418	191	208	0	-	0
Stage 1	191	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	6.4	6.21	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.227	-	-	-
Pot Cap-1 Maneuver	595	853	1357	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	815	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	577	853	1357	-	-	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	820	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.2	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1357	-	728	-	-
HCM Lane V/C Ratio	0.028	-	0.203	-	-
HCM Control Delay (s)	7.7	0	11.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	85	20	161	85	33	215
Future Volume (vph)	85	20	161	85	33	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1382	0	1827	1615	1656	1863
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1382	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	92	22	175	92	36	234
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	175	92	36	234
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	85	20	161	85	33	215
Future Vol, veh/h	85	20	161	85	33	215
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	92	22	175	92	36	234

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	481	175	0	0	175	0
Stage 1	175	-	-	-	-	-
Stage 2	306	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	493	836	-	-	1360	-
Stage 1	788	-	-	-	-	-
Stage 2	684	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	480	836	-	-	1360	-
Mov Cap-2 Maneuver	480	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	666	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	522	1360	-
HCM Lane V/C Ratio	-	-	0.219	0.026	-
HCM Control Delay (s)	-	-	13.8	7.7	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	86	90	214	284	16
Future Volume (vph)	32	86	90	214	284	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.902					0.850
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1476	0	1517	1727	1712	1615
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1476	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	35	93	98	233	309	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	128	0	98	233	309	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	86	90	214	284	16
Future Vol, veh/h	32	86	90	214	284	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	35	93	98	233	309	17

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	738	309	309	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	384	693	1161	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	655	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	352	693	1161	-	-	-
Mov Cap-2 Maneuver	352	-	-	-	-	-
Stage 1	680	-	-	-	-	-
Stage 2	655	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1161	-	549	-	-
HCM Lane V/C Ratio	0.084	-	0.234	-	-
HCM Control Delay (s)	8.4	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.9	-	-

Appendix D

2030 Background Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	47	21	149	39	39	108
Future Volume (vph)	47	21	149	39	39	108
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		0.972			
Flt Protected	0.967					0.987
Satd. Flow (prot)	1426	0	1772	0	0	1708
Flt Permitted	0.967					0.987
Satd. Flow (perm)	1426	0	1772	0	0	1708
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	51	23	162	42	42	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	204	0	0	159
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	21	149	39	39	108
Future Vol, veh/h	47	21	149	39	39	108
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, %	34	0	3	9	12	9
Mvmt Flow	51	23	162	42	42	117

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	384	183	0	0	204	0
Stage 1	183	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	561	865	-	-	1310	-
Stage 1	777	-	-	-	-	-
Stage 2	762	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	542	865	-	-	1310	-
Mov Cap-2 Maneuver	542	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	736	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.7	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	613	1310	-
HCM Lane V/C Ratio	-	-	0.121	0.032	-
HCM Control Delay (s)	-	-	11.7	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	24	32	67	160	130	24
Future Volume (vph)	24	32	67	160	130	24
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	0.923				0.979	
Flt Protected	0.979			0.985		
Satd. Flow (prot)	1647	0	0	1820	1615	0
Flt Permitted	0.979			0.985		
Satd. Flow (perm)	1647	0	0	1820	1615	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	4%	18%	0%
Adj. Flow (vph)	26	35	73	174	141	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	0	247	167	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	32	67	160	130	24
Future Vol, veh/h	24	32	67	160	130	24
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, %	10	0	0	4	18	0
Mvmt Flow	26	35	73	174	141	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	474	154	167	0	-	0
Stage 1	154	-	-	-	-	-
Stage 2	320	-	-	-	-	-
Critical Hdwy	6.5	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	535	897	1423	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	718	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	505	897	1423	-	-	-
Mov Cap-2 Maneuver	505	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	718	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1423	-	673	-	-
HCM Lane V/C Ratio	0.051	-	0.09	-	-
HCM Control Delay (s)	7.7	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	13	210	91	31	108
Future Volume (vph)	56	13	210	91	31	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1423	0	1845	1615	1337	1681
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1423	0	1845	1615	1337	1681
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	61	14	228	99	34	117
Shared Lane Traffic (%)						
Lane Group Flow (vph)	75	0	228	99	34	117
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	13	210	91	31	108
Future Vol, veh/h	56	13	210	91	31	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	61	14	228	99	34	117

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	413	228	0	0	228	0
Stage 1	228	-	-	-	-	-
Stage 2	185	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	547	797	-	-	1168	-
Stage 1	750	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	531	797	-	-	1168	-
Mov Cap-2 Maneuver	531	-	-	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	763	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	567	1168	-
HCM Lane V/C Ratio	-	-	0.132	0.029	-
HCM Control Delay (s)	-	-	12.3	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	32	39	87	269	143	21
Future Volume (vph)	32	39	87	269	143	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1433	0	1556	1743	1610	1615
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1433	0	1556	1743	1610	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	35	42	95	292	155	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	77	0	95	292	155	23
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	32	39	87	269	143	21
Future Vol, veh/h	32	39	87	269	143	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	35	42	95	292	155	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	637	155	155	0	-	0
Stage 1	155	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	434	820	1344	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	403	820	1344	-	-	-
Mov Cap-2 Maneuver	403	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.5	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1344	-	559	-	-
HCM Lane V/C Ratio	0.07	-	0.138	-	-
HCM Control Delay (s)	7.9	-	12.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	52	163	51	28	134
Future Volume (vph)	52	52	163	51	28	134
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		0.968			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1739	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1739	0	0	1812
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	57	57	177	55	30	146
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	232	0	0	176
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	52	163	51	28	134
Future Vol, veh/h	52	52	163	51	28	134
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	2	6	5	4	4
Mvmt Flow	57	57	177	55	30	146

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	411	205	0	0	232	0
Stage 1	205	-	-	-	-	-
Stage 2	206	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	580	836	-	-	1324	-
Stage 1	808	-	-	-	-	-
Stage 2	808	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	566	836	-	-	1324	-
Mov Cap-2 Maneuver	566	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	675	1324	-
HCM Lane V/C Ratio	-	-	0.167	0.023	-
HCM Control Delay (s)	-	-	11.4	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	56	100	40	160	184	36
Future Volume (vph)	56	100	40	160	184	36
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	0.913				0.978	
Flt Protected	0.982			0.990		
Satd. Flow (prot)	1693	0	0	1785	1790	0
Flt Permitted	0.982			0.990		
Satd. Flow (perm)	1693	0	0	1785	1790	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	3%	6%	4%	3%
Adj. Flow (vph)	61	109	43	174	200	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	0	217	239	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	56	100	40	160	184	36
Future Vol, veh/h	56	100	40	160	184	36
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, %	0	1	3	6	4	3
Mvmt Flow	61	109	43	174	200	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	480	220	239	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.4	6.21	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.227	-	-	-
Pot Cap-1 Maneuver	548	822	1322	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	788	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	528	822	1322	-	-	-
Mov Cap-2 Maneuver	528	-	-	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	788	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1322	-	685	-	-
HCM Lane V/C Ratio	0.033	-	0.248	-	-
HCM Control Delay (s)	7.8	0	12	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	21	173	91	35	231
Future Volume (vph)	91	21	173	91	35	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1382	0	1827	1615	1656	1863
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1382	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	99	23	188	99	38	251
Shared Lane Traffic (%)						
Lane Group Flow (vph)	122	0	188	99	38	251
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	21	173	91	35	231
Future Vol, veh/h	91	21	173	91	35	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	99	23	188	99	38	251

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	515	188	0	0	188	0
Stage 1	188	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	471	822	-	-	1345	-
Stage 1	777	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	458	822	-	-	1345	-
Mov Cap-2 Maneuver	458	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.5	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	499	1345	-
HCM Lane V/C Ratio	-	-	0.244	0.028	-
HCM Control Delay (s)	-	-	14.5	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	92	96	229	304	17
Future Volume (vph)	34	92	96	229	304	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901					0.850
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1473	0	1517	1727	1712	1615
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1473	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	37	100	104	249	330	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	0	104	249	330	18
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

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	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	92	96	229	304	17
Future Vol, veh/h	34	92	96	229	304	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	37	100	104	249	330	18

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	787	330	330	0	-	0
Stage 1	330	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	359	674	1140	-	-	-
Stage 1	726	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	326	674	1140	-	-	-
Mov Cap-2 Maneuver	326	-	-	-	-	-
Stage 1	660	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.3	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1140	-	523	-	-
HCM Lane V/C Ratio	0.092	-	0.262	-	-
HCM Control Delay (s)	8.5	-	14.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1	-	-

Appendix E

2030 Total Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	47	21	158	39	39	142
Future Volume (vph)	47	21	158	39	39	142
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		0.974			
Flt Protected	0.967					0.989
Satd. Flow (prot)	1426	0	1776	0	0	1714
Flt Permitted	0.967					0.989
Satd. Flow (perm)	1426	0	1776	0	0	1714
Link Speed (k/h)	80		80			80
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	22.1		21.2			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	51	23	172	42	42	154
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	214	0	0	196
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	21	158	39	39	142
Future Vol, veh/h	47	21	158	39	39	142
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, %	34	0	3	9	12	9
Mvmt Flow	51	23	172	42	42	154

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	431	193	0	0	214	0
Stage 1	193	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	526	854	-	-	1299	-
Stage 1	769	-	-	-	-	-
Stage 2	732	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	508	854	-	-	1299	-
Mov Cap-2 Maneuver	508	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	706	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.1	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	581	1299	-
HCM Lane V/C Ratio	-	-	0.127	0.033	-
HCM Control Delay (s)	-	-	12.1	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	68	32	65	18	9	67	160	240	34	130	24
Future Volume (vph)	24	68	32	65	18	9	67	160	240	34	130	24
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		0.965			0.950			0.931			0.983	
Flt Protected		0.990		0.950				0.993			0.991	
Satd. Flow (prot)	0	1762	0	1770	1770	0	0	1715	0	0	1641	0
Flt Permitted		0.990		0.950				0.993			0.991	
Satd. Flow (perm)	0	1762	0	1770	1770	0	0	1715	0	0	1641	0
Link Speed (k/h)		80			50			80			80	
Link Distance (m)		291.0			236.5			562.6			471.2	
Travel Time (s)		13.1			17.0			25.3			21.2	
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
Heavy Vehicles (%)	10%	2%	0%	2%	2%	2%	0%	4%	2%	2%	18%	0%
Adj. Flow (vph)	26	74	35	71	20	10	73	174	261	37	141	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	135	0	71	30	0	0	508	0	0	204	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 53.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	68	32	65	18	9	67	160	240	34	130	24
Future Vol, veh/h	24	68	32	65	18	9	67	160	240	34	130	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	10	2	0	2	2	2	0	4	2	2	18	0
Mvmt Flow	26	74	35	71	20	10	73	174	261	37	141	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	694	809	154	734	692	305	167	0	0	435	0	0
Stage 1	228	228	-	451	451	-	-	-	-	-	-	-
Stage 2	466	581	-	283	241	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.52	6.2	7.12	6.52	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.018	3.3	3.518	4.018	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	347	314	897	336	367	735	1423	-	-	1125	-	-
Stage 1	757	715	-	588	571	-	-	-	-	-	-	-
Stage 2	562	500	-	724	706	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	301	282	897	238	329	735	1423	-	-	1125	-	-
Mov Cap-2 Maneuver	301	282	-	238	329	-	-	-	-	-	-	-
Stage 1	704	689	-	547	531	-	-	-	-	-	-	-
Stage 2	497	465	-	599	681	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.7	22.9	1.1	1.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1423	-	-	348	238	403	1125	-	-
HCM Lane V/C Ratio	0.051	-	-	0.387	0.297	0.073	0.033	-	-
HCM Control Delay (s)	7.7	0	-	21.7	26.4	14.6	8.3	0	-
HCM Lane LOS	A	A	-	C	D	B	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.8	1.2	0.2	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	116	347	91	59	145
Future Volume (vph)	56	116	347	91	59	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.909			0.850		
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1480	0	1845	1615	1337	1681
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1480	0	1845	1615	1337	1681
Link Speed (k/h)	80		80			80
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	15.6		4.9			25.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	61	126	377	99	64	158
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	377	99	64	158
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	116	347	91	59	145
Future Vol, veh/h	56	116	347	91	59	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	61	126	377	99	64	158

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	663	377	0	0	377	0
Stage 1	377	-	-	-	-	-
Stage 2	286	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	387	656	-	-	1022	-
Stage 1	638	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	363	656	-	-	1022	-
Mov Cap-2 Maneuver	363	-	-	-	-	-
Stage 1	638	-	-	-	-	-
Stage 2	661	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.8	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	1022	-
HCM Lane V/C Ratio	-	-	0.36	0.063	-
HCM Control Delay (s)	-	-	15.8	8.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.6	0.2	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	135	39	87	303	152	49
Future Volume (vph)	135	39	87	303	152	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.970					0.850
Flt Protected	0.963		0.950			
Satd. Flow (prot)	1580	0	1556	1743	1610	1615
Flt Permitted	0.963		0.950			
Satd. Flow (perm)	1580	0	1556	1743	1610	1615
Link Speed (k/h)	80			80	80	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	15.4			9.2	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	147	42	95	329	165	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	189	0	95	329	165	53
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	135	39	87	303	152	49
Future Vol, veh/h	135	39	87	303	152	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	147	42	95	329	165	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	684	165	165	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	407	809	1333	-	-	-
Stage 1	852	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	378	809	1333	-	-	-
Mov Cap-2 Maneuver	378	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.8	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1333	-	429	-	-
HCM Lane V/C Ratio	0.071	-	0.441	-	-
HCM Control Delay (s)	7.9	-	19.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	52	196	51	28	144
Future Volume (vph)	52	52	196	51	28	144
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		0.972			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1746	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1746	0	0	1812
Link Speed (k/h)	80		80			80
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	22.1		21.2			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	57	57	213	55	30	157
Shared Lane Traffic (%)						
Lane Group Flow (vph)	114	0	268	0	0	187
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	52	196	51	28	144
Future Vol, veh/h	52	52	196	51	28	144
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	2	6	5	4	4
Mvmt Flow	57	57	213	55	30	157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	241	0	0	268	0
Stage 1	241	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	545	798	-	-	1284	-
Stage 1	778	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	531	798	-	-	1284	-
Mov Cap-2 Maneuver	531	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	638	1284	-
HCM Lane V/C Ratio	-	-	0.177	0.024	-
HCM Control Delay (s)	-	-	11.9	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	20	100	233	66	33	40	160	72	10	184	36
Future Volume (vph)	56	20	100	233	66	33	40	160	72	10	184	36
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		0.923			0.950			0.964			0.979	
Flt Protected		0.984		0.950				0.993			0.998	
Satd. Flow (prot)	0	1712	0	1770	1770	0	0	1740	0	0	1789	0
Flt Permitted		0.984		0.950				0.993			0.998	
Satd. Flow (perm)	0	1712	0	1770	1770	0	0	1740	0	0	1789	0
Link Speed (k/h)		80			80			80			80	
Link Distance (m)		291.0			221.5			562.6			471.2	
Travel Time (s)		13.1			10.0			25.3			21.2	
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
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	3%	6%	2%	2%	4%	3%
Adj. Flow (vph)	61	22	109	253	72	36	43	174	78	11	200	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	192	0	253	108	0	0	295	0	0	250	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.6%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	20	100	233	66	33	40	160	72	10	184	36
Future Vol, veh/h	56	20	100	233	66	33	40	160	72	10	184	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	0	2	1	2	2	2	3	6	2	2	4	3
Mvmt Flow	61	22	109	253	72	36	43	174	78	11	200	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	595	580	220	606	560	213	239	0	0	252	0	0
Stage 1	242	242	-	299	299	-	-	-	-	-	-	-
Stage 2	353	338	-	307	261	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.21	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.309	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	419	426	822	409	437	827	1322	-	-	1313	-	-
Stage 1	766	705	-	710	666	-	-	-	-	-	-	-
Stage 2	668	641	-	703	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	336	406	822	328	416	827	1322	-	-	1313	-	-
Mov Cap-2 Maneuver	336	406	-	328	416	-	-	-	-	-	-	-
Stage 1	737	698	-	683	641	-	-	-	-	-	-	-
Stage 2	546	617	-	585	685	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	35.8	1.1	0.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1322	-	-	521	328	499	1313	-	-
HCM Lane V/C Ratio	0.033	-	-	0.367	0.772	0.216	0.008	-	-
HCM Control Delay (s)	7.8	0	-	15.9	45	14.2	7.8	0	-
HCM Lane LOS	A	A	-	C	E	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	6.1	0.8	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	52	214	91	135	364
Future Volume (vph)	91	52	214	91	135	364
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951			0.850		
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1392	0	1827	1615	1656	1863
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1392	0	1827	1615	1656	1863
Link Speed (k/h)	80		80			80
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	15.6		4.9			25.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	99	57	233	99	147	396
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	0	233	99	147	396
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	52	214	91	135	364
Future Vol, veh/h	91	52	214	91	135	364
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	99	57	233	99	147	396

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	923	233	0	0	233	0
Stage 1	233	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	265	775	-	-	1294	-
Stage 1	740	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	235	775	-	-	1294	-
Mov Cap-2 Maneuver	235	-	-	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	396	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.1	0	2.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	315	1294	-
HCM Lane V/C Ratio	-	-	0.493	0.113	-
HCM Control Delay (s)	-	-	27.1	8.1	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	2.6	0.4	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	65	92	96	239	337	117
Future Volume (vph)	65	92	96	239	337	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.921					0.850
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1526	0	1517	1727	1712	1615
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1526	0	1517	1727	1712	1615
Link Speed (k/h)	80			80	80	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	15.4			9.2	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	71	100	104	260	366	127
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	104	260	366	127
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	92	96	239	337	117
Future Vol, veh/h	65	92	96	239	337	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	71	100	104	260	366	127

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	834	366	366	0	-	0
Stage 1	366	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	337	643	1105	-	-	-
Stage 1	699	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	305	643	1105	-	-	-
Mov Cap-2 Maneuver	305	-	-	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.2	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1105	-	441	-	-
HCM Lane V/C Ratio	0.094	-	0.387	-	-
HCM Control Delay (s)	8.6	-	18.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.8	-	-

Appendix F

2035 Background Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	23	165	43	43	119
Future Volume (vph)	52	23	165	43	43	119
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	0.959		0.972			
Flt Protected	0.966					0.987
Satd. Flow (prot)	1424	0	1772	0	0	1708
Flt Permitted	0.966					0.987
Satd. Flow (perm)	1424	0	1772	0	0	1708
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	57	25	179	47	47	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	226	0	0	176
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	23	165	43	43	119
Future Vol, veh/h	52	23	165	43	43	119
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, %	34	0	3	9	12	9
Mvmt Flow	57	25	179	47	47	129

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	426	203	0	0	226	0
Stage 1	203	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	529	843	-	-	1286	-
Stage 1	760	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	508	843	-	-	1286	-
Mov Cap-2 Maneuver	508	-	-	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	715	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	578	1286	-
HCM Lane V/C Ratio	-	-	0.141	0.036	-
HCM Control Delay (s)	-	-	12.2	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	27	36	74	176	143	27
Future Volume (vph)	27	36	74	176	143	27
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	0.923				0.979	
Flt Protected	0.979			0.985		
Satd. Flow (prot)	1647	0	0	1820	1615	0
Flt Permitted	0.979			0.985		
Satd. Flow (perm)	1647	0	0	1820	1615	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	4%	18%	0%
Adj. Flow (vph)	29	39	80	191	155	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	271	184	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	27	36	74	176	143	27
Future Vol, veh/h	27	36	74	176	143	27
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, %	10	0	0	4	18	0
Mvmt Flow	29	39	80	191	155	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	521	170	184	0	-	0
Stage 1	170	-	-	-	-	-
Stage 2	351	-	-	-	-	-
Critical Hdwy	6.5	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	502	879	1403	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	695	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	470	879	1403	-	-	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	787	-	-	-	-	-
Stage 2	695	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1403	-	640	-	-
HCM Lane V/C Ratio	0.057	-	0.107	-	-
HCM Control Delay (s)	7.7	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	59	14	221	96	33	114
Future Volume (vph)	59	14	221	96	33	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1423	0	1845	1615	1337	1681
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1423	0	1845	1615	1337	1681
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	64	15	240	104	36	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	79	0	240	104	36	124
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

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	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	14	221	96	33	114
Future Vol, veh/h	59	14	221	96	33	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	64	15	240	104	36	124

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	436	240	0	0	240	0
Stage 1	240	-	-	-	-	-
Stage 2	196	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	530	784	-	-	1156	-
Stage 1	741	-	-	-	-	-
Stage 2	777	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	514	784	-	-	1156	-
Mov Cap-2 Maneuver	514	-	-	-	-	-
Stage 1	741	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	550	1156	-
HCM Lane V/C Ratio	-	-	0.144	0.031	-
HCM Control Delay (s)	-	-	12.6	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	34	41	91	283	150	23
Future Volume (vph)	34	41	91	283	150	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1432	0	1556	1743	1610	1615
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1432	0	1556	1743	1610	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	37	45	99	308	163	25
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	99	308	163	25
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	34	41	91	283	150	23
Future Vol, veh/h	34	41	91	283	150	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	37	45	99	308	163	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	669	163	163	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	415	811	1335	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	384	811	1335	-	-	-
Mov Cap-2 Maneuver	384	-	-	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	595	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1335	-	539	-	-
HCM Lane V/C Ratio	0.074	-	0.151	-	-
HCM Control Delay (s)	7.9	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	57	180	56	30	148
Future Volume (vph)	57	57	180	56	30	148
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		0.968			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1739	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1739	0	0	1812
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	62	62	196	61	33	161
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	257	0	0	194
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	57	180	56	30	148
Future Vol, veh/h	57	57	180	56	30	148
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	2	6	5	4	4
Mvmt Flow	62	62	196	61	33	161

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	454	227	0	0	257	0
Stage 1	227	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	548	812	-	-	1296	-
Stage 1	790	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	533	812	-	-	1296	-
Mov Cap-2 Maneuver	533	-	-	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.9	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	644	1296	-
HCM Lane V/C Ratio	-	-	0.192	0.025	-
HCM Control Delay (s)	-	-	11.9	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	62	110	44	176	203	39
Future Volume (vph)	62	110	44	176	203	39
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	0.913				0.978	
Flt Protected	0.982			0.990		
Satd. Flow (prot)	1693	0	0	1785	1789	0
Flt Permitted	0.982			0.990		
Satd. Flow (perm)	1693	0	0	1785	1789	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	3%	6%	4%	3%
Adj. Flow (vph)	67	120	48	191	221	42
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	0	239	263	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	62	110	44	176	203	39
Future Vol, veh/h	62	110	44	176	203	39
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, %	0	1	3	6	4	3
Mvmt Flow	67	120	48	191	221	42

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	529	242	263	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	287	-	-	-	-	-
Critical Hdwy	6.4	6.21	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.227	-	-	-
Pot Cap-1 Maneuver	514	799	1295	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	493	799	1295	-	-	-
Mov Cap-2 Maneuver	493	-	-	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1295	-	653	-	-
HCM Lane V/C Ratio	0.037	-	0.286	-	-
HCM Control Delay (s)	7.9	0	12.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.2	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	23	181	96	37	242
Future Volume (vph)	96	23	181	96	37	242
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1382	0	1827	1615	1656	1863
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1382	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	104	25	197	104	40	263
Shared Lane Traffic (%)						
Lane Group Flow (vph)	129	0	197	104	40	263
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	96	23	181	96	37	242
Future Vol, veh/h	96	23	181	96	37	242
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	104	25	197	104	40	263

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	540	197	0	0	197	0
Stage 1	197	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	455	812	-	-	1335	-
Stage 1	769	-	-	-	-	-
Stage 2	656	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	441	812	-	-	1335	-
Mov Cap-2 Maneuver	441	-	-	-	-	-
Stage 1	769	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.1	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	484	1335	-
HCM Lane V/C Ratio	-	-	0.267	0.03	-
HCM Control Delay (s)	-	-	15.1	7.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	97	101	241	320	18
Future Volume (vph)	36	97	101	241	320	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.902					0.850
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1475	0	1517	1727	1712	1615
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1475	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	39	105	110	262	348	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	110	262	348	20
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	97	101	241	320	18
Future Vol, veh/h	36	97	101	241	320	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	39	105	110	262	348	20

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	830	348	348	0	-	0
Stage 1	348	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	339	658	1122	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	306	658	1122	-	-	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1122	-	502	-	-
HCM Lane V/C Ratio	0.098	-	0.288	-	-
HCM Control Delay (s)	8.6	-	15	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.2	-	-

Appendix G

2035 Total Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	52	23	174	43	43	153
Future Volume (vph)	52	23	174	43	43	153
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	0.959		0.973			
Flt Protected	0.966					0.989
Satd. Flow (prot)	1424	0	1774	0	0	1714
Flt Permitted	0.966					0.989
Satd. Flow (perm)	1424	0	1774	0	0	1714
Link Speed (k/h)	80		80			80
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	22.1		21.2			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	57	25	189	47	47	166
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	236	0	0	213
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	23	174	43	43	153
Future Vol, veh/h	52	23	174	43	43	153
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, %	34	0	3	9	12	9
Mvmt Flow	57	25	189	47	47	166

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	473	213	0	0	236	0
Stage 1	213	-	-	-	-	-
Stage 2	260	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	496	832	-	-	1275	-
Stage 1	752	-	-	-	-	-
Stage 2	715	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	476	832	-	-	1275	-
Mov Cap-2 Maneuver	476	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	686	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	1.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	548	1275	-
HCM Lane V/C Ratio	-	-	0.149	0.037	-
HCM Control Delay (s)	-	-	12.7	7.9	0
HCM Lane LOS	-	-	B	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)	27	68	36	65	18	9	74	176	240	34	143	27
Future Volume (vph)	27	68	36	65	18	9	74	176	240	34	143	27
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		0.963			0.950			0.934			0.982	
Flt Protected		0.990		0.950				0.993			0.992	
Satd. Flow (prot)	0	1757	0	1770	1770	0	0	1721	0	0	1639	0
Flt Permitted		0.990		0.950				0.993			0.992	
Satd. Flow (perm)	0	1757	0	1770	1770	0	0	1721	0	0	1639	0
Link Speed (k/h)		80			50			80			80	
Link Distance (m)		291.0			236.5			562.6			471.2	
Travel Time (s)		13.1			17.0			25.3			21.2	
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
Heavy Vehicles (%)	10%	2%	0%	2%	2%	2%	0%	4%	2%	2%	18%	0%
Adj. Flow (vph)	29	74	39	71	20	10	80	191	261	37	155	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	71	30	0	0	532	0	0	221	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	68	36	65	18	9	74	176	240	34	143	27
Future Vol, veh/h	27	68	36	65	18	9	74	176	240	34	143	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	10	2	0	2	2	2	0	4	2	2	18	0
Mvmt Flow	29	74	39	71	20	10	80	191	261	37	155	29

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	741	856	170	782	740	322	184	0	0	452	0	0
Stage 1	244	244	-	482	482	-	-	-	-	-	-	-
Stage 2	497	612	-	300	258	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.52	6.2	7.12	6.52	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.018	3.3	3.518	4.018	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	322	295	879	312	345	719	1403	-	-	1109	-	-
Stage 1	742	704	-	565	553	-	-	-	-	-	-	-
Stage 2	540	484	-	709	694	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	262	879	214	306	719	1403	-	-	1109	-	-
Mov Cap-2 Maneuver	276	262	-	214	306	-	-	-	-	-	-	-
Stage 1	683	678	-	520	509	-	-	-	-	-	-	-
Stage 2	472	446	-	581	668	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24	25.6	1.2	1.4
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1403	-	-	329	214	378	1109	-	-
HCM Lane V/C Ratio	0.057	-	-	0.433	0.33	0.078	0.033	-	-
HCM Control Delay (s)	7.7	0	-	24	29.9	15.3	8.4	0	-
HCM Lane LOS	A	A	-	C	D	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.1	1.4	0.3	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	59	117	358	96	61	151
Future Volume (vph)	59	117	358	96	61	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.910			0.850		
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1479	0	1845	1615	1337	1681
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1479	0	1845	1615	1337	1681
Link Speed (k/h)	80		80			80
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	15.6		4.9			25.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	64	127	389	104	66	164
Shared Lane Traffic (%)						
Lane Group Flow (vph)	191	0	389	104	66	164
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	117	358	96	61	151
Future Vol, veh/h	59	117	358	96	61	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	64	127	389	104	66	164

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	685	389	0	0	389	0
Stage 1	389	-	-	-	-	-
Stage 2	296	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	375	646	-	-	1011	-
Stage 1	630	-	-	-	-	-
Stage 2	697	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	351	646	-	-	1011	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	630	-	-	-	-	-
Stage 2	652	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	504	1011	-
HCM Lane V/C Ratio	-	-	0.38	0.066	-
HCM Control Delay (s)	-	-	16.4	8.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.8	0.2	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	41	91	317	159	51
Future Volume (vph)	137	41	91	317	159	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.969					0.850
Flt Protected	0.963		0.950			
Satd. Flow (prot)	1575	0	1556	1743	1610	1615
Flt Permitted	0.963		0.950			
Satd. Flow (perm)	1575	0	1556	1743	1610	1615
Link Speed (k/h)	80			80	80	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	15.4			9.2	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	149	45	99	345	173	55
Shared Lane Traffic (%)						
Lane Group Flow (vph)	194	0	99	345	173	55
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	137	41	91	317	159	51
Future Vol, veh/h	137	41	91	317	159	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	149	45	99	345	173	55

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	716	173	173	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	389	801	1323	-	-	-
Stage 1	845	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	360	801	1323	-	-	-
Mov Cap-2 Maneuver	360	-	-	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.2	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1323	-	412	-	-
HCM Lane V/C Ratio	0.075	-	0.47	-	-
HCM Control Delay (s)	7.9	-	21.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	2.4	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	57	213	56	30	158
Future Volume (vph)	57	57	213	56	30	158
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		0.972			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1746	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1746	0	0	1812
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	62	62	232	61	33	172
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	0	293	0	0	205
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 41.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	57	213	56	30	158
Future Vol, veh/h	57	57	213	56	30	158
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	2	6	5	4	4
Mvmt Flow	62	62	232	61	33	172

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	501	263	0	0	293	0
Stage 1	263	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	514	776	-	-	1257	-
Stage 1	761	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	776	-	-	1257	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	758	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.4	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	607	1257	-
HCM Lane V/C Ratio	-	-	0.204	0.026	-
HCM Control Delay (s)	-	-	12.4	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	20	110	233	66	33	44	176	72	10	203	39
Future Volume (vph)	62	20	110	233	66	33	44	176	72	10	203	39
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		0.922			0.950			0.967			0.979	
Flt Protected		0.984		0.950				0.992			0.998	
Satd. Flow (prot)	0	1710	0	1770	1770	0	0	1743	0	0	1789	0
Flt Permitted		0.984		0.950				0.992			0.998	
Satd. Flow (perm)	0	1710	0	1770	1770	0	0	1743	0	0	1789	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		291.0			221.5			562.6			471.2	
Travel Time (s)		21.0			15.9			40.5			33.9	
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
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	3%	6%	2%	2%	4%	3%
Adj. Flow (vph)	67	22	120	253	72	36	48	191	78	11	221	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	209	0	253	108	0	0	317	0	0	274	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	18.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	62	20	110	233	66	33	44	176	72	10	203	39
Future Vol, veh/h	62	20	110	233	66	33	44	176	72	10	203	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	0	2	1	2	2	2	3	6	2	2	4	3
Mvmt Flow	67	22	120	253	72	36	48	191	78	11	221	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	644	629	242	661	611	230	263	0	0	269	0	0
Stage 1	264	264	-	326	326	-	-	-	-	-	-	-
Stage 2	380	365	-	335	285	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.21	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.309	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	389	399	799	376	409	809	1295	-	-	1295	-	-
Stage 1	746	690	-	687	648	-	-	-	-	-	-	-
Stage 2	646	623	-	679	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	306	377	799	293	387	809	1295	-	-	1295	-	-
Mov Cap-2 Maneuver	306	377	-	293	387	-	-	-	-	-	-	-
Stage 1	713	683	-	657	619	-	-	-	-	-	-	-
Stage 2	522	596	-	553	669	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.8	48.2	1.2	0.3
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1295	-	-	488	293	468	1295	-	-
HCM Lane V/C Ratio	0.037	-	-	0.428	0.864	0.23	0.008	-	-
HCM Control Delay (s)	7.9	0	-	17.8	62.3	15	7.8	0	-
HCM Lane LOS	A	A	-	C	F	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.1	7.6	0.9	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	96	54	222	96	137	375
Future Volume (vph)	96	54	222	96	137	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951			0.850		
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1391	0	1827	1615	1656	1863
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1391	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	104	59	241	104	149	408
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	0	241	104	149	408
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	96	54	222	96	137	375
Future Vol, veh/h	96	54	222	96	137	375
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	104	59	241	104	149	408

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	947	241	0	0	241	0
Stage 1	241	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	256	767	-	-	1286	-
Stage 1	734	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	226	767	-	-	1286	-
Mov Cap-2 Maneuver	226	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	388	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	29.9	0	2.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	303	1286	-
HCM Lane V/C Ratio	-	-	0.538	0.116	-
HCM Control Delay (s)	-	-	29.9	8.2	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	3	0.4	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	67	97	101	251	353	118
Future Volume (vph)	67	97	101	251	353	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.920					0.850
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1524	0	1517	1727	1712	1615
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1524	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	73	105	110	273	384	128
Shared Lane Traffic (%)						
Lane Group Flow (vph)	178	0	110	273	384	128
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	67	97	101	251	353	118
Future Vol, veh/h	67	97	101	251	353	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	73	105	110	273	384	128

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	877	384	384	0	-	0
Stage 1	384	-	-	-	-	-
Stage 2	493	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	318	628	1087	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	286	628	1087	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.6	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1087	-	422	-	-
HCM Lane V/C Ratio	0.101	-	0.422	-	-
HCM Control Delay (s)	8.7	-	19.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	-	-

Appendix H

2040 Background Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	25	182	48	48	132
Future Volume (vph)	57	25	182	48	48	132
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	0.959		0.972			
Flt Protected	0.966					0.987
Satd. Flow (prot)	1423	0	1772	0	0	1708
Flt Permitted	0.966					0.987
Satd. Flow (perm)	1423	0	1772	0	0	1708
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	62	27	198	52	52	143
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	250	0	0	195
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	25	182	48	48	132
Future Vol, veh/h	57	25	182	48	48	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	34	0	3	9	12	9
Mvmt Flow	62	27	198	52	52	143

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	471	224	0	0	250	0
Stage 1	224	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	497	820	-	-	1259	-
Stage 1	743	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	475	820	-	-	1259	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	2.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	545	1259	-
HCM Lane V/C Ratio	-	-	0.164	0.041	-
HCM Control Delay (s)	-	-	12.9	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	29	39	81	195	158	29
Future Volume (vph)	29	39	81	195	158	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	0.923				0.979	
Flt Protected	0.979			0.986		
Satd. Flow (prot)	1646	0	0	1822	1615	0
Flt Permitted	0.979			0.986		
Satd. Flow (perm)	1646	0	0	1822	1615	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	10%	0%	0%	4%	18%	0%
Adj. Flow (vph)	32	42	88	212	172	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	74	0	0	300	204	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	29	39	81	195	158	29
Future Vol, veh/h	29	39	81	195	158	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, %	10	0	0	4	18	0
Mvmt Flow	32	42	88	212	172	32

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	576	188	204	0	-	0
Stage 1	188	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.5	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.5	-	-	-	-	-
Critical Hdwy Stg 2	5.5	-	-	-	-	-
Follow-up Hdwy	3.59	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	466	859	1380	-	-	-
Stage 1	825	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	432	859	1380	-	-	-
Mov Cap-2 Maneuver	432	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	668	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.8	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1380	-	604	-	-
HCM Lane V/C Ratio	0.064	-	0.122	-	-
HCM Control Delay (s)	7.8	0	11.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	62	14	232	101	34	120
Future Volume (vph)	62	14	232	101	34	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.975			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1422	0	1845	1615	1337	1681
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1422	0	1845	1615	1337	1681
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	67	15	252	110	37	130
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	252	110	37	130
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
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	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	14	232	101	34	120
Future Vol, veh/h	62	14	232	101	34	120
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	67	15	252	110	37	130

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	456	252	0	0	252	0
Stage 1	252	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	516	772	-	-	1143	-
Stage 1	731	-	-	-	-	-
Stage 2	770	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	499	772	-	-	1143	-
Mov Cap-2 Maneuver	499	-	-	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	745	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	534	1143	-
HCM Lane V/C Ratio	-	-	0.155	0.032	-
HCM Control Delay (s)	-	-	13	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	36	43	96	297	158	24
Future Volume (vph)	36	43	96	297	158	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.926					0.850
Flt Protected	0.978		0.950			
Satd. Flow (prot)	1433	0	1556	1743	1610	1615
Flt Permitted	0.978		0.950			
Satd. Flow (perm)	1433	0	1556	1743	1610	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	39	47	104	323	172	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	104	323	172	26
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	36	43	96	297	158	24
Future Vol, veh/h	36	43	96	297	158	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	39	47	104	323	172	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	703	172	172	0	-	0
Stage 1	172	-	-	-	-	-
Stage 2	531	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	396	802	1324	-	-	-
Stage 1	846	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	365	802	1324	-	-	-
Mov Cap-2 Maneuver	365	-	-	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	580	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	1.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1324	-	519	-	-
HCM Lane V/C Ratio	0.079	-	0.165	-	-
HCM Control Delay (s)	8	-	13.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.6	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	63	199	62	34	164
Future Volume (vph)	63	63	199	62	34	164
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		0.968			
Flt Protected	0.976					0.991
Satd. Flow (prot)	1623	0	1739	0	0	1810
Flt Permitted	0.976					0.991
Satd. Flow (perm)	1623	0	1739	0	0	1810
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	68	68	216	67	37	178
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	283	0	0	215
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

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	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	63	199	62	34	164
Future Vol, veh/h	63	63	199	62	34	164
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	2	6	5	4	4
Mvmt Flow	68	68	216	67	37	178

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	502	250	0	0	283	0
Stage 1	250	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	513	789	-	-	1268	-
Stage 1	771	-	-	-	-	-
Stage 2	769	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	497	789	-	-	1268	-
Mov Cap-2 Maneuver	497	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	1268	-
HCM Lane V/C Ratio	-	-	0.225	0.029	-
HCM Control Delay (s)	-	-	12.6	7.9	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	69	122	49	195	224	43
Future Volume (vph)	69	122	49	195	224	43
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	0.914				0.978	
Flt Protected	0.982			0.990		
Satd. Flow (prot)	1695	0	0	1785	1790	0
Flt Permitted	0.982			0.990		
Satd. Flow (perm)	1695	0	0	1785	1790	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	291.0			562.6	471.2	
Travel Time (s)	21.0			40.5	33.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	3%	6%	4%	3%
Adj. Flow (vph)	75	133	53	212	243	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	0	0	265	290	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 48.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	122	49	195	224	43
Future Vol, veh/h	69	122	49	195	224	43
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, %	0	1	3	6	4	3
Mvmt Flow	75	133	53	212	243	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	585	267	290	0	-	0
Stage 1	267	-	-	-	-	-
Stage 2	318	-	-	-	-	-
Critical Hdwy	6.4	6.21	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.309	2.227	-	-	-
Pot Cap-1 Maneuver	477	774	1266	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	742	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	455	774	1266	-	-	-
Mov Cap-2 Maneuver	455	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	742	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.7	1.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1266	-	618	-	-
HCM Lane V/C Ratio	0.042	-	0.336	-	-
HCM Control Delay (s)	8	0	13.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.5	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	24	191	101	39	255
Future Volume (vph)	101	24	191	101	39	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974			0.850		
Flt Protected	0.961				0.950	
Satd. Flow (prot)	1381	0	1827	1615	1656	1863
Flt Permitted	0.961				0.950	
Satd. Flow (perm)	1381	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	110	26	208	110	42	277
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	208	110	42	277
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	24	191	101	39	255
Future Vol, veh/h	101	24	191	101	39	255
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	110	26	208	110	42	277

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	569	208	0	0	208	0
Stage 1	208	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	437	801	-	-	1322	-
Stage 1	760	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	423	801	-	-	1322	-
Mov Cap-2 Maneuver	423	-	-	-	-	-
Stage 1	760	-	-	-	-	-
Stage 2	623	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.9	0	1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	465	1322	-
HCM Lane V/C Ratio	-	-	0.292	0.032	-
HCM Control Delay (s)	-	-	15.9	7.8	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.2	0.1	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	38	102	107	253	336	19
Future Volume (vph)	38	102	107	253	336	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.901					0.850
Flt Protected	0.987		0.950			
Satd. Flow (prot)	1473	0	1517	1727	1712	1615
Flt Permitted	0.987		0.950			
Satd. Flow (perm)	1473	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	41	111	116	275	365	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	0	116	275	365	21
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 42.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	102	107	253	336	19
Future Vol, veh/h	38	102	107	253	336	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	41	111	116	275	365	21

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	872	365	365	0	-	0
Stage 1	365	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	320	644	1106	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	286	644	1106	-	-	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	627	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	2.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1106	-	481	-	-
HCM Lane V/C Ratio	0.105	-	0.316	-	-
HCM Control Delay (s)	8.6	-	15.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	1.3	-	-

Appendix I

2040 Total Traffic Operations Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	57	25	191	48	48	166
Future Volume (vph)	57	25	191	48	48	166
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	0.959		0.973			
Flt Protected	0.966					0.989
Satd. Flow (prot)	1423	0	1774	0	0	1713
Flt Permitted	0.966					0.989
Satd. Flow (perm)	1423	0	1774	0	0	1713
Link Speed (k/h)	80		80			80
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	22.1		21.2			7.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	34%	0%	3%	9%	12%	9%
Adj. Flow (vph)	62	27	208	52	52	180
Shared Lane Traffic (%)						
Lane Group Flow (vph)	89	0	260	0	0	232
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	25	191	48	48	166
Future Vol, veh/h	57	25	191	48	48	166
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, %	34	0	3	9	12	9
Mvmt Flow	62	27	208	52	52	180

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	518	234	0	0	260	0
Stage 1	234	-	-	-	-	-
Stage 2	284	-	-	-	-	-
Critical Hdwy	6.74	6.2	-	-	4.22	-
Critical Hdwy Stg 1	5.74	-	-	-	-	-
Critical Hdwy Stg 2	5.74	-	-	-	-	-
Follow-up Hdwy	3.806	3.3	-	-	2.308	-
Pot Cap-1 Maneuver	466	810	-	-	1249	-
Stage 1	735	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	445	810	-	-	1249	-
Mov Cap-2 Maneuver	445	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	1.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	516	1249	-
HCM Lane V/C Ratio	-	-	0.173	0.042	-
HCM Control Delay (s)	-	-	13.4	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	68	39	65	18	9	81	195	240	34	158	29
Future Volume (vph)	29	68	39	65	18	9	81	195	240	34	158	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		0.962			0.950			0.937			0.982	
Flt Protected		0.989		0.950				0.992			0.992	
Satd. Flow (prot)	0	1752	0	1770	1770	0	0	1724	0	0	1636	0
Flt Permitted		0.989		0.950				0.992			0.992	
Satd. Flow (perm)	0	1752	0	1770	1770	0	0	1724	0	0	1636	0
Link Speed (k/h)		80			50			80			80	
Link Distance (m)		291.0			236.5			562.6			471.2	
Travel Time (s)		13.1			17.0			25.3			21.2	
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
Heavy Vehicles (%)	10%	2%	0%	2%	2%	2%	0%	4%	2%	2%	18%	0%
Adj. Flow (vph)	32	74	42	71	20	10	88	212	261	37	172	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	148	0	71	30	0	0	561	0	0	241	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 60.5%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	68	39	65	18	9	81	195	240	34	158	29
Future Vol, veh/h	29	68	39	65	18	9	81	195	240	34	158	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	10	2	0	2	2	2	0	4	2	2	18	0
Mvmt Flow	32	74	42	71	20	10	88	212	261	37	172	32

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	796	911	188	839	797	343	204	0	0	473	0	0
Stage 1	262	262	-	519	519	-	-	-	-	-	-	-
Stage 2	534	649	-	320	278	-	-	-	-	-	-	-
Critical Hdwy	7.2	6.52	6.2	7.12	6.52	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.59	4.018	3.3	3.518	4.018	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	296	274	859	285	319	700	1380	-	-	1089	-	-
Stage 1	726	691	-	540	533	-	-	-	-	-	-	-
Stage 2	516	466	-	692	680	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	250	240	859	188	279	700	1380	-	-	1089	-	-
Mov Cap-2 Maneuver	250	240	-	188	279	-	-	-	-	-	-	-
Stage 1	661	665	-	491	485	-	-	-	-	-	-	-
Stage 2	444	424	-	563	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.3	29.7	1.2	1.3
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1380	-	-	306	188	349	1089	-	-
HCM Lane V/C Ratio	0.064	-	-	0.483	0.376	0.084	0.034	-	-
HCM Control Delay (s)	7.8	0	-	27.3	35.2	16.3	8.4	0	-
HCM Lane LOS	A	A	-	D	E	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	2.5	1.6	0.3	0.1	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	62	117	369	101	62	157
Future Volume (vph)	62	117	369	101	62	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.912			0.850		
Flt Protected	0.983				0.950	
Satd. Flow (prot)	1478	0	1845	1615	1337	1681
Flt Permitted	0.983				0.950	
Satd. Flow (perm)	1478	0	1845	1615	1337	1681
Link Speed (k/h)	80		80			80
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	15.6		4.9			25.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	29%	8%	3%	0%	35%	13%
Adj. Flow (vph)	67	127	401	110	67	171
Shared Lane Traffic (%)						
Lane Group Flow (vph)	194	0	401	110	67	171
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.5%		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	62	117	369	101	62	157
Future Vol, veh/h	62	117	369	101	62	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	29	8	3	0	35	13
Mvmt Flow	67	127	401	110	67	171

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	706	401	0	0	401	0
Stage 1	401	-	-	-	-	-
Stage 2	305	-	-	-	-	-
Critical Hdwy	6.69	6.28	-	-	4.45	-
Critical Hdwy Stg 1	5.69	-	-	-	-	-
Critical Hdwy Stg 2	5.69	-	-	-	-	-
Follow-up Hdwy	3.761	3.372	-	-	2.515	-
Pot Cap-1 Maneuver	364	636	-	-	1000	-
Stage 1	622	-	-	-	-	-
Stage 2	690	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	340	636	-	-	1000	-
Mov Cap-2 Maneuver	340	-	-	-	-	-
Stage 1	622	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.1	0	2.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	1000	-
HCM Lane V/C Ratio	-	-	0.398	0.067	-
HCM Control Delay (s)	-	-	17.1	8.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	1.9	0.2	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	139	43	96	331	167	52
Future Volume (vph)	139	43	96	331	167	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968					0.850
Flt Protected	0.963		0.950			
Satd. Flow (prot)	1572	0	1556	1743	1610	1615
Flt Permitted	0.963		0.950			
Satd. Flow (perm)	1572	0	1556	1743	1610	1615
Link Speed (k/h)	80			80	80	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	15.4			9.2	4.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	31%	16%	9%	18%	0%
Adj. Flow (vph)	151	47	104	360	182	57
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	0	104	360	182	57
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

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

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	139	43	96	331	167	52
Future Vol, veh/h	139	43	96	331	167	52
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	7	31	16	9	18	0
Mvmt Flow	151	47	104	360	182	57

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	750	182	182	0	-	0
Stage 1	182	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.47	6.51	4.26	-	-	-
Critical Hdwy Stg 1	5.47	-	-	-	-	-
Critical Hdwy Stg 2	5.47	-	-	-	-	-
Follow-up Hdwy	3.563	3.579	2.344	-	-	-
Pot Cap-1 Maneuver	372	791	1313	-	-	-
Stage 1	837	-	-	-	-	-
Stage 2	557	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	343	791	1313	-	-	-
Mov Cap-2 Maneuver	343	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	557	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.8	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1313	-	396	-	-
HCM Lane V/C Ratio	0.079	-	0.5	-	-
HCM Control Delay (s)	8	-	22.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.7	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	63	63	232	62	34	174
Future Volume (vph)	63	63	232	62	34	174
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		0.972			
Flt Protected	0.976					0.992
Satd. Flow (prot)	1623	0	1746	0	0	1812
Flt Permitted	0.976					0.992
Satd. Flow (perm)	1623	0	1746	0	0	1812
Link Speed (k/h)	50		50			50
Link Distance (m)	491.5		471.2			166.3
Travel Time (s)	35.4		33.9			12.0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	11%	2%	6%	5%	4%	4%
Adj. Flow (vph)	68	68	252	67	37	189
Shared Lane Traffic (%)						
Lane Group Flow (vph)	136	0	319	0	0	226
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	63	232	62	34	174
Future Vol, veh/h	63	63	232	62	34	174
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	2	6	5	4	4
Mvmt Flow	68	68	252	67	37	189

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	549	286	0	0	319	0
Stage 1	286	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Critical Hdwy	6.51	6.22	-	-	4.14	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.318	-	-	2.236	-
Pot Cap-1 Maneuver	482	753	-	-	1230	-
Stage 1	742	-	-	-	-	-
Stage 2	761	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	466	753	-	-	1230	-
Mov Cap-2 Maneuver	466	-	-	-	-	-
Stage 1	742	-	-	-	-	-
Stage 2	735	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	1.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	576	1230	-
HCM Lane V/C Ratio	-	-	0.238	0.03	-
HCM Control Delay (s)	-	-	13.2	8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	69	20	122	233	66	33	49	195	72	10	224	43
Future Volume (vph)	69	20	122	233	66	33	49	195	72	10	224	43
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		0.922			0.950			0.969			0.979	
Flt Protected		0.984		0.950				0.992			0.998	
Satd. Flow (prot)	0	1711	0	1770	1770	0	0	1746	0	0	1789	0
Flt Permitted		0.984		0.950				0.992			0.998	
Satd. Flow (perm)	0	1711	0	1770	1770	0	0	1746	0	0	1789	0
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		291.0			221.5			562.6			471.2	
Travel Time (s)		21.0			15.9			40.5			33.9	
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
Heavy Vehicles (%)	0%	2%	1%	2%	2%	2%	3%	6%	2%	2%	4%	3%
Adj. Flow (vph)	75	22	133	253	72	36	53	212	78	11	243	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	230	0	253	108	0	0	343	0	0	301	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			3.6			3.6	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway 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
Turning Speed (k/h)	25		15	100		100	25		100	100		15
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	24.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	20	122	233	66	33	49	195	72	10	224	43
Future Vol, veh/h	69	20	122	233	66	33	49	195	72	10	224	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
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, %	0	2	1	2	2	2	3	6	2	2	4	3
Mvmt Flow	75	22	133	253	72	36	53	212	78	11	243	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	700	685	267	723	669	251	290	0	0	290	0	0
Stage 1	289	289	-	357	357	-	-	-	-	-	-	-
Stage 2	411	396	-	366	312	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.21	7.12	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.309	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	357	371	774	342	379	788	1266	-	-	1272	-	-
Stage 1	723	673	-	661	628	-	-	-	-	-	-	-
Stage 2	622	604	-	653	658	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	276	349	774	258	357	788	1266	-	-	1272	-	-
Mov Cap-2 Maneuver	276	349	-	258	357	-	-	-	-	-	-	-
Stage 1	687	666	-	628	597	-	-	-	-	-	-	-
Stage 2	496	574	-	518	651	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.8	70.3	1.2	0.3
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1266	-	-	454	258	437	1272	-	-
HCM Lane V/C Ratio	0.042	-	-	0.505	0.982	0.246	0.009	-	-
HCM Control Delay (s)	8	0	-	20.8	93.4	15.9	7.9	0	-
HCM Lane LOS	A	A	-	C	F	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.8	9.5	1	0	-	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	55	232	101	139	388
Future Volume (vph)	101	55	232	101	139	388
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		0.0	130.0	
Storage Lanes	1	0		1	1	
Taper Length (m)	7.5				100.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.952			0.850		
Flt Protected	0.969				0.950	
Satd. Flow (prot)	1391	0	1827	1615	1656	1863
Flt Permitted	0.969				0.950	
Satd. Flow (perm)	1391	0	1827	1615	1656	1863
Link Speed (k/h)	50		50			50
Link Distance (m)	346.3		107.8			562.6
Travel Time (s)	24.9		7.8			40.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	32%	15%	4%	0%	9%	2%
Adj. Flow (vph)	110	60	252	110	151	422
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	252	110	151	422
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		3.6			3.6
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

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	6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	101	55	232	101	139	388
Future Vol, veh/h	101	55	232	101	139	388
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	-	-	0	130	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	32	15	4	0	9	2
Mvmt Flow	110	60	252	110	151	422

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	976	252	0	0	252	0
Stage 1	252	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Critical Hdwy	6.72	6.35	-	-	4.19	-
Critical Hdwy Stg 1	5.72	-	-	-	-	-
Critical Hdwy Stg 2	5.72	-	-	-	-	-
Follow-up Hdwy	3.788	3.435	-	-	2.281	-
Pot Cap-1 Maneuver	246	756	-	-	1274	-
Stage 1	725	-	-	-	-	-
Stage 2	430	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	217	756	-	-	1274	-
Mov Cap-2 Maneuver	217	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	379	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.5	0	2.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	290	1274	-
HCM Lane V/C Ratio	-	-	0.585	0.119	-
HCM Control Delay (s)	-	-	33.5	8.2	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	3.4	0.4	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	69	102	107	263	369	119
Future Volume (vph)	69	102	107	263	369	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0	130.0			0.0
Storage Lanes	1	0	1			1
Taper Length (m)	7.5		100.0			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.919					0.850
Flt Protected	0.980		0.950			
Satd. Flow (prot)	1520	0	1517	1727	1712	1615
Flt Permitted	0.980		0.950			
Satd. Flow (perm)	1520	0	1517	1727	1712	1615
Link Speed (k/h)	50			50	50	
Link Distance (m)	342.0			203.5	96.8	
Travel Time (s)	24.6			14.7	7.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	19%	19%	10%	11%	0%
Adj. Flow (vph)	75	111	116	286	401	129
Shared Lane Traffic (%)						
Lane Group Flow (vph)	186	0	116	286	401	129
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			3.6	3.6	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.8			4.8	4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	69	102	107	263	369	119
Future Vol, veh/h	69	102	107	263	369	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Yield
Storage Length	0	-	130	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	19	19	10	11	0
Mvmt Flow	75	111	116	286	401	129

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	919	401	401	0	-	0
Stage 1	401	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.43	6.39	4.29	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.471	2.371	-	-	-
Pot Cap-1 Maneuver	300	614	1071	-	-	-
Stage 1	674	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	268	614	1071	-	-	-
Mov Cap-2 Maneuver	268	-	-	-	-	-
Stage 1	601	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.3	2.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1071	-	404	-	-
HCM Lane V/C Ratio	0.109	-	0.46	-	-
HCM Control Delay (s)	8.8	-	21.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.4	-	2.4	-	-