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RE: SCOPED TRANSPORTATION IMPACT STUDY
PROPOSED RESIDENTIAL MIXED-USE BUILDING
4965, 4971, 4981 STANLEY AVENUE & 5516 MORDEN DRIVE
CITY OF NIAGARA FALLS

Paradigm Transportation Solutions Limited (Paradigm) has been retained to prepare this **Scoped Transportation Impact Study** for the proposed redevelopment of 4965, 4971, 4981 Stanley Avenue & 5516 Morden Drive in the City of Niagara Falls. **Figure 1** (attached) illustrates the site location.

The scope of the study includes an operational assessment of adjacent intersections, as well as examining the need for left-turn lanes on Stanley Avenue at Morden Drive and Arthur Street.

Development Concept

The development concept includes a six-storey, mid-rise residential, mixed-use building containing approximately 73 dwelling units, 118 m^2 of ground floor office space, 213 m^2 of ground floor restaurant space, and 124 m^2 of ground floor retail space. The site's parking supply consists of 97 spaces.

For assessment purposes, full build-out/occupancy is anticipated to occur by Year 2029; however, timing is subject to market conditions.

Vehicle access is proposed by a full-movement private driveway to Morden Drive located approximately 60 metres (centreline to centreline) west of Stanley Avenue and a full-movement private driveway to Arthur Street located approximately 50 metres (centreline to centreline) west of Stanley Avenue.

Figure 2 (attached) illustrates the current site plan.

Trip Generation and Assignment

The Institute of Transportation Engineers (ITE) publication, *Trip Generation Manual*[1] is referenced to estimate the vehicular site trips generated by the proposed development. The trip formulae documented for Land Use Code (LUC) 221 – Multifamily Housing (Mid-Rise), LUC 712 – Small Office Building, LUC 822 – Strip Retail Plaza (<40k), and LUC 932 – High-Turnover (Sit-Down) Restaurant have been utilized.

Table 1 summarizes the estimated vehicular trip generation. The site is estimated to generate approximately 53 and 65 new vehicle trips during the AM and PM peak hours, respectively. The trip estimate is conservative (errs on the high side) as no reductions for modal split or on-site synergies are applied.

TABLE 1: ESTIMATED TRIP GENERATION

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
LUC 221 – 73 units.	5	16	**21**	18	11	**29**
LUC 712 – 1.27k sq. ft. GFA	2	0	**2**	1	2	**3**
LUC 822 – 1.34 sq. ft. GFA	5	3	**8**	10	9	**19**
LUC 932 – 2.29 sq. ft. GFA	12	10	**22**	9	5	**14**
Total Generation	**24**	**29**	**53**	**38**	**27**	**65**

LUC 221: AM – T = 0.44(X) - 11.61 | PM – 0.39(X) +0.34
LUC 712: AM – T = 1.67(X) | PM – T = 2.16(X)
LUC 822: AM – Ln(T) = 0.66 Ln(X) + 1.84 | PM – Ln(T) = 0.72 Ln(X) + 2.72
LUC 712: AM – T = 9.57(X) | PM – T = 6.18(X)

Table 2 summarizes the estimated trip distribution. The distribution is based on a review of the existing traffic patterns at the intersections of Stanley Avenue with Morden Drive and Arthur Street. The estimated distribution is concluded to be appropriate as the surrounding land uses are primarily residential and would be reflective of the anticipated commuter traffic patterns. The methodology was confirmed and approved with City and Regional staff during pre-study consultation.

Traffic was assigned to the adjacent road network per the estimated distribution. **Figure 3** (attached) illustrates the site generated traffic.

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

TABLE 2: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
North via Stanley Avenue	10%	15%	15%	5%
South via Stanley Avenue	30%	45%	45%	35%
West via Morden Drive	20%	10%	10%	15%
West via Arthur Street	40%	30%	30%	45%
Total	**100%**	**100%**	**100%**	**100%**

Existing Conditions

Roadways and Traffic Control

Stanley Avenue (Regional Road 102) is a north-south regional arterial operating under the jurisdiction of Niagara Region. It has a basic two-lane cross-section and a maximum posted speed limit of 50 km/h. The intersections formed with Morden Drive and with Arthur Street are both unsignalized with stop control provided on the minor road approaches. No auxiliary turn lanes are currently provided on any approaches.

Morden Drive and Arthur Street are both east-west two-lane local roadways operating under the jurisdiction of the City of Niagara Falls. No posted speed limit signage is noted; therefore, it is assumed the statutory speed limit of 50 km/h governs.

Paradigm collected weekday Turning Movement Count (TMC) data at the study area intersections in July 2024 using Miovision Scout units. **Figure 4** (attached) illustrates the existing traffic volumes. **Appendix A** contains the count data for reference.

Future Conditions

Traffic Forecasts

An opening year horizon (Year 2029) and a five-year horizon (Year 2034) following the expected opening year of the site have been used to assess intersection operations. The likely future traffic volumes near the subject site are estimated to consist of:

- Increased non-site traffic (generalized background traffic growth); and
- Traffic generated by the subject site.

During the pre-study consultation, City staff confirmed a generalized background growth rate of two (2) percent per annum. Additionally, no other area developments (approved and/or in-stream) were identified for inclusion in the traffic forecasts.

Figure 5 and **Figure 6** (attached) illustrate the forecast opening year (Year 2029) background and total traffic volumes, respectively.

Figure 7 and **Figure 8** (attached) illustrate the forecast five-year (Year 2034) background and total traffic volumes, respectively.

Operational Assessment

The study area operations were evaluated using Synchro 11 software and Highway Capacity Manual (HCM) 2000 procedures. The key parameters used in the analysis include:

- Existing lane configurations;
- Heavy vehicle percentages as derived from existing traffic count data;
- Conflicting pedestrian crossing volumes as derived from existing traffic count data;
- Calculated intersection Peak Hour Factors (PHF), which facilitates an assessment of the busiest 15-minute period within the peak hour; and
- Synchro default values for all other inputs.

Based on the Region's TIA Guidelines, the following criteria indicate critical conditions and signify that mitigation measures may need to be considered:

- At signalized intersections,
  - Any movement increased to 0.85 v/c or LOS E and above; or
  - Queues for an individual movement are projected to exceed turning lane storage.
- At unsignalized intersections,
  - LOS, based on average delay per vehicle, on individual movements meets or exceeds LOS "D;" or
  - Queues for an individual movement are projected to exceed turning lane storage.

Table 3 summarizes the operational results under existing conditions.

Table 4, **Table 5**, **Table 6**, and **Table 7** summarize the operational results under future conditions.

In summary, the study area intersections are reported to operate at acceptable levels of services with all movements within capacity under existing and future traffic conditions. No movements are identified as critical (i.e., poor level of service, exceeding capacity, or queue exceedances).

The site driveway intersections, similarly, are forecast to operate with low levels of delay and with all movements well within capacity under the assessed horizon years and analysis periods.

Appendix B contains the detailed Synchro reports.

TABLE 3: EXISTING (2024) TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	12		>	**12**					<	0		**0**		0	>	**0**	**0.2**
			V/C	0.02		>						<	0				0.26	>		
			Q	0		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	13		>	**13**					<	0		**0**		0	>	**0**	**0.5**
			V/C	0.04		>						<	0.01				0.25	>		
			Q	1		>						<	0				0	>		
PM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	16		>	**16**					<	0		**0**		0	>	**0**	**0.3**
			V/C	0.03		>						<	0.01				0.38	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	14		>	**14**					<	1		**1**		0	>	**0**	**0.9**
			V/C	0.08		>						<	0.04				0.34	>		
			Q	2		>						<	1				0	>		

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)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 4: OPENING YEAR (2029) BACKGROUND OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	13		>	**13**					<	0		**0**		0	>	**0**	**0**
			V/C	0.02		>						<	0.00				0.29	>		
			Q	0		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	14		>	**14**					<	0		**0**		0	>	**0**	**0**
			V/C	0.05		>						<	0.01				0.28	>		
			Q	1		>						<	0				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	0		**0**		0	>	**0**					0		>	**0**	**0**
			V/C	<	0.00				0.01	>						0.00		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	0		**0**	0		>	**0**					**0**
			V/C		0.01	>		<	0.00			0.00		>						
			Q		0	>		<	0			0		>						
PM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	17		>	**17**					<	0		**0**		0	>	**0**	**0**
			V/C	0.04		>						<	0.01				0.42	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	15		>	**15**					<	1		**1**		0	>	**0**	**1**
			V/C	0.09		>						<	0.04				0.37	>		
			Q	2		>						<	1				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	0		**0**		0	>	**0**					0		>	**0**	**0**
			V/C	<	0.00				0.03	>						0.02		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	0		**0**	0		>	**0**					**0**
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						

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)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 5: OPENING YEAR (2029) TOTAL OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	B		>	B					<	A		A		A	>	A	A
			Delay	13		>	13					<	0		0		0	>	0	0
			V/C	0.03		>						<	0.01				0.29	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	B					<	A		A		A	>	A	A
			Delay	14		>	14					<	0		0		0	>	0	1
			V/C	0.09		>						<	0.02				0.28	>		
			Q	2		>						<	0				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		A		A	>	A					A		>	A	A
			Delay	<	2		2		0	>	0					9		>	9	3
			V/C	<	0.01				0.01	>						0.02		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	A	<	A		A	A		>	A					A
			Delay		0	>	0	<	2		2	8		>	8					3
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						
PM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	C		>	C					<	A		A		A	>	A	A
			Delay	18		>	18					<	0		0		0	>	0	0
			V/C	0.05		>						<	0.01				0.42	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	C		>	C					<	A		A		A	>	A	A
			Delay	15		>	15					<	2		2		0	>	0	1
			V/C	0.11		>						<	0.06				0.38	>		
			Q	3		>						<	1				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		A		A	>	A					A		>	A	A
			Delay	<	2		2		0	>	0					9		>	9	2
			V/C	<	0.01				0.04	>						0.02		>		
			Q	<	0				0	>						1		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	A	<	A		A	A		>	A					A
			Delay		0	>	0	<	2		2	9		>	9					2
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						

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)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 6: FIVE-YEAR (2034) BACKGROUND OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	14		>	**14**					<	0		**0**		0	>	**0**	**0**
			V/C	0.02		>						<	0.01				0.31	>		
			Q	0		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	14		>	**14**					<	0		**0**		0	>	**0**	**0**
			V/C	0.06		>						<	0.01				0.31	>		
			Q	1		>						<	0				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	0		**0**		0	>	**0**					0		>	**0**	**0**
			V/C	<	0.00				0.01	>						0.00		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	0		**0**	0		>	**0**					**0**
			V/C		0.01	>		<	0.00			0.00		>						
			Q		0	>		<	0			0		>						
PM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	20		>	**20**					<	0		**0**		0	>	**0**	**0**
			V/C	0.05		>						<	0.01				0.46	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	16		>	**16**					<	1		**1**		0	>	**0**	**1**
			V/C	0.12		>						<	0.05				0.41	>		
			Q	3		>						<	1				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	0		**0**		0	>	**0**					0		>	**0**	**0**
			V/C	<	0.00				0.04	>						0.02		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	0		**0**	0		>	**0**					**0**
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						

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)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

TABLE 7: FIVE-YEAR (2034) TOTAL OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				Overall
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	14		>	**14**					<	0		**0**		0	>	**0**	**0**
			V/C	0.04		>						<	0.01				0.32	>		
			Q	1		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	B		>	**B**					<	A		**A**		A	>	**A**	**A**
			Delay	15		>	**15**					<	1		**1**		0	>	**0**	**1**
			V/C	0.10		>						<	0.02				0.31	>		
			Q	2		>						<	0				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	2		**2**		0	>	**0**					9		>	**9**	**3**
			V/C	<	0.01				0.02	>						0.02		>		
			Q	<	0				0	>						0		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	2		**2**	8		>	**8**					**3**
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						
PM Peak Hour	Stanley Avenue & Morden Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	20		>	**20**					<	0		**0**		0	>	**0**	**0**
			V/C	0.07		>						<	0.02				0.47	>		
			Q	2		>						<	0				0	>		
	Stanley Avenue & Arthur Drive	TWSC	LOS	C		>	**C**					<	A		**A**		A	>	**A**	**A**
			Delay	17		>	**17**					<	2		**2**		0	>	**0**	**1**
			V/C	0.15		>						<	0.06				0.42	>		
			Q	4		>						<	2				0	>		
	Arthur Drive & Site Driveway	TWSC	LOS	<	A		**A**		A	>	**A**					A		>	**A**	**A**
			Delay	<	2		**2**		0	>	**0**					9		>	**9**	**2**
			V/C	<	0.01				0.05	>						0.02		>		
			Q	<	0				0	>						1		>		
	Site Driveway & Morden Drive	TWSC	LOS		A	>	**A**	<	A		**A**	A		>	**A**					**A**
			Delay		0	>	**0**	<	2		**2**	9		>	**9**					**2**
			V/C		0.01	>		<	0.00			0.01		>						
			Q		0	>		<	0			0		>						

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)
TWSC - Two-Way Stop Control
< / > - Shared with through movement

Auxiliary Turn Lane Assessment

Left-Turn Lane

The unsignalized Stanley Avenue intersections with Morden Drive and Arthur Street are assessed to determine whether the existing and/or future traffic volumes would warrant the provision of northbound left-turn lanes along Stanley Avenue.

The Ministry of Transportation's (MTO) Design Supplement for the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads[2] provides guidance pertaining to the assessment and need for auxiliary left-turn lanes.

Table 8 and **Table 9** summarize the warrant analysis. **Appendix C** contains the left-turn lane warrant nomographs for reference.

TABLE 8: LEFT TURN LANE WARRANT SUMMARY: STANLEY AVENUE AT MORDEN DRIVE

Horizon Year	AM Peak Hour	PM Peak Hour
Existing Traffic	Not Warranted	Yes – 15 metres
Opening Year Background	Not Warranted	Yes – 15 metres
Opening Year Total	Not Warranted	Yes – 15 metres
Five-Year Background	Not Warranted	Yes – 25 metres
Five-Year Total	Not Warranted	Yes – 25 metres

TABLE 9: LEFT TURN LANE WARRANT SUMMARY: STANLEY AVENUE AT ARTHUR STREET

Horizon Year	AM Peak Hour	PM Peak Hour
Existing Traffic	Not Warranted	Yes – 25 metres
Opening Year Background	Not Warranted	Yes – 30 metres
Opening Year Total	Not Warranted	Yes – 30 metres
Five-Year Background	Not Warranted	Yes – 30 metres
Five-Year Total	Not Warranted	Yes – 30 metres

The analysis indicates northbound left-turn lanes are warranted under existing conditions at the Stanley Avenue intersections with Morden Drive and Arthur Street. The warrant

[2] *MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads, June 2017 Appendix 9 for Chapter 9 Intersections*

nomographs indicate a left-turn lane with 25 metres and 30 metres of storage are recommended at Morden Drive and Arthur Street, respectively.

To further confirm the left-turn lane storage provisions, the SimTraffic module within Synchro was utilized. Specifically, a total of five 60-minute simulation runs with a 15-minute seeding interval were used to estimate 95th percentile queues. **Appendix D** contains the detailed SimTraffic reports.

The SimTraffic analysis for future 2034 total traffic conditions reports maximum 95th percentile queue lengths of eight (8) metres for the northbound left-turn lane at Morden Drive and seventeen (17) metres for the northbound left-turn lane at Arthur Street.

Based on this, it is recommended the northbound left-turn lanes at Morden Drive and Arthur Street provide a minimum 15 metres and 20 metres of storage, respectively, to accommodate the forecast future traffic volumes based upon reported operations. The storage lengths determined via the SimTraffic outputs are recommended over the noted storage provisions from the nomographs as the SimTraffic results are based upon expected operations versus volumes.

The five-year collision history (July 2019 to July 2024) was reviewed for the study area intersections. One collision was reported at the intersection of Stanley Avenue and Morden Drive over the five-year period. The single reported collision was a rear-end collision with both vehicles travelling in the northbound direction. It is noted with the implementation of an auxiliary left-turn lane the potential opportunities for any future rear-end collisions is reduced. **Appendix E** contains the collision report.

Appendix F contains a functional drawing for the Stanley Avenue left-turn lanes.

A symmetrical widening is required to contain the three-lane cross-section within the existing right-of-way. The existing on-street bike lanes and sidewalks are illustrated in the functional drawing. Additionally, reduced right-turn radii for the municipal intersections are illustrated to act as a traffic calming measure and to reduce the pedestrian crossing distance.

It is recommended that Niagara Region consider implementing a northbound left-turn lane at the Stanley Avenue intersections with Morden Drive and Arthur Street. The design and construction of the turn lanes should be completed by the road authority as the turn lanes are warranted under existing traffic conditions.

Conclusions

The main findings and conclusions of this study are as follows:

- **Existing Traffic Conditions:** The study area intersections are operating at acceptable levels of service, with all movements within capacity during the AM and PM peak hours. No critical movements are identified.
- **Trip Generation:** The site is forecast to generate approximately 53 and 65 new vehicle trips during the AM and PM peak hours, respectively.
- **Background Traffic Conditions:** The study area intersections are forecast to continue to operate with acceptable levels of service, with all movements within capacity during the AM and PM peak hours. No critical movements are identified.
- **Total Traffic Conditions:** With the inclusion of site traffic, the study area intersections are forecast to continue to operate with acceptable levels of service, with all movements within capacity during the AM and PM peak hours. The impact of the site generated traffic is imperceptible. Furthermore, vehicular delays on the site driveway approaches to Morden Drive and Arthur Street are reported to be minimal. No critical movements are identified.
- **Remedial Measures:** Northbound auxiliary left-turn lanes are warranted on Stanley Avenue under existing conditions at the intersections with Morden Drive and Arthur Street. To accommodate the forecast 95th percentile queue lengths, the northbound left-turn lane to Morden Street should provide a minimum of 15 metres of storage and the northbound left-turn lane to Arthur Street should provide a minimum of 20 metres of storage. A symmetrical widening of Stanley Avenue is required to contain the three-lane cross-section and to maintain the existing on-street bike lanes and sidewalks.

Recommendations

Based on the findings of this study, it is recommended that Niagara Region consider the implementation of northbound left-turn lanes on Stanley Avenue at the intersections with Morden Drive and Arthur Street.

We trust that this response is sufficient at this time. Please feel free to contact me should you have any questions.

Yours very truly,

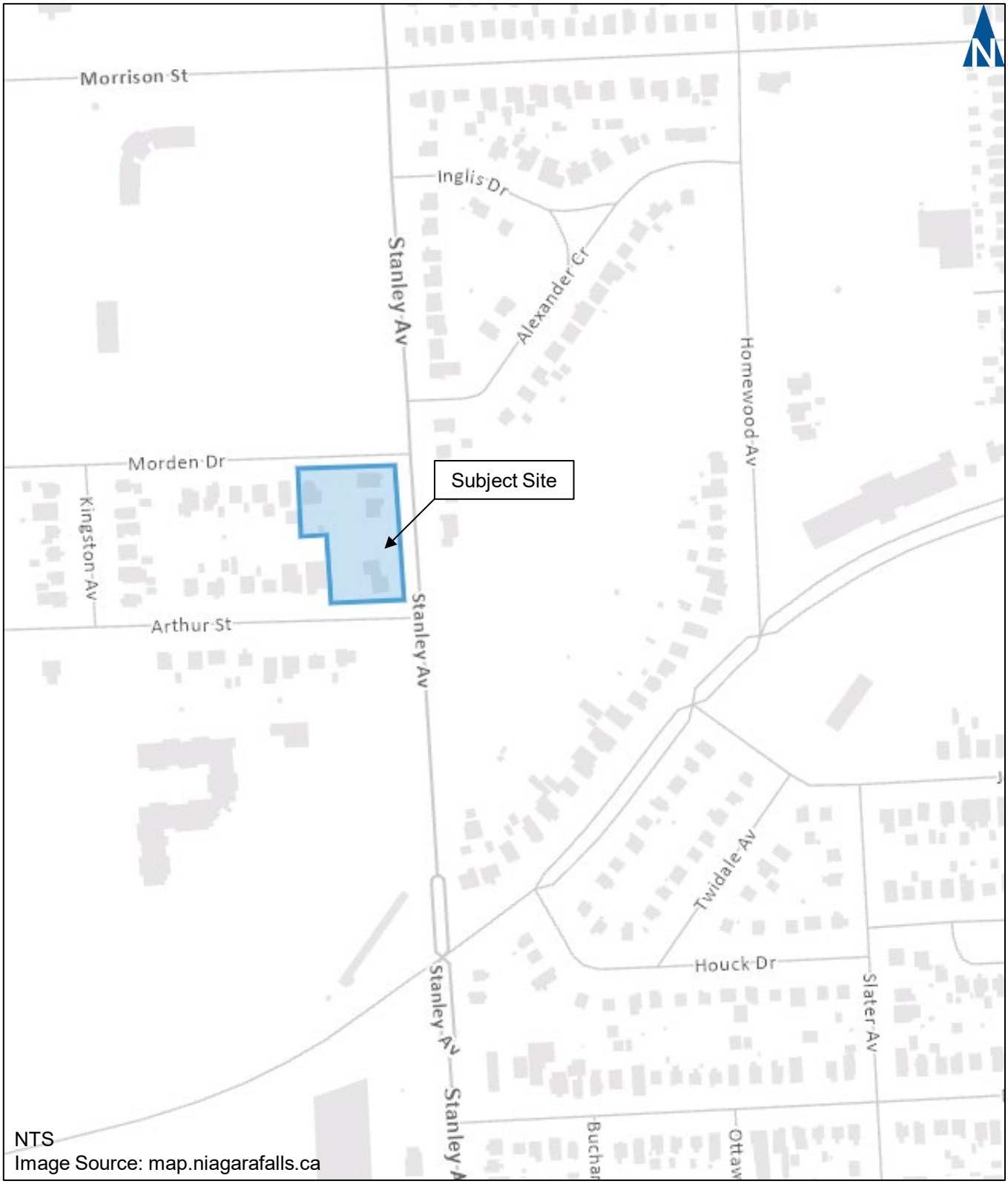
PARADIGM TRANSPORTATION SOLUTIONS LIMITED

Scott Catton, C.E.T.
Senior Project Manager

Stew Elkins, B.E.S.
Vice President

Adrian Soo, P.Eng.
Senior Project Manager

Attachments



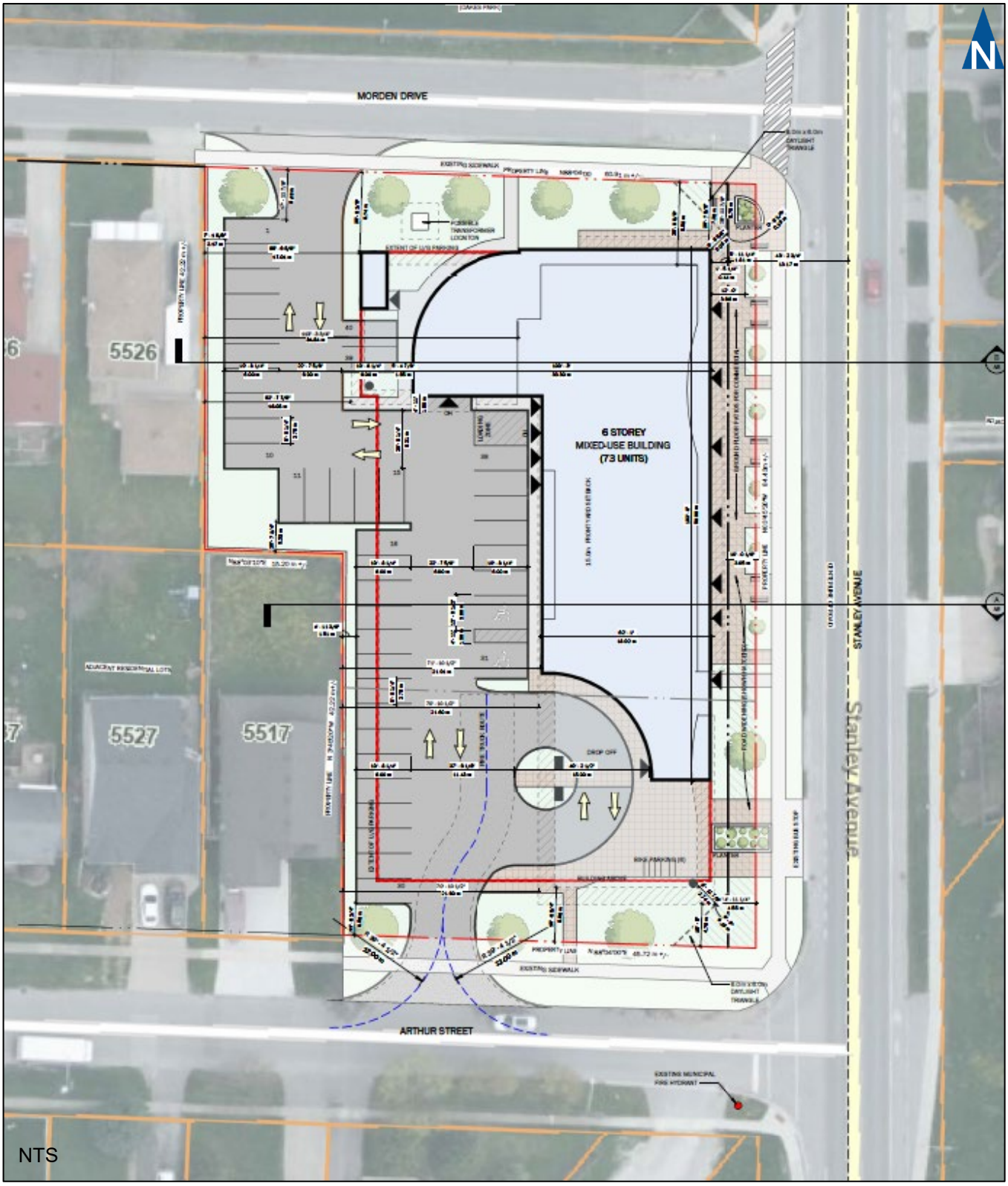
NTS
Image Source: map.niagarafalls.ca

paradigm TRANSPORTATION SOLUTIONS LIMITED

Site Location

4981 Stanley Avenue, City of Niagara Falls
240325

Figure 1



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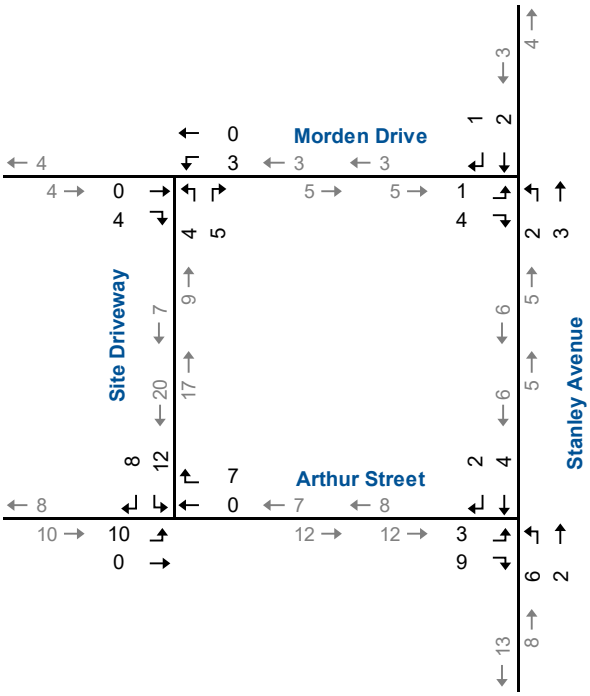
Site Concept Plan

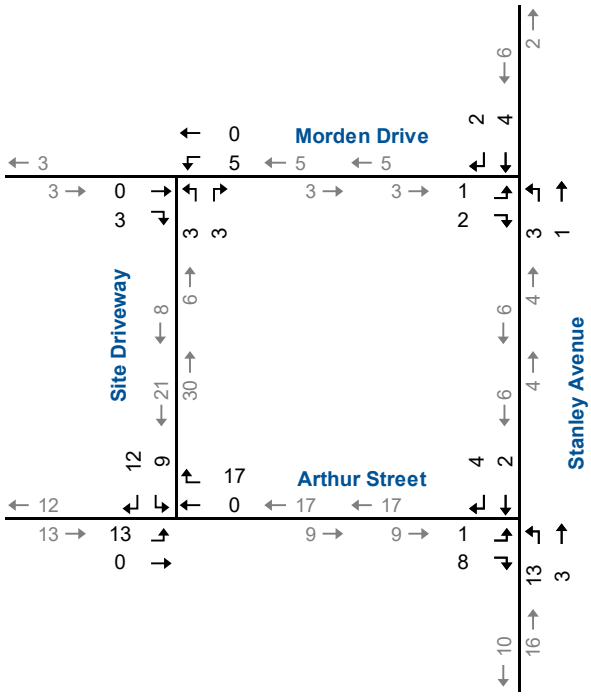
4981 Stanley Avenue, City of Niagara Falls
240325

Figure 2

AM Peak Hour



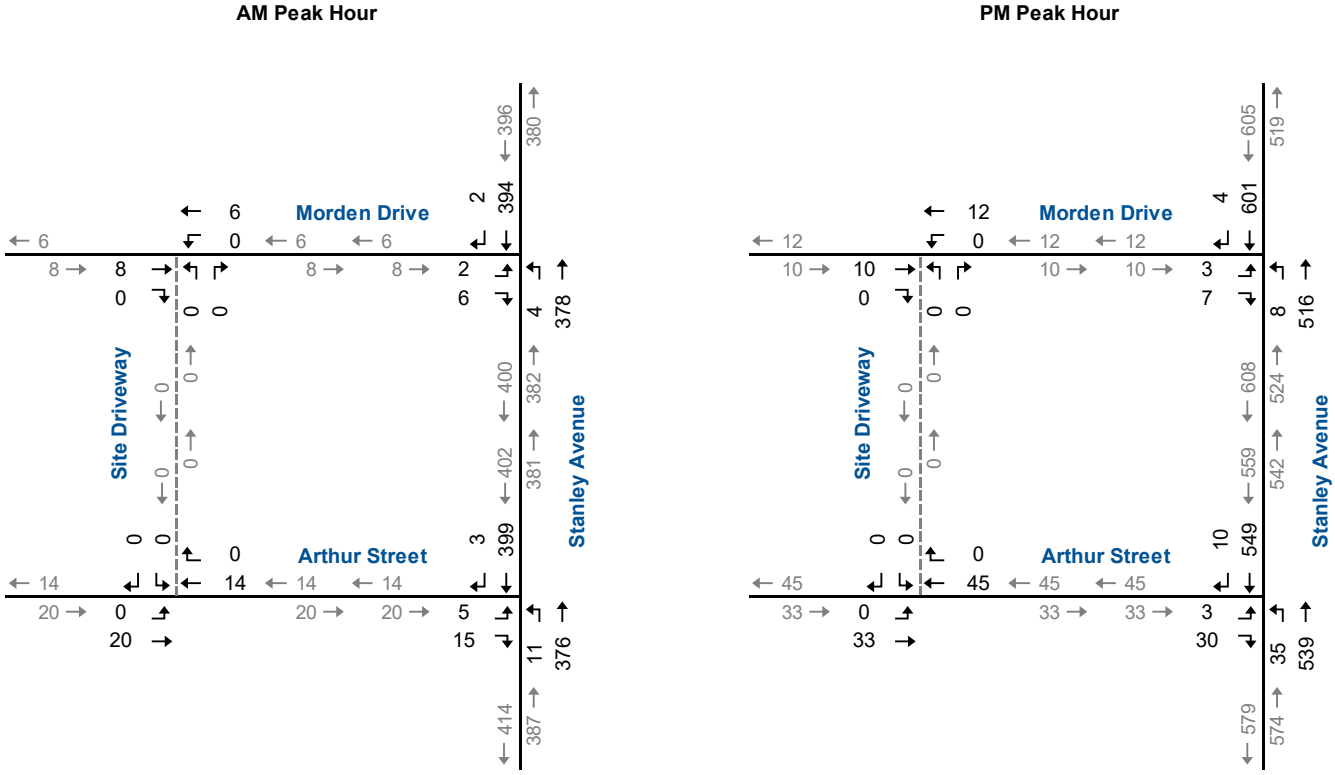
PM Peak Hour



Site Generated Traffic Volumes

4981 Stanley Avenue, City of Niagara Falls
240325

Figure 3



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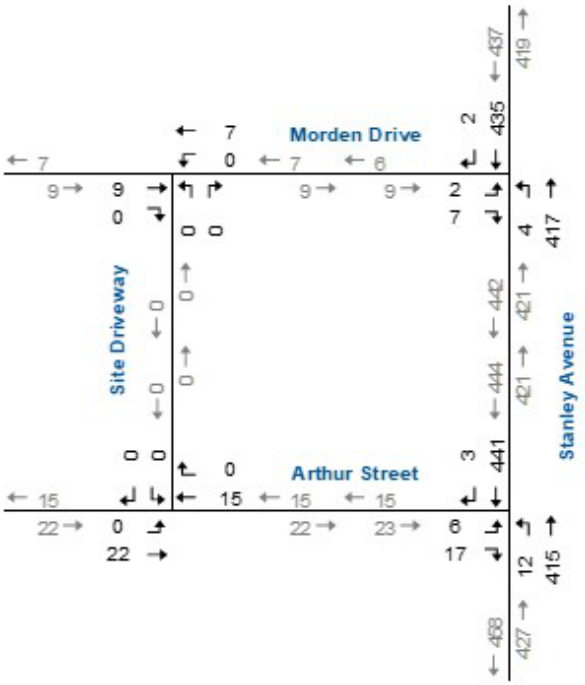
Existing Traffic Volumes

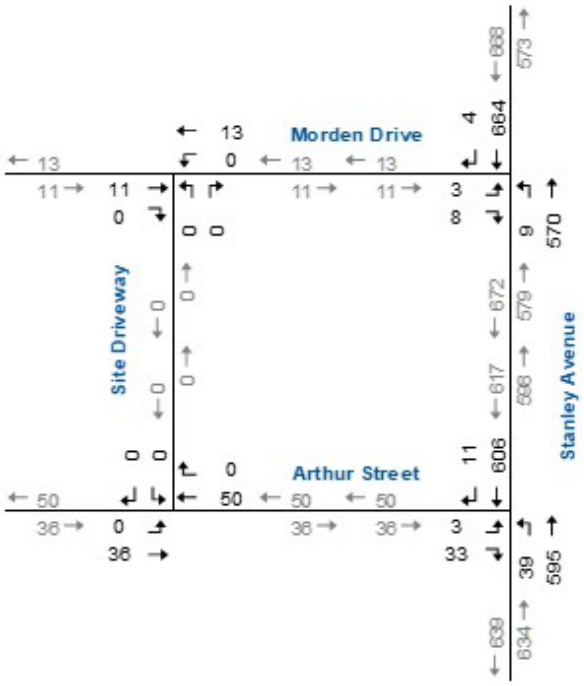
4981 Stanley Avenue, City of Niagara Falls
240325

Figure 4

AM Peak Hour



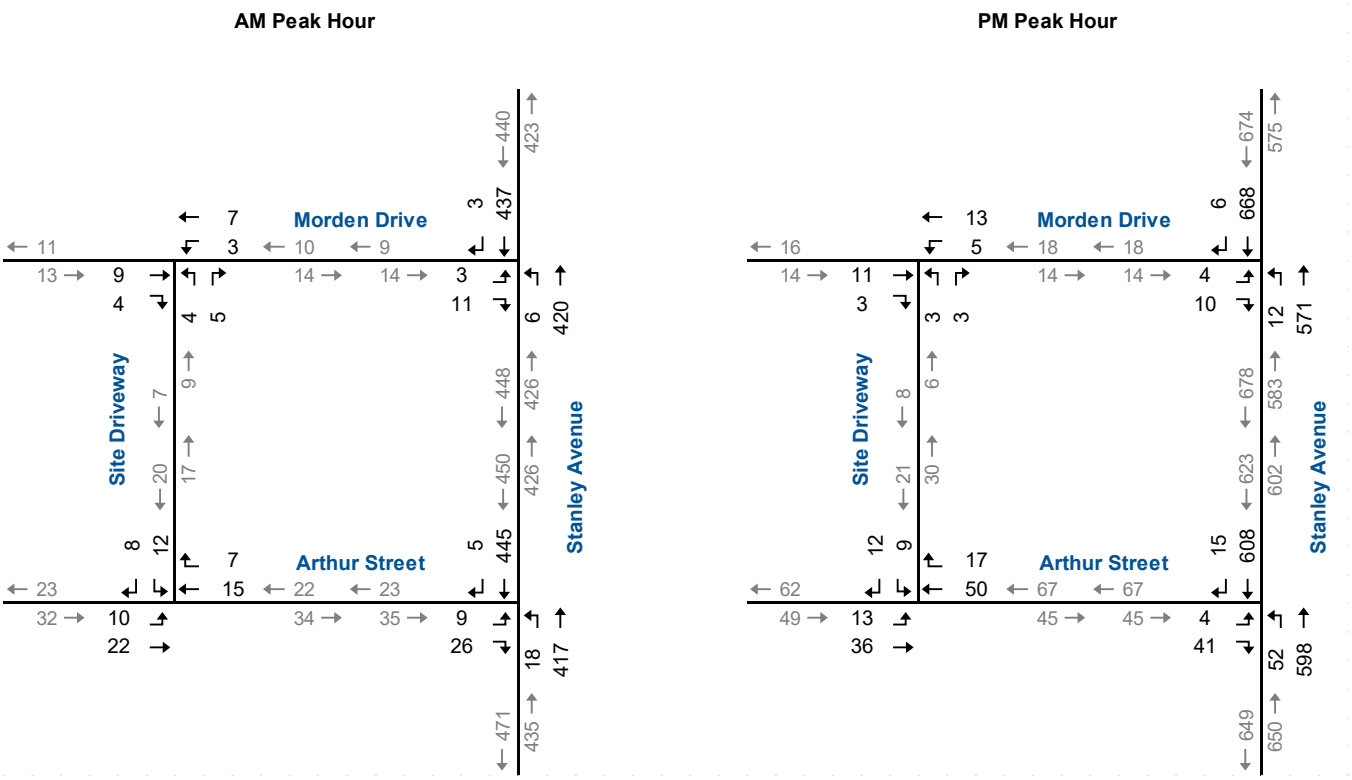
PM Peak Hour



Opening Year Background Traffic Volumes

4981 Stanley Avenue, City of Niagara Falls
240325

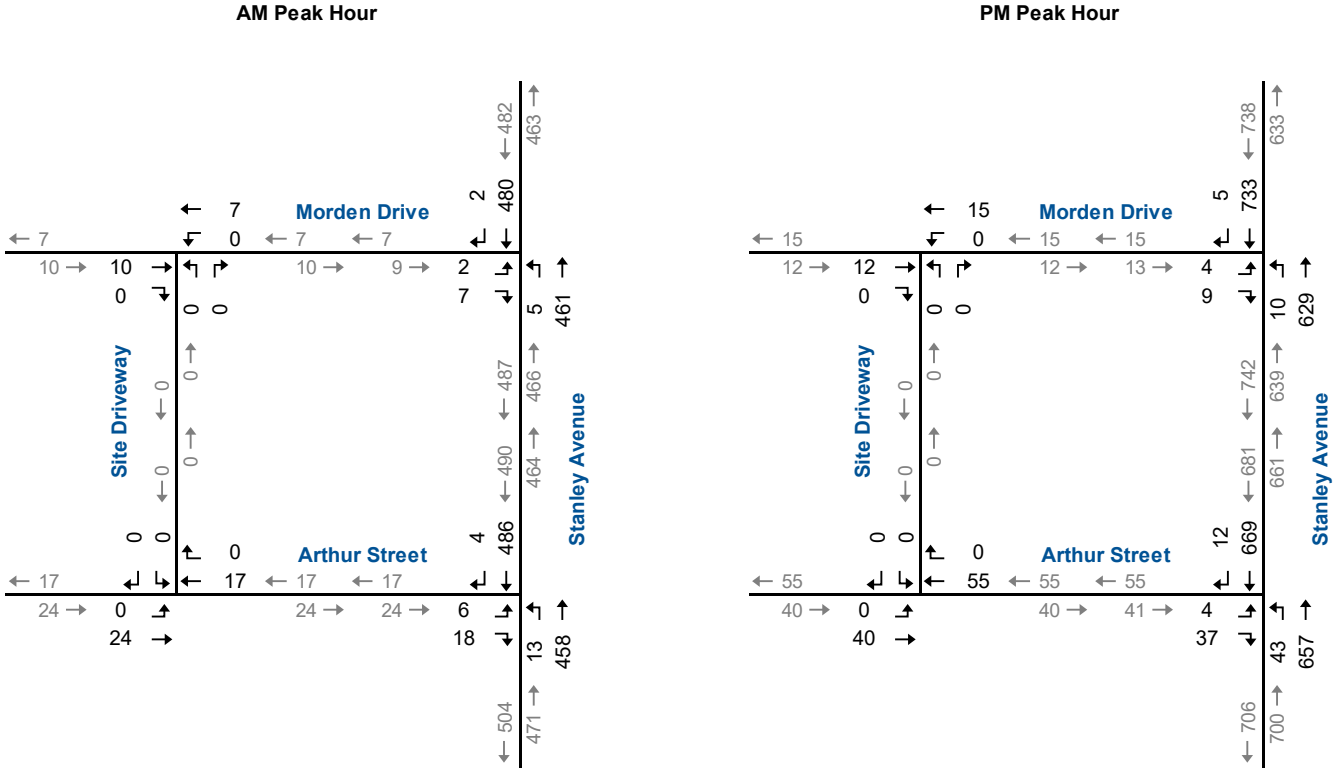
Figure 5



Opening Year Total Traffic Volumes

4981 Stanley Avenue, City of Niagara Falls
240325

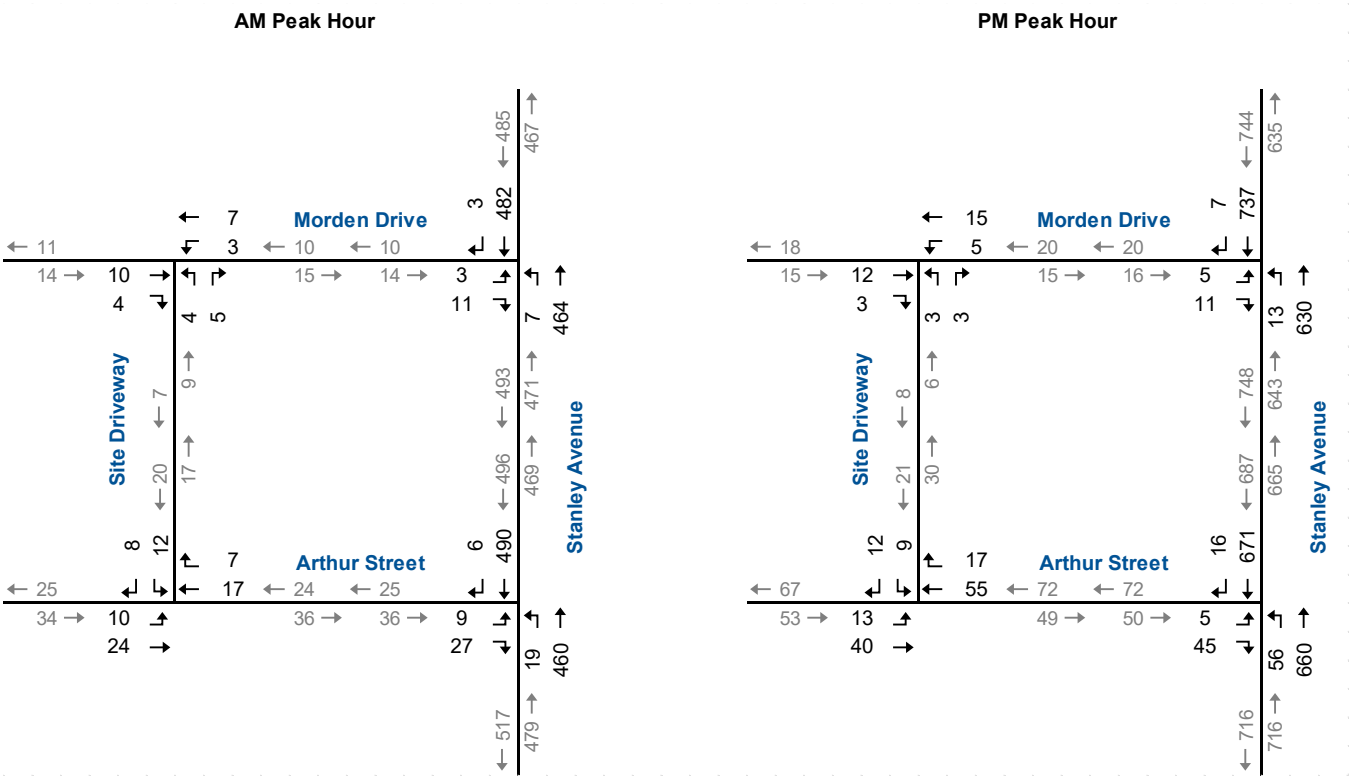
Figure 6



Five-Year Background Traffic Volumes

4981 Stanley Avenue, City of Niagara Falls
240325

Figure 7



Five-Year Total Traffic Volumes

4981 Stanley Avenue, City of Niagara Falls
240325

Figure 8

Appendix A

Existing Traffic Data

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Data

Start Time	Morden Drive Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
07:00	0	1	0	2	1	0	77	0	0	77	72	0	0	0	72	150
07:15	0	0	0	1	0	0	52	0	0	52	72	0	0	0	72	124
07:30	1	1	0	2	2	0	69	0	0	69	73	0	0	0	73	144
07:45	1	1	0	1	2	3	88	0	0	91	92	1	0	0	93	186
Hourly Total	2	3	0	6	5	3	286	0	0	289	309	1	0	0	310	604
08:00	1	1	0	2	2	0	76	0	0	76	88	1	0	0	89	167
08:15	0	2	0	6	2	3	96	0	0	99	117	0	0	0	117	218
08:30	1	1	0	3	2	0	103	1	0	104	94	1	0	0	95	201
08:45	0	2	0	3	2	0	103	0	0	103	95	0	0	0	95	200
Hourly Total	2	6	0	14	8	3	378	1	0	382	394	2	0	0	396	786
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	0	1	0	3	1	2	143	0	0	145	108	0	0	0	108	254
11:15	0	1	0	1	1	0	178	0	0	178	114	0	0	0	114	293
11:30	1	0	0	0	1	2	172	0	1	174	81	0	0	0	81	256
11:45	1	1	0	4	2	0	154	0	0	154	129	1	0	0	130	286
Hourly Total	2	3	0	8	5	4	647	0	1	651	432	1	0	0	433	1089
12:00	1	1	0	2	2	1	107	0	0	108	126	2	0	0	128	238
12:15	1	4	0	1	5	3	89	0	0	92	91	5	0	0	96	193
12:30	0	3	0	2	3	2	104	0	0	106	116	2	0	0	118	227
12:45	0	0	0	5	0	1	105	0	0	106	127	0	0	0	127	233
Hourly Total	2	8	0	10	10	7	405	0	0	412	460	9	0	0	469	891
13:00	0	1	0	2	1	1	120	0	0	121	118	1	0	2	119	241
13:15	0	1	0	0	1	1	112	0	0	113	122	1	0	0	123	237
13:30	1	2	0	0	3	2	94	0	0	96	107	1	0	0	108	207
13:45	0	0	0	1	0	2	118	0	0	120	130	1	0	0	131	251
Hourly Total	1	4	0	3	5	6	444	0	0	450	477	4	0	2	481	936
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	3	0	0	1	3	1	127	0	0	128	139	1	0	0	140	271
15:15	0	1	0	3	1	0	112	0	0	112	128	2	0	0	130	243
15:30	0	0	0	1	0	1	135	0	0	136	166	0	0	0	166	302
15:45	0	3	0	2	3	3	135	0	0	138	145	0	0	0	145	286
Hourly Total	3	4	0	7	7	5	509	0	0	514	578	3	0	0	581	1102
16:00	2	2	0	2	4	3	131	0	0	134	143	2	0	1	145	283
16:15	1	2	0	2	3	1	115	0	0	116	147	2	0	0	149	268
16:30	0	2	0	1	2	1	111	0	0	112	146	1	0	0	147	261
16:45	1	0	0	1	1	3	115	0	0	118	166	2	0	0	168	287

Hourly Total	4	6	0	6	10	8	472	0	0	480	602	7	0	1	609	1099
17:00	1	5	0	0	6	2	143	0	0	145	140	1	0	0	141	292
17:15	1	0	0	2	1	3	138	0	0	141	133	2	0	0	135	277
17:30	2	3	0	0	5	5	110	0	0	115	135	2	0	0	137	257
17:45	3	2	0	1	5	3	127	0	1	130	136	6	0	0	142	277
Hourly Total	7	10	0	3	17	13	518	0	1	531	544	11	0	0	555	1103
Grand Total	23	44	0	57	67	49	3659	1	2	3709	3796	38	0	3	3834	7610
Approach %	34.3	65.7	0.0	-	-	1.3	98.7	0.0	-	-	99.0	1.0	0.0	-	-	-
Total %	0.3	0.6	0.0	-	0.9	0.6	48.1	0.0	-	48.7	49.9	0.5	0.0	-	50.4	-
Motorcycles	0	0	0	-	0	0	13	0	-	13	25	2	0	-	27	40
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	0.4	0.7	5.3	-	-	0.7	0.5
Cars & Light Goods	20	43	0	-	63	48	3508	1	-	3557	3639	36	0	-	3675	7295
% Cars & Light Goods	87.0	97.7	-	-	94.0	98.0	95.9	100.0	-	95.9	95.9	94.7	-	-	95.9	95.9
Buses	0	0	0	-	0	0	43	0	-	43	50	0	0	-	50	93
% Buses	0.0	0.0	-	-	0.0	0.0	1.2	0.0	-	1.2	1.3	0.0	-	-	1.3	1.2
Single-Unit Trucks	1	0	0	-	1	1	70	0	-	71	58	0	0	-	58	130
% Single-Unit Trucks	4.3	0.0	-	-	1.5	2.0	1.9	0.0	-	1.9	1.5	0.0	-	-	1.5	1.7
Articulated Trucks	0	0	0	-	0	0	13	0	-	13	14	0	0	-	14	27
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	0.4	0.4	0.0	-	-	0.4	0.4
Bicycles on Road	2	1	0	-	3	0	12	0	-	12	10	0	0	-	10	25
% Bicycles on Road	8.7	2.3	-	-	4.5	0.0	0.3	0.0	-	0.3	0.3	0.0	-	-	0.3	0.3
Bicycles on Crosswalk	-	-	-	11	-	-	-	-	1	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	19.3	-	-	-	-	50.0	-	-	-	-	33.3	-	-
Pedestrians	-	-	-	46	-	-	-	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	80.7	-	-	-	-	50.0	-	-	-	-	66.7	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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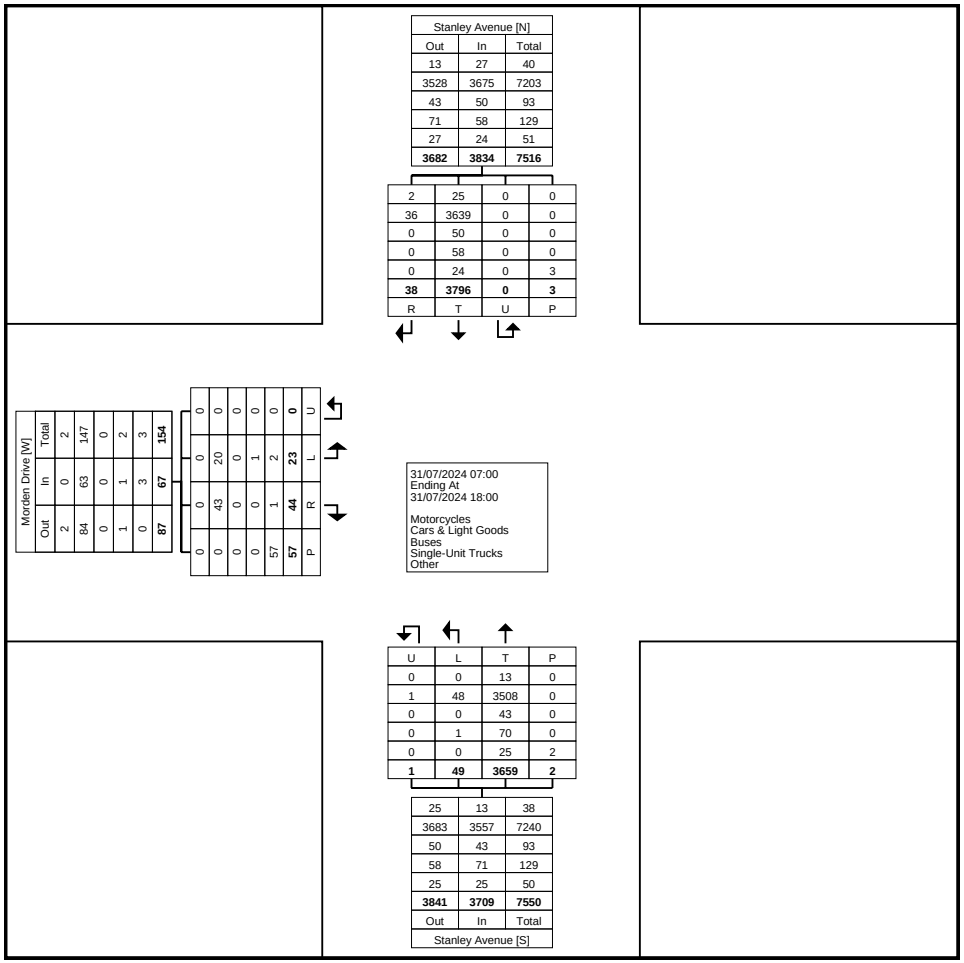
Start Date: 31/07/2024



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Peak Hour Data (08:00)

Start Time	Morden Drive Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
08:00	1	1	0	2	2	0	76	0	0	76	88	1	0	0	89	167
08:15	0	2	0	6	2	3	96	0	0	99	117	0	0	0	117	218
08:30	1	1	0	3	2	0	103	1	0	104	94	1	0	0	95	201
08:45	0	2	0	3	2	0	103	0	0	103	95	0	0	0	95	200
Total	2	6	0	14	8	3	378	1	0	382	394	2	0	0	396	786
Approach %	25.0	75.0	0.0	-	-	0.8	99.0	0.3	-	-	99.5	0.5	0.0	-	-	-
Total %	0.3	0.8	0.0	-	1.0	0.4	48.1	0.1	-	48.6	50.1	0.3	0.0	-	50.4	-
PHF	0.500	0.750	0.000	-	1.000	0.250	0.917	0.250	-	0.918	0.842	0.500	0.000	-	0.846	0.901
Motorcycles	0	0	0	-	0	0	0	0	-	0	1	1	0	-	2	2
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	0.0	-	0.0	0.3	50.0	-	-	0.5	0.3
Cars & Light Goods	2	6	0	-	8	3	360	1	-	364	373	1	0	-	374	746
% Cars & Light Goods	100.0	100.0	-	-	100.0	100.0	95.2	100.0	-	95.3	94.7	50.0	-	-	94.4	94.9
Buses	0	0	0	-	0	0	5	0	-	5	5	0	0	-	5	10
% Buses	0.0	0.0	-	-	0.0	0.0	1.3	0.0	-	1.3	1.3	0.0	-	-	1.3	1.3
Single-Unit Trucks	0	0	0	-	0	0	8	0	-	8	10	0	0	-	10	18
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	2.1	0.0	-	2.1	2.5	0.0	-	-	2.5	2.3
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	2	0	0	-	2	4
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.5	0.0	-	0.5	0.5	0.0	-	-	0.5	0.5
Bicycles on Road	0	0	0	-	0	0	3	0	-	3	3	0	0	-	3	6
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.8	0.0	-	0.8	0.8	0.0	-	-	0.8	0.8
Bicycles on Crosswalk	-	-	-	4	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	28.6	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	10	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	71.4	-	-	-	-	-	-	-	-	-	-	-	-

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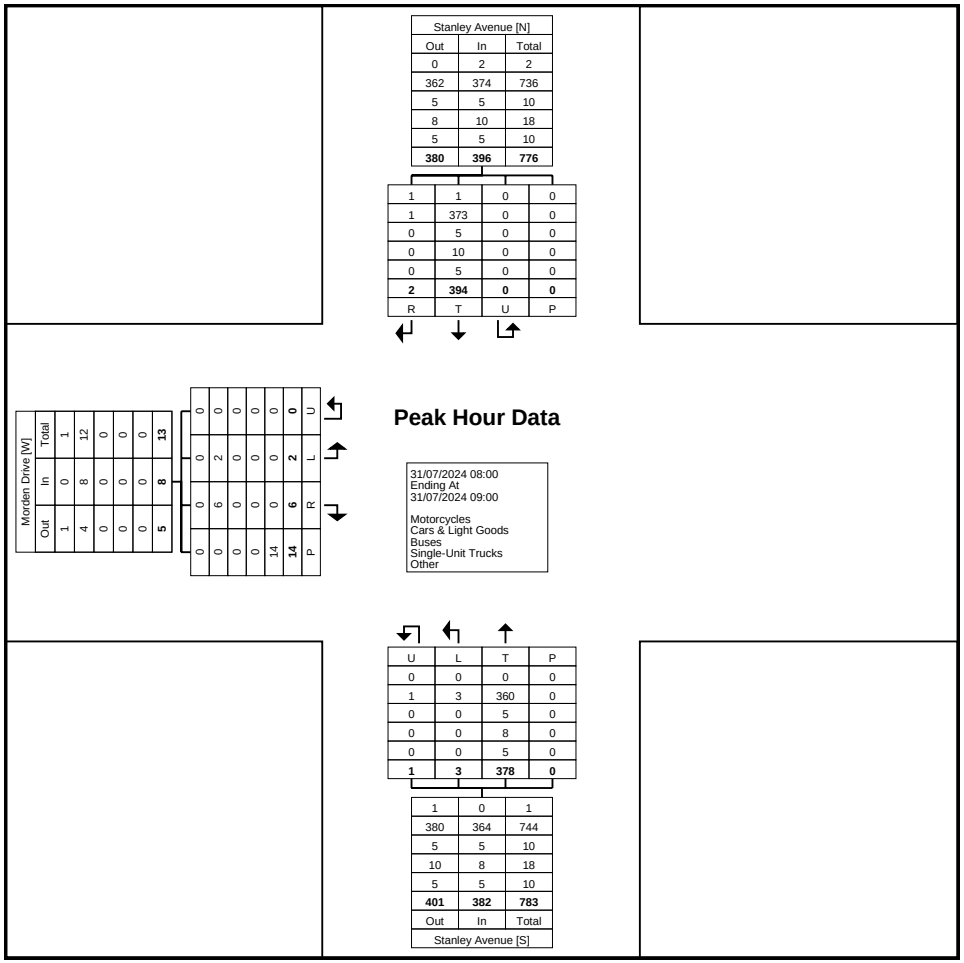


Turning Movement Peak Hour Data Plot (08:00)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024

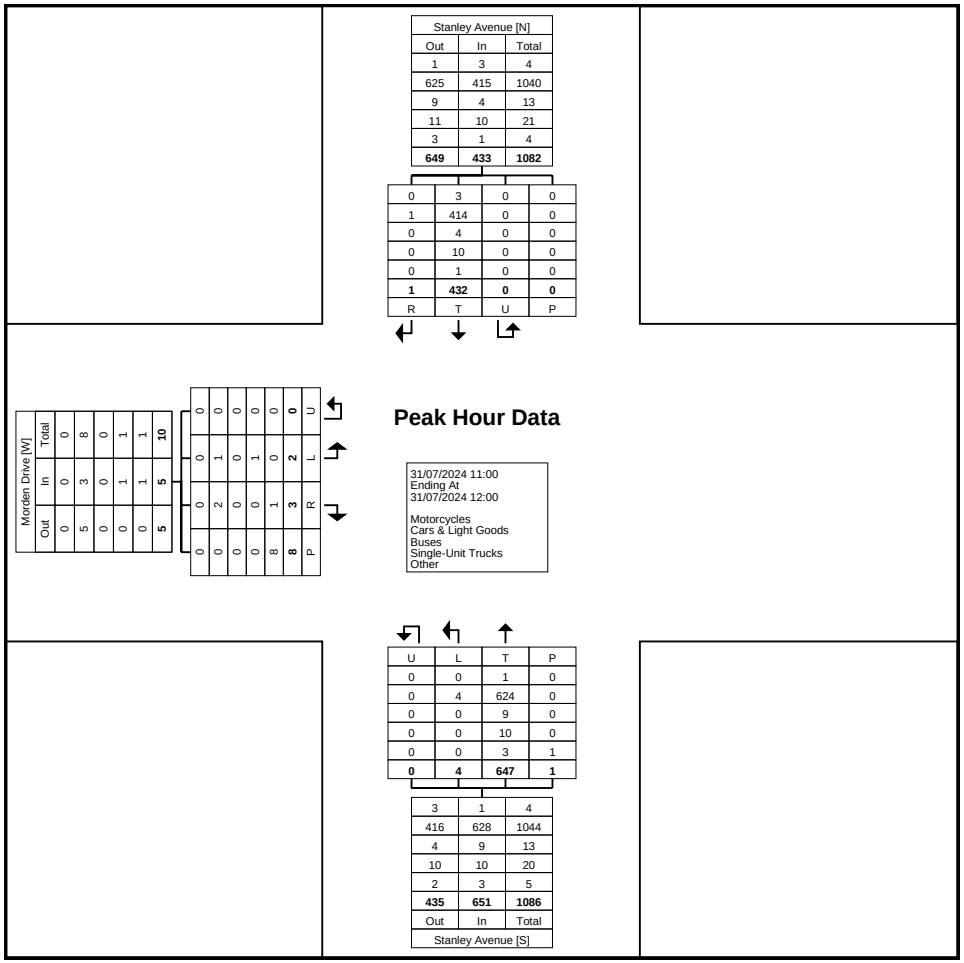
Turning Movement Peak Hour Data (11:00)

Start Time	Morden Drive Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
11:00	0	1	0	3	1	2	143	0	0	145	108	0	0	0	108	254
11:15	0	1	0	1	1	0	178	0	0	178	114	0	0	0	114	293
11:30	1	0	0	0	1	2	172	0	1	174	81	0	0	0	81	256
11:45	1	1	0	4	2	0	154	0	0	154	129	1	0	0	130	286
Total	2	3	0	8	5	4	647	0	1	651	432	1	0	0	433	1089
Approach %	40.0	60.0	0.0	-	-	0.6	99.4	0.0	-	-	99.8	0.2	0.0	-	-	-
Total %	0.2	0.3	0.0	-	0.5	0.4	59.4	0.0	-	59.8	39.7	0.1	0.0	-	39.8	-
PHF	0.500	0.750	0.000	-	0.625	0.500	0.909	0.000	-	0.914	0.837	0.250	0.000	-	0.833	0.929
Motorcycles	0	0	0	-	0	0	1	0	-	1	3	0	0	-	3	4
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.2	-	-	0.2	0.7	0.0	-	-	0.7	0.4
Cars & Light Goods	1	2	0	-	3	4	624	0	-	628	414	1	0	-	415	1046
% Cars & Light Goods	50.0	66.7	-	-	60.0	100.0	96.4	-	-	96.5	95.8	100.0	-	-	95.8	96.1
Buses	0	0	0	-	0	0	9	0	-	9	4	0	0	-	4	13
% Buses	0.0	0.0	-	-	0.0	0.0	1.4	-	-	1.4	0.9	0.0	-	-	0.9	1.2
Single-Unit Trucks	1	0	0	-	1	0	10	0	-	10	10	0	0	-	10	21
% Single-Unit Trucks	50.0	0.0	-	-	20.0	0.0	1.5	-	-	1.5	2.3	0.0	-	-	2.3	1.9
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	0	0	0	-	0	2
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.0	0.0	-	-	0.0	0.2
Bicycles on Road	0	1	0	-	1	0	1	0	-	1	1	0	0	-	1	3
% Bicycles on Road	0.0	33.3	-	-	20.0	0.0	0.2	-	-	0.2	0.2	0.0	-	-	0.2	0.3
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	25.0	-	-	-	-	0.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	6	-	-	-	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	75.0	-	-	-	-	100.0	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (11:00)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024

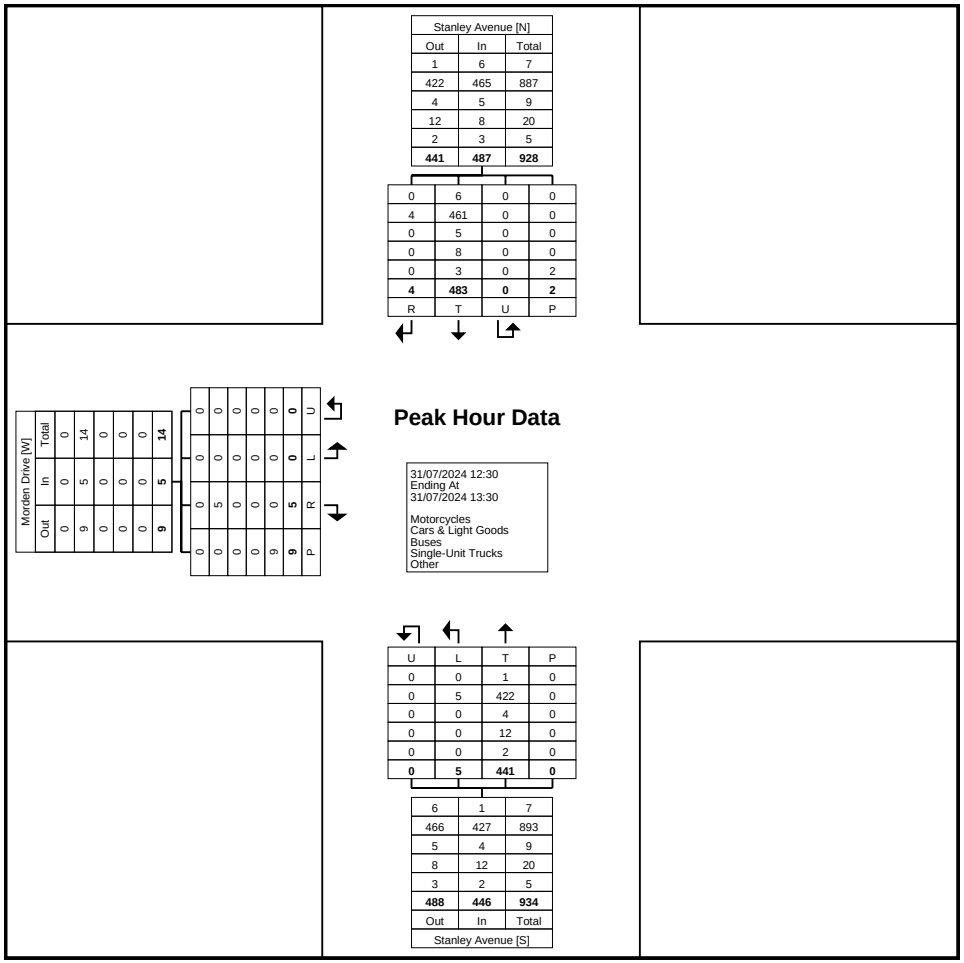
Turning Movement Peak Hour Data (12:30)

Start Time	Morden Drive Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
12:30	0	3	0	2	3	2	104	0	0	106	116	2	0	0	118	227
12:45	0	0	0	5	0	1	105	0	0	106	127	0	0	0	127	233
13:00	0	1	0	2	1	1	120	0	0	121	118	1	0	2	119	241
13:15	0	1	0	0	1	1	112	0	0	113	122	1	0	0	123	237
Total	0	5	0	9	5	5	441	0	0	446	483	4	0	2	487	938
Approach %	0.0	100.0	0.0	-	-	1.1	98.9	0.0	-	-	99.2	0.8	0.0	-	-	-
Total %	0.0	0.5	0.0	-	0.5	0.5	47.0	0.0	-	47.5	51.5	0.4	0.0	-	51.9	-
PHF	0.000	0.417	0.000	-	0.417	0.625	0.919	0.000	-	0.921	0.951	0.500	0.000	-	0.959	0.973
Motorcycles	0	0	0	-	0	0	1	0	-	1	6	0	0	-	6	7
% Motorcycles	-	0.0	-	-	0.0	0.0	0.2	-	-	0.2	1.2	0.0	-	-	1.2	0.7
Cars & Light Goods	0	5	0	-	5	5	422	0	-	427	461	4	0	-	465	897
% Cars & Light Goods	-	100.0	-	-	100.0	100.0	95.7	-	-	95.7	95.4	100.0	-	-	95.5	95.6
Buses	0	0	0	-	0	0	4	0	-	4	5	0	0	-	5	9
% Buses	-	0.0	-	-	0.0	0.0	0.9	-	-	0.9	1.0	0.0	-	-	1.0	1.0
Single-Unit Trucks	0	0	0	-	0	0	12	0	-	12	8	0	0	-	8	20
% Single-Unit Trucks	-	0.0	-	-	0.0	0.0	2.7	-	-	2.7	1.7	0.0	-	-	1.6	2.1
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	3	0	0	-	3	5
% Articulated Trucks	-	0.0	-	-	0.0	0.0	0.5	-	-	0.4	0.6	0.0	-	-	0.6	0.5
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	-	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	11.1	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	8	-	-	-	-	0	-	-	-	-	2	-	-
% Pedestrians	-	-	-	88.9	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (12:30)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024

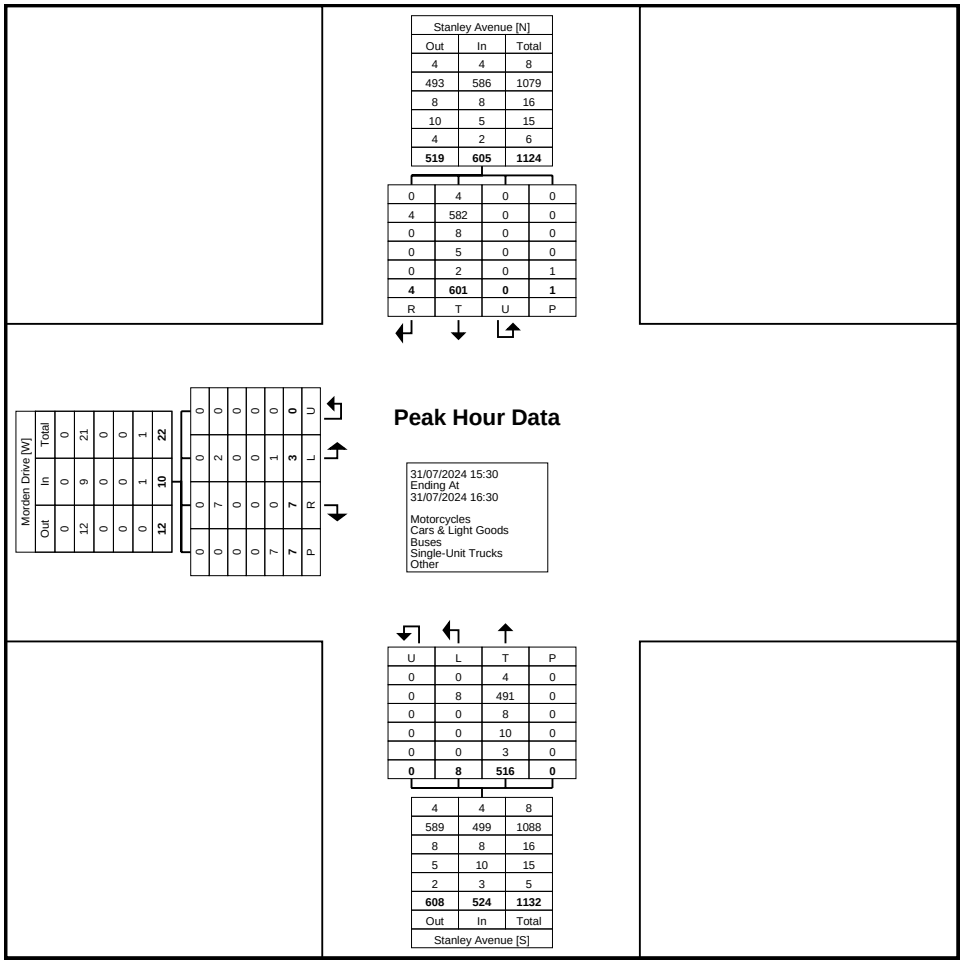
Turning Movement Peak Hour Data (15:30)

Start Time	Morden Drive Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
15:30	0	0	0	1	0	1	135	0	0	136	166	0	0	0	166	302
15:45	0	3	0	2	3	3	135	0	0	138	145	0	0	0	145	286
16:00	2	2	0	2	4	3	131	0	0	134	143	2	0	1	145	283
16:15	1	2	0	2	3	1	115	0	0	116	147	2	0	0	149	268
Total	3	7	0	7	10	8	516	0	0	524	601	4	0	1	605	1139
Approach %	30.0	70.0	0.0	-	-	1.5	98.5	0.0	-	-	99.3	0.7	0.0	-	-	-
Total %	0.3	0.6	0.0	-	0.9	0.7	45.3	0.0	-	46.0	52.8	0.4	0.0	-	53.1	-
PHF	0.375	0.583	0.000	-	0.625	0.667	0.956	0.000	-	0.949	0.905	0.500	0.000	-	0.911	0.943
Motorcycles	0	0	0	-	0	0	4	0	-	4	4	0	0	-	4	8
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.8	-	-	0.8	0.7	0.0	-	-	0.7	0.7
Cars & Light Goods	2	7	0	-	9	8	491	0	-	499	582	4	0	-	586	1094
% Cars & Light Goods	66.7	100.0	-	-	90.0	100.0	95.2	-	-	95.2	96.8	100.0	-	-	96.9	96.0
Buses	0	0	0	-	0	0	8	0	-	8	8	0	0	-	8	16
% Buses	0.0	0.0	-	-	0.0	0.0	1.6	-	-	1.5	1.3	0.0	-	-	1.3	1.4
Single-Unit Trucks	0	0	0	-	0	0	10	0	-	10	5	0	0	-	5	15
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	1.9	-	-	1.9	0.8	0.0	-	-	0.8	1.3
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	2	0	0	-	2	2
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.3	0.0	-	-	0.3	0.2
Bicycles on Road	1	0	0	-	1	0	3	0	-	3	0	0	0	-	0	4
% Bicycles on Road	33.3	0.0	-	-	10.0	0.0	0.6	-	-	0.6	0.0	0.0	-	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	2	-	-	-	-	0	-	-	-	-	1	-	-
% Bicycles on Crosswalk	-	-	-	28.6	-	-	-	-	-	-	-	-	-	100.0	-	-
Pedestrians	-	-	-	5	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	71.4	-	-	-	-	-	-	-	-	-	0.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Morden Drive
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (15:30)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Data

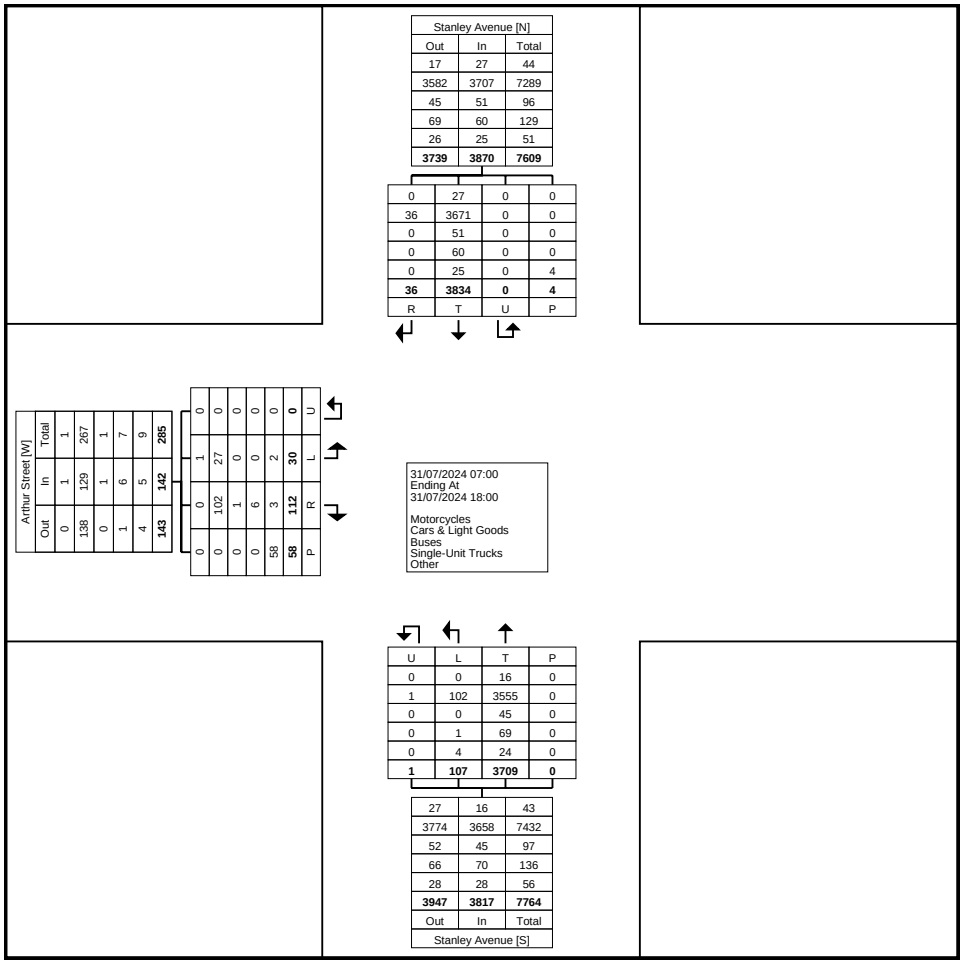
Start Time	Arthur Street Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
07:00	0	0	0	1	0	1	76	0	0	77	73	0	0	0	73	150
07:15	0	4	0	1	4	0	52	1	0	53	75	0	0	0	75	132
07:30	1	3	0	1	4	2	67	0	0	69	74	1	0	0	75	148
07:45	0	1	0	1	1	5	91	0	0	96	91	3	0	0	94	191
Hourly Total	1	8	0	4	9	8	286	1	0	295	313	4	0	0	317	621
08:00	2	5	0	1	7	6	76	0	0	82	88	0	0	0	88	177
08:15	0	1	0	7	1	1	97	0	0	98	119	0	0	0	119	218
08:30	2	6	0	3	8	1	101	0	0	102	94	2	0	1	96	206
08:45	1	3	0	3	4	3	102	0	0	105	98	1	0	0	99	208
Hourly Total	5	15	0	14	20	11	376	0	0	387	399	3	0	1	402	809
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:00	2	2	0	3	4	1	148	0	0	149	110	0	0	0	110	263
11:15	1	2	0	2	3	4	187	0	0	191	114	1	0	0	115	309
11:30	0	2	0	0	2	3	172	0	0	175	80	1	0	0	81	258
11:45	0	2	0	2	2	0	153	0	0	153	131	2	0	0	133	288
Hourly Total	3	8	0	7	11	8	660	0	0	668	435	4	0	0	439	1118
12:00	0	7	0	2	7	5	111	0	0	116	128	2	0	0	130	253
12:15	1	3	0	1	4	2	88	0	0	90	94	0	0	0	94	188
12:30	0	4	0	2	4	1	110	0	0	111	118	0	0	0	118	233
12:45	2	2	0	5	4	4	106	0	0	110	124	2	0	0	126	240
Hourly Total	3	16	0	10	19	12	415	0	0	427	464	4	0	0	468	914
13:00	4	5	0	0	9	3	123	0	0	126	120	2	0	0	122	257
13:15	0	2	0	0	2	2	112	0	0	114	121	1	0	0	122	238
13:30	1	1	0	0	2	4	98	0	0	102	109	1	0	1	110	214
13:45	0	0	0	1	0	2	121	0	0	123	126	0	0	0	126	249
Hourly Total	5	8	0	1	13	11	454	0	0	465	476	4	0	1	480	958
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15:00	2	2	0	2	4	2	124	0	0	126	139	2	0	0	141	271
15:15	1	4	0	2	5	3	114	0	0	117	133	0	0	0	133	255
15:30	2	4	0	7	6	6	129	0	0	135	163	0	0	0	163	304
15:45	2	3	0	0	5	2	135	0	0	137	154	2	0	0	156	298
Hourly Total	7	13	0	11	20	13	502	0	0	515	589	4	0	0	593	1128
16:00	1	4	0	1	5	3	133	0	0	136	148	1	0	0	149	290
16:15	1	2	0	1	3	3	118	0	0	121	145	0	0	2	145	269
16:30	0	1	0	2	1	1	116	0	0	117	151	1	0	0	152	270
16:45	1	7	0	2	8	2	110	0	0	112	165	1	0	0	166	286

Hourly Total	3	14	0	6	17	9	477	0	0	486	609	3	0	2	612	1115
17:00	2	2	0	2	4	4	139	0	0	143	147	2	0	0	149	296
17:15	0	3	0	2	3	9	145	0	0	154	128	4	0	0	132	289
17:30	0	17	0	1	17	11	115	0	0	126	134	3	0	0	137	280
17:45	1	8	0	0	9	11	140	0	0	151	140	1	0	0	141	301
Hourly Total	3	30	0	5	33	35	539	0	0	574	549	10	0	0	559	1166
Grand Total	30	112	0	58	142	107	3709	1	0	3817	3834	36	0	4	3870	7829
Approach %	21.1	78.9	0.0	-	-	2.8	97.2	0.0	-	-	99.1	0.9	0.0	-	-	-
Total %	0.4	1.4	0.0	-	1.8	1.4	47.4	0.0	-	48.8	49.0	0.5	0.0	-	49.4	-
Motorcycles	1	0	0	-	1	0	16	0	-	16	27	0	0	-	27	44
% Motorcycles	3.3	0.0	-	-	0.7	0.0	0.4	0.0	-	0.4	0.7	0.0	-	-	0.7	0.6
Cars & Light Goods	27	102	0	-	129	102	3555	1	-	3658	3671	36	0	-	3707	7494
% Cars & Light Goods	90.0	91.1	-	-	90.8	95.3	95.8	100.0	-	95.8	95.7	100.0	-	-	95.8	95.7
Buses	0	1	0	-	1	0	45	0	-	45	51	0	0	-	51	97
% Buses	0.0	0.9	-	-	0.7	0.0	1.2	0.0	-	1.2	1.3	0.0	-	-	1.3	1.2
Single-Unit Trucks	0	6	0	-	6	1	69	0	-	70	60	0	0	-	60	136
% Single-Unit Trucks	0.0	5.4	-	-	4.2	0.9	1.9	0.0	-	1.8	1.6	0.0	-	-	1.6	1.7
Articulated Trucks	0	0	0	-	0	0	15	0	-	15	15	0	0	-	15	30
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.4	0.0	-	0.4	0.4	0.0	-	-	0.4	0.4
Bicycles on Road	2	3	0	-	5	4	9	0	-	13	10	0	0	-	10	28
% Bicycles on Road	6.7	2.7	-	-	3.5	3.7	0.2	0.0	-	0.3	0.3	0.0	-	-	0.3	0.4
Bicycles on Crosswalk	-	-	-	13	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	22.4	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	45	-	-	-	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	77.6	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Data Plot

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Peak Hour Data (08:00)

Start Time	Arthur Street Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
08:00	2	5	0	1	7	6	76	0	0	82	88	0	0	0	88	177
08:15	0	1	0	7	1	1	97	0	0	98	119	0	0	0	119	218
08:30	2	6	0	3	8	1	101	0	0	102	94	2	0	1	96	206
08:45	1	3	0	3	4	3	102	0	0	105	98	1	0	0	99	208
Total	5	15	0	14	20	11	376	0	0	387	399	3	0	1	402	809
Approach %	25.0	75.0	0.0	-	-	2.8	97.2	0.0	-	-	99.3	0.7	0.0	-	-	-
Total %	0.6	1.9	0.0	-	2.5	1.4	46.5	0.0	-	47.8	49.3	0.4	0.0	-	49.7	-
PHF	0.625	0.625	0.000	-	0.625	0.458	0.922	0.000	-	0.921	0.838	0.375	0.000	-	0.845	0.928
Motorcycles	0	0	0	-	0	0	0	0	-	0	2	0	0	-	2	2
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.5	0.0	-	-	0.5	0.2
Cars & Light Goods	5	14	0	-	19	11	359	0	-	370	378	3	0	-	381	770
% Cars & Light Goods	100.0	93.3	-	-	95.0	100.0	95.5	-	-	95.6	94.7	100.0	-	-	94.8	95.2
Buses	0	0	0	-	0	0	5	0	-	5	5	0	0	-	5	10
% Buses	0.0	0.0	-	-	0.0	0.0	1.3	-	-	1.3	1.3	0.0	-	-	1.2	1.2
Single-Unit Trucks	0	1	0	-	1	0	8	0	-	8	12	0	0	-	12	21
% Single-Unit Trucks	0.0	6.7	-	-	5.0	0.0	2.1	-	-	2.1	3.0	0.0	-	-	3.0	2.6
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	1	0	0	-	1	3
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.3	0.0	-	-	0.2	0.4
Bicycles on Road	0	0	0	-	0	0	2	0	-	2	1	0	0	-	1	3
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.5	0.3	0.0	-	-	0.2	0.4
Bicycles on Crosswalk	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	21.4	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	11	-	-	-	-	0	-	-	-	-	1	-	-
% Pedestrians	-	-	-	78.6	-	-	-	-	-	-	-	-	-	100.0	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

Cambridge, Ontario, Canada N1R 8J8
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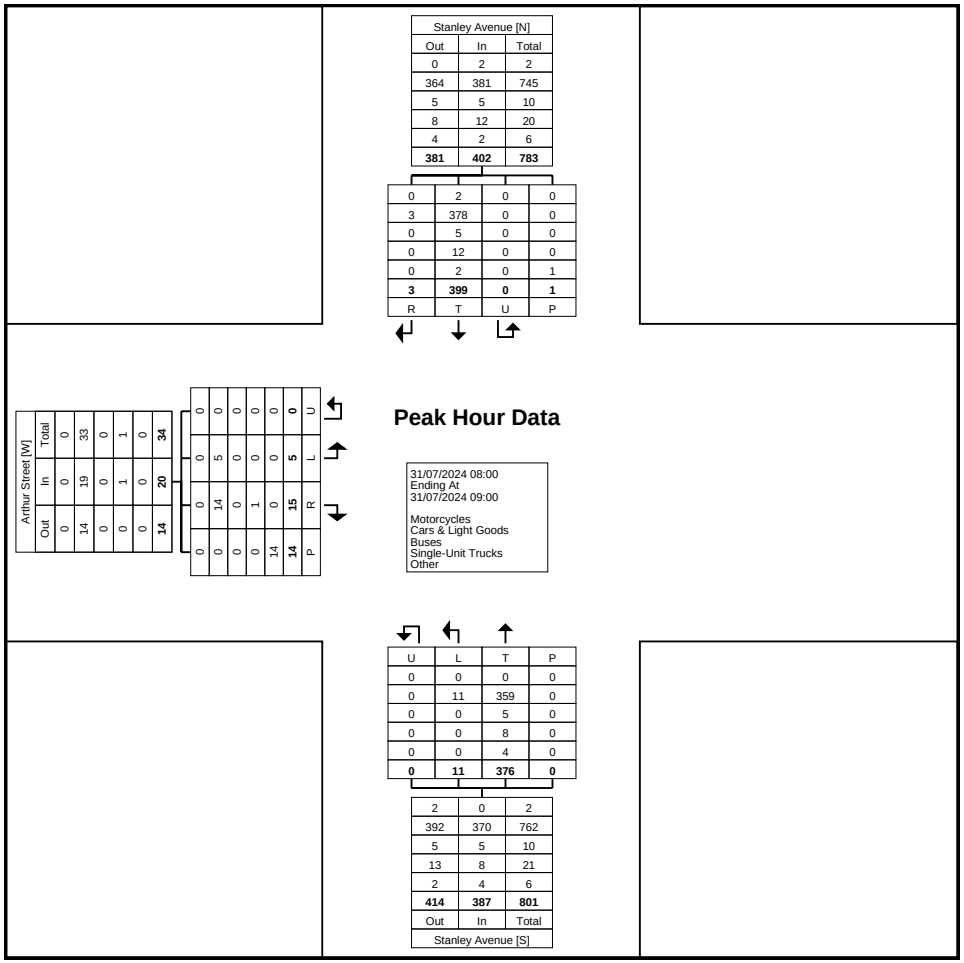
Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (08:00)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024

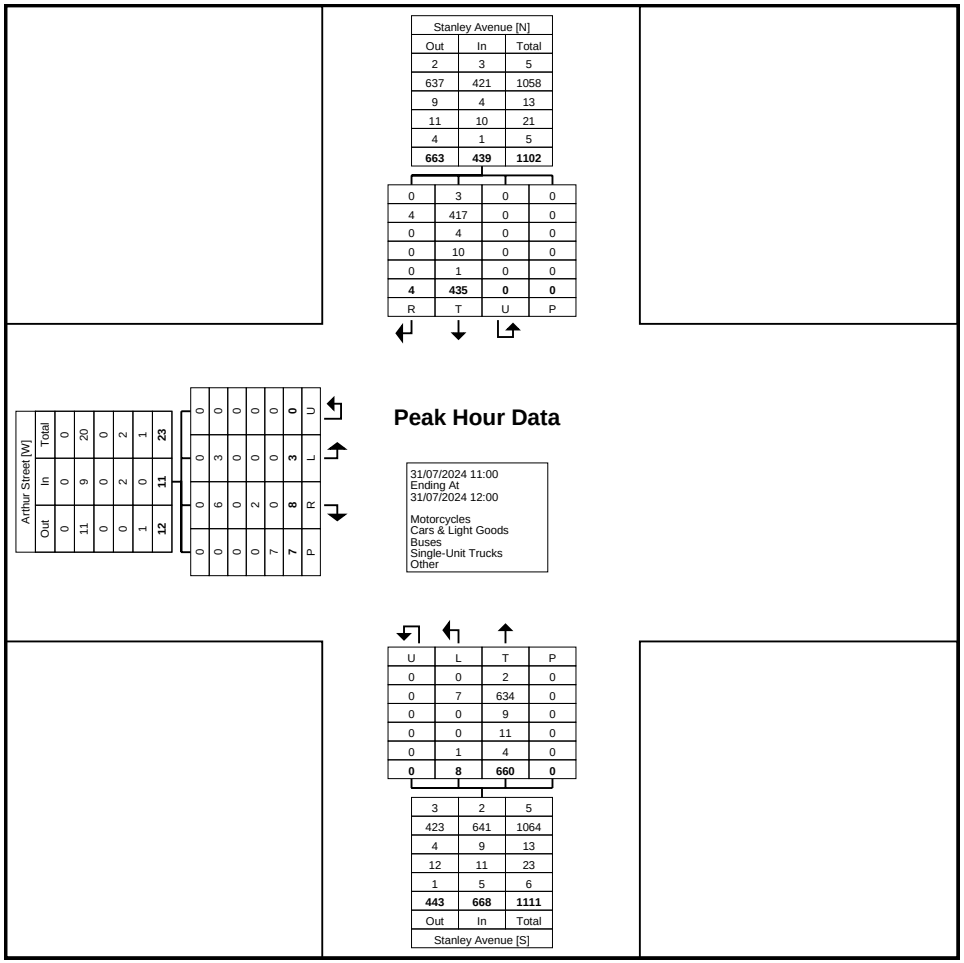
Turning Movement Peak Hour Data (11:00)

Start Time	Arthur Street Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
11:00	2	2	0	3	4	1	148	0	0	149	110	0	0	0	110	263
11:15	1	2	0	2	3	4	187	0	0	191	114	1	0	0	115	309
11:30	0	2	0	0	2	3	172	0	0	175	80	1	0	0	81	258
11:45	0	2	0	2	2	0	153	0	0	153	131	2	0	0	133	288
Total	3	8	0	7	11	8	660	0	0	668	435	4	0	0	439	1118
Approach %	27.3	72.7	0.0	-	-	1.2	98.8	0.0	-	-	99.1	0.9	0.0	-	-	-
Total %	0.3	0.7	0.0	-	1.0	0.7	59.0	0.0	-	59.7	38.9	0.4	0.0	-	39.3	-
PHF	0.375	1.000	0.000	-	0.688	0.500	0.882	0.000	-	0.874	0.830	0.500	0.000	-	0.825	0.905
Motorcycles	0	0	0	-	0	0	2	0	-	2	3	0	0	-	3	5
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.3	-	-	0.3	0.7	0.0	-	-	0.7	0.4
Cars & Light Goods	3	6	0	-	9	7	634	0	-	641	417	4	0	-	421	1071
% Cars & Light Goods	100.0	75.0	-	-	81.8	87.5	96.1	-	-	96.0	95.9	100.0	-	-	95.9	95.8
Buses	0	0	0	-	0	0	9	0	-	9	4	0	0	-	4	13
% Buses	0.0	0.0	-	-	0.0	0.0	1.4	-	-	1.3	0.9	0.0	-	-	0.9	1.2
Single-Unit Trucks	0	2	0	-	2	0	11	0	-	11	10	0	0	-	10	23
% Single-Unit Trucks	0.0	25.0	-	-	18.2	0.0	1.7	-	-	1.6	2.3	0.0	-	-	2.3	2.1
Articulated Trucks	0	0	0	-	0	0	3	0	-	3	0	0	0	-	0	3
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.5	-	-	0.4	0.0	0.0	-	-	0.0	0.3
Bicycles on Road	0	0	0	-	0	1	1	0	-	2	1	0	0	-	1	3
% Bicycles on Road	0.0	0.0	-	-	0.0	12.5	0.2	-	-	0.3	0.2	0.0	-	-	0.2	0.3
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	14.3	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	85.7	-	-	-	-	-	-	-	-	-	-	-	-

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (11:00)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Peak Hour Data (12:30)

Start Time	Arthur Street Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
12:30	0	4	0	2	4	1	110	0	0	111	118	0	0	0	118	233
12:45	2	2	0	5	4	4	106	0	0	110	124	2	0	0	126	240
13:00	4	5	0	0	9	3	123	0	0	126	120	2	0	0	122	257
13:15	0	2	0	0	2	2	112	0	0	114	121	1	0	0	122	238
Total	6	13	0	7	19	10	451	0	0	461	483	5	0	0	488	968
Approach %	31.6	68.4	0.0	-	-	2.2	97.8	0.0	-	-	99.0	1.0	0.0	-	-	-
Total %	0.6	1.3	0.0	-	2.0	1.0	46.6	0.0	-	47.6	49.9	0.5	0.0	-	50.4	-
PHF	0.375	0.650	0.000	-	0.528	0.625	0.917	0.000	-	0.915	0.974	0.625	0.000	-	0.968	0.942
Motorcycles	0	0	0	-	0	0	2	0	-	2	6	0	0	-	6	8
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.4	1.2	0.0	-	-	1.2	0.8
Cars & Light Goods	6	13	0	-	19	10	432	0	-	442	460	5	0	-	465	926
% Cars & Light Goods	100.0	100.0	-	-	100.0	100.0	95.8	-	-	95.9	95.2	100.0	-	-	95.3	95.7
Buses	0	0	0	-	0	0	5	0	-	5	5	0	0	-	5	10
% Buses	0.0	0.0	-	-	0.0	0.0	1.1	-	-	1.1	1.0	0.0	-	-	1.0	1.0
Single-Unit Trucks	0	0	0	-	0	0	10	0	-	10	8	0	0	-	8	18
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	2.2	-	-	2.2	1.7	0.0	-	-	1.6	1.9
Articulated Trucks	0	0	0	-	0	0	2	0	-	2	4	0	0	-	4	6
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.4	0.8	0.0	-	-	0.8	0.6
Bicycles on Road	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Bicycles on Road	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Crosswalk	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	14.3	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	6	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	85.7	-	-	-	-	-	-	-	-	-	-	-	-

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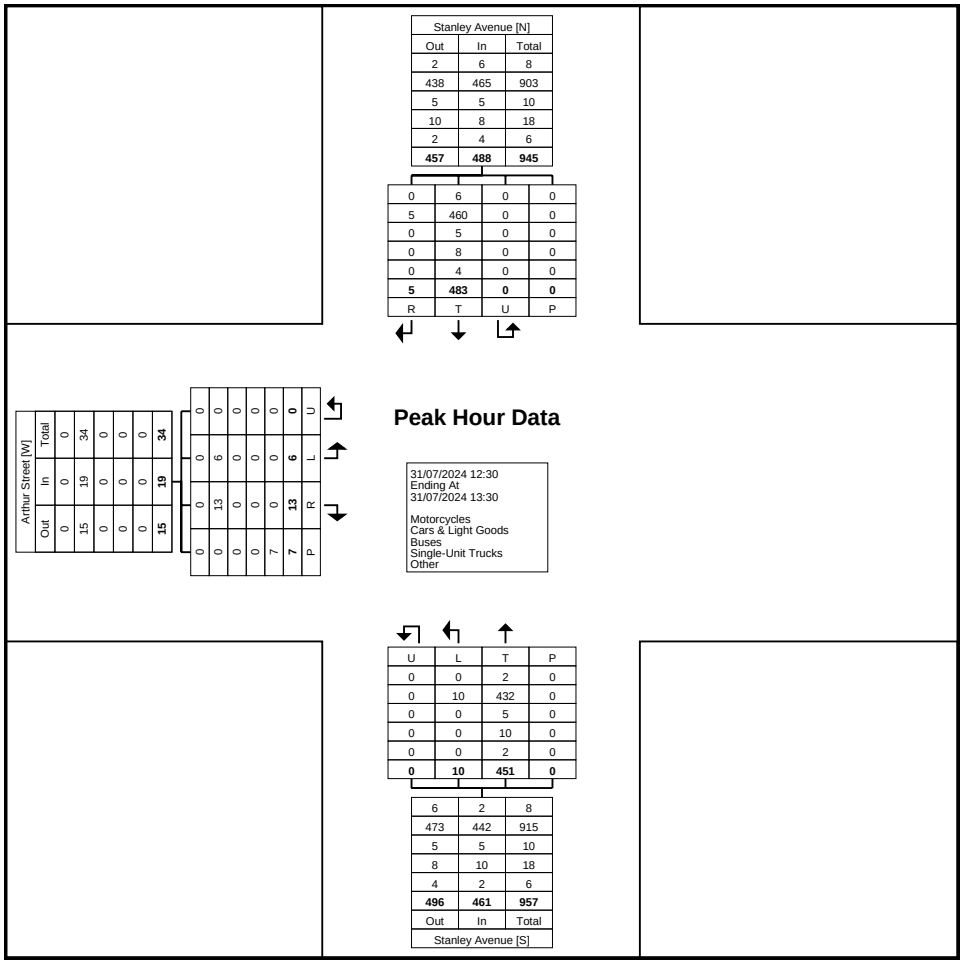
Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (12:30)

Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: Stanley Avenue & Arthur Street
Site Code: 240325
Start Date: 31/07/2024

Turning Movement Peak Hour Data (17:00)

Start Time	Arthur Street Eastbound					Stanley Avenue Northbound					Stanley Avenue Southbound					
	Left	Right	U-Turn	Peds	App. Total	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Int. Total
17:00	2	2	0	2	4	4	139	0	0	143	147	2	0	0	149	296
17:15	0	3	0	2	3	9	145	0	0	154	128	4	0	0	132	289
17:30	0	17	0	1	17	11	115	0	0	126	134	3	0	0	137	280
17:45	1	8	0	0	9	11	140	0	0	151	140	1	0	0	141	301
Total	3	30	0	5	33	35	539	0	0	574	549	10	0	0	559	1166
Approach %	9.1	90.9	0.0	-	-	6.1	93.9	0.0	-	-	98.2	1.8	0.0	-	-	-
Total %	0.3	2.6	0.0	-	2.8	3.0	46.2	0.0	-	49.2	47.1	0.9	0.0	-	47.9	-
PHF	0.375	0.441	0.000	-	0.485	0.795	0.929	0.000	-	0.932	0.934	0.625	0.000	-	0.938	0.968
Motorcycles	0	0	0	-	0	0	0	0	-	0	4	0	0	-	4	4
% Motorcycles	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.7	0.0	-	-	0.7	0.3
Cars & Light Goods	1	29	0	-	30	33	531	0	-	564	532	10	0	-	542	1136
% Cars & Light Goods	33.3	96.7	-	-	90.9	94.3	98.5	-	-	98.3	96.9	100.0	-	-	97.0	97.4
Buses	0	1	0	-	1	0	5	0	-	5	7	0	0	-	7	13
% Buses	0.0	3.3	-	-	3.0	0.0	0.9	-	-	0.9	1.3	0.0	-	-	1.3	1.1
Single-Unit Trucks	0	0	0	-	0	0	2	0	-	2	6	0	0	-	6	8
% Single-Unit Trucks	0.0	0.0	-	-	0.0	0.0	0.4	-	-	0.3	1.1	0.0	-	-	1.1	0.7
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	2	0	0	-	2	2	1	0	-	3	0	0	0	-	0	5
% Bicycles on Road	66.7	0.0	-	-	6.1	5.7	0.2	-	-	0.5	0.0	0.0	-	-	0.0	0.4
Bicycles on Crosswalk	-	-	-	3	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	60.0	-	-	-	-	-	-	-	-	-	-	-	-
Pedestrians	-	-	-	2	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	40.0	-	-	-	-	-	-	-	-	-	-	-	-

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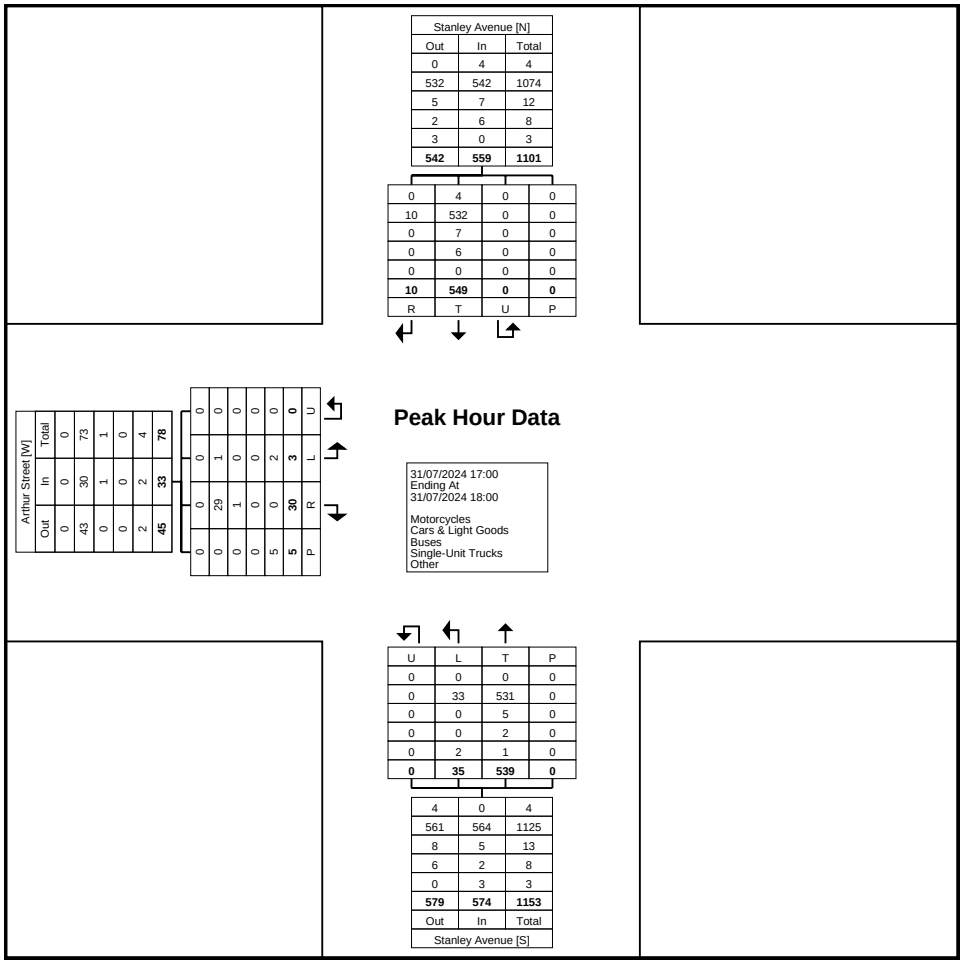
Site Code: 240325
Start Date: 31/07/2024



Turning Movement Peak Hour Data Plot (17:00)

Appendix B

Traffic Operations

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	6	4	378	394	2
Future Volume (vph)	2	6	4	378	394	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.895				0.999	
Flt Protected	0.989					
Satd. Flow (prot)	1682	0	0	1828	1825	0
Flt Permitted	0.989					
Satd. Flow (perm)	1682	0	0	1828	1825	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	23.5			101.1	245.5	
Travel Time (s)	1.7			7.3	17.7	
Confl. Peds. (#/hr)			14			14
Confl. Bikes (#/hr)				3	3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	4%	4%	0%
Adj. Flow (vph)	2	7	4	420	438	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	0	0	424	440	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	6	4	378	394	2
Future Volume (Veh/h)	2	6	4	378	394	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	7	4	420	438	2
Pedestrians	14					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	881	453	454			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	881	453	454			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	315	604	1104			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	9	424	440
Volume Left	2	4	0
Volume Right	7	0	2
cSH	502	1104	1700
Volume to Capacity	0.02	0.00	0.26
Queue Length 95th (m)	0.4	0.1	0.0
Control Delay (s)	12.3	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	12.3	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	15	11	376	399	3
Future Volume (vph)	5	15	11	376	399	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.897				0.999	
Flt Protected	0.988			0.999		
Satd. Flow (prot)	1599	0	0	1827	1808	0
Flt Permitted	0.988			0.999		
Satd. Flow (perm)	1599	0	0	1827	1808	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	18.5			229.9	101.1	
Travel Time (s)	1.3			16.6	7.3	
Confl. Peds. (#/hr)	1		14			14
Confl. Bikes (#/hr)				2	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	0%	4%	5%	0%
Adj. Flow (vph)	5	16	12	404	429	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	0	0	416	432	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	15	11	376	399	3
Future Volume (Veh/h)	5	15	11	376	399	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	5	16	12	404	429	3
Pedestrians	14				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	874	444	446			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874	444	446			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	316	596	1112			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	21	416	432
Volume Left	5	12	0
Volume Right	16	0	3
cSH	492	1112	1700
Volume to Capacity	0.04	0.01	0.25
Queue Length 95th (m)	1.0	0.2	0.0
Control Delay (s)	12.6	0.4	0.0
Lane LOS	B	A	
Approach Delay (s)	12.6	0.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	7	8	516	601	4
Future Volume (vph)	3	7	8	516	601	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905				0.999	
Flt Protected	0.985			0.999		
Satd. Flow (prot)	1694	0	0	1844	1861	0
Flt Permitted	0.985			0.999		
Satd. Flow (perm)	1694	0	0	1844	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	23.5			101.1	245.5	
Travel Time (s)	1.7			7.3	17.7	
Confl. Peds. (#/hr)	1		7			7
Confl. Bikes (#/hr)	1			3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	3	7	9	549	639	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	558	643	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	7	8	516	601	4
Future Volume (Veh/h)	3	7	8	516	601	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	7	9	549	639	4
Pedestrians	7				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1216	648	650			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1216	648	650			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	99	99			
cM capacity (veh/h)	199	471	940			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	10	558	643
Volume Left	3	9	0
Volume Right	7	0	4
cSH	334	940	1700
Volume to Capacity	0.03	0.01	0.38
Queue Length 95th (m)	0.7	0.2	0.0
Control Delay (s)	16.1	0.3	0.0
Lane LOS	C	A	
Approach Delay (s)	16.1	0.3	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	30	35	539	549	10
Future Volume (vph)	3	30	35	539	549	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.877				0.998	
Flt Protected	0.996			0.997		
Satd. Flow (prot)	1615	0	0	1877	1860	0
Flt Permitted	0.996			0.997		
Satd. Flow (perm)	1615	0	0	1877	1860	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	18.5			229.9	101.1	
Travel Time (s)	1.3			16.6	7.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)	2		2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Adj. Flow (vph)	3	31	36	556	566	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	34	0	0	592	576	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	30	35	539	549	10
Future Volume (Veh/h)	3	30	35	539	549	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	31	36	556	566	10
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1204	576	581			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1204	576	581			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	94	96			
cM capacity (veh/h)	197	513	999			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	34	592	576
Volume Left	3	36	0
Volume Right	31	0	10
cSH	449	999	1700
Volume to Capacity	0.08	0.04	0.34
Queue Length 95th (m)	1.8	0.8	0.0
Control Delay (s)	13.7	1.0	0.0
Lane LOS	B	A	
Approach Delay (s)	13.7	1.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	7	4	417	435	2
Future Volume (vph)	2	7	4	417	435	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892				0.999	
Flt Protected	0.990					
Satd. Flow (prot)	1678	0	0	1828	1825	0
Flt Permitted	0.990					
Satd. Flow (perm)	1678	0	0	1828	1825	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)			14			14
Confl. Bikes (#/hr)				3	3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	4%	4%	0%
Adj. Flow (vph)	2	8	4	463	483	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	467	485	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	4	417	435	2
Future Volume (Veh/h)	2	7	4	417	435	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	8	4	463	483	2
Pedestrians	14					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	969	498	499			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	969	498	499			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	279	570	1063			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	10	467	485
Volume Left	2	4	0
Volume Right	8	0	2
cSH	472	1063	1700
Volume to Capacity	0.02	0.00	0.29
Queue Length 95th (m)	0.5	0.1	0.0
Control Delay (s)	12.8	0.1	0.0
Lane LOS	B	A	
Approach Delay (s)	12.8	0.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	35.1%	ICU Level of Service	A
Analysis Period (min)	15		

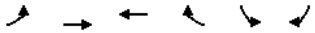
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	17	12	415	441	3
Future Volume (vph)	6	17	12	415	441	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.899				0.999	
Flt Protected	0.988			0.999		
Satd. Flow (prot)	1603	0	0	1827	1808	0
Flt Permitted	0.988			0.999		
Satd. Flow (perm)	1603	0	0	1827	1808	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)	1		14			14
Confl. Bikes (#/hr)				2	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	0%	4%	5%	0%
Adj. Flow (vph)	6	18	13	446	474	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	0	459	477	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	17	12	415	441	3
Future Volume (Veh/h)	6	17	12	415	441	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	6	18	13	446	474	3
Pedestrians	14				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	962	490	491			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	962	490	491			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	279	562	1070			

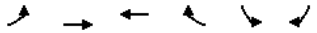
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	24	459	477
Volume Left	6	13	0
Volume Right	18	0	3
cSH	448	1070	1700
Volume to Capacity	0.05	0.01	0.28
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s)	13.5	0.4	0.0
Lane LOS	B	A	
Approach Delay (s)	13.5	0.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	22	15	0	0	0
Future Volume (vph)	0	22	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	24	16	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	24	16	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	15	0	0	0
Future Volume (Veh/h)	0	22	15	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	24	16	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	16				40	16
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16				40	16
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1602				972	1063

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	24	16	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1602	1700	1700
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	9	0	0	7	0	0
Future Volume (vph)	9	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	0	0	8	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	8	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	9	0	0	7	0	0
Future Volume (Veh/h)	9	0	0	7	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	0	0	8	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			10		18	10
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			10		18	10
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1610		1000	1071

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	10	8	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1610	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		6.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	8	9	570	664	4
Future Volume (vph)	3	8	9	570	664	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.899				0.999	
Flt Protected	0.988			0.999		
Satd. Flow (prot)	1688	0	0	1844	1861	0
Flt Permitted	0.988			0.999		
Satd. Flow (perm)	1688	0	0	1844	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)	1		7			7
Confl. Bikes (#/hr)	1			3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	3	9	10	606	706	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	616	710	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	8	9	570	664	4
Future Volume (Veh/h)	3	8	9	570	664	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	3	9	10	606	706	4
Pedestrians	7				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1342	715	717			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1342	715	717			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	98	99			
cM capacity (veh/h)	166	432	888			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	12	616	710
Volume Left	3	10	0
Volume Right	9	0	4
cSH	309	888	1700
Volume to Capacity	0.04	0.01	0.42
Queue Length 95th (m)	0.9	0.3	0.0
Control Delay (s)	17.1	0.3	0.0
Lane LOS	C	A	
Approach Delay (s)	17.1	0.3	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

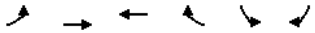
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	33	39	595	606	11
Future Volume (vph)	3	33	39	595	606	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.876				0.998	
Flt Protected	0.996			0.997		
Satd. Flow (prot)	1613	0	0	1877	1860	0
Flt Permitted	0.996			0.997		
Satd. Flow (perm)	1613	0	0	1877	1860	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)	2		2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Adj. Flow (vph)	3	34	40	613	625	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	37	0	0	653	636	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	33	39	595	606	11
Future Volume (Veh/h)	3	33	39	595	606	11
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	3	34	40	613	625	11
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1328	636	641			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1328	636	641			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	93	96			
cM capacity (veh/h)	165	474	949			

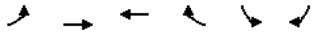
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	37	653	636
Volume Left	3	40	0
Volume Right	34	0	11
cSH	412	949	1700
Volume to Capacity	0.09	0.04	0.37
Queue Length 95th (m)	2.2	1.0	0.0
Control Delay (s)	14.6	1.1	0.0
Lane LOS	B	A	
Approach Delay (s)	14.6	1.1	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	36	50	0	0	0
Future Volume (vph)	0	36	50	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	39	54	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	39	54	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	36	50	0	0	0
Future Volume (Veh/h)	0	36	50	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	39	54	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				93	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				93	54
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1551				907	1013

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	39	54	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1551	1700	1700
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	11	0	0	13	0	0
Future Volume (vph)	11	0	0	13	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	0	0	14	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	0	14	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	0	0	13	0	0
Future Volume (Veh/h)	11	0	0	13	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	0	0	14	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			12		26	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			12		26	12
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1607		989	1069

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	12	14	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1607	1700
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	11	6	420	437	3
Future Volume (vph)	3	11	6	420	437	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892				0.999	
Flt Protected	0.990			0.999		
Satd. Flow (prot)	1678	0	0	1826	1826	0
Flt Permitted	0.990			0.999		
Satd. Flow (perm)	1678	0	0	1826	1826	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)			14			14
Confl. Bikes (#/hr)				3	3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	4%	4%	0%
Adj. Flow (vph)	3	12	7	467	486	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	474	489	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	11	6	420	437	3
Future Volume (Veh/h)	3	11	6	420	437	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	12	7	467	486	3
Pedestrians	14					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	982	502	503			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	982	502	503			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	99			
cM capacity (veh/h)	273	567	1059			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	15	474	489
Volume Left	3	7	0
Volume Right	12	0	3
cSH	467	1059	1700
Volume to Capacity	0.03	0.01	0.29
Queue Length 95th (m)	0.7	0.1	0.0
Control Delay (s)	13.0	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	13.0	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

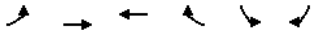
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	26	18	417	445	5
Future Volume (vph)	9	26	18	417	445	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.999	
Flt Protected	0.987			0.998		
Satd. Flow (prot)	1607	0	0	1826	1809	0
Flt Permitted	0.987			0.998		
Satd. Flow (perm)	1607	0	0	1826	1809	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)	1		14			14
Confl. Bikes (#/hr)				2	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	0%	4%	5%	0%
Adj. Flow (vph)	10	28	19	448	478	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	38	0	0	467	483	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	26	18	417	445	5
Future Volume (Veh/h)	9	26	18	417	445	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	10	28	19	448	478	5
Pedestrians	14				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	982	494	497			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	982	494	497			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	96	95	98			
cM capacity (veh/h)	270	558	1065			

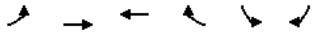
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	38	467	483
Volume Left	10	19	0
Volume Right	28	0	5
cSH	436	1065	1700
Volume to Capacity	0.09	0.02	0.28
Queue Length 95th (m)	2.1	0.4	0.0
Control Delay (s)	14.0	0.5	0.0
Lane LOS	B	A	
Approach Delay (s)	14.0	0.5	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	22	15	7	12	8
Future Volume (vph)	10	22	15	7	12	8
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			0.955		0.945	
Flt Protected		0.985			0.971	
Satd. Flow (prot)	0	1835	1779	0	1709	0
Flt Permitted		0.985			0.971	
Satd. Flow (perm)	0	1835	1779	0	1709	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	24	16	8	13	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	35	24	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

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



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	22	15	7	12	8
Future Volume (Veh/h)	10	22	15	7	12	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	24	16	8	13	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	24				66	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	24				66	20
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1591				933	1058

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	35	24	22
Volume Left	11	0	13
Volume Right	0	8	9
cSH	1591	1700	980
Volume to Capacity	0.01	0.01	0.02
Queue Length 95th (m)	0.2	0.0	0.5
Control Delay (s)	2.3	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	2.3	0.0	8.8
Approach LOS			A

Intersection Summary				
Average Delay		3.4		
Intersection Capacity Utilization		18.4%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	9	4	3	7	4	5
Future Volume (vph)	9	4	3	7	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.961				0.925	
Flt Protected				0.987	0.978	
Satd. Flow (prot)	1790	0	0	1839	1685	0
Flt Permitted				0.987	0.978	
Satd. Flow (perm)	1790	0	0	1839	1685	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	4	3	8	4	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	11	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	9	4	3	7	4	5
Future Volume (Veh/h)	9	4	3	7	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	4	3	8	4	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			14		26	12
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			14		26	12
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1604		988	1069

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	14	11	9
Volume Left	0	3	4
Volume Right	4	0	5
cSH	1700	1604	1031
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.2
Control Delay (s)	0.0	2.0	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	2.0	8.5
Approach LOS			A

Intersection Summary				
Average Delay		2.9		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	10	12	571	668	6
Future Volume (vph)	4	10	12	571	668	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.901				0.999	
Flt Protected	0.987			0.999		
Satd. Flow (prot)	1690	0	0	1844	1861	0
Flt Permitted	0.987			0.999		
Satd. Flow (perm)	1690	0	0	1844	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)	1		7			7
Confl. Bikes (#/hr)	1			3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	4	11	13	607	711	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	620	717	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	10	12	571	668	6
Future Volume (Veh/h)	4	10	12	571	668	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	11	13	607	711	6
Pedestrians	7				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1355	721	724			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1355	721	724			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	97	99			
cM capacity (veh/h)	163	428	883			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	15	620	717
Volume Left	4	13	0
Volume Right	11	0	6
cSH	298	883	1700
Volume to Capacity	0.05	0.01	0.42
Queue Length 95th (m)	1.2	0.3	0.0
Control Delay (s)	17.7	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	17.7	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	49.7%	ICU Level of Service	A
Analysis Period (min)	15		

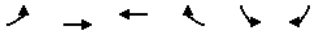
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	41	52	598	608	15
Future Volume (vph)	4	41	52	598	608	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.877				0.997	
Flt Protected	0.996			0.996		
Satd. Flow (prot)	1615	0	0	1875	1858	0
Flt Permitted	0.996			0.996		
Satd. Flow (perm)	1615	0	0	1875	1858	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)	2		2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Adj. Flow (vph)	4	42	54	616	627	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	46	0	0	670	642	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	41	52	598	608	15
Future Volume (Veh/h)	4	41	52	598	608	15
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	4	42	54	616	627	15
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1364	640	647			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1364	640	647			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	91	94			
cM capacity (veh/h)	154	472	944			

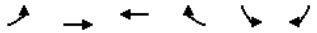
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	46	670	642
Volume Left	4	54	0
Volume Right	42	0	15
cSH	400	944	1700
Volume to Capacity	0.11	0.06	0.38
Queue Length 95th (m)	2.9	1.4	0.0
Control Delay (s)	15.2	1.5	0.0
Lane LOS	C	A	
Approach Delay (s)	15.2	1.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	80.6%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	36	50	17	9	12
Future Volume (vph)	13	36	50	17	9	12
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			0.966		0.924	
Flt Protected		0.987			0.979	
Satd. Flow (prot)	0	1839	1799	0	1685	0
Flt Permitted		0.987			0.979	
Satd. Flow (perm)	0	1839	1799	0	1685	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	39	54	18	10	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	53	72	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	36	50	17	9	12
Future Volume (Veh/h)	13	36	50	17	9	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	39	54	18	10	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	72				130	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	72				130	63
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1528				856	1002

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	53	72	23
Volume Left	14	0	10
Volume Right	0	18	13
cSH	1528	1700	933
Volume to Capacity	0.01	0.04	0.02
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	2.0	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	2.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	11	3	5	13	3	3
Future Volume (vph)	11	3	5	13	3	3
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	0.973				0.932	
Flt Protected				0.987	0.976	
Satd. Flow (prot)	1812	0	0	1839	1694	0
Flt Permitted				0.987	0.976	
Satd. Flow (perm)	1812	0	0	1839	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	3	5	14	3	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	19	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	15.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	3	5	13	3	3
Future Volume (Veh/h)	11	3	5	13	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	12	3	5	14	3	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			15		38	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			15		38	14
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1603		972	1067

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	15	19	6
Volume Left	0	5	3
Volume Right	3	0	3
cSH	1700	1603	1017
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.1
Control Delay (s)	0.0	1.9	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.9	8.6
Approach LOS			A

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	15.1%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	7	5	461	480	2
Future Volume (vph)	2	7	5	461	480	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892				0.999	
Flt Protected	0.990			0.999		
Satd. Flow (prot)	1678	0	0	1826	1825	0
Flt Permitted	0.990			0.999		
Satd. Flow (perm)	1678	0	0	1826	1825	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)			14			14
Confl. Bikes (#/hr)				3	3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	4%	4%	0%
Adj. Flow (vph)	2	8	6	512	533	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	518	535	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	7	5	461	480	2
Future Volume (Veh/h)	2	7	5	461	480	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	2	8	6	512	533	2
Pedestrians	14					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1072	548	549			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1072	548	549			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	242	534	1019			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	10	518	535
Volume Left	2	6	0
Volume Right	8	0	2
cSH	430	1019	1700
Volume to Capacity	0.02	0.01	0.31
Queue Length 95th (m)	0.5	0.1	0.0
Control Delay (s)	13.6	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	13.6	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	6	18	13	458	486	4
Future Volume (vph)	6	18	13	458	486	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.897				0.999	
Flt Protected	0.988			0.999		
Satd. Flow (prot)	1599	0	0	1827	1808	0
Flt Permitted	0.988			0.999		
Satd. Flow (perm)	1599	0	0	1827	1808	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)	1		14			14
Confl. Bikes (#/hr)				2	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	0%	4%	5%	0%
Adj. Flow (vph)	6	19	14	492	523	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	25	0	0	506	527	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	18	13	458	486	4
Future Volume (Veh/h)	6	18	13	458	486	4
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	6	19	14	492	523	4
Pedestrians	14				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1060	539	541			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1060	539	541			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	98	96	99			
cM capacity (veh/h)	244	527	1026			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	25	506	527
Volume Left	6	14	0
Volume Right	19	0	4
cSH	412	1026	1700
Volume to Capacity	0.06	0.01	0.31
Queue Length 95th (m)	1.4	0.3	0.0
Control Delay (s)	14.3	0.4	0.0
Lane LOS	B	A	
Approach Delay (s)	14.3	0.4	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	44.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	24	17	0	0	0
Future Volume (vph)	0	24	17	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	26	18	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	18	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	24	17	0	0	0
Future Volume (Veh/h)	0	24	17	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	26	18	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	18				44	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	18				44	18
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1599				967	1061

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	26	18	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1599	1700	1700
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		6.7%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	0	0	7	0	0
Future Volume (vph)	10	0	0	7	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	0	0	8	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	8	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	10	0	0	7	0	0
Future Volume (Veh/h)	10	0	0	7	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	0	0	8	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			11		19	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			11		19	11
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1608		998	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	8	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1608	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

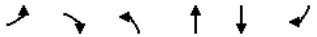
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	9	10	629	733	5
Future Volume (vph)	4	9	10	629	733	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.904				0.999	
Flt Protected	0.986			0.999		
Satd. Flow (prot)	1694	0	0	1844	1861	0
Flt Permitted	0.986			0.999		
Satd. Flow (perm)	1694	0	0	1844	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)	1		7			7
Confl. Bikes (#/hr)	1			3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	4	10	11	669	780	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	14	0	0	680	785	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	9	10	629	733	5
Future Volume (Veh/h)	4	9	10	629	733	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	4	10	11	669	780	5
Pedestrians	7				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1482	790	792			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1482	790	792			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	97	99			
cM capacity (veh/h)	137	391	833			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	14	680	785
Volume Left	4	11	0
Volume Right	10	0	5
cSH	255	833	1700
Volume to Capacity	0.05	0.01	0.46
Queue Length 95th (m)	1.3	0.3	0.0
Control Delay (s)	19.9	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	19.9	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		



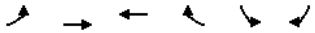
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	4	37	43	657	669	12
Future Volume (vph)	4	37	43	657	669	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.878				0.998	
Flt Protected	0.995			0.997		
Satd. Flow (prot)	1616	0	0	1877	1860	0
Flt Permitted	0.995			0.997		
Satd. Flow (perm)	1616	0	0	1877	1860	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)	2		2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Adj. Flow (vph)	4	38	44	677	690	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	0	0	721	702	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	4	37	43	657	669	12
Future Volume (Veh/h)	4	37	43	657	669	12
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	4	38	44	677	690	12
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1466	701	707			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1466	701	707			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	97	91	95			
cM capacity (veh/h)	135	435	897			

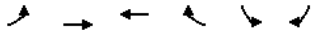
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	42	721	702
Volume Left	4	44	0
Volume Right	38	0	12
cSH	359	897	1700
Volume to Capacity	0.12	0.05	0.41
Queue Length 95th (m)	3.0	1.2	0.0
Control Delay (s)	16.3	1.3	0.0
Lane LOS	C	A	
Approach Delay (s)	16.3	1.3	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	79.8%	ICU Level of Service	D
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	40	55	0	0	0
Future Volume (vph)	0	40	55	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	0	1863	1863	0	1863	0
Flt Permitted						
Satd. Flow (perm)	0	1863	1863	0	1863	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	43	60	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	43	60	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 6.7%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	40	55	0	0	0
Future Volume (Veh/h)	0	40	55	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	43	60	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	60				103	60
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60				103	60
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1544				895	1005

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	43	60	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1544	1700	1700
Volume to Capacity	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		6.7%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	12	0	0	15	0	0
Future Volume (vph)	12	0	0	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	0	1863	1863	0
Flt Permitted						
Satd. Flow (perm)	1863	0	0	1863	1863	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	0	0	16	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	13	0	0	16	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	12	0	0	15	0	0
Future Volume (Veh/h)	12	0	0	15	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	0	0	16	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			13		29	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			13		29	13
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1606		986	1067

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	16	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1606	1700
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	3	11	7	464	482	3
Future Volume (vph)	3	11	7	464	482	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.892				0.999	
Flt Protected	0.990			0.999		
Satd. Flow (prot)	1678	0	0	1826	1825	0
Flt Permitted	0.990			0.999		
Satd. Flow (perm)	1678	0	0	1826	1825	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)			14			14
Confl. Bikes (#/hr)				3	3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	4%	4%	0%
Adj. Flow (vph)	3	12	8	516	536	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	524	539	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	11	7	464	482	3
Future Volume (Veh/h)	3	11	7	464	482	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	12	8	516	536	3
Pedestrians	14					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1084	552	553			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1084	552	553			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	98	99			
cM capacity (veh/h)	238	531	1015			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	15	524	539
Volume Left	3	8	0
Volume Right	12	0	3
cSH	426	1015	1700
Volume to Capacity	0.04	0.01	0.32
Queue Length 95th (m)	0.8	0.2	0.0
Control Delay (s)	13.8	0.2	0.0
Lane LOS	B	A	
Approach Delay (s)	13.8	0.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

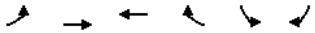
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	9	27	19	460	490	6
Future Volume (vph)	9	27	19	460	490	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.900				0.998	
Flt Protected	0.987			0.998		
Satd. Flow (prot)	1604	0	0	1826	1807	0
Flt Permitted	0.987			0.998		
Satd. Flow (perm)	1604	0	0	1826	1807	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)	1		14			14
Confl. Bikes (#/hr)				2	1	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	7%	0%	4%	5%	0%
Adj. Flow (vph)	10	29	20	495	527	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	0	0	515	533	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	9	27	19	460	490	6
Future Volume (Veh/h)	9	27	19	460	490	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	10	29	20	495	527	6
Pedestrians	14				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1080	544	547			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1080	544	547			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	96	94	98			
cM capacity (veh/h)	236	523	1020			

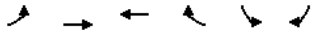
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	39	515	533
Volume Left	10	20	0
Volume Right	29	0	6
cSH	399	1020	1700
Volume to Capacity	0.10	0.02	0.31
Queue Length 95th (m)	2.4	0.4	0.0
Control Delay (s)	15.0	0.6	0.0
Lane LOS	C	A	
Approach Delay (s)	15.0	0.6	0.0
Approach LOS	C		

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		49.6%	ICU Level of Service	A
Analysis Period (min)		15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	24	17	7	12	8
Future Volume (vph)	10	24	17	7	12	8
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		0.945	
Flt Protected		0.985			0.971	
Satd. Flow (prot)	0	1835	1785	0	1709	0
Flt Permitted		0.985			0.971	
Satd. Flow (perm)	0	1835	1785	0	1709	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	26	18	8	13	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	37	26	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	24	17	7	12	8
Future Volume (Veh/h)	10	24	17	7	12	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	26	18	8	13	9
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	26				70	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	26				70	22
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1588				928	1055

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	37	26	22
Volume Left	11	0	13
Volume Right	0	8	9
cSH	1588	1700	976
Volume to Capacity	0.01	0.02	0.02
Queue Length 95th (m)	0.2	0.0	0.5
Control Delay (s)	2.2	0.0	8.8
Lane LOS	A		A
Approach Delay (s)	2.2	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	18.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	10	4	3	7	4	5
Future Volume (vph)	10	4	3	7	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.964				0.925	
Flt Protected				0.987	0.978	
Satd. Flow (prot)	1796	0	0	1839	1685	0
Flt Permitted				0.987	0.978	
Satd. Flow (perm)	1796	0	0	1839	1685	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	4	3	8	4	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	0	11	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	10	4	3	7	4	5
Future Volume (Veh/h)	10	4	3	7	4	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	4	3	8	4	5
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			15		27	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			15		27	13
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1603		986	1067

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	15	11	9
Volume Left	0	3	4
Volume Right	4	0	5
cSH	1700	1603	1030
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.2
Control Delay (s)	0.0	2.0	8.5
Lane LOS		A	A
Approach Delay (s)	0.0	2.0	8.5
Approach LOS			A

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	11	13	630	737	7
Future Volume (vph)	5	11	13	630	737	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905				0.999	
Flt Protected	0.986			0.999		
Satd. Flow (prot)	1695	0	0	1844	1861	0
Flt Permitted	0.986			0.999		
Satd. Flow (perm)	1695	0	0	1844	1861	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	47.0			101.1	245.5	
Travel Time (s)	3.4			7.3	17.7	
Confl. Peds. (#/hr)	1		7			7
Confl. Bikes (#/hr)	1			3		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	0%	0%	0%	3%	2%	0%
Adj. Flow (vph)	5	12	14	670	784	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	684	791	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	11	13	630	737	7
Future Volume (Veh/h)	5	11	13	630	737	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	5	12	14	670	784	7
Pedestrians	7				1	
Lane Width (m)	3.6				3.6	
Walking Speed (m/s)	1.2				1.2	
Percent Blockage	1				0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1494	794	798			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1494	794	798			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	97	98			
cM capacity (veh/h)	134	389	828			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	17	684	791
Volume Left	5	14	0
Volume Right	12	0	7
cSH	249	828	1700
Volume to Capacity	0.07	0.02	0.47
Queue Length 95th (m)	1.6	0.4	0.0
Control Delay (s)	20.5	0.5	0.0
Lane LOS	C	A	
Approach Delay (s)	20.5	0.5	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

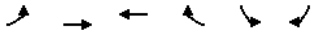
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	5	45	56	660	671	16
Future Volume (vph)	5	45	56	660	671	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.878				0.997	
Flt Protected	0.995			0.996		
Satd. Flow (prot)	1616	0	0	1875	1858	0
Flt Permitted	0.995			0.996		
Satd. Flow (perm)	1616	0	0	1875	1858	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	37.0			229.9	101.1	
Travel Time (s)	2.7			16.6	7.3	
Confl. Peds. (#/hr)			5			5
Confl. Bikes (#/hr)	2		2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	0%	3%	0%	1%	2%	0%
Adj. Flow (vph)	5	46	58	680	692	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	738	708	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
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	25			15
Sign Control	Stop			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	45	56	660	671	16
Future Volume (Veh/h)	5	45	56	660	671	16
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	5	46	58	680	692	16
Pedestrians	5					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1501	705	713			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1501	705	713			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	89	94			
cM capacity (veh/h)	126	433	892			

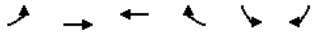
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	51	738	708
Volume Left	5	58	0
Volume Right	46	0	16
cSH	350	892	1700
Volume to Capacity	0.15	0.06	0.42
Queue Length 95th (m)	3.8	1.6	0.0
Control Delay (s)	17.0	1.7	0.0
Lane LOS	C	A	
Approach Delay (s)	17.0	1.7	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	13	40	55	17	9	12
Future Volume (vph)	13	40	55	17	9	12
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			0.969		0.924	
Flt Protected		0.988			0.979	
Satd. Flow (prot)	0	1840	1805	0	1685	0
Flt Permitted		0.988			0.979	
Satd. Flow (perm)	0	1840	1805	0	1685	0
Link Speed (k/h)		50	50		50	
Link Distance (m)		119.8	37.0		32.9	
Travel Time (s)		8.6	2.7		2.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	14	43	60	18	10	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	57	78	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		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		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	13	40	55	17	9	12
Future Volume (Veh/h)	13	40	55	17	9	12
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	43	60	18	10	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	78				140	69
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	78				140	69
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				99	99
cM capacity (veh/h)	1520				845	994

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	57	78	23
Volume Left	14	0	10
Volume Right	0	18	13
cSH	1520	1700	923
Volume to Capacity	0.01	0.05	0.02
Queue Length 95th (m)	0.2	0.0	0.6
Control Delay (s)	1.9	0.0	9.0
Lane LOS	A		A
Approach Delay (s)	1.9	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	19.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	12	3	5	15	3	3
Future Volume (vph)	12	3	5	15	3	3
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	0.975				0.932	
Flt Protected				0.988	0.976	
Satd. Flow (prot)	1816	0	0	1840	1694	0
Flt Permitted				0.988	0.976	
Satd. Flow (perm)	1816	0	0	1840	1694	0
Link Speed (k/h)	50			50	50	
Link Distance (m)	108.2			47.0	41.3	
Travel Time (s)	7.8			3.4	3.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	3	5	16	3	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	16	0	0	21	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	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)		15	25		25	15
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	15.2%	ICU Level of Service	A
Analysis Period (min)	15		

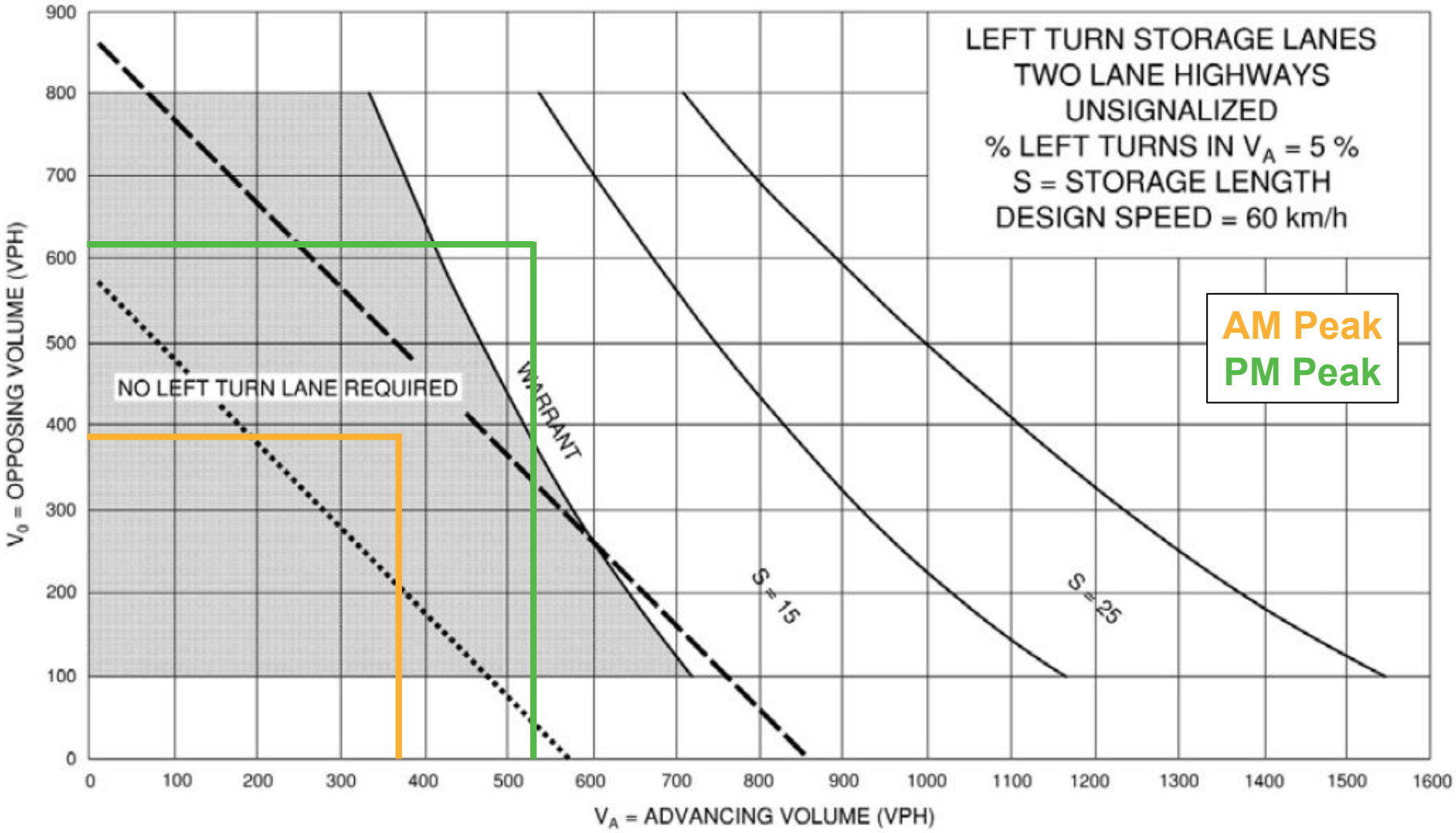
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	12	3	5	15	3	3
Future Volume (Veh/h)	12	3	5	15	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	13	3	5	16	3	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			16		40	14
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			16		40	14
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1602		968	1065

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	16	21	6
Volume Left	0	5	3
Volume Right	3	0	3
cSH	1700	1602	1014
Volume to Capacity	0.01	0.00	0.01
Queue Length 95th (m)	0.0	0.1	0.1
Control Delay (s)	0.0	1.7	8.6
Lane LOS		A	A
Approach Delay (s)	0.0	1.7	8.6
Approach LOS			A

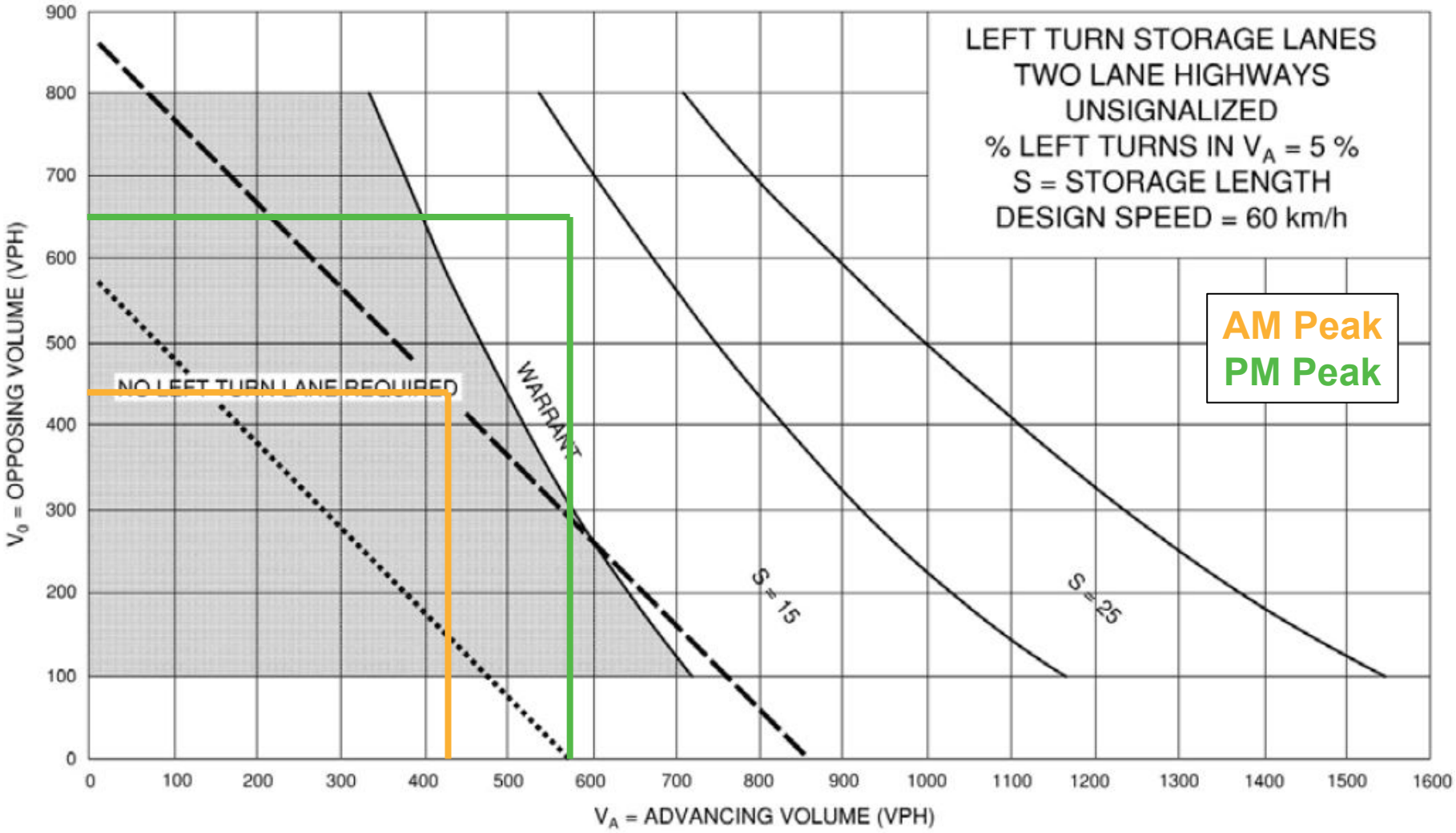
Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		15.2%	ICU Level of Service	A
Analysis Period (min)		15		

Appendix C

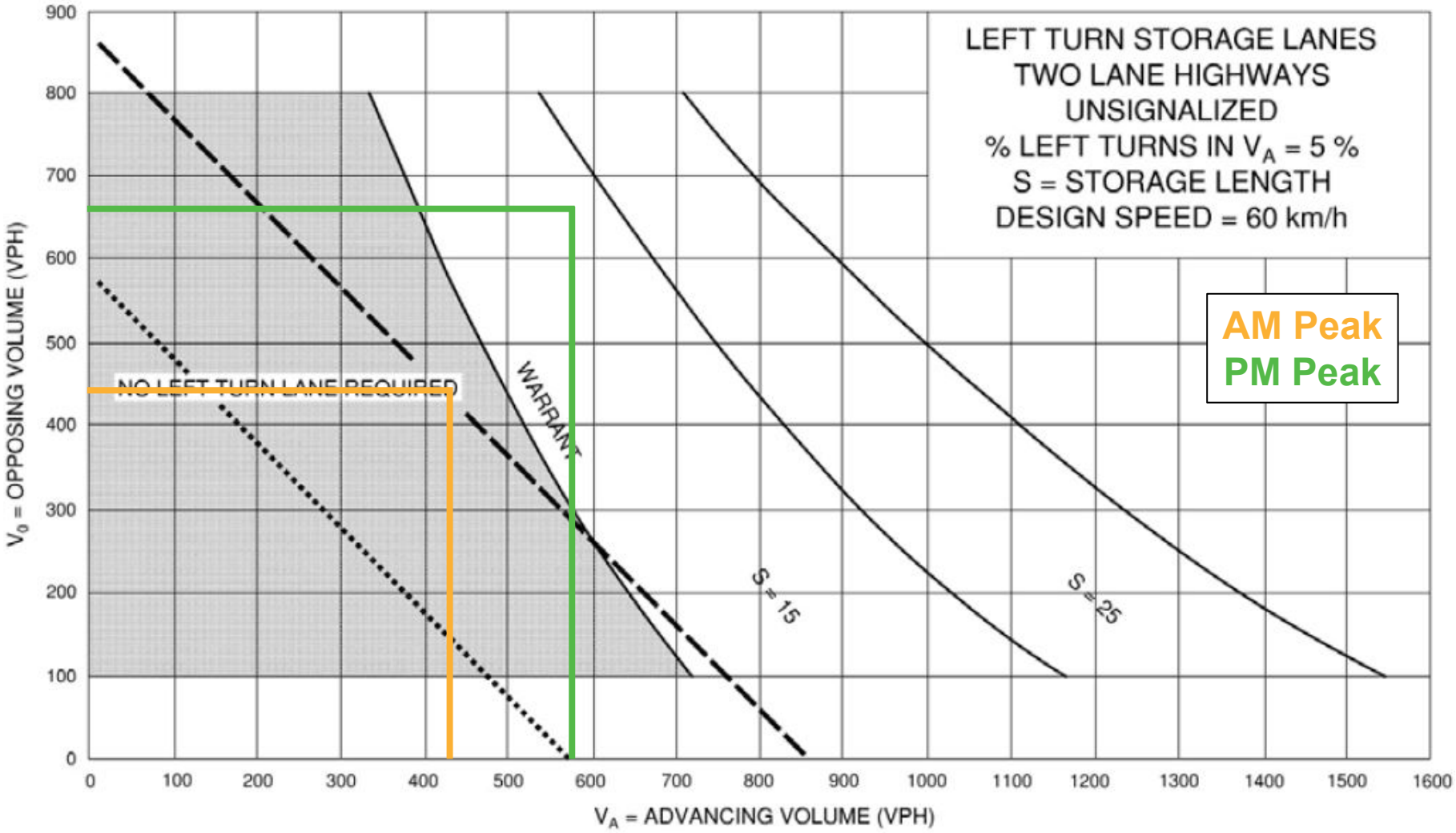
Left-Turn Warrants



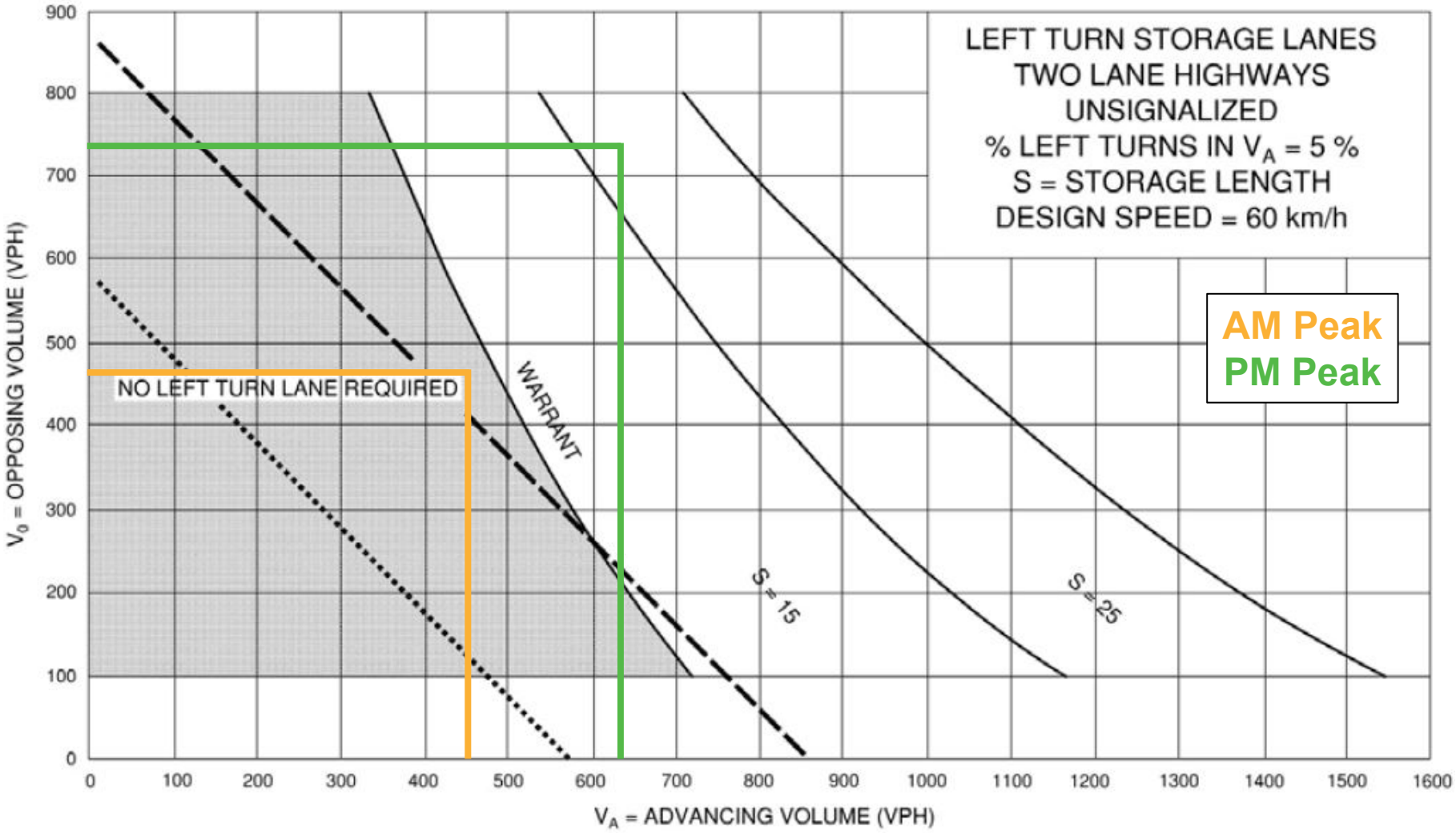
MTO Left-Turn Lane Nomograph
Existing Traffic
Stanley Avenue and Morden Drive



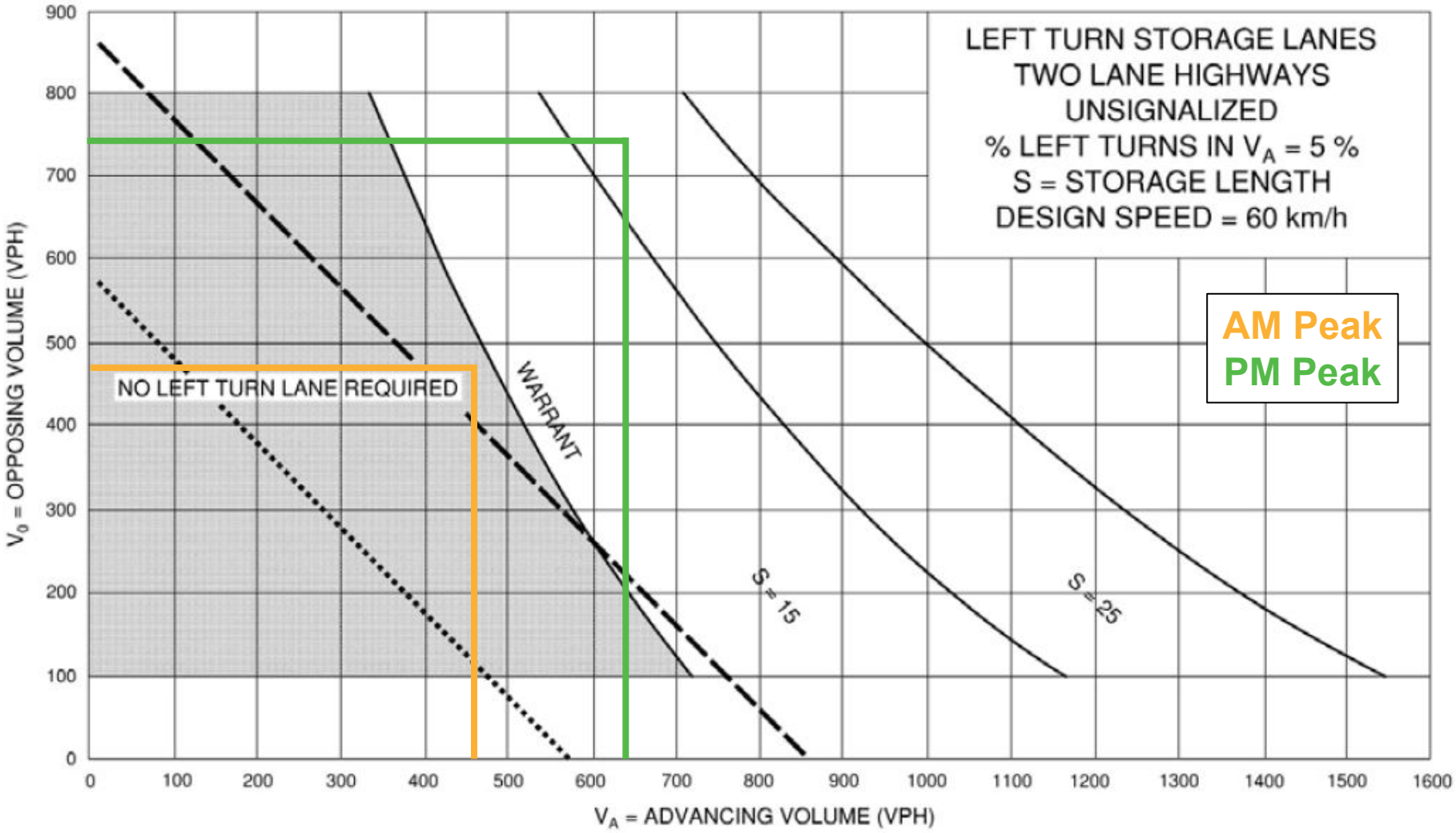
MTO Left-Turn Lane Nomograph
Opening Year Background Traffic
Stanley Avenue and Morden Drive



MTO Left-Turn Lane Nomograph
Opening Year Total Traffic
Stanley Avenue and Morden Drive



MTO Left-Turn Lane Nomograph
Five-Year Background Traffic
Stanley Avenue and Morden Drive



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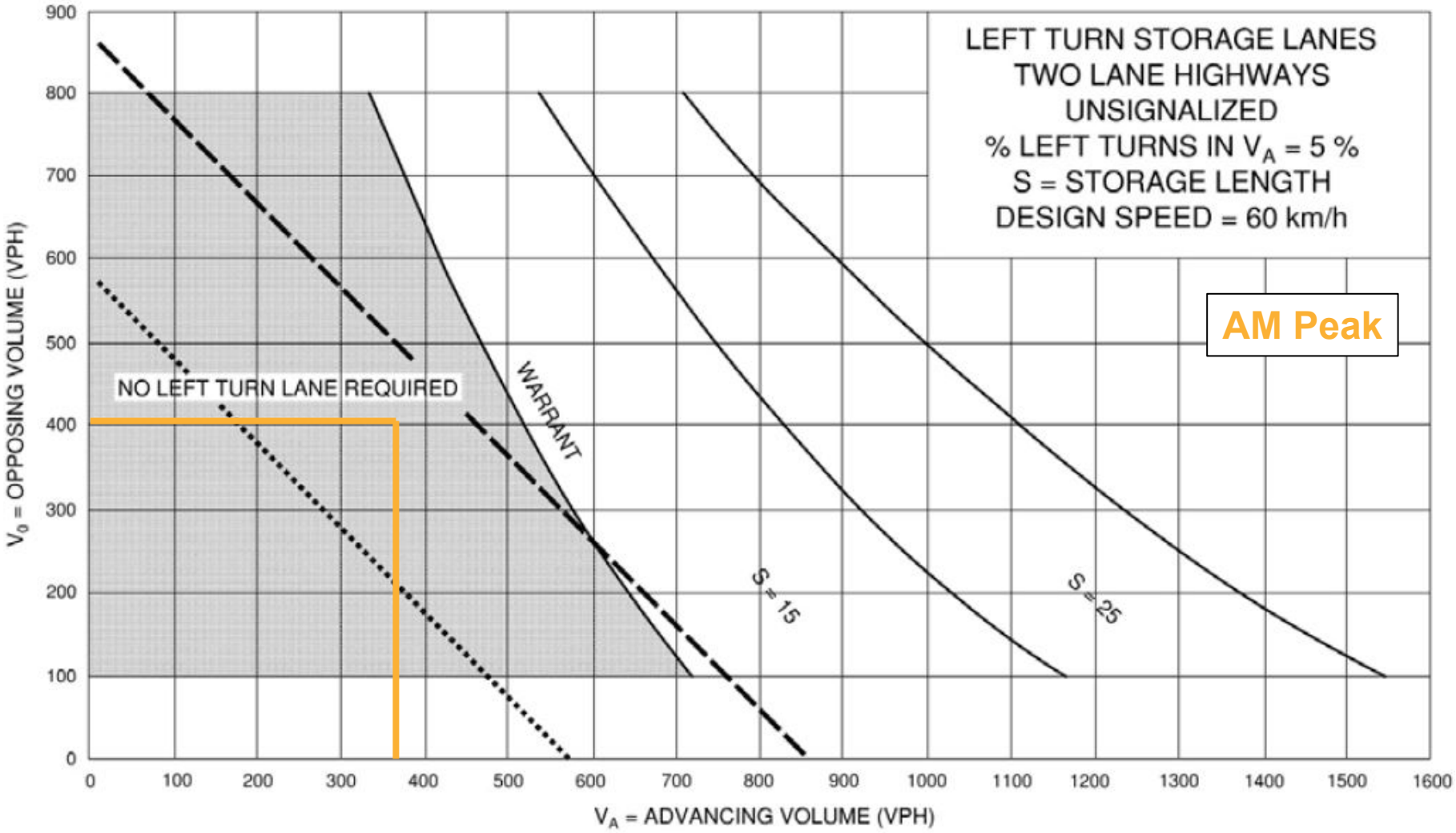
MTO Left-Turn Lane Nomograph
Five-Year Total Traffic
Stanley Avenue and Morden Drive



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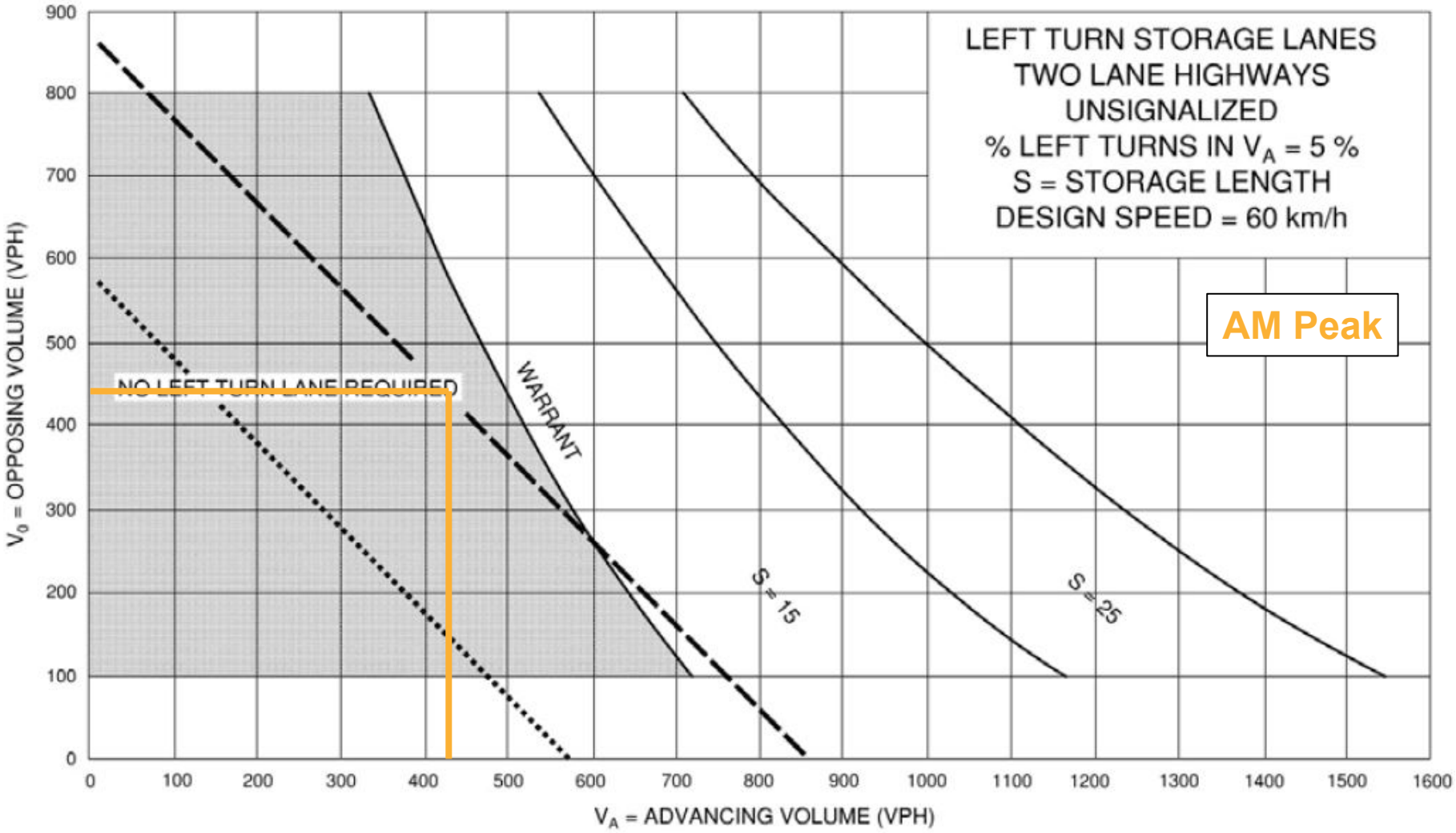
MTO Left-Turn Lane Nomograph
AM Peak Existing Traffic
Stanley Avenue and Arthur Street



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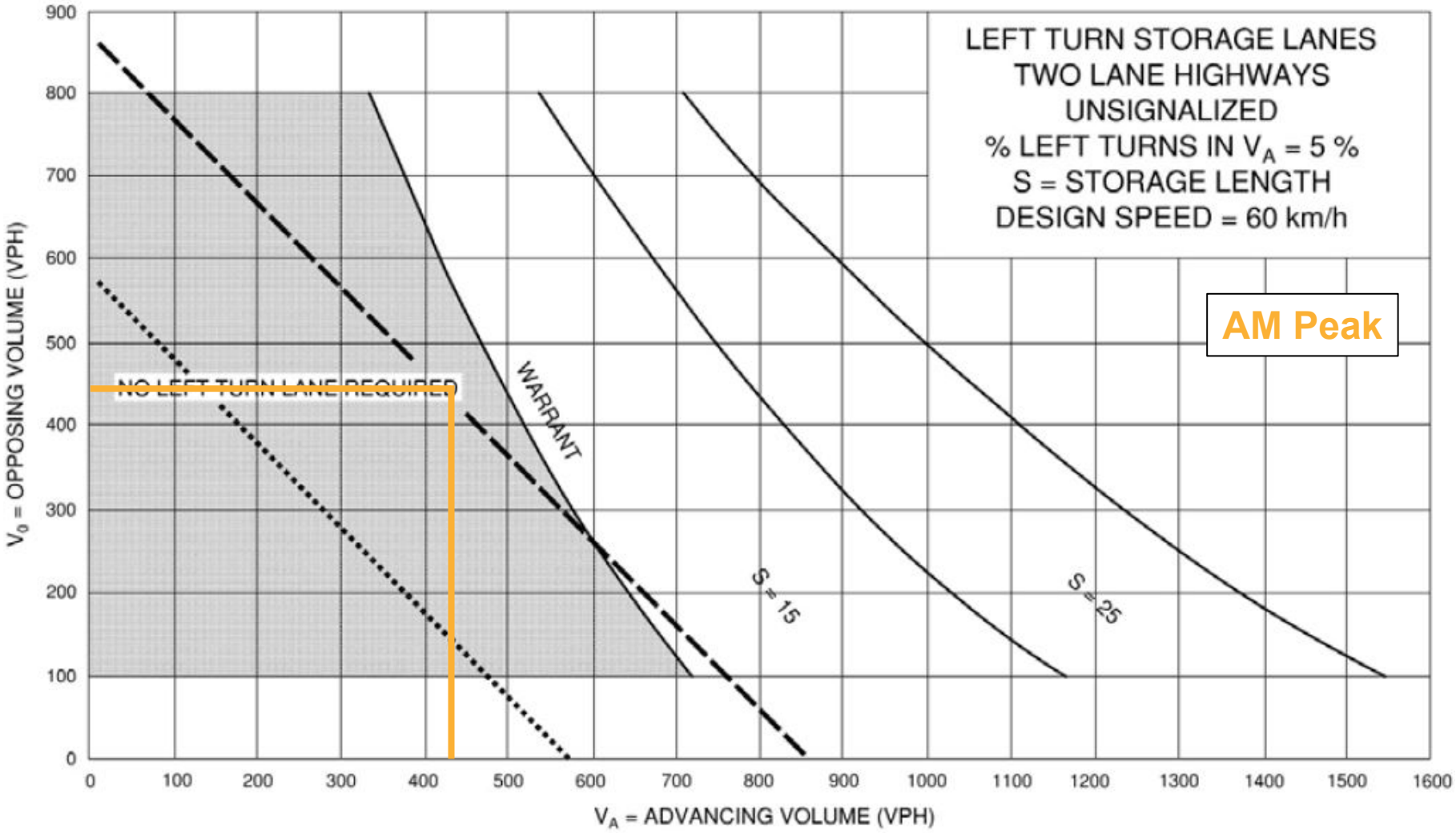
MTO Left-Turn Lane Nomograph
AM Peak Opening Year Background Traffic
Stanley Avenue and Arthur Street



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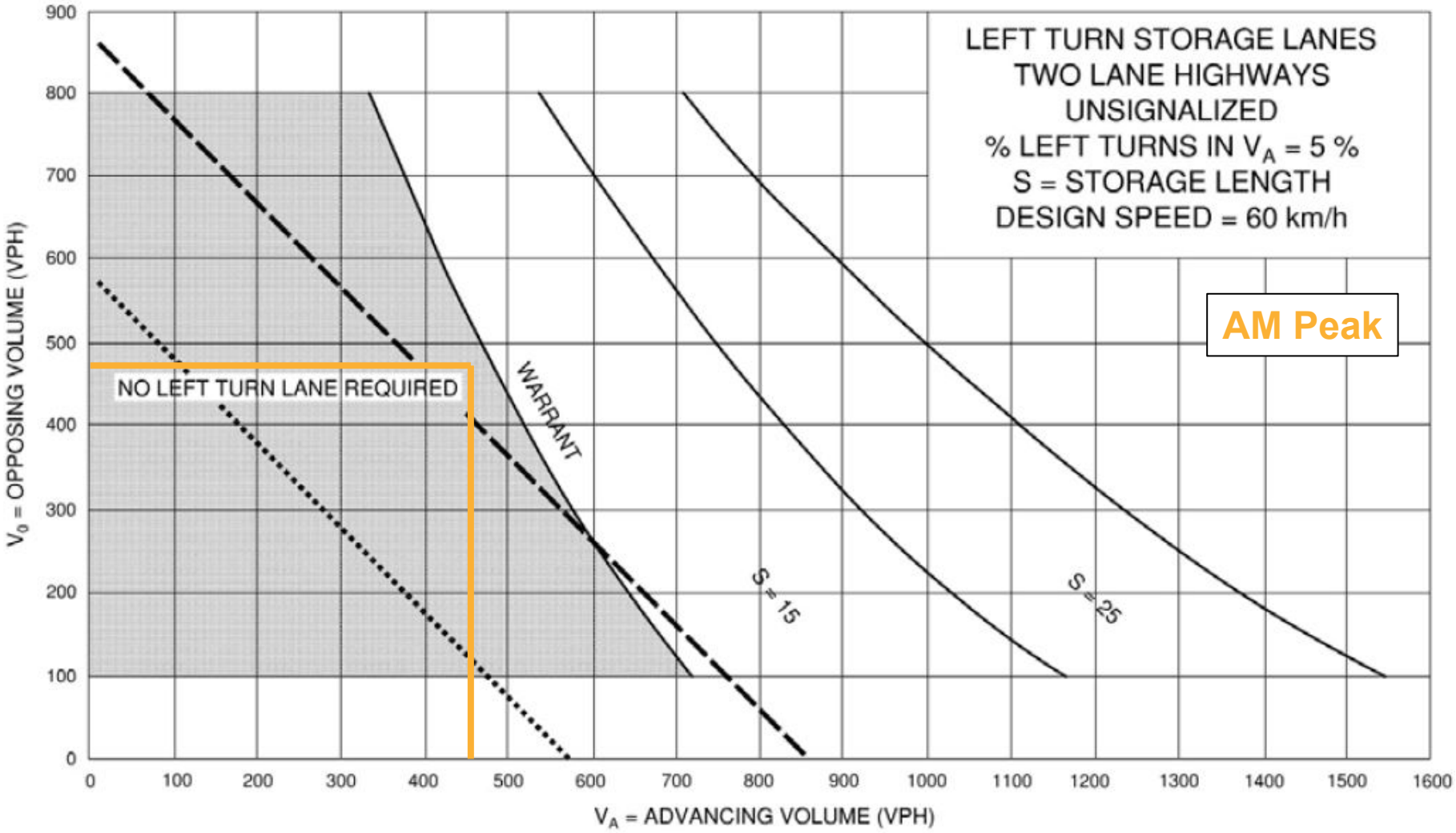
MTO Left-Turn Lane Nomograph
AM Peak Opening Year Total Traffic
Stanley Avenue and Arthur Street



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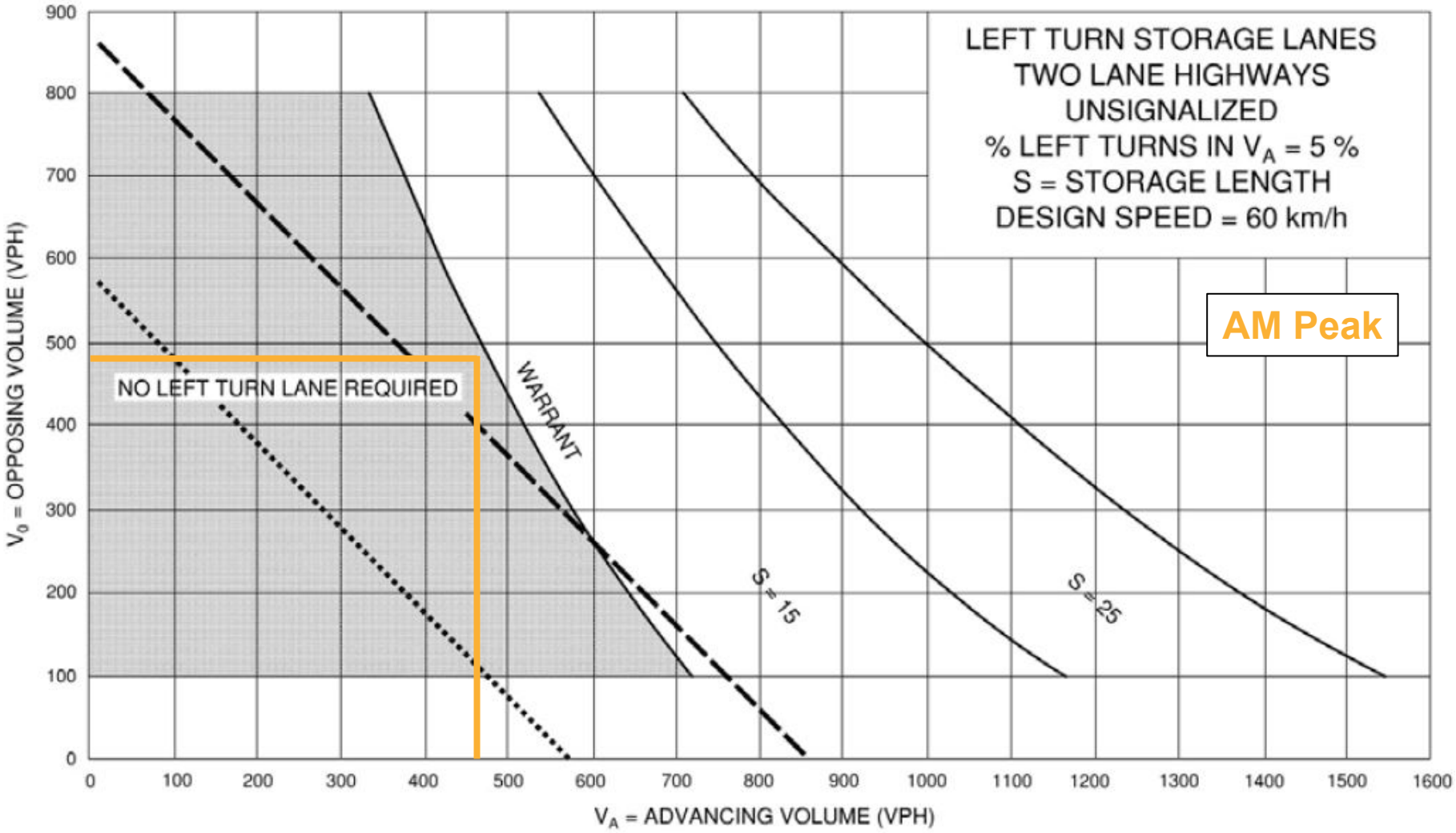
MTO Left-Turn Lane Nomograph
AM Peak Five-Year Background Traffic
Stanley Avenue and Arthur Street



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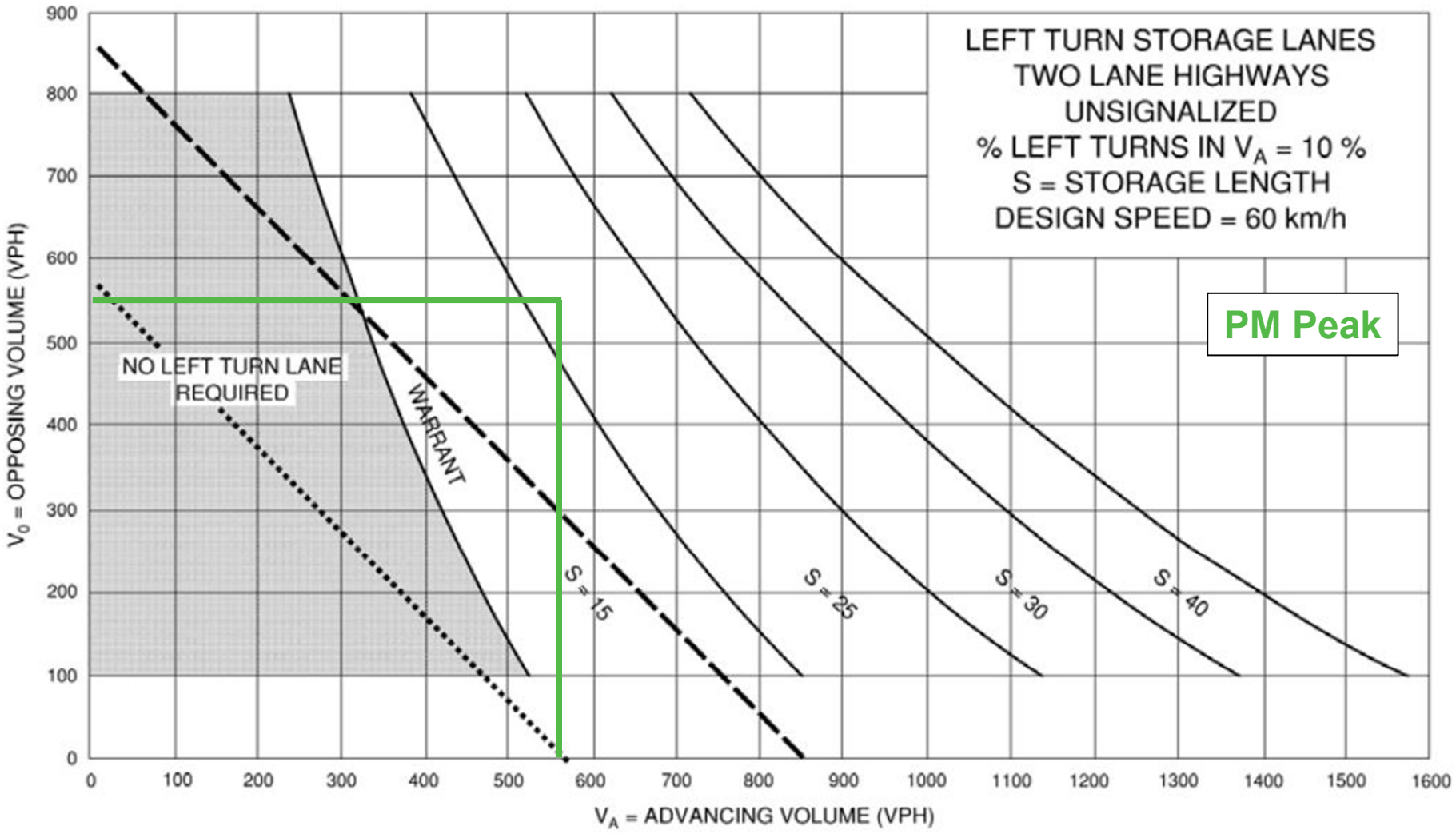
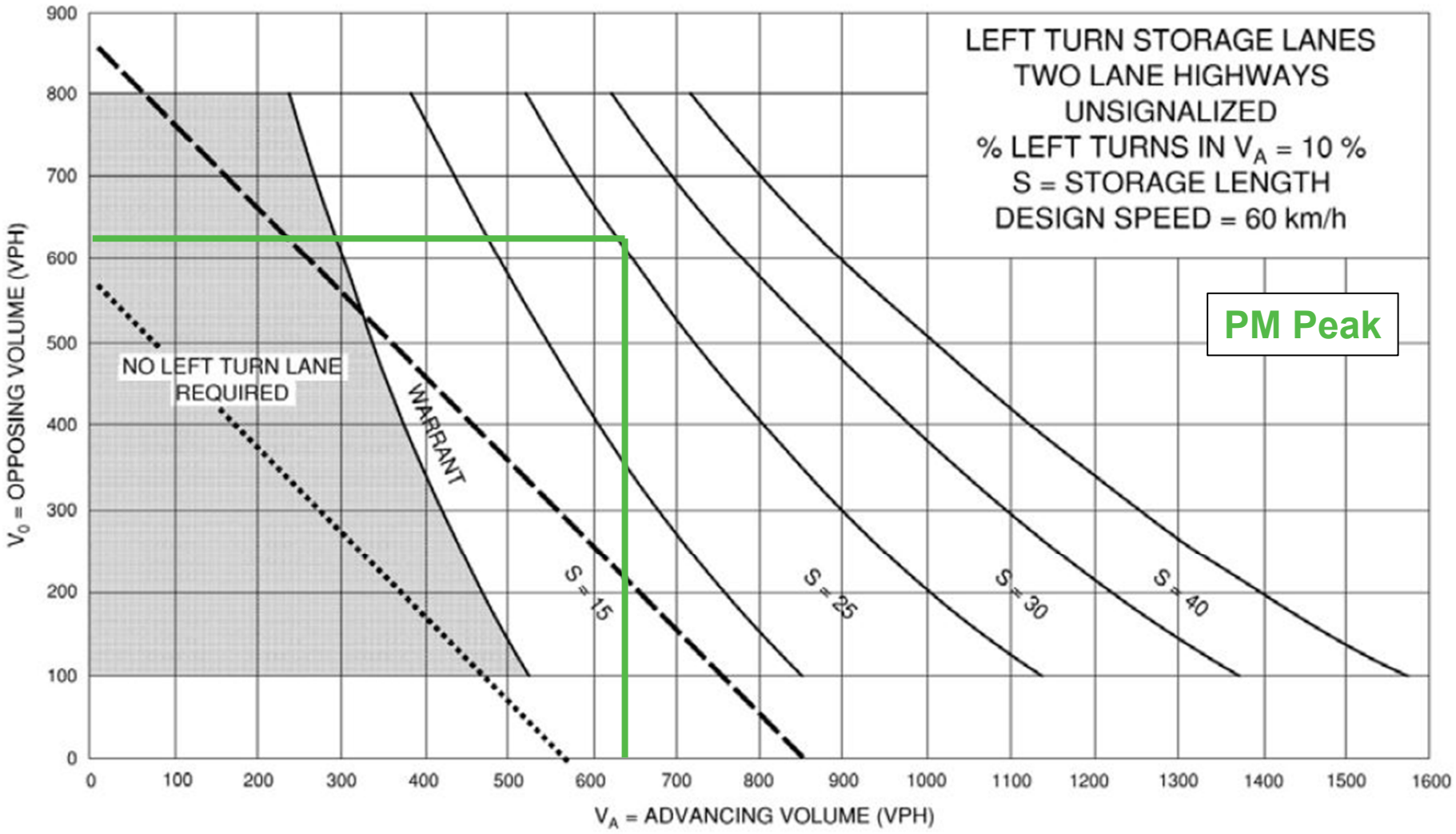
MTO Left-Turn Lane Nomograph
AM Peak Five-Year Total Traffic
Stanley Avenue and Arthur Street



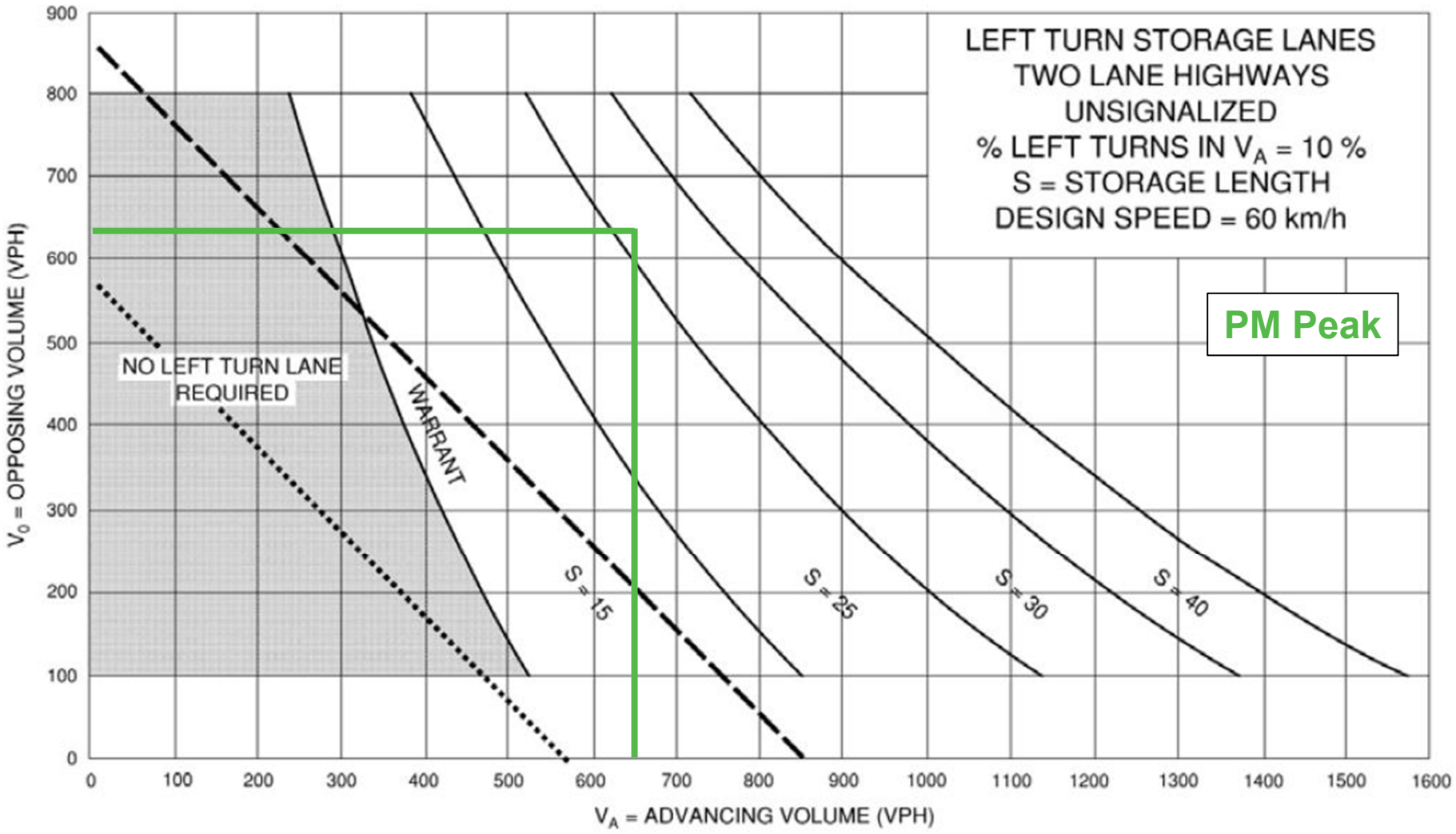
paradigm TRANSPORTATION SOLUTIONS LIMITED

MTO Left-Turn Lane Nomograph
PM Peak Existing Traffic
Stanley Avenue and Arthur Street



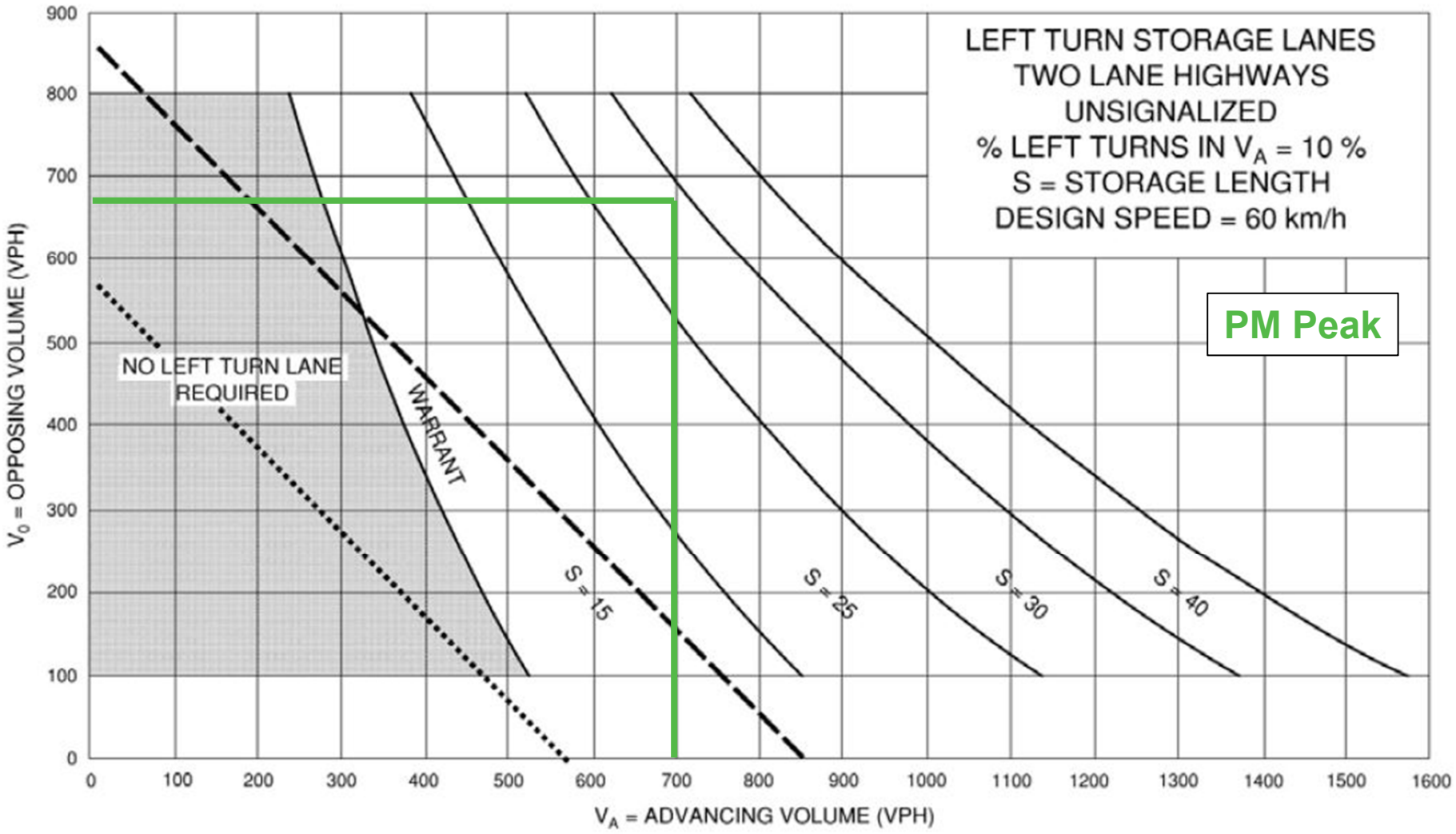
paradigm TRANSPORTATION SOLUTIONS LIMITED

MTO Left-Turn Lane Nomograph
PM Peak Opening Year Background Traffic
Stanley Avenue and Arthur Street



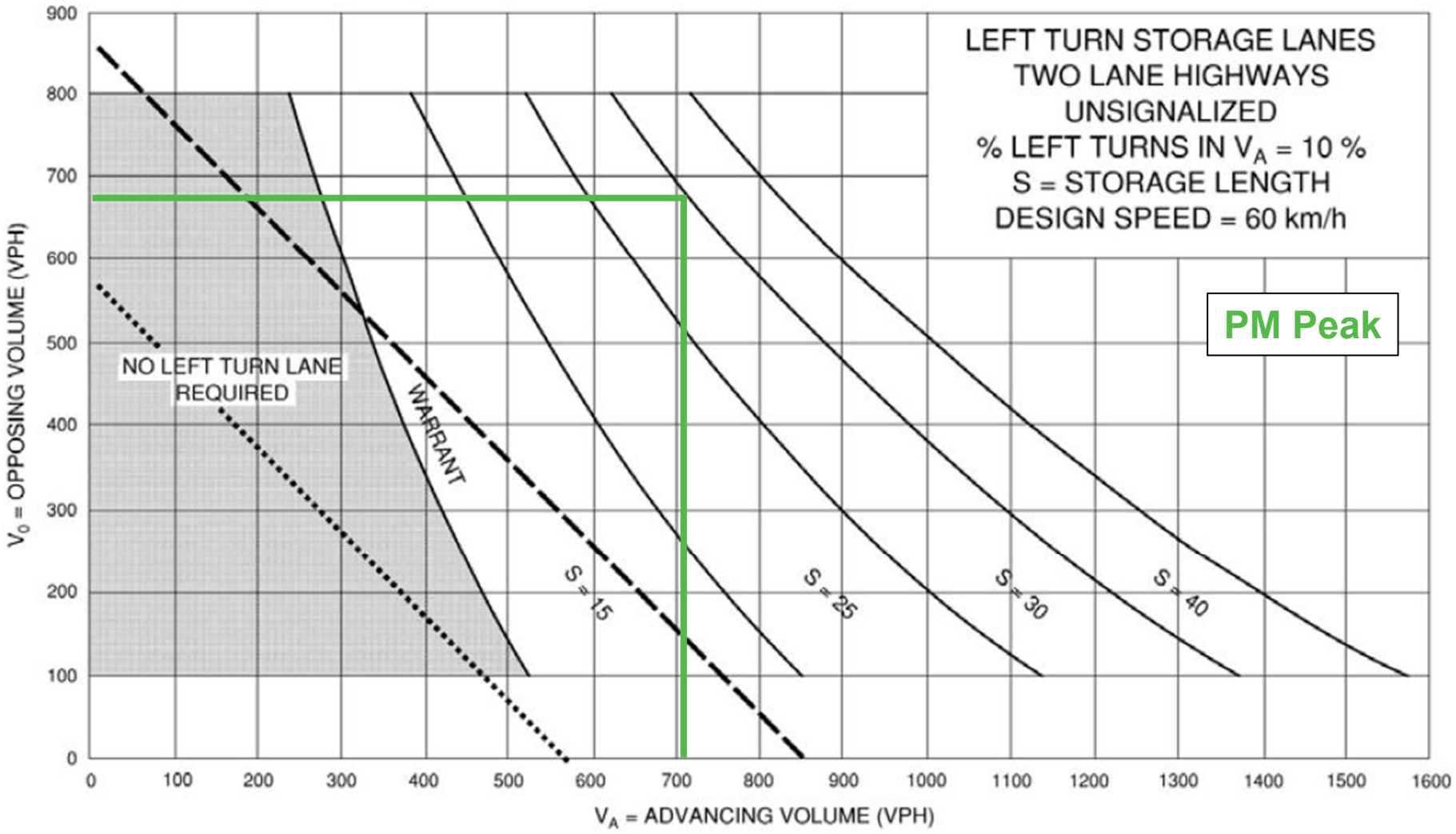
paradigm TRANSPORTATION SOLUTIONS LIMITED

MTO Left-Turn Lane Nomograph
PM Peak Opening Year Total Traffic
Stanley Avenue and Arthur Street



paradigm TRANSPORTATION SOLUTIONS LIMITED

MTO Left-Turn Lane Nomograph
PM Peak Five-Year Background Traffic
Stanley Avenue and Arthur Street



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MTO Left-Turn Lane Nomograph
PM Peak Five-Year Total Traffic
Stanley Avenue and Arthur Street

Appendix D

Five-Year (2034) Total Traffic SimTraffic Operations

Intersection: 1: Stanley Avenue & Morden Drive

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	9.3	9.0
Average Queue (m)	3.2	1.1
95th Queue (m)	10.4	5.8
Link Distance (m)	29.9	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		25.0
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Stanley Avenue & Arthur Drive

Movement	EB	NB	NB
Directions Served	LR	L	T
Maximum Queue (m)	17.8	10.3	3.2
Average Queue (m)	7.4	2.8	0.1
95th Queue (m)	15.5	9.8	2.3
Link Distance (m)	16.5		223.3
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (m)		30.0	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Arthur Drive & Site Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	1.7	13.7
Average Queue (m)	0.1	4.3
95th Queue (m)	1.2	12.1
Link Distance (m)	113.0	24.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Site Driveway & Morden Drive

Movement	NB
Directions Served	LR
Maximum Queue (m)	8.8
Average Queue (m)	2.3
95th Queue (m)	8.6
Link Distance (m)	32.6
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Stanley Avenue & Morden Drive

Movement	EB	NB	NB	SB
Directions Served	LR	L	T	TR
Maximum Queue (m)	13.0	10.3	3.3	11.7
Average Queue (m)	4.0	2.0	0.2	0.4
95th Queue (m)	11.7	8.3	3.2	5.7
Link Distance (m)	29.9		84.3	235.4
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)		25.0		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Stanley Avenue & Arthur Drive

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	17.2	21.8	1.3
Average Queue (m)	9.1	6.9	0.0
95th Queue (m)	16.2	17.0	0.9
Link Distance (m)	16.5		84.3
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	1		
Storage Bay Dist (m)		30.0	
Storage Blk Time (%)		0	
Queuing Penalty (veh)		1	

Intersection: 3: Arthur Drive & Site Driveway

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (m)	10.5	9.0
Average Queue (m)	0.6	3.9
95th Queue (m)	4.5	11.2
Link Distance (m)	113.0	24.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 4: Site Driveway & Morden Drive

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (m)	1.8	8.9
Average Queue (m)	0.1	1.4
95th Queue (m)	1.3	6.7
Link Distance (m)	29.9	32.6
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1

Appendix E

Detailed Collision Data

Collision Details Report

From: July 1, 2019 **To:** July 30, 2024

Location ..... Morden Drive @ Stanley Avenue **Municipality.....** NIAGARA FALLS

Traffic Control.... Unknown **Total Collisions....** 1

Collision ID	Date/Day/Time	Environment	Impact Type	Classification	Direction	Surface Cond'n	Vehicle Manoeuver	Vehicle type	First Event	Driver Action	No. Ped
22137750	2022-Dec-04, Sun,12:16	Clear	Rear end	P.D. only	North	Dry	Going ahead	Pick-up truck	Other motor vehicle	Driving properly	
Comments:	d1 charged				North	Dry	Stopped	Automobile, station wagon	Other motor vehicle	Driving properly	

Ver 1

Use Template Ver. 1 with this report

Ontario

Motor Vehicle Collision Report

Ver 1

Collision Number: 22137750 | Page: 1/1

Report Type: ☐ Original ☐ Amended ☐ Failed To Remain

Collision Date: Y 22 M 12 D 04 | Day of the Week: Sun | Time: 12:16

Time Officer Arrived or Police Service Reported to:

Emergency Equipment in Attendance

Service Performed

Prod. Ident. No. (P.I.N.)

Dangerous Goods Involvement

Name of Investigating Officer

Badge No.

Div./Stat./Det.

Plat/Squad

Name of Submitting Police Service

MTO Use Only

Highway | Distance | Unit | Dir.

Location

Trafficway: R1 / R2

Distance | Check as applicable | M | District | Keypoint/Geocode | Offset | Ramp No.

Morden Drive @ Stanley Avenue

1 Driver

Driver (Last Name First) | Code

Address | Telephone No.

Postal Code

Driver's Licence No. | Prov. | Class | Cond.

Sex: M | D.O.B. (Y/M/D): 60-10-20 | Proper Licence to Drive Class ☐ Y ☐ N | Suspended Driver ☐ Y ☐ N | Breathalyzer, Blood Test, Admin. ☐ Y ☐ N

1 Vehicle

Motorcycle Involved ☐

Make | Year | Model | Colour | Body Style

Air Brake ☐ Y ☐ N | Plate No. | Prov. | Number of Occupants in Vehicle

Owner (Last Name First)

☐ As above

Address | Telephone No.

Postal Code

Insurance Company and Policy No.

☐ None

CVOR No. | Lic. Class Required | ☐ Loaded ☐ Unloaded | Approx. Speed Km/hr.

1 Trailer

Make | Plate No. | Prov.

Owner (Last Name First)

☐ As vehicle above

Address | Telephone No.

Postal Code

Insurance Company and Policy No.

☐ As Vehicle Above

2 Driver

Driver (Last Name First) | Code

Address | Telephone No.

Postal Code

Driver's Licence No. | Prov. | Class | Cond.

Sex: M | D.O.B. (Y/M/D): 77-03-17 | Proper Licence to Drive Class ☐ Y ☐ N | Suspended Driver ☐ Y ☐ N | Breathalyzer, Blood Test, Admin. ☐ Y ☐ N

2 Vehicle

Indirectly Involved ☐

Make | Year | Model | Colour | Body Style

Air Brake ☐ Y ☐ N | Plate No. | Prov. | Number of Occupants in Vehicle

Owner (Last Name First)

☐ As above

Address | Telephone No.

Postal Code

Insurance Company and Policy No.

☐ None

CVOR No. | Lic. Class Required | ☐ Loaded ☐ Unloaded | Approx. Speed Km/hr.

2 Trailer

Make | Plate No. | Prov.

Owner (Last Name First)

☐ As vehicle above

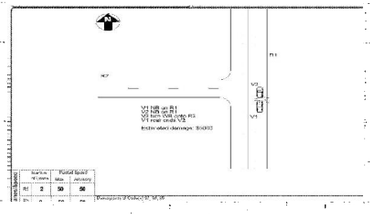
Address | Telephone No.

Postal Code

Insurance Company and Policy No.

☐ As Vehicle Above

Investigating Officer's Description of Collision & Diagram



Lanes/Speed

	Number of Lanes	Posted Speed Max.	Posted Speed Advisory
R1			
R2			

Descriptions of Code(s) 97, 98, 99

Describe Damage to Other Property

Person and/or Agency Advised | Y | M | D | Time

No. | Involved Persons - Injured Taken To/By

Independent Witnesses - Name

Vehicle Taken To/By

V1

V2

Persons Charged - Section and Act & P.O.T. No.

d1 charged

Name of Coroner | Telephone No.

If School Age Child Involved, Indicate School Name

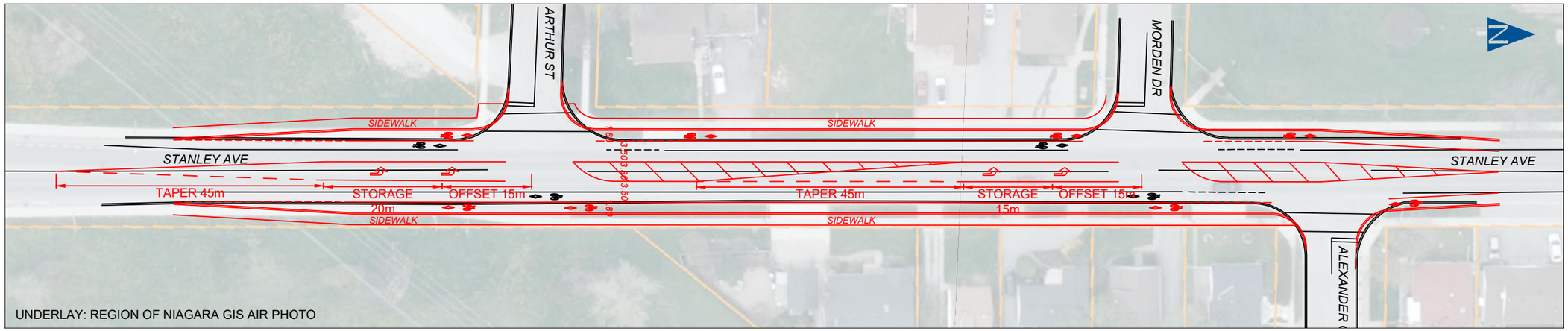
Signature of Investigating Officer | Report completed ☐ on | Y | M | D

Signature of Supervisor | Badge No. | Y | M | D

Veh. No. (69)	Ped. No. (70)	Involved Persons	(72)	(73)	(74)	(75)	(76)	(77)	(78)

Appendix F

Functional Design



NO.	DATE	INITIAL	REVISION DETAIL

FUNCTIONAL DRAWING
STANLEY AVE LEFT-TURN LANES
CITY OF NIAGARA FALLS

paradigm TRANSPORTATION SOLUTIONS LIMITED

PROJECT NO.: 240325	DATE: AUG 2024	SCALE: 1:750	DRAWING NO.: 01
DRAWN: SC	DESIGN: SC	CHECK: EB	