TRAFFIC IMPACT STUDY

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

PREPARED FOR:
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CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
0	January 2024	First Submission to Reviewing Agencies

1.0 Executive Summary

C.F. Crozier & Associates Inc. (Crozier) was retained by Parkbridge Lifestyle Communities Inc. (the 'proponent') to complete a Traffic Impact Study (TIS) to support the Official Plan Amendment (OPA) application for the Parkbridge Meaford development (the 'site'/ the 'development'). The site is located on the north side of Highway 26, west of Christie Beach Road in the Municipality of Meaford, County of Grey.

Concept Plan

The conceptual Demonstration Plan for the Parkbridge Meaford Development (SvN, January 2024) illustrates conceptual details of the development. The maximum configuration of potential units and gross floor areas (GFA) has been reviewed. An updated TIS can be prepared for Zoning By-law and Site Plan Applications as the unit counts are refined. The proposed components of the development include a Community Use and Village Centre which will include recreational and commercial uses, as well as a maximum of 1,250 residential units. The breakdown of unit types has not yet been established at the OPA stage.

Existing Traffic Operations

The existing traffic data was collected on April 21st and 23rd, 2022. Since 2013 historical Annual Average Daily Traffic (AADT) volumes have been the same or greater than Summer Average Daily Traffic (SADT) volumes recorded by the MTO for this section of Highway 26. For this reason, no SADT adjustment has been made to the volumes. The MTO requested a PHF of 0.88 be used for all intersections and movements on Highway 26. Accordingly, a PHF of 0.88 was applied to all analysis contained herein.

The existing operations indicate that the study intersections are operating well with a LOS "C" or better under weekday a.m., p.m., and Saturday peak hour traffic volume conditions. The existing volumes do not currently produce queues which exceed available storage, and the intersection operations demonstrate capacity for additional volumes on the network.

Background Development

On the east side of Christie Beach Road, in the Town of the Blue Mountains, the Lora Bay development is currently under construction. The phases still be constructed are as follows:

- Block 24 – 16 condominium units
- Phase 3b – 23 single detached units
- Phase 4 – 70 apartment units
- Lora Bay Masters (Phase 4) – 33 townhouse units
- Cottages at Lora Bay (Phase 5 and 6) – 194 single detached units

All phases are expected to begin construction by the end of 2024. For the bases of this report all units are expected to be occupied by the opening horizon of 2027. The entire Lora Bay subdivision has three points of access to Highway 26. It was assumed that 30% of the new units would utilize 39th Sideroad.

Future Background Operations

By the final horizon year of 2045, the boundary road network is expected to continue to operate at a LOS 'C' or better. The exception being the intersection of Highway 26 and Old Highway 26 which is expected to operate at a LOS 'D' during the p.m. peak hour, with 27.7 s of control delay. Highway 26 and Christie Beach Road is forecasted to experience the maximum minor road approach v/c ratio of 0.24 during the weekday p.m. peak hour.

Access Configuration

The conceptual Demonstration Plan illustrates several internal roadways with three proposed access points to the existing road network. It has been contemplated that the first phase of construction will include the central entrance (noted as Access A herein), residential units and the Community Use and Village Centre, comprised of commercial and community uses.

Based on the total number of units expected, it has been assumed that 100 units will be constructed with this phase, it is expected that the future connection to Christie Beach Road (Access B) will be constructed as an emergency access to adhere to the National Fire Protection Association (NFPA) Standards.

The western phase has been assessed as the second phase constructed and will have a second connection to Highway 26 (Access C). Access B will continue to act as an emergency access for the approximately 800 units until the eastern phase is constructed.

Per the MTO's Highway Corridor Management Manual (September 2018), the minimum intersection spacing is 800 metres for public and private road access connections to a 2B Arterial such as Highway 26 and is measured from any intersection regardless of which side of the roadway the intersection is located on. The measured distance between the existing intersections on Highway 26 at Old Highway 26 and Starlight Lane is approximately 1,700 m.

Per the NFPA Standards, the development requires three accesses. The proposed connection to Christie Beach Road provides one access. The two remaining accesses will need to connect to Highway 26 along the site frontage, with a frontage of only 1,700 m, only one access will adhere to the MTO's 800 m spacing requirement.

More than adequate sight distance is available along the site frontage, providing clear sightlines for vehicles stopping and turning. The adjacent intersections of Starlight Lane and Old Highway 26 have a few dwellings and minimal vehicles entering and existing during peak hour conditions.

Trip Generation

To establish the trip generation for the site uses and statistics were estimated by the proponent then volumes were forecasted using the fitted curve equations, provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition for multiple Land Use Categories (LUC). LUC 822: Strip Retail Plaza (<40k GFA) and LUC 495: Recreational Community Centre were utilized to forecast the trip generation of the Community Use and Village centre.

As the breakdown of residential unit types have not yet been refined, a hybrid trip generation rate of 0.6 (a.m. peak hour) and 0.7 (p.m. and Saturday peak hours) vehicles per unit was utilized. The trip generation can be further refined through updated analysis with future planning applications as the unit breakdown is refined.

The development is forecasted to generate 874 a.m., 1,086 p.m. and 1,016 Saturday peak hour trips.

Warrants

Signal warrants concluded that signalization of Christie Beach Road and Highway 26 was warranted in 2035, with the build-out of the third phase of the development. Justification 1, 2 and 3 were not warranted at Access A or Access C. Ongoing monitoring is recommended at all existing and future study intersections to determine if and when mitigation measures are required.

A storage length of 55 m is warranted for eastbound auxiliary left-turn lanes at Access A and 55 m for Access C. 70 m of deceleration length and 160 m of taper are recommended for the left-turn lanes. 85 m of parallel length and 80 m of taper are recommended for westbound auxiliary right-tun lanes at Christie Beach Road and Access C.

Future Zoning, Site Plan and detailed design submissions will further refine the required signal timings and road improvement dimensions. It is noted that turn lane storage at signalized intersections have been calculated per MTO's Signal Timing Policy Section 6.2 and will be finalized through detailed design and consultation with the MTO.

Future Total Operations

Under 2045 future total conditions, the signalized intersection of Christie Beach Road and Highway 26 operates with an acceptable LOS 'C' or better during the peak hours.

The intersection of Highway 26 and Starlight Lane is expected to operate with an LOS 'D' or better and with minimal delays. Old Highway 26 is forecasted to experience a LOS 'F' during the p.m. peak hour with 72.0 s of delay. This delay is not uncommon for a stop-controlled intersection where the major roadway had a high volume of vehicles.

The future intersection of Christie Beach Road and Access B/39th Sideroad is forecasted to operate with an LOS 'D' or better and a maximum control delay of 29.6 s for the westbound movements.

The proposed intersection of Highway 26 and Access A is forecasted to operate with a LOS 'F' under all peak hours. The p.m. peak hour is forecasted to operate with a volume-to-capacity ratio of 2.32 and a control delay of grater than 200 s.

At the buildout of the first phase of the development, the intersection of Highway 26 and Access A is anticipated to operate with a LOS 'D' and control delay of 27.9 s. At the build-out of the second phase, the control delay is expected to be more than 150 s and signalization is recommended by full build-out of the site. Signalization of the intersection of Highway 26 and Access A is expected to improve operations to a LOS 'B' and reduce the 95th percentile queuing. The requirement and timing of signalization should be reviewed closer to the build-out of the second phase to confirm the assumptions made within this analysis.

The proposed intersection of Access C and Highway 26 is forecasted to operate with a LOS 'F' under all peak hours with a maximum volume-to-capacity ratio of 1.17 and control delay of more than 200 s. It is noted that with the signalization of Access A and Christie Beach Road, it is expected that drivers will re-route to the signalized intersections to turn left out of the site, which would have a positive impact on the operations of Access C. It is recommended that the operations continue to be monitored to confirm the assumptions of this report through future applications and as phases are constructed and occupied.

It should be noted that these operations are considered conservative given the growth rate, peak hour factor and high-level development concept reviewed.

Georgian Trail Alignment

The Georgian Trail is proposed to be realigned along the site frontage bringing it further south, while respecting the MTO's 14 m setback from the Right-of-Way of Highway 26.

The trail crossings of the proposed access roads are illustrated as curving down to the intersections with Highway 26 before returning north to the trail alignment. While the curvature of the trail would be subject to further design, allowing for crossing at a stop controlled or signalized intersection provides a safer crossing location then a secondary stop for vehicles mid-block at its original location. Bringing the trail to the intersection also removes conflict between southbound queuing vehicles and the trail.

Active Transportation

At this time, the Municipality of Meaford does not have an active transportation plan that describes requirements of active transportation facilities for new developments. Additionally, the Municipality's transportation Master Plan (June 2021) does not make any recommendations within the study area.

The sustainability plan also presented the suggestion of pursuing a "coordinated, cross-municipal transit system centred on Highway 26." The implementation of such a system along Highway 26 would travel past the development site and a transit stop could be provided at that time.

Internal to the site, there are several public trails proposed through the development, which connect to the Georgian Trail. The Community Use and Village Centre are also illustrated central to the site and along the Georgian Trail, allowing both internal and external users to access the area on foot or by bicycle.

Conclusions

The proposed development can be supported from a traffic operations perspective, with the noted improvements.

- Christie Beach Road and Highway 26 should be signalized at full build-out with minimum 90 m of eastbound left-turn storage and 69 m of westbound right-turn storage.
- Access A and Highway 26 should have a minimum of 55 m of eastbound left-turn storage and a right-turn taper under unsignalized conditions.
    - If signalized at full buildout to mitigate poor operations a minimum of 45 m of eastbound left-turn storage and westbound right-turn storage of 24 m is required.
- Access C and Highway 26 should have a minimum of 55 m of eastbound left-turn storage and a right-turn taper under unsignalized conditions.

At the OPA stage the maximum unit count and estimated construction phasing have been reviewed. Refinement to the analysis can be prepared should the statistics and horizons be refined and finalized through further planning applications.

The analysis undertaken herein was prepared using the most recent conceptual plan. Any minor changes to the Plan will not materially affect the conclusions contained within this report.

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2.0 Introduction

2.1 Background

C.F. Crozier & Associates Inc. (Crozier) was retained by Parkbridge Lifestyle Communities Inc. (the 'proponent') to complete a Traffic Impact Study (TIS) to support the Official Plan Amendment (OPA) application for the Parkbridge Meaford development (the 'site'/ the 'development'). The site is located on the north side of Highway 26, west of Christie Beach Road in the Municipality of Meaford, County of Grey.

2.2 Development Proposal

The conceptual Demonstration Plan for the Parkbridge Meaford Development (dated January 24th, 2024) illustrates conceptual details of the development. The proposed components of the development include a Community Use and Village Centre which will include recreational and commercial uses, as well as a maximum of 1,250 residential units. The breakdown of unit types has not yet been confirmed at the OPA stage. The maximum configuration of potential units and gross floor areas (GFA) has been reviewed. An updated TIS can be prepared for Zoning By-law and Site Plan Applications as the unit counts are refined.

Additionally, the proponent owns lands in the lower area neighbourhood. The lots are already zoned as residential and are not undergoing an application at this time. Should development of the lower lands move forward a traffic study can be prepared at that time.

Figure 1 contains the Demonstration Plan for reference.

2.3 Purpose and Scope

This TIS was prepared to support the OPA Application for the mixed-use development located on the north side of Highway 26. The purpose of the study is to assess the impacts of the proposed development on the boundary road network and to recommend any required mitigation measures, if warranted. The work plan follows the established Terms of Reference.

The study reviews the following main aspects of the proposed development from a transportation engineering perspective:

- Existing, future background, and future total traffic operations at the study intersections.
- Forecasted trip generation of the proposed development.
- Auxiliary turn-lane requirements and signal warrants.
- Sight distance at the proposed site accesses.

Appendix A contains the Terms of Reference circulated to the MTO and Municipality of Meaford.

3.0 Existing Conditions

3.1 Development Lands

The site is located in the east end of the Municipality of Meaford, in a geographic location known as the "Southeast Clay Banks". The lands total approximately 135 ha, and include upper lands, and a lower lands portion in the northeastern section of the site.

The site is bounded by Georgian Bay and existing residential dwelling units to the north, Christie Beach Road and existing residential units to the east, Highway 26 to the south, and land designated and zoned for open space to the west. The Georgian Trail runs parallel to Highway 26 through the subject lands. The Site Location Plan is provided as **Figure 2**.

3.2 Study Intersections

The following intersections are analyzed in this report:

- 39th Sideroad and Christie Beach Road
- Highway 26 and Christie Beach Road
- Highway 26 and Starlight Lane
- Highway 26 and Old Highway 26
- All proposed site accesses

Details relating to the boundary roadways are summarized in the subsequent section.

3.3 Boundary Road Network

The boundary road network is described in **Table 1**. The roadway classifications were obtained from "Functional Road Classification" ArcGIS mapping system produced by Grey County. Due to the skewed nature of the roadway, directions have been assigned based on Highway 26 having an east-west orientation.

Table 1: Boundary Road Network

Roadway	Highway 26	Christie Beach Road	39th Sideroad	Starlight Lane	Old Highway 26
Direction	East-West	North-South	East-West	North-South (curves to East-West)	North-South
Jurisdiction	MTO	Municipality of Meaford / The Town of the Blue Mountains	The Town of the Blue Mountains	Municipality of Meaford	Municipality of Meaford
Street Classification	Provincial Highway	Local	Local	Local	Local
Speed Limit	80 km/h	80[1]-50 km/hr	50 km/h	50 km/h (assumed)	50 km/h (assumed)
Number of Lanes	2	2	2	2	2

Note 1: Grey County GIS Mapping labels Christie Beach Road as a speed of 80 km/h south of 39th Side Road and 50km/ hour north of 39th Side Road.

Highway 26 generally has a two-lane cross-section. However, within the study area there are sections with an additional through lane for passing in the eastbound and westbound directions.

The Georgian Trail runs parallel to Highway 26 through the proposed development site, set back by a minimum of 75 m from the Highway. The trail is relatively straight and flat. It is available to pedestrians and cyclists between Collingwood and Meaford. The road network does not provide any additional pedestrian or cycling facilities. Active Transportation is further explained in **Section 7.0**.

3.4 Traffic Data

Turning movement counts for the study intersections were undertaken by Spectrum Traffic Data Inc. during the following dates and times:

- Thursday April 21st, 2022: 6:00 a.m. to 10:00 am and 3:00 p.m. to 7:00 p.m.
- Saturday, April 23rd, 2022: 10:00 a.m. to 6:00 p.m.

Appendix B contains the collected traffic data, and the balanced 2022 existing volumes are illustrated in **Figure 3**. Since 2013 historical Annual Average Daily Traffic (AADT) volumes have been the same or greater than Summer Average Daily Traffic (SADT) volumes recorded by the MTO for this section of Highway 26. For this reason, no SADT adjustment has been made to the volumes.

Table 2 summarizes the peak hour factors (PHF) as calculated for each intersection based on the April 2022 data. The MTO requested a PHF of 0.88 be used for all intersections and movements on Highway 26. Therefore, a PHF of 0.88 was applied for the analysis contained herein.

Table 2: Peak Hour Factors

Intersection	Peak Hour	Calculated PHF	Requested PHF
Christie Beach Road and 39th Sideroad	Weekday A.M. (9:00-10:00)	0.73	0.88
	Weekday P.M. (15:00-16:00)	0.75	0.88
	Saturday (15:15-16:15)	0.65	0.88
Highway 26 and Christie Beach Road	Weekday A.M. (8:00-9:00)	0.99	0.88
	Weekday P.M. (15:00-16:00)	0.98	0.88
	Saturday (14:00-15:00)	0.93	0.88
Highway 26 and Starlight Lane	Weekday A.M. (8:15-9:15)	0.97	0.88
	Weekday P.M. (16:30-17:30)	0.94	0.88
	Saturday (14:00-15:00)	0.91	0.88
Highway 26 and Old Highway 26	Weekday A.M. (8:15-9:15)	0.97	0.88
	Weekday P.M. (16:30-17:30)	0.92	0.88
	Saturday (13:45-14:45)	0.94	0.88

3.5 Intersection Operations

The operations of the study intersections were analyzed based on the traffic volumes illustrated in **Figure 3**. **Table 3** summarizes the Levels of Service for the counts taken at the study intersection under 2022 existing traffic volume conditions. The Level of Service (LOS) definitions are included in **Appendix C** and detailed capacity analysis worksheets are included in **Appendix D**.

Table 3: 2022 Existing Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	8.7 s	0.02	-
		P.M.	A	9.1 s	0.03	-
		Saturday	A	8.7 s	0.02	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	11.0 s	0.04	-
		P.M.	B	11.7 s	0.06	-
		Saturday	B	10.7 s	0.04	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	10.8 s	0.00	-
		P.M.	B	12.5 s	0.01	-
		Saturday	B	12.0 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0 s	0.00	-
		P.M.	C	15.1 s	0.01	-
		Saturday	B	10.9 s	0.00	-

Note 1: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note 2: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

The metrics summarized above indicate that the study intersections are operating well at a LOS "C" or better under weekday a.m., p.m., and Saturday peak hour traffic volume conditions. The existing volumes do not currently produce queues which exceed available storage, and the intersection operations demonstrate capacity for additional volumes on the network.

4.0 Future Background Conditions

4.1 Horizon Years

For the purpose of the analysis contained herein, the development is divided into three phases with the approximate completion of each phase four years beyond the previous, with the first horizon four years from the date of this study. Accordingly, the following horizon years have been analyzed:

- 2027 – Phase 1 Completion
- 2031 – Phase 2 Completion
- 2035 – Phase 3 Completion
- 2040 - 5 Years Beyond Full Build-out
- 2045 - 10 Years Beyond Full Build-out

4.2 Background Growth Rate

Background growth rates were derived from historical Average Annual Daily Traffic (AADT) and Summer Average Daily Traffic (SADT) volumes provided in the MTO "Provincial Highways Traffic Volumes 1988-2016" document. The volumes were obtained for the segment of Highway 26 from Peel Street Culvert to End of Non-Assumed.

At the time when the TOR was established AADT data from 2011-2016 indicated that the segment of Highway 26 experienced a growth rate of approximately 2%. Since that time updated AADT data to 2019 has been released demonstrating a lower growth rate in recent years. However, the annual growth rate of 2% established through the TOR was applied to all movements on the boundary road network. **Appendix E** contains excerpts of the historical AADT and SADT data and analysis of the growth rate.

4.3 Background Developments

On the east side of Christie Beach Road, in the Town of the Blue Mountains, the Lora Bay development is currently under construction. The Town of the Blue Mountains Development Activity Online Mapping illustrates the phases still to be constructed at the time when traffic data collection was undertaken. These phases and their respective units are as follows:

- Block 24 – 16 condominium units
- Phase 3b – 23 single detached units
- Phase 4 – 70 apartment units
- Lora Bay Masters (Phase 4) – 33 townhouse units
- Cottages at Lora Bay (Phase 5 and 6) – 194 single detached units

All phases are expected to begin construction by the end of 2024. For the basis of this report, all units are expected to be occupied by the opening horizon of 2027. Traffic Studies for these phases were unavailable from the Town. The trip generation of the proposed development was forecasted using the fitted curve equations provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition based on the same methodology as outlined in **Section 5.2**. **Table 4** outlines the forecasted trip generation.

Table 4: Lora Bay Trip Generation

Land Use	Peak Hour	Inbound	Outbound	Total
LUC 210: Single-Family Detached Housing (217 units)	A.M.	39	112	151
	P.M.	130	76	206
	Saturday	106	90	196
LUC 215: Single-Family Attached Housing (33 townhouse units)	A.M.	3	8	11
	P.M.	9	7	16
	Saturday	13	14	27
LUC 220: Multifamily Housing (Low-Rise) (86 apartment units)	A.M.	12	38	50
	P.M.	36	22	58
	Saturday	28	31	59
Total	**A.M.**	**54**	**158**	**212**
	P.M.	**175**	**105**	**280**
	Saturday	**147**	**135**	**282**

The entire Lora Bay subdivision has three points of access to Highway 26. It was assumed that 30% of the new units would utilize 39th Sideroad and follow the same distribution as outlined in **Section 5.4.**

Figure 4 and **Figure 5** outline the Lora Bay Trip Distribution and Trip Assignment, respectively.

4.4 Basis of Assessment

The 2027, 2031, 2035, 2040 and 2045 future background traffic volumes are illustrated in **Figures 6, 7, 8, 9** and **10**, respectively.

Signal warrants were executed for the intersection of Highway 26 and Christie Beach Road to determine is signalization was warranted under future background conditions. Based on the forecasted 2045 future background volumes, signalization is not warranted at the intersection. Signal warrants can be reference in **Appendix F.**

4.5 Intersection Operations

The 2027, 2031, 2035, 2040 and 2045 future background traffic Levels of Service are summarized in **Table 5**, **Table 6**, **Table 7**, **Table 8**, and **Table 9**, respectively.

LOS definitions are included in **Appendix C** and detailed capacity analysis worksheets are included in **Appendix D.**

Table 5: 2027 Future Background Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.5 s	0.08	-
		Saturday	A	9.0 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	11.9 s	0.13	-
		P.M.	B	13.2 s	0.15	-
		Saturday	B	11.8 s	0.13	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	11.2 s	0.00	-
		P.M.	B	13.5 s	0.01	-
		Saturday	B	13.0 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	C	17.2 s	0.01	-
		Saturday	B	11.6 s	0.01	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 6: 2031 Future Background Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.5 s	0.08	-
		Saturday	A	9.1 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	12.3 s	0.14	-
		P.M.	B	13.8 s	0.16	-
		Saturday	B	12.2 s	0.14	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	11.5 s	0.00	-
		P.M.	B	14.2 s	0.01	-
		Saturday	B	13.5 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	C	18.7 s	0.01	-
		Saturday	B	12.0 s	0.01	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 7: 2035 Future Background Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.5 s	0.09	-
		Saturday	A	9.1 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	12.7 s	0.15	-
		P.M.	B	14.6 s	0.18	-
		Saturday	B	12.7 s	0.15	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	11.9 s	0.00	-
		P.M.	C	15.3 s	0.01	-
		Saturday	B	14.1 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	C	20.6 s	0.03	-
		Saturday	B	11.8 s	0.01	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 8: 2040 Future Background Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.6 s	0.09	-
		Saturday	A	9.1 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	13.4 s	0.17	-
		P.M.	C	15.7 s	0.21	-
		Saturday	B	13.3 s	0.17	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	12.4 s	0.00	-
		P.M.	C	16.6 s	0.01	-
		Saturday	C	15.0 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	C	23.6 s	0.03	-
		Saturday	B	12.4 s	0.01	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 9: 2045 Future Background Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.1 s	0.09	-
		P.M.	A	9.7 s	0.10	-
		Saturday	A	9.2 s	0.08	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	14.2 s	0.19	-
		P.M.	C	17.0 s	0.24	-
		Saturday	B	14.1 s	0.19	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	13.1 s	0.00	-
		P.M.	C	17.2 s	0.02	-
		Saturday	C	16.2 s	0.01	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	D	27.7 s	0.04	-
		Saturday	C	15.1 s	0.01	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

By the final horizon year of 2045, the boundary road network is expected to continue operating with a LOS 'C' or better. The exception being the intersection of Highway 26 and Old Highway 26 which is expected to operate at a LOS 'D' during the p.m. peak hour, with 27.7 seconds of control delay.

5.0 Future Total Conditions

5.1 Future Road Network

The conceptual Demonstration Plan illustrates several internal roadways with three proposed access points to the existing road network. The internal roadway which creates a ring around the development lands and the roads connecting to the boundary road network are proposed to be public roads, while all other roadways will remain private. The proposed public roads are marked with a grey hatch on the Community Structure Plan in **Appendix G**.

It has been contemplated that the first phase of construction will include the central entrance (noted as Access A herein), residential units and the Community Use and Village Centre, comprised of commercial and recreational uses. Based on the total number of units, it has been assumed that more than 100 units will be constructed with this phase, it is expected that the future connection to Christie Beach Road (Access B) will be constructed as an emergency access to adhere to the National Fire Protection Association (NFPA) Standards. The western phase has been assessed as the second phase constructed and will have a second connection to Highway 26 (Access C). Access B will continue to act as an emergency access for the over 800 units until the eastern phase is constructed.

It is recommended that Christie Beach Road have a posted speed limit of 50 km/h for its entire length; from Highway 26 to its terminus past Sunset Boulevard. Signage will provide clarification for drivers and enhance safety for future pedestrians and cyclists.

5.2 Georgian Trail Alignment

As illustrated on the conceptual Demonstration Plan, to maximize the developable area while respecting the internal access setback for the MTO, the Georgian Trail is proposed to be realigned along the site frontage bringing it further south. The trail remains outside of the MTO's 14 m setback from the Right-of-Way of Highway 26.

The trail crossings of the proposed access roads are illustrated as curving down to the intersections with Highway 26 before returning north to the trail alignment. While the curvature of the trail would be subject to further design, allowing for crossing at a stop controlled or signalized intersection provides a safer crossing location then a secondary mid-block stop for vehicles at its existing location. Bringing the trail to the intersection also removes conflict between southbound queuing vehicles and the trail.

Crossing control and protections such as pavement markings, signage and signal timings can be confirmed through detailed design and further study of existing and future use of the Georgian Trail within the proposed development.

5.3 Site Generated Traffic

The proposed development will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also result in additional turning movements at the site accesses. To establish the trip generation for the site uses and statistics were estimated by the proponent then volumes were forecasted using the fitted curve equations, provided in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition for multiple Land Use Categories (LUC). The following LUC's were utilized:

- LUC 822: Strip Retail Plaza (<40k GFA)
- LUC 495: Recreational Community Centre

As the breakdown of residential unit types has not yet been refined, a hybrid rate was established. The hybrid rate was established based on the average rates for single-family homes, townhomes and low-rise residential units. The direction split of inbound and outbound residential vehicles was applied based on the split established by ITE for LUC 210: Single-Family Detached units. Trip generation can be revised through updated analysis with future planning applications as the unit breakdown is refined. The applied rate and split are summarized in **Table 10**.

Table 10: Residential Trip Generation Hybrid Rate

Peak Hour	Rate	Entering	Exiting
A.M.	0.60	0.25	0.75
P.M.	0.70	0.63	0.37
Saturday	0.70	0.54	0.46

The commercial and recreational uses proposed for the development are expected to generate trips from within the residential areas. Residents may choose to drive, walk, or cycle to the commercial centre and trips will not be added to the boundary road network. A conservative estimate of 50% external trips has been utilized. Additionally, pass-by trips have not been assessed. All trips are assumed to be destination based. Relevant excerpts from the ITE Trip Generation Manual have been included in **Appendix H**. The total forecasted trip generation for the development is summarized in **Table 11**.

Table 11: Trip Generation

Land Use Code	Units/GFA	Trip Type	Peak Hour	Inbound Volumes	Outbound volumes	Total Volumes
Hybrid Rate	1,250 units,	External	A.M.	188	563	750
			P.M.	551	324	875
			Saturday	473	403	875
LUC 822: Strip Retail Plaza	2,450 m^2	External	A.M.	17	11	28
			P.M.	39	39	78
			Saturday	44	43	87
		Internal	A.M.	17	11	28
			P.M.	39	39	78
			Saturday	29	25	54
LUC 495: Recreational Community Centre	9,290 m^2	External	A.M.	63	33	96
			P.M.	63	70	133
			Saturday	29	25	54
		Internal	A.M.	63	33	96
			P.M.	63	70	133
			Saturday	29	25	54
Total External Trips			**A.M.**	**268**	**606**	**874**
			P.M.	**653**	**433**	**1,086**
			Saturday	**546**	**470**	**1,016**

The development is forecasted to generate 874 a.m., 1,086 p.m. and 1,016 Saturday external peak hour trips.

5.4 Trip Distribution and Assignment

The trips generated by the proposed development were distributed to the boundary road network based on the travel patterns observed in traffic data collected on the boundary road network and the expected commercial and employment catchment areas. The development is situated between Meaford and Thornbury, with Owen Sound further to the west and The Town of the Blue Mountains and Collingwood further to the east. A split of approximately 50% east and 50% west was applied.

As previously stated, for the purposes of analysis the site has been divided into three phases. The commercial and community centre as well as 20% of residential units have been assumed to be completed within the first phase. The trip distribution and trip assignment for the commercial units are illustrated in **Figure 11** and **Figure 12**, respectively. The Phase 1 and Phase 2 trip distribution and trip assignment for the community centre are illustrated in **Figure 13** and **Figure 14**, respectively. The Phase 1 residential trip distribution and trip assignment are illustrated in **Figure 15** and **Figure 16**, respectively.

Phase 2 and Phase 3 have assumed a build-out of 40% of residential units in each phase. With the completion of Phase 3, connection to Christie Beach Road and the Lora Bay subdivision will be available. The impact on trip distribution from this connection has been assessed with 10% of community centre volumes travelling to and from Lora Bay with the remaining 40% to and from the east continuing to utilize Highway 26.

The Phase 2 trip distribution and trip assignment are illustrated in **Figure 17** and **Figure 18**, respectively. The Phase 3 trip distribution and trip assignment are illustrated in **Figure 19** and **Figure 20**, respectively. The Phase 3 community centre trip distribution and trip assignment are illustrated in **Figure 21** and **Figure 22**, respectively.

5.5 Signal Warrant

Signal warrants were conducted at the proposed intersections of Access A and Access C with Highway 26, the existing unsignalized intersection of Christie Beach Road and Highway 26 and the proposed four-leg intersection of Christie Beach Road and Access B/39th Sideroad. Warrants were conducted under the final horizon year of 2045. If warranted, the prior horizon year was then reviewed. As 8-hour counts were available Justifications 1 (Minimum Vehicular Volume), 2 (Delay to Cross Traffic), and 3 (Combination of Justifications 1 and 2) were selected.

The future total traffic volumes were proportionally distributed across the 8-hours based on collected data. For example, if the existing 6:00 to 7:00 a.m. weekday roadway volumes were 25% of the a.m. peak hour volumes, the future forecasted 6:00 to 7:00 a.m. volumes were factored by the same 25%.

Table 12 summarized the warrant results at each intersection through the horizon years.

Table 12: Signal Warrant Results

Intersection	Justification	Horizon Year				
		2045	2040	2035	2031	2027
Highway 26 and Christie Beach Road	1. Minimum Vehicular Volumes	No	No	No	No	-
	2. Delay to Cross Traffic	No	No	No	No	-
	3. Combination	Yes	Yes	Yes	No	-
Highway 26 and Access A	1. Minimum Vehicular Volumes	No	-	-	-	-
	2. Delay to Cross Traffic	No	-	-	-	-
	3. Combination	No	-	-	-	-
Highway 26 and Access C	1. Minimum Vehicular Volumes	No	-	-	-	-
	2. Delay to Cross Traffic	No	-	-	-	-
	3. Combination	No	-	-	-	-
Christie Beach Road and Access B/ 39th Sideroad	1. Minimum Vehicular Volume	No	-	-	-	-
	2. Delay to Cross Traffic	No	-	-	-	-
	3. Combination	No	-	-	-	-

As presented, signals are warranted at Highway 26 and Christie Beach Road with the completion of Phase 3 under the 2035 horizon year. Access A and Access C did not warrant signalization under

Justifications 1-3. **Appendix F** includes the signal warrants for reference.

Signalization will benefit the existing homes off Christie Beach Road as well as homes in Lora Bay. The intersection should be monitored to determine the timeline for signalization as travel patterns of the Lora Bay units currently still under construction may differ.

Signal timings for the intersection of Highway 26 and Christie Beach generally align with the MTO's Signal Timing Policy, though timings for walk and flash don't walk signals will need to be confirmed through further design and assessment. Signal timings were established based on 2045 future total volumes and an optimized cycle length. Signal timings splits were optimized under semi-actuated uncoordinated timings using the synchro modelling software to achieve a less than critical (<0.85) volume-to-capacity ratio. Signal timings can be referenced in the capacity analysis worksheets included in **Appendix D.**

Future Zoning, Site Plan and detailed design submissions will further refine the required signal timings and road improvement dimensions. It is noted that turn lane storage at signalized intersections has been assessed based on the MTO's Signal Timing Policy as outlined in **Section 5.6**. **Appendix I** contains relevant excerpts from the policy.

5.6 Auxiliary Turn-Lane Assessment

A left-turn lane warrant was undertaken for each of the Highway 26 site accesses. The warrants were completed using the MTO Design Supplement for Transportation Associated of Canada (TAC)Geometric Design Guide for Canadian Roads (GDGCR). Highway 26 has a posted speed limit of 80 km/h adjacent to the site, thus a 100 km/h design speed was selected, reflecting a traffic engineering convention of a 20 km/h increase to the posted speed limit for higher speed roads. As previously stated, it is recommended Christie Beach Road have a posted speed limit of 50 km/h, thus a 60 km/h design speed was selected, reflecting a traffic engineering convention of a 10 km/h increase to the posted speed limit for lower speed roads.

The analysis was completed for the 2045 horizon year to determine the ultimate turn-lane requirements to support the development. Turn lanes are warranted at the build-out of each Highway 26 site access and it is recommended the ultimate requirement be constructed to coincide with the construction of its respective access.

The southbound volumes on Christie Beach Road at Access B and 39th Sideroad are too low to warrant a turn lane, regardless of the higher volumes turning into Access B. As Lora Bay is completed and volumes in the area change, intersection improvements should be monitored. The intersection will continually be assessed through future studies. **Table 13** summarizes the results of the eastbound left-turn lane warrant assessment. **Appendix K** contains the auxiliary warrants for reference.

Table 13: 2045 Future Total Auxiliary Lane Analysis

Intersection	Direction	Peak Hour	V_A	% Left Turns in V_A	V_O	Minimum Storage (Figure)
Highway 26 & Access A	Eastbound	A.M.	736	8%	635	+40 m (9A-23)
		P.M.	823	13%	916	+55 m (9A-24)
		SAT	710	12%	777	+40 m (9A-23)
Highway 26 & Access C	Eastbound	A.M.	662	6%	661	+25 m (9A-23)
		P.M.	869	13%	900	+55 m (9A-23)
		SAT	725	13%	769	+55 m (9A-23)

Westbound right-turn lanes were considered at the intersections of the two site accesses on Highway 26 and the intersection of Christie Beach Road and Highway 26. Per TAC GDGCR, a right-

turn lane should be considered when the volume of decelerating or accelerating vehicles compared with the through traffic volume causes undue hazard.

The intersection of Access C and the intersection of Christie Beach Road with Highway 26 have only one through lane with high volumes that are impeded by right hand turns. At the intersection of Highway 26 and Access A there are two westbound through lanes. The presence of the second lane reduces the need for an auxiliary right turn lane at this site access. The MTO considers the threshold for consideration of a separate right turn lane to be 200 vehicles per hour (vph). The right-turn movements at the intersections are below 200 vph. Therefore, right-turn facilities are recommended in the westbound direction on Highway 26 at Christie Beach Road and at Access C.

For signalized intersections, the MTO signal timing policy was used to establish the auxiliary left-turn lane storage required. Additionally, should the MTO require auxiliary right-turn lanes instead of tapers at these intersections the storage has been calculated using the policy.

Geometric lengths such as deceleration and taper were established from the MTO Design Supplement for TAC Geometric Design Guidelines for Canadian Roads (GDGCR).

As presented in **Section 5.7**, the intersection of Highway 26 and Access A is recommended for signalization due to poor operations at full build-out. As discussed in **Section 7.0** realignment of the Starlight Lane could create a four-leg intersection with Access A to mitigate the available access spacing constraints. It is noted, that the MTO do not generally signalize roadways which to not meet the warrant threshold and both of these scenarios would need to undergo acceptance by the MTO and detailed design.

As outlined in the MTO's Signal Timing Policy passenger car units are determined based on the number of vehicles and heavy trucks. As the site will be mainly residential traffic, a heavy vehicle percentage of 2% was assumed and utilized for calculations. A cycle length of 100 s was also utilized. As Highway 26 has a posted speed of 80 km/h the storage length was calculated using twice the average number of vehicles as outline on TAC

At the Official Plan Amendment stage, **Table 14** summarizes the geometrics incorporated into the future total modelling. The exact dimensions for the auxiliary right and left-turn lanes including deceleration length and taper will be confirmed during detailed design.

Table 15 reviews the 95th percentile queue at the signalized intersections to ensure the storage is not exceeded and the through lanes does not block access to the turn lane. **Appendix J** contains Geometric Design Guideline excerpts for reference.

Table 14: Geometric Design Summary

Intersection	Control Type	Lane Direction	PCU	'm' Value	Storage	Deceleration	Taper
Access C & Highway 26	Minor Stop Control	EBL	-	-	+55 m	70 m	160 m
		WBR	-	-	-	85 m	80 m
Christie Beach Road & Highway 26	Signalized	EBL	161	4.6	90 m[1]	-	160 m
		WBR	-	-	69 m	85 m	80 m
Access A & Highway 26	Minor Stop Control	EBL	-	-	+55 m	70 m	160 m
		WBR	-	-	-	85 m	80 m
	Signalized	EBL	107	3.0	45 m	70 m	160 m
		WBR	-	-	24 m	85 m	80 m
Access A/ Starlight Lane & Highway 26	Signalized	EBL	107	2.3	38 m	70 m	160 m
		WBL	2	0.1	15 m	70 m	160 m
		WBR	-	-	32 m	85 m	80 m

Note 1: Existing Parallel Length

Table 15: 2045 Turn Lane Queueing Conflicts

Intersection	Lane	Eastbound		Westbound	
		95th ile Queue	Turn Lane Accessible?	95th ile Queue	Turn Lane Accessible?
Christie Beach Road & Highway 26	Left	66.7 m (p.m.)	Yes	-	-
	Through	149.1 m (a.m.)	Restricted	174.2 m (p.m.)	Restricted
	Right	-	-	8.4 m (p.m.)	Yes
Access A & Highway 26	Left	16.2 m (p.m.)	Yes	-	-
	Through	83.7 m (p.m.)	Yes	-	-
	Right	-	-	-	-
Access A/Starlight Lane & Highway 26	Left	18.8 m (p.m.)	Yes	0.9 m (p.m.)	Yes
	Through	111.9 m (p.m.)	Yes	44.0 m (p.m.)	Yes
	Right	-	-	5.3 m (p.m.)	Yes

With the signalization of Christie Beach Road, the existing turn lane dimensions should be reviewed to ensure that extension to the available storage can be provided, if required, at that time. Based on the 2045 horizon, the through lane 95th percentile queue may extend to the taper of the turn lanes. 50th percentile queuing, which will be experienced more often is not anticipated to restrict access to the turn lanes under any peak hour or horizon.

5.7 Intersection Operations

The 2027, 2031, 2035, 2040 and 2045 future total intersection operations of the boundary road network were analyzed using the future total traffic volumes illustrated in **Figures 23, 24, 25, 26,** and **27**, respectively. **Table 16, Table 17, Table 18**, **Table 19** and **Table 20** outline the future total intersection operations, respectively. The Level of Service definitions are included in **Appendix C**, with detailed capacity analysis worksheets included in **Appendix D**.

Table 16: 2027 Future Total Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.5 s	0.08	-
		Saturday	A	9.1 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	12.5 s	0.14	-
		P.M.	B	14.3 s	0.16	-
		Saturday	B	12.7 s	0.14	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	11.9 s	0.00	-
		P.M.	B	14.8 s	0.01	-
		Saturday	B	14.3 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0 s	0.00	-
		P.M.	C	20.2 s	0.02	-
		Saturday	B	12.8 s	0.01	-
Highway 26 and Access A[3]	Stop (SB)	A.M.	C	17.5 s	0.33	-
		P.M.	D	27.9 s	0.43	-
		Saturday	C	22.2 s	0.40	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Note[3]: 70 m of space is available between Highway 26 and the Georgian Trail

Table 17: 2031 Future Total Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad	Stop (WB)	A.M.	A	9.0 s	0.08	-
		P.M.	A	9.5 s	0.08	-
		Saturday	A	9.1 s	0.07	-
Highway 26 and Christie Beach Road	Stop (SB)	A.M.	B	14.3 s	0.17	-
		P.M.	C	17.8 s	0.22	-
		Saturday	B	14.8 s	0.18	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	B	14.0 s	0.00	-
		P.M.	C	18.6 s	0.01	-
		Saturday	C	17.7 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0 s	0.00	-
		P.M.	D	31.3 s	0.03	-
		Saturday	C	15.5 s	0.01	-
Highway 26 and Access A	Stop (SB)	A.M.	E	36.8 s	0.63	-
		P.M.	F	**179.5 s**	**1.16**	-
		Saturday	F	51.7 s	0.72	-
Highway 26 & Access C	Stop (SB)	A.M.	D	30.3 s	0.66	-
		P.M.	E	48.9 s	0.67	-
		Saturday	D	34.9 s	0.62	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 18: 2035 Future Total Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad /Access B	Stop (EB/WB)	A.M.	C	16.9 s (WB)	0.22 (WB)	-
		P.M.	D	27.8 s (WB)	0.34 (WB)	-
		Saturday	C	22.3 s (WB)	0.25 (WB)	-
Highway 26 and Christie Beach Road	Signalized	A.M.	B	18.2 s	0.75 (EBT)	-
		P.M.	B	16.7 s	0.77 (WBT)	-
		Saturday	B	14.3 s	0.69 (WBT)	
Highway 26 and Starlight Lane	Stop (NB)	A.M.	C	15.1 s	0.00	-
		P.M.	C	24.4 s	0.02	-
		Saturday	C	22.1 s	0.00	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	E	48.3 s	0.07	-
		Saturday	C	17.3 s	0.01	-
Highway 26 and Access A	Stop (SB)	A.M.	F	72.5 s	0.83	-
		P.M.	**F**	**>200 s**	**1.62**	-
		Saturday	**F**	**129.6 s**	**1.01**	-
	Signalized	A.M.	A	7.4 s	0.62 (EBT)	-
		P.M.	A	7.4 s	0.60 (EBT)	-
		Saturday	A	7.0 s	0.55 (EBT)	-
Highway 26 and Access C	Stop (SB)	A.M.	F	62.3 s	**0.87**	-
		P.M.	F	97.7 s	**0.89**	-
		Saturday	F	66.0 s	0.81	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 19: 2040 Future Total Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad /Access B	Stop (EB/WB)	A.M.	C	17.2 s (WB)	0.23 (WB)	-
		P.M.	D	28.5 s	0.36 (WB)	-
		Saturday	C	22.5 s	0.26 (WB)	-
Highway 26 and Christie Beach Road	Signalized	A.M.	B	19.2 s	0.78 (EBT)	-
		P.M.	B	15.6 s	0.73 (WBT)	-
		Saturday	B	15.9 s	0.73 (WBT)	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	C	15.9 s	0.00	-
		P.M.	D	26.8 s	0.02	-
		Saturday	C	23.8 s	0.01	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.00	-
		P.M.	F	57.9 s	0.08	-
		Saturday	C	18.7 s	0.01	-
Highway 26 and Access A	Stop (SB)	A.M.	F	101.5 s	**0.94**	-
		P.M.	F	>200 s	**1.92**	-
		Saturday	F	182.0 s	**1.75**	-
	Signalized	A.M.	A	7.2 s	0.61 (EBT)	-
		P.M.	A	7.5 s	0.63 (EBT)	-
		Saturday	A	7.1 s	0.58 (EBT)	-
Highway 26 and Access C	Stop (SB)	A.M.	E	81.7 s	**0.94**	-
		P.M.	F	138.0 s	**1.01**	-
		Saturday	F	87.3 s	**0.90**	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Table 20: 2045 Future Total Levels of Service

Intersection	Control	Peak Hour	Level of Service [1]	Control Delay	Maximum v/c ratio [2]	95th Queue >Storage
Christie Beach Road and 39th Sideroad /Access B	Stop (EB/WB)	A.M.	C	17.4s (WB)	0.24 (WB)	-
		P.M.	D	29.6 s (WB)	0.38 (WB)	-
		Saturday	C	23.1 s (WB)	0.27 (WB)	-
Highway 26 and Christie Beach Road	Signalized	A.M.	C	20.4 s	0.81 (EBT)	-
		P.M.	B	16.4 s	0.74 (WBT)	-
		Saturday	B	17.3 s	0.75 (WBT)	-
Highway 26 and Starlight Lane	Stop (NB)	A.M.	C	16.9 s	0.01	-
		P.M.	D	27.6 s	0.03	-
		Saturday	D	26.1 s	0.01	-
Highway 26 and Old Highway 26	Stop (NB)	A.M.	A	0.0	0.10	-
		P.M.	F	72.0 s	0.10	-
		Saturday	D	26.2 s	0.03	-
Highway 26 and Access A	Stop (SB)	A.M.	F	148.4 s	**1.07**	-
		P.M.	F	>200 s	**2.32**	-
		Saturday	F	>200 s	**1.33**	-
	Signalized	A.M.	A	7.4 s	0.64 (EBT)	-
		P.M.	A	7.8 s	0.66 (EBT)	-
		Saturday	A	7.2 s	0.60 (EBT)	-
Highway 26 and Access C	Stop (SB)	A.M.	F	111.2 s	**1.04**	-
		P.M.	F	>200 s	**1.17**	-
		Saturday	F	120.1 s	**1.00**	-

Note[1]: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach (HCM2000).

Note[2]: The maximum v/c ratio represents the maximum v/c ratio for the minor road approach movements at the intersection. Any movements that experience a v/c ratio in excess of 0.85 are considered critical per the MTO TIS Guidelines.

Under 2045 future total conditions, the signalized intersection of Christie Beach Road and Highway 26 operates with an acceptable LOS 'C' or better during the peak hours. It should be noted that while queuing remains contained within the existing eastbound storage, the # footnote is shown for the p.m. peak hour indicating that the "traffic was simulated for two complete cycles of 95th percentile traffic to account for the effects of spillover between cycles."[1] As all peak hour movements at the intersection have a volume-to-capacity ratio less than one, "the methods used represent a valid method for estimating the 95th percentile queue. In practice, 95th percentile queue[ing] shown will rarely exceed and the queues shown with the # footnote are acceptable for the design of storage bays."[1]

The existing intersection of Highway 26 and Starlight Lane is expected to operate with an LOS 'D' or better and with minor delays. Old Highway 26 is forecasted to experience a LOS 'F' during the p.m. peak hour with 72.0 s of delay. This delay is not uncommon for a stop-controlled intersection where the major roadway had a high volume of vehicles. Additionally, the volumes forecasted are based on sustained growth more than 20 years into the future, volume forecasts for over 1,000 units and under a peak hour factor of 0.88.

The future intersection of Christie Beach Road and Access B/39th Sideroad is forecasted to operate

[1] Cubic ITS, Inc. "Synchro Studio 11 User Guide." 12 December 2019. *Trafficware.*

with an LOS 'D' or better and a maximum control delay of 29.6 s for the westbound movements.

The proposed intersection of Highway 26 and Access A is forecasted to operate with a LOS 'F' under all peak hours. The p.m. peak hour is forecasted to operate with a volume-to-capacity ratio of 2.32 and a control delay of more than 200 s.

At the buildout of the first phase, the intersection of Highway 26 and Access A is anticipated to operate with a LOS 'D' and control delay of 27.9 s. At the build-out of Phase 2, the control delay is expected to be more than 150 s and signalization is recommended by full build-out of the site. Signalization of the intersection of Highway 26 and Access A will improve operations to a LOS 'A' and the 95th percentile queuing. The requirement and timing of signalization should be reviewed closer to the build-out of the second phase to confirm the assumptions made within this analysis.

The proposed intersection of Access C and Highway 26 is forecasted to operate with an LOS 'F' under all peak hours with a maximum volume-to-capacity ratio of 1.17 and control delay of more than 200 s. It is noted that with the signalization of Highway 26 with Access A and Christie Beach Road, it is expected that drivers will re-route to the signalized intersections to turn left out of the site, which would have a positive impact on the operations of Access C. It is recommended that the operations continue to be monitored to confirm the assumptions of this report through future applications and as phases are constructed and occupied.

It should be noted that these operations are considered conservative given the higher growth rate considered compared to the decrease in growth in the area between 2016 and 2019. Additionally, the peak hour factor of 0.88 applied to all study intersections, is a conservative approach. The actual peak hour factors calculated based on data collected on Highway 26 are higher and would result in improved operations. Additionally, the volumes have been forecasted more than 20 years into the future and for over 1,000 dwelling units. Ongoing monitoring of operations is recommended to determine the timing of the proposed external roadway improvements.

6.0 Sight Distance Assessment

A sight distance analysis was conducted to confirm that there is sufficient sight distance for drivers approaching and exiting the site at Access A, Access B, and Access C. The measured sight distances were compared to the standards set out in the Transportation Association of Canada (TAC) Geometrics Design Guide for Canadian Roads (GDGCR).

6.1 Stopping Sight Distance

As noted previously, Highway 26 has a design speed of 100 km/h and is relatively flat and straight with horizonal curvature west of Starlight Lane. The Municipality of Meaford requires a stopping sight distance minimum of 85 metres for rural roads as per their Engineering Standards (April 2019). Per TAC GDGCR Table 2.5.2, the minimum stopping sight-distance for level roadways with a design speed of 100 km/h is 185 metres. The available sight distance for the proposed accesses are summarized in **Table 21**.

Table 21: Stopping Sight Distance

Access	Intersecting Roadway	East		West	
		TAC Requirement	Available	TAC Requirement	Available
A	Highway 26	185 m	+250 m	185 m	+700 m
C	Highway 26	185 m	+350 m	185 m	+350 m
		North		South	
B	Christie Beach Road	58 m	+200 m	58 m	+350 m

Relevant TAC GDGCR excerpts are included in **Appendix J**.

6.2 Intersection Sight Distance

Section 9.9 of the TAC GDGCR provides intersection sight distance for different intersection control types. The applicable cases are as follows:

- Case B – Intersections with stop control on the minor road
  - Case B1 – Left turn from the minor road
  - Case B2 – Right turn from the minor road
- Case F – Left turns from the major road

Comparing these cases, Case B1 has the greatest sight distance requirement of 225 m for 100 km/h design speed roads and 130 m for 60 km/h design speed roads. **Table 22** contains a summary of the intersection sight distance requirements for each of the applicable cases.

Table 22: Intersection Sight Distance Requirements

Access	Case	Time Gap	Required Intersection Sight Distance	Minimum Available Sight Distance	TAC Reference
Highway 26 Design Speed = 100 km/h					
A	B1: Vehicles turning left from stop	8.0	225	+250 m	Table 9.9.3 & Equation 9.9.1
C	B1: Vehicles turning left from stop	7.5	210	+200 m	Table 9.9.3 & Equation 9.9.1
Christie Beach Road Design Speed = 60 km/h					
B	B1: Vehicles turning left from stop	7.5	130	+350 m	Table 9.9.3 & Equation 9.9.1

The available sight distance at each of the site accesses exceeds the minimum sight distance requirements. Accordingly, the proposed accesses can be supported from a sight distance perspective.

Relevant excerpts from TAC GDGCR have been included in **Appendix J**.

7.0 Geometric Feasibility

Per the MTO's Highway Corridor Management Manual (September 2018), the minimum intersection spacing is 800 metres for public and private road access connections to a 2B Arterial such as Highway 26 and is measured from any intersection regardless of which side of the roadway the intersection is located on. The measured distance between the existing intersections on Highway 26 at Old Highway 26 and Starlight Lane is approximately 1700 m.

Appendix L contains excerpts from the MTO's Highway Corridor Management Manual.

Per the National Fire Protection Association (NFPA) Standards a development of over 600 units will require three access locations. The proposed connection to Christie Beach Road provides one access. The two remaining accesses will need to connect to Highway 26 along the site frontage, with a frontage of only 1700 m, only one access can adhere to the MTO's 800 m spacing requirement. **Appendix M** contains excerpts from the NFPA 1141 Standards.

As previously outlined, more than adequate sight distance is available along the site frontage, providing clear sightlines for vehicles stopping and turning. The adjacent intersections of Starlight Lane and Old Highway 26 have a few dwellings and minimal vehicles entering and exiting during the peak hours.

One potential mitigation is to align the intersection of Starlight Lane with the future intersection of Access A by closing the east terminus of Starlight Lane and opening the west. Currently the west end of Starlight Lane has cul-de-sac within the Highway 26 ROW. This would create a four-legged intersection with Access A and would improve the intersection spacing along this section of the corridor, providing approximately 1,500 m of spacing to the east.

A signal warrant was conducted for the 4-legged intersection based on forecasted 8-hour volumes for Access A and Starlight Lane. Signalization is not warranted under the 2045 horizon; however poor operations will remain from the unaligned scenario. **Figure 28** illustrates the realigned future total 2045 volumes. **Appendix F** contains signal warrants. **Table 23** presents the forecasted 2045 future total operations with the intersections realigned and signalized.

Table 23: Starlight Lane Realignment Level of Service

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c ratio	95th Queue >Storage
Highway 26 and Access A/ Starlight Lane	Signalized	A.M.	A	10.0 s	0.65 (EBT)	-
		P.M.	B	12.3 s	0.80 (EBT)	-
		Saturday	B	12.2 s	0.75 (EBT)	-

Should the MTO be in favour of realignment, exact dimensions and geometrics would be determined through detailed design.

8.0 Active Transportation

At this time, the Municipality of Meaford does not have an active transportation plan that describes requirements of active transportation facilities for new developments. Additionally, the Municipality's Transportation Master Plan (June 2021) does not make any recommendations within the study area.

The Meaford Sustainability Plan (December 2021) outlines recommendations such as wider sidewalks, greater cycling facilities and more transit connectivity with neighbouring municipalities. The current vision for the development includes sidewalk connectivity within the site and access to the Georgian Trail which runs through the property, parallel to Highway 26. The village centre and community uses are also illustrated central to the site and along the Georgian Trail, allowing both internal and external users to access the area on foot or by bicycle.

The Sustainability Plan also presented the suggestion of pursuing a "coordinated, cross-municipal transit system centred on Highway 26." The implementation of such a system along Highway 26 would travel past the development site and a transit stop could be provided at that time.

9.0 Recommendations

The following recommendations have been made based on the findings of this report:

- It is recommended that Christie Beach Road have a posted speed limit of 50km/h for its entire length, from Highway 26 to its northern terminus past Sunset Boulevard.

- Access B should be established as an emergency access connecting with the existing intersection of Christie Beach Road and 39th Sideroad at the first phase of build-out.

- Access A should be signalized by full build-out to support future operations or as warranted. Signal timings shall conform with the MTO's Signal Timing policy.

    - The requirement for signals should be re-assessed at the second phase of build-out to confirm the assumptions contained in this report.

- The intersection of Christie Beach and Highway 26 should be signalized with the build-out of the third phase, or as warranted. Signal timings shall conform with the MTO's Signal Timing policy.

    - With the signalization of Christie Beach Road, the existing turn lane dimensions should be reviewed to ensure that extension to the available storage can be provided, if required, at that time

- Detailed design should confirm the requirements of turn lane storage, deceleration and taper length.

    - Christie Beach Road and Highway 26 should be signalized with minimum 90 m of eastbound left-turn storage and westbound right-turn storage of 69 m.
    - Access A and Highway 26 should have a minimum of 55 m of eastbound left-turn storage and a right-turn taper under unsignalized conditions. Under signalized conditions a minimum of 45 m of eastbound left-turn storage and westbound right-turn storage of 24 m is required.
    - Access C and Highway 26 should have a minimum of 55 m of eastbound left-turn storage and a right-turn taper under unsignalized conditions.

- Ongoing monitoring is recommended at all existing and future study intersections to determine if and when mitigation measures are required in the future.

10.0 Conclusions

The analysis outlined within this report resulted in the following key findings:

Existing Operations

The existing operations indicate that the study intersections are operating well at a LOS 'C' or better.

- The existing volumes do not currently produce queues which exceed available storage.

- The intersection operations demonstrate capacity for additional volumes on the network.

Future Background Operations

- The Lora Bay development is currently under construction. All phases are expected to begin construction by the end of 2024.
    - Block 24 – 16 condominium units
    - Phase 3b – 23 single detached units
    - Phase 4 – 70 apartment units
    - Lora Bay Masters (Phase 4) – 33 townhouse units
    - Cottages at Lora Bay (Phase 5 and 6) – 194 single detached units

- 212 a.m., 280 p.m., and 282 Saturday peak hour, two-way trips are forecasted to be generated by the Lora Bay development.

By the final horizon year of 2045, the boundary road network is expected to continue to operate at a LOS 'C' or better.

- The exception being the intersection of Highway 26 and Old Highway 26 which is expected to operate at a LOS 'D' during the p.m. peak hour, with 27.7 seconds of control delay.

Access Configuration

For the purpose of this assessment the development was reviewed in three phases.

- The first phase was assessed with residential, commercial and community uses as well as roadway connection (Access A)

- As more than 100 units are expected be constructed with this phase it is expected that the future connection to Christie Beach Road (Access B) will be constructed as an emergency access to adhere to the National Fire Protection Association (NFPA) Standards.

- The western residential units were assessed as the second phase constructed and with a second connection to Highway 26 (Access C).

- The final phase assessed the eastern residential units and the formal connection of Access B to Christie Beach Road.

More than adequate sight distance is available along the site frontage, providing clear sightlines for vehicles stopping and turning.

Trip Generation

The proposed components of the development include a Community Use and Village Centre which will include recreational and commercial uses, as well as a maximum 1,250 residential units. The exact phasing and a breakdown of unit types have not yet been established at the OPA stage.

The development is forecasted to generate 874 a.m., 1,086 p.m. and 1,016 Saturday peak hour trips.

Warrants

- Signal warrants concluded that signalization of Christie Beach Road and Highway 26 was warranted in 2035, with the build-out of the third Phase of the development.

- Justification 1, 2 and 3 were not warranted at Access A or Access C.
    - Ongoing monitoring is recommended at all existing and future study intersections to determine if and when mitigation measures are required.

- A storage length of 55 m is warranted for eastbound auxiliary left-turn lanes at Access A and 55 m for Access C.

- Proposed intersection geometry is to be confirmed through detailed design.

Future Total Operations

Under 2045 future total conditions the expected operations were as follows:

- The signalized intersection of Christie Beach Road and Highway 26 operates with an acceptable LOS 'C' or better during the peak hours.

- The intersection of Highway 26 and Starlight Lane is expected to operate with an LOS "D" or better and with minimal delays.

- The intersection of Highway 26 and Old Highway 26 is forecasted to experience a LOS 'F' during the p.m. peak hour with 72.0 s of delay.
    - This delay is not uncommon for a stop-controlled intersection where the major roadway had a high volume of vehicles.

- The future intersection of Christie Beach Road and Access B/39th Sideroad is forecasted to operate with an LOS 'D' or better and a maximum control delay of 29.6 s for the westbound movements.

- The proposed intersection of Highway 26 and Access A is forecasted to operate with a LOS 'F' under all peak hours.
    - The p.m. peak hour is forecasted to operate with a volume-to-capacity ratio of 2.32 and a control delay of >200 s.
    - Signalization of the intersection of Highway 26 and Access A is expected to improve operations to a LOS 'B'.
    - The requirement and timing of signalization should be reviewed closer to the build-out of the second phase of the development to confirm the assumptions made within this analysis.

- The proposed intersection of Access C and Highway 26 is forecasted to operate with an LOS 'F' under all peak hours with a maximum volume-to-capacity ratio of 1.17 and control delay of more than 200 s.
    - It is noted that with the signalization of Access A and Christie Beach Road, it is expected that drivers will re-route to the signalized intersections to turn left out of the site, which would have a positive impact on the operations of Access C.

Geometric Considerations

- The available sight distance at each of the site accesses exceeds the minimum stopping sight distance and intersection sight distance requirements.
    - Accordingly, the proposed accesses can be supported from a sight distance perspective.

- Per the National Fire Protection Association (NFPA) Standards a development of over 600 units will require three access locations. The proposed connection to Christie Beach Road provides one access. The two remaining accesses will need to connect to Highway 26 along the site frontage, with a frontage of only 1700 m, only one access can adhere to the MTO's 800 m spacing requirement.

- One potential mitigation is to align the intersection of Starlight Lane with the future intersection of Access A by closing the east terminus of Starlight Lane and opening the west. This would create a four-legged intersection with Access A and would improve the intersection spacing along this section of the corridor, providing approximately 1,500 m of spacing to the east.

Georgian Trail Alignment

- The Georgian Trail is proposed to be realigned along the site frontage bringing it further south, while respecting the MTO's 14 m setback from the Right-of-Way of Highway 26.

- The trail crossings of the proposed access roads are illustrated as curving down to the intersections with Highway 26 before returning north to the trail alignment.
  - The curvature of the trail would be subject to further design.
  - The curvature allows for crossing at a stop controlled or signalized intersection.
  - These crossings remove the conflict of the trail with vehicles queuing southbound.

At the OPA stage the maximum unit count and estimated construction phasing have been reviewed. Refinement to the analysis can be prepared should the statistics and horizons be refined and finalized through further planning applications.

The analysis undertaken herein was prepared using the most recent conceptual plan. Any minor changes to the Plan will not materially affect the conclusions contained within this report.
The proposed development can be supported from a traffic operations perspective, with the noted improvements.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

LICENSED PROFESSIONAL ENGINEER
M. N. FERGUSON
1000505162
PROVINCE OF ONTARIO

Madeleine Ferguson, P.Eng.
Manager (Planning), Transportation

C.F. CROZIER & ASSOCIATES INC.

Kerianne Hagan, E.I.T
Engineering Intern, Transportation

MF/kh

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APPENDIX A

Terms of Reference

Kerianne Hagan

From: Denise McCarl <dmccarl@meaford.ca>
Sent: May 9, 2022 1:11 PM
To: Kerianne Hagan
Cc: Joel Saunders
Subject: RE: Terms of Reference - Christie Beach Road (Parkbridge)

Hi Kerianne,

We will review the TOR information you have provided below and let you know if we have any obvious additions.

In terms of the reports for Lora Bay being provided by us; as you are aware that development is within a different municipality. You will need to get these reports from the author or The Blue Mountains – we are not able to provide other municipality's reports to you.

Kind Regards,

Denise McCarl, MSc RPP MCIP
Manager, Planning Services
Municipality of Meaford
21 Trowbridge Street West, Meaford
519 538-1060 ext.1120 | dmccarl@meaford.ca
Twitter | Facebook | meaford.ca

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From: Kerianne Hagan <khagan@cfcrozier.ca>
Sent: May 9, 2022 1:04 PM
To: Meaford Planning <planning@meaford.ca>
Subject: FW: Terms of Reference - Christie Beach Road

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good Afternoon,

I received an out-of-office for Helena, and am hoping my inquiry can be forwarded to the appropriate party for the Town.

Greatly appreciated,
Kerianne

Kerianne Hagan, EIT | Engineering Intern
1 First Street, Suite 200 | Collingwood, ON L9Y 1A1
T: 705.446.3510

CROZIER
CONSULTING ENGINEERS

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From: Kerianne Hagan
Sent: May 9, 2022 1:01 PM
To: Jessica Pegelo <Jessica.Pegelo@ontario.ca>; hfascinato@meaford.ca
Subject: Terms of Reference - Christie Beach Road

Good Afternoon Jessica and Helena,

We are seeking confirmation of the following Terms of Reference. If you are not the correct contact for this correspondence, we would be grateful if you can direct us to the appropriate person.

C.F. Crozier & Associates was retained to complete a Traffic Impact Study by Parkbridge Developments for the lands west of Christie Beach Road and north of Highway 26 in Meaford. At this time only an application for OPA is being pursed. Updated TIS reports can be prepared for future ZBA and SPA submissions. Initial consultation was undertaken in late 2019 and early 2020 before the project was put on hold. The following Terms of Reference are based on the previous consultation.

- The Traffic Impact Study will assess the following intersection:
  - Christie Beach Road and Highway 26
  - Christie Beach Road and 39th Sideroad
  - Starlight Lane and Highway 26
  - Old Highway 26 and Highway 26
  - Future Site Accesses
- The site is expected to be build-out in two phases. The horizon years of 2027, 2030, 2035 and 2040 will be assessed.
- A growth rate of 2% will be applied to all movements based on historical AADT data for that section of Highway 26.
- The Lora Bay subdivision to the east of Christie Beach Road will be considered as a background development for the purposes of the analysis.
- Trip generation will be forecasted based on the 11th edition of the ITE Trip Generation Manual. Trip distribution will be established based on the existing distribution recorded at the study intersections and expected catchment areas.

- A review of auxiliary turn lane warrants and signal warrants will be undertaken to determine if mitigation measures are required at study intersections.

We request that the accepted TIS reports for Lora Bay Phase 3, 4 and Cottages be provided to determine the trips associated with the background development. Should these reports not be available we will determine the trip generation based on ITE and the number of units for each phase of development.

If you have any questions please feel free to contact me.

Thank you in advance,
Kerianne

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From: Pegelo, Jessica (MTO) <Jessica.Pegelo@ontario.ca>
Sent: July 8, 2022 2:55 PM
To: Kerianne Hagan; hfascinato@meaford.ca
Subject: RE: Terms of Reference - Christie Beach Road

Good afternoon Kerianne,

MTO has reviewed the TOR the have the following comments that can be found in green:

- The Traffic Impact Study will assess the following intersection:
  - Christie Beach Road and Highway 26
  - Christie Beach Road and 39th Sideroad
  - Starlight Lane and Highway 26
  - Old Highway 26 and Highway 26
  - Future Site Accesses
  - **Eight (8) hours of data as a minimum are required to assess signal warrants for existing and background conditions.**
- The site is expected to be build-out in two phases. The horizon years of 2027, 2030, 2035 and 2040 will be assessed. **Provide number of units to be included in each phase. Confirm horizon year for each phase. Study horizons need to include background and total traffic conditions.**
- A growth rate of 2% will be applied to all movements based on historical AADT data for that section of Highway 26. **Agree.**
- The Lora Bay subdivision to the east of Christie Beach Road will be considered as a background development for the purposes of the analysis.
- Trip generation will be forecasted based on the 11th edition of the ITE Trip Generation Manual. Trip distribution will be established based on the existing distribution recorded at the study intersections and expected catchment areas. **Use the guiding principles included in the ITE's Trip Generation Handbook for the selection between rates and equations.**

- A review of auxiliary turn lane warrants and signal warrants will be undertaken to determine if mitigation measures are required at study intersections.

We request that the accepted TIS reports for Lora Bay Phase 3, 4 and Cottages be provided to determine the trips associated with the background development. Should these reports not be available we will determine the trip generation based on ITE and the number of units for each phase of development.

- **When evaluating impacts at intersections please refer to the TAC's Geometric Design Guide for Canadian Roads, MTO Design Supplement for TAC's Geometric Design Guide for Canadian Roads** (http://www.mto.gov.on.ca/phmpmbp/Reference%20Materials/HwyDes-MTO_DS_TAC_GDG-April2020-Final.pdf) **and the OTM Books.**

- **Queue and storage lengths for left turn and through movements for signalized intersections under MTO jurisdiction need to be calculated using the arrival rate method explained on MTO's Signal Timing Policy (attached). For queues/storage lengths for right turn movements please refer to Chapter 9 of TAC's Geometric Design Guide for Canadian Roads (excerpt attached). Queue assessment shall include a review to determine if the thru queues impede access to auxiliary lanes or if they reach the adjacent intersection.**
    - **Provide the results in tabular form. For thru and left turn queues include: peak period, movement, volume, cycle length, %trucks, pcph, m value, number of vehicles and total length. For right turn storage length include: peak period, volume, cycle length, design speed, total length.**
- **Submit 2 copies of the report in PDF format: one locked and sealed ;and the other unlocked (editable) and without the seal.**
- **Synchro:**
    - **Provide digital files in version 11.**
    - **For the Synchro files use an Ideal Saturation Flow Rate of 1900 and a PHF of 0.88 for MTO facilities. For all scenarios and peak periods.**
    - **Synchro model shall reflect existing and future proposed geometric characteristics of the road network.**

Consider the following volume related impacts at MTO intersections:

- **Double left turn lanes should be considered when the peak left turn volumes exceed 300 vph.**
- **Right turn channels should be considered when the peak right turn volumes exceed 500 vph.**
- **Additional thru lane should be considered when the thru volumes exceed 800 vph.**
- **A separate right turn lane should be considered when the right turn volumes exceed 200 vph.**

If you have any questions or would like to meet to discuss, please let me know.

Regards,

Jessica Pegelo
Ministry of Transportation
Corridor Management Planner (A)
Highway Corridor Management Section
659 Exeter Rd. London, ON N6E 1L3
Telephone: 519-379-4397 Fax: 519-376-6842
E-mail: jessica.pegelo@ontario.ca

Ontario

From: Kerianne Hagan <khagan@cfcrozier.ca>
Sent: May 9, 2022 1:01 PM
To: Pegelo, Jessica (MTO) <Jessica.Pegelo@ontario.ca>; hfascinato@meaford.ca
Subject: Terms of Reference - Christie Beach Road

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Good Afternoon Jessica and Helena,

We are seeking confirmation of the following Terms of Reference. If you are not the correct contact for this correspondence, we would be grateful if you can direct us to the appropriate person.

C.F. Crozier & Associates was retained to complete a Traffic Impact Study by Parkbridge Developments for the lands west of Christie Beach Road and north of Highway 26 in Meaford. At this time only an application for OPA is being pursed. Updated TIS reports can be prepared for future ZBA and SPA submissions. Initial consultation was undertaken in late 2019 and early 2020 before the project was put on hold. The following Terms of Reference are based on the previous consultation.

- The Traffic Impact Study will assess the following intersection:
  - Christie Beach Road and Highway 26
  - Christie Beach Road and 39th Sideroad
  - Starlight Lane and Highway 26
  - Old Highway 26 and Highway 26
  - Future Site Accesses
- The site is expected to be build-out in two phases. The horizon years of 2027, 2030, 2035 and 2040 will be assessed.
- A growth rate of 2% will be applied to all movements based on historical AADT data for that section of Highway 26.
- The Lora Bay subdivision to the east of Christie Beach Road will be considered as a background development for the purposes of the analysis.
- Trip generation will be forecasted based on the 11th edition of the ITE Trip Generation Manual. Trip distribution will be established based on the existing distribution recorded at the study intersections and expected catchment areas.
- A review of auxiliary turn lane warrants and signal warrants will be undertaken to determine if mitigation measures are required at study intersections.

We request that the accepted TIS reports for Lora Bay Phase 3, 4 and Cottages be provided to determine the trips associated with the background development. Should these reports not be available we will determine the trip generation based on ITE and the number of units for each phase of development.

If you have any questions please feel free to contact me.

Thank you in advance,
Kerianne

Kerianne Hagan, EIT | Engineering Intern
1 First Street, Suite 200 | Collingwood, ON L9Y 1A1
T: 705.446.3510

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Kerianne Hagan

From: Kerianne Hagan
Sent: May 12, 2022 5:00 PM
To: Pegelo, Jessica (MTO)
Subject: RE: Terms of Reference - Christie Beach Road
Attachments: Christie Beach MP-ALT 21 H - _Christie Beach Community_Land Area_220511.pdf

Good Morning Jessica,

The Concept Plan is still undergoing refinement, but I have attached the latest version for your reference.

If you have any question please let me know.
Thank you,
Kerianne

From: Pegelo, Jessica (MTO) <Jessica.Pegelo@ontario.ca>
Sent: May 9, 2022 1:44 PM
To: Kerianne Hagan <khagan@cfcrozier.ca>; hfascinato@meaford.ca
Subject: RE: Terms of Reference - Christie Beach Road

Good afternoon Kerianne,

Thank you for contacting MTO. I am the correct MTO contact. Please provide a concept plan for review so that MTO can have a better understanding of what will be proposed on-site.

Regards,

Jessica Pegelo
Ministry of Transportation - Corridor Management Planner (A)
Highway Corridor Management Section
659 Exeter Rd. London, ON N6E 1L3
Telephone: 519-379-4397 Fax: 519-376-6842
E-mail: jessica.pegelo@ontario.ca

Ontario

From: Kerianne Hagan <khagan@cfcrozier.ca>
Sent: May 9, 2022 1:01 PM
To: Pegelo, Jessica (MTO) <Jessica.Pegelo@ontario.ca>; hfascinato@meaford.ca
Subject: Terms of Reference - Christie Beach Road

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good Afternoon Jessica and Helena,

We are seeking confirmation of the following Terms of Reference. If you are not the correct contact for this correspondence, we would be grateful if you can direct us to the appropriate person.

C.F. Crozier & Associates was retained to complete a Traffic Impact Study by Parkbridge Developments for the lands west of Christie Beach Road and north of Highway 26 in Meaford. At this time only an application for OPA is being pursed. Updated TIS reports can be prepared for future ZBA and SPA submissions. Initial consultation was undertaken in late 2019 and early 2020 before the project was put on hold. The following Terms of Reference are based on the previous consultation.

- The Traffic Impact Study will assess the following intersection:
    - Christie Beach Road and Highway 26
    - Christie Beach Road and 39th Sideroad
    - Starlight Lane and Highway 26
    - Old Highway 26 and Highway 26
    - Future Site Accesses
- The site is expected to be build-out in two phases. The horizon years of 2027, 2030, 2035 and 2040 will be assessed.
- A growth rate of 2% will be applied to all movements based on historical AADT data for that section of Highway 26.
- The Lora Bay subdivision to the east of Christie Beach Road will be considered as a background development for the purposes of the analysis.
- Trip generation will be forecasted based on the 11th edition of the ITE Trip Generation Manual. Trip distribution will be established based on the existing distribution recorded at the study intersections and expected catchment areas.
- A review of auxiliary turn lane warrants and signal warrants will be undertaken to determine if mitigation measures are required at study intersections.

We request that the accepted TIS reports for Lora Bay Phase 3, 4 and Cottages be provided to determine the trips associated with the background development. Should these reports not be available we will determine the trip generation based on ITE and the number of units for each phase of development.

If you have any questions please feel free to contact me.

Thank you in advance,
Kerianne

Kerianne Hagan, EIT | Engineering Intern
1 First Street, Suite 200 | Collingwood, ON L9Y 1A1
T: 705.446.3510

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APPENDIX B

Traffic Data

Spectrum

Turning Movement Count
Location Name: CHRISTIE BEACH RD & 39TH SIDE ROAD
Date: Thu, Apr 21, 2022 Deployment Lead:

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (4 . CHRISTIE BEACH RD & 39TH SIDE ROAD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach 39TH SIDE ROAD					S Approach CHRISTIE BEACH RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
06:00:00	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
06:15:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	
06:30:00	0	0	0	0	0	0	1	0	0	1	3	0	0	0	3	4	
06:45:00	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3	9
07:00:00	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	7	15
07:15:00	0	0	0	0	0	0	1	0	0	1	5	1	0	0	6	7	21
07:30:00	3	0	0	0	3	0	0	0	0	0	6	0	0	0	6	9	26
07:45:00	1	0	0	0	1	0	2	1	0	3	4	3	0	0	7	11	34
08:00:00	1	0	0	0	1	0	1	0	0	1	1	1	0	0	2	4	31
08:15:00	2	0	0	0	2	0	4	0	0	4	2	2	1	0	5	11	35
08:30:00	2	0	0	0	2	0	3	0	0	3	2	0	0	0	2	7	33
08:45:00	0	0	0	0	0	0	3	0	0	3	5	1	0	0	6	9	31
09:00:00	1	1	0	0	2	0	2	0	0	2	3	2	0	0	5	9	36
09:15:00	1	0	0	0	1	0	1	1	0	2	5	1	0	0	6	9	34
09:30:00	0	0	0	0	0	0	5	0	0	5	8	1	0	0	9	14	41
09:45:00	2	0	0	0	2	0	4	0	0	4	1	1	0	0	2	8	40
BREAK																	
15:00:00	0	1	0	0	1	0	9	0	0	9	9	2	0	0	11	21	
15:15:00	2	0	0	0	2	0	3	0	0	3	7	5	0	0	12	17	
15:30:00	4	0	0	0	4	0	4	0	0	4	5	0	0	0	5	13	
15:45:00	0	0	0	0	0	0	7	0	0	7	3	2	0	0	5	12	63
16:00:00	0	0	0	0	0	0	4	0	0	4	1	1	0	0	2	6	48
16:15:00	0	0	0	0	0	0	8	0	0	8	0	2	0	0	2	10	41
16:30:00	1	0	0	0	1	0	4	0	1	4	2	2	0	0	4	9	37
16:45:00	2	0	0	0	2	0	9	0	0	9	4	3	0	0	7	18	43
17:00:00	2	0	0	0	2	0	5	0	0	5	0	2	0	0	2	9	46
17:15:00	2	0	0	0	2	0	3	0	0	3	1	1	0	0	2	7	43
17:30:00	1	0	0	0	1	0	4	0	0	4	1	4	0	0	5	10	44
17:45:00	3	0	0	0	3	0	4	0	0	4	0	4	0	0	4	11	37
18:00:00	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	2	30
18:15:00	3	0	1	0	4	0	1	0	0	1	3	1	0	0	4	9	32
18:30:00	1	0	0	0	1	0	2	0	0	2	1	0	1	0	2	5	27
18:45:00	0	0	0	0	0	0	2	0	0	2	1	1	0	0	2	4	20

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MILTON ONTARIO, L9T 6P4
CANADA

Grand Total	34	2	1	0	37	1	97	2	1	100	94	44	2	0	140	**277**	-
Approach%	91.9%	5.4%	2.7%		-	1%	97%	2%		-	67.1%	31.4%	1.4%		-	**-**	-
Totals %	12.3%	0.7%	0.4%		13.4%	0.4%	35%	0.7%		36.1%	33.9%	15.9%	0.7%		50.5%	**-**	-
Heavy	0	0	0		-	0	13	0		-	9	3	0		-	**-**	-
Heavy %	0%	0%	0%		-	0%	13.4%	0%		-	9.6%	6.8%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

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MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:45 AM - 09:45 AM Weather: Light Rain (5.78 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach 39TH SIDE ROAD					S Approach CHRISTIE BEACH RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:45:00	0	0	0	0	0	0	3	0	0	3	5	1	0	0	6	9
09:00:00	1	1	0	0	2	0	2	0	0	2	3	2	0	0	5	9
09:15:00	1	0	0	0	1	0	1	1	0	2	5	1	0	0	6	9
09:30:00	0	0	0	0	0	0	5	0	0	5	8	1	0	0	9	14
Grand Total	2	1	0	0	3	0	11	1	0	12	21	5	0	0	26	**41**
Approach%	66.7%	33.3%	0%		-	0%	91.7%	8.3%		-	80.8%	19.2%	0%		-	**-**
Totals %	4.9%	2.4%	0%		7.3%	0%	26.8%	2.4%		29.3%	51.2%	12.2%	0%		63.4%	**-**
PHF	0.5	0.25	0		0.38	0	0.55	0.25		0.6	0.66	0.63	0		0.72	**-**
Heavy	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Heavy %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Lights	2	1	0		3	0	11	1		12	21	5	0		26	**-**
Lights %	100%	100%	0%		100%	0%	100%	100%		100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	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	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

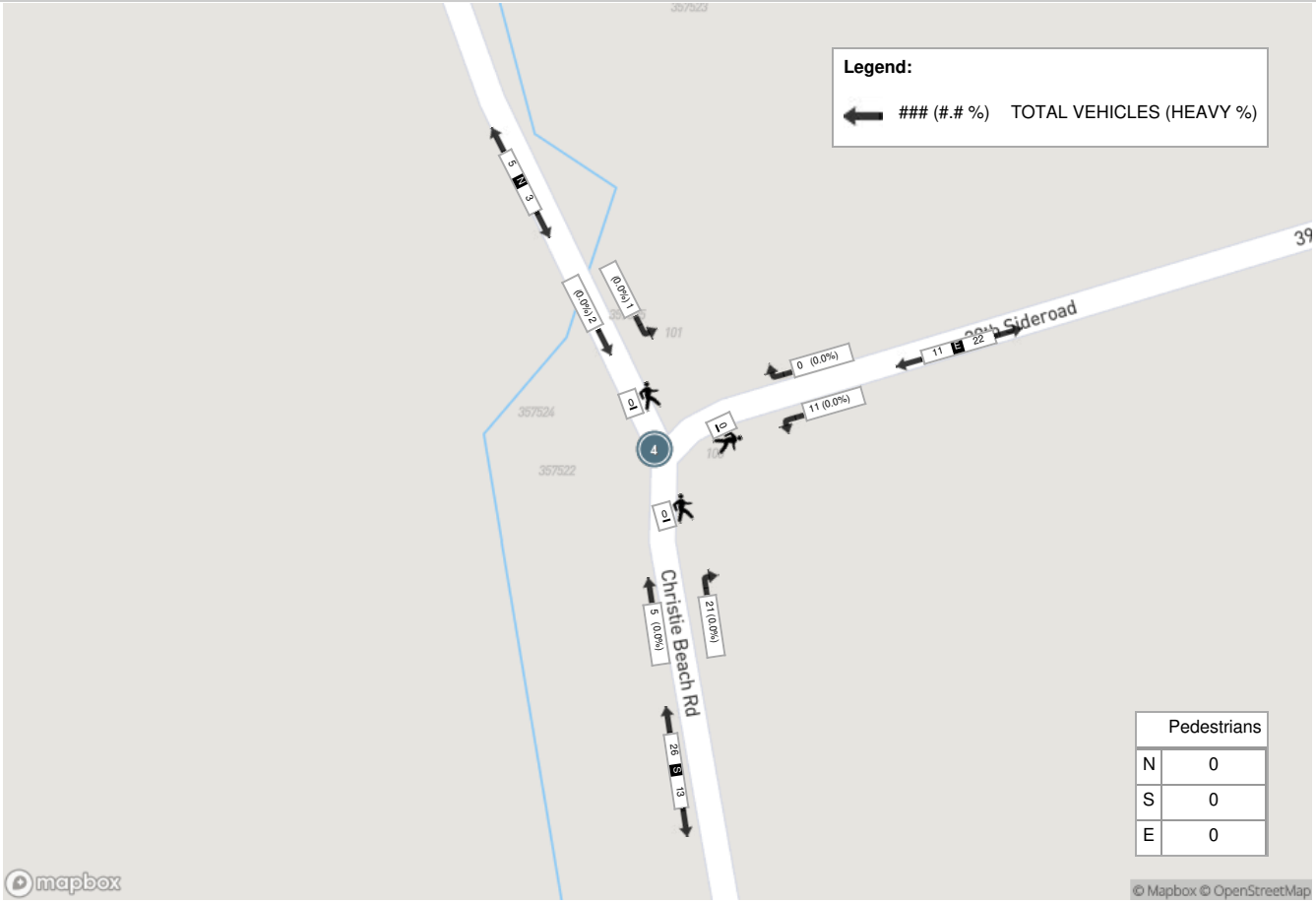
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 03:00 PM - 04:00 PM Weather: Few Clouds (10.69 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach 39TH SIDE ROAD					S Approach CHRISTIE BEACH RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
15:00:00	0	1	0	0	1	0	9	0	0	9	9	2	0	0	11	21
15:15:00	2	0	0	0	2	0	3	0	0	3	7	5	0	0	12	17
15:30:00	4	0	0	0	4	0	4	0	0	4	5	0	0	0	5	13
15:45:00	0	0	0	0	0	0	7	0	0	7	3	2	0	0	5	12
Grand Total	6	1	0	0	7	0	23	0	0	23	24	9	0	0	33	**63**
Approach%	85.7%	14.3%	0%		-	0%	100%	0%		-	72.7%	27.3%	0%		-	**-**
Totals %	9.5%	1.6%	0%		11.1%	0%	36.5%	0%		36.5%	38.1%	14.3%	0%		52.4%	**-**
PHF	0.38	0.25	0		0.44	0	0.64	0		0.64	0.67	0.45	0		0.69	**-**
Heavy	0	0	0		0	0	7	0		7	5	1	0		6	**-**
Heavy %	0%	0%	0%		0%	0%	30.4%	0%		30.4%	20.8%	11.1%	0%		18.2%	**-**
Lights	6	1	0		7	0	16	0		16	19	8	0		27	**-**
Lights %	100%	100%	0%		100%	0%	69.6%	0%		69.6%	79.2%	88.9%	0%		81.8%	**-**
Single-Unit Trucks	0	0	0		0	0	7	0		7	5	0	0		5	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	30.4%	0%		30.4%	20.8%	0%	0%		15.2%	**-**
Buses	0	0	0		0	0	0	0		0	0	1	0		1	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	11.1%	0%		3%	**-**
Bicycles on Road	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%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

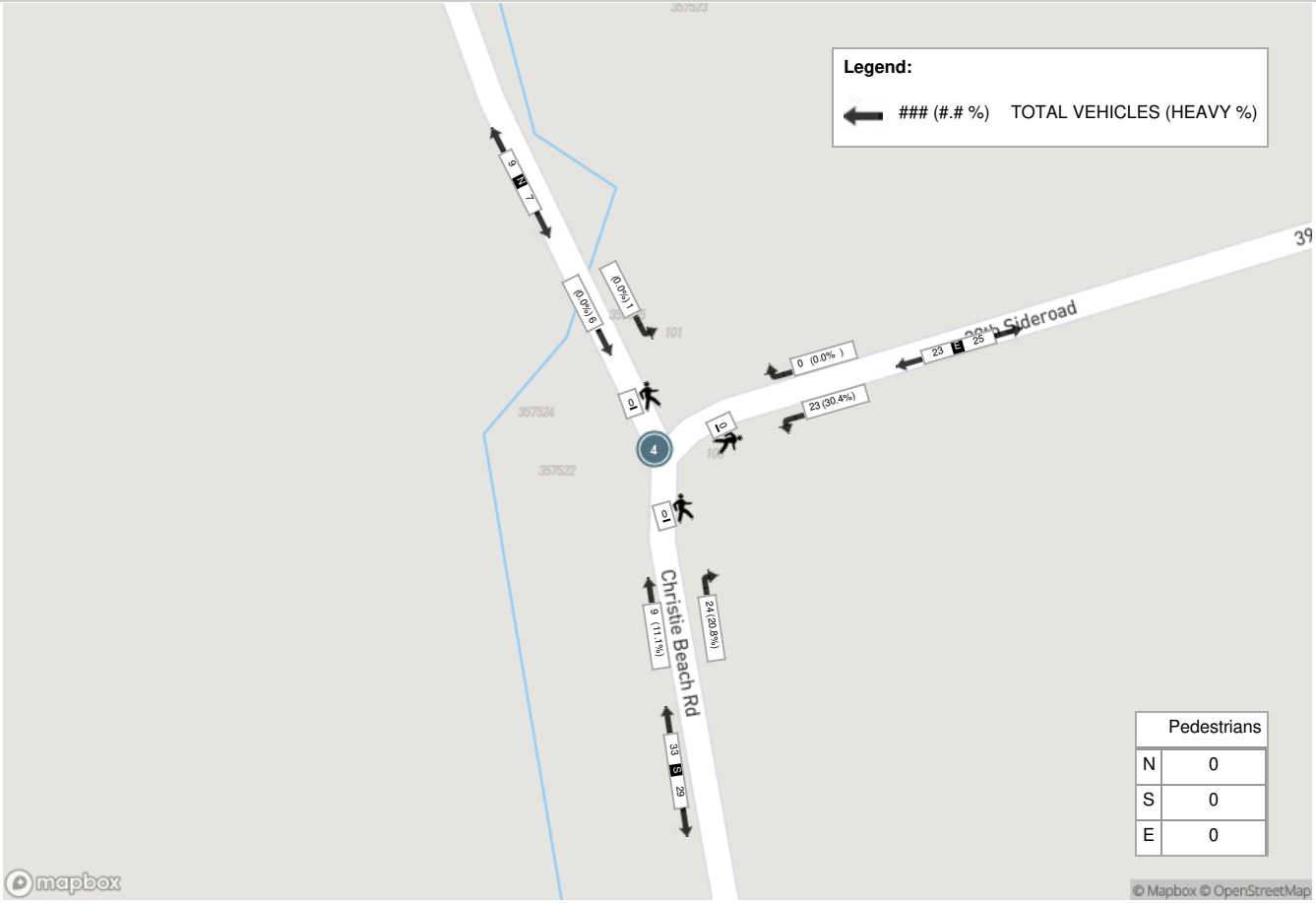
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:45 AM - 09:45 AM Weather: Light Rain (5.78 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 03:00 PM - 04:00 PM Weather: Few Clouds (10.69 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (4 . CHRISTIE BEACH RD & 39TH SIDE ROAD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach 39TH SIDE ROAD					S Approach CHRISTIE BEACH RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
10:00:00	0	0	0	0	0	0	1	0	0	1	4	0	0	0	4	5	
10:15:00	2	0	0	0	2	0	2	0	0	2	1	4	0	0	5	9	
10:30:00	1	0	0	0	1	0	0	0	0	0	1	1	0	0	2	3	
10:45:00	2	0	0	0	2	0	2	0	0	2	0	2	0	0	2	6	23
11:00:00	0	0	0	0	0	0	2	1	0	3	0	1	0	0	1	4	22
11:15:00	1	0	0	0	1	0	2	0	0	2	2	2	0	0	4	7	20
11:30:00	0	0	0	0	0	0	2	0	0	2	0	2	0	0	2	4	21
11:45:00	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	2	17
12:00:00	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	4	17
12:15:00	1	0	0	0	1	0	1	0	0	1	0	1	0	0	1	3	13
12:30:00	3	0	0	0	3	0	1	0	0	1	1	3	0	0	4	8	17
12:45:00	3	0	0	0	3	0	4	0	0	4	2	2	0	0	4	11	26
13:00:00	1	0	0	0	1	0	2	0	0	2	1	1	0	0	2	5	27
13:15:00	3	0	0	0	3	0	4	0	0	4	2	6	0	0	8	15	39
13:30:00	1	0	0	0	1	0	2	0	1	2	3	0	0	0	3	6	37
13:45:00	1	0	0	0	1	0	1	0	0	1	2	2	0	0	4	6	32
14:00:00	1	0	0	0	1	0	1	0	0	1	2	2	0	0	4	6	33
14:15:00	1	0	0	0	1	0	1	0	0	1	3	2	0	0	5	7	25
14:30:00	1	1	0	0	2	0	1	0	3	1	2	1	0	0	3	6	25
14:45:00	1	0	0	0	1	0	2	0	0	2	2	6	0	0	8	11	30
15:00:00	2	0	0	0	2	0	2	0	0	2	0	1	0	0	1	5	29
15:15:00	2	0	0	0	2	0	3	0	0	3	1	4	0	0	5	10	32
15:30:00	1	0	0	0	1	0	3	0	0	3	1	3	0	0	4	8	34
15:45:00	1	0	0	0	1	0	3	0	0	3	0	4	0	0	4	8	31
16:00:00	3	0	0	0	3	0	2	0	0	2	2	0	0	0	2	7	33
16:15:00	1	0	0	0	1	0	4	0	2	4	3	2	0	0	5	10	33
16:30:00	1	0	0	0	1	0	0	0	0	0	2	1	0	0	3	4	29
16:45:00	0	0	0	0	0	0	0	0	0	0	4	2	0	0	6	6	27
17:00:00	0	0	0	0	0	0	0	0	2	0	0	4	0	2	4	4	24
17:15:00	2	0	0	0	2	0	2	0	0	2	0	2	0	0	2	6	20
17:30:00	0	0	0	0	0	0	1	0	0	1	2	0	0	0	2	3	19
17:45:00	1	1	0	0	2	0	4	0	0	4	1	2	0	0	3	9	22
Grand Total	39	2	0	0	41	0	56	1	8	57	44	66	0	2	110	**208**	-

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MILTON ONTARIO, L9T 6P4
CANADA

Approach%	95.1%	4.9%	0%	-	0%	98.2%	1.8%	-	40%	60%	0%	-	**-**	-
Totals %	18.8%	1%	0%	19.7%	0%	26.9%	0.5%	27.4%	21.2%	31.7%	0%	52.9%	**-**	-
Heavy	1	0	0	-	0	1	0	-	1	2	0	-	**-**	-
Heavy %	2.6%	0%	0%	-	0%	1.8%	0%	-	2.3%	3%	0%	-	**-**	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-

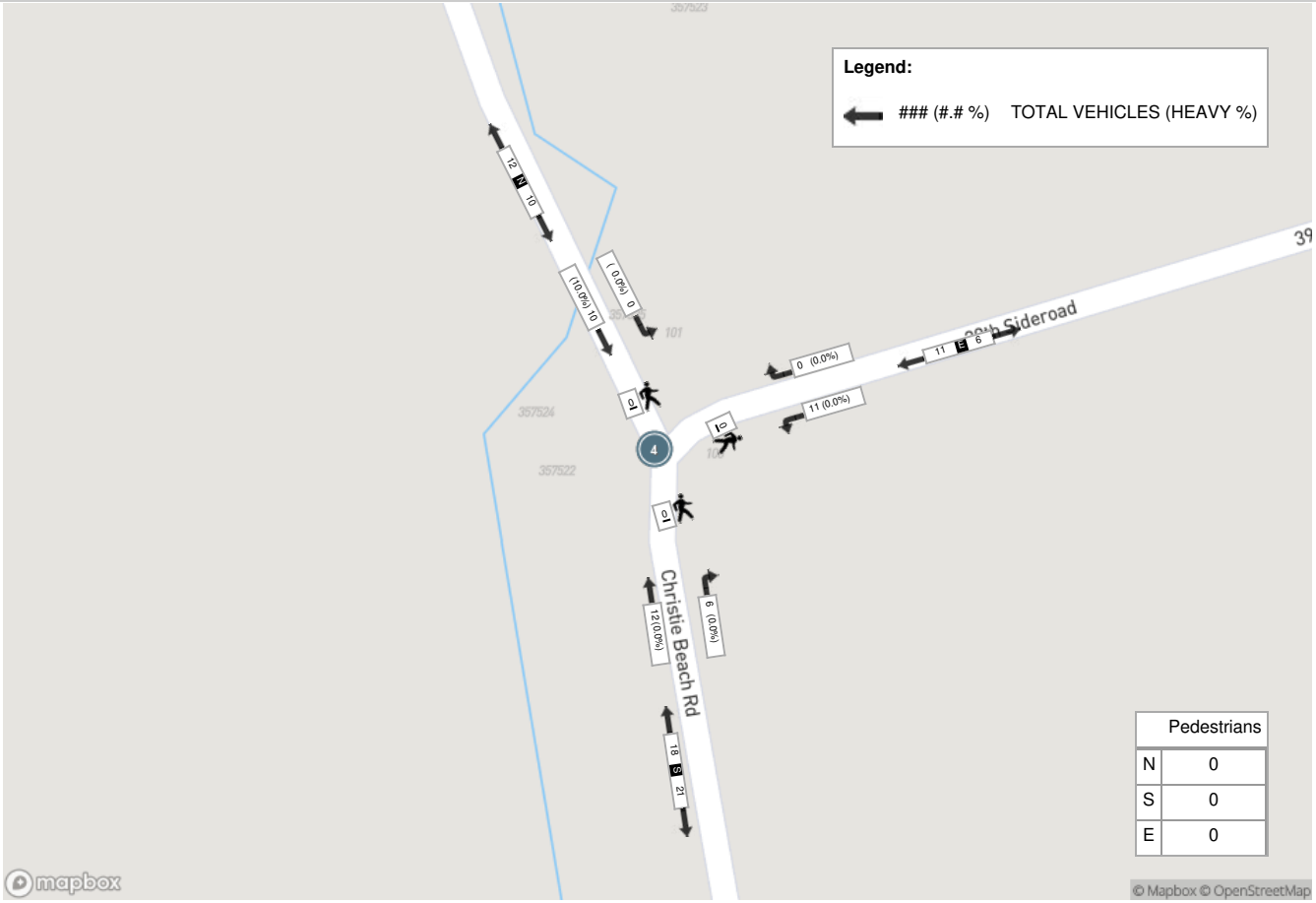
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:30 PM - 01:30 PM Weather: Light Rain (4.58 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach 39TH SIDE ROAD					S Approach CHRISTIE BEACH RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
12:30:00	3	0	0	0	3	0	1	0	0	1	1	3	0	0	4	8
12:45:00	3	0	0	0	3	0	4	0	0	4	2	2	0	0	4	11
13:00:00	1	0	0	0	1	0	2	0	0	2	1	1	0	0	2	5
13:15:00	3	0	0	0	3	0	4	0	0	4	2	6	0	0	8	15
Grand Total	10	0	0	0	10	0	11	0	0	11	6	12	0	0	18	**39**
Approach%	100%	0%	0%		-	0%	100%	0%		-	33.3%	66.7%	0%		-	**-**
Totals %	25.6%	0%	0%		25.6%	0%	28.2%	0%		28.2%	15.4%	30.8%	0%		46.2%	**-**
PHF	0.83	0	0		0.83	0	0.69	0		0.69	0.75	0.5	0		0.56	**-**
Heavy	1	0	0		1	0	0	0		0	0	0	0		0	**-**
Heavy %	10%	0%	0%		10%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Lights	9	0	0		9	0	11	0		11	6	12	0		18	**-**
Lights %	90%	0%	0%		90%	0%	100%	0%		100%	100%	100%	0%		100%	**-**
Single-Unit Trucks	1	0	0		1	0	0	0		0	0	0	0		0	**-**
Single-Unit Trucks %	10%	0%	0%		10%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Bicycles on Road	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%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:30 PM - 01:30 PM Weather: Light Rain (4.58 °C)



Spectrum

Turning Movement Count
Location Name: HWY 26 & CHRISTIE BEACH RD
Date: Thu, Apr 21, 2022 Deployment Lead:

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (1 . HWY 26 & CHRISTIE BEACH RD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:00:00	0	0	0	0	0	1	11	0	0	12	21	0	0	0	21	33	
06:15:00	1	1	0	0	2	0	18	0	0	18	22	0	0	0	22	42	
06:30:00	1	0	0	0	1	3	16	0	0	19	35	1	0	0	36	56	
06:45:00	0	0	0	0	0	5	26	0	0	31	46	0	0	0	46	77	208
07:00:00	0	0	0	0	0	5	24	0	0	29	48	3	0	0	51	80	255
07:15:00	1	2	0	0	3	4	38	0	0	42	71	2	0	0	73	118	331
07:30:00	2	1	0	0	3	4	51	0	0	55	78	6	0	0	84	142	417
07:45:00	3	1	0	0	4	3	56	0	0	59	76	4	0	0	80	143	483
08:00:00	0	4	0	0	4	2	62	0	0	64	82	0	0	0	82	150	553
08:15:00	2	3	0	0	5	3	57	0	0	60	82	1	0	0	83	148	583
08:30:00	3	4	0	0	7	0	65	0	0	65	78	2	0	0	80	152	593
08:45:00	2	1	0	0	3	4	64	0	0	68	78	4	0	0	82	153	603
09:00:00	4	1	0	0	5	2	57	0	0	59	74	2	0	0	76	140	593
09:15:00	1	1	0	0	2	4	50	0	0	54	64	2	0	0	66	122	567
09:30:00	2	3	0	0	5	8	39	0	0	47	53	3	0	0	56	108	523
09:45:00	2	4	0	0	6	2	45	0	0	47	65	0	0	0	65	118	488
BREAK																	
15:00:00	4	5	0	0	9	6	67	0	0	73	70	7	0	0	77	159	
15:15:00	3	4	0	0	7	4	71	0	1	75	81	7	0	1	88	170	
15:30:00	3	5	0	0	8	2	96	0	0	98	74	5	0	0	79	185	
15:45:00	4	5	0	0	9	4	87	0	0	91	74	3	0	0	77	177	691
16:00:00	4	0	0	0	4	1	106	0	0	107	78	1	0	0	79	190	722
16:15:00	4	3	0	0	7	2	91	0	0	93	66	4	0	0	70	170	722
16:30:00	4	3	0	0	7	5	94	0	0	99	79	0	0	0	79	185	722
16:45:00	9	3	0	0	12	2	82	0	0	84	88	3	0	0	91	187	732
17:00:00	4	4	0	0	8	0	100	0	0	100	72	3	0	0	75	183	725
17:15:00	2	3	0	0	5	2	97	0	0	99	73	2	0	0	75	179	734
17:30:00	4	4	0	0	8	2	76	0	0	78	56	5	0	0	61	147	696
17:45:00	1	5	0	0	6	3	62	0	0	65	54	1	0	0	55	126	635
18:00:00	1	2	0	0	3	1	58	0	0	59	53	0	0	0	53	115	567
18:15:00	4	1	0	0	5	1	51	0	0	52	42	3	0	0	45	102	490
18:30:00	2	1	0	0	3	1	58	0	0	59	43	1	0	0	44	106	449
18:45:00	0	2	0	0	2	0	39	0	0	39	26	1	0	0	27	68	391

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Grand Total	77	76	0	0	153	86	1914	0	1	2000	2002	76	0	1	2078	**4231**	-
Approach%	50.3%	49.7%	0%		-	4.3%	95.7%	0%		-	96.3%	3.7%	0%		-	**-**	-
Totals %	1.8%	1.8%	0%		3.6%	2%	45.2%	0%		47.3%	47.3%	1.8%	0%		49.1%	**-**	-
Heavy	4	11	0		-	10	85	0		-	78	3	0		-	**-**	-
Heavy %	5.2%	14.5%	0%		-	11.6%	4.4%	0%		-	3.9%	3.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
08:00:00	0	4	0	0	4	2	62	0	0	64	82	0	0	0	82	150
08:15:00	2	3	0	0	5	3	57	0	0	60	82	1	0	0	83	148
08:30:00	3	4	0	0	7	0	65	0	0	65	78	2	0	0	80	152
08:45:00	2	1	0	0	3	4	64	0	0	68	78	4	0	0	82	153
Grand Total	7	12	0	0	19	9	248	0	0	257	320	7	0	0	327	**603**
Approach%	36.8%	63.2%	0%		-	3.5%	96.5%	0%		-	97.9%	2.1%	0%		-	**-**
Totals %	1.2%	2%	0%		3.2%	1.5%	41.1%	0%		42.6%	53.1%	1.2%	0%		54.2%	**-**
PHF	0.58	0.75	0		0.68	0.56	0.95	0		0.94	0.98	0.44	0		0.98	**-**
Heavy	0	2	0		2	1	14	0		15	12	0	0		12	**-**
Heavy %	0%	16.7%	0%		10.5%	11.1%	5.6%	0%		5.8%	3.8%	0%	0%		3.7%	**-**
Lights	7	10	0		17	8	234	0		242	308	7	0		315	**-**
Lights %	100%	83.3%	0%		89.5%	88.9%	94.4%	0%		94.2%	96.3%	100%	0%		96.3%	**-**
Single-Unit Trucks	0	2	0		2	1	5	0		6	8	0	0		8	**-**
Single-Unit Trucks %	0%	16.7%	0%		10.5%	11.1%	2%	0%		2.3%	2.5%	0%	0%		2.4%	**-**
Buses	0	0	0		0	0	6	0		6	3	0	0		3	**-**
Buses %	0%	0%	0%		0%	0%	2.4%	0%		2.3%	0.9%	0%	0%		0.9%	**-**
Articulated Trucks	0	0	0		0	0	3	0		3	1	0	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	1.2%	0%		1.2%	0.3%	0%	0%		0.3%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

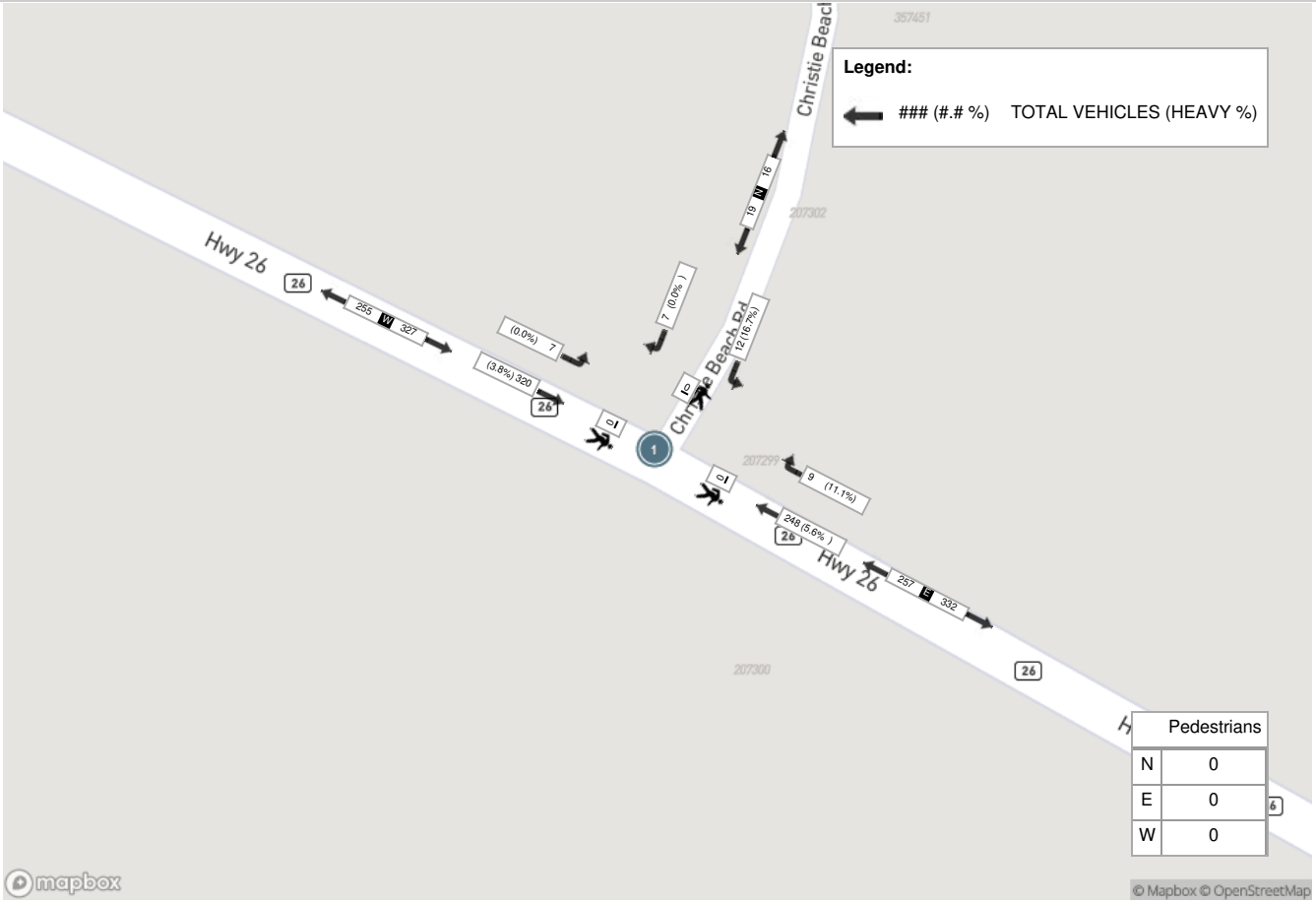
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:30 PM - 05:30 PM Weather: Few Clouds (10.69 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
16:30:00	4	3	0	0	7	5	94	0	0	99	79	0	0	0	79	185
16:45:00	9	3	0	0	12	2	82	0	0	84	88	3	0	0	91	187
17:00:00	4	4	0	0	8	0	100	0	0	100	72	3	0	0	75	183
17:15:00	2	3	0	0	5	2	97	0	0	99	73	2	0	0	75	179
Grand Total	19	13	0	0	32	9	373	0	0	382	312	8	0	0	320	**734**
Approach%	59.4%	40.6%	0%		-	2.4%	97.6%	0%		-	97.5%	2.5%	0%		-	**-**
Totals %	2.6%	1.8%	0%		4.4%	1.2%	50.8%	0%		52%	42.5%	1.1%	0%		43.6%	**-**
PHF	0.53	0.81	0		0.67	0.45	0.93	0		0.96	0.89	0.67	0		0.88	**-**
Heavy	0	2	0		2	2	10	0		12	6	0	0		6	**-**
Heavy %	0%	15.4%	0%		6.3%	22.2%	2.7%	0%		3.1%	1.9%	0%	0%		1.9%	**-**
Lights	19	11	0		30	7	363	0		370	306	8	0		314	**-**
Lights %	100%	84.6%	0%		93.8%	77.8%	97.3%	0%		96.9%	98.1%	100%	0%		98.1%	**-**
Single-Unit Trucks	0	2	0		2	2	9	0		11	4	0	0		4	**-**
Single-Unit Trucks %	0%	15.4%	0%		6.3%	22.2%	2.4%	0%		2.9%	1.3%	0%	0%		1.3%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	1	0		1	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.6%	0%	0%		0.6%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

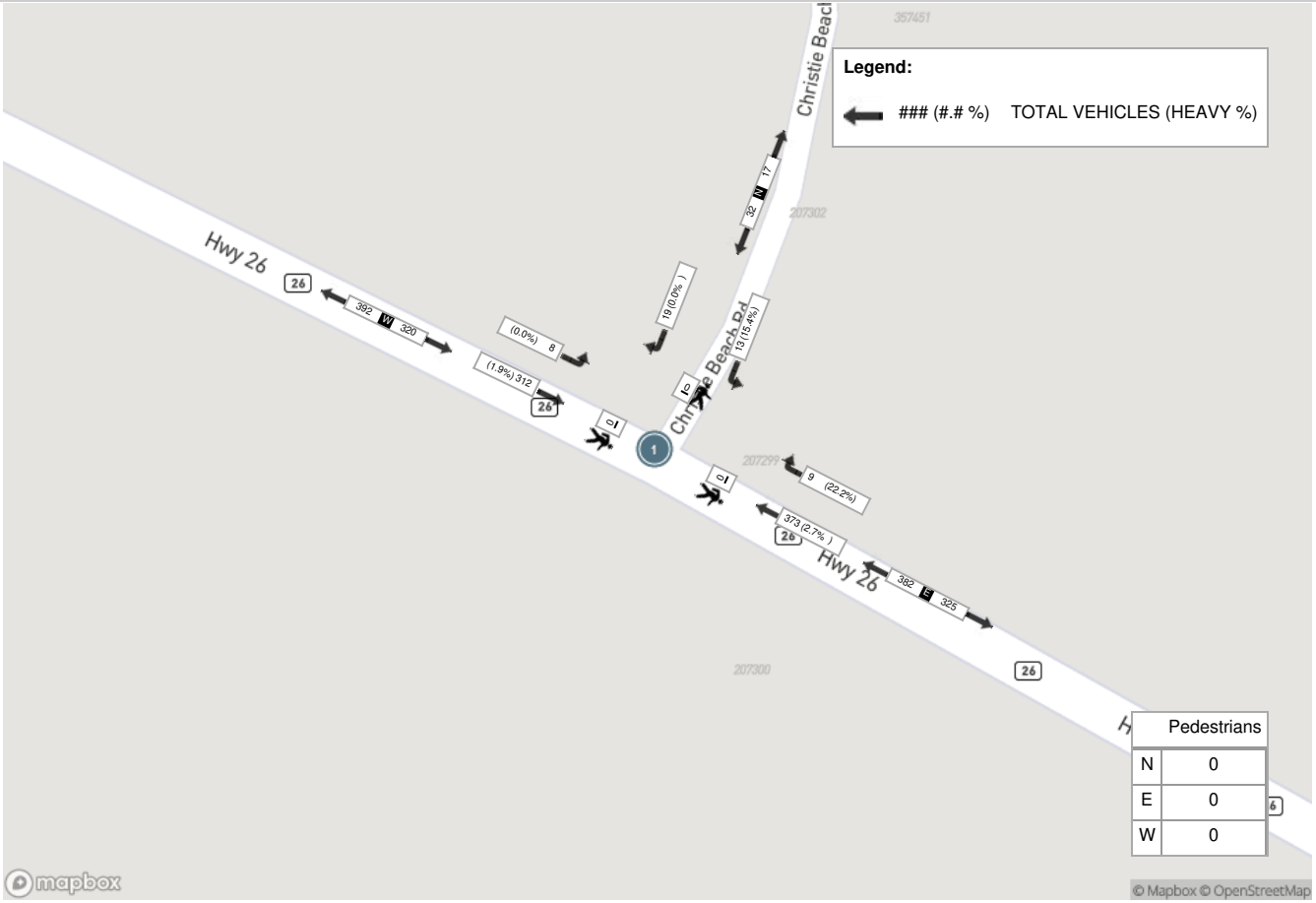
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:30 PM - 05:30 PM Weather: Few Clouds (10.69 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (1 . HWY 26 & CHRISTIE BEACH RD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	UTurn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
10:00:00	1	0	0	0	1	1	62	0	0	63	63	4	0	0	67	131	
10:15:00	2	2	0	0	4	2	51	0	0	53	74	1	0	0	75	132	
10:30:00	1	0	0	0	1	2	60	0	0	62	59	1	0	0	60	123	
10:45:00	1	3	0	0	4	1	61	0	0	62	60	1	0	0	61	127	513
11:00:00	3	0	0	0	3	0	57	0	0	57	53	0	0	0	53	113	495
11:15:00	2	1	0	0	3	3	63	0	0	66	83	3	0	0	86	155	518
11:30:00	1	2	0	0	3	1	67	0	0	68	80	2	0	0	82	153	548
11:45:00	0	1	0	0	1	1	77	0	0	78	55	2	0	0	57	136	557
12:00:00	2	0	0	0	2	1	72	0	0	73	53	1	0	0	54	129	573
12:15:00	0	1	0	0	1	1	76	0	0	77	59	0	0	0	59	137	555
12:30:00	4	1	0	0	5	3	66	0	0	69	61	1	0	0	62	136	538
12:45:00	4	5	0	0	9	3	83	0	0	86	66	2	0	0	68	163	565
13:00:00	3	1	0	0	4	1	69	0	0	70	72	3	0	0	75	149	585
13:15:00	4	3	0	0	7	3	61	1	0	65	63	4	0	0	67	139	587
13:30:00	3	1	0	0	4	2	78	0	0	80	67	2	0	0	69	153	604
13:45:00	1	1	0	0	2	2	60	0	0	62	69	3	0	0	72	136	577
14:00:00	3	0	0	0	3	4	73	0	0	77	73	1	0	0	74	154	582
14:15:00	0	2	0	0	2	2	70	0	0	72	53	2	0	0	55	129	572
14:30:00	1	2	0	0	3	1	67	0	0	68	67	3	0	0	70	141	560
14:45:00	3	0	0	0	3	4	61	0	0	65	62	3	0	0	65	133	557
15:00:00	3	1	0	0	4	1	52	0	0	53	60	0	0	0	60	117	520
15:15:00	2	2	0	0	4	3	58	0	0	61	68	4	0	0	72	137	528
15:30:00	3	2	0	0	5	3	62	0	0	65	64	2	0	0	66	136	523
15:45:00	4	2	0	0	6	2	53	0	0	55	62	2	0	0	64	125	515
16:00:00	3	2	0	0	5	0	65	0	0	65	48	3	0	0	51	121	519
16:15:00	5	1	0	0	6	2	61	0	0	63	45	4	0	0	49	118	500
16:30:00	0	1	0	0	1	0	43	0	0	43	61	2	0	0	63	107	471
16:45:00	0	0	0	0	0	1	52	0	0	53	64	4	0	0	68	121	467
17:00:00	0	0	0	0	0	0	48	0	0	48	39	4	0	0	43	91	437
17:15:00	1	2	0	0	3	2	60	1	0	63	55	1	0	0	56	122	441
17:30:00	2	0	0	0	2	1	40	0	0	41	40	1	0	0	41	84	418
17:45:00	5	1	0	0	6	1	49	0	0	50	32	2	0	0	34	90	387
Grand Total	67	40	0	0	107	54	1977	2	0	2033	1930	68	0	0	1998	**4138**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Approach%	62.6%	37.4%	0%	-	2.7%	97.2%	0.1%	-	96.6%	3.4%	0%	-	**-**	-
Totals %	1.6%	1%	0%	2.6%	1.3%	47.8%	0%	49.1%	46.6%	1.6%	0%	48.3%	**-**	-
Heavy	0	1	0	-	1	14	0	-	15	2	0	-	**-**	-
Heavy %	0%	2.5%	0%	-	1.9%	0.7%	0%	-	0.8%	2.9%	0%	-	**-**	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-

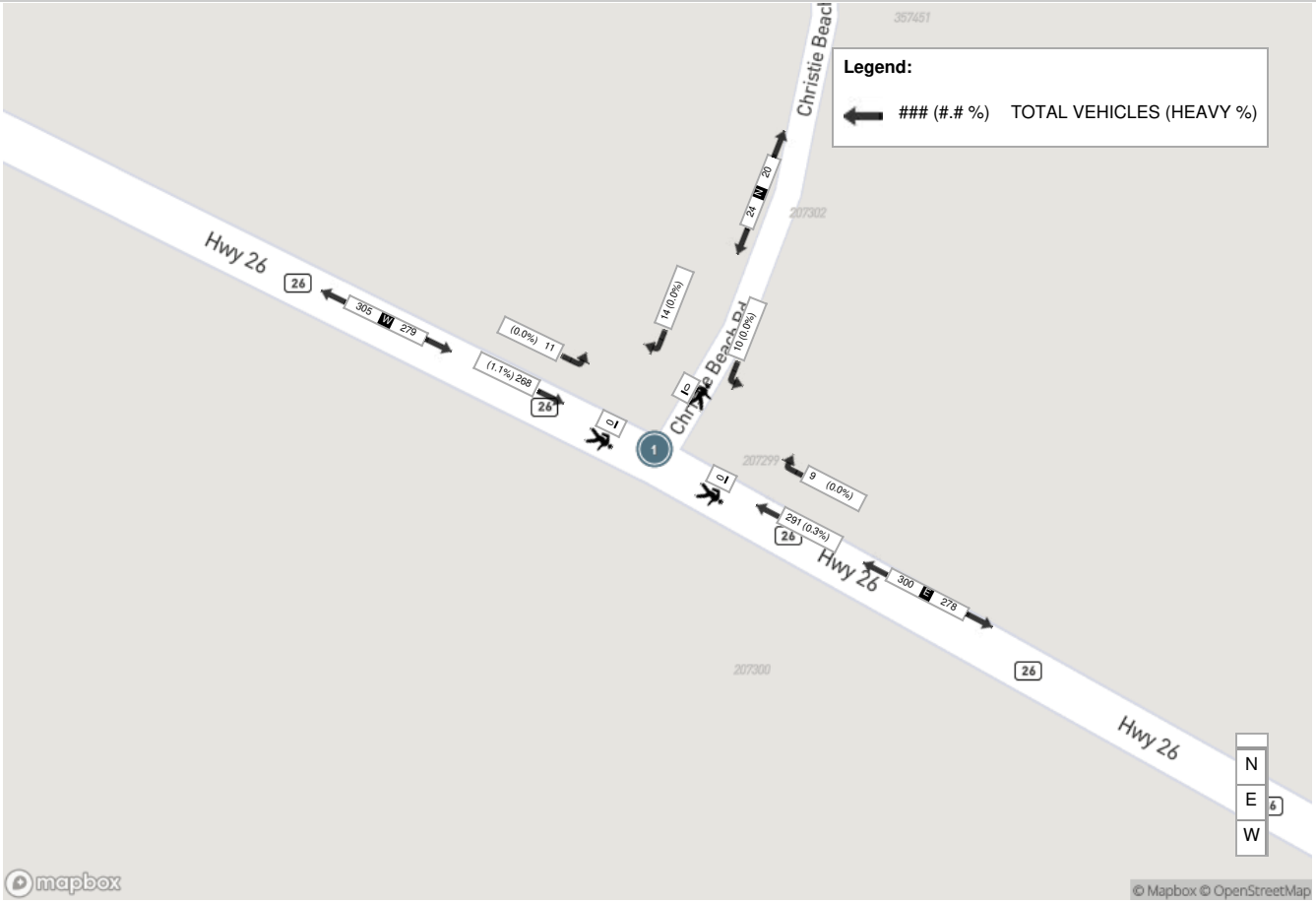
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:45 PM - 01:45 PM Weather: Light Rain (4.58 °C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	
12:45:00	4	5	0	0	9	3	83	0	0	86	66	2	0	0	68	163
13:00:00	3	1	0	0	4	1	69	0	0	70	72	3	0	0	75	149
13:15:00	4	3	0	0	7	3	61	1	0	65	63	4	0	0	67	139
13:30:00	3	1	0	0	4	2	78	0	0	80	67	2	0	0	69	153
Grand Total	14	10	0	0	24	9	291	1	0	301	268	11	0	0	279	**604**
Approach%	58.3%	41.7%	0%		-	3%	96.7%	0.3%		-	96.1%	3.9%	0%		-	**-**
Totals %	2.3%	1.7%	0%		4%	1.5%	48.2%	0.2%		49.8%	44.4%	1.8%	0%		46.2%	**-**
PHF	0.88	0.5	0		0.67	0.75	0.88	0.25		0.88	0.93	0.69	0		0.93	**-**
Heavy	0	0	0		0	0	1	0		1	3	0	0		3	**-**
Heavy %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	1.1%	0%	0%		1.1%	**-**
Lights	14	10	0		24	9	290	1		300	265	11	0		276	**-**
Lights %	100%	100%	0%		100%	100%	99.7%	100%		99.7%	98.9%	100%	0%		98.9%	**-**
Single-Unit Trucks	0	0	0		0	0	1	0		1	1	0	0		1	**-**
Single-Unit Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.3%	0.4%	0%	0%		0.4%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0.7%	0%	0%		0.7%	**-**

Crozier & Associates
Suite 100 2800 HIGH POINT
DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:45 PM - 01:45 PM Weather: Light Rain (4.58 °C)



Spectrum

Turning Movement Count
Location Name: HWY 26 & OLD HWY 26
Date: Thu, Apr 21, 2022 Deployment Lead:

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (3 . HWY 26 & OLD HWY 26)

Start Time	E Approach HWY 26					S Approach OLD HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
06:00:00	12	0	0	0	12	0	0	0	0	0	0	20	0	0	20	32	
06:15:00	18	0	0	0	18	0	0	0	0	0	0	23	0	0	23	41	
06:30:00	19	0	0	0	19	0	1	0	0	1	0	38	0	0	38	58	
06:45:00	22	0	0	0	22	0	0	0	0	0	0	45	0	0	45	67	198
07:00:00	23	1	0	0	24	2	1	0	0	3	0	53	0	0	53	80	246
07:15:00	38	0	0	0	38	0	0	0	0	0	0	68	0	0	68	106	311
07:30:00	49	0	0	0	49	0	0	0	0	0	0	94	0	0	94	143	396
07:45:00	62	0	0	0	62	1	0	0	0	1	0	78	0	0	78	141	470
08:00:00	66	1	0	0	67	0	0	0	0	0	1	81	0	0	82	149	539
08:15:00	59	0	0	0	59	0	0	0	0	0	0	78	0	0	78	137	570
08:30:00	64	0	0	0	64	0	0	0	0	0	0	82	0	0	82	146	573
08:45:00	70	0	0	0	70	0	0	0	0	0	0	79	0	0	79	149	581
09:00:00	58	0	0	0	58	0	0	0	0	0	0	79	0	0	79	137	569
09:15:00	53	0	0	0	53	0	0	0	0	0	0	65	0	0	65	118	550
09:30:00	40	1	0	0	41	0	0	0	0	0	0	55	0	0	55	96	500
09:45:00	48	1	0	0	49	0	1	0	0	1	0	65	0	0	65	115	466
BREAK																	
15:00:00	72	0	1	0	73	0	0	0	0	0	0	81	0	0	81	154	
15:15:00	64	1	0	0	65	0	0	0	0	0	0	83	0	0	83	148	
15:30:00	103	0	0	0	103	0	1	0	0	1	1	80	0	0	81	185	
15:45:00	100	0	0	0	100	0	0	0	0	0	1	75	0	0	76	176	663
16:00:00	112	1	0	0	113	0	0	0	0	0	1	78	0	0	79	192	701
16:15:00	98	0	0	0	98	0	0	0	0	0	0	71	0	0	71	169	722
16:30:00	91	0	0	0	91	1	2	0	0	3	0	88	0	0	88	182	719
16:45:00	96	0	0	0	96	1	0	0	0	1	1	84	0	0	85	182	725
17:00:00	94	0	0	0	94	1	0	0	0	1	1	70	0	0	71	166	699
17:15:00	95	2	0	0	97	0	0	0	0	0	0	72	0	0	72	169	699
17:30:00	84	1	0	0	85	0	0	0	0	0	1	63	0	0	64	149	666
17:45:00	67	0	0	0	67	0	1	0	0	1	0	54	0	0	54	122	606
18:00:00	57	0	0	0	57	0	1	0	0	1	0	50	0	0	50	108	548
18:15:00	60	0	0	0	60	0	0	0	0	0	1	46	0	0	47	107	486
18:30:00	51	1	0	0	52	0	1	0	0	1	0	44	0	0	44	97	434
18:45:00	42	1	0	0	43	0	0	0	0	0	0	28	0	0	28	71	383

Crozier & Associates
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MILTON ONTARIO, L9T 6P4
CANADA

Grand Total	1987	11	1	0	1999	6	9	0	0	15	8	2070	0	0	2078	**4092**	-
Approach%	99.4%	0.6%	0.1%		-	40%	60%	0%		-	0.4%	99.6%	0%		-	**-**	-
Totals %	48.6%	0.3%	0%		48.9%	0.1%	0.2%	0%		0.4%	0.2%	50.6%	0%		50.8%	**-**	-
Heavy	90	0	0		-	0	2	0		-	1	84	0		-	**-**	-
Heavy %	4.5%	0%	0%		-	0%	22.2%	0%		-	12.5%	4.1%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)

Start Time	E Approach HWY 26					S Approach OLD HWY 26					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	66	1	0	0	67	0	0	0	0	0	1	81	0	0	82	149
08:15:00	59	0	0	0	59	0	0	0	0	0	0	78	0	0	78	137
08:30:00	64	0	0	0	64	0	0	0	0	0	0	82	0	0	82	146
08:45:00	70	0	0	0	70	0	0	0	0	0	0	79	0	0	79	149
Grand Total	259	1	0	0	260	0	0	0	0	0	1	320	0	0	321	**581**
Approach%	99.6%	0.4%	0%		-	0%	0%	0%		-	0.3%	99.7%	0%		-	**-**
Totals %	44.6%	0.2%	0%		44.8%	0%	0%	0%		0%	0.2%	55.1%	0%		55.2%	**-**
PHF	0.93	0.25	0		0.93	0	0	0		0	0.25	0.98	0		0.98	**-**
Heavy	15	0	0		15	0	0	0		0	0	11	0		11	**-**
Heavy %	5.8%	0%	0%		5.8%	0%	0%	0%		0%	0%	3.4%	0%		3.4%	**-**
Lights	244	1	0		245	0	0	0		0	1	309	0		310	**-**
Lights %	94.2%	100%	0%		94.2%	0%	0%	0%		0%	100%	96.6%	0%		96.6%	**-**
Single-Unit Trucks	6	0	0		6	0	0	0		0	0	7	0		7	**-**
Single-Unit Trucks %	2.3%	0%	0%		2.3%	0%	0%	0%		0%	0%	2.2%	0%		2.2%	**-**
Buses	6	0	0		6	0	0	0		0	0	3	0		3	**-**
Buses %	2.3%	0%	0%		2.3%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	**-**
Articulated Trucks	3	0	0		3	0	0	0		0	0	1	0		1	**-**
Articulated Trucks %	1.2%	0%	0%		1.2%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	**-**

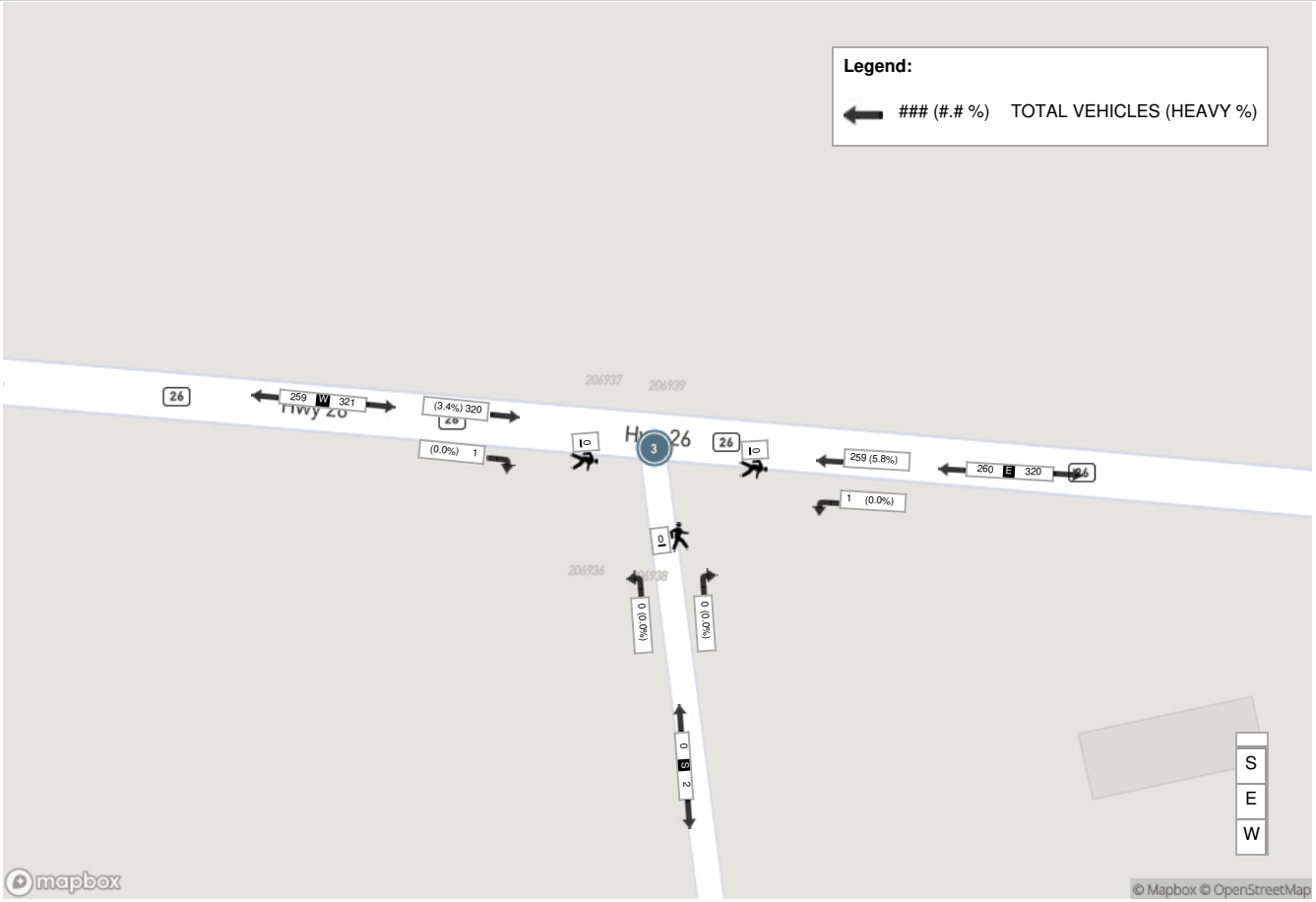
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (10.69 °C)

Start Time	E Approach HWY 26					S Approach OLD HWY 26					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	112	1	0	0	113	0	0	0	0	0	1	78	0	0	79	192
16:15:00	98	0	0	0	98	0	0	0	0	0	0	71	0	0	71	169
16:30:00	91	0	0	0	91	1	2	0	0	3	0	88	0	0	88	182
16:45:00	96	0	0	0	96	1	0	0	0	1	1	84	0	0	85	182
Grand Total	397	1	0	0	398	2	2	0	0	4	2	321	0	0	323	**725**
Approach%	99.7%	0.3%	0%		-	50%	50%	0%		-	0.6%	99.4%	0%		-	**-**
Totals %	54.8%	0.1%	0%		54.9%	0.3%	0.3%	0%		0.6%	0.3%	44.3%	0%		44.6%	**-**
PHF	0.89	0.25	0		0.88	0.5	0.25	0		0.33	0.5	0.91	0		0.92	**-**
Heavy	17	0	0		17	0	1	0		1	0	7	0		7	**-**
Heavy %	4.3%	0%	0%		4.3%	0%	50%	0%		25%	0%	2.2%	0%		2.2%	**-**
Lights	380	1	0		381	2	1	0		3	2	314	0		316	**-**
Lights %	95.7%	100%	0%		95.7%	100%	50%	0%		75%	100%	97.8%	0%		97.8%	**-**
Single-Unit Trucks	12	0	0		12	0	1	0		1	0	2	0		2	**-**
Single-Unit Trucks %	3%	0%	0%		3%	0%	50%	0%		25%	0%	0.6%	0%		0.6%	**-**
Buses	3	0	0		3	0	0	0		0	0	1	0		1	**-**
Buses %	0.8%	0%	0%		0.8%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	**-**
Articulated Trucks	2	0	0		2	0	0	0		0	0	4	0		4	**-**
Articulated Trucks %	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	1.2%	0%		1.2%	**-**

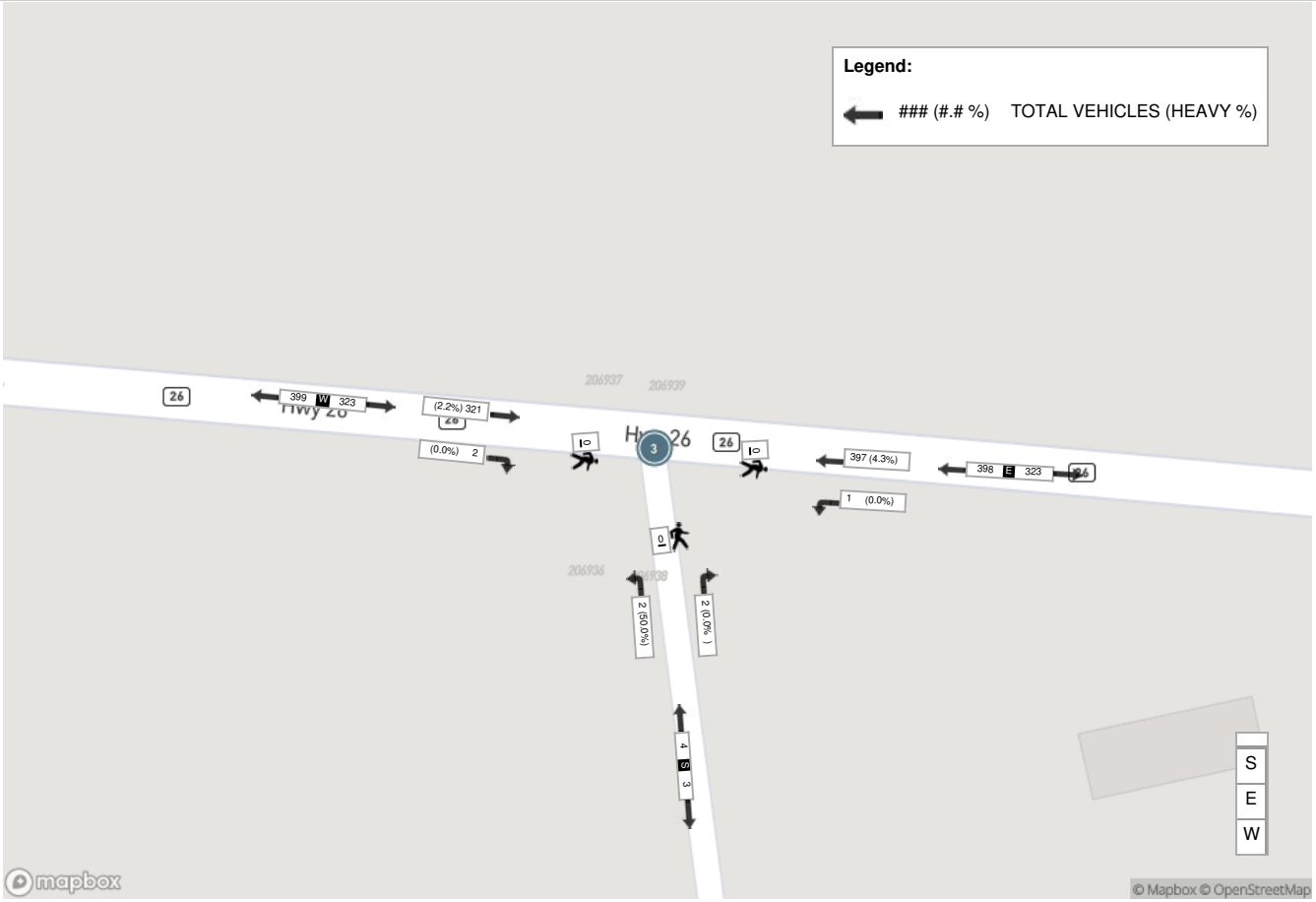
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Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)



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Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (10.69 °C)



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Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (3 . HWY 26 & OLD HWY 26)

Start Time	E Approach HWY 26					S Approach OLD HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
10:00:00	58	1	0	0	59	1	0	0	0	1	0	75	0	0	75	135	
10:15:00	58	2	0	0	60	0	0	0	0	0	3	63	0	0	66	126	
10:30:00	55	0	0	0	55	1	1	0	0	2	0	68	0	0	68	125	
10:45:00	60	1	0	0	61	0	0	0	0	0	1	58	0	0	59	120	506
11:00:00	60	0	0	0	60	0	0	0	0	0	0	49	0	0	49	109	480
11:15:00	64	0	0	0	64	0	3	0	0	3	2	89	0	0	91	158	512
11:30:00	70	0	0	0	70	0	2	0	0	2	0	76	0	0	76	148	535
11:45:00	72	2	0	0	74	0	1	0	0	1	2	55	0	0	57	132	547
12:00:00	70	0	0	0	70	0	0	0	0	0	1	57	0	0	58	128	566
12:15:00	83	1	0	0	84	0	1	0	0	1	1	61	0	0	62	147	555
12:30:00	67	1	0	0	68	1	0	0	0	1	0	64	0	0	64	133	540
12:45:00	79	4	0	0	83	1	0	0	2	1	0	66	0	0	66	150	558
13:00:00	82	0	0	0	82	0	0	0	0	0	1	79	0	0	80	162	592
13:15:00	59	3	0	0	62	0	1	0	0	1	1	61	0	0	62	125	570
13:30:00	75	2	0	0	77	6	1	0	0	7	3	64	0	0	67	151	588
13:45:00	64	0	0	0	64	1	1	0	0	2	4	67	0	0	71	137	575
14:00:00	69	1	0	0	70	2	1	0	0	3	1	72	0	0	73	146	559
14:15:00	72	1	0	0	73	3	0	0	0	3	1	53	0	0	54	130	564
14:30:00	66	1	0	0	67	1	2	0	0	3	0	73	0	0	73	143	556
14:45:00	73	1	0	0	74	2	1	0	0	3	1	60	0	0	61	138	557
15:00:00	51	1	0	0	52	2	1	0	0	3	0	60	0	0	60	115	526
15:15:00	61	0	0	0	61	0	0	0	0	0	0	70	0	0	70	131	527
15:30:00	62	0	0	0	62	1	2	0	0	3	1	63	0	0	64	129	513
15:45:00	58	0	0	0	58	0	0	0	0	0	0	67	0	0	67	125	500
16:00:00	66	0	0	0	66	1	0	0	0	1	1	47	0	0	48	115	500
16:15:00	72	0	0	0	72	1	0	0	0	1	1	47	0	0	48	121	490
16:30:00	40	0	0	0	40	0	1	0	0	1	2	61	0	0	63	104	465
16:45:00	52	0	0	0	52	0	0	0	0	0	0	67	0	0	67	119	459
17:00:00	49	0	0	0	49	2	1	0	0	3	0	42	0	0	42	94	438
17:15:00	62	1	0	0	63	0	0	0	0	0	2	57	0	0	59	122	439
17:30:00	43	0	0	0	43	0	0	0	0	0	0	38	0	0	38	81	416
17:45:00	46	0	0	0	46	2	2	0	0	4	0	38	0	0	38	88	385
Grand Total	2018	23	0	0	2041	28	22	0	2	50	29	1967	0	0	1996	**4087**	-

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Approach%	98.9%	1.1%	0%	-	56%	44%	0%	-	1.5%	98.5%	0%	-	-	-
Totals %	49.4%	0.6%	0%	49.9%	0.7%	0.5%	0%	1.2%	0.7%	48.1%	0%	48.8%	-	-
Heavy	15	0	0	-	0	0	0	-	0	14	0	-	-	-
Heavy %	0.7%	0%	0%	-	0%	0%	0%	-	0%	0.7%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-

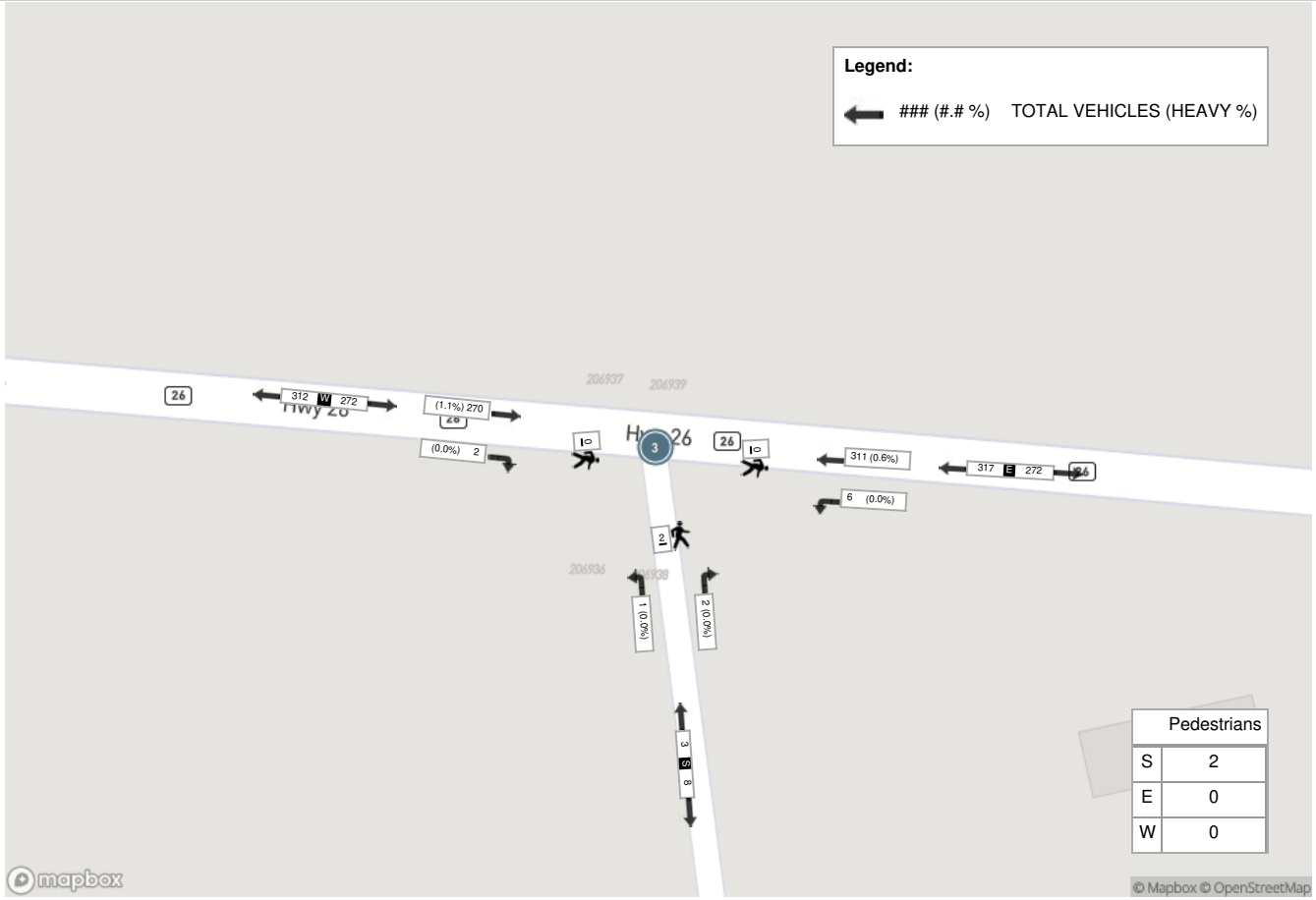
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:15 PM - 01:15 PM Weather: Light Rain (4.58 °C)

Start Time	E Approach HWY 26					S Approach OLD HWY 26					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
12:15:00	83	1	0	0	84	0	1	0	0	1	1	61	0	0	62	147
12:30:00	67	1	0	0	68	1	0	0	0	1	0	64	0	0	64	133
12:45:00	79	4	0	0	83	1	0	0	2	1	0	66	0	0	66	150
13:00:00	82	0	0	0	82	0	0	0	0	0	1	79	0	0	80	162
Grand Total	311	6	0	0	317	2	1	0	2	3	2	270	0	0	272	**592**
Approach%	98.1%	1.9%	0%		-	66.7%	33.3%	0%		-	0.7%	99.3%	0%		-	**-**
Totals %	52.5%	1%	0%		53.5%	0.3%	0.2%	0%		0.5%	0.3%	45.6%	0%		45.9%	**-**
PHF	0.94	0.38	0		0.94	0.5	0.25	0		0.75	0.5	0.85	0		0.85	**-**
Heavy	2	0	0		2	0	0	0		0	0	3	0		3	**-**
Heavy %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	1.1%	0%		1.1%	**-**
Lights	309	6	0		315	2	1	0		3	2	267	0		269	**-**
Lights %	99.4%	100%	0%		99.4%	100%	100%	0%		100%	100%	98.9%	0%		98.9%	**-**
Single-Unit Trucks	2	0	0		2	0	0	0		0	0	2	0		2	**-**
Single-Unit Trucks %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	0.7%	0%		0.7%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	0	1	0		1	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0.4%	0%		0.4%	**-**
Pedestrians	-	-	-	0	-	-	-	-	2	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	100%		-	-	-	0%		**-**

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CANADA

Peak Hour: 12:15 PM - 01:15 PM Weather: Light Rain (4.58 °C)



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CANADA

Turning Movement Count (2 . HWY 26 & STARLIGHT LANE)

Start Time	E Approach HWY 26					S Approach STARLIGHT LANE					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
06:00:00	10	0	0	0	10	0	0	0	0	0	0	20	0	0	20	30	
06:15:00	20	0	0	0	20	0	0	0	0	0	0	24	0	0	24	44	
06:30:00	17	0	0	0	17	0	0	0	0	0	0	37	0	0	37	54	
06:45:00	26	0	0	0	26	0	0	0	0	0	0	46	0	0	46	72	200
07:00:00	24	0	0	0	24	0	0	0	0	0	0	51	0	0	51	75	245
07:15:00	40	0	0	0	40	1	0	0	0	1	0	73	0	0	73	114	315
07:30:00	52	0	0	0	52	0	0	0	0	0	0	92	0	0	92	144	405
07:45:00	57	0	0	0	57	0	1	0	0	1	0	76	0	0	76	134	467
08:00:00	63	0	0	0	63	1	0	0	0	1	0	79	0	0	79	143	535
08:15:00	61	0	0	0	61	0	0	0	0	0	0	81	0	0	81	142	563
08:30:00	66	0	0	0	66	0	0	0	0	0	0	81	0	0	81	147	566
08:45:00	68	0	0	0	68	0	0	0	0	0	0	81	0	0	81	149	581
09:00:00	58	0	0	0	58	0	0	0	0	0	0	73	0	0	73	131	569
09:15:00	52	0	0	0	52	0	0	0	0	0	0	68	0	0	68	120	547
09:30:00	45	0	0	0	45	0	0	0	0	0	0	54	0	0	54	99	499
09:45:00	46	0	0	0	46	0	0	0	0	0	0	71	0	0	71	117	467
BREAK																	
15:00:00	73	1	0	0	74	0	0	0	0	0	2	75	0	0	77	151	
15:15:00	70	0	0	0	70	1	1	0	0	2	0	88	0	0	88	160	
15:30:00	102	0	0	0	102	0	0	0	1	0	0	79	0	0	79	181	
15:45:00	89	0	0	0	89	0	0	0	1	0	0	74	0	0	74	163	655
16:00:00	110	0	0	0	110	0	2	0	0	2	0	83	0	0	83	195	699
16:15:00	98	0	0	0	98	1	0	0	0	1	0	67	0	0	67	166	705
16:30:00	94	1	0	0	95	0	0	0	0	0	0	86	0	0	86	181	705
16:45:00	90	0	0	0	90	0	0	0	0	0	2	84	0	0	86	176	718
17:00:00	106	0	0	0	106	1	0	0	0	1	0	72	0	0	72	179	702
17:15:00	98	0	0	0	98	0	0	0	0	0	0	74	0	0	74	172	708
17:30:00	77	0	0	0	77	0	0	0	0	0	0	62	0	0	62	139	666
17:45:00	67	0	0	0	67	0	0	0	0	0	0	57	0	0	57	124	614
18:00:00	55	0	0	0	55	0	0	0	0	0	0	48	0	0	48	103	538
18:15:00	59	0	0	0	59	0	0	0	0	0	0	46	0	0	46	105	471
18:30:00	59	1	0	0	60	0	0	0	0	0	0	45	0	0	45	105	437
18:45:00	36	0	0	0	36	0	0	0	0	0	0	30	0	0	30	66	379

Grand Total	1988	3	0	0	1991	5	4	0	2	9	4	2077	0	0	2081	**4081**	-
Approach%	99.8%	0.2%	0%		-	55.6%	44.4%	0%		-	0.2%	99.8%	0%		-	**-**	-
Totals %	48.7%	0.1%	0%		48.8%	0.1%	0.1%	0%		0.2%	0.1%	50.9%	0%		51%	**-**	-
Heavy	90	0	0		-	0	0	0		-	0	81	0		-	**-**	-
Heavy %	4.5%	0%	0%		-	0%	0%	0%		-	0%	3.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)

Start Time	E Approach HWY 26					S Approach STARLIGHT LANE					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
08:00:00	63	0	0	0	63	1	0	0	0	1	0	79	0	0	79	143
08:15:00	61	0	0	0	61	0	0	0	0	0	0	81	0	0	81	142
08:30:00	66	0	0	0	66	0	0	0	0	0	0	81	0	0	81	147
08:45:00	68	0	0	0	68	0	0	0	0	0	0	81	0	0	81	149
Grand Total	258	0	0	0	258	1	0	0	0	1	0	322	0	0	322	**581**
Approach%	100%	0%	0%		-	100%	0%	0%		-	0%	100%	0%		-	**-**
Totals %	44.4%	0%	0%		44.4%	0.2%	0%	0%		0.2%	0%	55.4%	0%		55.4%	**-**
PHF	0.95	0	0		0.95	0.25	0	0		0.25	0	0.99	0		0.99	**-**
Heavy	15	0	0		15	0	0	0		0	0	11	0		11	**-**
Heavy %	5.8%	0%	0%		5.8%	0%	0%	0%		0%	0%	3.4%	0%		3.4%	**-**
Lights	243	0	0		243	1	0	0		1	0	311	0		311	**-**
Lights %	94.2%	0%	0%		94.2%	100%	0%	0%		100%	0%	96.6%	0%		96.6%	**-**
Single-Unit Trucks	5	0	0		5	0	0	0		0	0	7	0		7	**-**
Single-Unit Trucks %	1.9%	0%	0%		1.9%	0%	0%	0%		0%	0%	2.2%	0%		2.2%	**-**
Buses	7	0	0		7	0	0	0		0	0	3	0		3	**-**
Buses %	2.7%	0%	0%		2.7%	0%	0%	0%		0%	0%	0.9%	0%		0.9%	**-**
Articulated Trucks	3	0	0		3	0	0	0		0	0	1	0		1	**-**
Articulated Trucks %	1.2%	0%	0%		1.2%	0%	0%	0%		0%	0%	0.3%	0%		0.3%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

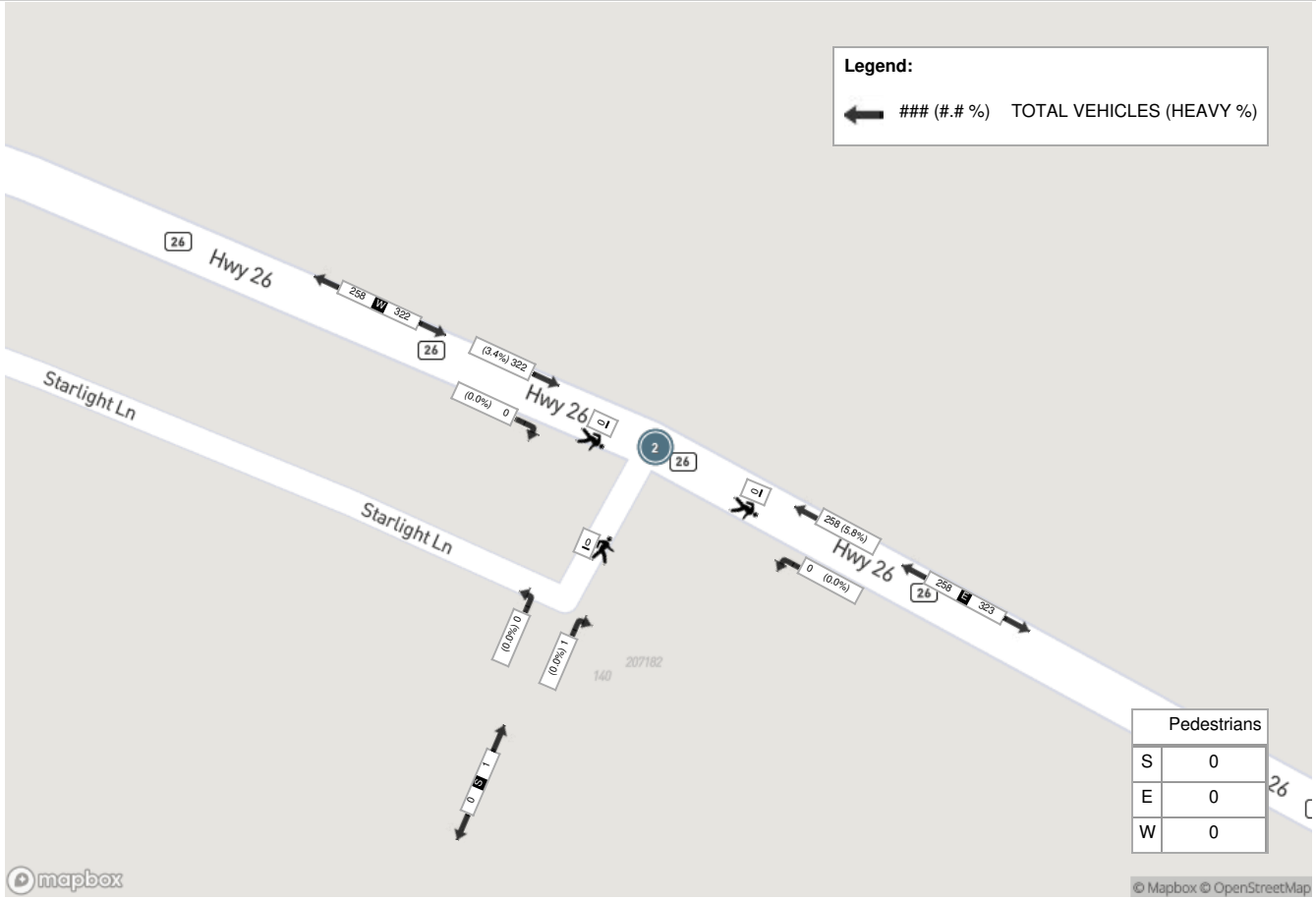
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (10.69 °C)

Start Time	E Approach HWY 26					S Approach STARLIGHT LANE					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
16:00:00	110	0	0	0	110	0	2	0	0	2	0	83	0	0	83	195
16:15:00	98	0	0	0	98	1	0	0	0	1	0	67	0	0	67	166
16:30:00	94	1	0	0	95	0	0	0	0	0	0	86	0	0	86	181
16:45:00	90	0	0	0	90	0	0	0	0	0	2	84	0	0	86	176
Grand Total	392	1	0	0	393	1	2	0	0	3	2	320	0	0	322	**718**
Approach%	99.7%	0.3%	0%		-	33.3%	66.7%	0%		-	0.6%	99.4%	0%		-	**-**
Totals %	54.6%	0.1%	0%		54.7%	0.1%	0.3%	0%		0.4%	0.3%	44.6%	0%		44.8%	**-**
PHF	0.89	0.25	0		0.89	0.25	0.25	0		0.38	0.25	0.93	0		0.94	**-**
Heavy	17	0	0		17	0	0	0		0	0	8	0		8	**-**
Heavy %	4.3%	0%	0%		4.3%	0%	0%	0%		0%	0%	2.5%	0%		2.5%	**-**
Lights	375	1	0		376	1	2	0		3	2	312	0		314	**-**
Lights %	95.7%	100%	0%		95.7%	100%	100%	0%		100%	100%	97.5%	0%		97.5%	**-**
Single-Unit Trucks	12	0	0		12	0	0	0		0	0	4	0		4	**-**
Single-Unit Trucks %	3.1%	0%	0%		3.1%	0%	0%	0%		0%	0%	1.3%	0%		1.2%	**-**
Buses	3	0	0		3	0	0	0		0	0	0	0		0	**-**
Buses %	0.8%	0%	0%		0.8%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	2	0	0		2	0	0	0		0	0	4	0		4	**-**
Articulated Trucks %	0.5%	0%	0%		0.5%	0%	0%	0%		0%	0%	1.3%	0%		1.2%	**-**
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Pedestrians%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

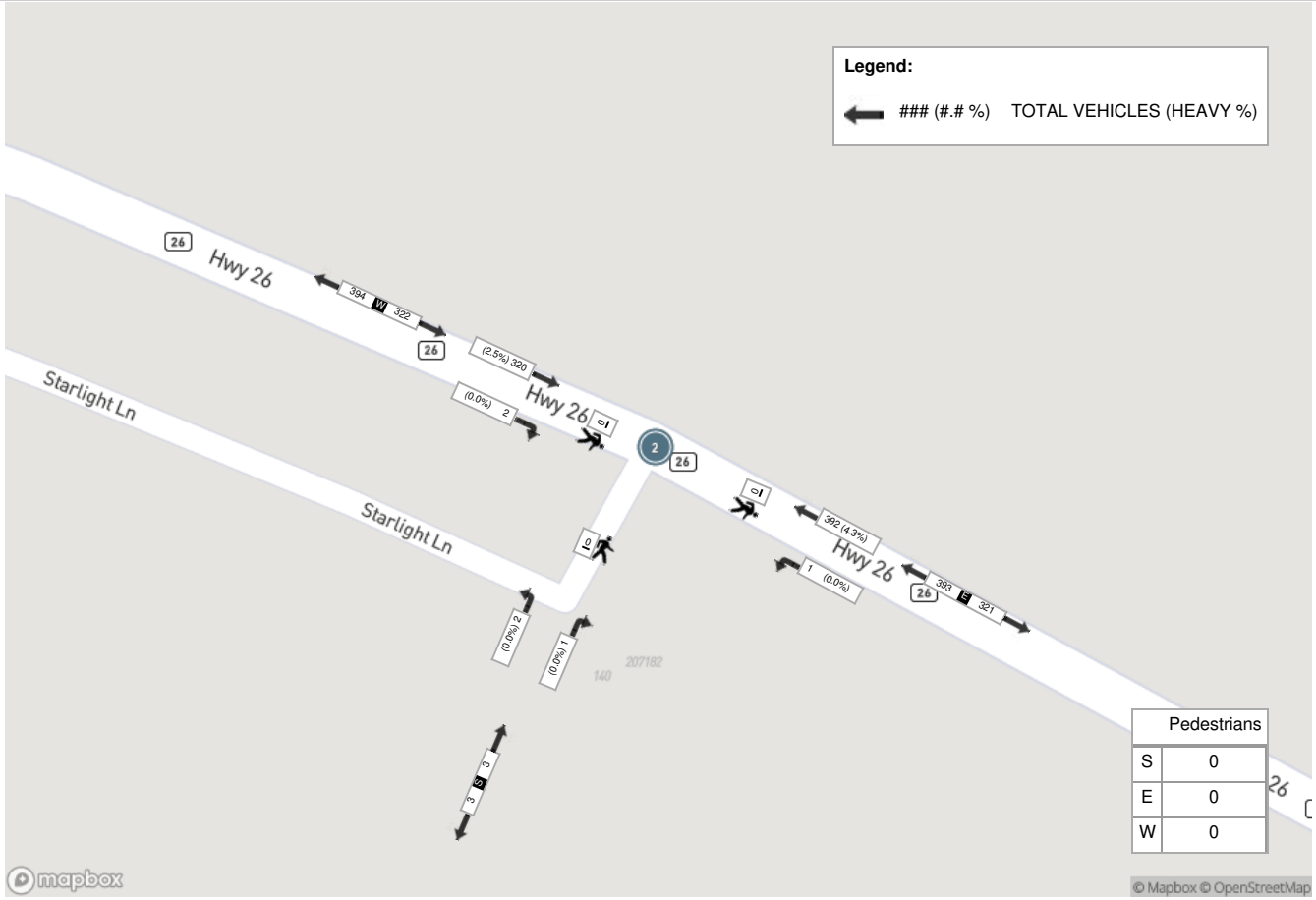
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Rain (5.78 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (10.69 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (2 . HWY 26 & STARLIGHT LANE)

Start Time	E Approach HWY 26					S Approach STARLIGHT LANE					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	UTurn W:W	Peds W:	Approach Total		
10:00:00	62	0	0	0	62	0	0	0	0	0	0	71	0	0	71	133	
10:15:00	56	0	0	0	56	0	0	0	0	0	0	71	0	0	71	127	
10:30:00	59	0	0	0	59	0	1	0	0	1	0	63	0	0	63	123	
10:45:00	61	0	0	0	61	0	0	0	0	0	0	58	0	0	58	119	502
11:00:00	61	0	0	0	61	0	0	0	0	0	0	55	0	0	55	116	485
11:15:00	67	0	0	0	67	0	0	0	0	0	0	83	0	0	83	150	508
11:30:00	67	0	0	0	67	0	0	0	0	0	0	82	0	0	82	149	534
11:45:00	76	0	0	0	76	0	0	0	0	0	0	54	0	0	54	130	545
12:00:00	72	0	0	0	72	0	0	0	0	0	0	56	0	0	56	128	557
12:15:00	80	0	0	0	80	0	0	0	0	0	2	62	0	0	64	144	551
12:30:00	69	0	0	0	69	0	0	0	0	0	0	69	0	0	69	138	540
12:45:00	90	0	0	0	90	0	1	0	0	1	0	64	0	0	64	155	565
13:00:00	72	0	0	0	72	0	0	0	0	0	0	73	0	0	73	145	582
13:15:00	62	0	0	0	62	0	0	0	0	0	0	63	0	0	63	125	563
13:30:00	81	1	0	0	82	0	1	0	0	1	0	68	0	0	68	151	576
13:45:00	61	0	0	0	61	0	1	0	0	1	0	71	0	0	71	133	554
14:00:00	67	0	0	0	67	0	0	0	0	0	1	74	0	0	75	142	551
14:15:00	81	0	0	0	81	0	0	0	0	0	1	51	0	0	52	133	559
14:30:00	68	0	0	0	68	0	0	0	0	0	0	76	0	0	76	144	552
14:45:00	63	0	0	0	63	0	0	0	0	0	0	62	0	0	62	125	544
15:00:00	54	0	0	0	54	0	1	0	0	1	0	63	0	0	63	118	520
15:15:00	60	0	0	0	60	0	0	0	0	0	0	72	0	0	72	132	519
15:30:00	63	0	0	0	63	0	0	0	0	0	0	65	0	0	65	128	503
15:45:00	59	0	0	0	59	0	1	0	0	1	0	60	0	0	60	120	498
16:00:00	67	0	0	0	67	0	0	0	0	0	1	52	0	0	53	120	500
16:15:00	66	0	0	0	66	0	0	0	0	0	0	47	0	0	47	113	481
16:30:00	41	0	0	0	41	0	0	0	0	0	0	62	0	0	62	103	456
16:45:00	53	0	0	0	53	0	0	0	0	0	0	68	0	0	68	121	457
17:00:00	50	0	0	0	50	0	0	0	0	0	1	42	0	0	43	93	430
17:15:00	59	1	0	0	60	1	1	0	0	2	1	56	0	0	57	119	436
17:30:00	43	0	0	0	43	0	0	0	0	0	0	40	0	0	40	83	416
17:45:00	51	0	0	0	51	0	1	0	0	1	0	37	0	0	37	89	384
Grand Total	2041	2	0	0	2043	1	8	0	0	9	7	1990	0	0	1997	**4049**	-

Approach%	99.9%	0.1%	0%	-	11.1%	88.9%	0%	-	0.4%	99.6%	0%	-	-	-
Totals %	50.4%	0%	0%	50.5%	0%	0.2%	0%	0.2%	0.2%	49.1%	0%	49.3%	-	-
Heavy	15	0	0	-	0	0	0	-	0	16	0	-	-	-
Heavy %	0.7%	0%	0%	-	0%	0%	0%	-	0%	0.8%	0%	-	-	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-

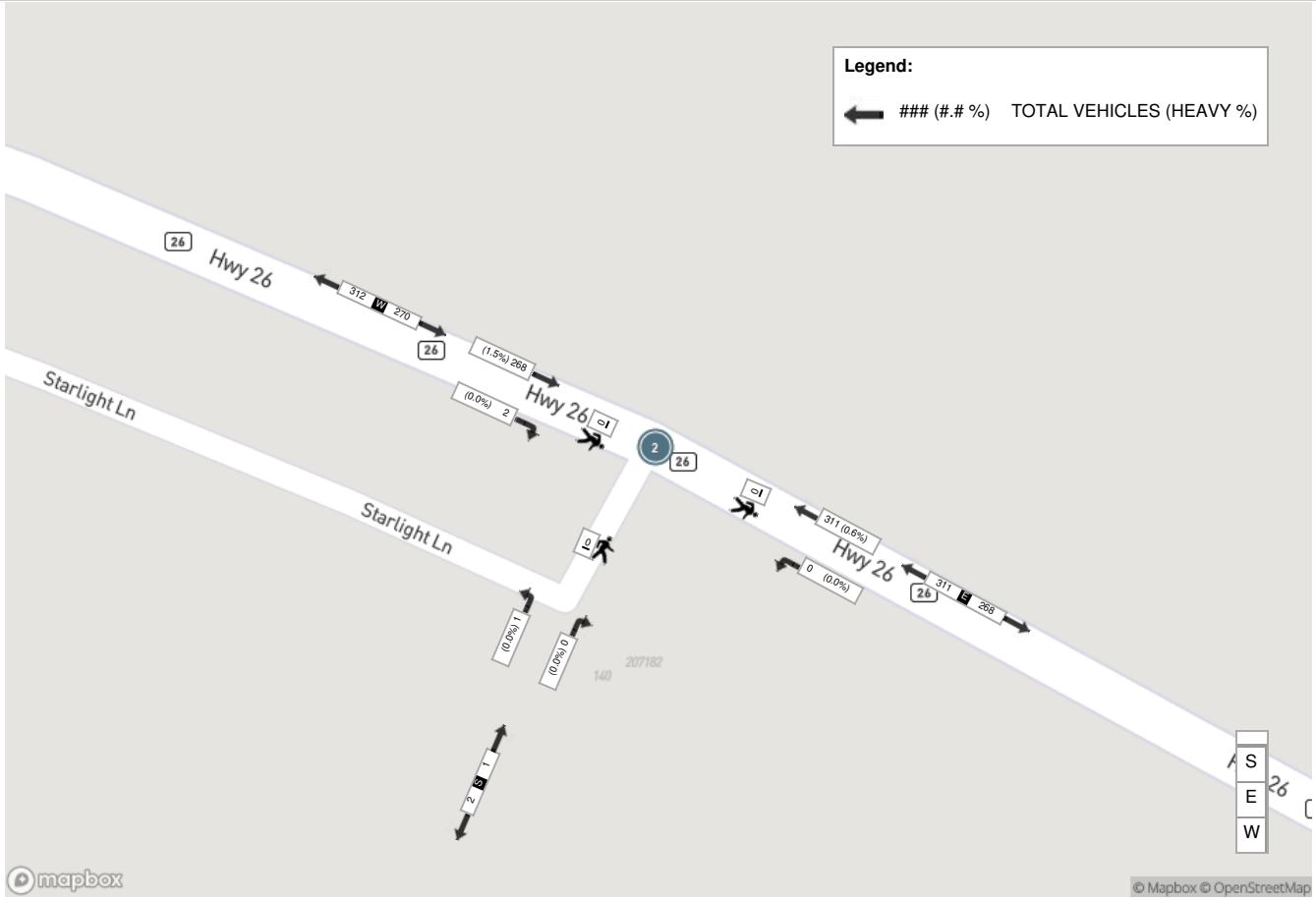
Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:15 PM - 01:15 PM Weather: Light Rain (4.58 °C)

Start Time	E Approach HWY 26					S Approach STARLIGHT LANE					W Approach HWY 26					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
12:15:00	80	0	0	0	80	0	0	0	0	0	2	62	0	0	64	144
12:30:00	69	0	0	0	69	0	0	0	0	0	0	69	0	0	69	138
12:45:00	90	0	0	0	90	0	1	0	0	1	0	64	0	0	64	155
13:00:00	72	0	0	0	72	0	0	0	0	0	0	73	0	0	73	145
Grand Total	311	0	0	0	311	0	1	0	0	1	2	268	0	0	270	**582**
Approach%	100%	0%	0%		-	0%	100%	0%		-	0.7%	99.3%	0%		-	**-**
Totals %	53.4%	0%	0%		53.4%	0%	0.2%	0%		0.2%	0.3%	46%	0%		46.4%	**-**
PHF	0.86	0	0		0.86	0	0.25	0		0.25	0.25	0.92	0		0.92	**-**
Heavy	2	0	0		2	0	0	0		0	0	4	0		4	**-**
Heavy %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	1.5%	0%		1.5%	**-**
Lights	309	0	0		309	0	1	0		1	2	264	0		266	**-**
Lights %	99.4%	0%	0%		99.4%	0%	100%	0%		100%	100%	98.5%	0%		98.5%	**-**
Single-Unit Trucks	2	0	0		2	0	0	0		0	0	2	0		2	**-**
Single-Unit Trucks %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	0.7%	0%		0.7%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	0	0		0	0	2	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0.7%	0%		0.7%	**-**

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 12:15 PM - 01:15 PM Weather: Light Rain (4.58 °C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (1 . HWY 26 & CHRISTIE BEACH RD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	U-Turn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
10:00:00	6	4	0	0	10	6	77	0	0	83	76	1	0	0	77	170	
10:15:00	6	2	0	0	8	10	73	0	0	83	68	5	0	0	73	164	
10:30:00	9	8	0	0	17	3	76	0	0	79	73	4	0	0	77	173	
10:45:00	6	3	0	0	9	4	90	0	0	94	58	8	0	0	66	169	676
11:00:00	7	8	0	0	15	5	108	0	0	113	76	7	0	0	83	211	717
11:15:00	12	3	0	0	15	15	97	0	0	112	70	8	0	0	78	205	758
11:30:00	6	4	0	0	10	4	86	0	0	90	93	5	0	0	98	198	783
11:45:00	4	1	0	0	5	7	93	0	0	100	76	3	0	0	79	184	798
12:00:00	7	3	0	0	10	10	92	0	0	102	63	2	0	0	65	177	764
12:15:00	3	5	0	0	8	5	91	0	0	96	62	8	0	0	70	174	733
12:30:00	8	3	0	0	11	7	78	0	0	85	76	1	0	0	77	173	708
12:45:00	1	5	0	0	6	5	79	0	0	84	75	11	0	0	86	176	700
13:00:00	7	3	0	0	10	9	97	0	0	106	76	5	0	0	81	197	720
13:15:00	4	4	0	0	8	8	107	0	0	115	85	5	0	0	90	213	759
13:30:00	9	8	0	0	17	6	93	0	0	99	61	4	0	0	65	181	767
13:45:00	5	4	0	0	9	6	88	0	0	94	73	6	0	0	79	182	773
14:00:00	8	5	0	0	13	17	107	0	0	124	87	12	0	0	99	236	812
14:15:00	12	7	0	0	19	9	107	0	0	116	76	2	0	0	78	213	812
14:30:00	4	7	0	0	11	4	90	1	0	95	79	10	0	0	89	195	826
14:45:00	2	5	0	0	7	4	93	0	0	97	76	9	0	0	85	189	833
15:00:00	3	9	0	0	12	9	87	0	0	96	68	4	0	0	72	180	777
15:15:00	3	22	0	0	25	9	86	0	0	95	75	4	0	0	79	199	763
15:30:00	11	5	0	0	16	11	85	0	0	96	67	5	0	0	72	184	752
15:45:00	8	7	0	0	15	7	71	0	0	78	77	6	0	0	83	176	739
16:00:00	4	10	0	0	14	10	80	0	0	90	70	9	0	0	79	183	742
16:15:00	5	7	0	0	12	5	53	0	0	58	59	8	0	0	67	137	680
16:30:00	5	11	0	0	16	8	60	0	0	68	68	4	0	0	72	156	652
16:45:00	5	13	0	0	18	7	60	0	0	67	68	5	0	0	73	158	634
17:00:00	5	11	0	0	16	4	67	0	0	71	58	9	0	0	67	154	605
17:15:00	3	14	0	0	17	3	60	0	0	63	54	1	0	0	55	135	603
17:30:00	7	8	0	0	15	9	45	0	0	54	48	7	0	0	55	124	571
17:45:00	1	8	0	0	9	9	49	0	0	58	67	2	0	0	69	136	549
Grand Total	186	217	0	0	403	235	2625	1	0	2861	2258	180	0	0	2438	**5702**	-

Approach%	46.2%	53.8%	0%	-	8.2%	91.8%	0%	-	92.6%	7.4%	0%	-	**-**	-
Totals %	3.3%	3.8%	0%	7.1%	4.1%	46%	0%	50.2%	39.6%	3.2%	0%	42.8%	**-**	-
Heavy	3	1	0	-	3	27	0	-	21	2	0	-	**-**	-
Heavy %	1.6%	0.5%	0%	-	1.3%	1%	0%	-	0.9%	1.1%	0%	-	**-**	-
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	**-**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 02:00 PM - 03:00 PM Weather: Fair (30°C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
14:00:00	8	5	0	0	13	17	107	0	0	124	87	12	0	0	99	236
14:15:00	12	7	0	0	19	9	107	0	0	116	76	2	0	0	78	213
14:30:00	4	7	0	0	11	4	90	1	0	95	79	10	0	0	89	195
14:45:00	2	5	0	0	7	4	93	0	0	97	76	9	0	0	85	189
Grand Total	26	24	0	0	50	34	397	1	0	432	318	33	0	0	351	**833**
Approach%	52%	48%	0%		-	7.9%	91.9%	0.2%		-	90.6%	9.4%	0%		-	**-**
Totals %	3.1%	2.9%	0%		6%	4.1%	47.7%	0.1%		51.9%	38.2%	4%	0%		42.1%	**-**
PHF	0.54	0.86	0		0.66	0.5	0.93	0.25		0.87	0.91	0.69	0		0.89	**-**
Heavy	0	1	0		1	0	6	0		6	2	0	0		2	**-**
Heavy %	0%	4.2%	0%		2%	0%	1.5%	0%		1.4%	0.6%	0%	0%		0.6%	**-**
Lights	26	23	0		49	34	391	1		426	316	33	0		349	**-**
Lights %	100%	95.8%	0%		98%	100%	98.5%	100%		98.6%	99.4%	100%	0%		99.4%	**-**
Single-Unit Trucks	0	1	0		1	0	5	0		5	2	0	0		2	**-**
Single-Unit Trucks %	0%	4.2%	0%		2%	0%	1.3%	0%		1.2%	0.6%	0%	0%		0.6%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	0	0	0		0	0	1	0		1	0	0	0		0	**-**
Articulated Trucks %	0%	0%	0%		0%	0%	0.3%	0%		0.2%	0%	0%	0%		0%	**-**
Bicycles on Road	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%	**-**

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 02:00 PM - 03:00 PM Weather: Fair (30°C)



Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Turning Movement Count (1 . HWY 26 & CHRISTIE BEACH RD)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	U-Turn E:E	Peds E:	Approach Total	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
06:00:00	1	1	0	0	2	1	11	0	0	12	38	3	0	0	41	55	
06:15:00	1	1	0	0	2	6	18	0	0	24	55	1	0	0	56	82	
06:30:00	1	1	0	0	2	3	17	0	0	20	71	2	0	0	73	95	
06:45:00	1	1	0	0	2	2	19	0	0	21	40	1	0	0	41	64	296
07:00:00	0	5	0	0	5	0	45	0	0	45	50	1	0	0	51	101	342
07:15:00	2	4	0	0	6	0	33	0	0	33	74	4	0	0	78	117	377
07:30:00	1	2	0	0	3	1	47	0	0	48	70	1	0	0	71	122	404
07:45:00	1	2	0	0	3	1	43	0	0	44	67	6	0	0	73	120	460
08:00:00	2	2	0	0	4	7	43	0	0	50	76	4	0	0	80	134	493
08:15:00	6	2	0	0	8	6	51	0	0	57	81	1	0	1	82	147	523
08:30:00	1	4	0	0	5	4	68	0	0	72	70	1	0	0	71	148	549
08:45:00	3	2	0	0	5	2	66	0	0	68	69	1	0	0	70	143	572
09:00:00	2	1	0	0	3	3	62	0	0	65	61	2	0	0	63	131	569
09:15:00	3	3	0	0	6	2	60	0	0	62	65	4	0	0	69	137	559
09:30:00	7	0	0	0	7	2	64	0	0	66	67	4	0	0	71	144	555
09:45:00	7	2	0	0	9	4	62	0	0	66	58	6	0	0	64	139	551
BREAK																	
15:00:00	6	6	0	0	12	7	90	0	0	97	80	6	0	0	86	195	
15:15:00	11	4	0	0	15	6	96	0	0	102	73	6	0	0	79	196	
15:30:00	5	4	0	0	9	10	92	0	0	102	100	2	0	0	102	213	
15:45:00	2	9	0	0	11	7	98	0	0	105	71	3	0	0	74	190	794
16:00:00	4	4	0	0	8	7	95	0	0	102	80	4	0	0	84	194	793
16:15:00	6	5	0	0	11	2	82	0	0	84	65	3	0	0	68	163	760
16:30:00	7	4	0	0	11	0	89	0	0	89	73	5	0	0	78	178	725
16:45:00	10	4	0	0	14	6	98	0	0	104	78	1	0	0	79	197	732
17:00:00	3	7	0	0	10	3	107	0	0	110	83	2	0	0	85	205	743
17:15:00	5	4	0	0	9	4	105	0	0	109	67	1	0	0	68	186	766
17:30:00	3	7	0	0	10	3	104	0	0	107	54	4	0	0	58	175	763
17:45:00	3	3	0	0	6	3	70	0	0	73	67	2	0	0	69	148	714
18:00:00	2	8	0	0	10	5	63	0	0	68	48	1	0	0	49	127	636
18:15:00	10	2	0	0	12	3	52	0	0	55	43	0	0	0	43	110	560
18:30:00	1	1	0	0	2	4	47	0	0	51	46	3	0	0	49	102	487
18:45:00	2	3	0	0	5	5	41	0	0	46	41	2	0	0	43	94	433

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Grand Total	119	108	0	0	227	119	2038	0	0	2157	2081	87	0	1	2168	**4552**	-
Approach%	52.4%	47.6%	0%		-	5.5%	94.5%	0%		-	96%	4%	0%		-	**-**	-
Totals %	2.6%	2.4%	0%		5%	2.6%	44.8%	0%		47.4%	45.7%	1.9%	0%		47.6%	**-**	-
Heavy	4	14	0		-	20	105	0		-	116	2	0		-	**-**	-
Heavy %	3.4%	13%	0%		-	16.8%	5.2%	0%		-	5.6%	2.3%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Fair (20.55°C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	2	2	0	0	4	7	43	0	0	50	76	4	0	0	80	134
08:15:00	6	2	0	0	8	6	51	0	0	57	81	1	0	1	82	147
08:30:00	1	4	0	0	5	4	68	0	0	72	70	1	0	0	71	148
08:45:00	3	2	0	0	5	2	66	0	0	68	69	1	0	0	70	143
Grand Total	12	10	0	0	22	19	228	0	0	247	296	7	0	1	303	**572**
Approach%	54.5%	45.5%	0%		-	7.7%	92.3%	0%		-	97.7%	2.3%	0%		-	**-**
Totals %	2.1%	1.7%	0%		3.8%	3.3%	39.9%	0%		43.2%	51.7%	1.2%	0%		53%	**-**
PHF	0.5	0.63	0		0.69	0.68	0.84	0		0.86	0.91	0.44	0		0.92	**-**
Heavy	1	4	0		5	5	18	0		23	23	0	0		23	**-**
Heavy %	8.3%	40%	0%		22.7%	26.3%	7.9%	0%		9.3%	7.8%	0%	0%		7.6%	**-**
Lights	10	6	0		16	14	210	0		224	272	7	0		279	**-**
Lights %	83.3%	60%	0%		72.7%	73.7%	92.1%	0%		90.7%	91.9%	100%	0%		92.1%	**-**
Single-Unit Trucks	1	1	0		2	3	14	0		17	20	0	0		20	**-**
Single-Unit Trucks %	8.3%	10%	0%		9.1%	15.8%	6.1%	0%		6.9%	6.8%	0%	0%		6.6%	**-**
Articulated Trucks	0	3	0		3	2	4	0		6	3	0	0		3	**-**
Articulated Trucks %	0%	30%	0%		13.6%	10.5%	1.8%	0%		2.4%	1%	0%	0%		1%	**-**
Bicycles on Road	1	0	0		1	0	0	0		0	1	0	0		1	**-**
Bicycles on Road %	8.3%	0%	0%		4.5%	0%	0%	0%		0%	0.3%	0%	0%		0.3%	**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	100%		**-**

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 03:00 PM - 04:00 PM Weather: Fair (27.78°C)

Start Time	N Approach CHRISTIE BEACH RD					E Approach HWY 26					W Approach HWY 26					Int. Total (15 min)
	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	Thru	Left	U-Turn	Peds	Approach Total	
15:00:00	6	6	0	0	12	7	90	0	0	97	80	6	0	0	86	195
15:15:00	11	4	0	0	15	6	96	0	0	102	73	6	0	0	79	196
15:30:00	5	4	0	0	9	10	92	0	0	102	100	2	0	0	102	213
15:45:00	2	9	0	0	11	7	98	0	0	105	71	3	0	0	74	190
Grand Total	24	23	0	0	47	30	376	0	0	406	324	17	0	0	341	**794**
Approach%	51.1%	48.9%	0%		-	7.4%	92.6%	0%		-	95%	5%	0%		-	**-**
Totals %	3%	2.9%	0%		5.9%	3.8%	47.4%	0%		51.1%	40.8%	2.1%	0%		42.9%	**-**
PHF	0.55	0.64	0		0.78	0.75	0.96	0		0.97	0.81	0.71	0		0.84	**-**
Heavy	0	0	0		0	8	24	0		32	13	0	0		13	**-**
Heavy %	0%	0%	0%		0%	26.7%	6.4%	0%		7.9%	4%	0%	0%		3.8%	**-**
Lights	24	23	0		47	22	352	0		374	310	17	0		327	**-**
Lights %	100%	100%	0%		100%	73.3%	93.6%	0%		92.1%	95.7%	100%	0%		95.9%	**-**
Single-Unit Trucks	0	0	0		0	5	21	0		26	11	0	0		11	**-**
Single-Unit Trucks %	0%	0%	0%		0%	16.7%	5.6%	0%		6.4%	3.4%	0%	0%		3.2%	**-**
Articulated Trucks	0	0	0		0	3	3	0		6	2	0	0		2	**-**
Articulated Trucks %	0%	0%	0%		0%	10%	0.8%	0%		1.5%	0.6%	0%	0%		0.6%	**-**
Bicycles on Road	0	0	0		0	0	0	0		0	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%		0%	0%	0%	0%		0%	0.3%	0%	0%		0.3%	**-**
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	0%		-	-	-	0%		-	-	-	0%		**-**

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Fair (20.55°C)



	Bicycles on Crosswalk
N	0
E	0
W	1

Crozier & Associates
Suite 100 2800 HIGH POINT DRIVE
MILTON ONTARIO, L9T 6P4
CANADA

Peak Hour: 03:00 PM - 04:00 PM Weather: Fair (27.78°C)



	Bicycles on Crosswalk
N	0
E	0
W	0

Turning Movement Count (1 . HIGHWAY 26 & CHRISTIE BEACH RD)

Start Time	N Approach HIGHWAY 26					E Approach CHRISTIE BEACH RD					S Approach HIGHWAY 26					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	U-Turn S:S	Peds S:	Approach Total		
06:00:00	23	1	0	0	24	3	0	0	0	3	0	7	0	0	7	34	
06:15:00	46	0	0	0	46	1	0	0	0	1	0	21	0	0	21	68	
06:30:00	69	0	0	0	69	1	1	0	0	2	1	26	0	0	27	98	
06:45:00	65	1	0	0	66	0	1	0	0	1	1	17	0	0	18	85	285
07:00:00	65	1	0	0	66	1	1	0	0	2	2	26	0	0	28	96	347
07:15:00	62	1	0	0	63	1	2	0	0	3	1	33	0	0	34	100	379
07:30:00	75	0	0	0	75	1	3	0	0	4	0	39	0	0	39	118	399
07:45:00	97	0	0	0	97	1	3	0	0	4	4	55	0	0	59	160	474
08:00:00	93	6	0	0	99	2	4	0	0	6	2	51	0	0	53	158	536
08:15:00	100	5	0	0	105	1	2	0	0	3	3	63	0	0	66	174	610
08:30:00	76	3	0	0	79	2	3	0	0	5	1	62	0	0	63	147	639
08:45:00	80	2	0	0	82	6	2	0	0	8	2	65	0	0	67	157	636
09:00:00	109	1	0	0	110	3	0	0	0	3	1	46	0	0	47	160	638
09:15:00	86	2	0	0	88	3	0	0	0	3	1	60	0	0	61	152	616
09:30:00	67	7	0	0	74	7	1	0	0	8	2	70	0	0	72	154	623
09:45:00	70	2	0	0	72	4	2	0	0	6	3	67	0	0	70	148	614
BREAK																	
15:00:00	64	7	0	0	71	3	6	0	0	9	3	78	0	0	81	161	
15:15:00	85	8	0	0	93	3	5	0	0	8	5	106	0	0	111	212	
15:30:00	87	2	0	0	89	5	4	0	0	9	1	98	0	0	99	197	
15:45:00	76	4	0	0	80	7	1	0	0	8	3	99	0	0	102	190	760
16:00:00	56	3	1	0	60	9	4	0	0	13	2	101	0	0	103	176	775
16:15:00	78	3	0	0	81	8	2	0	0	10	6	101	0	0	107	198	761
16:30:00	100	5	0	0	105	4	4	0	0	8	1	113	0	0	114	227	791

16:45:00	78	3	0	0	81	12	3	0	0	15	3	107	0	0	110	206	807
17:00:00	92	0	0	0	92	2	1	0	0	3	2	133	0	0	135	230	861
17:15:00	71	2	0	0	73	1	3	0	0	4	2	118	0	0	120	197	860
17:30:00	64	3	0	0	67	3	0	0	0	3	0	103	0	0	103	173	806
17:45:00	64	0	0	0	64	5	1	0	0	6	2	106	0	0	108	178	778
18:00:00	44	1	0	0	45	3	1	0	0	4	1	85	0	0	86	135	683
18:15:00	58	2	0	0	60	5	2	0	0	7	2	68	0	0	70	137	623
18:30:00	43	2	0	0	45	2	2	0	0	4	3	52	0	0	55	104	554
18:45:00	40	5	0	0	45	0	1	0	0	1	3	53	0	0	56	102	478
Grand Total	2283	82	1	0	2366	109	65	0	0	174	63	2229	0	0	2292	**4832**	-
Approach%	96.5%	3.5%	0%		-	62.6%	37.4%	0%		-	2.7%	97.3%	0%		-	**-**	-
Totals %	47.2%	1.7%	0%		49%	2.3%	1.3%	0%		3.6%	1.3%	46.1%	0%		47.4%	**-**	-
Heavy	87	4	0		-	4	3	0		-	7	92	0		-	**-**	-
Heavy %	3.8%	4.9%	0%		-	3.7%	4.6%	0%		-	11.1%	4.1%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

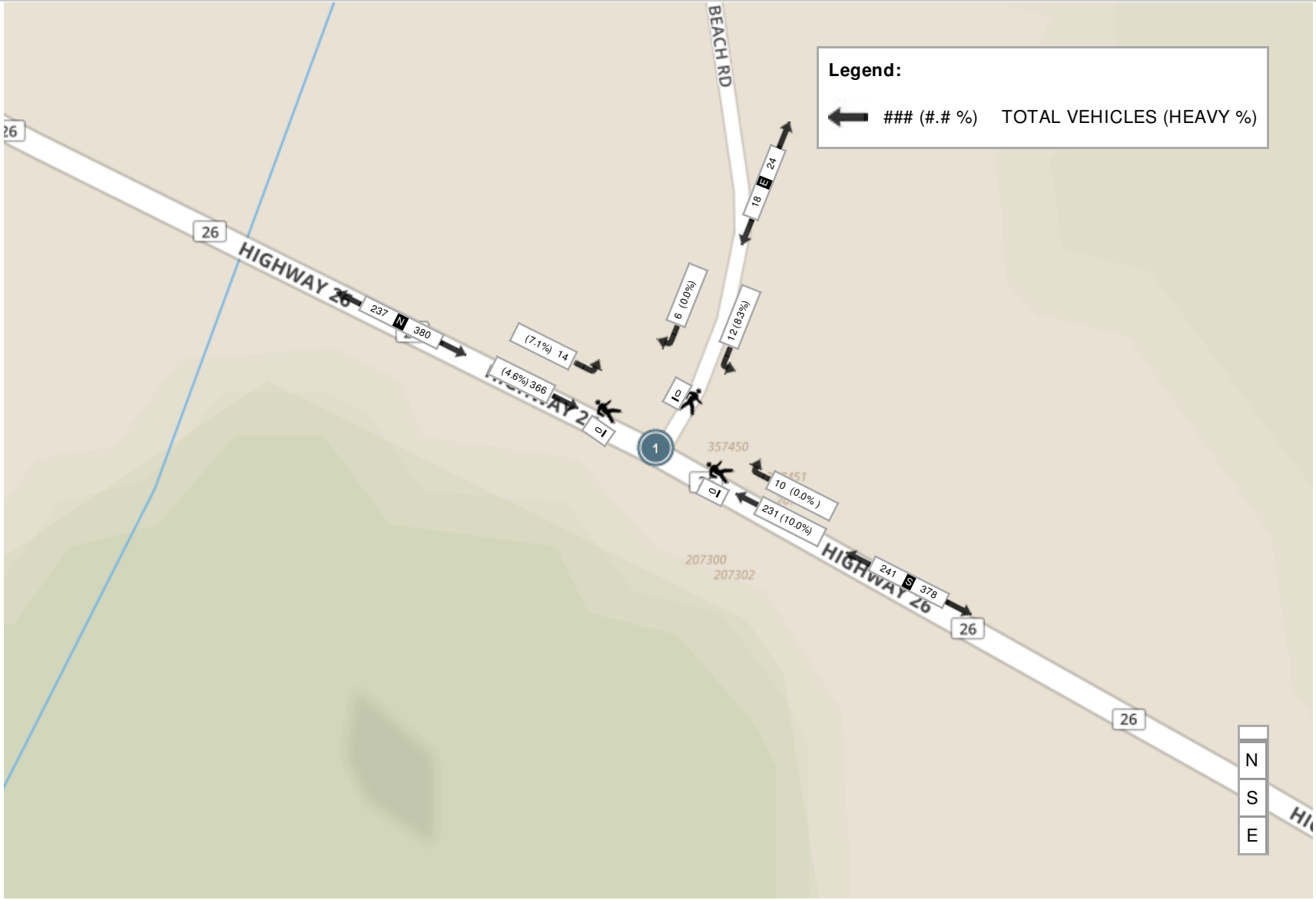
Peak Hour: 07:45 AM - 08:45 AM Weather: Clear (18.3 °C)

Start Time	N Approach HIGHWAY 26					E Approach CHRISTIE BEACH RD					S Approach HIGHWAY 26					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
07:45:00	97	0	0	0	97	1	3	0	0	4	4	55	0	0	59	160
08:00:00	93	6	0	0	99	2	4	0	0	6	2	51	0	0	53	158
08:15:00	100	5	0	0	105	1	2	0	0	3	3	63	0	0	66	174
08:30:00	76	3	0	0	79	2	3	0	0	5	1	62	0	0	63	147
Grand Total	366	14	0	0	380	6	12	0	0	18	10	231	0	0	241	**639**
Approach%	96.3%	3.7%	0%		-	33.3%	66.7%	0%		-	4.1%	95.9%	0%		-	**-**
Totals %	57.3%	2.2%	0%		59.5%	0.9%	1.9%	0%		2.8%	1.6%	36.2%	0%		37.7%	**-**
PHF	0.92	0.58	0		0.9	0.75	0.75	0		0.75	0.63	0.92	0		0.91	**-**
Heavy	17	1	0		18	0	1	0		1	0	23	0		23	**-**
Heavy %	4.6%	7.1%	0%		4.7%	0%	8.3%	0%		5.6%	0%	10%	0%		9.5%	**-**
Lights	348	13	0		361	6	11	0		17	10	208	0		218	**-**
Lights %	95.1%	92.9%	0%		95%	100%	91.7%	0%		94.4%	100%	90%	0%		90.5%	**-**
Single-Unit Trucks	13	1	0		14	0	1	0		1	0	13	0		13	**-**
Single-Unit Trucks %	3.6%	7.1%	0%		3.7%	0%	8.3%	0%		5.6%	0%	5.6%	0%		5.4%	**-**
Buses	0	0	0		0	0	0	0		0	0	0	0		0	**-**
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	**-**
Articulated Trucks	4	0	0		4	0	0	0		0	0	10	0		10	**-**
Articulated Trucks %	1.1%	0%	0%		1.1%	0%	0%	0%		0%	0%	4.3%	0%		4.1%	**-**
Bicycles on Road	1	0	0		1	0	0	0		0	0	0	0		0	**-**
Bicycles on Road %	0.3%	0%	0%		0.3%	0%	0%	0%		0%	0%	0%	0%		0%	**-**

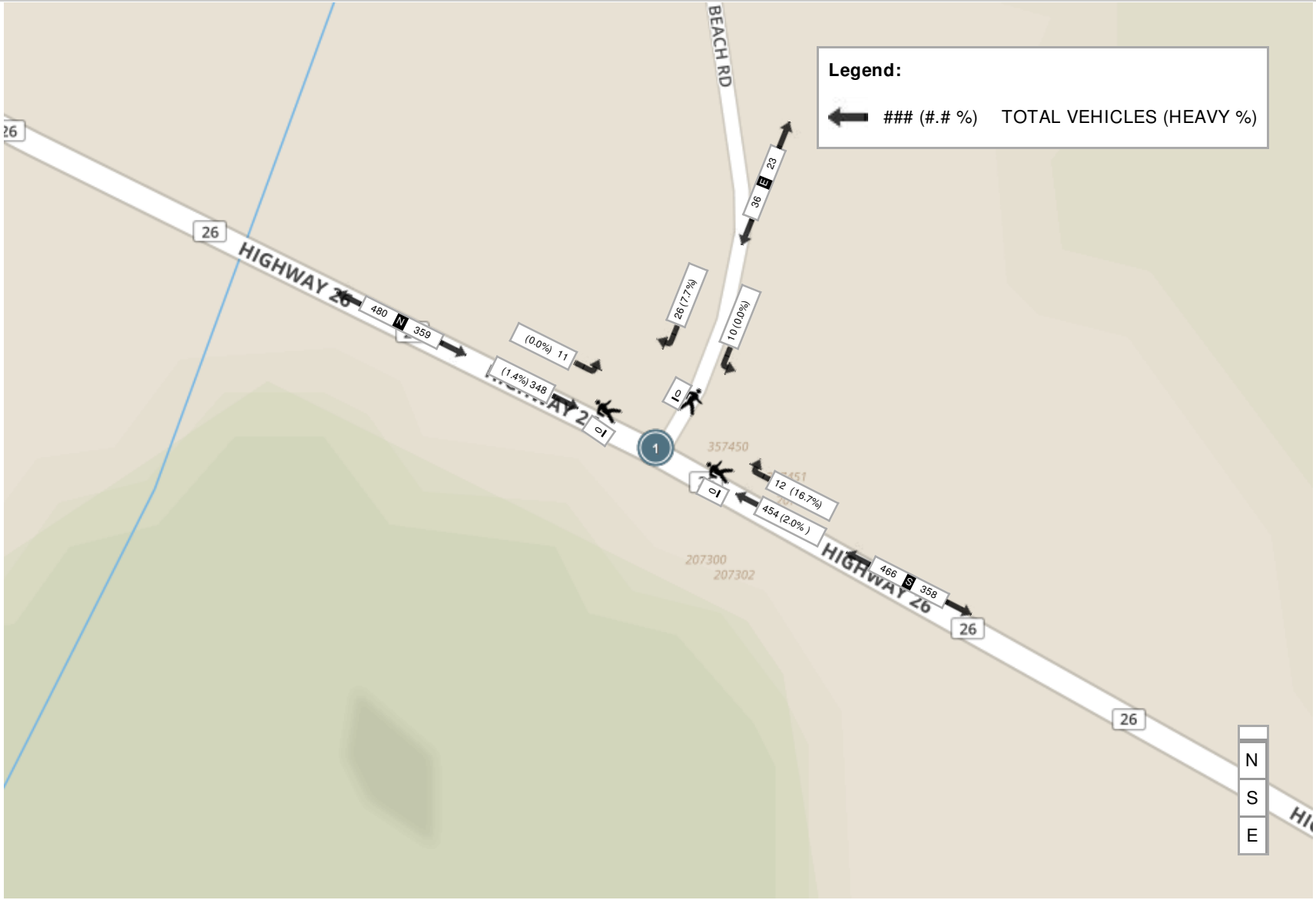
Peak Hour: 04:15 PM - 05:15 PM Weather: Mostly Cloudy (28.3 °C)

Start Time	N Approach HIGHWAY 26					E Approach CHRISTIE BEACH RD					S Approach HIGHWAY 26					Int. Total (15 min)
	Thru	Left	U-Turn	Peds	Approach Total	Right	Left	U-Turn	Peds	Approach Total	Right	Thru	U-Turn	Peds	Approach Total	
16:15:00	78	3	0	0	81	8	2	0	0	10	6	101	0	0	107	198
16:30:00	100	5	0	0	105	4	4	0	0	8	1	113	0	0	114	227
16:45:00	78	3	0	0	81	12	3	0	0	15	3	107	0	0	110	206
17:00:00	92	0	0	0	92	2	1	0	0	3	2	133	0	0	135	230
Grand Total	348	11	0	0	359	26	10	0	0	36	12	454	0	0	466	**861**
Approach%	96.9%	3.1%	0%		-	72.2%	27.8%	0%		-	2.6%	97.4%	0%		-	-
Totals %	40.4%	1.3%	0%		41.7%	3%	1.2%	0%		4.2%	1.4%	52.7%	0%		54.1%	-
PHF	0.87	0.55	0		0.85	0.54	0.63	0		0.6	0.5	0.85	0		0.86	-
Heavy	5	0	0		5	2	0	0		2	2	9	0		11	-
Heavy %	1.4%	0%	0%		1.4%	7.7%	0%	0%		5.6%	16.7%	2%	0%		2.4%	-
Lights	343	11	0		354	24	10	0		34	10	445	0		455	-
Lights %	98.6%	100%	0%		98.6%	92.3%	100%	0%		94.4%	83.3%	98%	0%		97.6%	-
Single-Unit Trucks	3	0	0		3	2	0	0		2	2	7	0		9	-
Single-Unit Trucks %	0.9%	0%	0%		0.8%	7.7%	0%	0%		5.6%	16.7%	1.5%	0%		1.9%	-
Buses	0	0	0		0	0	0	0		0	0	0	0		0	-
Buses %	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	0%		0%	-
Articulated Trucks	2	0	0		2	0	0	0		0	0	2	0		2	-
Articulated Trucks %	0.6%	0%	0%		0.6%	0%	0%	0%		0%	0%	0.4%	0%		0.4%	-
Bicycles on Road	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%	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear (18.3 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Mostly Cloudy (28.3 °C)



APPENDIX C

Level of Service Definitions

Level of Service Definitions

Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Signalized Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Extremely favourable progression with most vehicles arriving during the green phase. Most vehicles do not stop and short cycle lengths may contribute to low delay.
B	> 10 and ≤ 20	VERY GOOD. Very good progression and/or short cycle lengths with slightly more vehicles stopping than LOS "A" causing slightly higher levels of average delay.
C	> 20 and ≤ 35	GOOD. Fair progression and longer cycle lengths lead to a greater number of vehicles stopping than LOS "B".
D	> 35 and ≤ 55	FAIR. Congestion becomes noticeable with higher average delays resulting from a combination of long cycle lengths, high volume-to-capacity ratios and unfavourable progression.
E	> 55 and ≤ 80	POOR. Lengthy delays values are indicative of poor progression, long cycle lengths and high volume-to-capacity ratios. Individual cycle failures are common with individual movement failures also common.
F	> 80	UNSATISFACTORY. Indicative of oversaturated conditions with vehicular demand greater than the capacity of the intersection.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

APPENDIX D

Capacity Analysis Worksheets

EXISTING



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	17	0	5	21	1	2
Future Volume (Veh/h)	17	0	5	21	1	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	19	0	6	24	1	2
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	23	20			31	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	23	20			31	
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	100			100	
cM capacity (veh/h)	997	1062			1593	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	19	30	3
Volume Left	19	0	1
Volume Right	0	24	0
cSH	997	1700	1593
Volume to Capacity	0.02	0.02	0.00
Queue Length 95th (m)	0.5	0.0	0.0
Control Delay (s)	8.7	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	8.7	0.0	2.4
Approach LOS	A		

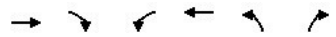
Intersection Summary			
Average Delay		3.3	
Intersection Capacity Utilization		14.0%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	320	253	14	12	7
Future Volume (Veh/h)	12	320	253	14	12	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	14	364	288	16	14	8
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	304				688	297
vC1, stage 1 conf vol					296	
vC2, stage 2 conf vol					392	
vCu, unblocked vol	304				688	297
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	99				98	99
cM capacity (veh/h)	1268				566	747

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	14	364	304	22
Volume Left	14	0	0	14
Volume Right	0	0	16	8
cSH	1268	1700	1700	620
Volume to Capacity	0.01	0.21	0.18	0.04
Queue Length 95th (m)	0.3	0.0	0.0	0.9
Control Delay (s)	7.9	0.0	0.0	11.0
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	11.0
Approach LOS				B

Intersection Summary			
Average Delay		0.5	
Intersection Capacity Utilization		27.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	332	0	0	260	0	1
Future Volume (Veh/h)	332	0	0	260	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	377	0	0	295	0	1
Pedestrians					1	
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			378		526	378
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			378		526	378
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1191		486	625

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	377	98	197	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1191	1700	625
Volume to Capacity	0.22	0.00	0.12	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	10.8
Lane LOS				B
Approach Delay (s)	0.0	0.0		10.8
Approach LOS				B

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			27.5%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	330	1	1	259	0	0
Future Volume (Veh/h)	330	1	1	259	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	375	1	1	294	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			376		672	188
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			376		672	188
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1194		394	828

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	250	126	295	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1194	1700
Volume to Capacity	0.15	0.07	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			17.8%	ICU Level of Service
Analysis Period (min)			15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	0	9	24	1	6
Future Volume (Veh/h)	26	0	9	24	1	6
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	30	0	10	27	1	7
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	32	24			37	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	32	24			37	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	914	1059			1587	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	30	37	8
Volume Left	30	0	1
Volume Right	0	27	0
cSH	914	1700	1587
Volume to Capacity	0.03	0.02	0.00
Queue Length 95th (m)	0.8	0.0	0.0
Control Delay (s)	9.1	0.0	0.9
Lane LOS	A		A
Approach Delay (s)	9.1	0.0	0.9
Approach LOS	A		

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		13.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	16	312	377	17	13	19
Future Volume (Veh/h)	16	312	377	17	13	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	18	355	428	19	15	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	447				828	438
vC1, stage 1 conf vol					438	
vC2, stage 2 conf vol					391	
vCu, unblocked vol	447				828	438
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	98				97	96
cM capacity (veh/h)	1124				517	623

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	18	355	447	37
Volume Left	18	0	0	15
Volume Right	0	0	19	22
cSH	1124	1700	1700	575
Volume to Capacity	0.02	0.21	0.26	0.06
Queue Length 95th (m)	0.4	0.0	0.0	1.6
Control Delay (s)	8.3	0.0	0.0	11.7
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	11.7
Approach LOS				B

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		30.9%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	328	2	1	396	2	1
Future Volume (Veh/h)	328	2	1	396	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	373	2	1	450	2	1
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			375		601	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			375		601	374
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1195		436	629

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	375	151	300	3
Volume Left	0	1	0	2
Volume Right	2	0	0	1
cSH	1700	1195	1700	486
Volume to Capacity	0.22	0.00	0.18	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.1	0.0	12.5
Lane LOS		A		B
Approach Delay (s)	0.0	0.0		12.5
Approach LOS				B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	326	2	1	397	2	2
Future Volume (Veh/h)	326	2	1	397	2	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	370	2	1	451	2	2
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			372		824	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			372		824	186
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1198		230	831

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	247	125	452	4
Volume Left	0	0	1	2
Volume Right	0	2	0	2
cSH	1700	1700	1198	361
Volume to Capacity	0.15	0.07	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.0	0.0	15.1
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	15.1
Approach LOS				C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	14	0	12	8	0	10
Future Volume (Veh/h)	14	0	12	8	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	16	0	14	9	0	11
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	30	18			23	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	30	18			23	
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	100			100	
cM capacity (veh/h)	990	1066			1605	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	16	23	11
Volume Left	16	0	0
Volume Right	0	9	0
cSH	990	1700	1605
Volume to Capacity	0.02	0.01	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	8.7	0.0	0.0
Lane LOS	A		
Approach Delay (s)	8.7	0.0	0.0
Approach LOS	A		

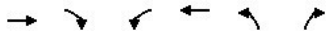
Intersection Summary				
Average Delay		2.8		
Intersection Capacity Utilization		13.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	259	302	3	10	14
Future Volume (Veh/h)	11	259	302	3	10	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	12	294	343	3	11	16
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	346				662	344
vC1, stage 1 conf vol					344	
vC2, stage 2 conf vol					318	
vCu, unblocked vol	346				662	344
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				98	98
cM capacity (veh/h)	1224				612	703

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	12	294	346	27
Volume Left	12	0	0	11
Volume Right	0	0	3	16
cSH	1224	1700	1700	663
Volume to Capacity	0.01	0.17	0.20	0.04
Queue Length 95th (m)	0.2	0.0	0.0	1.0
Control Delay (s)	8.0	0.0	0.0	10.7
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	10.7
Approach LOS				B

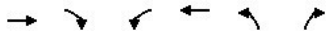
Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization		26.1%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	2	0	316	1	0
Future Volume (Veh/h)	270	2	0	316	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	307	2	0	359	1	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			309		488	308
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		488	308
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1263		514	694

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	309	120	239	1
Volume Left	0	0	0	1
Volume Right	2	0	0	0
cSH	1700	1263	1700	514
Volume to Capacity	0.18	0.00	0.14	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	12.0
Lane LOS				B
Approach Delay (s)	0.0	0.0		12.0
Approach LOS				B

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			24.3%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	270	2	6	311	1	2
Future Volume (Veh/h)	270	2	6	311	1	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	307	2	7	353	1	2
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			309		675	154
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		675	154
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1263		390	870

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	205	104	360	3
Volume Left	0	0	7	1
Volume Right	0	2	0	2
cSH	1700	1700	1263	617
Volume to Capacity	0.12	0.06	0.01	0.00
Queue Length 95th (m)	0.0	0.0	0.1	0.1
Control Delay (s)	0.0	0.0	0.2	10.9
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	10.9
Approach LOS				B

Intersection Summary				
Average Delay			0.2	
Intersection Capacity Utilization			31.2%	ICU Level of Service A
Analysis Period (min)			15	

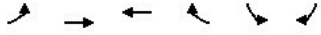
FUTURE BACKGROUND



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	0	6	39	1	2
Future Volume (Veh/h)	66	0	6	39	1	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	75	0	7	44	1	2
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	34	31			52	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	34	31			52	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	983	1047			1566	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	75	51	3
Volume Left	75	0	1
Volume Right	0	44	0
cSH	983	1700	1566
Volume to Capacity	0.08	0.03	0.00
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	9.0	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	2.4
Approach LOS	A		

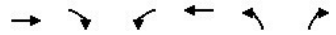
Intersection Summary			
Average Delay		5.3	
Intersection Capacity Utilization		14.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	353	279	24	37	31
Future Volume (Veh/h)	21	353	279	24	37	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	24	401	317	27	42	35
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	344				780	332
vC1, stage 1 conf vol					330	
vC2, stage 2 conf vol					449	
vCu, unblocked vol	344				780	332
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				92	95
cM capacity (veh/h)	1226				525	714

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	24	401	344	77
Volume Left	24	0	0	42
Volume Right	0	0	27	35
cSH	1226	1700	1700	597
Volume to Capacity	0.02	0.24	0.20	0.13
Queue Length 95th (m)	0.5	0.0	0.0	3.5
Control Delay (s)	8.0	0.0	0.0	11.9
Lane LOS	A			B
Approach Delay (s)	0.5		0.0	11.9
Approach LOS				B

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		29.6%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	375	0	0	311	0	1
Future Volume (Veh/h)	375	0	0	311	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	426	0	0	353	0	1
Pedestrians					1	
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			427		604	427
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			427		604	427
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1142		435	581

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	426	118	235	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1142	1700	581
Volume to Capacity	0.25	0.00	0.14	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	11.2
Lane LOS				B
Approach Delay (s)	0.0	0.0		11.2
Approach LOS				B

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		29.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	372	1	1	310	0	0
Future Volume (Veh/h)	372	1	1	310	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	423	1	1	352	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			424		778	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			424		778	212
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1146		337	800

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	282	142	353	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1146	1700
Volume to Capacity	0.17	0.08	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

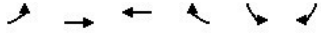
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		20.4%	ICU Level of Service A
Analysis Period (min)		15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	0	10	79	1	7
Future Volume (Veh/h)	60	0	10	79	1	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	0	11	90	1	8
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	66	56			101	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	66	56			101	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	873	1016			1504	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	68	101	9
Volume Left	68	0	1
Volume Right	0	90	0
cSH	873	1700	1504
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	9.5	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.8
Approach LOS	A		

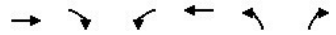
Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		15.4%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	344	416	46	30	36
Future Volume (Veh/h)	44	344	416	46	30	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	50	391	473	52	34	41
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	525				990	499
vC1, stage 1 conf vol					499	
vC2, stage 2 conf vol					491	
vCu, unblocked vol	525				990	499
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	95				92	93
cM capacity (veh/h)	1052				453	576

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	391	525	75
Volume Left	50	0	0	34
Volume Right	0	0	52	41
cSH	1052	1700	1700	512
Volume to Capacity	0.05	0.23	0.31	0.15
Queue Length 95th (m)	1.2	0.0	0.0	4.1
Control Delay (s)	8.6	0.0	0.0	13.2
Lane LOS	A			B
Approach Delay (s)	1.0		0.0	13.2
Approach LOS				B

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		41.9%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	388	2	1	452	2	1
Future Volume (Veh/h)	388	2	1	452	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	441	2	1	514	2	1
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			443		701	442
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			443		701	442
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1128		377	569

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	443	172	343	3
Volume Left	0	1	0	2
Volume Right	2	0	0	1
cSH	1700	1128	1700	425
Volume to Capacity	0.26	0.00	0.20	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.2
Control Delay (s)	0.0	0.1	0.0	13.5
Lane LOS		A		B
Approach Delay (s)	0.0	0.0		13.5
Approach LOS				B

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	30.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	386	2	1	453	2	2
Future Volume (Veh/h)	386	2	1	453	2	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	439	2	1	515	2	2
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			441		957	220
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			441		957	220
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1130		184	790

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	293	148	516	4
Volume Left	0	0	1	2
Volume Right	0	2	0	2
cSH	1700	1700	1130	298
Volume to Capacity	0.17	0.09	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.0	0.0	17.2
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	17.2
Approach LOS				C

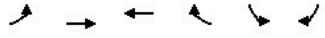
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	0	13	53	0	11
Future Volume (Veh/h)	56	0	13	53	0	11
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	64	0	15	60	0	12
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	57	45			75	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	57	45			75	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	955	1031			1537	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	64	75	12
Volume Left	64	0	0
Volume Right	0	60	0
cSH	955	1700	1537
Volume to Capacity	0.07	0.04	0.00
Queue Length 95th (m)	1.7	0.0	0.0
Control Delay (s)	9.0	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.0	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.8		
Intersection Capacity Utilization		13.9%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	286	333	32	31	37
Future Volume (Veh/h)	34	286	333	32	31	37
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	39	325	378	36	35	42
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	414				799	396
vC1, stage 1 conf vol					396	
vC2, stage 2 conf vol					403	
vCu, unblocked vol	414				799	396
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	94
cM capacity (veh/h)	1156				548	658

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	39	325	414	77
Volume Left	39	0	0	35
Volume Right	0	0	36	42
cSH	1156	1700	1700	603
Volume to Capacity	0.03	0.19	0.24	0.13
Queue Length 95th (m)	0.8	0.0	0.0	3.5
Control Delay (s)	8.2	0.0	0.0	11.8
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	11.8
Approach LOS				B

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		36.8%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	320	2	0	370	1	0
Future Volume (Veh/h)	320	2	0	370	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	364	2	0	420	1	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			366		575	365
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			366		575	365
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1204		453	638

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	366	140	280	1
Volume Left	0	0	0	1
Volume Right	2	0	0	0
cSH	1700	1204	1700	453
Volume to Capacity	0.22	0.00	0.16	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	13.0
Lane LOS				B
Approach Delay (s)	0.0	0.0		13.0
Approach LOS				B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	27.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	320	2	7	364	1	2
Future Volume (Veh/h)	320	2	7	364	1	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	364	2	8	414	1	2
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			366		795	183
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			366		795	183
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1204		327	834

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	243	123	422	3
Volume Left	0	0	8	1
Volume Right	0	2	0	2
cSH	1700	1700	1204	550
Volume to Capacity	0.14	0.07	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.1
Control Delay (s)	0.0	0.0	0.2	11.6
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	11.6
Approach LOS				B

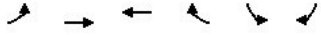
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	68	0	6	41	1	2
Future Volume (Veh/h)	68	0	6	41	1	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	77	0	7	47	1	2
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	36	32			55	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	32			55	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	981	1045			1562	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	77	54	3
Volume Left	77	0	1
Volume Right	0	47	0
cSH	981	1700	1562
Volume to Capacity	0.08	0.03	0.00
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	9.0	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	2.4
Approach LOS	A		

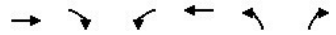
Intersection Summary			
Average Delay		5.2	
Intersection Capacity Utilization		14.4%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	382	302	25	38	32
Future Volume (Veh/h)	22	382	302	25	38	32
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	25	434	343	28	43	36
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	371				841	358
vC1, stage 1 conf vol					357	
vC2, stage 2 conf vol					484	
vCu, unblocked vol	371				841	358
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				91	95
cM capacity (veh/h)	1199				502	690

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	25	434	371	79
Volume Left	25	0	0	43
Volume Right	0	0	28	36
cSH	1199	1700	1700	573
Volume to Capacity	0.02	0.26	0.22	0.14
Queue Length 95th (m)	0.5	0.0	0.0	3.8
Control Delay (s)	8.1	0.0	0.0	12.3
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	12.3
Approach LOS				B

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		31.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	405	0	0	334	0	1
Future Volume (Veh/h)	405	0	0	334	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	460	0	0	380	0	1
Pedestrians					1	
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			461		651	461
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			461		651	461
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1110		406	552

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	460	127	253	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1110	1700	552
Volume to Capacity	0.27	0.00	0.15	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	11.5
Lane LOS				B
Approach Delay (s)	0.0	0.0		11.5
Approach LOS				B

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			31.3%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	402	1	1	333	0	0
Future Volume (Veh/h)	402	1	1	333	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	457	1	1	378	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			458		838	229
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			458		838	229
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1114		309	780

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	305	153	379	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1114	1700
Volume to Capacity	0.18	0.09	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

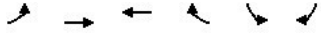
Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			21.7%	ICU Level of Service A
Analysis Period (min)			15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	0	11	81	1	7
Future Volume (Veh/h)	62	0	11	81	1	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	70	0	12	92	1	8
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	68	58			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68	58			104	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	871	1014			1500	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	70	104	9
Volume Left	70	0	1
Volume Right	0	92	0
cSH	871	1700	1500
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (m)	2.1	0.0	0.0
Control Delay (s)	9.5	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.8
Approach LOS	A		

Intersection Summary			
Average Delay	3.7		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	373	451	47	32	38
Future Volume (Veh/h)	45	373	451	47	32	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	51	424	512	53	36	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	565				1064	538
vC1, stage 1 conf vol					538	
vC2, stage 2 conf vol					526	
vCu, unblocked vol	565				1064	538
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	95				92	92
cM capacity (veh/h)	1017				429	547

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	51	424	565	79
Volume Left	51	0	0	36
Volume Right	0	0	53	43
cSH	1017	1700	1700	486
Volume to Capacity	0.05	0.25	0.33	0.16
Queue Length 95th (m)	1.3	0.0	0.0	4.6
Control Delay (s)	8.7	0.0	0.0	13.8
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	13.8
Approach LOS				B

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	44.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	418	2	1	488	2	1
Future Volume (Veh/h)	418	2	1	488	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	475	2	1	555	2	1
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			477		756	476
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			477		756	476
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1096		348	541

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	477	186	370	3
Volume Left	0	1	0	2
Volume Right	2	0	0	1
cSH	1700	1096	1700	395
Volume to Capacity	0.28	0.00	0.22	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.2
Control Delay (s)	0.0	0.1	0.0	14.2
Lane LOS		A		B
Approach Delay (s)	0.0	0.0		14.2
Approach LOS				B

Intersection Summary				
Average Delay			0.1	
Intersection Capacity Utilization			32.1%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	416	2	1	489	2	2
Future Volume (Veh/h)	416	2	1	489	2	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	473	2	1	556	2	2
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			475		1032	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			475		1032	238
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1098		162	770

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	315	160	557	4
Volume Left	0	0	1	2
Volume Right	0	2	0	2
cSH	1700	1700	1098	267
Volume to Capacity	0.19	0.09	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.4
Control Delay (s)	0.0	0.0	0.0	18.7
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	18.7
Approach LOS				C

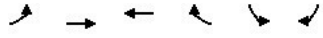
Intersection Summary				
Average Delay			0.1	
Intersection Capacity Utilization			36.5%	ICU Level of Service
Analysis Period (min)			15	



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	57	0	14	54	0	12
Future Volume (Veh/h)	57	0	14	54	0	12
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	65	0	16	61	0	14
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	46			77	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	46			77	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	951	1029			1535	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	65	77	14
Volume Left	65	0	0
Volume Right	0	61	0
cSH	951	1700	1535
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.8	0.0	0.0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.8		
Intersection Capacity Utilization		14.1%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	310	361	33	32	38
Future Volume (Veh/h)	35	310	361	33	32	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	40	352	410	38	36	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	448				861	429
vC1, stage 1 conf vol					429	
vC2, stage 2 conf vol					432	
vCu, unblocked vol	448				861	429
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				93	93
cM capacity (veh/h)	1123				525	630

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	40	352	448	79
Volume Left	40	0	0	36
Volume Right	0	0	38	43
cSH	1123	1700	1700	577
Volume to Capacity	0.04	0.21	0.26	0.14
Queue Length 95th (m)	0.9	0.0	0.0	3.8
Control Delay (s)	8.3	0.0	0.0	12.2
Lane LOS	A			B
Approach Delay (s)	0.8		0.0	12.2
Approach LOS				B

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		38.4%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	345	2	0	399	1	0
Future Volume (Veh/h)	345	2	0	399	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	392	2	0	453	1	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			394		620	393
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			394		620	393
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1176		425	612

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	394	151	302	1
Volume Left	0	0	0	1
Volume Right	2	0	0	0
cSH	1700	1176	1700	425
Volume to Capacity	0.23	0.00	0.18	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	13.5
Lane LOS				B
Approach Delay (s)	0.0	0.0		13.5
Approach LOS				B

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		28.3%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	345	2	7	393	1	2
Future Volume (Veh/h)	345	2	7	393	1	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	392	2	8	447	1	2
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			394		856	197
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			394		856	197
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1176		299	817

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	261	133	455	3
Volume Left	0	0	8	1
Volume Right	0	2	0	2
cSH	1700	1700	1176	518
Volume to Capacity	0.15	0.08	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.1
Control Delay (s)	0.0	0.0	0.2	12.0
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	12.0
Approach LOS				B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		36.3%	ICU Level of Service A
Analysis Period (min)		15	

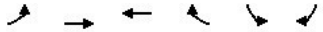
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	0	6	43	1	3
Future Volume (vph)	69	0	6	43	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.882			
Flt Protected	0.950					0.988
Satd. Flow (prot)	1805	0	1676	0	0	1877
Flt Permitted	0.950					0.988
Satd. Flow (perm)	1805	0	1676	0	0	1877
Link Speed (k/h)	50		50			50
Link Distance (m)	598.5		608.1			225.0
Travel Time (s)	43.1		43.8			16.2
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	78	0	7	49	1	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	56	0	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	69	0	6	43	1	3
Future Volume (Veh/h)	69	0	6	43	1	3
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	78	0	7	49	1	3
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	38	34			57	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	38	34			57	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	978	1044			1559	

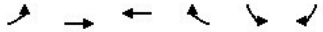
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	78	56	4
Volume Left	78	0	1
Volume Right	0	49	0
cSH	978	1700	1559
Volume to Capacity	0.08	0.03	0.00
Queue Length 95th (m)	2.1	0.0	0.0
Control Delay (s)	9.0	0.0	1.8
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	1.8
Approach LOS	A		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	14.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	24	414	327	26	39	33
Future Volume (vph)	24	414	327	26	39	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.990		0.937	
Flt Protected	0.950				0.974	
Satd. Flow (prot)	1805	1827	1768	0	1589	0
Flt Permitted	0.950				0.974	
Satd. Flow (perm)	1805	1827	1768	0	1589	0
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	6%	11%	17%	0%
Adj. Flow (vph)	27	470	372	30	44	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	470	402	0	82	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
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	33.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	24	414	327	26	39	33
Future Volume (Veh/h)	24	414	327	26	39	33
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	27	470	372	30	44	38
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	402				911	388
vC1, stage 1 conf vol					387	
vC2, stage 2 conf vol					524	
vCu, unblocked vol	402				911	388
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				91	94
cM capacity (veh/h)	1168				477	664

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	27	470	402	82
Volume Left	27	0	0	44
Volume Right	0	0	30	38
cSH	1168	1700	1700	548
Volume to Capacity	0.02	0.28	0.24	0.15
Queue Length 95th (m)	0.6	0.0	0.0	4.2
Control Delay (s)	8.2	0.0	0.0	12.7
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	12.7
Approach LOS				B

Intersection Summary			
Average Delay		1.3	
Intersection Capacity Utilization		33.0%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	438	0	0	360	0	1
Future Volume (vph)	438	0	0	360	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	1845	0	0	3406	1644	0
Flt Permitted						
Satd. Flow (perm)	1845	0	0	3406	1644	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	89.7			123.6	119.2	
Travel Time (s)	4.0			5.6	8.6	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	6%	0%	0%
Adj. Flow (vph)	498	0	0	409	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	498	0	0	409	1	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	33.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	438	0	0	360	0	1
Future Volume (Veh/h)	438	0	0	360	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	498	0	0	409	0	1
Pedestrians					1	
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			499		704	499
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			499		704	499
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1075		376	522

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	498	136	273	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1075	1700	522
Volume to Capacity	0.29	0.00	0.16	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	11.9
Lane LOS				B
Approach Delay (s)	0.0	0.0		11.9
Approach LOS				B

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		33.1%	ICU Level of Service A
Analysis Period (min)		15	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	435	1	1	359	0	0
Future Volume (vph)	435	1	1	359	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3505	0	0	1793	1900	0
Flt Permitted						
Satd. Flow (perm)	3505	0	0	1793	1900	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	473.2			518.7	94.1	
Travel Time (s)	21.3			23.3	6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	6%	0%	0%
Adj. Flow (vph)	494	1	1	408	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	495	0	0	409	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	23.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	435	1	1	359	0	0
Future Volume (Veh/h)	435	1	1	359	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	494	1	1	408	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			495		904	248
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			495		904	248
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1079		280	759

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	329	166	409	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1079	1700
Volume to Capacity	0.19	0.10	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	23.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	65	0	12	84	1	8
Future Volume (Veh/h)	65	0	12	84	1	8
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	74	0	14	95	1	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	72	62			109	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	72	62			109	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	866	1009			1494	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	74	109	10
Volume Left	74	0	1
Volume Right	0	95	0
cSH	866	1700	1494
Volume to Capacity	0.09	0.06	0.00
Queue Length 95th (m)	2.2	0.0	0.0
Control Delay (s)	9.5	0.0	0.7
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.7
Approach LOS	A		

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		16.1%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	404	488	49	33	40
Future Volume (Veh/h)	47	404	488	49	33	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	53	459	555	56	38	45
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	611				1148	583
vC1, stage 1 conf vol					583	
vC2, stage 2 conf vol					565	
vCu, unblocked vol	611				1148	583
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	95				91	91
cM capacity (veh/h)	978				404	516

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	53	459	611	83
Volume Left	53	0	0	38
Volume Right	0	0	56	45
cSH	978	1700	1700	458
Volume to Capacity	0.05	0.27	0.36	0.18
Queue Length 95th (m)	1.4	0.0	0.0	5.2
Control Delay (s)	8.9	0.0	0.0	14.6
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	14.6
Approach LOS				B

Intersection Summary			
Average Delay		1.4	
Intersection Capacity Utilization		46.3%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	451	3	1	527	3	1
Future Volume (Veh/h)	451	3	1	527	3	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	512	3	1	599	3	1
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			515		815	514
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			515		815	514
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1061		319	511

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	515	201	399	4
Volume Left	0	1	0	3
Volume Right	3	0	0	1
cSH	1700	1061	1700	352
Volume to Capacity	0.30	0.00	0.23	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.1	0.0	15.3
Lane LOS		A		C
Approach Delay (s)	0.0	0.0		15.3
Approach LOS				C

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	33.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	448	3	1	529	3	3
Future Volume (Veh/h)	448	3	1	529	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	509	3	1	601	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			512		1114	256
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			512		1114	256
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1064		140	749

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	339	173	602	6
Volume Left	0	0	1	3
Volume Right	0	3	0	3
cSH	1700	1700	1064	236
Volume to Capacity	0.20	0.10	0.00	0.03
Queue Length 95th (m)	0.0	0.0	0.0	0.6
Control Delay (s)	0.0	0.0	0.0	20.6
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	20.6
Approach LOS				C

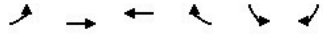
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	59	0	16	54	0	13
Future Volume (Veh/h)	59	0	16	54	0	13
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	67	0	18	61	0	15
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	64	48			79	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	64	48			79	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	947	1026			1532	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	67	79	15
Volume Left	67	0	0
Volume Right	0	61	0
cSH	947	1700	1532
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.8	0.0	0.0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.8		
Intersection Capacity Utilization		14.2%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	36	335	391	34	33	39
Future Volume (Veh/h)	36	335	391	34	33	39
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	41	381	444	39	38	44
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	483				926	464
vC1, stage 1 conf vol					464	
vC2, stage 2 conf vol					463	
vCu, unblocked vol	483				926	464
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	93
cM capacity (veh/h)	1090				501	603

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	41	381	483	82
Volume Left	41	0	0	38
Volume Right	0	0	39	44
cSH	1090	1700	1700	551
Volume to Capacity	0.04	0.22	0.28	0.15
Queue Length 95th (m)	0.9	0.0	0.0	4.2
Control Delay (s)	8.4	0.0	0.0	12.7
Lane LOS	A			B
Approach Delay (s)	0.8		0.0	12.7
Approach LOS				B

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		40.2%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	371	3	0	430	1	0
Future Volume (Veh/h)	371	3	0	430	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	422	3	0	489	1	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			425		668	424
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			425		668	424
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1145		396	585

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	425	163	326	1
Volume Left	0	0	0	1
Volume Right	3	0	0	0
cSH	1700	1145	1700	396
Volume to Capacity	0.25	0.00	0.19	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	14.1
Lane LOS				B
Approach Delay (s)	0.0	0.0		14.1
Approach LOS				B

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		29.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	371	3	8	423	1	3
Future Volume (Veh/h)	371	3	8	423	1	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	422	3	9	481	1	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			425		922	212
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			425		922	212
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1145		271	799

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	281	144	490	4
Volume Left	0	0	9	1
Volume Right	0	3	0	3
cSH	1700	1700	1145	537
Volume to Capacity	0.17	0.08	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.2
Control Delay (s)	0.0	0.0	0.2	11.8
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	11.8
Approach LOS				B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		38.7%	ICU Level of Service A
Analysis Period (min)		15	

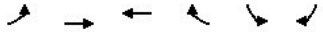
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	72	0	7	46	1	3
Future Volume (vph)	72	0	7	46	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.883			
Flt Protected	0.950					0.988
Satd. Flow (prot)	1805	0	1678	0	0	1877
Flt Permitted	0.950					0.988
Satd. Flow (perm)	1805	0	1678	0	0	1877
Link Speed (k/h)	50		50			50
Link Distance (m)	598.5		608.1			225.0
Travel Time (s)	43.1		43.8			16.2
Confl. Peds. (#/hr)		1		1	1	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	82	0	8	52	1	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	0	60	0	0	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.6		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.8		4.8			4.8
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25	15		15	25	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	72	0	7	46	1	3
Future Volume (Veh/h)	72	0	7	46	1	3
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	82	0	8	52	1	3
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	40	36			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	40	36			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	975	1041			1554	

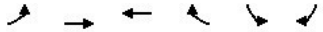
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	82	60	4
Volume Left	82	0	1
Volume Right	0	52	0
cSH	975	1700	1554
Volume to Capacity	0.08	0.04	0.00
Queue Length 95th (m)	2.2	0.0	0.0
Control Delay (s)	9.0	0.0	1.8
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	1.8
Approach LOS	A		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	457	361	28	41	34
Future Volume (vph)	25	457	361	28	41	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.990		0.939	
Flt Protected	0.950				0.973	
Satd. Flow (prot)	1805	1827	1768	0	1588	0
Flt Permitted	0.950				0.973	
Satd. Flow (perm)	1805	1827	1768	0	1588	0
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	6%	11%	17%	0%
Adj. Flow (vph)	28	519	410	32	47	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	28	519	442	0	86	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
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	35.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	457	361	28	41	34
Future Volume (Veh/h)	25	457	361	28	41	34
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	28	519	410	32	47	39
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	442				1001	427
vC1, stage 1 conf vol					426	
vC2, stage 2 conf vol					575	
vCu, unblocked vol	442				1001	427
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				89	94
cM capacity (veh/h)	1129				447	631

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	28	519	442	86
Volume Left	28	0	0	47
Volume Right	0	0	32	39
cSH	1129	1700	1700	515
Volume to Capacity	0.02	0.31	0.26	0.17
Queue Length 95th (m)	0.6	0.0	0.0	4.8
Control Delay (s)	8.3	0.0	0.0	13.4
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	13.4
Approach LOS				B

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		35.4%	ICU Level of Service	A
Analysis Period (min)		15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	482	0	0	395	0	1
Future Volume (vph)	482	0	0	395	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected						
Satd. Flow (prot)	1845	0	0	3406	1644	0
Flt Permitted						
Satd. Flow (perm)	1845	0	0	3406	1644	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	89.7			123.6	119.2	
Travel Time (s)	4.0			5.6	8.6	
Confl. Peds. (#/hr)		1	1			
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	6%	0%	0%
Adj. Flow (vph)	548	0	0	449	0	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	548	0	0	449	1	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	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	482	0	0	395	0	1
Future Volume (Veh/h)	482	0	0	395	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	548	0	0	449	0	1
Pedestrians					1	
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			549		774	549
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			549		774	549
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1030		339	484

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	548	150	299	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1030	1700	484
Volume to Capacity	0.32	0.00	0.18	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	12.4
Lane LOS				B
Approach Delay (s)	0.0	0.0		12.4
Approach LOS				B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	479	1	1	394	0	0
Future Volume (vph)	479	1	1	394	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3505	0	0	1793	1900	0
Flt Permitted						
Satd. Flow (perm)	3505	0	0	1793	1900	0
Link Speed (k/h)	80			80	50	
Link Distance (m)	473.2			518.7	94.1	
Travel Time (s)	21.3			23.3	6.8	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	6%	0%	0%
Adj. Flow (vph)	544	1	1	448	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	545	0	0	449	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	24.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	1	1	394	0	0
Future Volume (Veh/h)	479	1	1	394	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	544	1	1	448	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			545		994	272
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			545		994	272
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1034		245	731

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	363	182	449	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1034	1700
Volume to Capacity	0.21	0.11	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	24.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	68	0	13	87	1	9
Future Volume (Veh/h)	68	0	13	87	1	9
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	77	0	15	99	1	10
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	76	64			114	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	76	64			114	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	91	100			100	
cM capacity (veh/h)	861	1005			1488	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	77	114	11
Volume Left	77	0	1
Volume Right	0	99	0
cSH	861	1700	1488
Volume to Capacity	0.09	0.07	0.00
Queue Length 95th (m)	2.3	0.0	0.0
Control Delay (s)	9.6	0.0	0.7
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.7
Approach LOS	A		

Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		16.5%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	446	538	51	35	42
Future Volume (Veh/h)	49	446	538	51	35	42
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	56	507	611	58	40	48
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	669				1259	640
vC1, stage 1 conf vol					640	
vC2, stage 2 conf vol					619	
vCu, unblocked vol	669				1259	640
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	94				89	90
cM capacity (veh/h)	931				374	479

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	56	507	669	88
Volume Left	56	0	0	40
Volume Right	0	0	58	48
cSH	931	1700	1700	425
Volume to Capacity	0.06	0.30	0.39	0.21
Queue Length 95th (m)	1.5	0.0	0.0	6.2
Control Delay (s)	9.1	0.0	0.0	15.7
Lane LOS	A			C
Approach Delay (s)	0.9		0.0	15.7
Approach LOS				C

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		49.3%	ICU Level of Service	A
Analysis Period (min)		15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	495	3	1	581	3	1
Future Volume (Veh/h)	495	3	1	581	3	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	562	3	1	660	3	1
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			565		896	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			565		896	564
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1017		284	474

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	565	221	440	4
Volume Left	0	1	0	3
Volume Right	3	0	0	1
cSH	1700	1017	1700	315
Volume to Capacity	0.33	0.00	0.26	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.0	0.0	16.6
Lane LOS		A		C
Approach Delay (s)	0.0	0.0		16.6
Approach LOS				C

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	492	3	1	582	3	3
Future Volume (Veh/h)	492	3	1	582	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	559	3	1	661	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			562		1224	281
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			562		1224	281
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1019		116	722

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	373	189	662	6
Volume Left	0	0	1	3
Volume Right	0	3	0	3
cSH	1700	1700	1019	200
Volume to Capacity	0.22	0.11	0.00	0.03
Queue Length 95th (m)	0.0	0.0	0.0	0.7
Control Delay (s)	0.0	0.0	0.0	23.6
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	23.6
Approach LOS				C

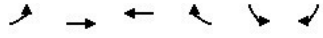
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	60	0	17	56	0	14
Future Volume (Veh/h)	60	0	17	56	0	14
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	68	0	19	64	0	16
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	67	51			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	67	51			83	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	943	1023			1527	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	68	83	16
Volume Left	68	0	0
Volume Right	0	64	0
cSH	943	1700	1527
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.9	0.0	0.0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay		3.7		
Intersection Capacity Utilization		14.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	370	431	35	34	41
Future Volume (Veh/h)	38	370	431	35	34	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	43	420	490	40	39	47
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	530				1016	510
vC1, stage 1 conf vol					510	
vC2, stage 2 conf vol					506	
vCu, unblocked vol	530				1016	510
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				92	92
cM capacity (veh/h)	1048				470	567

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	43	420	530	86
Volume Left	43	0	0	39
Volume Right	0	0	40	47
cSH	1048	1700	1700	519
Volume to Capacity	0.04	0.25	0.31	0.17
Queue Length 95th (m)	1.0	0.0	0.0	4.7
Control Delay (s)	8.6	0.0	0.0	13.3
Lane LOS	A			B
Approach Delay (s)	0.8		0.0	13.3
Approach LOS				B

Intersection Summary				
Average Delay		1.4		
Intersection Capacity Utilization		42.5%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	408	3	0	472	1	0
Future Volume (Veh/h)	408	3	0	472	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	464	3	0	536	1	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			467		734	466
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			467		734	466
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1105		360	549

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	467	179	357	1
Volume Left	0	0	0	1
Volume Right	3	0	0	0
cSH	1700	1105	1700	360
Volume to Capacity	0.27	0.00	0.21	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	15.0
Lane LOS				C
Approach Delay (s)	0.0	0.0		15.0
Approach LOS				C

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		31.7%	ICU Level of Service A
Analysis Period (min)		15	

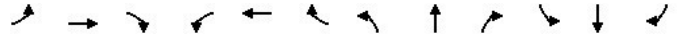


Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	408	3	9	465	1	3
Future Volume (Veh/h)	408	3	9	465	1	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	464	3	10	528	1	3
Pedestrians						
Lane Width (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			467		1014	234
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			467		1014	234
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1105		236	775

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	309	158	538	4
Volume Left	0	0	10	1
Volume Right	0	3	0	3
cSH	1700	1700	1105	493
Volume to Capacity	0.18	0.09	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.2
Control Delay (s)	0.0	0.0	0.3	12.4
Lane LOS			A	B
Approach Delay (s)	0.0		0.3	12.4
Approach LOS				B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		41.7%	ICU Level of Service A
Analysis Period (min)		15	

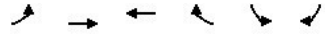
FUTURE TOTAL



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	66	0	0	0	6	39	1	2	0
Future Volume (Veh/h)	0	0	0	66	0	0	0	6	39	1	2	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	75	0	0	0	7	44	1	2	0
Pedestrians					1						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	34	56	2	34	34	31	2			52		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	34	56	2	34	34	31	2			52		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	100	100	100			100		
cM capacity (veh/h)	971	834	1082	976	857	1047	1620			1566		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	75	51	3
Volume Left	0	75	0	1
Volume Right	0	0	44	0
cSH	1700	976	1620	1566
Volume to Capacity	0.00	0.08	0.00	0.00
Queue Length 95th (m)	0.0	2.0	0.0	0.0
Control Delay (s)	0.0	9.0	0.0	2.4
Lane LOS	A	A		A
Approach Delay (s)	0.0	9.0	0.0	2.4
Approach LOS	A	A		

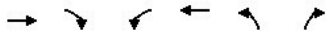
Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	14.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	21	415	307	24	37	31
Future Volume (Veh/h)	21	415	307	24	37	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	24	472	349	27	42	35
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	376				882	364
vC1, stage 1 conf vol					362	
vC2, stage 2 conf vol					520	
vCu, unblocked vol	376				882	364
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				91	95
cM capacity (veh/h)	1194				486	685

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	24	472	376	77
Volume Left	24	0	0	42
Volume Right	0	0	27	35
cSH	1194	1700	1700	560
Volume to Capacity	0.02	0.28	0.22	0.14
Queue Length 95th (m)	0.5	0.0	0.0	3.8
Control Delay (s)	8.1	0.0	0.0	12.5
Lane LOS	A			B
Approach Delay (s)	0.4		0.0	12.5
Approach LOS				B

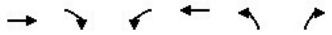
Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	32.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	436	0	0	338	0	1
Future Volume (Veh/h)	436	0	0	338	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	495	0	0	384	0	1
Pedestrians					1	
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			496		688	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			496		688	496
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1077		384	524

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	495	128	256	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	1077	1700	524
Volume to Capacity	0.29	0.00	0.15	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	11.9
Lane LOS				B
Approach Delay (s)	0.0	0.0		11.9
Approach LOS				B

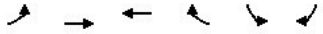
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	32.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	400	1	1	372	0	0
Future Volume (Veh/h)	400	1	1	372	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	455	1	1	423	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			456		880	228
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			456		880	228
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1115		290	781

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	303	153	424	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1115	1700
Volume to Capacity	0.18	0.09	0.00	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

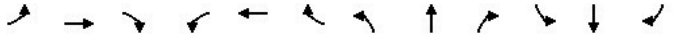
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	23.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	372	311	28	62	62
Future Volume (Veh/h)	28	372	311	28	62	62
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	32	423	353	32	70	70
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	385				856	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	385				856	192
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				76	91
cM capacity (veh/h)	1170				289	817

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	32	423	235	150	140
Volume Left	32	0	0	0	70
Volume Right	0	0	0	32	70
cSH	1170	1700	1700	1700	427
Volume to Capacity	0.03	0.25	0.14	0.09	0.33
Queue Length 95th (m)	0.7	0.0	0.0	0.0	11.3
Control Delay (s)	8.2	0.0	0.0	0.0	17.5
Lane LOS	A				C
Approach Delay (s)	0.6		0.0		17.5
Approach LOS					C

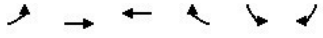
Intersection Summary				
Average Delay	2.8			
Intersection Capacity Utilization	33.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	60	0	0	0	10	79	1	7	0
Future Volume (Veh/h)	0	0	0	60	0	0	0	10	79	1	7	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	68	0	0	0	11	90	1	8	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	66	111	8	66	66	56	8			101		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	66	111	8	66	66	56	8			101		
tC, single (s)	7.1	6.5	6.2	7.4	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.8	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	92	100	100	100			100		
cM capacity (veh/h)	927	779	1074	862	824	1016	1612			1504		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	68	101	9
Volume Left	0	68	0	1
Volume Right	0	0	90	0
cSH	1700	862	1612	1504
Volume to Capacity	0.00	0.08	0.00	0.00
Queue Length 95th (m)	0.0	2.0	0.0	0.0
Control Delay (s)	0.0	9.5	0.0	0.8
Lane LOS	A	A		A
Approach Delay (s)	0.0	9.5	0.0	0.8
Approach LOS	A	A		

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	15.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	44	396	491	46	30	36
Future Volume (Veh/h)	44	396	491	46	30	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	50	450	558	52	34	41
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	610				1134	584
vC1, stage 1 conf vol					584	
vC2, stage 2 conf vol					550	
vCu, unblocked vol	610				1134	584
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	95				92	92
cM capacity (veh/h)	979				409	515

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	50	450	610	75
Volume Left	50	0	0	34
Volume Right	0	0	52	41
cSH	979	1700	1700	461
Volume to Capacity	0.05	0.26	0.36	0.16
Queue Length 95th (m)	1.3	0.0	0.0	4.6
Control Delay (s)	8.9	0.0	0.0	14.3
Lane LOS	A			B
Approach Delay (s)	0.9		0.0	14.3
Approach LOS				B

Intersection Summary				
Average Delay		1.3		
Intersection Capacity Utilization		45.8%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	440	2	1	527	2	1
Future Volume (Veh/h)	440	2	1	527	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	500	2	1	599	2	1
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			502		802	501
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			502		802	501
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1073		325	521

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	502	201	399	3
Volume Left	0	1	0	2
Volume Right	2	0	0	1
cSH	1700	1073	1700	372
Volume to Capacity	0.30	0.00	0.23	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.2
Control Delay (s)	0.0	0.1	0.0	14.8
Lane LOS		A		B
Approach Delay (s)	0.0	0.0		14.8
Approach LOS				B

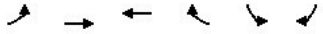
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		33.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	461	2	1	505	2	2
Future Volume (Veh/h)	461	2	1	505	2	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	524	2	1	574	2	2
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			526		1101	263
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			526		1101	263
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			1051		143	742

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	349	177	575	4
Volume Left	0	0	1	2
Volume Right	0	2	0	2
cSH	1700	1700	1051	240
Volume to Capacity	0.21	0.10	0.00	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.4
Control Delay (s)	0.0	0.0	0.0	20.2
Lane LOS			A	C
Approach Delay (s)	0.0		0.0	20.2
Approach LOS				C

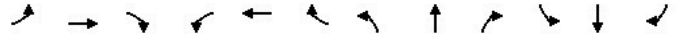
Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	37.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	75	388	454	75	52	52
Future Volume (Veh/h)	75	388	454	75	52	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	85	441	516	85	59	59
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	601				1170	300
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	601				1170	300
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				65	92
cM capacity (veh/h)	972				170	696

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	85	441	344	257	118
Volume Left	85	0	0	0	59
Volume Right	0	0	0	85	59
cSH	972	1700	1700	1700	273
Volume to Capacity	0.09	0.26	0.20	0.15	0.43
Queue Length 95th (m)	2.3	0.0	0.0	0.0	16.5
Control Delay (s)	9.1	0.0	0.0	0.0	27.9
Lane LOS	A				D
Approach Delay (s)	1.5		0.0		27.9
Approach LOS					D

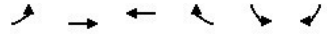
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	35.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	56	0	0	0	13	53	0	11	0
Future Volume (Veh/h)	0	0	0	56	0	0	0	13	53	0	11	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	0	0	64	0	0	0	15	60	0	12	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	57	87	12	57	57	45	12			75		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	57	87	12	57	57	45	12			75		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	93	100	100	100			100		
cM capacity (veh/h)	940	803	1069	945	834	1031	1607			1537		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	64	75	12
Volume Left	0	64	0	0
Volume Right	0	0	60	0
cSH	1700	945	1607	1537
Volume to Capacity	0.00	0.07	0.00	0.00
Queue Length 95th (m)	0.0	1.7	0.0	0.0
Control Delay (s)	0.0	9.1	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	0.0	9.1	0.0	0.0
Approach LOS	A	A		

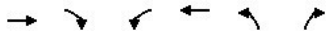
Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	13.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	34	348	403	32	31	36
Future Volume (Veh/h)	34	348	403	32	31	36
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	39	395	458	36	35	41
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	494				949	476
vC1, stage 1 conf vol					476	
vC2, stage 2 conf vol					473	
vCu, unblocked vol	494				949	476
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				93	93
cM capacity (veh/h)	1080				494	593

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	39	395	494	76
Volume Left	39	0	0	35
Volume Right	0	0	36	41
cSH	1080	1700	1700	543
Volume to Capacity	0.04	0.23	0.29	0.14
Queue Length 95th (m)	0.9	0.0	0.0	3.9
Control Delay (s)	8.5	0.0	0.0	12.7
Lane LOS	A			B
Approach Delay (s)	0.8		0.0	12.7
Approach LOS				B

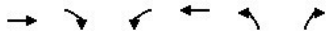
Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	38.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	382	2	0	440	1	0
Future Volume (Veh/h)	382	2	0	440	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	434	2	0	500	1	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			436		685	435
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			436		685	435
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1134		386	575

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	436	167	333	1
Volume Left	0	0	0	1
Volume Right	2	0	0	0
cSH	1700	1134	1700	386
Volume to Capacity	0.26	0.00	0.20	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	14.3
Lane LOS				B
Approach Delay (s)	0.0	0.0		14.3
Approach LOS				B

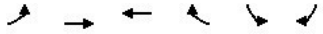
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	30.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	404	2	7	426	1	2
Future Volume (Veh/h)	404	2	7	426	1	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	459	2	8	484	1	2
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			461		960	230
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			461		960	230
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	100
cM capacity (veh/h)			1111		256	778

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	306	155	492	3
Volume Left	0	0	8	1
Volume Right	0	2	0	2
cSH	1700	1700	1111	463
Volume to Capacity	0.18	0.09	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.2
Control Delay (s)	0.0	0.0	0.2	12.8
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	12.8
Approach LOS				B

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	38.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	70	322	371	70	62	62
Future Volume (Veh/h)	70	322	371	70	62	62
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	80	366	422	80	70	70
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	502				988	251
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	502				988	251
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				69	91
cM capacity (veh/h)	1059				226	749

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	80	366	281	221	140
Volume Left	80	0	0	0	70
Volume Right	0	0	0	80	70
cSH	1059	1700	1700	1700	347
Volume to Capacity	0.08	0.22	0.17	0.13	0.40
Queue Length 95th (m)	2.0	0.0	0.0	0.0	15.1
Control Delay (s)	8.7	0.0	0.0	0.0	22.2
Lane LOS	A				C
Approach Delay (s)	1.6		0.0		22.2
Approach LOS					C

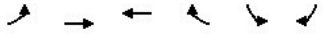
Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	33.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	68	0	6	41	1	2
Future Volume (Veh/h)	68	0	6	41	1	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	77	0	7	47	1	2
Pedestrians	1					1
Lane Width (m)	3.6					3.6
Walking Speed (m/s)	1.2					1.2
Percent Blockage	0					0
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	36	32			55	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	32			55	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	981	1045			1562	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	77	54	3
Volume Left	77	0	1
Volume Right	0	47	0
cSH	981	1700	1562
Volume to Capacity	0.08	0.03	0.00
Queue Length 95th (m)	2.0	0.0	0.0
Control Delay (s)	9.0	0.0	2.4
Lane LOS	A		A
Approach Delay (s)	9.0	0.0	2.4
Approach LOS	A		

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	14.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	572	398	25	38	32
Future Volume (Veh/h)	22	572	398	25	38	32
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	25	650	452	28	43	36
Pedestrians		1				
Lane Width (m)		3.6				
Walking Speed (m/s)		1.2				
Percent Blockage		0				
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	480				1166	467
vC1, stage 1 conf vol					466	
vC2, stage 2 conf vol					700	
vCu, unblocked vol	480				1166	467
tC, single (s)	4.1				6.6	6.2
tC, 2 stage (s)					5.6	
tF (s)	2.2				3.7	3.3
p0 queue free %	98				89	94
cM capacity (veh/h)	1093				394	599

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	25	650	480	79
Volume Left	25	0	0	43
Volume Right	0	0	28	36
cSH	1093	1700	1700	467
Volume to Capacity	0.02	0.38	0.28	0.17
Queue Length 95th (m)	0.6	0.0	0.0	4.8
Control Delay (s)	8.4	0.0	0.0	14.3
Lane LOS	A			B
Approach Delay (s)	0.3		0.0	14.3
Approach LOS				B

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization		41.2%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	594	0	0	430	0	1
Future Volume (Veh/h)	594	0	0	430	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	675	0	0	489	0	1
Pedestrians					1	
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			676		920	676
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			676		920	676
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			924		273	400

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	675	163	326	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	924	1700	400
Volume to Capacity	0.40	0.00	0.19	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	14.0
Lane LOS				B
Approach Delay (s)	0.0	0.0		14.0
Approach LOS				B

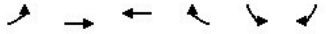
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		41.3%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	499	1	1	523	0	0
Future Volume (Veh/h)	499	1	1	523	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	567	1	1	594	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			568		1164	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			568		1164	284
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1014		191	719

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	378	190	595	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	1014	1700
Volume to Capacity	0.22	0.11	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

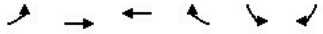
Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			31.7%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	514	371	59	77	78
Future Volume (Veh/h)	59	514	371	59	77	78
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	67	584	422	67	88	89
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	489				1174	244
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	489				1174	244
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				49	88
cM capacity (veh/h)	1070				173	756

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	67	584	281	208	177
Volume Left	67	0	0	0	88
Volume Right	0	0	0	67	89
cSH	1070	1700	1700	1700	283
Volume to Capacity	0.06	0.34	0.17	0.12	0.63
Queue Length 95th (m)	1.6	0.0	0.0	0.0	31.0
Control Delay (s)	8.6	0.0	0.0	0.0	36.8
Lane LOS	A				E
Approach Delay (s)	0.9		0.0		36.8
Approach LOS					E

Intersection Summary				
Average Delay			5.4	
Intersection Capacity Utilization			42.8%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	461	412	37	112	113
Future Volume (Veh/h)	38	461	412	37	112	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	43	524	468	42	127	128
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	510				816	468
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	510				816	468
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				58	76
cM capacity (veh/h)	1051				302	542

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	43	262	262	468	42	255
Volume Left	43	0	0	0	0	127
Volume Right	0	0	0	0	42	128
cSH	1051	1700	1700	1700	1700	388
Volume to Capacity	0.04	0.15	0.15	0.28	0.02	0.66
Queue Length 95th (m)	1.0	0.0	0.0	0.0	0.0	36.1
Control Delay (s)	8.6	0.0	0.0	0.0	0.0	30.3
Lane LOS	A					D
Approach Delay (s)	0.6			0.0		30.3
Approach LOS						D

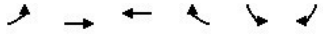
Intersection Summary				
Average Delay	6.1			
Intersection Capacity Utilization	48.2%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	62	0	11	81	1	7
Future Volume (Veh/h)	62	0	11	81	1	7
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	70	0	12	92	1	8
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	68	58			104	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68	58			104	
tC, single (s)	6.7	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.8	3.3			2.2	
p0 queue free %	92	100			100	
cM capacity (veh/h)	871	1014			1500	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	70	104	9
Volume Left	70	0	1
Volume Right	0	92	0
cSH	871	1700	1500
Volume to Capacity	0.08	0.06	0.00
Queue Length 95th (m)	2.1	0.0	0.0
Control Delay (s)	9.5	0.0	0.8
Lane LOS	A		A
Approach Delay (s)	9.5	0.0	0.8
Approach LOS	A		

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	15.7%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	520	666	47	32	38
Future Volume (Veh/h)	45	520	666	47	32	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	51	591	757	53	36	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	810				1476	784
vC1, stage 1 conf vol					784	
vC2, stage 2 conf vol					693	
vCu, unblocked vol	810				1476	784
tC, single (s)	4.1				6.5	6.2
tC, 2 stage (s)					5.5	
tF (s)	2.2				3.6	3.3
p0 queue free %	94				89	89
cM capacity (veh/h)	825				323	397

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	51	591	810	79
Volume Left	51	0	0	36
Volume Right	0	0	53	43
cSH	825	1700	1700	359
Volume to Capacity	0.06	0.35	0.48	0.22
Queue Length 95th (m)	1.6	0.0	0.0	6.6
Control Delay (s)	9.7	0.0	0.0	17.8
Lane LOS	A			C
Approach Delay (s)	0.8		0.0	17.8
Approach LOS				C

Intersection Summary				
Average Delay		1.2		
Intersection Capacity Utilization		48.7%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	565	2	1	703	2	1
Future Volume (Veh/h)	565	2	1	703	2	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	642	2	1	799	2	1
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			644		1044	643
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			644		1044	643
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			951		227	421

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	644	267	533	3
Volume Left	0	1	0	2
Volume Right	2	0	0	1
cSH	1700	951	1700	269
Volume to Capacity	0.38	0.00	0.31	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.0	0.0	18.6
Lane LOS		A		C
Approach Delay (s)	0.0	0.0		18.6
Approach LOS				C

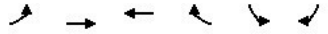
Intersection Summary				
Average Delay		0.0		
Intersection Capacity Utilization		39.9%	ICU Level of Service	A
Analysis Period (min)		15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	631	2	1	636	2	2
Future Volume (Veh/h)	631	2	1	636	2	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	717	2	1	723	2	2
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			719		1443	360
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			719		1443	360
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			892		79	643

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	478	241	724	4
Volume Left	0	0	1	2
Volume Right	0	2	0	2
cSH	1700	1700	892	141
Volume to Capacity	0.28	0.14	0.00	0.03
Queue Length 95th (m)	0.0	0.0	0.0	0.7
Control Delay (s)	0.0	0.0	0.0	31.3
Lane LOS			A	D
Approach Delay (s)	0.0		0.0	31.3
Approach LOS				D

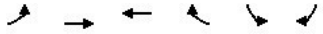
Intersection Summary				
Average Delay			0.1	
Intersection Capacity Utilization			44.3%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	483	601	105	82	82
Future Volume (Veh/h)	105	483	601	105	82	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	119	549	683	119	93	93
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	802				1530	401
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	802				1530	401
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				0	84
cM capacity (veh/h)	817				92	599

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	119	549	455	347	186
Volume Left	119	0	0	0	93
Volume Right	0	0	0	119	93
cSH	817	1700	1700	1700	160
Volume to Capacity	0.15	0.32	0.27	0.20	1.16
Queue Length 95th (m)	4.1	0.0	0.0	0.0	81.3
Control Delay (s)	10.2	0.0	0.0	0.0	179.5
Lane LOS	B				F
Approach Delay (s)	1.8		0.0		179.5
Approach LOS					F

Intersection Summary				
Average Delay			20.9	
Intersection Capacity Utilization			45.3%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	523	573	110	65	65
Future Volume (Veh/h)	110	523	573	110	65	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	125	594	651	125	74	74
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	776				1198	651
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	776				1198	651
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	85				51	82
cM capacity (veh/h)	836				152	411

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	125	297	297	651	125	148
Volume Left	125	0	0	0	0	74
Volume Right	0	0	0	0	125	74
cSH	836	1700	1700	1700	1700	222
Volume to Capacity	0.15	0.17	0.17	0.38	0.07	0.67
Queue Length 95th (m)	4.2	0.0	0.0	0.0	0.0	33.3
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	48.9
Lane LOS	B					E
Approach Delay (s)	1.7			0.0		48.9
Approach LOS						E

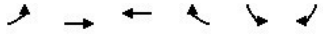
Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	53.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	57	0	14	54	0	12
Future Volume (Veh/h)	57	0	14	54	0	12
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	65	0	16	61	0	14
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	46			77	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	60	46			77	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	100			100	
cM capacity (veh/h)	951	1029			1535	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	65	77	14
Volume Left	65	0	0
Volume Right	0	61	0
cSH	951	1700	1535
Volume to Capacity	0.07	0.05	0.00
Queue Length 95th (m)	1.8	0.0	0.0
Control Delay (s)	9.1	0.0	0.0
Lane LOS	A		
Approach Delay (s)	9.1	0.0	0.0
Approach LOS	A		

Intersection Summary				
Average Delay	3.8			
Intersection Capacity Utilization	14.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	35	463	539	33	32	38
Future Volume (Veh/h)	35	463	539	33	32	38
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	40	526	612	38	36	43
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	TWLTL			
Median storage veh)			2			
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	650				1237	631
vC1, stage 1 conf vol					631	
vC2, stage 2 conf vol					606	
vCu, unblocked vol	650				1237	631
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)					5.4	
tF (s)	2.2				3.5	3.3
p0 queue free %	96				91	91
cM capacity (veh/h)	946				406	485

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	40	526	650	79
Volume Left	40	0	0	36
Volume Right	0	0	38	43
cSH	946	1700	1700	445
Volume to Capacity	0.04	0.31	0.38	0.18
Queue Length 95th (m)	1.1	0.0	0.0	5.1
Control Delay (s)	9.0	0.0	0.0	14.8
Lane LOS	A			B
Approach Delay (s)	0.6		0.0	14.8
Approach LOS				B

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	41.1%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	498	2	0	577	1	0
Future Volume (Veh/h)	498	2	0	577	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	566	2	0	656	1	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			568		895	567
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			568		895	567
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1014		284	472

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	568	219	437	1
Volume Left	0	0	0	1
Volume Right	2	0	0	0
cSH	1700	1014	1700	284
Volume to Capacity	0.33	0.00	0.26	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	17.7
Lane LOS				C
Approach Delay (s)	0.0	0.0		17.7
Approach LOS				C

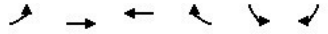
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	36.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	2	7	547	1	2
Future Volume (Veh/h)	524	2	7	547	1	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	595	2	8	622	1	2
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			597		1234	298
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			597		1234	298
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			989		170	704

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	397	200	630	3
Volume Left	0	0	8	1
Volume Right	0	2	0	2
cSH	1700	1700	989	344
Volume to Capacity	0.23	0.12	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.2
Control Delay (s)	0.0	0.0	0.2	15.5
Lane LOS			A	C
Approach Delay (s)	0.0		0.2	15.5
Approach LOS				C

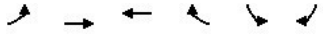
Intersection Summary				
Average Delay			0.2	
Intersection Capacity Utilization			44.4%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	427	494	84	73	74
Future Volume (Veh/h)	84	427	494	84	73	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	485	561	95	83	84
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	656				1284	328
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	656				1284	328
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	90				41	87
cM capacity (veh/h)	927				141	668

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	485	374	282	167
Volume Left	95	0	0	0	83
Volume Right	0	0	0	95	84
cSH	927	1700	1700	1700	233
Volume to Capacity	0.10	0.29	0.22	0.17	0.72
Queue Length 95th (m)	2.7	0.0	0.0	0.0	38.3
Control Delay (s)	9.3	0.0	0.0	0.0	51.7
Lane LOS	A				F
Approach Delay (s)	1.5		0.0		51.7
Approach LOS					F

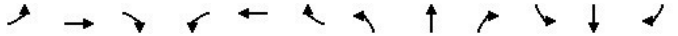
Intersection Summary				
Average Delay			6.8	
Intersection Capacity Utilization			39.6%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	431	473	94	80	81
Future Volume (Veh/h)	95	431	473	94	80	81
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	490	538	107	91	92
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	645				999	538
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	645				999	538
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				57	81
cM capacity (veh/h)	936				212	488

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	108	245	245	538	107	183
Volume Left	108	0	0	0	0	91
Volume Right	0	0	0	0	107	92
cSH	936	1700	1700	1700	1700	297
Volume to Capacity	0.12	0.14	0.14	0.32	0.06	0.62
Queue Length 95th (m)	3.1	0.0	0.0	0.0	0.0	30.5
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	34.9
Lane LOS	A					D
Approach Delay (s)	1.7			0.0		34.9
Approach LOS						D

Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	49.6%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	225	69	6	0	75	6	43	1	3	0
Future Volume (Veh/h)	0	3	225	69	6	0	75	6	43	1	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	3	256	78	7	0	85	7	49	1	3	0
Pedestrians					1						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	211	232	3	465	208	34	3			57		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	211	232	3	465	208	34	3			57		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	76	79	99	100	95			100		
cM capacity (veh/h)	709	632	1081	372	652	1044	1619			1559		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	259	85	141	4
Volume Left	0	78	85	1
Volume Right	256	0	49	0
cSH	1072	386	1619	1559
Volume to Capacity	0.24	0.22	0.05	0.00
Queue Length 95th (m)	7.6	6.6	1.3	0.0
Control Delay (s)	9.4	16.9	4.6	1.8
Lane LOS	A	C	A	A
Approach Delay (s)	9.4	16.9	4.6	1.8
Approach LOS	A	C		

Intersection Summary				
Average Delay	9.3			
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	61	600	416	63	151	145
Future Volume (vph)	61	600	416	63	151	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	
Frt				0.850	0.934	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1805	1827	1792	1455	1582	0
Flt Permitted	0.432				0.975	
Satd. Flow (perm)	821	1827	1792	1455	1582	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				72	48	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	6%	11%	17%	0%
Adj. Flow (vph)	69	682	473	72	172	165
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	682	473	72	337	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	30.9	30.9	30.9	30.9	17.3	
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.28	
v/c Ratio	0.17	0.75	0.53	0.09	0.71	
Control Delay	10.6	19.1	13.6	3.0	27.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.6	19.1	13.6	3.0	27.7	
LOS	B	B	B	A	C	
Approach Delay		18.4	12.2		27.7	
Approach LOS		B	B		C	
Queue Length 50th (m)	4.0	57.2	33.8	0.0	28.9	
Queue Length 95th (m)	12.8	121.1	73.0	5.7	71.6	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	737	1641	1610	1314	789	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.42	0.29	0.05	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 62.1			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 72.7%		ICU Level of Service C	

Analysis Period (min) 15

Splits and Phases: 2: Highway 26 & Christie Beach Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	661	0	0	562	0	1
Future Volume (Veh/h)	661	0	0	562	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	751	0	0	639	0	1
Pedestrians					1	
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			752		1072	752
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			752		1072	752
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			866		219	357

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	751	213	426	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	866	1700	357
Volume to Capacity	0.44	0.00	0.25	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	15.1
Lane LOS				C
Approach Delay (s)	0.0	0.0		15.1
Approach LOS				C

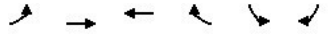
Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			44.8%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	569	1	1	661	0	0
Future Volume (Veh/h)	569	1	1	661	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	647	1	1	751	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			648		1400	324
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			648		1400	324
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			947		134	678

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	431	217	752	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	947	1700
Volume to Capacity	0.25	0.13	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			38.9%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	584	510	52	74	78
Future Volume (Veh/h)	59	584	510	52	74	78
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	67	664	580	59	84	89
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	639				1408	320
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	639				1408	320
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				30	87
cM capacity (veh/h)	941				121	676

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	67	664	387	252	173
Volume Left	67	0	0	0	84
Volume Right	0	0	0	59	89
cSH	941	1700	1700	1700	209
Volume to Capacity	0.07	0.39	0.23	0.15	0.83
Queue Length 95th (m)	1.8	0.0	0.0	0.0	48.9
Control Delay (s)	9.1	0.0	0.0	0.0	72.5
Lane LOS	A				F
Approach Delay (s)	0.8		0.0		72.5
Approach LOS					F

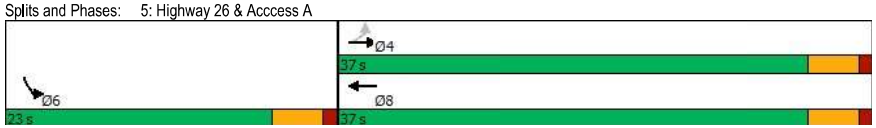
Intersection Summary				
Average Delay			8.5	
Intersection Capacity Utilization			46.3%	ICU Level of Service
Analysis Period (min)			15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	584	510	52	74	78
Future Volume (vph)	59	584	510	52	74	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.986		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3490	0	1693	0
Flt Permitted	0.409				0.976	
Satd. Flow (perm)	762	1863	3490	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			28		89	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	664	580	59	84	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	664	639	0	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	18.9	18.9	18.4		10.7	
Actuated g/C Ratio	0.57	0.57	0.56		0.33	
v/c Ratio	0.15	0.62	0.33		0.28	
Control Delay	5.7	9.3	5.1		9.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	5.7	9.3	5.1		9.4	
LOS	A	A	A		A	
Approach Delay		8.9	5.1		9.4	
Approach LOS		A	A		A	
Queue Length 50th (m)	1.7	23.8	9.0		4.0	
Queue Length 95th (m)	6.8	58.6	19.8		19.1	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	673	1646	3086		1053	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.10	0.40	0.21		0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 32.9			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 47.1%		ICU Level of Service A	
Analysis Period (min) 15			

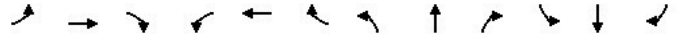
Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	531	550	37	112	113
Future Volume (Veh/h)	38	531	550	37	112	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	43	603	625	42	127	128
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	667				1012	625
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	667				1012	625
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				43	70
cM capacity (veh/h)	919				224	428

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	43	302	302	625	42	255
Volume Left	43	0	0	0	0	127
Volume Right	0	0	0	0	42	128
cSH	919	1700	1700	1700	1700	295
Volume to Capacity	0.05	0.18	0.18	0.37	0.02	0.87
Queue Length 95th (m)	1.2	0.0	0.0	0.0	0.0	60.9
Control Delay (s)	9.1	0.0	0.0	0.0	0.0	62.3
Lane LOS	A					F
Approach Delay (s)	0.6			0.0		62.3
Approach LOS						F

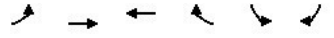
Intersection Summary				
Average Delay	10.4			
Intersection Capacity Utilization	51.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	6	130	65	6	0	220	12	84	1	8	0
Future Volume (Veh/h)	0	6	130	65	6	0	220	12	84	1	8	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	7	148	74	7	0	250	14	95	1	9	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	576	620	9	724	572	62	9			109		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	576	620	9	724	572	62	9			109		
tC, single (s)	7.1	6.5	6.2	7.4	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.8	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	86	68	98	100	84			100		
cM capacity (veh/h)	372	341	1073	230	363	1009	1611			1494		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	155	81	359	10
Volume Left	0	74	250	1
Volume Right	148	0	95	0
cSH	978	237	1611	1494
Volume to Capacity	0.16	0.34	0.16	0.00
Queue Length 95th (m)	4.5	11.6	4.4	0.0
Control Delay (s)	9.4	27.8	5.7	0.7
Lane LOS	A	D	A	A
Approach Delay (s)	9.4	27.8	5.7	0.7
Approach LOS	A	D		

Intersection Summary					
Average Delay			9.5		
Intersection Capacity Utilization			46.9%	ICU Level of Service	A
Analysis Period (min)			15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	157	545	697	160	97	104
Future Volume (vph)	157	545	697	160	97	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.930	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	1863	1845	1324	1608	0
Flt Permitted	0.221				0.976	
Satd. Flow (perm)	420	1863	1845	1324	1608	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				182	54	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	3%	22%	15%	0%
Adj. Flow (vph)	178	619	792	182	110	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	178	619	792	182	228	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	37.3	37.3	37.3	37.3	14.7	
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.22	
v/c Ratio	0.75	0.59	0.76	0.22	0.57	
Control Delay	33.8	11.7	16.3	1.9	26.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	33.8	11.7	16.3	1.9	26.8	
LOS	C	B	B	A	C	
Approach Delay		16.6	13.6		26.8	
Approach LOS		B	B		C	
Queue Length 50th (m)	13.9	41.9	62.8	0.0	18.7	
Queue Length 95th (m)	#57.9	85.5	128.1	7.0	51.2	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	358	1589	1574	1156	775	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.50	0.39	0.50	0.16	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 66.3			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 81.8%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Highway 26 & Christie Beach Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	702	3	1	801	3	1
Future Volume (Veh/h)	702	3	1	801	3	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	798	3	1	910	3	1
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			801		1256	800
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			801		1256	800
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			831		166	332

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	801	304	607	4
Volume Left	0	1	0	3
Volume Right	3	0	0	1
cSH	1700	831	1700	190
Volume to Capacity	0.47	0.00	0.36	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.5
Control Delay (s)	0.0	0.0	0.0	24.4
Lane LOS		A		C
Approach Delay (s)	0.0	0.0		24.4
Approach LOS				C

Intersection Summary				
Average Delay			0.1	
Intersection Capacity Utilization			47.1%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	773	3	1	740	3	3
Future Volume (Veh/h)	773	3	1	740	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	878	3	1	841	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			881		1722	440
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			881		1722	440
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		94	99
cM capacity (veh/h)			776		48	570

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	585	296	842	6
Volume Left	0	0	1	3
Volume Right	0	3	0	3
cSH	1700	1700	776	89
Volume to Capacity	0.34	0.17	0.00	0.07
Queue Length 95th (m)	0.0	0.0	0.0	1.7
Control Delay (s)	0.0	0.0	0.0	48.3
Lane LOS			A	E
Approach Delay (s)	0.0		0.0	48.3
Approach LOS				E

Intersection Summary				
Average Delay			0.2	
Intersection Capacity Utilization			49.7%	ICU Level of Service
Analysis Period (min)			15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	625	705	99	76	82
Future Volume (Veh/h)	105	625	705	99	76	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	119	710	801	112	86	93
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	913				1805	456
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	913				1805	456
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	84				0	83
cM capacity (veh/h)	742				59	551

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	119	710	534	379	179
Volume Left	119	0	0	0	86
Volume Right	0	0	0	112	93
cSH	742	1700	1700	1700	110
Volume to Capacity	0.16	0.42	0.31	0.22	1.62
Queue Length 95th (m)	4.5	0.0	0.0	0.0	108.2
Control Delay (s)	10.8	0.0	0.0	0.0	385.0
Lane LOS	B				F
Approach Delay (s)	1.5		0.0		385.0
Approach LOS					F

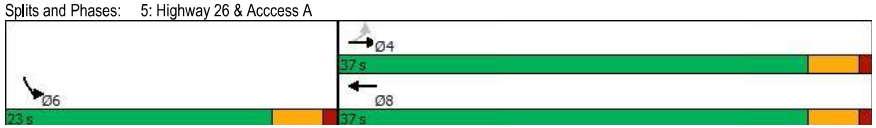
Intersection Summary			
Average Delay	36.5		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	625	705	99	76	82
Future Volume (vph)	105	625	705	99	76	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.981		0.930	
Flt Protected	0.950				0.977	
Satd. Flow (prot)	1770	1863	3472	0	1693	0
Flt Permitted	0.295				0.977	
Satd. Flow (perm)	550	1863	3472	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			40		93	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	119	710	801	113	86	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	710	914	0	179	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	21.9	21.9	21.9		10.1	
Actuated g/C Ratio	0.63	0.63	0.63		0.29	
v/c Ratio	0.34	0.60	0.41		0.32	
Control Delay	8.9	8.9	5.5		10.0	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	8.9	8.9	5.5		10.0	
LOS	A	A	A		B	
Approach Delay		8.9	5.5		10.0	
Approach LOS		A	A		B	
Queue Length 50th (m)	3.6	26.9	14.3		4.3	
Queue Length 95th (m)	14.0	65.1	30.0		20.3	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	475	1609	3004		1030	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.25	0.44	0.30		0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 34.6			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 49.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A

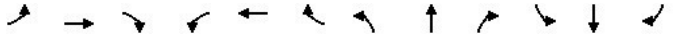




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	666	677	110	65	65
Future Volume (Veh/h)	110	666	677	110	65	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	125	757	769	125	74	74
Pedestrians						
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	894				1398	769
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	894				1398	769
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				33	78
cM capacity (veh/h)	755				110	344

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	125	378	378	769	125	148
Volume Left	125	0	0	0	0	74
Volume Right	0	0	0	0	125	74
cSH	755	1700	1700	1700	1700	167
Volume to Capacity	0.17	0.22	0.22	0.45	0.07	0.89
Queue Length 95th (m)	4.7	0.0	0.0	0.0	0.0	51.0
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	97.7
Lane LOS	B					F
Approach Delay (s)	1.5			0.0		97.7
Approach LOS						F

Intersection Summary				
Average Delay	8.2			
Intersection Capacity Utilization	59.3%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	161	59	3	0	189	16	54	0	13	0
Future Volume (Veh/h)	0	2	161	59	3	0	189	16	54	0	13	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	183	67	3	0	215	18	61	0	15	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	495	524	15	678	494	48	15			79		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	495	524	15	678	494	48	15			79		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	83	75	99	100	87			100		
cM capacity (veh/h)	433	397	1065	273	413	1026	1603			1532		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	185	70	294	15
Volume Left	0	67	215	0
Volume Right	183	0	61	0
cSH	1046	277	1603	1532
Volume to Capacity	0.18	0.25	0.13	0.00
Queue Length 95th (m)	5.1	7.8	3.7	0.0
Control Delay (s)	9.2	22.3	5.8	0.0
Lane LOS	A	C	A	
Approach Delay (s)	9.2	22.3	5.8	0.0
Approach LOS	A	C		

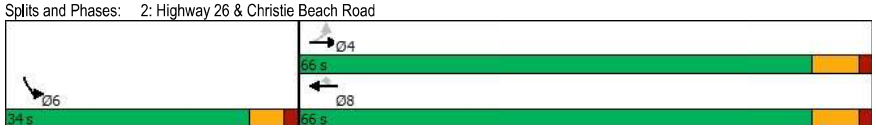
Intersection Summary				
Average Delay	8.8			
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	131	486	566	128	113	120
Future Volume (vph)	131	486	566	128	113	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.930	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	1881	1900	1615	1725	0
Flt Permitted	0.297				0.976	
Satd. Flow (perm)	564	1881	1900	1615	1725	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				145	53	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	149	552	643	145	128	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	552	643	145	264	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	25.5	25.5	25.5	25.5	13.1	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.25	
v/c Ratio	0.54	0.60	0.69	0.17	0.56	
Control Delay	18.4	13.0	15.0	2.2	19.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.4	13.0	15.0	2.2	19.7	
LOS	B	B	B	A	B	
Approach Delay		14.1	12.7		19.7	
Approach LOS		B	B		B	
Queue Length 50th (m)	8.5	32.7	40.7	0.0	15.9	
Queue Length 95th (m)	28.0	71.0	87.5	6.8	44.9	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	544	1814	1833	1563	985	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.27	0.30	0.35	0.09	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 52.1			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Highway 26 & Christie Beach Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	617	3	0	686	1	0
Future Volume (Veh/h)	617	3	0	686	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	701	3	0	780	1	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			704		1092	702
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			704		1092	702
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			903		212	385

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	704	260	520	1
Volume Left	0	0	0	1
Volume Right	3	0	0	0
cSH	1700	903	1700	212
Volume to Capacity	0.41	0.00	0.31	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	22.1
Lane LOS				C
Approach Delay (s)	0.0	0.0		22.1
Approach LOS				C

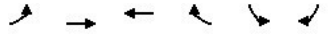
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	645	3	8	658	1	3
Future Volume (Veh/h)	645	3	8	658	1	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	733	3	9	748	1	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			736		1500	368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			736		1500	368
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			879		114	635

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	489	247	757	4
Volume Left	0	0	9	1
Volume Right	0	3	0	3
cSH	1700	1700	879	296
Volume to Capacity	0.29	0.15	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.2	0.3
Control Delay (s)	0.0	0.0	0.3	17.3
Lane LOS			A	C
Approach Delay (s)	0.0		0.3	17.3
Approach LOS				C

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	51.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	548	606	81	71	74
Future Volume (Veh/h)	84	548	606	81	71	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	623	689	92	81	84
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	781				1548	390
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	781				1548	390
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				13	86
cM capacity (veh/h)	832				93	608

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	623	459	322	165
Volume Left	95	0	0	0	81
Volume Right	0	0	0	92	84
cSH	832	1700	1700	1700	163
Volume to Capacity	0.11	0.37	0.27	0.19	1.01
Queue Length 95th (m)	3.1	0.0	0.0	0.0	63.8
Control Delay (s)	9.9	0.0	0.0	0.0	129.6
Lane LOS	A				F
Approach Delay (s)	1.3		0.0		129.6
Approach LOS					F

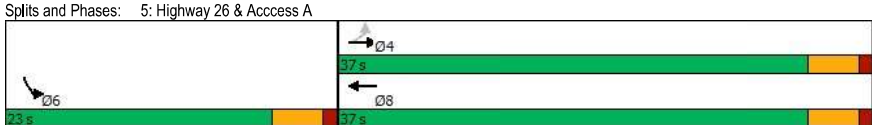
Intersection Summary				
Average Delay	13.4			
Intersection Capacity Utilization	44.0%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	548	606	81	71	74
Future Volume (vph)	84	548	606	81	71	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.982		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3476	0	1693	0
Flt Permitted	0.356				0.976	
Satd. Flow (perm)	663	1863	3476	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			38		84	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	623	689	92	81	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	623	781	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	19.4	19.4	19.4		9.8	
Actuated g/C Ratio	0.61	0.61	0.61		0.31	
v/c Ratio	0.24	0.55	0.37		0.29	
Control Delay	7.0	8.4	5.4		9.1	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	7.0	8.4	5.4		9.1	
LOS	A	A	A		A	
Approach Delay		8.2	5.4		9.1	
Approach LOS		A	A		A	
Queue Length 50th (m)	2.5	21.3	11.3		3.6	
Queue Length 95th (m)	9.9	53.3	24.5		17.5	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	600	1686	3150		1077	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.16	0.37	0.25		0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 31.9			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 7.0		Intersection LOS: A	
Intersection Capacity Utilization 44.9%		ICU Level of Service A	
Analysis Period (min) 15			

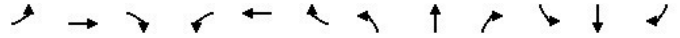
Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	553	585	94	80	81
Future Volume (Veh/h)	95	553	585	94	80	81
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	628	665	107	91	92
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	772				1195	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	772				1195	665
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				42	77
cM capacity (veh/h)	839				156	403

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	108	314	314	665	107	183
Volume Left	108	0	0	0	0	91
Volume Right	0	0	0	0	107	92
cSH	839	1700	1700	1700	1700	225
Volume to Capacity	0.13	0.18	0.18	0.39	0.06	0.81
Queue Length 95th (m)	3.5	0.0	0.0	0.0	0.0	48.4
Control Delay (s)	9.9	0.0	0.0	0.0	0.0	66.0
Lane LOS	A					F
Approach Delay (s)	1.5			0.0		66.0
Approach LOS						F

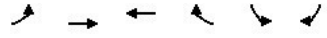
Intersection Summary				
Average Delay	7.8			
Intersection Capacity Utilization	55.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	225	72	6	0	75	7	46	1	3	0
Future Volume (Veh/h)	0	3	225	72	6	0	75	7	46	1	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	3	256	82	7	0	85	8	52	1	3	0
Pedestrians					1						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	214	236	3	468	210	36	3			61		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214	236	3	468	210	36	3			61		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	76	78	99	100	95			100		
cM capacity (veh/h)	706	629	1081	371	650	1041	1619			1554		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	259	89	145	4
Volume Left	0	82	85	1
Volume Right	256	0	52	0
cSH	1072	384	1619	1554
Volume to Capacity	0.24	0.23	0.05	0.00
Queue Length 95th (m)	7.6	7.1	1.3	0.0
Control Delay (s)	9.4	17.2	4.5	1.8
Lane LOS	A	C	A	A
Approach Delay (s)	9.4	17.2	4.5	1.8
Approach LOS	A	C		

Intersection Summary					
Average Delay			9.3		
Intersection Capacity Utilization			42.7%	ICU Level of Service	A
Analysis Period (min)			15		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	62	643	450	65	153	146
Future Volume (vph)	62	643	450	65	153	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	
Frt				0.850	0.934	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1805	1827	1792	1455	1582	0
Flt Permitted	0.401				0.975	
Satd. Flow (perm)	762	1827	1792	1455	1582	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				74	48	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	6%	11%	17%	0%
Adj. Flow (vph)	70	731	511	74	174	166
Shared Lane Traffic (%)						
Lane Group Flow (vph)	70	731	511	74	340	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	33.5	33.5	33.5	33.5	17.9	
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.27	
v/c Ratio	0.18	0.78	0.56	0.09	0.73	
Control Delay	10.5	20.2	13.9	2.8	30.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.5	20.2	13.9	2.8	30.3	
LOS	B	C	B	A	C	
Approach Delay		19.4	12.4		30.3	
Approach LOS		B	B		C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 65.5			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 19.2		Intersection LOS: B	
Intersection Capacity Utilization 74.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Highway 26 & Christie Beach Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	706	0	0	597	0	1
Future Volume (Veh/h)	706	0	0	597	0	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	802	0	0	678	0	1
Pedestrians					1	
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			803		1142	803
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			803		1142	803
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			829		197	330

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	802	226	452	1
Volume Left	0	0	0	0
Volume Right	0	0	0	1
cSH	1700	829	1700	330
Volume to Capacity	0.47	0.00	0.27	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	15.9
Lane LOS				C
Approach Delay (s)	0.0	0.0		15.9
Approach LOS				C

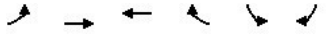
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		47.2%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	613	1	1	696	0	0
Future Volume (Veh/h)	613	1	1	696	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	697	1	1	791	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			698		1490	349
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			698		1490	349
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			908		117	653

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	465	233	792	0
Volume Left	0	0	1	0
Volume Right	0	1	0	0
cSH	1700	1700	908	1700
Volume to Capacity	0.27	0.14	0.00	0.08
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.0	0.0
Approach LOS				A

Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			40.8%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	628	545	52	74	78
Future Volume (Veh/h)	59	628	545	52	74	78
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	67	714	619	59	84	89
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	678				1496	339
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	678				1496	339
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				20	86
cM capacity (veh/h)	910				105	657

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	67	714	413	265	173
Volume Left	67	0	0	0	84
Volume Right	0	0	0	59	89
cSH	910	1700	1700	1700	185
Volume to Capacity	0.07	0.42	0.24	0.16	0.94
Queue Length 95th (m)	1.9	0.0	0.0	0.0	58.7
Control Delay (s)	9.3	0.0	0.0	0.0	101.5
Lane LOS	A				F
Approach Delay (s)	0.8		0.0		101.5
Approach LOS					F

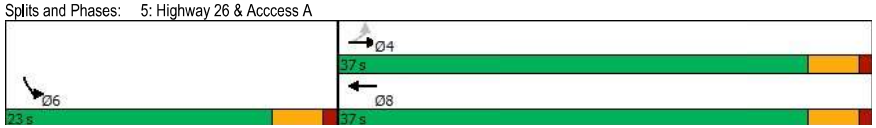
Intersection Summary				
Average Delay			11.1	
Intersection Capacity Utilization			48.6%	ICU Level of Service
Analysis Period (min)			15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	628	545	52	74	78
Future Volume (vph)	59	628	545	52	74	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.987		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3493	0	1693	0
Flt Permitted	0.394				0.976	
Satd. Flow (perm)	734	1863	3493	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			26		89	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	714	619	59	84	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	714	678	0	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	21.9	21.9	21.9		10.1	
Actuated g/C Ratio	0.63	0.63	0.63		0.29	
v/c Ratio	0.14	0.61	0.31		0.31	
Control Delay	5.5	8.9	4.9		10.1	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	5.5	8.9	4.9		10.1	
LOS	A	A	A		B	
Approach Delay		8.6	4.9		10.1	
Approach LOS		A	A		B	
Queue Length 50th (m)	1.7	27.1	9.8		4.2	
Queue Length 95th (m)	6.8	65.4	21.0		19.8	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	634	1608	3020		1028	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.11	0.44	0.22		0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 34.6			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 49.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	575	585	37	112	113
Future Volume (Veh/h)	38	575	585	37	112	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	43	653	665	42	127	128
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	707				1078	665
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	707				1078	665
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				38	68
cM capacity (veh/h)	887				203	403

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	43	326	326	665	42	255
Volume Left	43	0	0	0	0	127
Volume Right	0	0	0	0	42	128
cSH	887	1700	1700	1700	1700	270
Volume to Capacity	0.05	0.19	0.19	0.39	0.02	0.94
Queue Length 95th (m)	1.2	0.0	0.0	0.0	0.0	70.9
Control Delay (s)	9.3	0.0	0.0	0.0	0.0	81.7
Lane LOS	A					F
Approach Delay (s)	0.6			0.0		81.7
Approach LOS						F

Intersection Summary				
Average Delay	12.8			
Intersection Capacity Utilization	51.4%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	6	130	68	6	0	220	13	87	1	9	0
Future Volume (Veh/h)	0	6	130	68	6	0	220	13	87	1	9	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	7	148	77	7	0	250	15	99	1	10	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	580	626	10	728	576	64	10			114		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	580	626	10	728	576	64	10			114		
tC, single (s)	7.1	6.5	6.2	7.4	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.8	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	86	66	98	100	84			100		
cM capacity (veh/h)	369	338	1071	228	361	1005	1610			1488		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	155	84	364	11
Volume Left	0	77	250	1
Volume Right	148	0	99	0
cSH	976	236	1610	1488
Volume to Capacity	0.16	0.36	0.16	0.00
Queue Length 95th (m)	4.5	12.3	4.4	0.0
Control Delay (s)	9.4	28.5	5.7	0.7
Lane LOS	A	D	A	A
Approach Delay (s)	9.4	28.5	5.7	0.7
Approach LOS	A	D		

Intersection Summary					
Average Delay			9.6		
Intersection Capacity Utilization			47.3%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	159	587	748	162	99	107
Future Volume (vph)	159	587	748	162	99	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.930	
Flt Protected	0.950				0.977	
Satd. Flow (prot)	1805	1863	1845	1324	1610	0
Flt Permitted	0.228				0.977	
Satd. Flow (perm)	433	1863	1845	1324	1610	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				183	54	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	3%	22%	15%	0%
Adj. Flow (vph)	181	667	850	184	113	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	667	850	184	235	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	54.1	54.1	54.1	54.1	15.6	
Actuated g/C Ratio	0.65	0.65	0.65	0.65	0.19	
v/c Ratio	0.64	0.55	0.71	0.20	0.68	
Control Delay	23.3	10.5	14.1	1.7	35.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.3	10.5	14.1	1.7	35.6	
LOS	C	B	B	A	D	
Approach Delay		13.2	11.9		35.6	
Approach LOS		B	B		D	
Queue Length 50th (m)	15.4	51.5	78.1	0.1	30.2	
Queue Length 95th (m)	#58.7	97.8	149.3	7.2	53.0	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	315	1359	1345	1015	592	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.57	0.49	0.63	0.18	0.40	

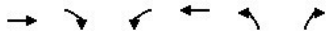
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 83			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 84.7%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Highway 26 & Christie Beach Road

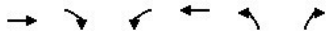




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	746	3	1	854	3	1
Future Volume (Veh/h)	746	3	1	854	3	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	848	3	1	970	3	1
Pedestrians						
Lane Width (m)						
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			851		1336	850
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			851		1336	850
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			796		147	308

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	851	324	647	4
Volume Left	0	1	0	3
Volume Right	3	0	0	1
cSH	1700	796	1700	169
Volume to Capacity	0.50	0.00	0.38	0.02
Queue Length 95th (m)	0.0	0.0	0.0	0.6
Control Delay (s)	0.0	0.0	0.0	26.8
Lane LOS		A		D
Approach Delay (s)	0.0	0.0		26.8
Approach LOS				D

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	49.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	817	3	1	794	3	3
Future Volume (Veh/h)	817	3	1	794	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	928	3	1	902	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			931		1834	466
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			931		1834	466
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			743		40	549

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	619	312	903	6
Volume Left	0	0	1	3
Volume Right	0	3	0	3
cSH	1700	1700	743	74
Volume to Capacity	0.36	0.18	0.00	0.08
Queue Length 95th (m)	0.0	0.0	0.0	2.1
Control Delay (s)	0.0	0.0	0.0	57.9
Lane LOS			A	F
Approach Delay (s)	0.0		0.0	57.9
Approach LOS				F

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	669	758	99	76	82
Future Volume (Veh/h)	105	669	758	99	76	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	119	760	861	112	86	93
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	973				1915	486
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973				1915	486
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				0	82
cM capacity (veh/h)	704				49	527

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	119	760	574	399	179
Volume Left	119	0	0	0	86
Volume Right	0	0	0	112	93
cSH	704	1700	1700	1700	93
Volume to Capacity	0.17	0.45	0.34	0.23	1.92
Queue Length 95th (m)	4.8	0.0	0.0	0.0	121.1
Control Delay (s)	11.1	0.0	0.0	0.0	524.7
Lane LOS	B				F
Approach Delay (s)	1.5		0.0		524.7
Approach LOS					F

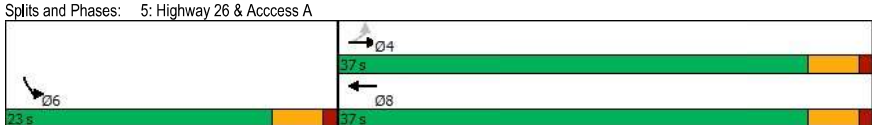
Intersection Summary			
Average Delay	46.9		
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

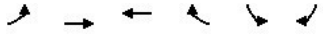
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	669	758	99	76	82
Future Volume (vph)	105	669	758	99	76	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.983		0.930	
Flt Protected	0.950				0.977	
Satd. Flow (prot)	1770	1863	3479	0	1693	0
Flt Permitted	0.272				0.977	
Satd. Flow (perm)	507	1863	3479	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			37		93	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	119	760	861	113	86	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	760	974	0	179	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	23.6	23.6	23.6		10.2	
Actuated g/C Ratio	0.65	0.65	0.65		0.28	
v/c Ratio	0.36	0.63	0.43		0.33	
Control Delay	9.4	9.2	5.5		10.5	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	9.4	9.2	5.5		10.5	
LOS	A	A	A		B	
Approach Delay		9.2	5.5		10.5	
Approach LOS		A	A		B	
Queue Length 50th (m)	3.7	30.7	16.0		4.7	
Queue Length 95th (m)	14.9	73.3	32.8		20.3	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	425	1564	2928		995	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.28	0.49	0.33		0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.3			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A

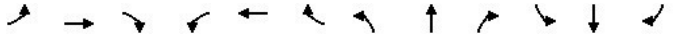




Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	710	730	110	65	65
Future Volume (Veh/h)	110	710	730	110	65	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	125	807	830	125	74	74
Pedestrians						
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	955				1484	830
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	955				1484	830
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	83				22	76
cM capacity (veh/h)	715				95	313

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	125	404	404	830	125	148
Volume Left	125	0	0	0	0	74
Volume Right	0	0	0	0	125	74
cSH	715	1700	1700	1700	1700	146
Volume to Capacity	0.17	0.24	0.24	0.49	0.07	1.01
Queue Length 95th (m)	5.0	0.0	0.0	0.0	0.0	60.4
Control Delay (s)	11.1	0.0	0.0	0.0	0.0	138.0
Lane LOS	B					F
Approach Delay (s)	1.5			0.0		138.0
Approach LOS						F

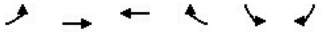
Intersection Summary				
Average Delay	10.7			
Intersection Capacity Utilization	62.1%	ICU Level of Service		B
Analysis Period (min)	15			



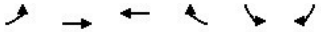
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	161	60	3	0	189	17	56	0	14	0
Future Volume (Veh/h)	0	2	161	60	3	0	189	17	56	0	14	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	183	68	3	0	215	19	64	0	16	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	498	529	16	681	497	51	16			83		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	498	529	16	681	497	51	16			83		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	83	75	99	100	87			100		
cM capacity (veh/h)	430	394	1063	272	411	1023	1602			1527		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	185	71	298	16
Volume Left	0	68	215	0
Volume Right	183	0	64	0
cSH	1044	276	1602	1527
Volume to Capacity	0.18	0.26	0.13	0.00
Queue Length 95th (m)	5.1	8.0	3.7	0.0
Control Delay (s)	9.2	22.5	5.8	0.0
Lane LOS	A	C	A	
Approach Delay (s)	9.2	22.5	5.8	0.0
Approach LOS	A	C		

Intersection Summary				
Average Delay	8.8			
Intersection Capacity Utilization	45.0%	ICU Level of Service		A
Analysis Period (min)	15			



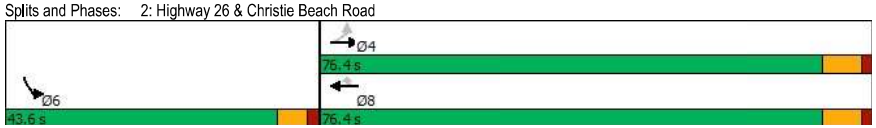
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	132	521	607	129	115	121
Future Volume (vph)	132	521	607	129	115	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	1881	1900	1615	1726	0
Flt Permitted	0.259				0.976	
Satd. Flow (perm)	492	1881	1900	1615	1726	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				146	46	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	150	592	690	147	131	138
Shared Lane Traffic (%)						
Lane Group Flow (vph)	150	592	690	147	269	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	76.4	76.4	76.4	76.4	43.6	
Total Split (%)	63.7%	63.7%	63.7%	63.7%	36.3%	
Maximum Green (s)	69.4	69.4	69.4	69.4	37.6	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	28.4	28.4	28.4	28.4	14.6	
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.26	
v/c Ratio	0.61	0.63	0.73	0.17	0.56	
Control Delay	23.3	14.0	16.5	2.3	21.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.3	14.0	16.5	2.3	21.6	
LOS	C	B	B	A	C	
Approach Delay		15.9	14.0		21.6	
Approach LOS		B	B		C	
Queue Length 50th (m)	9.8	39.3	49.1	0.1	18.7	
Queue Length 95th (m)	34.1	85.0	106.0	7.2	52.1	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	477	1822	1841	1569	1221	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.31	0.32	0.37	0.09	0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 56.7			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Highway 26 & Christie Beach Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	653	3	0	728	1	0
Future Volume (Veh/h)	653	3	0	728	1	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	742	3	0	827	1	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			745		1157	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			745		1157	744
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			872		193	362

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	745	276	551	1
Volume Left	0	0	0	1
Volume Right	3	0	0	0
cSH	1700	872	1700	193
Volume to Capacity	0.44	0.00	0.32	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.1
Control Delay (s)	0.0	0.0	0.0	23.8
Lane LOS				C
Approach Delay (s)	0.0	0.0		23.8
Approach LOS				C

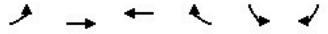
Intersection Summary				
Average Delay			0.0	
Intersection Capacity Utilization			44.6%	ICU Level of Service A
Analysis Period (min)			15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	681	3	9	700	1	3
Future Volume (Veh/h)	681	3	9	700	1	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	774	3	10	795	1	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			777		1590	388
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			777		1590	388
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			848		99	616

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	516	261	805	4
Volume Left	0	0	10	1
Volume Right	0	3	0	3
cSH	1700	1700	848	267
Volume to Capacity	0.30	0.15	0.01	0.01
Queue Length 95th (m)	0.0	0.0	0.3	0.4
Control Delay (s)	0.0	0.0	0.3	18.7
Lane LOS			A	C
Approach Delay (s)	0.0		0.3	18.7
Approach LOS				C

Intersection Summary				
Average Delay			0.2	
Intersection Capacity Utilization			54.0%	ICU Level of Service
Analysis Period (min)			15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	585	648	81	71	74
Future Volume (Veh/h)	84	585	648	81	71	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	665	736	92	81	84
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	828				1637	414
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	828				1637	414
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				0	86
cM capacity (veh/h)	799				81	587

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	665	491	337	165
Volume Left	95	0	0	0	81
Volume Right	0	0	0	92	84
cSH	799	1700	1700	1700	144
Volume to Capacity	0.12	0.39	0.29	0.20	1.15
Queue Length 95th (m)	3.2	0.0	0.0	0.0	74.5
Control Delay (s)	10.1	0.0	0.0	0.0	182.0
Lane LOS	B				F
Approach Delay (s)	1.3		0.0		182.0
Approach LOS					F

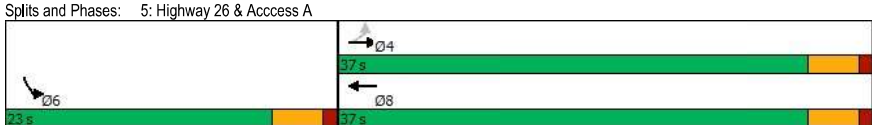
Intersection Summary				
Average Delay			17.7	
Intersection Capacity Utilization			45.9%	ICU Level of Service
Analysis Period (min)			15	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	585	648	81	71	74
Future Volume (vph)	84	585	648	81	71	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.983		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3479	0	1693	0
Flt Permitted	0.334				0.976	
Satd. Flow (perm)	622	1863	3479	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			35		84	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	665	736	92	81	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	665	828	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	20.5	20.5	20.5		9.9	
Actuated g/C Ratio	0.62	0.62	0.62		0.30	
v/c Ratio	0.25	0.58	0.38		0.29	
Control Delay	7.1	8.5	5.3		9.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	7.1	8.5	5.3		9.6	
LOS	A	A	A		A	
Approach Delay		8.4	5.3		9.6	
Approach LOS		A	A		A	
Queue Length 50th (m)	2.6	23.7	12.3		3.8	
Queue Length 95th (m)	10.0	58.0	26.1		18.5	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	551	1651	3087		1053	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.17	0.40	0.27		0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 33.1			
Natural Cycle: 55			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

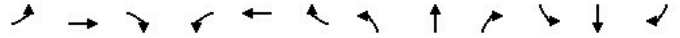
Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	589	628	94	80	81
Future Volume (Veh/h)	95	589	628	94	80	81
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	669	714	107	91	92
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	821				1264	714
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	821				1264	714
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	87				35	75
cM capacity (veh/h)	804				140	374

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	108	334	334	714	107	183
Volume Left	108	0	0	0	0	91
Volume Right	0	0	0	0	107	92
cSH	804	1700	1700	1700	1700	204
Volume to Capacity	0.13	0.20	0.20	0.42	0.06	0.90
Queue Length 95th (m)	3.7	0.0	0.0	0.0	0.0	56.7
Control Delay (s)	10.2	0.0	0.0	0.0	0.0	87.3
Lane LOS	B					F
Approach Delay (s)	1.4			0.0		87.3
Approach LOS						F

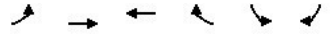
Intersection Summary				
Average Delay	9.6			
Intersection Capacity Utilization	57.7%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	3	225	74	6	0	75	8	49	2	3	0
Future Volume (Veh/h)	0	3	225	74	6	0	75	8	49	2	3	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	3	256	84	7	0	85	9	56	2	3	0
Pedestrians					1						1	
Lane Width (m)					3.6						3.6	
Walking Speed (m/s)					1.2						1.2	
Percent Blockage					0						0	
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	218	243	3	472	215	39	3			66		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218	243	3	472	215	39	3			66		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	76	77	99	100	95			100		
cM capacity (veh/h)	701	623	1081	368	646	1037	1619			1547		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	259	91	150	5
Volume Left	0	84	85	2
Volume Right	256	0	56	0
cSH	1072	380	1619	1547
Volume to Capacity	0.24	0.24	0.05	0.00
Queue Length 95th (m)	7.6	7.4	1.3	0.0
Control Delay (s)	9.4	17.4	4.3	2.9
Lane LOS	A	C	A	A
Approach Delay (s)	9.4	17.4	4.3	2.9
Approach LOS	A	C		

Intersection Summary				
Average Delay			9.3	
Intersection Capacity Utilization			40.3%	ICU Level of Service
Analysis Period (min)			15	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	64	691	488	67	155	147
Future Volume (vph)	64	691	488	67	155	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	
Frt				0.850	0.934	
Flt Protected	0.950				0.975	
Satd. Flow (prot)	1805	1827	1792	1455	1581	0
Flt Permitted	0.368				0.975	
Satd. Flow (perm)	699	1827	1792	1455	1581	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				76	47	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Confl. Peds. (#/hr)						1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	4%	6%	11%	17%	0%
Adj. Flow (vph)	73	785	555	76	176	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	73	785	555	76	343	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			

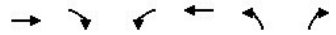
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	36.9	36.9	36.9	36.9	18.8	
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.27	
v/c Ratio	0.20	0.81	0.59	0.09	0.75	
Control Delay	10.7	21.7	14.3	2.6	33.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	10.7	21.7	14.3	2.6	33.5	
LOS	B	C	B	A	C	
Approach Delay		20.8	12.8		33.5	
Approach LOS		C	B		C	
Queue Length 50th (m)	4.7	78.6	45.9	0.0	35.2	
Queue Length 95th (m)	13.4	149.1	88.0	5.5	85.3	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	583	1523	1495	1226	717	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.52	0.37	0.06	0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 69.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	

Analysis Period (min) 15

Splits and Phases: 2: Highway 26 & Christie Beach Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	755	0	0	635	0	2
Future Volume (Veh/h)	755	0	0	635	0	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	858	0	0	722	0	2
Pedestrians					1	
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			859		1220	859
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			859		1220	859
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	99
cM capacity (veh/h)			790		175	304

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	858	241	481	2
Volume Left	0	0	0	0
Volume Right	0	0	0	2
cSH	1700	790	1700	304
Volume to Capacity	0.50	0.00	0.28	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.2
Control Delay (s)	0.0	0.0	0.0	16.9
Lane LOS				C
Approach Delay (s)	0.0	0.0		16.9
Approach LOS				C

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		49.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	2	2	735	0	0
Future Volume (Veh/h)	662	2	2	735	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	752	2	2	835	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			754		1592	377
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			754		1592	377
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			865		100	626

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	501	253	837	0
Volume Left	0	0	2	0
Volume Right	0	2	0	0
cSH	1700	1700	865	1700
Volume to Capacity	0.29	0.15	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.1	0.0
Control Delay (s)	0.0	0.0	0.1	0.0
Lane LOS			A	A
Approach Delay (s)	0.0		0.1	0.0
Approach LOS				A

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		43.6%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	59	677	583	52	74	78
Future Volume (Veh/h)	59	677	583	52	74	78
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	67	769	662	59	84	89
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	721				1594	360
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	721				1594	360
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				7	86
cM capacity (veh/h)	877				90	636

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	67	769	441	280	173
Volume Left	67	0	0	0	84
Volume Right	0	0	0	59	89
cSH	877	1700	1700	1700	161
Volume to Capacity	0.08	0.45	0.26	0.16	1.07
Queue Length 95th (m)	2.0	0.0	0.0	0.0	70.5
Control Delay (s)	9.4	0.0	0.0	0.0	148.4
Lane LOS	A				F
Approach Delay (s)	0.8		0.0		148.4
Approach LOS					F

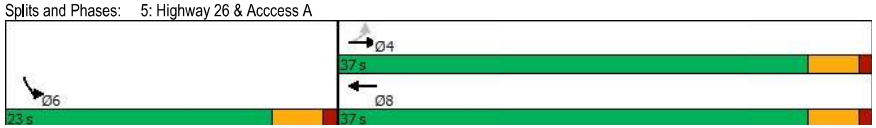
Intersection Summary				
Average Delay	15.2			
Intersection Capacity Utilization	51.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	677	583	52	74	78
Future Volume (vph)	59	677	583	52	74	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.988		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3497	0	1693	0
Flt Permitted	0.377				0.976	
Satd. Flow (perm)	702	1863	3497	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			24		89	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	769	663	59	84	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	67	769	722	0	173	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	23.4	23.4	23.4		10.1	
Actuated g/C Ratio	0.65	0.65	0.65		0.28	
v/c Ratio	0.15	0.64	0.32		0.32	
Control Delay	5.5	9.4	4.8		10.6	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	5.5	9.4	4.8		10.6	
LOS	A	A	A		B	
Approach Delay		9.1	4.8		10.6	
Approach LOS		A	A		B	
Queue Length 50th (m)	1.8	30.9	10.8		4.6	
Queue Length 95th (m)	6.8	74.3	22.6		19.8	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	590	1567	2946		998	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.11	0.49	0.25		0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 36.1			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 7.4		Intersection LOS: A	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	38	624	624	37	112	113
Future Volume (Veh/h)	38	624	624	37	112	113
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	43	709	709	42	127	128
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	751				1150	709
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751				1150	709
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				30	66
cM capacity (veh/h)	854				182	377

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	43	354	354	709	42	255
Volume Left	43	0	0	0	0	127
Volume Right	0	0	0	0	42	128
cSH	854	1700	1700	1700	1700	246
Volume to Capacity	0.05	0.21	0.21	0.42	0.02	1.04
Queue Length 95th (m)	1.3	0.0	0.0	0.0	0.0	83.0
Control Delay (s)	9.4	0.0	0.0	0.0	0.0	111.2
Lane LOS	A					F
Approach Delay (s)	0.5			0.0		111.2
Approach LOS						F

Intersection Summary				
Average Delay	16.4			
Intersection Capacity Utilization	52.6%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	6	130	72	6	0	220	14	90	2	9	0
Future Volume (Veh/h)	0	6	130	72	6	0	220	14	90	2	9	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	7	148	82	7	0	250	16	102	2	10	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	584	632	10	732	581	67	10			118		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	584	632	10	732	581	67	10			118		
tC, single (s)	7.1	6.5	6.2	7.4	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.8	4.0	3.3	2.2			2.2		
p0 queue free %	100	98	86	64	98	100	84			100		
cM capacity (veh/h)	367	335	1071	227	359	1002	1610			1483		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	155	89	368	12
Volume Left	0	82	250	2
Volume Right	148	0	102	0
cSH	975	233	1610	1483
Volume to Capacity	0.16	0.38	0.16	0.00
Queue Length 95th (m)	4.5	13.5	4.4	0.0
Control Delay (s)	9.4	29.6	5.6	1.2
Lane LOS	A	D	A	A
Approach Delay (s)	9.4	29.6	5.6	1.2
Approach LOS	A	D		

Intersection Summary				
Average Delay	9.9			
Intersection Capacity Utilization	47.7%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	161	633	804	165	100	110
Future Volume (vph)	161	633	804	165	100	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.929	
Flt Protected	0.950				0.977	
Satd. Flow (prot)	1805	1863	1845	1324	1609	0
Flt Permitted	0.201				0.977	
Satd. Flow (perm)	382	1863	1845	1324	1609	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				174	55	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	2%	3%	22%	15%	0%
Adj. Flow (vph)	183	719	914	188	114	125
Shared Lane Traffic (%)						
Lane Group Flow (vph)	183	719	914	188	239	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	66.0	66.0	66.0	66.0	34.0	
Total Split (%)	66.0%	66.0%	66.0%	66.0%	34.0%	
Maximum Green (s)	59.0	59.0	59.0	59.0	28.0	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	59.2	59.2	59.2	59.2	15.8	
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.18	
v/c Ratio	0.71	0.57	0.74	0.20	0.72	
Control Delay	30.4	10.9	15.2	1.9	38.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.4	10.9	15.2	1.9	38.2	
LOS	C	B	B	A	D	
Approach Delay		14.8	12.9		38.2	
Approach LOS		B	B		D	
Queue Length 50th (m)	17.6	58.6	90.7	0.7	30.8	
Queue Length 95th (m)	#66.7	111.0	174.2	8.4	54.0	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	256	1252	1240	946	550	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.71	0.57	0.74	0.20	0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 88			
Natural Cycle: 100			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 16.4		Intersection LOS: B	
Intersection Capacity Utilization 87.9%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Highway 26 & Christie Beach Road



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	795	3	2	913	3	2
Future Volume (Veh/h)	795	3	2	913	3	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	903	3	2	1038	3	2
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			906		1428	904
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			906		1428	904
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	99
cM capacity (veh/h)			759		128	284

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	906	348	692	5
Volume Left	0	2	0	3
Volume Right	3	0	0	2
cSH	1700	759	1700	164
Volume to Capacity	0.53	0.00	0.41	0.03
Queue Length 95th (m)	0.0	0.1	0.0	0.8
Control Delay (s)	0.0	0.1	0.0	27.6
Lane LOS		A		D
Approach Delay (s)	0.0	0.0		27.6
Approach LOS				D

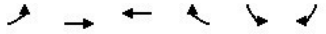
Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	866	3	2	853	3	3
Future Volume (Veh/h)	866	3	2	853	3	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	984	3	2	969	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			987		1958	494
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			987		1958	494
tC, single (s)			4.1		7.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		4.0	3.3
p0 queue free %			100		91	99
cM capacity (veh/h)			708		32	527

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	656	331	971	6
Volume Left	0	0	2	3
Volume Right	0	3	0	3
cSH	1700	1700	708	60
Volume to Capacity	0.39	0.19	0.00	0.10
Queue Length 95th (m)	0.0	0.0	0.1	2.6
Control Delay (s)	0.0	0.0	0.1	72.0
Lane LOS			A	F
Approach Delay (s)	0.0		0.1	72.0
Approach LOS				F

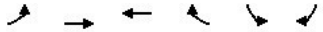
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	56.5%	ICU Level of Service	B
Analysis Period (min)	15		



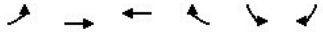
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	718	817	99	76	82
Future Volume (Veh/h)	105	718	817	99	76	82
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	119	816	928	112	86	93
Pedestrians						
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	1040				2038	520
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1040				2038	520
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	82				0	81
cM capacity (veh/h)	664				40	501

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	119	816	619	421	179
Volume Left	119	0	0	0	86
Volume Right	0	0	0	112	93
cSH	664	1700	1700	1700	77
Volume to Capacity	0.18	0.48	0.36	0.25	2.32
Queue Length 95th (m)	5.2	0.0	0.0	0.0	133.9
Control Delay (s)	11.6	0.0	0.0	0.0	718.2
Lane LOS	B				F
Approach Delay (s)	1.5		0.0		718.2
Approach LOS					F

Intersection Summary			
Average Delay	60.3		
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		



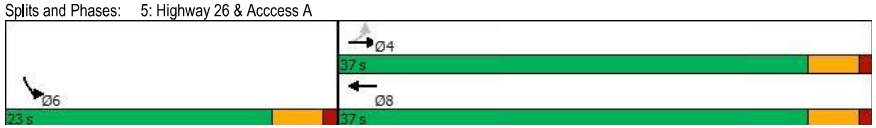
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	105	718	817	99	76	82
Future Volume (vph)	105	718	817	99	76	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.984		0.930	
Flt Protected	0.950				0.977	
Satd. Flow (prot)	1770	1863	3483	0	1693	0
Flt Permitted	0.249				0.977	
Satd. Flow (perm)	464	1863	3483	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			34		93	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	119	816	928	113	86	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	119	816	1041	0	179	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	25.5	25.5	25.5		10.1	
Actuated g/C Ratio	0.67	0.67	0.67		0.26	
v/c Ratio	0.39	0.66	0.45		0.35	
Control Delay	10.1	9.6	5.4		11.2	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	10.1	9.6	5.4		11.2	
LOS	B	A	A		B	
Approach Delay		9.7	5.4		11.2	
Approach LOS		A	A		B	
Queue Length 50th (m)	3.9	35.3	18.1		5.2	
Queue Length 95th (m)	16.2	83.7	35.9		20.3	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	373	1497	2806		963	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.32	0.55	0.37		0.19	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 38.3			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	110	759	790	110	65	65
Future Volume (Veh/h)	110	759	790	110	65	65
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	125	862	898	125	74	74
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	1023				1579	898
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1023				1579	898
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	81				9	74
cM capacity (veh/h)	674				81	282

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	125	431	431	898	125	148
Volume Left	125	0	0	0	0	74
Volume Right	0	0	0	0	125	74
cSH	674	1700	1700	1700	1700	126
Volume to Capacity	0.19	0.25	0.25	0.53	0.07	1.17
Queue Length 95th (m)	5.4	0.0	0.0	0.0	0.0	71.4
Control Delay (s)	11.6	0.0	0.0	0.0	0.0	200.3
Lane LOS	B					F
Approach Delay (s)	1.5			0.0		200.3
Approach LOS						F

Intersection Summary				
Average Delay	14.4			
Intersection Capacity Utilization	65.3%	ICU Level of Service		C
Analysis Period (min)	15			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	2	161	63	3	0	189	19	57	0	16	0
Future Volume (Veh/h)	0	2	161	63	3	0	189	19	57	0	16	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	0	2	183	72	3	0	215	22	65	0	18	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	504	535	18	686	502	54	18			87		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	504	535	18	686	502	54	18			87		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	99	83	73	99	100	87			100		
cM capacity (veh/h)	427	391	1061	269	408	1018	1599			1522		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	185	75	302	18
Volume Left	0	72	215	0
Volume Right	183	0	65	0
cSH	1041	273	1599	1522
Volume to Capacity	0.18	0.27	0.13	0.00
Queue Length 95th (m)	5.2	8.7	3.7	0.0
Control Delay (s)	9.2	23.1	5.7	0.0
Lane LOS	A	C	A	
Approach Delay (s)	9.2	23.1	5.7	0.0
Approach LOS	A	C		

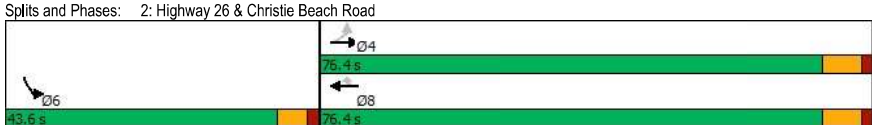
Intersection Summary					
Average Delay			8.9		
Intersection Capacity Utilization			45.3%	ICU Level of Service	A
Analysis Period (min)			15		

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	134	560	651	130	116	124
Future Volume (vph)	134	560	651	130	116	124
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	90.0			69.0	0.0	0.0
Storage Lanes	1			1	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850	0.930	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1805	1881	1900	1615	1725	0
Flt Permitted	0.230				0.976	
Satd. Flow (perm)	437	1881	1900	1615	1725	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				137	47	
Link Speed (k/h)		80	80		50	
Link Distance (m)		261.5	150.3		60.3	
Travel Time (s)		11.8	6.8		4.3	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	0%	1%	0%	0%	0%	0%
Adj. Flow (vph)	152	636	740	148	132	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	152	636	740	148	273	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane			Yes			
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	25			15	25	15
Number of Detectors	1	2	2	1	1	
Detector Template	Left	Thru	Thru	Right	Left	
Leading Detector (m)	2.0	10.0	10.0	2.0	2.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	2.0	0.6	0.6	2.0	2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA	Perm	Prot	
Protected Phases		4	8		6	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Permitted Phases	4			8		
Detector Phase	4	4	8	8	6	
Switch Phase						
Minimum Initial (s)	20.0	20.0	20.0	20.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	33.9	
Total Split (s)	76.4	76.4	76.4	76.4	43.6	
Total Split (%)	63.7%	63.7%	63.7%	63.7%	36.3%	
Maximum Green (s)	69.4	69.4	69.4	69.4	37.6	
Yellow Time (s)	5.4	5.4	5.4	5.4	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	6.0	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	
Act Effct Green (s)	32.6	32.6	32.6	32.6	15.8	
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.25	
v/c Ratio	0.67	0.65	0.75	0.16	0.58	
Control Delay	28.2	14.4	17.3	2.4	24.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.2	14.4	17.3	2.4	24.5	
LOS	C	B	B	A	C	
Approach Delay		17.1	14.8		24.5	
Approach LOS		B	B		C	
Queue Length 50th (m)	10.9	45.2	56.8	0.5	20.4	
Queue Length 95th (m)	40.5	100.9	126.3	8.0	64.1	
Internal Link Dist (m)		237.5	126.3		36.3	
Turn Bay Length (m)	90.0			69.0		
Base Capacity (vph)	410	1764	1782	1523	1149	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.37	0.36	0.42	0.10	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 62.6			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 81.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 2: Highway 26 & Christie Beach Road





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	694	3	0	775	2	0
Future Volume (Veh/h)	694	3	0	775	2	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	789	3	0	881	2	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			792		1231	790
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			792		1231	790
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		99	100
cM capacity (veh/h)			838		172	337

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	792	294	587	2
Volume Left	0	0	0	2
Volume Right	3	0	0	0
cSH	1700	838	1700	172
Volume to Capacity	0.47	0.00	0.35	0.01
Queue Length 95th (m)	0.0	0.0	0.0	0.3
Control Delay (s)	0.0	0.0	0.0	26.1
Lane LOS				D
Approach Delay (s)	0.0	0.0		26.1
Approach LOS				D

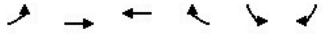
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		46.7%	ICU Level of Service A
Analysis Period (min)		15	



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	722	3	9	746	2	3
Future Volume (Veh/h)	722	3	9	746	2	3
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	820	3	10	848	2	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			823		1690	412
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			823		1690	412
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		98	99
cM capacity (veh/h)			816		85	595

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	547	276	858	5
Volume Left	0	0	10	2
Volume Right	0	3	0	3
cSH	1700	1700	816	175
Volume to Capacity	0.32	0.16	0.01	0.03
Queue Length 95th (m)	0.0	0.0	0.3	0.7
Control Delay (s)	0.0	0.0	0.3	26.2
Lane LOS			A	D
Approach Delay (s)	0.0		0.3	26.2
Approach LOS				D

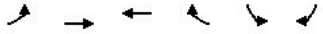
Intersection Summary			
Average Delay		0.3	
Intersection Capacity Utilization		56.4%	ICU Level of Service B
Analysis Period (min)		15	



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	84	625	695	81	71	74
Future Volume (Veh/h)	84	625	695	81	71	74
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	95	710	790	92	81	84
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	882				1736	441
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	882				1736	441
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				0	85
cM capacity (veh/h)	762				69	564

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	95	710	527	355	165
Volume Left	95	0	0	0	81
Volume Right	0	0	0	92	84
cSH	762	1700	1700	1700	124
Volume to Capacity	0.12	0.42	0.31	0.21	1.33
Queue Length 95th (m)	3.4	0.0	0.0	0.0	86.5
Control Delay (s)	10.4	0.0	0.0	0.0	258.4
Lane LOS	B				F
Approach Delay (s)	1.2		0.0		258.4
Approach LOS					F

Intersection Summary				
Average Delay	23.6			
Intersection Capacity Utilization	48.0%	ICU Level of Service		A
Analysis Period (min)	15			

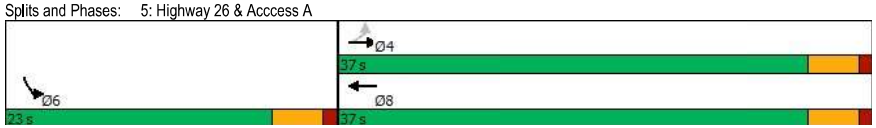


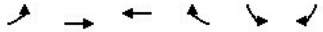
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	625	695	81	71	74
Future Volume (vph)	84	625	695	81	71	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	45.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	100.0				7.5	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt			0.984		0.931	
Flt Protected	0.950				0.976	
Satd. Flow (prot)	1770	1863	3483	0	1693	0
Flt Permitted	0.310				0.976	
Satd. Flow (perm)	577	1863	3483	0	1693	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			32		84	
Link Speed (k/h)		80	80		50	
Link Distance (m)		266.7	35.7		201.0	
Travel Time (s)		12.0	1.6		14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	710	790	92	81	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	710	882	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		3.6	3.6		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.8	4.8		4.8	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100			100	100	100
Number of Detectors	1	2	2		1	
Detector Template	Left	Thru	Thru		Left	
Leading Detector (m)	2.0	10.0	10.0		2.0	
Trailing Detector (m)	0.0	0.0	0.0		0.0	
Detector 1 Position(m)	0.0	0.0	0.0		0.0	
Detector 1 Size(m)	2.0	0.6	0.6		2.0	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	
Detector 2 Position(m)		9.4	9.4			
Detector 2 Size(m)		0.6	0.6			
Detector 2 Type		Cl+Ex	Cl+Ex			
Detector 2 Channel						
Detector 2 Extend (s)		0.0	0.0			
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		7.0	
Minimum Split (s)	22.5	22.5	22.5		22.5	
Total Split (s)	37.0	37.0	37.0		23.0	
Total Split (%)	61.7%	61.7%	61.7%		38.3%	
Maximum Green (s)	32.5	32.5	32.5		18.5	
Yellow Time (s)	3.5	3.5	3.5		3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	None	None	None		None	
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	21.8	21.8	21.8		10.0	
Actuated g/C Ratio	0.63	0.63	0.63		0.29	
v/c Ratio	0.26	0.60	0.40		0.30	
Control Delay	7.2	8.8	5.3		10.1	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	7.2	8.8	5.3		10.1	
LOS	A	A	A		B	
Approach Delay		8.6	5.3		10.1	
Approach LOS		A	A		B	
Queue Length 50th (m)	2.6	26.6	13.6		4.0	
Queue Length 95th (m)	10.2	63.5	28.2		19.2	
Internal Link Dist (m)		242.7	11.7		177.0	
Turn Bay Length (m)	45.0					
Base Capacity (vph)	500	1615	3025		1030	
Starvation Cap Reductn	0	0	0		0	
Spillback Cap Reductn	0	0	0		0	
Storage Cap Reductn	0	0	0		0	
Reduced v/c Ratio	0.19	0.44	0.29		0.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 34.4			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Highway 26 & Acccess A





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	630	675	94	80	81
Future Volume (Veh/h)	95	630	675	94	80	81
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	108	716	767	107	91	92
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	874				1341	767
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874				1341	767
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				26	73
cM capacity (veh/h)	768				123	345

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	108	358	358	767	107	183
Volume Left	108	0	0	0	0	91
Volume Right	0	0	0	0	107	92
cSH	768	1700	1700	1700	1700	182
Volume to Capacity	0.14	0.21	0.21	0.45	0.06	1.00
Queue Length 95th (m)	3.9	0.0	0.0	0.0	0.0	66.6
Control Delay (s)	10.5	0.0	0.0	0.0	0.0	120.1
Lane LOS	B					F
Approach Delay (s)	1.4			0.0		120.1
Approach LOS						F

Intersection Summary				
Average Delay	12.3			
Intersection Capacity Utilization	60.2%	ICU Level of Service		B
Analysis Period (min)	15			

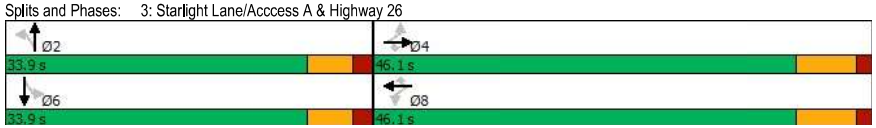
STARLIGHT REALIGNMENT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	677	0	0	583	52	0	0	2	74	0	78
Future Volume (vph)	59	677	0	0	583	52	0	0	2	74	0	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	38.0		70.0	15.0		70.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	100.0			100.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.865			0.931	
Flt Protected	0.950										0.976	
Satd. Flow (prot)	1770	1863	1863	1863	3539	1583	0	1611	0	0	1693	0
Flt Permitted	0.400										0.845	
Satd. Flow (perm)	745	1863	1863	1863	3539	1583	0	1611	0	0	1465	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						59		137			73	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		266.7			35.7			68.7			201.0	
Travel Time (s)		12.0			1.6			4.9			14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	769	0	0	663	59	0	0	2	84	0	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	769	0	0	663	59	0	2	0	0	173	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm		NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	46.1	46.1	33.9	33.9		33.9	33.9	
Total Split (s)	46.1	46.1	46.1	46.1	46.1	46.1	33.9	33.9		33.9	33.9	
Total Split (%)	57.6%	57.6%	57.6%	57.6%	57.6%	57.6%	42.4%	42.4%		42.4%	42.4%	
Maximum Green (s)	39.1	39.1	39.1	39.1	39.1	39.1	27.9	27.9		27.9	27.9	
Yellow Time (s)	5.4	5.4	5.4	5.4	5.4	5.4	4.1	4.1		4.1	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.6	1.6	1.9	1.9		1.9	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	32.1	32.1	20.9	20.9		20.9	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	31.0	31.0			31.0	31.0		12.1			12.1	
Actuated g/C Ratio	0.63	0.63			0.63	0.63		0.25			0.25	
v/c Ratio	0.14	0.65			0.30	0.06		0.00			0.42	
Control Delay	7.3	12.3			6.7	2.2		0.0			16.1	
Queue Delay	0.0	0.0			0.0	0.0		0.0			0.0	
Total Delay	7.3	12.3			6.7	2.2		0.0			16.1	
LOS	A	B			A	A		A			B	
Approach Delay		11.9			6.4						16.1	
Approach LOS		B			A						B	
Queue Length 50th (m)	2.8	49.5			16.2	0.0		0.0			7.9	
Queue Length 95th (m)	8.9	100.2			29.3	3.8		0.0			26.6	
Internal Link Dist (m)		242.7			11.7			44.7			177.0	
Turn Bay Length (m)	38.0					70.0						
Base Capacity (vph)	587	1469			2791	1261		1051			936	
Starvation Cap Reductn	0	0			0	0		0			0	
Spillback Cap Reductn	0	0			0	0		0			0	
Storage Cap Reductn	0	0			0	0		0			0	
Reduced v/c Ratio	0.11	0.52			0.24	0.05		0.00			0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 49			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 10.0		Intersection LOS: A	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Starlight Lane/Acccess A & Highway 26

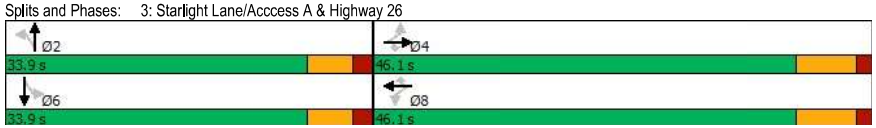


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	715	3	2	814	99	3	0	2	76	0	82
Future Volume (vph)	105	715	3	2	814	99	3	0	2	76	0	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	38.0		70.0	15.0		70.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	100.0			100.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.946			0.930	
Flt Protected	0.950			0.950				0.971			0.977	
Satd. Flow (prot)	1770	1863	1583	1770	3539	1583	0	1711	0	0	1693	0
Flt Permitted	0.287			0.201				0.819			0.845	
Satd. Flow (perm)	535	1863	1583	374	3539	1583	0	1443	0	0	1464	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			41			113		55			75	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		266.7			35.7			68.7			201.0	
Travel Time (s)		12.0			1.6			4.9			14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	119	813	3	2	925	113	3	0	2	86	0	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	813	3	2	925	113	0	5	0	0	179	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	46.1	46.1	33.9	33.9		33.9	33.9	
Total Split (s)	46.1	46.1	46.1	46.1	46.1	46.1	33.9	33.9		33.9	33.9	
Total Split (%)	57.6%	57.6%	57.6%	57.6%	57.6%	57.6%	42.4%	42.4%		42.4%	42.4%	
Maximum Green (s)	39.1	39.1	39.1	39.1	39.1	39.1	27.9	27.9		27.9	27.9	
Yellow Time (s)	5.4	5.4	5.4	5.4	5.4	5.4	4.1	4.1		4.1	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.6	1.6	1.9	1.9		1.9	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	32.1	32.1	20.9	20.9		20.9	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	30.0	30.0	30.0	30.0	30.0	30.0		11.5			11.5	
Actuated g/C Ratio	0.55	0.55	0.55	0.55	0.55	0.55		0.21			0.21	
v/c Ratio	0.41	0.80	0.00	0.01	0.48	0.12		0.01			0.49	
Control Delay	12.3	17.0	0.0	6.0	8.4	1.8		0.0			18.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Delay	12.3	17.0	0.0	6.0	8.4	1.8		0.0			18.3	
LOS	B	B	A	A	A	A		A			B	
Approach Delay		16.4			7.7						18.3	
Approach LOS		B			A						B	
Queue Length 50th (m)	5.8	54.7	0.0	0.1	24.9	0.0		0.0			9.2	
Queue Length 95th (m)	18.8	111.9	0.0	0.9	44.0	5.3		0.0			27.6	
Internal Link Dist (m)		242.7			11.7			44.7			177.0	
Turn Bay Length (m)	38.0		70.0	15.0		70.0						
Base Capacity (vph)	391	1362	1168	273	2588	1188		779			800	
Starvation Cap Reductn	0	0	0	0	0	0		0			0	
Spillback Cap Reductn	0	0	0	0	0	0		0			0	
Storage Cap Reductn	0	0	0	0	0	0		0			0	
Reduced v/c Ratio	0.30	0.60	0.00	0.01	0.36	0.10		0.01			0.22	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 54.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 81.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Starlight Lane/Acccess A & Highway 26

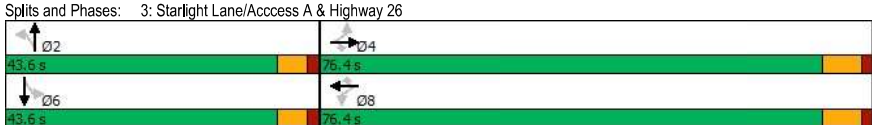


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	622	3	0	694	81	2	0	0	71	0	74
Future Volume (vph)	84	622	3	0	694	81	2	0	0	71	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	38.0		70.0	15.0		70.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		1	0		0	0		0
Taper Length (m)	100.0			100.0			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850					0.931	
Flt Protected	0.950							0.950			0.976	
Satd. Flow (prot)	1770	1863	1583	1863	3539	1583	0	1770	0	0	1693	0
Flt Permitted	0.346							0.736			0.843	
Satd. Flow (perm)	645	1863	1583	1863	3539	1583	0	1371	0	0	1462	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			27			92					45	
Link Speed (k/h)		80			80			50			50	
Link Distance (m)		266.7			35.7			68.7			201.0	
Travel Time (s)		12.0			1.6			4.9			14.5	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	95	707	3	0	789	92	2	0	0	81	0	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	707	3	0	789	92	0	2	0	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.6			3.6			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.8			4.8			4.8			4.8	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	100		100	100		100	100		100	100		100
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	20.0	20.0	20.0	20.0	20.0	20.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	46.1	46.1	46.1	46.1	46.1	46.1	33.9	33.9		33.9	33.9	
Total Split (s)	76.4	76.4	76.4	76.4	76.4	76.4	43.6	43.6		43.6	43.6	
Total Split (%)	63.7%	63.7%	63.7%	63.7%	63.7%	63.7%	36.3%	36.3%		36.3%	36.3%	
Maximum Green (s)	69.4	69.4	69.4	69.4	69.4	69.4	37.6	37.6		37.6	37.6	
Yellow Time (s)	5.4	5.4	5.4	5.4	5.4	5.4	4.1	4.1		4.1	4.1	
All-Red Time (s)	1.6	1.6	1.6	1.6	1.6	1.6	1.9	1.9		1.9	1.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0			0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	32.1	32.1	32.1	32.1	32.1	32.1	20.9	20.9		20.9	20.9	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)	26.3	26.3	26.3		26.3	26.3		12.1			12.1	
Actuated g/C Ratio	0.51	0.51	0.51		0.51	0.51		0.23			0.23	
v/c Ratio	0.29	0.75	0.00		0.44	0.11		0.01			0.44	
Control Delay	10.3	16.1	0.0		8.9	2.2		18.5			18.5	
Queue Delay	0.0	0.0	0.0		0.0	0.0		0.0			0.0	
Total Delay	10.3	16.1	0.0		8.9	2.2		18.5			18.5	
LOS	B	B	A		A	A		B			B	
Approach Delay		15.3			8.2			18.5			18.5	
Approach LOS		B			A			B			B	
Queue Length 50th (m)	4.3	44.2	0.0		20.7	0.0		0.2			9.0	
Queue Length 95th (m)	14.2	95.3	0.0		39.5	5.1		1.8			29.4	
Internal Link Dist (m)		242.7			11.7			44.7			177.0	
Turn Bay Length (m)	38.0		70.0			70.0						
Base Capacity (vph)	642	1854	1575		3522	1576		1029			1108	
Starvation Cap Reductn	0	0	0		0	0		0			0	
Spillback Cap Reductn	0	0	0		0	0		0			0	
Storage Cap Reductn	0	0	0		0	0		0			0	
Reduced v/c Ratio	0.15	0.38	0.00		0.22	0.06		0.00			0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 51.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Starlight Lane/Acccess A & Highway 26



APPENDIX E

Growth Rate Analysis

Ontario

Ministry of Transportation | Highway Standards Branch | Traffic Office

Provincial Highways

Traffic Volumes 1988-2016

King's Highways / Secondary Highways / Tertiary Roads

Ministry Contact:
Traffic Office (905)-704-2960

Abstract:
This annual publication contains averaged traffic volume information and accident rate information for each of the sections of highway under MTO jurisdiction.

Key Words:
Annual Average Daily Traffic volume (AADT), Summer Average Daily Traffic volume (SADT), Summer Average Weekday Traffic volume (SAWDT), Winter Average Daily Traffic volume (WADT), Accident Rate (AR)

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			1990	CR	6,550	9,500	9,100	4,750	0.6
			1991	CR	6,750	9,400	9,100	4,950	0.9
			1992	CR	6,900	9,500	9,300	5,300	0.4
			1993	CR	6,300	7,900	7,600	5,300	0.8
			1994	CR	6,300	8,050	7,700	5,300	0.7
			1995	CR	6,300	8,050	7,750	5,300	0.9
			1996	CR	6,400	8,200	7,850	5,400	1.1
			1997	CR	6,550	8,400	8,050	5,500	0.7
			1998	CR	6,650	8,450	8,100	5,600	1.0
			1999	CR	6,700	8,450	8,100	5,650	0.7
			2000	CR	7,100	8,950	8,600	6,000	0.7
			2001	CR	7,250	9,150	8,750	6,100	0.9
			2002	CR	7,450	9,400	9,000	6,300	0.7
			2003	CR	7,800	9,850	9,450	6,650	0.9
			2004	CR	7,850	9,750	9,400	6,650	0.7
			2005	CR	7,800	9,650	9,300	6,600	1.4
			2006	CR	7,950	9,850	9,450	6,750	0.8
			2007	CR	8,100	10,000	9,950	6,850	1.0
			2008	CR	8,100	9,800	9,750	6,850	0.6
			2009	CR	8,450	10,200	9,800	7,150	0.4
			2010	CR	8,600	10,300	9,950	7,250	0.6
			2011	CR	8,600	10,100	10,100	7,650	N/A
			2012	CR	8,600	10,300	10,100	7,300	N/A
			2013	CR	8,600	10,300	10,600	7,300	N/A
			2014	CR	8,700	10,300	10,200	7,400	N/A
			2015	CR	8,800	10,400	10,300	7,500	N/A
			2016	CR	8,900	10,500	10,400	7,550	N/A
26	THORNBURY E LTS - START OF NA	2.3							
26	PEEL STREET CULVERT - END OF NA	9.8	1988	UC	4,400	5,100	4,950	3,850	0.4
			1989	UC	4,600	5,200	5,100	4,050	0.5
			1990	UC	4,750	6,900	6,600	3,450	0.9
			1991	UC	4,800	6,700	6,400	3,550	0.9
			1992	UC	4,900	6,800	6,600	3,750	0.8

Highway	Location Description	Dist. (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT	AR
			1993	UC	5,200	7,100	7,000	4,050	1.1
			1994	UC	5,150	7,200	7,150	3,900	1.0
			1995	UC	5,300	7,350	7,300	4,000	1.4
			1996	UC	5,400	7,300	7,350	4,100	0.9
			1997	UC	5,550	7,500	7,550	4,200	0.8
			1998	UC	5,650	7,550	7,650	4,250	1.2
			1999	UC	5,650	7,500	7,650	4,250	1.3
			2000	UC	5,850	7,850	7,900	4,400	0.9
			2001	UC	5,950	7,950	8,050	4,450	1.0
			2002	UC	6,050	8,150	8,200	4,550	1.4
			2003	UC	6,200	8,300	8,350	4,650	1.6
			2004	UC	6,250	8,300	8,400	4,750	0.6
			2005	UC	6,250	8,300	8,350	4,700	0.8
			2006	UC	6,250	8,550	8,350	4,600	1.9
			2007	UC	6,300	8,650	8,900	4,650	1.4
			2008	UC	6,300	6,650	6,250	5,900	1.0
			2009	UC	6,300	6,650	7,350	5,950	1.4
			2010	UC	6,300	6,650	7,350	5,900	1.4
			2011	UC	6,300	6,300	6,500	6,000	N/A
			2012	UC	6,350	6,350	6,800	6,050	N/A
			2013	UC	6,400	6,400	6,450	6,100	N/A
			2014	UC	6,900	6,900	6,650	6,550	N/A
			2015	UC	6,750	6,750	6,500	6,400	N/A
			2016	UC	6,800	6,800	6,550	6,500	N/A
26	MEAFORD E LTS - START OF NA	3.3							
26	FORMER TWN OF MEAFORD W LTS - END OF NA	25.0	1988	IC	3,850	4,450	4,350	3,350	0.9
			1989	IC	3,950	4,500	4,450	3,500	1.1
			1990	IC	4,100	5,900	5,700	2,950	1.0
			1991	IC	4,200	5,800	5,600	3,100	1.1
			1992	IC	4,350	6,000	5,800	3,300	1.0
			1993	IC	4,550	4,900	5,000	4,200	1.1
			1994	IC	4,500	4,900	5,050	4,050	0.8
			1995	IC	4,650	5,000	5,200	4,300	1.0

Year	AADT	SADT	Summer Factor
2016	6800	6800	1
2015	6750	6750	1
2014	6900	6900	1
2013	6400	6400	1
2012	6350	6350	1
2011	6300	6300	1

Growth Rate: ((6800/6300)^(1/5))-1

2%

APPENDIX F

Signal Warrants

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Christie Beach and Highway 26 Future Background

What is the direction of the Main Road street? East-West

When was the data collected? 2045

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural **Population < 10,000 AND Speed >= 70 km/hr**

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	4	196	0	0	0	0	0	114	30	4	0	10	0
8:00	58	431	0	0	0	0	0	272	53	14	0	30	0
9:00	27	505	0	0	0	0	0	399	30	43	0	35	0
12:00	27	404	0	0	0	0	0	307	53	22	0	45	0
13:00	38	473	0	0	0	0	0	511	86	76	0	30	0
16:00	51	492	0	0	0	0	0	594	54	36	0	45	0
17:00	38	403	0	0	0	0	0	533	38	64	0	24	0
18:00	26	259	0	0	0	0	0	328	16	24	0	15	0
Total	**269**	**3,163**	**0**	**0**	**0**	**0**	**0**	**3,059**	**361**	**282**	**0**	**234**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Christie Beach and Highway 26 **Future Background** Count Date: 2045

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	357	858	1,039	858	1,215	1,272	1,101	668		
	COMPLIANCE %				74	100	100	100	100	100	100	100	774	97
1B	180	255	180	255	14	44	78	67	106	81	88	39		
	COMPLIANCE %				8	25	43	37	59	45	49	22	287	36

Free Flow Signal Justification 1:	Both 1A and 1B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	344	814	961	792	1,109	1,191	1,013	629		
	COMPLIANCE %				72	100	100	100	100	100	100	100	772	96
2B	50	75	50	75	4	14	43	22	76	36	64	24		
	COMPLIANCE %				7	29	86	43	100	72	100	48	485	61

Free Flow Signal Justification 2:	Both 2A and 2B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☐	NO ☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	299	72	391	18 %	18 %
	8:00	299	72	391	18 %	
	9:00	299	72	391	18 %	
	12:00	299	72	391	18 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Christie Beach and Highway 26 **Future Background** Count Date: 2045

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	97	%	☐	☑
	B	Crossing Volume	36	%		
2. Delay to Cross Traffic	A	Main Road	96	%	☐	☑
	B	Crossing Road	61	%		
3. Combination	A	Justificaton 1	36	%	☐	☑
	B	Justification 2	61	%		
4. 4-Hr Volume			18	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Christie Beach and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2031

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	3	222	0	0	0	0	0	114	25	3	0	9	0
8:00	47	488	0	0	0	0	0	271	44	13	0	27	0
9:00	22	572	0	0	0	0	0	398	25	38	0	32	0
12:00	22	458	0	0	0	0	0	307	44	19	0	41	0
13:00	34	500	0	0	0	0	0	573	75	68	0	25	0
16:00	45	520	0	0	0	0	0	666	47	32	0	38	0
17:00	34	426	0	0	0	0	0	598	33	57	0	20	0
18:00	23	274	0	0	0	0	0	368	14	21	0	13	0
Total	**229**	**3,460**	**0**	**0**	**0**	**0**	**0**	**3,295**	**308**	**251**	**0**	**206**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Christie Beach and Highway 26 Count Date: 2031

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	376	891	1,087	891	1,275	1,348	1,168	713		
	COMPLIANCE %				78	100	100	100	100	100	100	100	778	97
1B	180	255	180	255	12	40	70	60	93	70	77	34		
	COMPLIANCE %				7	22	39	33	52	39	43	19	253	32

Free Flow Signal Justification 1:	Both 1A and 1B 100% Fullfilled each of 8 hours	Yes	No
	Lesser of 1A or 1B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	364	851	1,017	831	1,182	1,278	1,091	679		
	COMPLIANCE %				76	100	100	100	100	100	100	100	776	97
2B	50	75	50	75	3	13	38	19	68	32	57	21		
	COMPLIANCE %				6	25	76	38	100	64	100	43	452	57

Free Flow Signal Justification 2:	Both 2A and 2B 100% Fullfilled each of 8 hours	Yes ☐	No ☑
	Lesser of 2A or 2B at least 80% fulfilled each of 8 hours	Yes ☐	No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES	NO ☑	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	9:00	1,017	70	113	62 %	82 %
	13:00	1,182	93	83	100 %	
	16:00	1,278	70	80	88 %	
	17:00	1,091	77	98	78 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Christie Beach and Highway 26 Count Date: 2031

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	97	%	☐	☑
	B	Crossing Volume	32	%		
2. Delay to Cross Traffic	A	Main Road	97	%	☐	☑
	B	Crossing Road	57	%		
3. Combination	A	Justificaton 1	32	%	☐	☑
	B	Justification 2	57	%		
4. 4-Hr Volume			82	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Christie Beach and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2035

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	9	233	0	0	0	0	0	119	63	13	0	41	0
8:00	131	512	0	0	0	0	0	283	112	50	0	124	0
9:00	61	600	0	0	0	0	0	416	63	151	0	145	0
12:00	61	480	0	0	0	0	0	320	112	76	0	186	0
13:00	118	524	0	0	0	0	0	600	256	205	0	69	0
16:00	157	545	0	0	0	0	0	697	160	97	0	104	0
17:00	118	447	0	0	0	0	0	626	112	172	0	54	0
18:00	79	287	0	0	0	0	0	385	48	65	0	35	0
Total	**732**	**3,628**	**0**	**0**	**0**	**0**	**0**	**3,447**	**926**	**828**	**0**	**760**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Christie Beach and Highway 26 Count Date: 2035

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	477	1,213	1,436	1,235	1,772	1,760	1,530	898		
	COMPLIANCE %				99	100	100	100	100	100	100	100	799	100
1B	180	255	180	255	54	175	296	262	274	201	227	99		
	COMPLIANCE %				30	97	100	100	100	100	100	55	682	85
Free Flow Signal Justification 1:					Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☐ Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	423	1,038	1,140	973	1,498	1,559	1,303	799		
	COMPLIANCE %				88	100	100	100	100	100	100	100	788	99
2B	50	75	50	75	13	50	151	76	205	176	172	65		
	COMPLIANCE %				25	100	100	100	100	100	100	100	725	91
Free Flow Signal Justification 2:					Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☑ Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☑	NO ☐
Justification 2	Delay Cross Traffic	YES ☑	NO ☐	JUSTIFIED	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	9:00	1,140	296	89	100 %	100 %
	13:00	1,498	274	80	100 %	
	16:00	1,559	201	80	100 %	
	17:00	1,303	227	80	100 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Christie Beach and Highway 26 Count Date: 2035

Summary Results

Justification			Compliance	Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100 %	☐	☑
	B	Crossing Volume	85 %		
2. Delay to Cross Traffic	A	Main Road	99 %	☐	☑
	B	Crossing Road	91 %		
3. Combination	A	Justificaton 1	85 %	☑	☐
	B	Justification 2	91 %		
4. 4-Hr Volume			100 %	☑	☐
5. Collision Experience			0 %	☐	☑
6. Pedestrians	A	Volume	Justification met	☐	☑
	B	Delay	Justification not met		

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Christie Beach and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2040

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	9	249	0	0	0	0	0	129	65	13	0	42	0
8:00	133	549	0	0	0	0	0	307	116	51	0	125	0
9:00	62	643	0	0	0	0	0	450	65	153	0	146	0
12:00	62	514	0	0	0	0	0	347	116	77	0	188	0
13:00	119	564	0	0	0	0	0	644	259	209	0	71	0
16:00	159	587	0	0	0	0	0	748	162	99	0	107	0
17:00	119	481	0	0	0	0	0	672	113	176	0	56	0
18:00	80	310	0	0	0	0	0	413	49	66	0	36	0
Total	**743**	**3,897**	**0**	**0**	**0**	**0**	**0**	**3,709**	**944**	**843**	**0**	**771**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Christie Beach and Highway 26 Count Date: 2040

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	506	1,280	1,519	1,303	1,867	1,862	1,618	952		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	54	176	299	264	280	206	232	102		
	COMPLIANCE %				30	98	100	100	100	100	100	56	685	86
Free Flow Signal Justification 1:					Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☐ Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	452	1,104	1,220	1,039	1,587	1,656	1,386	851		
	COMPLIANCE %				94	100	100	100	100	100	100	100	794	99
2B	50	75	50	75	13	51	153	77	209	179	176	66		
	COMPLIANCE %				26	100	100	100	100	100	100	100	726	91
Free Flow Signal Justification 2:					Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☑ Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☑	NO ☐
Justification 2	Delay Cross Traffic	YES ☑	NO ☐	JUSTIFIED	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	9:00	1,220	299	80	100 %	100 %
	13:00	1,587	280	80	100 %	
	16:00	1,656	206	80	100 %	
	17:00	1,386	232	80	100 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Christie Beach and Highway 26 Count Date: 2040

Summary Results

Justification			Compliance	Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100 %	☐	☑
	B	Crossing Volume	86 %		
2. Delay to Cross Traffic	A	Main Road	99 %	☐	☑
	B	Crossing Road	91 %		
3. Combination	A	Justificaton 1	86 %	☑	☐
	B	Justification 2	91 %		
4. 4-Hr Volume			100 %	☑	☐
5. Collision Experience			0 %	☐	☑
6. Pedestrians	A	Volume	Justification met	☐	☑
	B	Delay	Justification not met		

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Christie Beach and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2045

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	9	268	0	0	0	0	0	140	67	13	0	42	0
8:00	137	590	0	0	0	0	0	333	119	52	0	126	0
9:00	64	691	0	0	0	0	0	488	67	155	0	147	0
12:00	64	553	0	0	0	0	0	376	119	78	0	189	0
13:00	121	609	0	0	0	0	0	692	262	211	0	73	0
16:00	161	633	0	0	0	0	0	804	164	100	0	110	0
17:00	121	519	0	0	0	0	0	722	115	178	0	58	0
18:00	81	334	0	0	0	0	0	444	49	67	0	37	0
Total	**757**	**4,195**	**0**	**0**	**0**	**0**	**0**	**3,998**	**963**	**853**	**0**	**782**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Christie Beach and Highway 26 Count Date: 2045

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	539	1,356	1,612	1,378	1,968	1,972	1,712	1,011		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	55	178	302	267	284	210	235	103		
	COMPLIANCE %				31	99	100	100	100	100	100	57	687	86
Free Flow Signal Justification 1:					**Both 1A and 1B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	484	1,178	1,310	1,112	1,684	1,762	1,477	908		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
2B	50	75	50	75	13	52	155	78	271	181	238	67		
	COMPLIANCE %				26	100	100	100	100	100	100	100	726	91
Free Flow Signal Justification 2:					**Both 2A and 2B 100% Fullfilled each of 8 hours** Yes ☐ No ☑ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☑	NO ☐
Justification 2	Delay Cross Traffic	YES ☑	NO ☐	JUSTIFIED	

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	9:00	1,310	302	80	100 %	100 %
	13:00	1,684	284	80	100 %	
	16:00	1,762	210	80	100 %	
	17:00	1,477	235	80	100 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Christie Beach and Highway 26 Count Date: 2045

Summary Results

Justification			Compliance	Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100 %	☐	☑
	B	Crossing Volume	86 %		
2. Delay to Cross Traffic	A	Main Road	100 %	☐	☑
	B	Crossing Road	91 %		
3. Combination	A	Justificaton 1	86 %	☑	☐
	B	Justification 2	91 %		
4. 4-Hr Volume			100 %	☑	☐
5. Collision Experience			0 %	☐	☑
6. Pedestrians	A	Volume	Justification met	☐	☑
	B	Delay	Justification not met		

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Access A and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2045

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	8	262	0	0	0	0	0	167	52	6	0	22	0
8:00	126	578	0	0	0	0	0	397	92	25	0	67	0
9:00	59	677	0	0	0	0	0	583	52	74	0	78	0
12:00	59	542	0	0	0	0	0	449	92	37	0	100	0
13:00	79	690	0	0	0	0	0	703	158	160	0	55	0
16:00	105	718	0	0	0	0	0	817	99	76	0	82	0
17:00	79	589	0	0	0	0	0	734	69	135	0	43	0
18:00	53	379	0	0	0	0	0	451	30	51	0	27	0
Total	**568**	**4,434**	**0**	**0**	**0**	**0**	**0**	**4,301**	**645**	**564**	**0**	**474**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Access A and Highway 26 Count Date: 2045

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	518	1,285	1,523	1,279	1,846	1,897	1,649	990		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	28	92	152	137	215	158	178	78		
	COMPLIANCE %				16	51	84	76	100	88	99	43	557	70

Free Flow Signal Justification 1:

Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☐

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	490	1,194	1,371	1,142	1,631	1,739	1,471	912		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
2B	50	75	50	75	6	25	74	37	160	76	135	51		
	COMPLIANCE %				12	49	100	74	100	100	100	100	636	79

Free Flow Signal Justification 2:

Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☐

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	9:00	1,371	152	80	100 %	100 %
	13:00	1,631	215	80	100 %	
	16:00	1,739	158	80	100 %	
	17:00	1,471	178	80	100 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Access A and Highway 26 Count Date: 2045

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	70	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	79	%		
3. Combination	A	Justificaton 1	70	%	☐	☑
	B	Justification 2	79	%		
4. 4-Hr Volume			100	%	☑	☐
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Access C and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2045

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 3

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	5	242	0	0	0	0	0	179	37	9	0	32	0
8:00	81	532	0	0	0	0	0	425	66	37	0	97	0
9:00	38	624	0	0	0	0	0	624	37	112	0	113	0
12:00	38	499	0	0	0	0	0	481	66	56	0	145	0
13:00	83	730	0	0	0	0	0	680	176	137	0	43	0
16:00	110	759	0	0	0	0	0	790	110	65	0	65	0
17:00	83	622	0	0	0	0	0	710	77	116	0	34	0
18:00	55	400	0	0	0	0	0	436	33	43	0	22	0
Total	**493**	**4,409**	**0**	**0**	**0**	**0**	**0**	**4,324**	**602**	**576**	**0**	**551**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Access C and Highway 26 Count Date: 2045

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	504	1,239	1,548	1,285	1,849	1,899	1,641	990		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	180	255	180	255	42	134	225	201	181	130	150	65		
	COMPLIANCE %				23	75	100	100	100	72	83	36	589	74
Free Flow Signal Justification 1:					**Both 1A and 1B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 1A or 1B at least 80% fulfilled each of 8 hours** Yes ☐ No ☑									

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	463	1,105	1,323	1,084	1,668	1,769	1,491	925		
	COMPLIANCE %				96	100	100	100	100	100	100	100	796	100
2B	50	75	50	75	9	37	112	56	137	65	116	43		
	COMPLIANCE %				19	75	100	100	100	100	100	87	680	85
Free Flow Signal Justification 2:					**Both 2A and 2B 100% Fullfilled each of 8 hours** Yes ☐ No ☐ **Lesser of 2A or 2B at least 80% fulfilled each of 8 hours** Yes ☑ No ☐									

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☐		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	299	72	391	18 %	18 %
	8:00	299	72	391	18 %	
	9:00	299	72	391	18 %	
	12:00	299	72	391	18 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Access C and Highway 26 Count Date: 2045

Summary Results

Justification			Compliance		Signal Justified? YES	NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	74	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	85	%		
3. Combination	A	Justificaton 1	74	%	☐	☑
	B	Justification 2	85	%		
4. 4-Hr Volume			18	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision

GO TO Justification:

What are the intersecting roadways? Starlight Lane/Access A and Highway 26

What is the direction of the Main Road street? East-West

When was the data collected? 2045

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Rural Population < 10,000 AND Speed >= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Eastbound Approach			Minor Northbound Approach			Main Westbound Approach			Minor Southbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	8	262	0	0	0	0	0	167	52	6	0	22	0
8:00	126	578	0	0	0	2	0	397	92	25	0	67	0
9:00	59	677	0	0	0	2	0	583	52	74	0	78	0
12:00	59	542	0	0	0	0	0	449	92	37	0	100	0
13:00	79	687	0	3	0	2	0	701	158	160	0	55	0
16:00	105	715	3	3	0	2	2	814	99	76	0	82	0
17:00	79	586	0	0	0	2	0	731	69	135	0	43	0
18:00	53	377	0	0	0	0	0	450	30	51	0	27	0
Total	**568**	**4,424**	**3**	**6**	**0**	**10**	**2**	**4,291**	**645**	**564**	**0**	**474**	**0**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Starlight Lane/Access A and Highway 26 Count Date: 2045

Justification 1: Minimum Vehicle Volumes

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	518	1,287	1,525	1,279	1,845	1,901	1,645	987		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
1B	120	170	120	170	28	94	154	137	220	163	180	78		
	COMPLIANCE %				24	78	100	100	100	100	100	65	667	83

Free Flow Signal Justification 1:

Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☐

Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐

Justification 2: Delay to Cross Traffic

Free Flow Rural Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☑	RESTR. FLOW ☐	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	490	1,194	1,371	1,142	1,625	1,738	1,465	909		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
2B	50	75	50	75	6	25	74	37	163	79	135	51		
	COMPLIANCE %				12	49	100	74	100	100	100	100	636	79

Free Flow Signal Justification 2:

Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☐

Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑

Justification 3: Combination

Combination Justification 1 and 2

	Justification Satisfied 80% or More			Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☐	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main) X	Heaviest Minor Approach Y (actual)	Required Value Y (warrant threshold)	Average % Compliance	Overall % Compliance
Justification 4	7:00	299	72	391	18 %	18 %
	8:00	299	72	391	18 %	
	9:00	299	72	391	18 %	
	12:00	299	72	391	18 %	

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

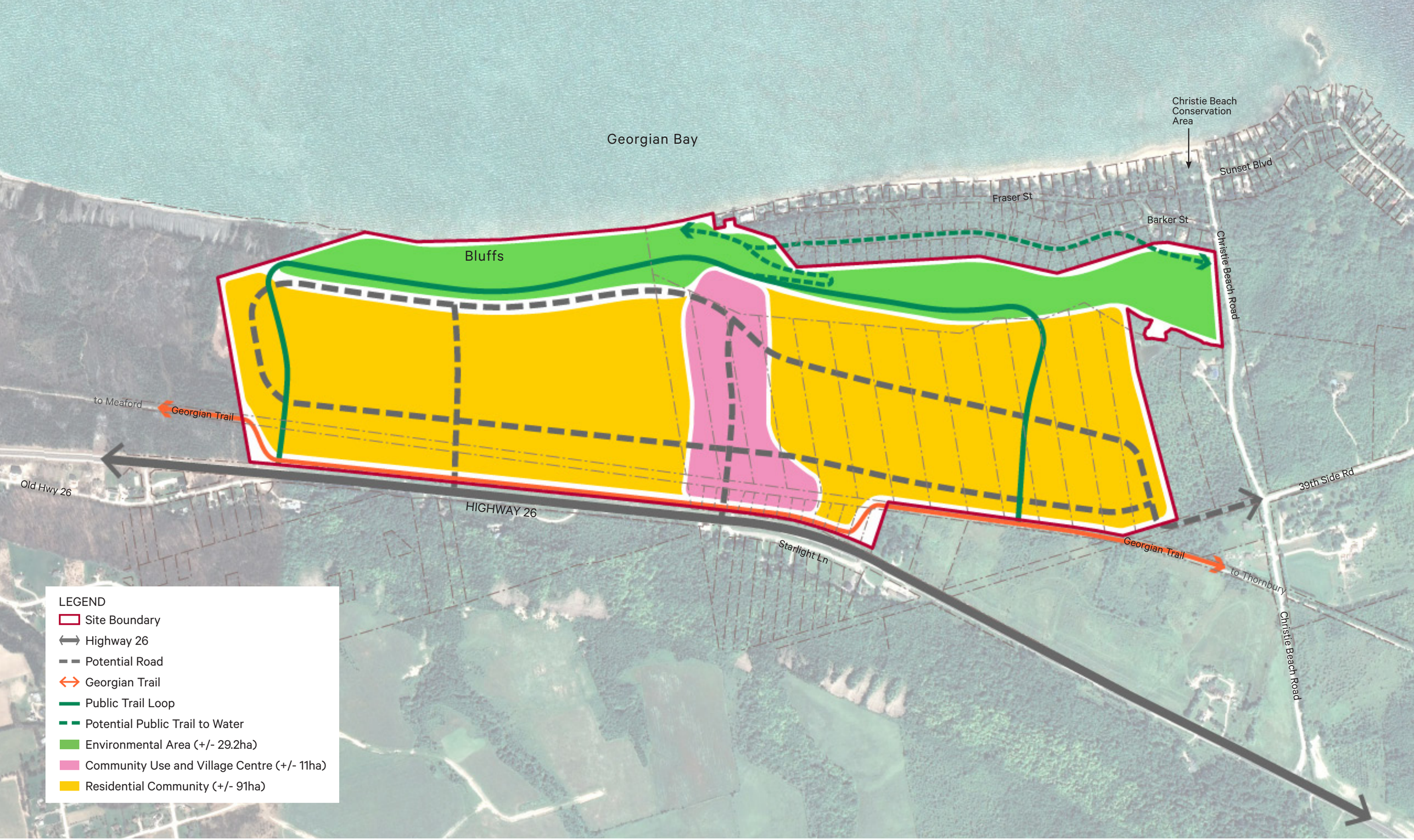
Intersection: Starlight Lane/Access A and Highway 26 Count Date: 2045

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	83	%		
2. Delay to Cross Traffic	A	Main Road	100	%	☐	☑
	B	Crossing Road	79	%		
3. Combination	A	Justificaton 1	83	%	☐	☑
	B	Justification 2	79	%		
4. 4-Hr Volume			18	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

APPENDIX G

Community Structure Plan
(SvN, January 24th, 2024)



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Christie Beach
Parkbridge Meaford Development
Master Plan
Meaford, Ontario

Community Structure Plan

ver. 21J

January 24, 2024

A01

APPENDIX H

ITE Trip Generation Manual Excerpts

Land Use: 210
Single-Family Detached Housing

Description

A single-family detached housing site includes any single-family detached home on an individual lot. A typical site surveyed is a suburban subdivision.

Specialized Land Use

Data have been submitted for several single-family detached housing developments with homes that are commonly referred to as patio homes. A patio home is a detached housing unit that is located on a small lot with little (or no) front or back yard. In some subdivisions, communal maintenance of outside grounds is provided for the patio homes. The three patio home sites total 299 dwelling units with overall weighted average trip generation rates of 5.35 vehicle trips per dwelling unit for weekday, 0.26 for the AM adjacent street peak hour, and 0.47 for the PM adjacent street peak hour. These patio home rates based on a small sample of sites are lower than those for single-family detached housing (Land Use 210), lower than those for single-family attached housing (Land Use 251), and higher than those for senior adult housing -- single-family (Land Use 251). Further analysis of this housing type will be conducted in a future edition of *Trip Generation Manual*.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

For 30 of the study sites, data on the number of residents and number of household vehicles are available. The overall averages for the 30 sites are 3.6 residents per dwelling unit and 1.5 vehicles per dwelling unit.

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Arizona, California, Connecticut, Delaware, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Minnesota, Montana, New Jersey, North Carolina, Ohio, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Vermont, Virginia, and West Virginia.

Source Numbers

100, 105, 114, 126, 157, 167, 177, 197, 207, 211, 217, 267, 275, 293, 300, 319, 320, 356, 357, 367, 384, 387, 407, 435, 522, 550, 552, 579, 598, 601, 603, 614, 637, 711, 716, 720, 728, 735, 868, 869, 903, 925, 936, 1005, 1007, 1008, 1010, 1033, 1066, 1077,1078, 1079

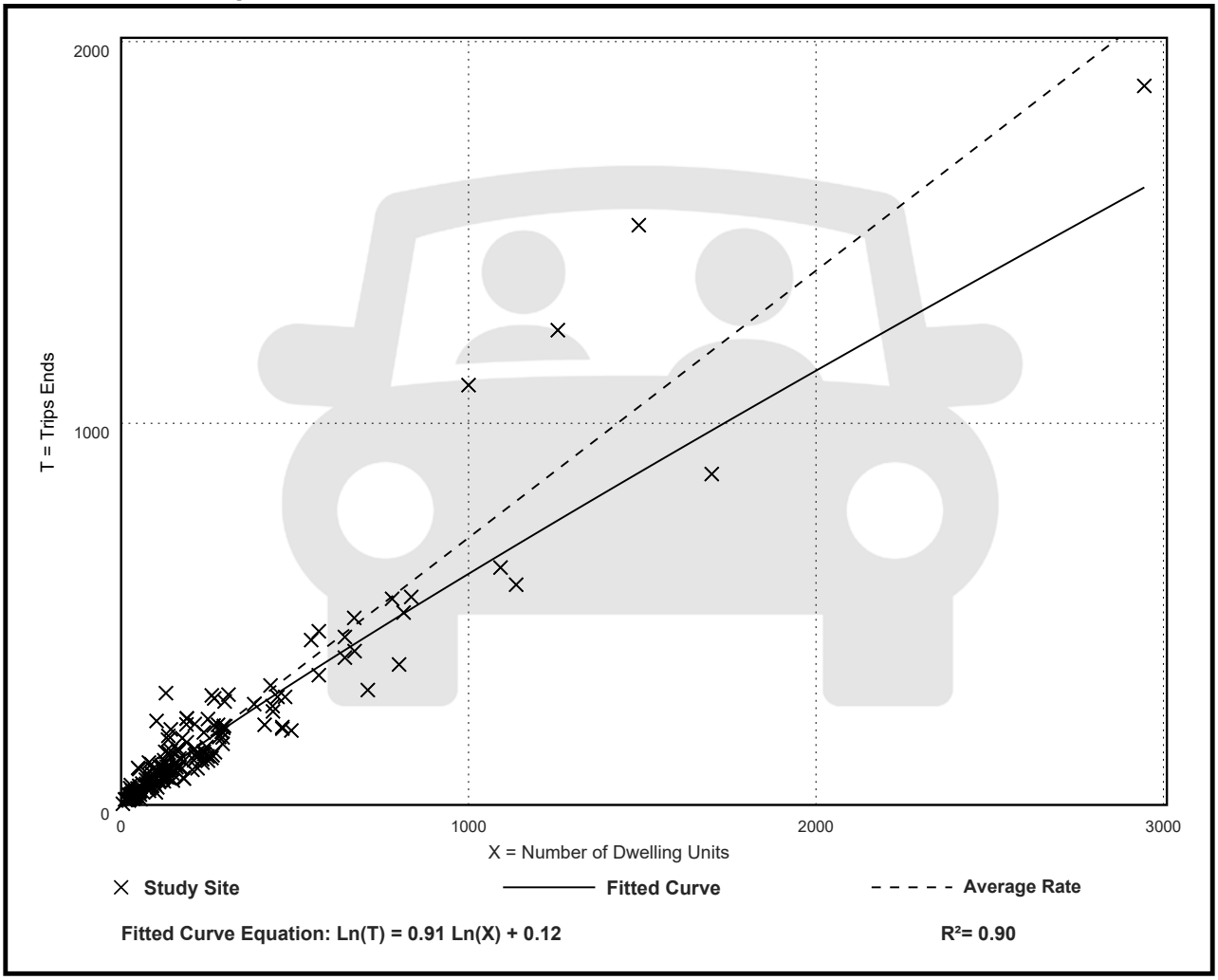
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 192
Avg. Num. of Dwelling Units: 226
Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



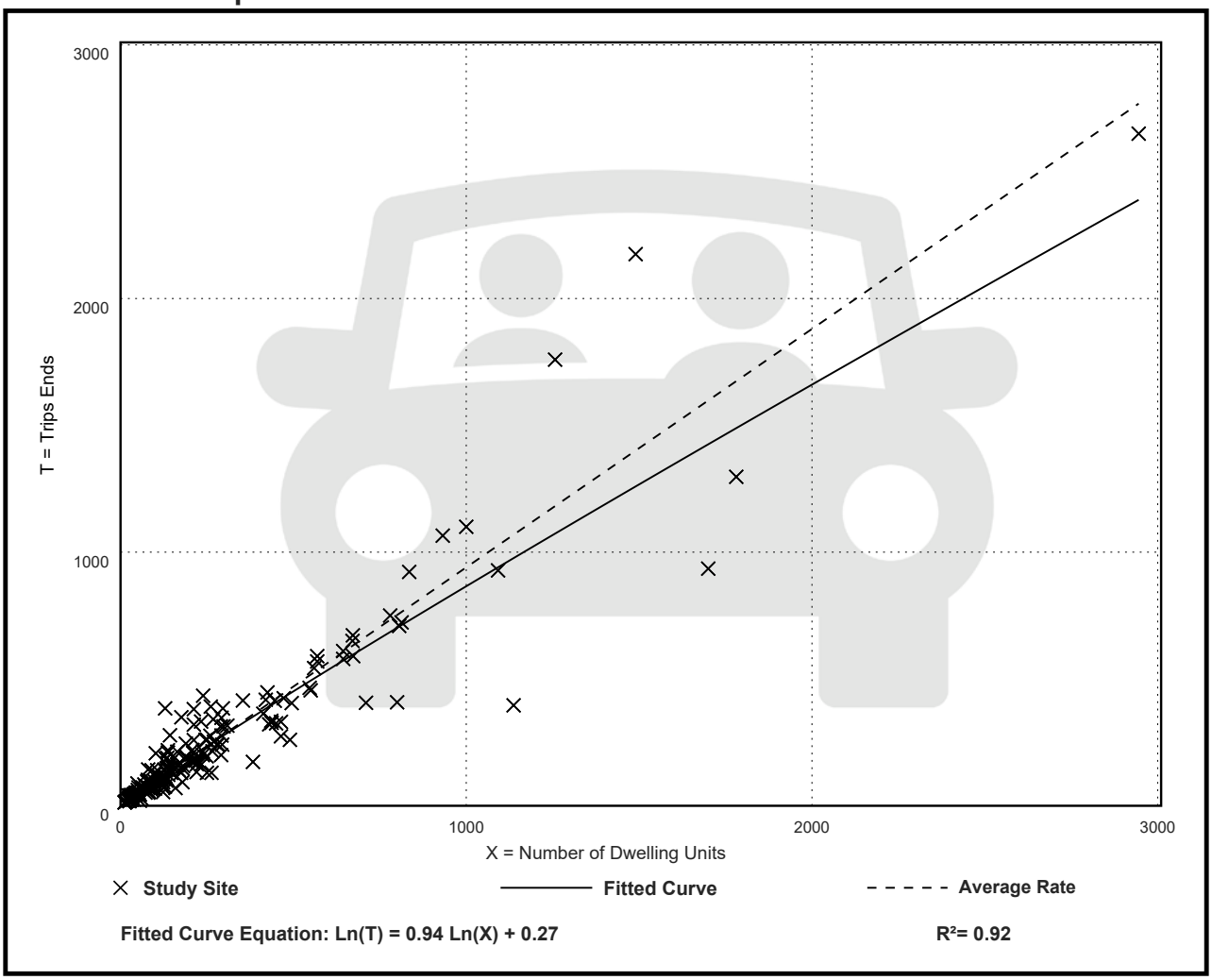
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 208
Avg. Num. of Dwelling Units: 248
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Land Use: 215
Single-Family Attached Housing

Description

Single-family attached housing includes any single-family housing unit that shares a wall with an adjoining dwelling unit, whether the walls are for living space, a vehicle garage, or storage space.

Additional Data

The database for this land use includes duplexes (defined as a single structure with two distinct dwelling units, typically joined side-by-side and each with at least one outside entrance) and townhouses/rowhouses (defined as a single structure with three or more distinct dwelling units, joined side-by-side in a row and each with an outside entrance).

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in British Columbia (CAN), California, Georgia, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Dakota, Utah, Virginia, and Wisconsin.

Source Numbers

168, 204, 211, 237, 305, 306, 319, 321, 357, 390, 418, 525, 571, 583, 638, 735, 868, 869, 870, 896, 912, 959, 1009, 1046, 1056, 1058, 1077

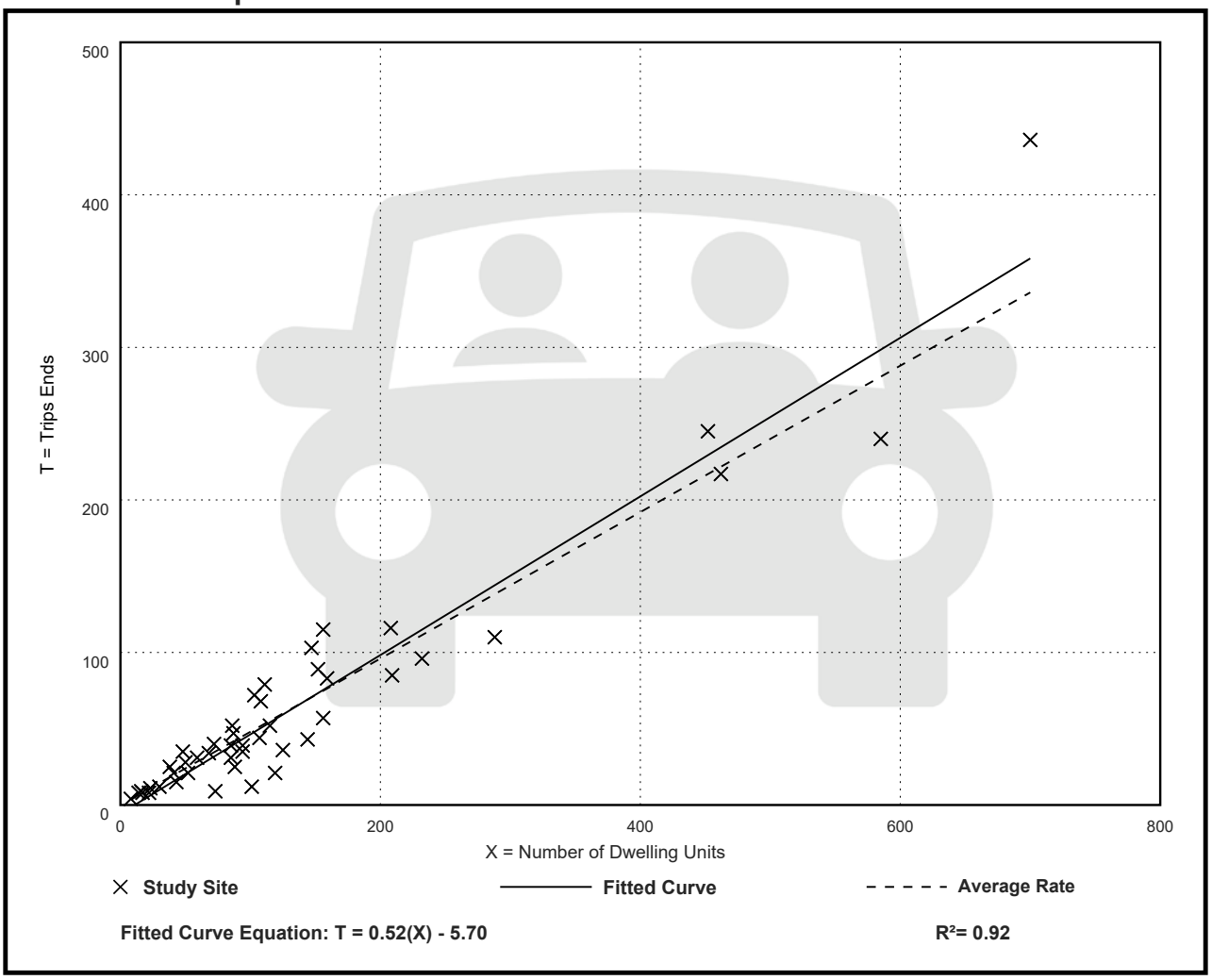
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 46
Avg. Num. of Dwelling Units: 135
Directional Distribution: 31% entering, 69% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.48	0.12 - 0.74	0.14

Data Plot and Equation



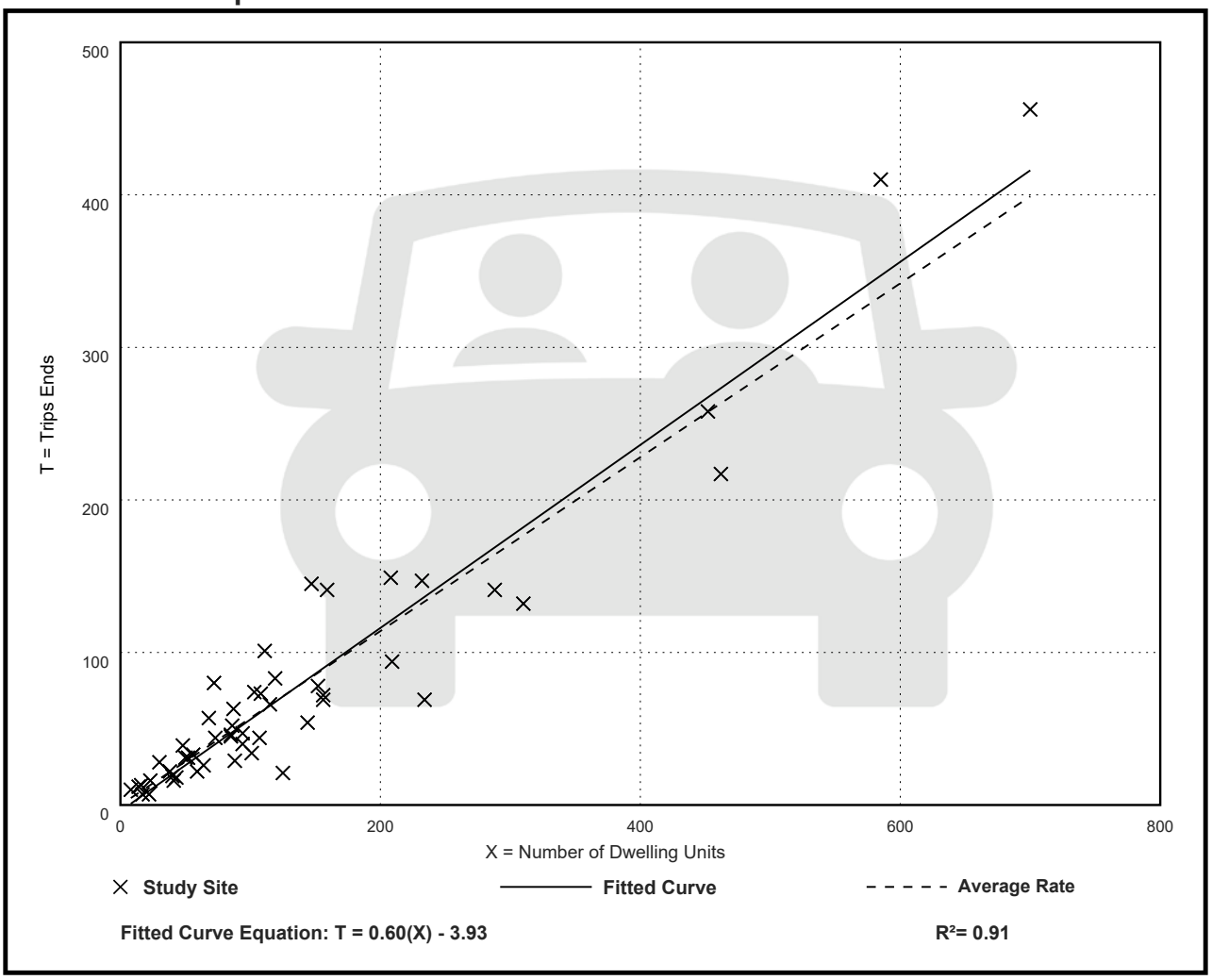
Single-Family Attached Housing
(215)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 51
Avg. Num. of Dwelling Units: 136
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.57	0.17 - 1.25	0.18

Data Plot and Equation



Land Use: 495
Recreational Community Center

Description

A recreational community center is a stand-alone public facility similar to and including YMCAs. These facilities often include classes and clubs for adults and children, a day care or nursery school, meeting rooms and other social facilities, swimming pools and whirlpools, saunas, tennis, racquetball, handball, pickle ball, basketball and volleyball courts; outdoor athletic fields/courts, exercise classes, weightlifting and gymnastics equipment, locker rooms, and a restaurant or snack bar. Public access is typically allowed and a membership fee may be charged. Racquet/tennis club (Land Use 491), health/fitness club (Land Use 492), and athletic club (Land Use 493) are related land uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in Alberta (CAN), Arizona, Indiana, Minnesota, New Hampshire, New York, Oregon, Pennsylvania, Tennessee, and Utah.

Source Numbers

281, 410, 443, 571, 618, 705, 719, 850, 866, 971, 1055

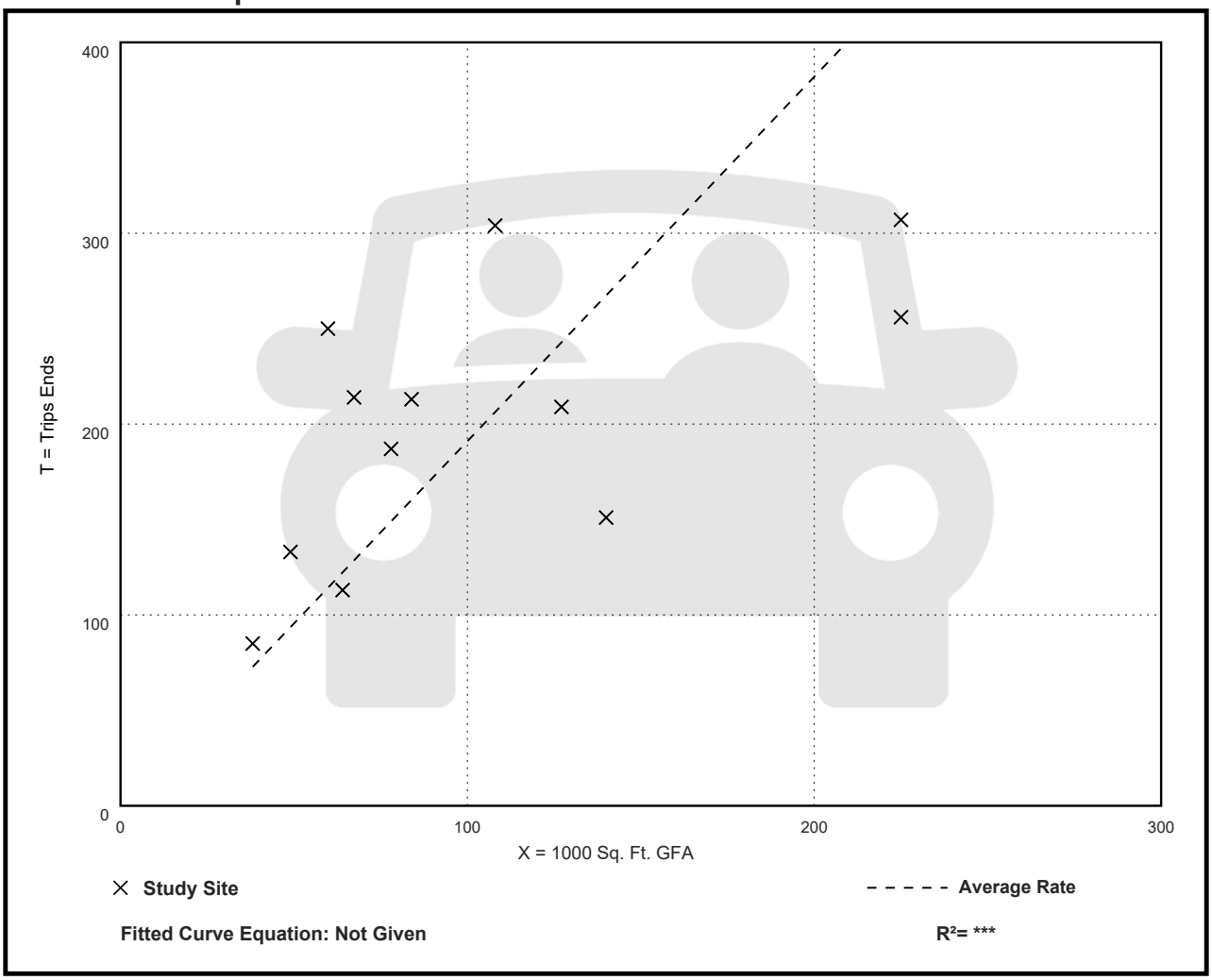
Recreational Community Center
(495)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 12
Avg. 1000 Sq. Ft. GFA: 105
Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.91	1.08 - 4.18	0.88

Data Plot and Equation



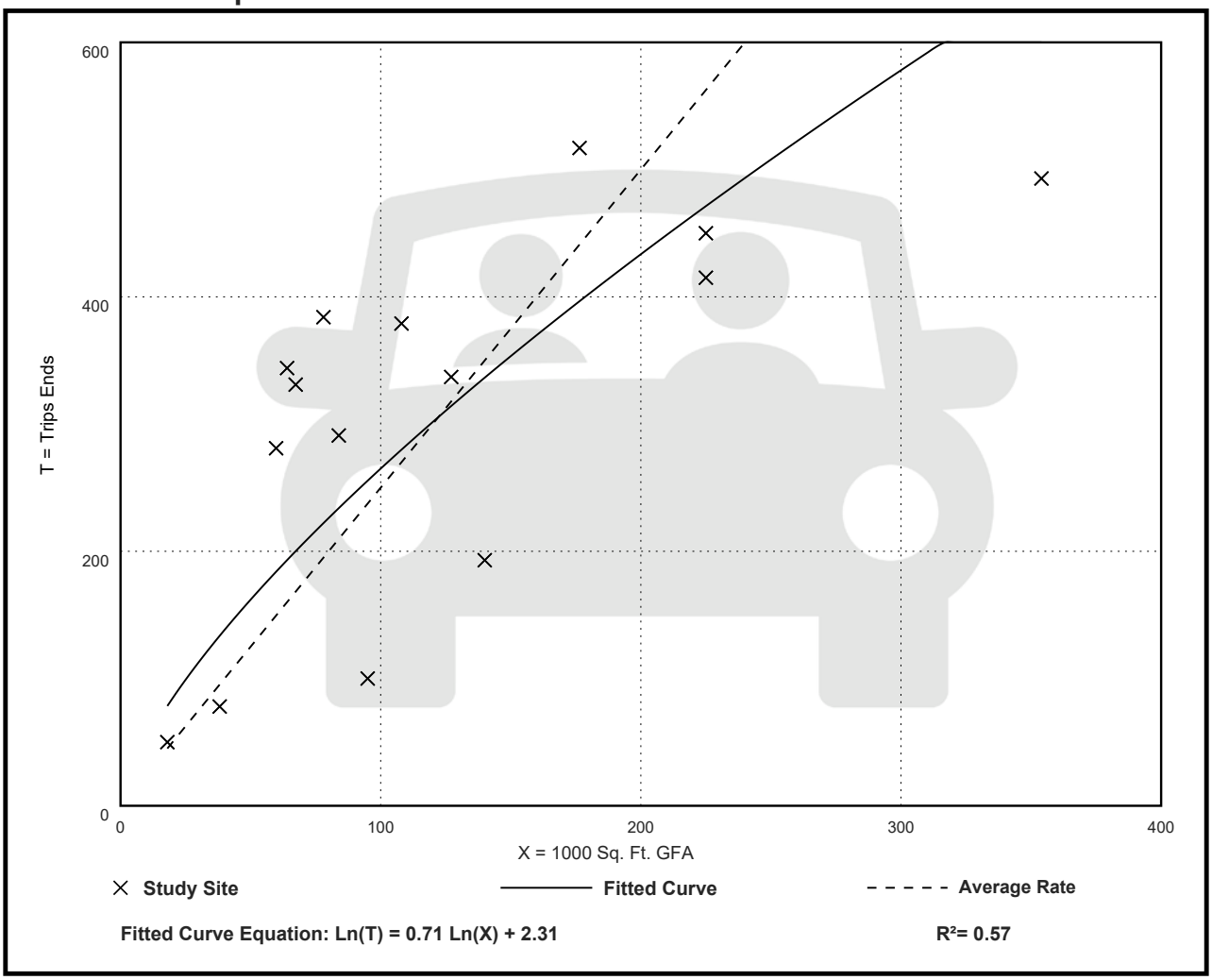
Recreational Community Center
(495)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 15
Avg. 1000 Sq. Ft. GFA: 124
Directional Distribution: 47% entering, 53% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.50	1.05 - 5.37	1.28

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.31

R^2= 0.57

Land Use: 822
Strip Retail Plaza (<40k)

Description

A strip retail plaza is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Each study site in this land use has less than 40,000 square feet of gross leasable area (GLA). Because a strip retail plaza is open-air, the GLA is the same as the gross floor area of the building.

The 40,000 square feet GFA threshold between strip retail plaza and shopping plaza (Land Use 821) was selected based on an examination of the overall shopping center/plaza database. No shopping plaza with a supermarket as its anchor is smaller than 40,000 square feet GLA.

Shopping center (>150k) (Land use 820), shopping plaza (40-150k) (Land Use 821), and factory outlet center (Land Use 823) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in Alberta (CAN), California, Delaware, Florida, New Jersey, Ontario (CAN), South Dakota, Vermont, Washington, and Wisconsin.

Source Numbers

304, 358, 423, 428, 437, 507, 715, 728, 936, 960, 961, 974, 1009

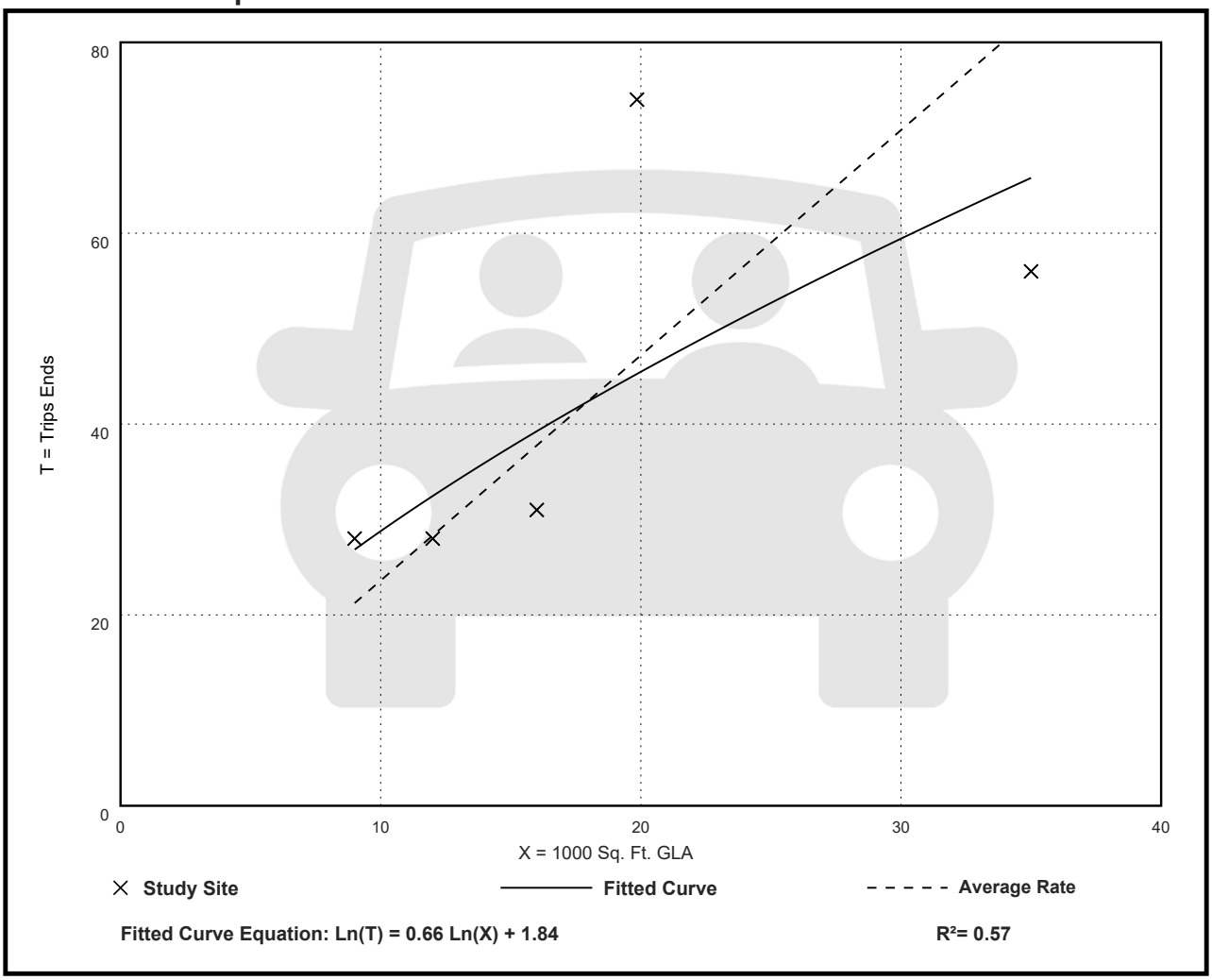
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 5
Avg. 1000 Sq. Ft. GLA: 18
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.66 Ln(X) + 1.84

R^2= 0.57

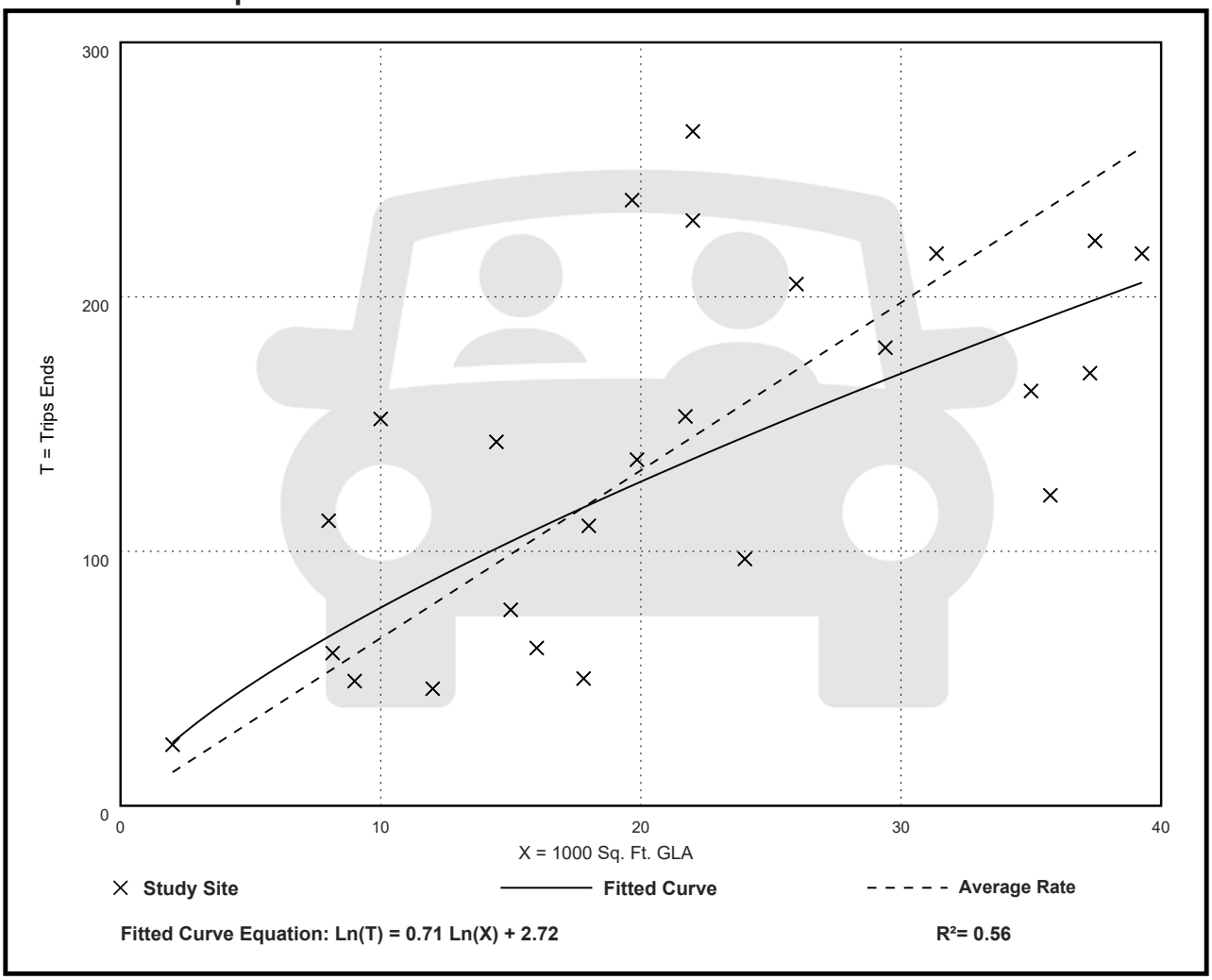
Strip Retail Plaza (<40k)
(822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 25
Avg. 1000 Sq. Ft. GLA: 21
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.72

R^2= 0.56

APPENDIX I

MTO Signal Timing Policy Excerpts

Traffic Office #2016-06

HIGHWAY STANDARDS BRANCH

PROVINCIAL ENGINEERING MEMORANDUM

Traffic Office #2016-06, June 1, 2016 – Amended Sept 12, 2017

Implementation of the Traffic Signal Operating & Timing Policy # 2010-02

Implementation

The revised memorandum is effective immediately. Implementation details are provided in Appendix A.

Background

The Traffic Signal Operating & Timing policy # 2010-01 was issued on September 19, 2012. Since then the Accessibility for Ontarians with Disability Act (AODA), O. Reg. 413/12 became law on January 1, 2013, and the Transportation Association of Canada (TAC) issued the report "Pedestrian Walking Speed for Traffic Operations and Safety in Canada" on June 2013. The revised policy updates the method of calculating the duration of "walk" and "flashing Don't Walk" times to conform to TAC and North American Standards.

Policy

The Traffic Signal Operating & Timing Policy # 2010-02 shall be used in the design of new signal timings effective immediately. The policy is accessible from the URL in Appendix A.

Sheri Graham
Manager
Traffic Office
Highway Standards Branch

Below is an example showing the use of the tables to find Minimum Green (plus amber) time for a phase:

If the critical movement of a phase has a vehicle arrival rate (m) of 11 *passenger cars per cycle per lane, then at Level of Service 'A'* , 17 *or less passenger cars will arrive* 95% *of the time (from Tables 1 or* 2).

The green plus amber time required to clear 17 *passenger cars is* 39.8 *sec. for rural conditions (Table 1), and* 32.8 *sec. for urban/commuter conditions (Table 2).*

The green time for the phase is determined by subtracting the required amber time (for the phase) from the green plus amber time obtained above.

If the vehicle arrival rate (m) is not given then the following equation is used to determine 'm':

$$m = \frac{V_{Le} \times C}{3600 \times n}$$

m = vehicle arrival rate
VLe = Vehicle volume
C = cycle length
n = number of lanes

3.2 Maximum Green Initial

This interval designates the maximum length of time a Faze may remain in green under the presence of a conflicting call. The Maximum Green timer begins at the start of Faze green if a conflicting call is present at that time. Without a conflicting call, the timer will not begin until one is received and will reset if the conflicting call drops.

Table1. Vehicle Arrival Rates and Green Plus Amber Times for Rural Intersections

LEVEL OF SERVICE					"X"	GREEN* plus
A (95 %)	B (90 %)	C (75 %)	D (60 %)	E (50 %)	VEHICLES	AMBER (SEC)
0.0 – 0.3	0.2 – 0.5	0.3 – 0.9	0.5 – 1.3	0.7 – 1.6	1	3.8
0.4 – 0.8	0.6 – 1.1	1.0 – 1.7	1.4 – 2.2	1.7 – 2.6	2	7.0
0.9 – 1.3	1.2 – 1.7	1.8 – 2.5	2.3 – 3.1	2.7 – 3.6	3	9.7
1.4 – 1.9	1.8 – 2.4	2.6 – 3.3	3.2 – 4.0	3.7 – 4.6	4	12.0
2.0 – 2.8	2.5 – 3.1	3.4 – 4.2	4.1 – 5.0	4.7 – 5.6	5	14.2
2.9 – 3.2	3.2 – 3.8	4.3 – 5.0	5.1 – 6.0	5.7 – 6.6	6	16.4
3.3 – 3.9	3.9 – 4.6	5.1 – 5.9	6.1 – 6.9	6.7 – 7.6	7	18.6
4.0 – 4.6	4.7 – 5.4	6.0 – 6.8	7.0 – 7.9	7.7 – 8.6	8	20.8
4.7 – 5.4	5.5 – 6.2	6.9 – 7.7	8.0 – 8.8	8.7 – 9.6	9	23.0
5.5 – 6.1	6.3 – 7.0	7.8 – 8.6	8.9 – 9.8	9.7 – 10.6	10	25.1
6.2 – 6.9	7.1 – 7.8	8.7 – 9.5	9.9 – 10.8	10.7 – 11.6	11	27.2
7.0 – 7.7	7.9 – 8.6	9.6 – 10.4	10.9 – 11.7	11.7 – 12.6	12	29.3
7.8 – 8.4	8.7 – 9.4	10.5 – 11.3	11.8 – 12.7	12.7 – 13.6	13	31.4
8.5 – 9.2	9.5 – 10.3	11.4 – 12.2	12.8 – 13.7	13.7 – 14.6	14	33.5
9.3 – 10.0	10.4 – 11.1	12.3 – 13.1	13.8 – 14.6	14.7 – 15.6	15	35.6
10.1 – 10.8	11.2 – 11.9	13.2 – 14.0	14.7 – 15.6	15.7 – 16.6	16	37.7
10.9 – 11.6	12.0 – 12.8	14.1 – 14.9	15.7 – 16.6	16.7 – 17.6	17	39.8
11.7 – 12.4	12.9 – 13.6	15.0 – 15.9	16.7 – 17.6	17.7 – 18.6	18	41.9
12.5 – 13.2	13.7 – 14.5	16.0 – 16.9	17.7 – 18.5	18.7 – 19.6	19	44.0
13.3 – 14.0	14.6 – 15.3	17.0 – 17.8	18.6 – 19.5	19.7 – 20.6	20	46.0
14.1 – 14.9	15.4 – 16.2	17.9 – 18.7	19.6 – 20.5	20.7 – 21.6	21	48.0
15.0 – 15.7	16.3 – 17.0	18.8 – 19.6	20.6 – 21.5	21.7 – 22.6	22	50.0
15.8 – 16.5	17.1 – 17.9	19.7 – 20.5	21.6 – 22.4	22.7 – 23.6	23	52.0
16.6 – 17.4	18.0 – 18.8	20.6 – 21.4	22.5 – 23.4	23.7 – 24.6	24	54.0
17.5 – 18.2	18.9 – 19.7	21.5 – 22.4	23.5 – 24.4	24.7 – 25.6	25	56.0
18.3 – 19.0	19.8 – 20.6	22.5 – 23.3	24.5 – 25.4	25.7 – 26.6	26	58.0
19.1 – 19.9	20.7 – 21.5	23.4 – 24.3	25.5 – 26.3	26.7 – 27.6	27	60.0
20.0 – 20.7	21.6 – 22.3	24.4 – 25.2	26.4 – 27.3	27.7 – 28.6	28	62.0
20.8 – 21.6	22.4 – 23.2	25.3 – 26.2	27.4 – 28.3	28.7 – 29.6	29	64.0
21.7 – 22.4	23.3 – 24.1	26.3 – 27.1	28.4 – 29.3	29.7 – 30.6	30	66.0
22.5 – 23.3	24.2 – 25.0	27.2 – 28.0	29.4 – 30.3	30.7 – 31.6	31	68.0
23.4 – 24.2	25.1 – 25.9	28.1 – 29.0	30.4 – 31.2	31.7 – 32.6	32	70.0
24.3 – 25.1	26.0 – 26.8	29.1 – 29.9	31.3 – 32.2	32.7 – 33.6	33	72.0
25.2 – 25.9	26.9 – 27.6	30.0 – 30.9	32.3 – 33.2	33.7 – 34.6	34	74.0
26.0 – 26.7	27.7 – 28.5	31.0 – 31.8	33.3 – 34.2	34.7 – 35.6	35	76.0

* MINIMUM GREEN:

Through Phasing – 7 to 10 sec (Minor Rd.) 15 to 20 sec (Major Rd.)
Left Turn Phasing – 5 sec.

Notes: (1) Relationship between the average and maximum arrival rates is based on the Poisson Distribution.

(2) Relationship between arrival rates and phase times is based on the Greenshield's Chart of Headways for passenger (car) vehicles.

(3) Each truck or bus is equivalent to 2.0 passenger cars.

APPENDIX J

Geometric Design Guidelines for Canadian Roads Excepts

Transportation Association of Canada

Geometric Design Guide for Canadian Roads



June 2017

2.5.2.1 Object Height

In calculating sight distance, the designer must consider the type of object that is likely to be encountered on the roadway, which a driver will have to avoid by stopping or maneuvering. Because of the potential variation in object type, selection of object height has significantly more impact on sight distance requirements than, for example, driver eye height.

Table 2.5.1 presents commonly used object heights for various design scenarios.

Table 2.5.1: Object Height Design Domain

Object Height (m)	Applicability
0.00	Stopping sight distance for: • Risk of road washouts • Pavement markings in critical locations
0.15	Stopping sight distance for: • Risk of fallen trees or rocks • Risk of log or construction debris fallen from truck • Risk of fallen person Decision sight distance for most applications (see **Section 2.5.5**)
0.38	Stopping sight distance for: • Vehicle tail or brake light from 1999 TAC *Geometric Design Guide for Canadian Roads* • This value can be used if a more conservative approach is required.
0.60	Stopping sight distance for: • Vehicle tail or brake light • Research indicates that 95% of tail light heights and 90% of headlight heights exceed this value. • This value has been used in this guide to determine stopping sight distance requirements outlined in Tables 2.5.2 and 2.5.3
1.30	Passing sight distance for: • Top of car*

* Note: Some jurisdictions use an object height of 1.15 m for the top of a car, based on the premise that a driver needs to see at least 150 mm of the vehicle to discern its presence. This is supported by a study of driver visual capabilities which suggested that a high contrast object 150 mm high is the minimum height **detectable** at AASHTO stopping sight distances, and that drivers do not have the capability to **recognize** objects that are less than 300 mm in height, regardless of contrast, at or beyond minimum stopping sight distances.[51] This practice is not widely used.

In applying object heights less than 0.15 m the following points should be considered.

- The frequency of collisions occurring as a result of vehicles striking objects less than 0.15 m in height has been shown to be very low.[52]
- As discussed above, a driver's ability to discern small objects at a distance is limited.
- In general, a driver must see at least the top 0.15 m of an object in order to detect its presence.
- If such an object is of limited lateral size (e.g., a rock) a driver may well be able to take evasive action rather than stop, particularly on a roadway with low traffic volumes.
- Evasion might not be possible if the object were a fallen tree, but in many parts of the country this is an unlikely hazard since trees are not present or because local jurisdictions do not allow trees to remain close to the roadway. In areas where logging trucks are present, the designer should consider the possibility of a log falling onto the roadway from a truck.

The designer should adopt an object height based on the probability of a particular object occurring on the roadway, as shown on **Table 2.5.1**. If fallen trees or rocks are a real risk, an object height of 0.15 m is recommended. Otherwise, for stopping sight distance, a tail light height of 0.60 m is recommended. For passing sight distance, an object height of 1.30 m will allow the driver to discern the top of an oncoming typical car. A zero object height is recommended where road washouts are a serious risk, for example on approaches to bridges and culverts in mountainous areas. It is only recommended for pavement markings in critical situations such as at intersections or interchanges, as the driver's ability to discern the markings cannot be relied upon, and traffic signs should be used instead.

2.5.2.2 Deceleration Rate

Approximately 90 percent of all drivers decelerate at rates greater than 3.4 m/s^2. Such deceleration is within a driver's capability to stay within their lane and maintain steering control during the braking maneuver on wet surfaces. Therefore 3.4 m/s^2 is a comfortable deceleration for most drivers and is recommended as the deceleration threshold for determining stopping sight distance.[53]

Most vehicle braking systems and the tire-pavement friction levels of most roadways are capable of providing a deceleration rate of at least 3.4 m/s^2. Also, the friction available on most wet pavement surfaces and the capabilities of most vehicle braking systems can provide braking friction that exceeds this deceleration rate.

2.5.3 STOPPING SIGHT DISTANCE

Braking distance is the distance that it takes to stop a vehicle once the brakes have been applied. On a level roadway this distance can be determined using the following formula:

$$d_b = 0.039 \frac{V^2}{a} \qquad (2.5.1)$$

Where:

d_b = Braking distance (m)
V = Design speed (km/h)
a = Deceleration rate (m/s^2)

Stopping sight distance is the sum of the distance travelled during the perception and reaction time and the braking distance.

$$SSD = 0.278Vt + 0.039 \frac{V^2}{a} \quad (2.5.2)$$

Where:

SSD = Stopping sight distance (m)
t = Brake reaction time, 2.5 s
V = Design speed (km/h)
a = Deceleration rate (m/s^2)

Table 2.5.2 gives the minimum stopping sight distances on level grade, on wet pavement, for a range of design speeds. These values are used for vertical curve design, intersection geometry and the placement of traffic control devices. The stopping sight distances quoted in **Table 2.5.2** may need to be increased for a variety of reasons related to grade and vehicle type as noted below.

Table 2.5.2: Stopping Sight Distance on level roadways for Automobiles[54]

Design speed (km/h)	Brake reaction distance (m)	Braking distance on level (m)	Stopping sight distance	
			Calculated (m)	Design (m)
20	13.9	4.6	18.5	20
30	20.9	10.3	31.2	35
40	27.8	18.4	46.2	50
50	34.8	28.7	63.5	65
60	41.7	41.3	83.0	85
70	48.7	56.2	104.9	105
80	55.6	73.4	129.0	130
90	62.6	92.9	155.5	160
100	69.5	114.7	184.2	185
110	76.5	138.8	215.3	220
120	83.4	165.2	248.6	250
130	90.4	193.8	284.2	285

Note: Brake reaction distance predicated on a time of 2.5 s; deceleration rate of 3.4 m/s^2 used to determine calculated sight distance.

The Effect of Grade

Braking distances will increase on downgrades and decrease on upgrades. When the roadway is on a grade, formula 2.5.1 for braking distance is modified as follows:

$$d_b = \frac{V^2}{254\,[(a/9.81) + G]} \quad (2.5.3)$$

Where:

d_b = Braking distance (m)
V = Design speed (km/h)
a = Deceleration rate (m/s^2)
G = Grade (m/m) (G is positive if vehicles uphill and negative if downhill)

It has been noted that many drivers, particularly those in automobiles, do not compensate completely (i.e., by acceleration or deceleration) for the changes in speed caused by grade. It should also be noted that in many cases the sight distance available on downgrades is greater than on upgrades, which can help to provide the necessary corrections for grade. The following **Table 2.5.3** summarizes the stopping sight distances on grades for a variety of design speeds.

Table 2.5.3: Stopping Sight Distance on Grades[55]

Design Speed (km/h)	Stopping Sight Distance (m)					
	Downgrades (%)			Upgrades (%)		
	3	6	9	3	6	9
20	20	20	20	19	18	18
30	35	35	35	31	30	29
40	50	50	53	45	44	43
50	66	70	74	61	59	58
60	87	92	97	80	77	75
70	110	116	124	100	97	93
80	136	144	154	123	118	114
90	164	174	187	148	141	136
100	194	207	223	174	167	160
110	227	243	262	203	194	186
120	263	281	304	234	223	214
130	302	323	350	267	254	243

Revised June 2019

2.5.3.1 Stopping Sight Distance: Variations for Trucks

The stopping sight distance outlined in **Tables 2.5.2** and **2.5.3** are based on passenger car operations and do not explicitly consider design for truck operations. In general trucks need longer stopping sight distances for a given speed than passenger vehicles. However, one balancing factor is that a truck driver can generally see further than a passenger car driver due to an eye height advantage. As a result, a separate stopping sight distances for trucks are not generally used in highway design.

In some instances the higher eye height is not an advantage or maybe a disadvantage — for example, trucks have no advantage when a sightline obstruction is located on inside of a horizontal curve. Also, trucks are at a disadvantage on sag vertical curves where visibility is "cut off" by an overpass and at the end of long downgrades. In these situations it is desirable to provide stopping sight distances that exceed the values in **Tables 2.5.2** and **2.5.3**.

Case B1 – Left Turn from the Minor Road

Departure sight triangles for traffic approaching from either the right or the left, like those shown in **Figure 9.9.2**, should be provided for left turns from the minor road onto the major road for all stop-controlled approaches. The length of the leg of the departure sight triangle along the major road in both directions, shown as distance b in **Figure 9.9.2**, is the recommended intersection sight distance for Case B1.

The vertex (decision point) of the departure sight triangle on the minor road should be 4.4 m from the edge of the major-road traveled way. This represents the typical position of the minor-road driver's eye when a vehicle is stopped relatively close to the major road. Field observations of vehicle stopping positions found that, where needed, drivers will stop with the front of their vehicle 2.0 m or less from the edge of the major-road traveled way. Measurements of passenger cars indicate that the distance from the front of the vehicle to the driver's eye for the current North American passenger car population is nearly always 2.4 m or less.[68] Where practical, it is desirable to increase the distance from the edge of the major-road traveled way to the vertex of the clear sight triangle from 4.4 m to 5.4 m. This increase allows 3.0 m from the edge of the major-road traveled way to the front of the stopped vehicle, providing a larger sight triangle. The length of the sight triangle along the minor road (distance a in **Figure 9.9.2**) is the sum of the distance from the major road plus ½ lane width for vehicles approaching from the left, or 1½ lane widths for vehicles approaching from the right.

Field observations of the gaps in major-road traffic actually accepted by drivers turning onto the major road have shown that the values in **Table 9.9.3** provide sufficient time for the minor-road vehicle to accelerate from a stop and complete a left turn without unduly interfering with major-road traffic operations. The time gap acceptance time does not vary with approach speed on the major road. A constant value of time gap, independent of approach speed, can be used as a basis for intersection sight distance determinations. Observations have also shown that major-road drivers will reduce their speed to some extent when minor-road vehicles turn onto the major road. Where the time gap acceptance values in **Table 9.9.3** are used to determine the length of the leg of the departure sight triangle, most major-road drivers should not need to reduce speed to less than 70% of their initial speed.[69]

The intersection sight distance in both directions should be equal to the distance traveled at the design speed of the major road during a period of time equal to the time gap. In applying **Table 9.9.3**, it can usually be assumed that the minor-road vehicle is a passenger car; however, road authorities may provide more precise guidance on selection of the required design vehicle. Where substantial volumes of heavy vehicles enter the major road (e.g., from a ramp terminal), the use of tabulated values for single-unit or combination trucks should be considered.

Table 9.9.3 includes appropriate adjustments to the gap times for the number of lanes on the major road and for the approach grade of the minor road. The adjustment for the grade of the minor-road approach is needed only if the rear wheels of the design vehicle would be on an upgrade that exceeds 3% when the vehicle is at the stop line of the minor-road approach.

Table 9.9.3: Time Gap for Case B1, Left Turn from Stop

Design Vehicle	Time Gap (t_g)(s) at Design Speed of Major Road
Passenger car	7.5
Single-unit truck	9.5
Combination truck (WB 19 and WB 20)	11.5
Longer truck	To be established by road authority

Notes: Time gaps are for a stopped vehicle to turn left onto a two-lane highway with no median and with grades of 3% or less. The table values should be adjusted as follows:

Revised June 2019

- For multi-lane highways: For left turns onto highways with more than a single lane in each direction, add 0.5 s for passenger cars and 0.7 s for trucks for each additional lane, from the left, in excess of one, to be crossed by the turning vehicle.
- For minor approach grades: If the approach grade is an upgrade that exceeds 3%, add 0.2 s for each percent grade for left turns.
- Some road authorities use higher values for certain specialized vehicles (e.g., Alberta uses 22 s for very long log trucks).

The intersection sight distance along the major road (distance b in **Figure 9.9.2**) is determined by:

$$ISD = 0.278\ V_{major}\ t_g \qquad (9.9.1)$$

Where:

ISD = intersection sight distance (length of the leg of sight triangle along the major road) (m)

V_{major} = design speed of the major road (km/h)

t_g = time gap for minor road vehicle to enter the major road (s)

For example, a passenger car turning left onto a two-lane major road should be provided sight distance equivalent to a time gap of 7.5 s in major-road traffic. If the design speed of the major road is 100 km/h, this corresponds to a sight distance of 0.278(100)(7.5) = 208.5 or 210 m, rounded for design.

A passenger car turning left onto a four-lane undivided roadway will need to cross two near lanes, rather than one. This increases the recommended gap in major-road traffic from 7.5 to 8.0 s. The corresponding value of sight distance for this example would be 223 m. If the minor-road approach to such an intersection is located on a 4% upgrade, then the time gap selected for intersection sight distance design for left turns should be increased from 8.0 to 8.8 s, equivalent to an increase of 0.2 s for each percent grade.

The design values for intersection sight distance for passenger cars are shown in **Table 9.9.4**. **Figure 9.9.4** includes design values, based on the time gaps for the design vehicles included in **Table 9.9.3**.

No adjustment of the recommended sight distance values for the major-road grade is generally needed because both the major- and minor-road vehicle will be on the same grade when departing from the intersection. However, if the minor-road design vehicle is a heavy truck and the intersection is located near a sag vertical curve with grades over 3%, then an adjustment to extend the recommended sight distance based on the major-road grade should be considered.

Table 9.9.4: Design Intersection Sight Distance – Case B1, Left Turn From Stop

Design Speed (km/h)	Stopping Sight Distance (m)	Intersection Sight Distance for Passenger Cars	
		Calculated (m)	Design (m)
20	20	41.7	45
30	35	62.6	65
40	50	83.4	85
50	65	104.3	105
60	85	125.1	130
70	105	146.0	150
80	130	166.8	170
90	160	187.7	190
100	185	208.5	210
110	220	229.4	230
120	250	250.2	255
130	285	271.1	275

Note: Intersection sight distance shown is for a stopped passenger car to turn left onto a two-lane highway with no median and grades 3% or less. For other conditions, the time gap should be adjusted and the sight distance recalculated.

Sight distance design for left turns at divided-highway intersections should consider multiple design vehicles and median width. If the design vehicle used to determine sight distance for a divided-highway intersection is larger than a passenger car, then sight distance for left turns will need to be checked for that selected design vehicle and for smaller design vehicles as well. If the divided-highway median is wide enough to store the design vehicle with a clearance to the through lanes of approximately 1 m at both ends of the vehicle, no separate analysis for the departure sight triangle for left turns is needed on the minor-road approach for the near roadway to the left. In most cases, the departure sight triangle for right turns (case B2) will provide sufficient sight distance for a passenger car to cross the near roadway to reach the median. Possible exceptions are addressed in the discussion of case B3.

Ontario

MTO DESIGN SUPPLEMENT

FOR

TAC GEOMETRIC DESIGN GUIDE (GDG) FOR CANADIAN ROADS

APRIL 2020

STANDARDS &
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SPECIFICATIONS OFFICE

MTO Design Supplement
Appendix 9 for Chapter 9
Intersections

The following Design Supplements are applicable to Chapter 9 – Intersections of the TAC Geometric Design Guide for Canadian Roads - June 2017:

Section 9.4.2.2 – Collectors

- This Section is Not Applicable.

Section 9.4.2.3 – Locals

- This Section is Not Applicable.

Section 9.4.2.4 – Cross Roadway Intersection Spacing Adjacent to Interchanges
Figure 9.4.2 – Cross Road Intersection Spacing Adjacent to Interchanges
Figure 9.4.3 – Intersection Spacing / Channelization Treatment at Diamond Interchanges

- This Section and the above noted Figures are Not Applicable. Refer to Chapter 8 – Access and Appendix 8 of the MTO Design Supplement for criteria to determine access connection offset spacing to interchanges.

Section 9.4.4 – Design Options for Urban Residential Areas

- This Section is Not Applicable.

Section 9.5.1

- The last sentence in this Section should be replaced with “Reference can also be made to Transport Canada’s Grade Crossings – Handbook”.

Table 9.14.1 – Right-Turn Tapers Without Auxiliary Lanes

- This Table is Not Applicable and is replaced with **Exhibit 9-I**.

Exhibit 9-I

Right-Turn Tapers Without Auxiliary Lanes

Design Speed (km/h)	Taper Length (m)	Horizontal Curve[a]
50	50	500
60	60	750
70	70	1000

Note: a) Flat radii as indicated can be used rather than tangent alignment for right-turn tapers.

Section 9.14.4 – Design Elements for Right-Turn Tapers with Auxiliary Lanes

- This Section is Applicable including the following:

    - When the volume of right turning vehicles is such that it creates a hazard and reduces capacity at an intersection, consideration should be given to the provision of a deceleration lane in the form of a taper and parallel lane for the right turning traffic.
    - The width of the parallel lane (w) may be 0.25 m less than the width of the through lane, but should not be less than 3.25 m.
    - Similar to the right-turn taper design, a 30 m recovery taper with a 1.5 m offset should be applied beyond the intersection when using the taper and parallel lane design on two-lane highways. It is not required on a four-lane highway, at 'T' intersections or where a left-turn lane has been provided.
    - Equation 9.14.1 is only applicable for determining right-turn storage length.
    - For left-turn storage length at unsignalized intersections, refer to **Appendix 9A**.
    - For left-turn storage length at signalized intersections, refer to the latest edition of *Traffic Signal and Timing Policy # 2010-02* issued by Traffic Policy Office.

Table 9.14.2 – Right-Turn Taper with Parallel Deceleration Lane Design

- This Table is Not Applicable and is replaced with **Exhibit 9-J**.

Exhibit 9-J

Right-Turn Taper with Parallel Deceleration Lane Lengths[a]

Highway Design Speed (km/h)	Length of Taper (m)	Length of Parallel Lane (m)	Total length of Deceleration Lane (m)
50	40	20	60
60	50	30	80
70	60	45	105
80	70	60	130
90	75	70	145
100	80	85	165
110	85	100	185
120	90	110	200

Note: a) Flat Grade 2% or Less

Table 9.14.3 – Grade Factors for Deceleration Length

- This Table is Not Applicable and is replaced with **Exhibit 9-K**.

Exhibit 9-K

GRADE FACTORS FOR DECELETARION LENGTH

ALL DESIGN SPEEDS km/h	DOWN GRADE %	GRADE FACTOR > 1	UP GRADE %	GRADE FACTOR ≤ 1
	8 – 7	1.5	2 – 3	1.0
	7 – 6	1.4	3 – 4	0.9
	6 – 5	1.4	4 – 5	0.9
	5 – 4	1.3	5 – 6	0.8
	4 – 3	1.2	6 – 7	0.8
	3 – 2	1.1	7 – 8	0.7

Section 9.15.2 – Smart Channels

- This Section is Applicable with the following additional guidance:

Angle of Intersection with Cross Street

The alignment of a channelized right-turn lane and the angle between the channelized right-turn roadway and the cross street has great effect on safety and capacity. This can

- d_2 = storage length for stopped vehicles waiting to turn.
- d_3 = distance travelled during deceleration after lane change
- d_4 = distance travelled while decelerating and changing lanes from through-lane into turn-lane.
- d_5 = percetion and reaction distance travelled while driver recognizes upcoming turn lane and prepares for the left maneuver.

Section 9.17.3 – Approach and Departure Tapers

- This Section is Applicable including the following additional guidance:

  Taper Length

  Long tapers approximate the path drivers follow when entering an auxiliary lane from a high-speed through lane. However, with exceptionally long tapers some through drivers may tend to drift into the deceleration lane especially when the taper is on a horizontal curve. In addition, long tapers may constrain the lateral movement of a driver desiring to enter the auxiliary lanes.

  The width of left turn lanes should be one increment (0.25 m) less than the through lane with a minimum of 3.25 m and separated from through lanes by a solid painted line and indicated by painted arrow according to the *OTM Book 11 – Pavement, Hazard and Delineation Markings.*

  For grades greater than 2%, the length of deceleration lane should be corrected according to the factors shown in **Exhibit 9-K**. The correction is attained by multiplying the deceleration length and added to taper; it will comprise the total deceleration length. The length of taper, parallel, horizontal curve to smooth taper, and corresponding design speeds are provided in **Exhibit 9-R.**

Table 9.17.1 – Approach and Departure Taper Ratios and Lengths for Left Turns at Intersections

- This Table is Not Applicable and is replaced with **Exhibit 9-R.**

Exhibit 9-R

DECELERATION LENGTH FOR LEFT-TURN LANES, 2-LANES AND 4-LANE HIGHWAYS FLAT GRADE 2% OR LESS

Design Speed (km/h)	Deceleration Length		Horizontal Curve to Smooth Taper R (m)
	Taper (m)	Parallel (m)	
50	85	20	500
60	100	30	750
70	115	40	1000
80	130	50	1200
90	145	60	1500
100	160	70	2000
110	170	80	2500

Section 9.17.4.2 – Deceleration Requirements

- This Section is Applicable including the following additional guidance:

  The designer may have to determine which distance would be appropriate for the driver to brake comfortably. The designer should choose amongst the worlds of desirable, acceptable and minimum based on site specific conditions. For parallel lane length only, it is desirable to include perception-reaction time but in acceptable practice perception-reaction time may not be feasible and not cost effective. It is assumed that when driver enters a left-turn lane (taper) they should be expecting to brake. In most cases the driver would be expected to already transition their speed as they go through the taper using perception-reaction time. According to Section 9.17.3 decision sight distance should be considered in taper length to accommodate perception-reaction distance. Using minimums all the way around in the process should be avoided. The minimum desirable length of the taper and parallel length combined should not be less than the stopping sight distance provided in *Table 2.5.2* of *Chapter 2.*

Section 9.17.4.5 – Left-Turn Lanes on Both Approaches

- This Section is Applicable including the following additional guidance:

  Positive Offset for Left-Turn Lanes

  A potential for conflict exists when vehicles in opposing left-turn lanes on the major

APPENDIX K

Auxiliary Lane Warrants

Ontario

MTO DESIGN SUPPLEMENT

FOR

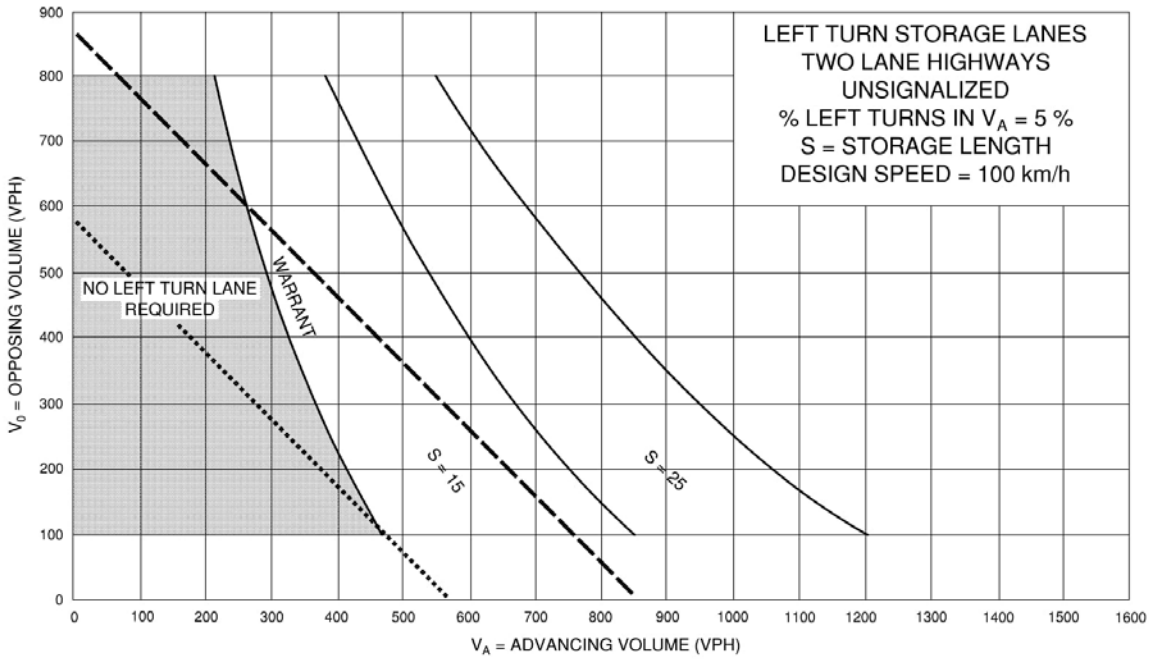
TAC GEOMETRIC DESIGN GUIDE (GDG) FOR CANADIAN ROADS

APRIL 2020

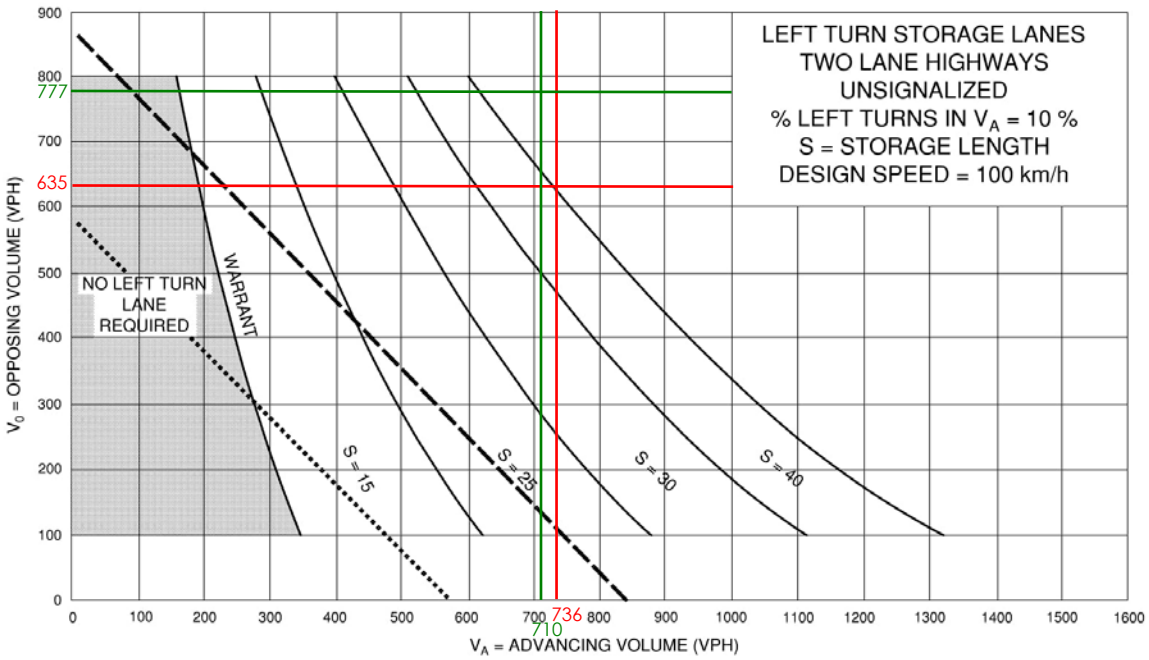
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DESIGN STANDARDS &
SPECIFICATIONS OFFICE

2045 Future Total - Access A

Exhibit 9A-23

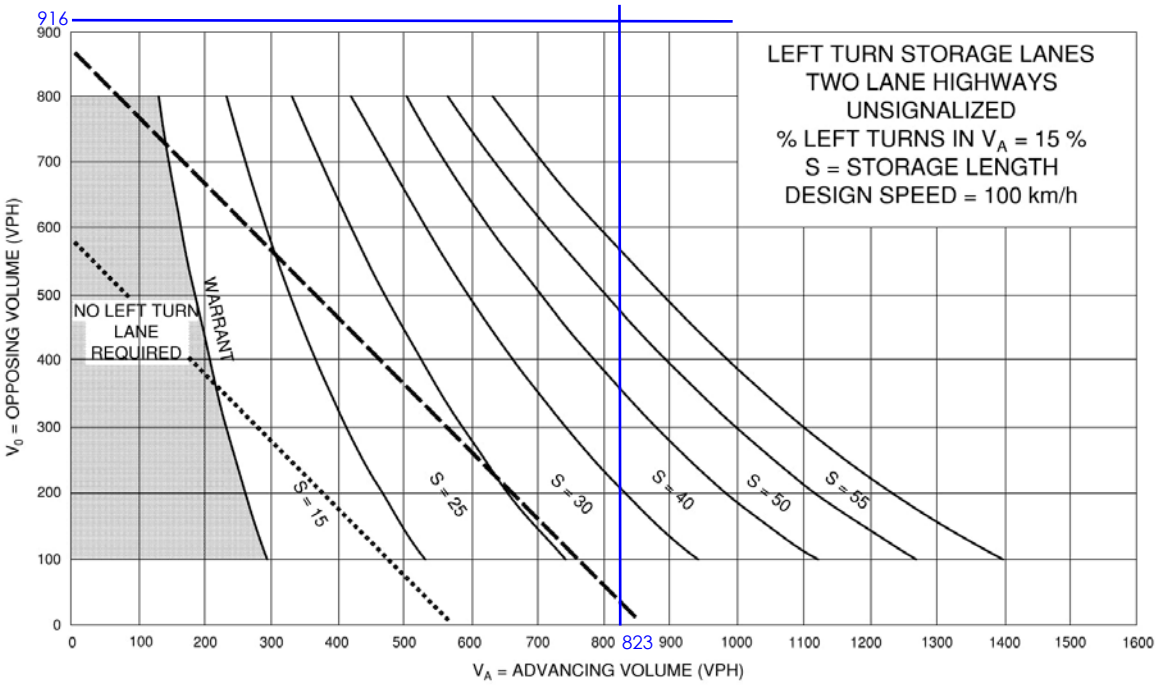


Weekday A.M. Peak Hour
Weekday P.M. Peak Hour
Saturday Peak Hour

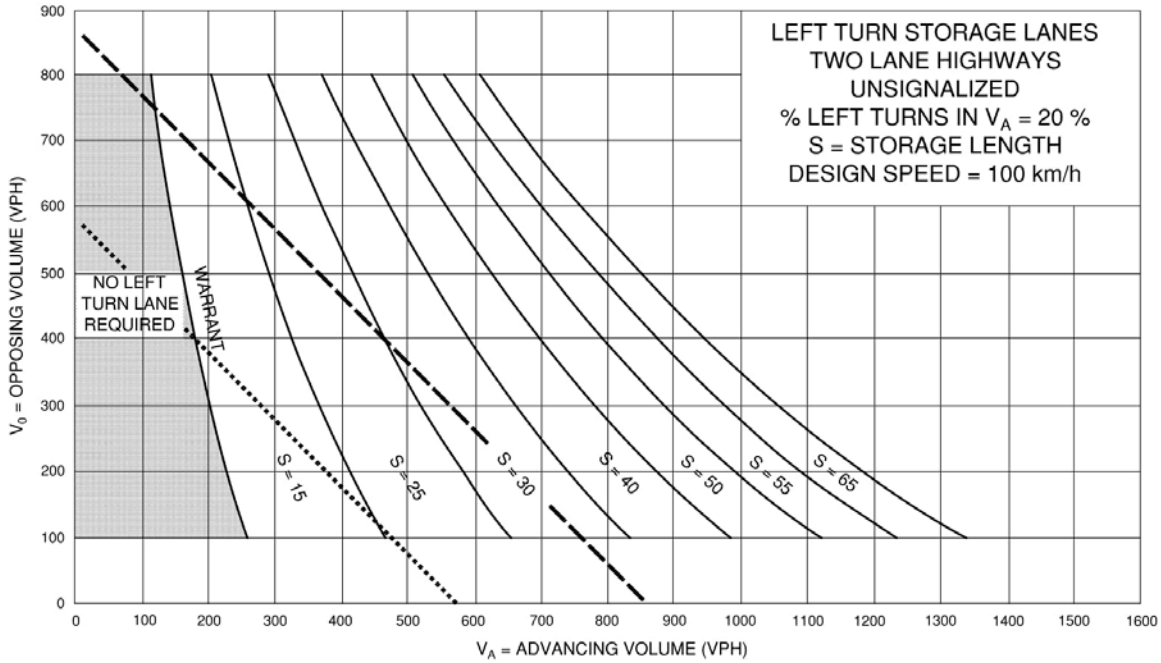


2045 Future Total - Access A

Exhibit 9A-24

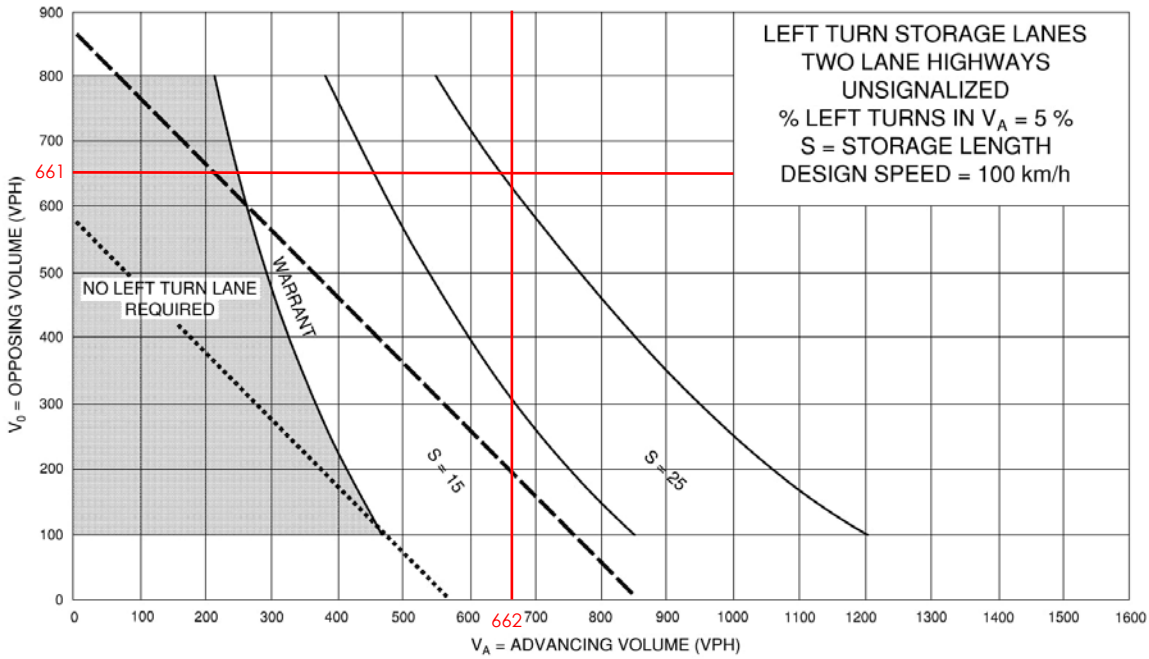


Weekday A.M. Peak Hour
Weekday P.M. Peak Hour
Saturday Peak Hour



2045 Future Total - Access C

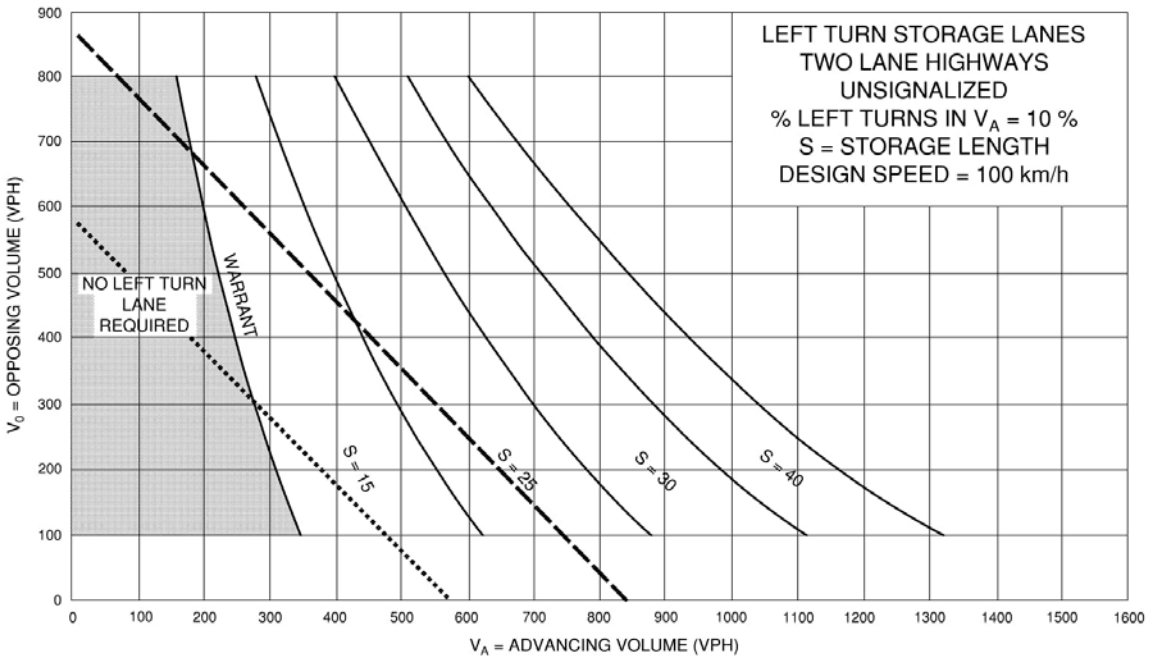
Exhibit 9A-23



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

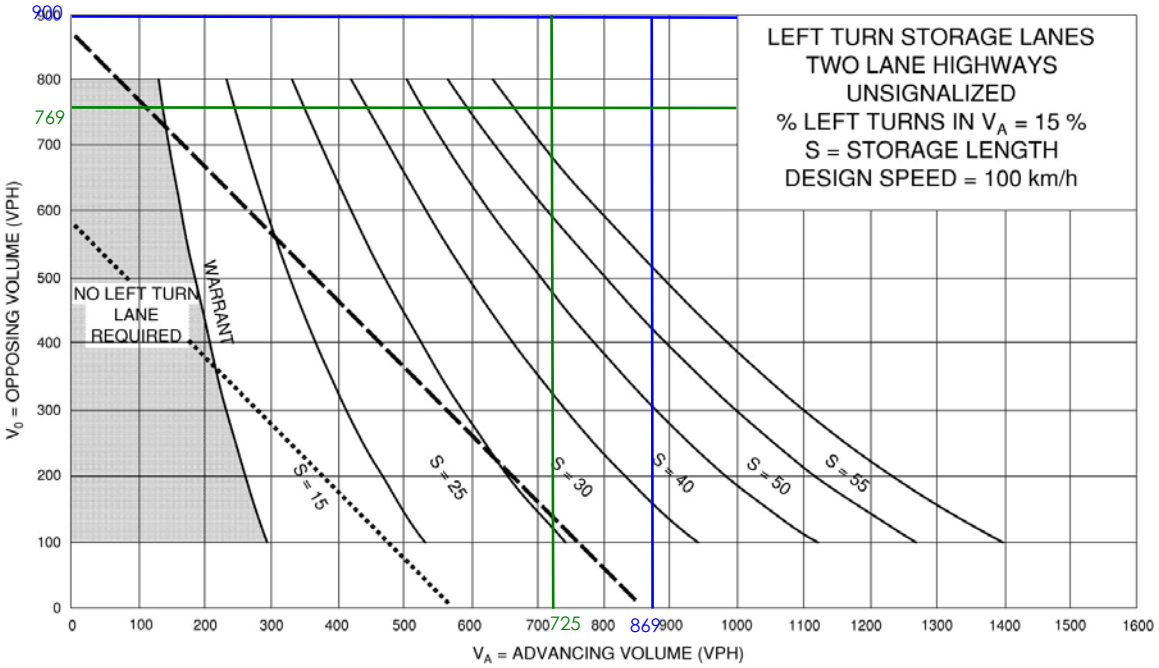
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

Weekday A.M. Peak Hour
Weekday P.M. Peak Hour
Saturday Peak Hour



2045 Future Total - Access C

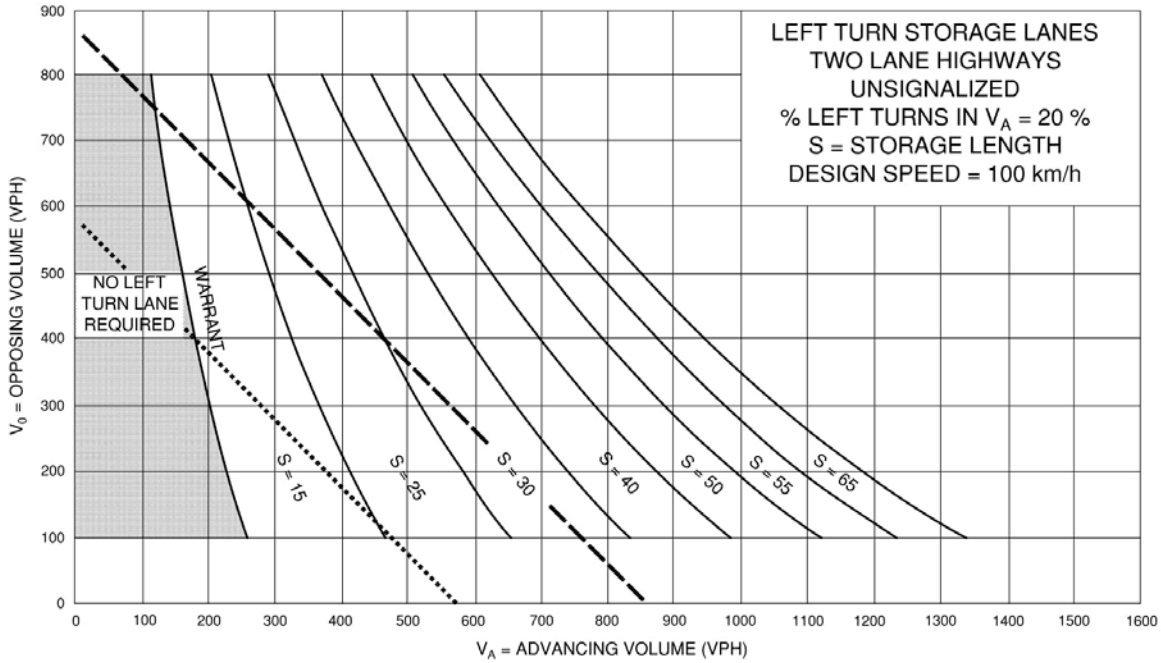
Exhibit 9A-24



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

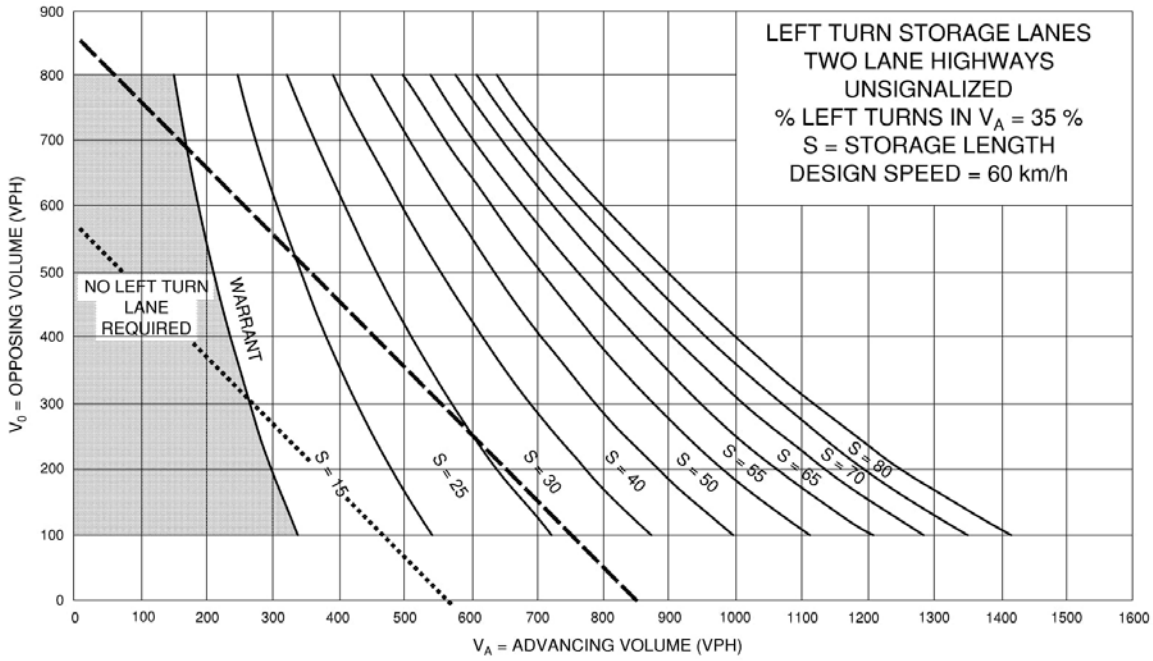
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

Weekday A.M. Peak Hour
Weekday P.M. Peak Hour
Saturday Peak Hour

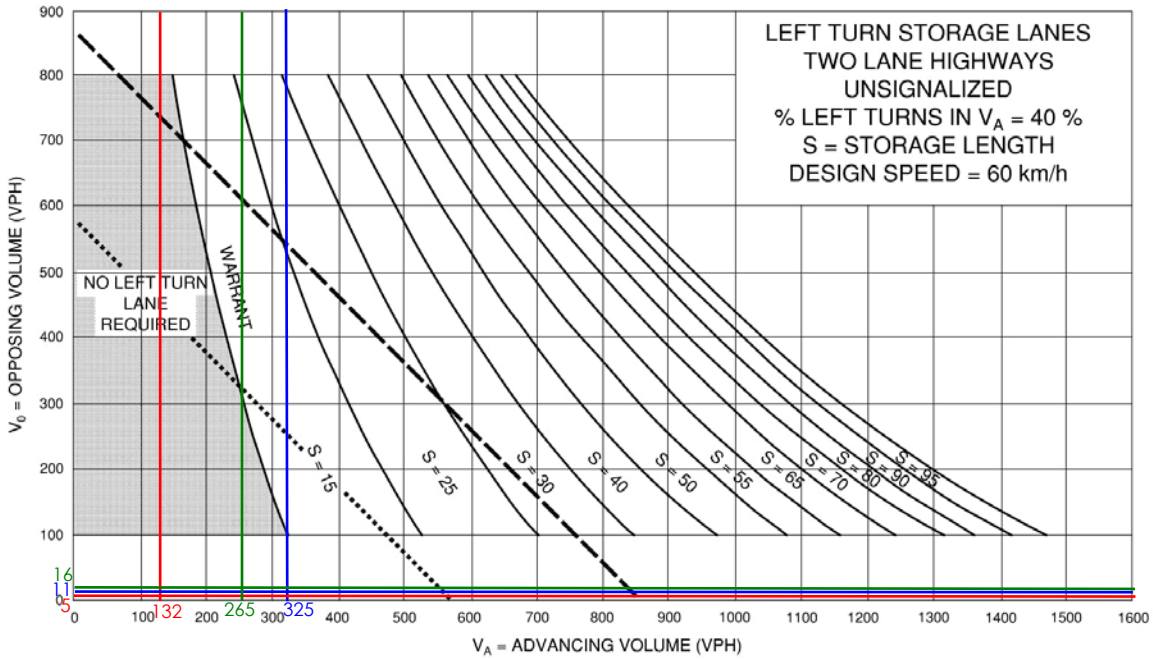


2045 Future Total - Access B

Exhibit 9A-10



Weekday A.M. Peak Hour
Weekday P.M. Peak Hour
Saturday Peak Hour



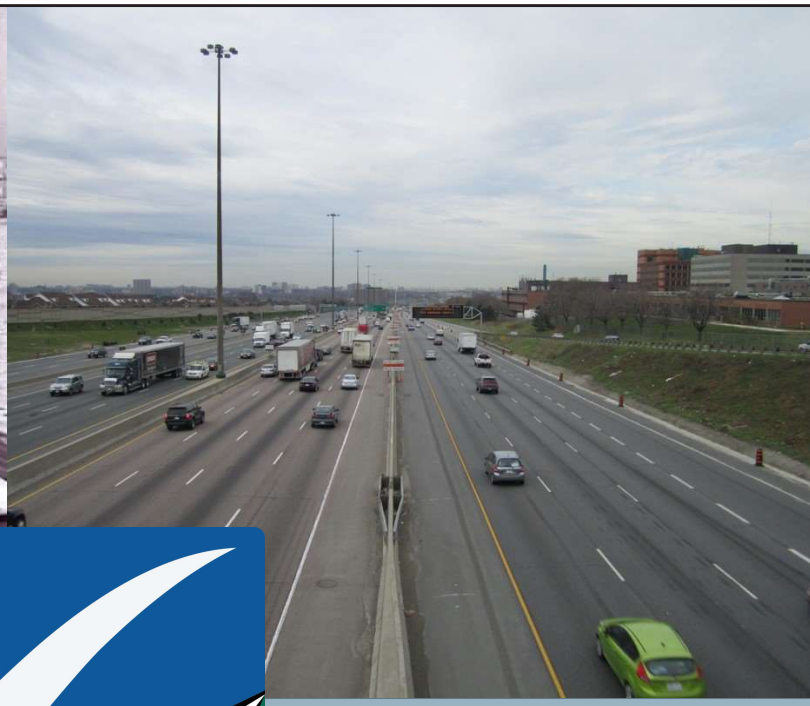
APPENDIX L

MTO Highway Corridor Management Manual Excerpts

Highway Corridor Management **Manual**

Ontario





Provincial Highway Corridor Management Section

Ministry of Transportation

September 2018

Table 4.6.1: Spacing and density of various access connection types

Highway Access Management Classification System Category		Controlled-Access Highway (CAH) or King's Highway (KH)	Interchange Spacing [a]	Public Road Intersection Spacing Signalized / Unsignalized [b]	Commercial / Private Road Access Spacing Signalized / Unsignalized [c]	Total Private Access Density [d] / km / side	Minimum Total Pre-Severance Frontage Requirement for the Creation of a New Lot of Record [e]	
							New Access Connection	Mutual Access
1A -	Freeway	Fully CAH	3.0 - 8.0 km Desirable 2.0 km Minimum	N/A	N/A	N/A	N/A	N/A
1B -	Staged Freeway			3.0 - 8.0 km Desirable [f] 2.0 km Minimum [f]	N/A	N/A	N/A	N/A
2A -	Principal Arterial	Fully CAH	3.0 - 8.0 km Desirable 2.0 km Minimum	3.0 - 8.0 km Desirable [f] 2.0 km Minimum [f]	N/A	N/A	N/A	N/A
2B -	Arterial	CAH / KH	N/A	1600 m Desirable [g] 800 m Minimum [h]	1600 m Desirable [i] 800 m Minimum [j]	4	500 m	250 m
3 -	Collector	KH	N/A	800 m Minimum [h]	800 m Minimum [j]	6	300 m	150 m
4A -	Major Local	KH	N/A	400 m Minimum [h]	400 m Minimum [j]	8	250 m	125 m
4B -	Minor Local	KH	N/A	400 m Minimum [h]	N/A [k]	N/A [l]	N/A [l]	N/A [l]
(The colours shown above correspond to the colour for each category on the Access Management Classification Maps)								
(For related 'Notes', see the following page)								

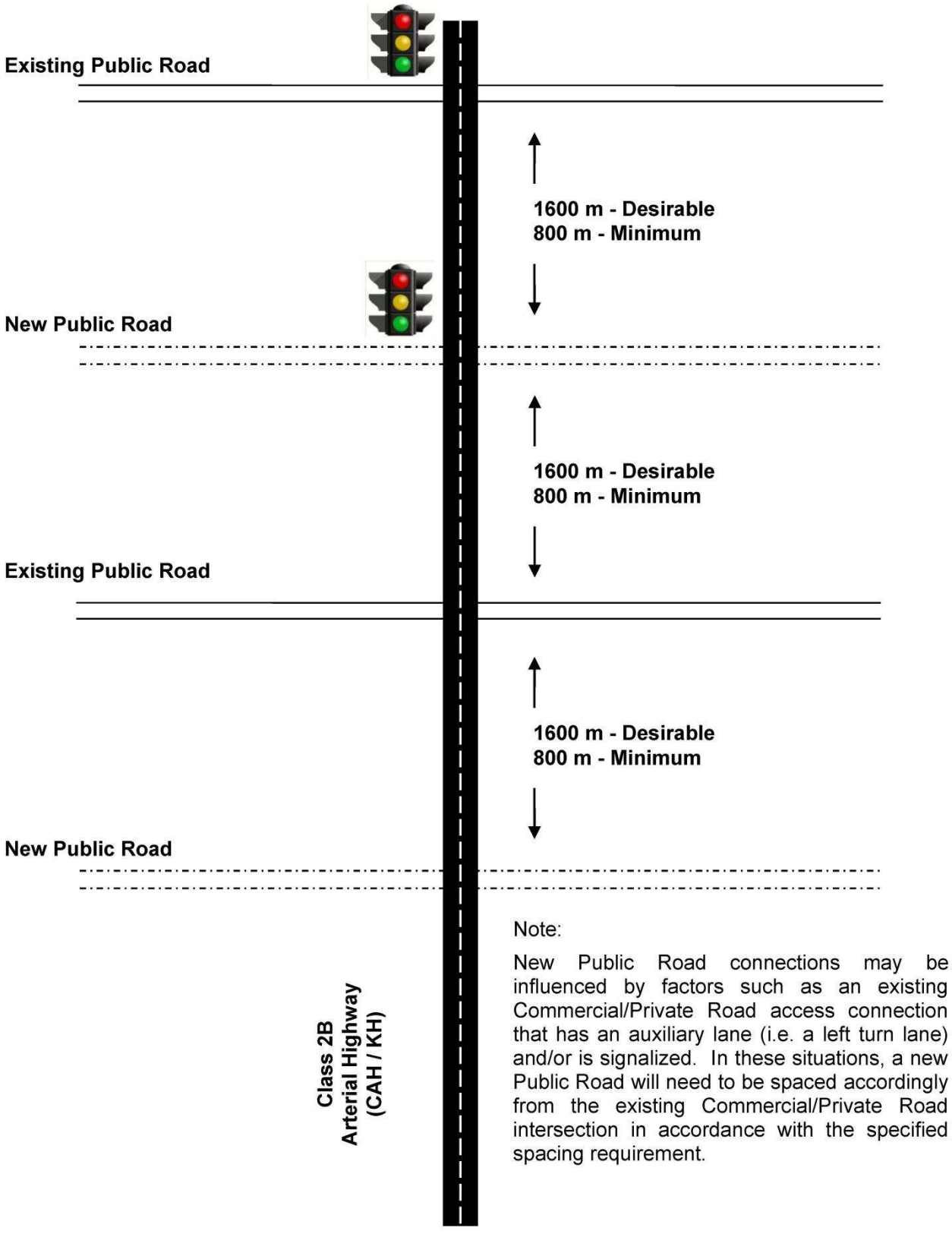


Figure 4.6.2: Public Road Spacing Standards for Class 2B - Arterial Highways

Functional Intersection Area - Desirable Offset Criteria - Private Access Connections	
Clearance Type	**Desirable Offset Spacing Criteria**
A – Upstream on the highway	100 km/h Posted Speed = 250 m 90 km/h Posted Speed = 220 m 80 km/h Posted Speed = 185 m 70 km/h Posted Speed = 160 m 60 km/h Posted Speed = 130 m 50 km/h Posted Speed = 105 m
B – Downstream on the highway	100 km/h Posted Speed = 250 m 90 km/h Posted Speed = 220 m 80 km/h Posted Speed = 185 m 70 km/h Posted Speed = 160 m 60 km/h Posted Speed = 130 m 50 km/h Posted Speed = 105 m
C – Approach side on the Public Road	Desirable = 85 m Minimum = 45 m
D – Departure side on the Public Road	Desirable = 85 m Minimum = 45 m

Notes:

- Private access connections are typically Residential, Farmstead, Field or Auxiliary accesses. They do not include Public Road or Commercial / Private Road access connections.
- Distances provided in this Figure are provided to demonstrate minimum offset spacings for private access connections for corner and non-corner properties, in order to protect the safety and operational integrity of the intersection.
- Desirable offset spacing criteria typically apply to requests for new private access connections or a change in use / upgrade of an existing access connection.
- All distances are measured from the end of radius of the Public Road to the start of radius at the private access.
- Private access connections are not permitted within a channelization, auxiliary lane, taper or similar facility. Where such facilities exist, the offset spacing criteria will be measured from the start / end of the taper.
- Corner properties, which have frontage on both the Provincial Highway and the Public Road shall obtain all access from the Public Road.
- Existing private access connections which fall with the desirable offset spacing criteria are constraints located within the Functional Intersection Area and will be permitted to remain for their existing use.
- This Figure is not to be interpreted that MTO would grant an access connection to the Provincial Highway for corner properties where the lot frontage would meet or exceed the minimum offset spacing criteria.

For Principal Arterials:

- **A & B are not applicable. Direct highway access is not permitted.**
- **C & D are not applicable where interchanges exist or are proposed.**
- **C & D are applicable where at-grade intersections are present and are not to be upgraded to interchanges.**

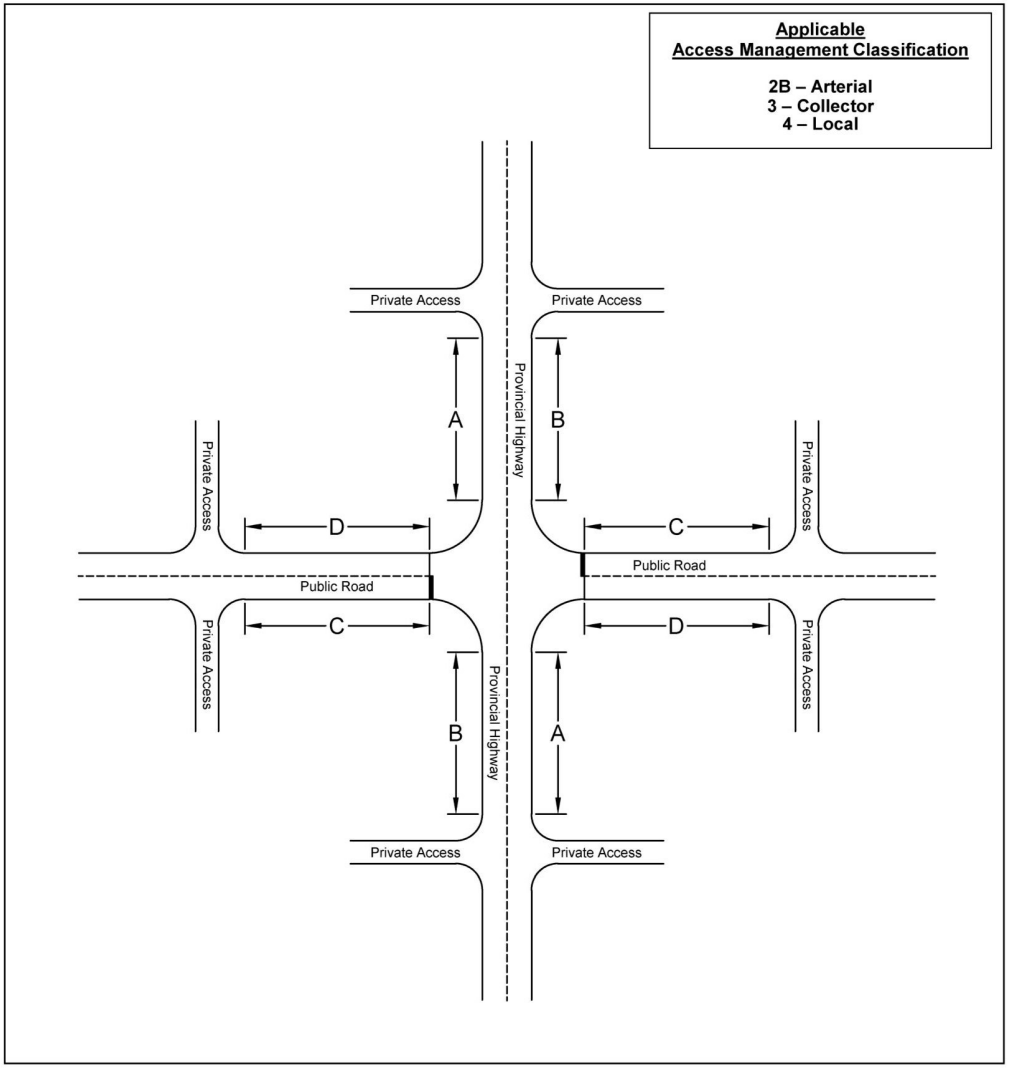


Figure 4.6.8: Functional Intersection Area - Desirable Offset Spacing Criteria - Private Access Connections

Functional Intersection Area - Desirable Offset Spacing Criteria
Low Volume Commercial / Private Road Access Connections

Clearance Type	Desirable Offset Spacing Criteria
A – Approach side on the Public Road	Desirable = 85m Minimum = 45m
B – Departure side on the Public Road	Desirable = 85m Minimum = 45m

Notes:

- A low volume commercial development is one that provides access to a small traffic generator that would not warrant intersection improvements on the Public Road.
- MTO reserves the right to request a Traffic Impact Study for any low volume commercial development where it is deemed appropriate to determine whether or not intersection improvements are warranted on the municipal road itself.
- Should intersection improvements be warranted from MTO's review of a Traffic Impact Study, the commercial development would be considered a medium / large traffic generator and corresponding offset spacing criteria should be applied.
- Distances provided in this Figure are provided to demonstrate desirable offset spacings for Commercial / Private Road access connections for corner and non-corner properties, in order to protect the safety and operational integrity of the intersection.
- Corner properties, which have frontage on both the Provincial Highway and the Public Road must obtain all access from the Public Road.
- Desirable offset spacing criteria typically apply to requests for new Commercial / Private Road access connections or a change in use / upgrade of an existing access connection.
- All distances are measured from the end of radius of the Public Road to the start of radius at the Commercial / Private Road access.
- Commercial / Private Road access connections are not permitted within a channelization, auxiliary lane, taper or similar facility. Where such facilities exist, the offset spacing criteria will be measured from the start / end of the taper.
- Existing Commercial / Private Road access connections which fall with the desirable offset spacing criteria are constraints located within the Functional Intersection Area and will be permitted to remain for their existing use.

For Principal Arterials:

- **A & B are not applicable where interchanges exist or are proposed.**
- **A & B are applicable where at-grade intersections are present and are not to be upgraded to interchanges.**

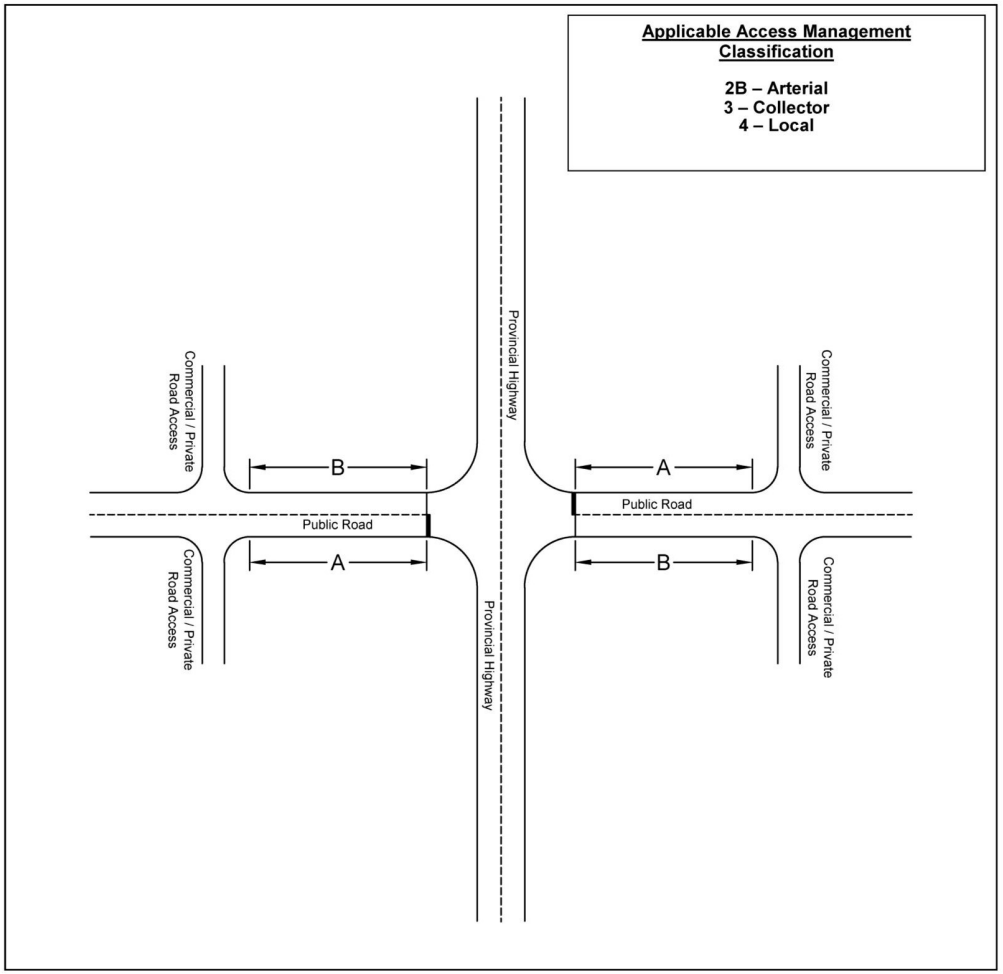


Figure 4.6.9: Functional Intersection Area - Desirable Offset Spacing Criteria – Low Volume Commercial / Private Road Access Connections

APPENDIX M

NNPA 1141

NFPA®

1141

Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas

2017

NFPA®

(2) The material is reported as passing ASTM E136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C.*

(3) The material is reported as complying with the pass/fail criteria of ASTM E136 when tested in accordance with the test method and procedure in ASTM E2652, *Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C.*

[**5000:** 7.1.4.1.1]

Chapter 5 Means of Access

5.1 General.

5.1.1 This section shall apply to all means of access, publicly or privately owned, whether or not they are designated as public thoroughfares.

5.1.2 Means of access shall be provided to all buildings more than 400 ft^2 (37 m^2) in ground floor area and to public occupancies with structural components.

5.1.3 The AHJ shall have the authority to require a means of unlocking any security feature that is installed.

5.1.3.1 Any gates shall not be located closer than 30 ft (9.144 m) from an intersection and shall open in the direction of emergency vehicle travel unless other provisions are made for safe personnel operation.

5.1.3.2 The clear opening through gates shall have a usable width at least 2 ft (0.6 m) wider than the means of access it controls.

5.1.4 Number of Means of Access.

5.1.4.1* A land development shall have one or more means of access in accordance with Table 5.1.4.1(a), Table 5.1.4.1(b), or 5.1.4.2, whichever produces the greatest number.

5.1.4.2 Where residential areas are mixed with nonresidential areas, the minimum number of access routes shall be determined by calculating five parking spaces for each dwelling unit, adding that number to the parking spaces count for the nonresidential area, and using Table 5.1.4.1(b).

5.1.4.3 Where multiple means of access are required, one of the means of access shall be permitted to be restricted for emergency use only, when approved by the AHJ.

Table 5.1.4.1(a) Required Number of Access Routes for Residential Areas

Number of Households	Number of Access Routes
0–100	1
101–600	2
>600	3

Table 5.1.4.1(b) Required Number of Access Routes for Nonresidential Areas

Number of Parking Spaces	Number of Access Routes
0–1250	1
1251–3000	2
>3000	3

5.1.4.4 Where multiple means of access are required, they shall be located as remotely from each other as practical and acceptable to the AHJ.

5.2 Roadways. Roadways shall be constructed and maintained in accordance with this section.

5.2.1* The legal right-of-way for a roadway shall accommodate the width necessary for the construction, drainage, erosion control, and maintenance of the roadway, and provisions for utilities and sidewalks.

5.2.2 Roadways shall be constructed of a hard, all-weather surface designed to support all legal loads of the jurisdiction.

5.2.3 Roadways shall have a minimum clear width of 12 ft (3.7 m) for each lane of travel, excluding shoulders and parking.

5.2.3.1 Curves shall not reduce the width of the roadway.

5.2.3.2 Provisions shall be made for drainage, snowbanks, parking, utilities, and the like such that they do not impinge on the minimum clear width.

5.2.4 Where parking is permitted, such space shall be provided in accordance with Section 5.4.

5.2.5 Any roadway intersecting with another shall be sloped to prevent the accumulation of water and ice on either roadway.

5.2.6 At least 13 ft 6 in. (4.2 m) nominal vertical clearance shall be provided and maintained over the full width of the roadway.

5.2.7 Turns in roadways shall be constructed with a minimum radius of 60 ft (18.2 m) to the outside of the turn.

5.2.8 Median left-turn lanes and traffic signals shall be provided at intersections where necessary to prevent traffic from impeding fire department response time.

5.2.9 Where required by the AHJ, any traffic signal system shall have an automatic means for fire apparatus to control the signals to maintain an unimpeded right-of-way.

5.2.9.1 Sight distance shall be incorporated into the design of intersections.

5.2.10* Bridges and culverts shall be designed to accommodate a minimum of 100-year flood elevations and flows in accordance with accepted engineering practices.

5.2.11 Vehicle load limits shall be posted at both entrances to bridges where required by the AHJ.

5.2.12 Easements shall be obtained to permit vegetation clearance alongside roads to minimize the likelihood of evacuation routes being blocked during wildfire or other natural disasters.

5.2.13* Roadways shall not be designed and constructed to include speed bumps or speed humps.

5.2.14 Alternative traffic calming devices such as chicanes and roundabouts shall be acceptable with approval by the AHJ.

5.2.15 Roadway design shall incorporate provisions for emergency pull-offs, spaced according to the AHJ.

5.2.16 Grades.

5.2.16.1 Grades shall not be more than 10 percent, except as permitted by this section.

FIGURES



Community Demonstration Plan

1. Community facility
2. Village green and retail/service commercial hub
3. Georgian Trail
4. Main spine
5. Views from bluffs
6. Bluff top trail loop
7. Other community trails
8. Potential trail to water
9. Local parks
10. Stormwater ponds
11. Residents recreation

Unit Summary

Total Units	+/- 1250
Single Detached	68%
Town House	28%
Mixed Use	4%

SvN
110 Adelaide St. E.
Toronto, Canada
M5C 1K9
416.593.6499
www.svn-ap.com

Christie Beach
Parkbridge Meaford Development
Master Plan
Meaford, Ontario

Demonstration Plan

ver. 21J

January 24, 2024

A02



LEGEND:

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

SITE LOCATION PLAN

DRAWN BY: **KH**

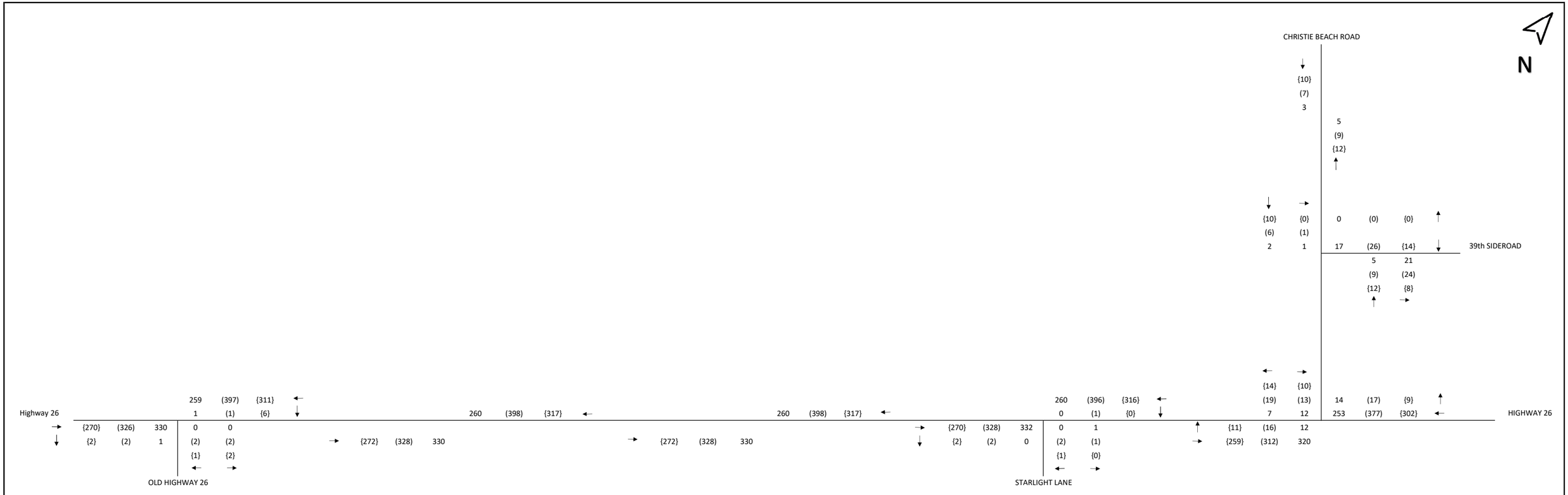
CHECK BY: **KH**

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FIGURE FIG. 2



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2022 EXISTING VOLUMES

DRAWN BY: **KH**

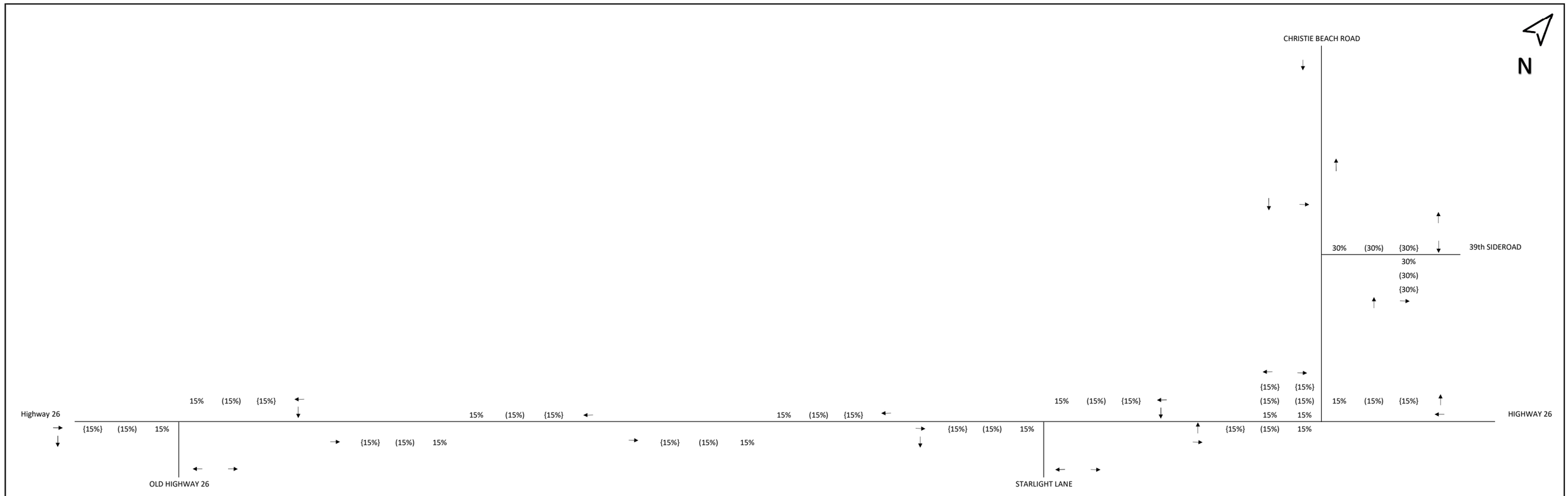
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SCALE: **N.T.S.**

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FIGURE FIG. 3



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

LORA BAY TRIP DISTRIBUTION

DRAWN BY: **KH**

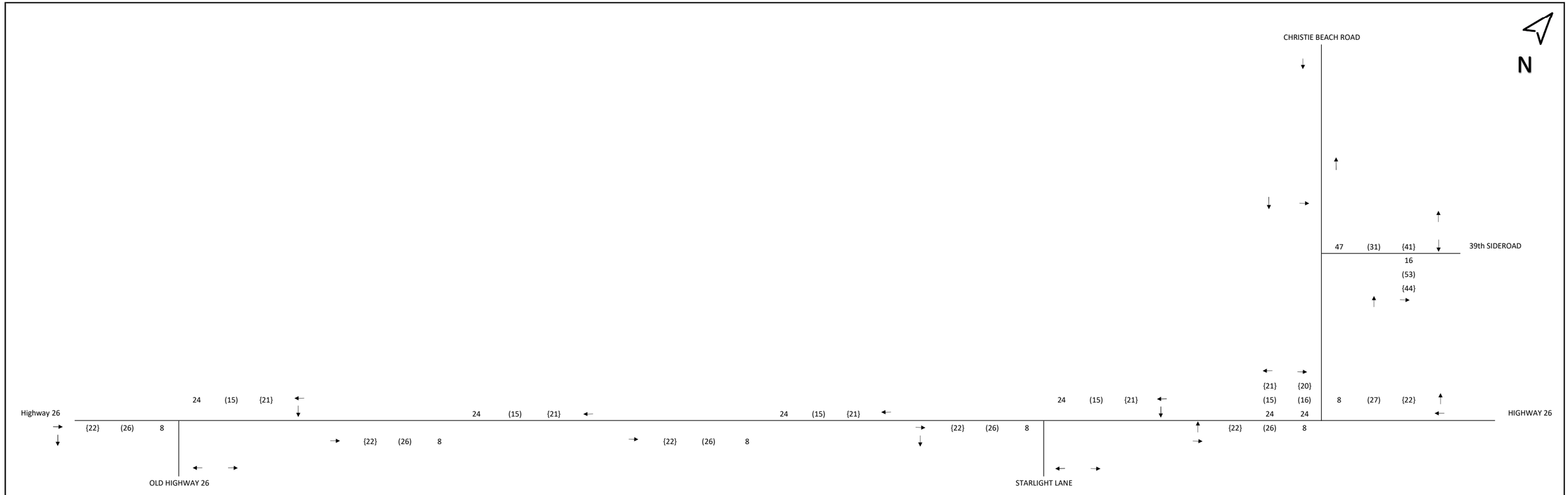
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 4



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

LORA BAY TRIP ASSIGNMENT

DRAWN BY: **KH**

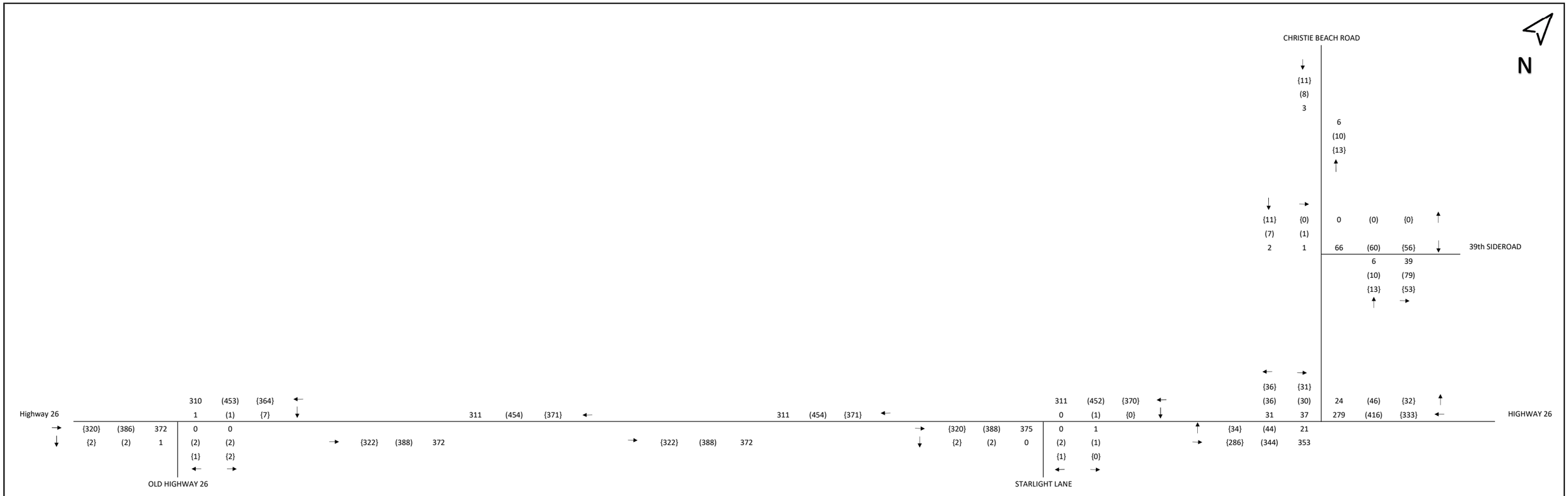
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SCALE: **N.T.S.**

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FIGURE FIG. 5



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2027 FUTURE BACKGROUND VOLUMES

DRAWN BY: **KH**

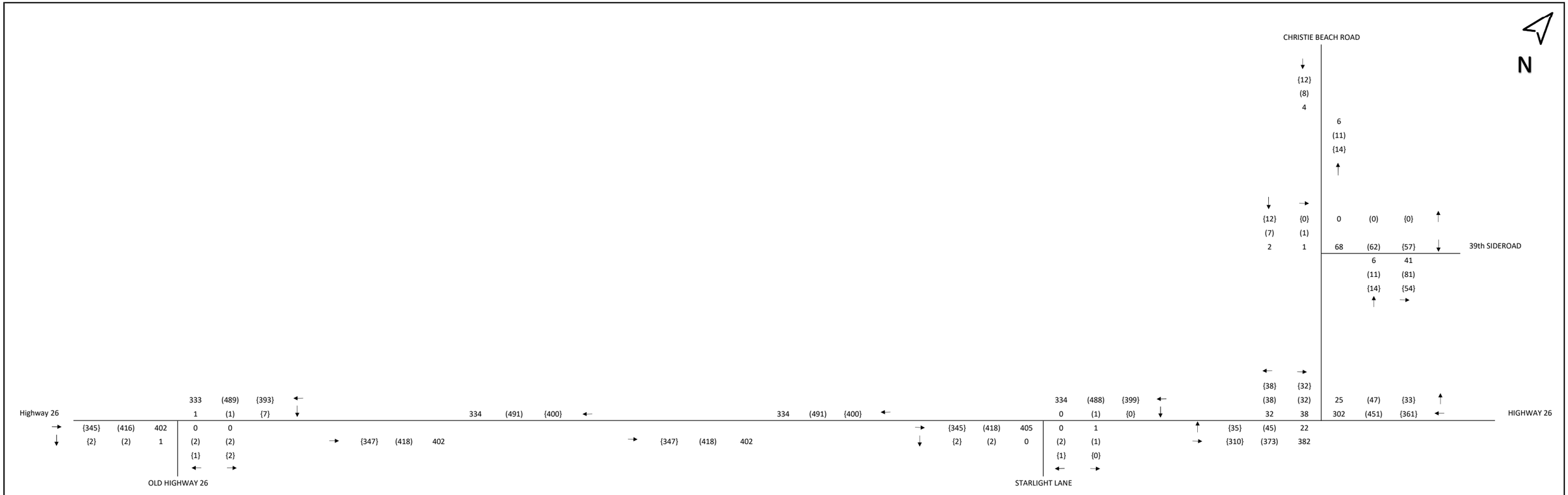
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FIGURE FIG. 6



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2031 FUTURE BACKGROUND VOLUMES

DRAWN BY: **KH**

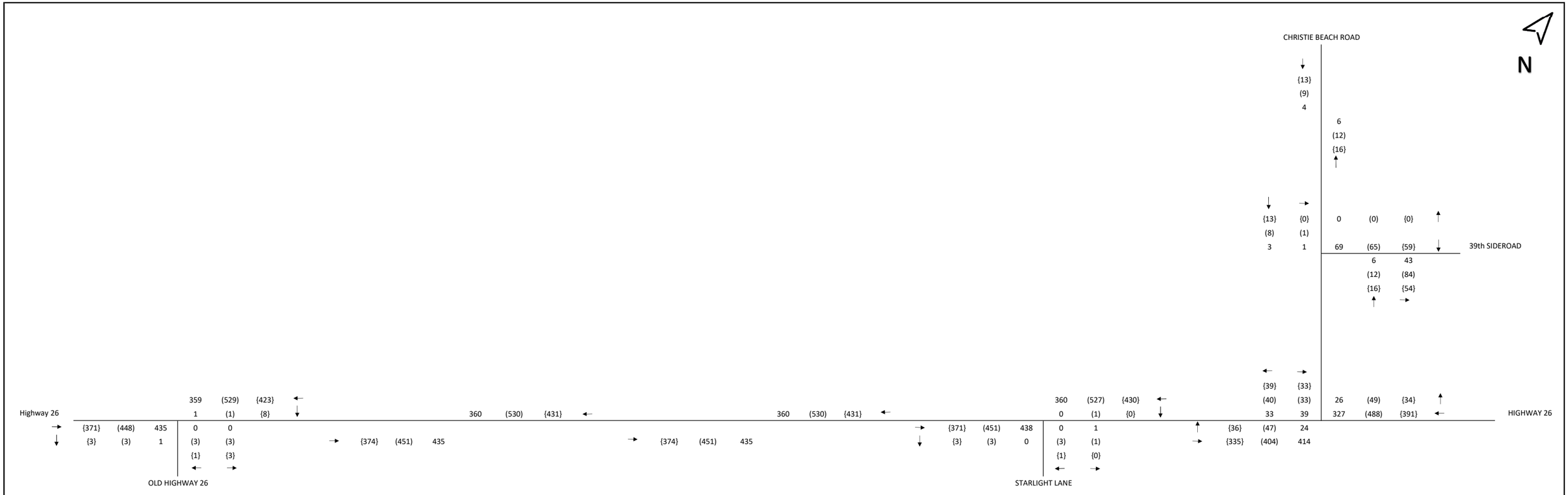
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 7



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2035 FUTURE BACKGROUND VOLUMES

DRAWN BY: **KH**

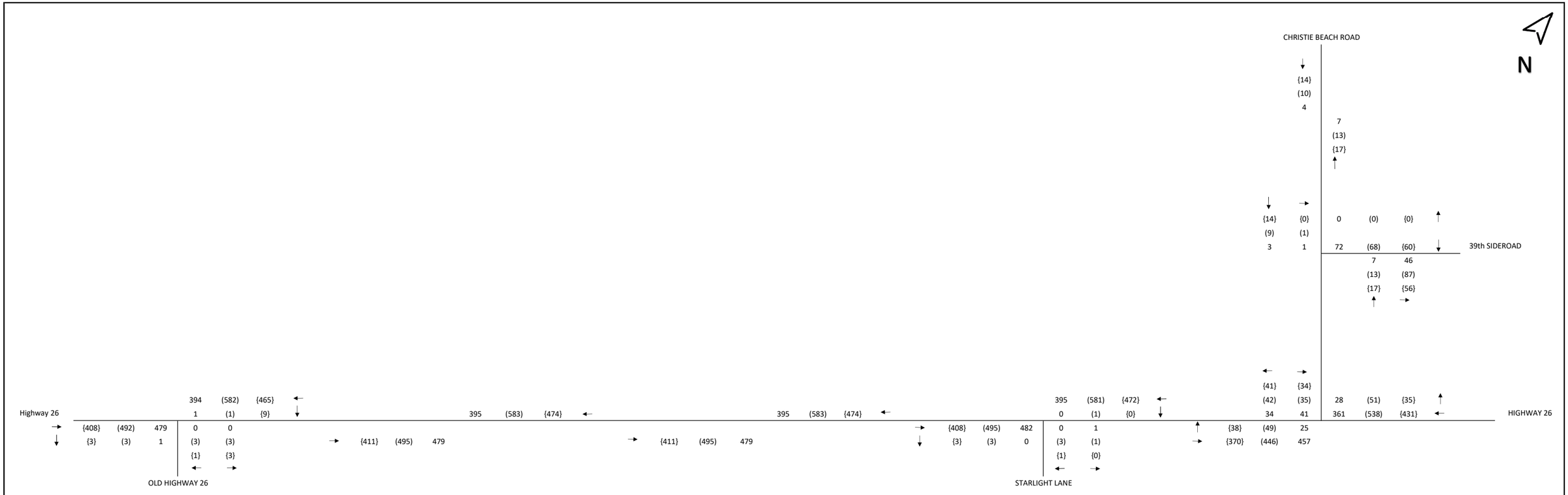
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 8



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2040 FUTURE BACKGROUND VOLUMES

DRAWN BY: **KH**

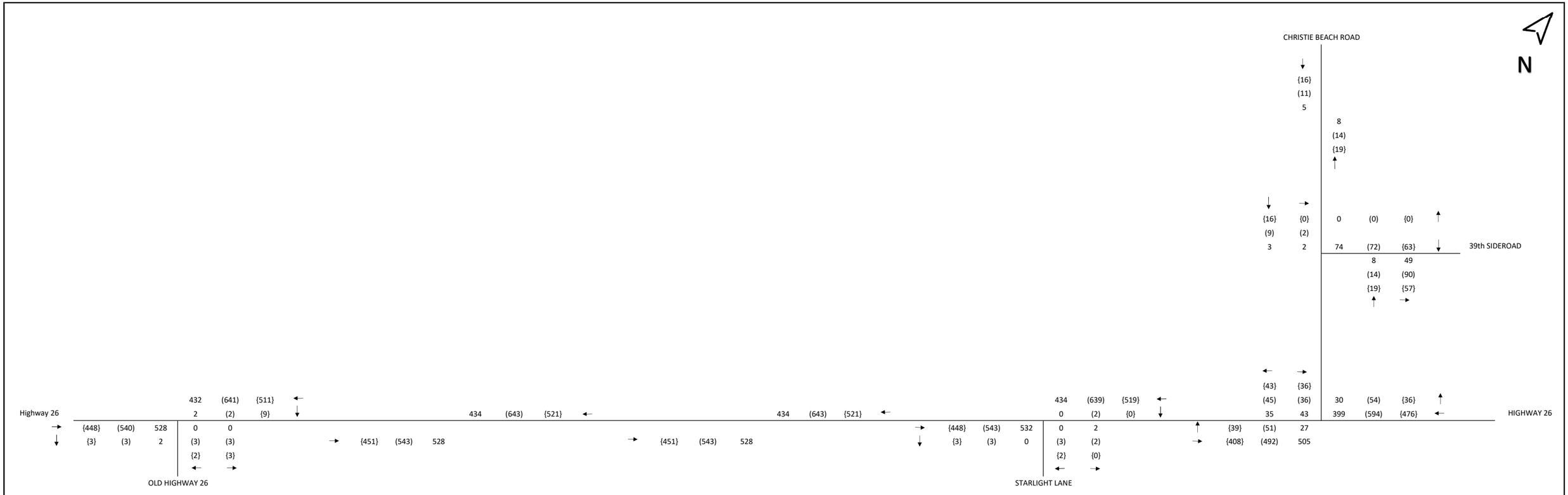
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SCALE: **N.T.S.**

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FIGURE FIG. 9



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAFFIC

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2045 FUTURE BACKGROUND VOLUMES

DRAWN BY: **KH**

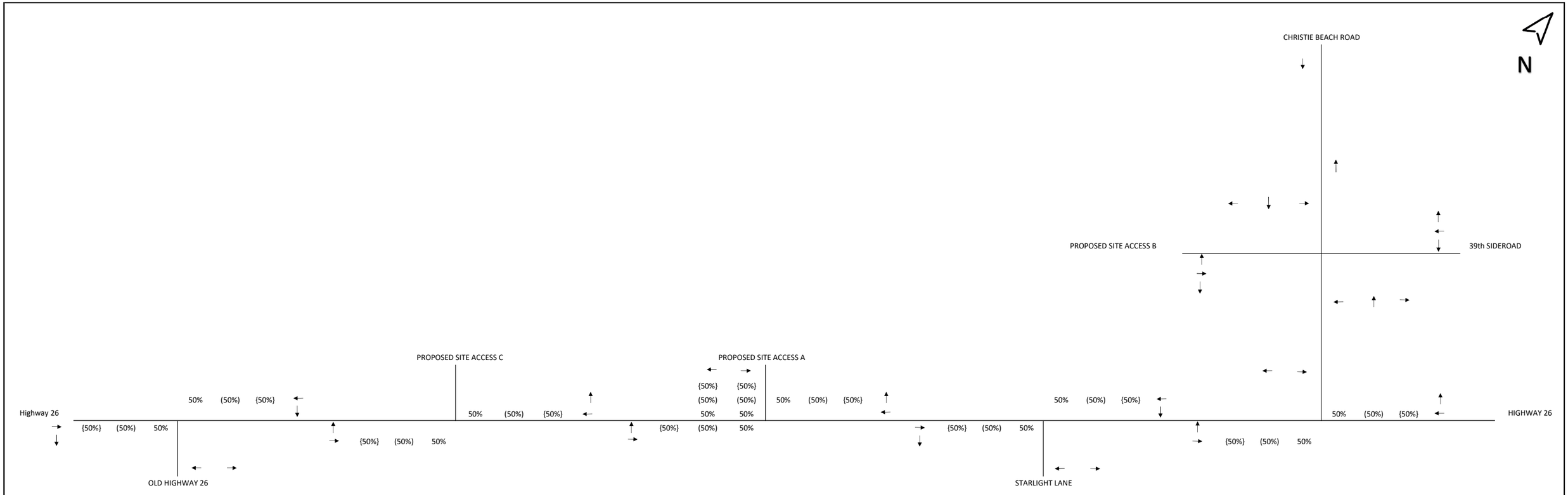
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 10



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
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DRAWING:

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DRAWN BY: **KH**

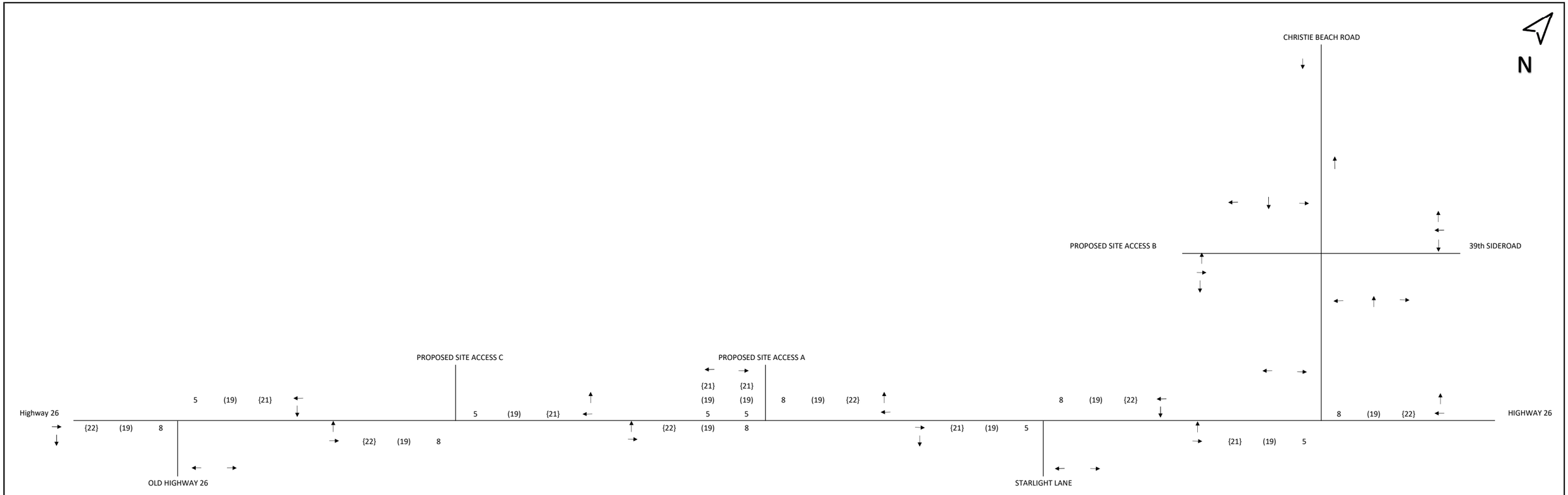
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FIGURE FIG. 11



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
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DRAWING:

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DRAWN BY: **KH**

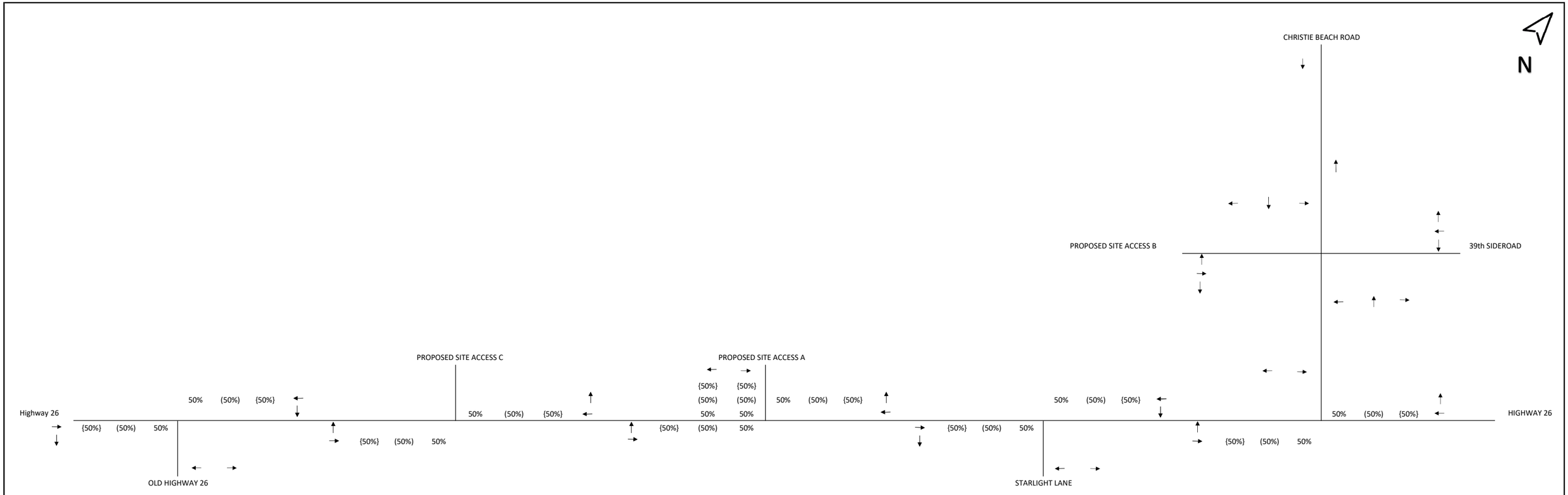
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 12



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 1 & 2 COMMUNITY CENTRE TRIP DISTRIBUTION

DRAWN BY: **KH**

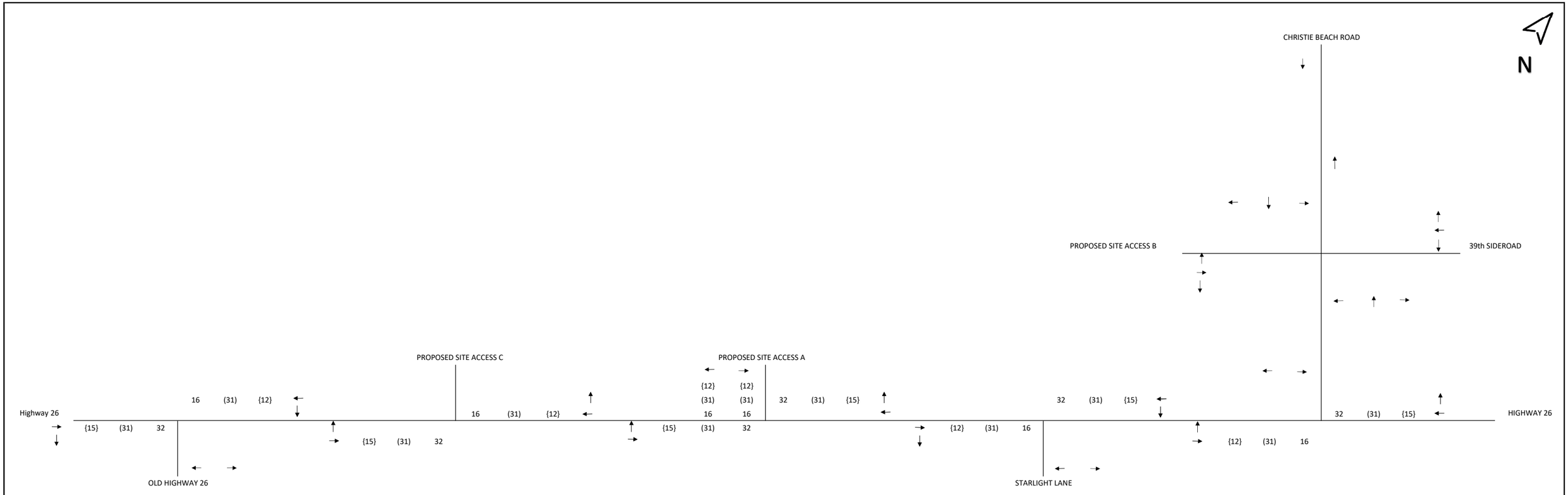
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SCALE: **N.T.S.**

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ADMIRAL BUILDING
1 FIRST STREET, SUITE 200
COLLINGWOOD, ON, L9Y 1A1
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FIGURE FIG. 13



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 1 & 2 COMMUNITY CENTRE TRIP ASSIGNMENT

DRAWN BY: **KH**

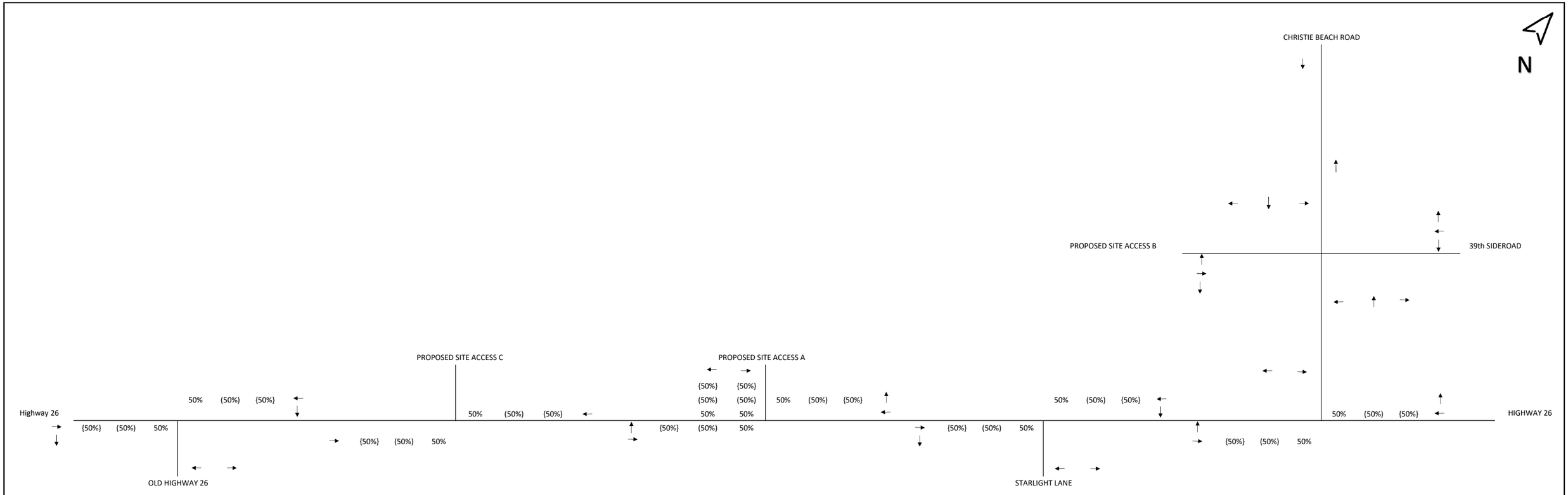
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 14



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

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COUNTY OF GREY

DRAWING:

PHASE 1 RESIDENTIAL TRIP DISTRIBUTION

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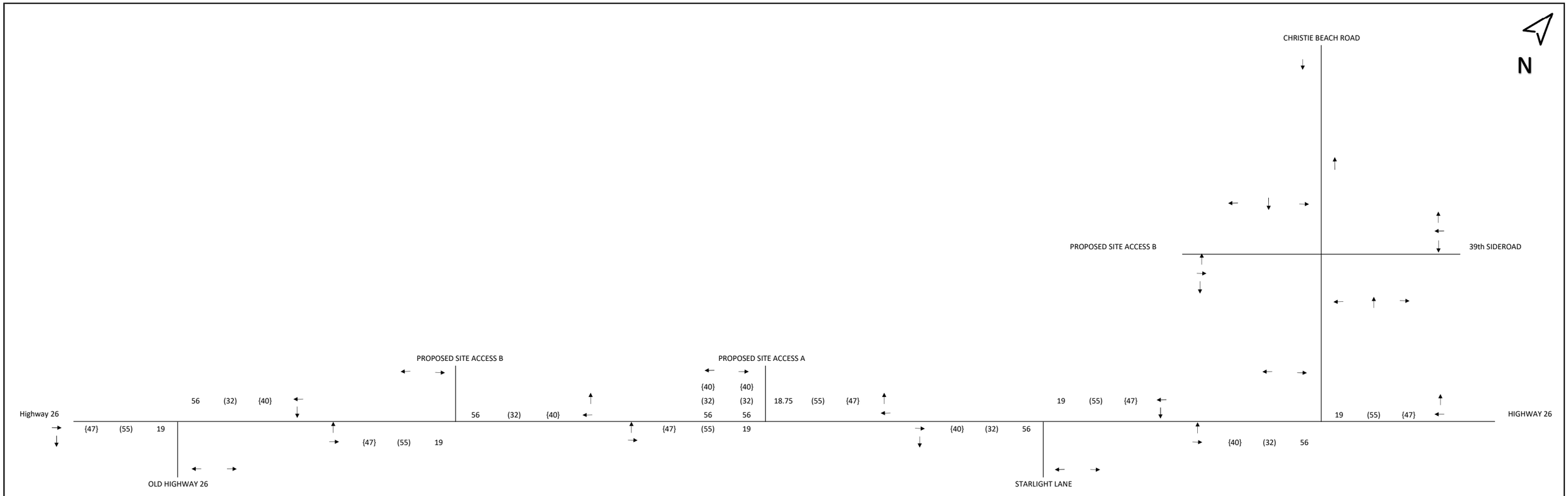
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FIGURE FIG. 15



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

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DRAWING:

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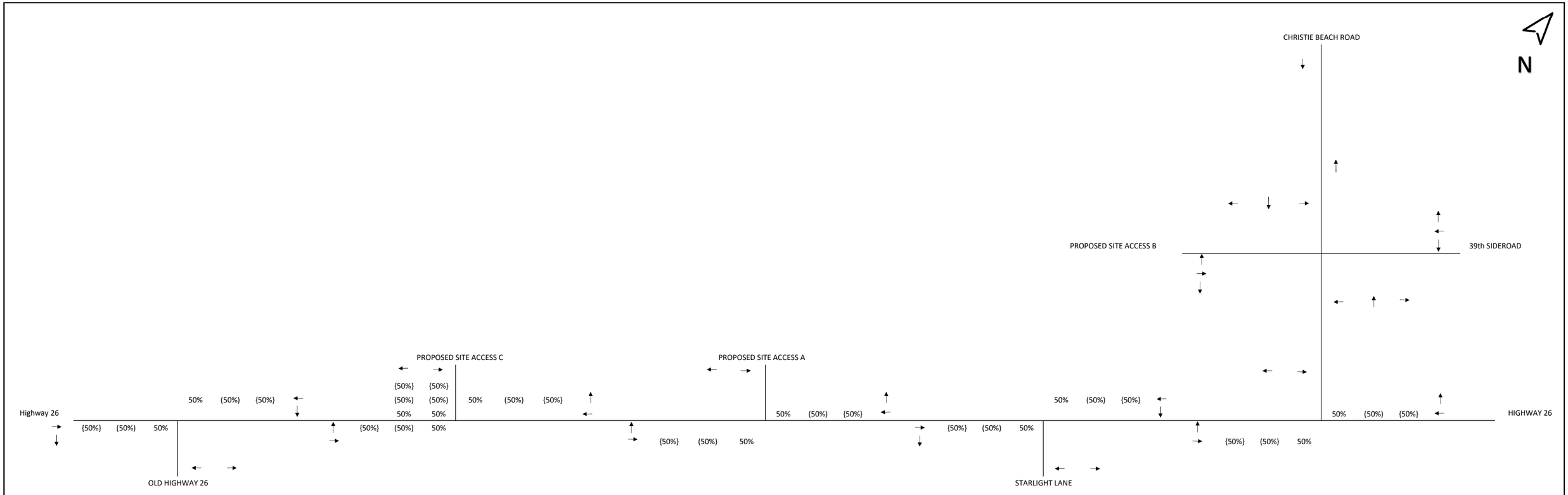
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FIGURE FIG. 16



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 2 RESIDENTIAL TRIP DISTRIBUTION

DRAWN BY: **KH**

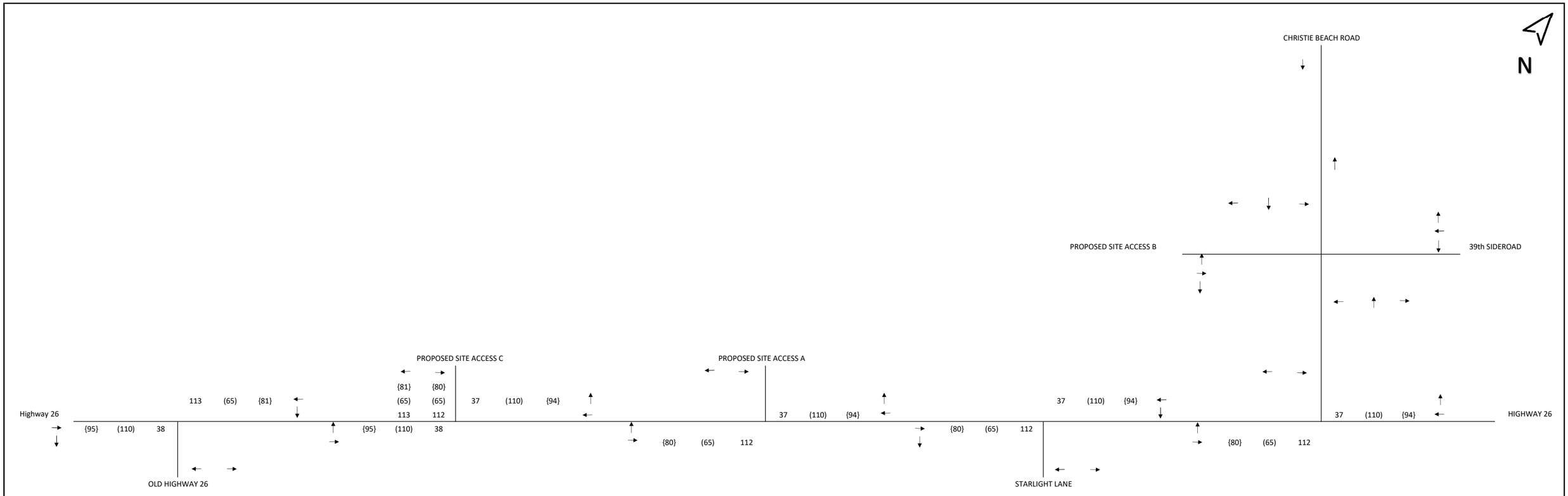
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 17



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 2 RESIDENTIAL TRIP ASSIGNMENT

DRAWN BY: **KH**

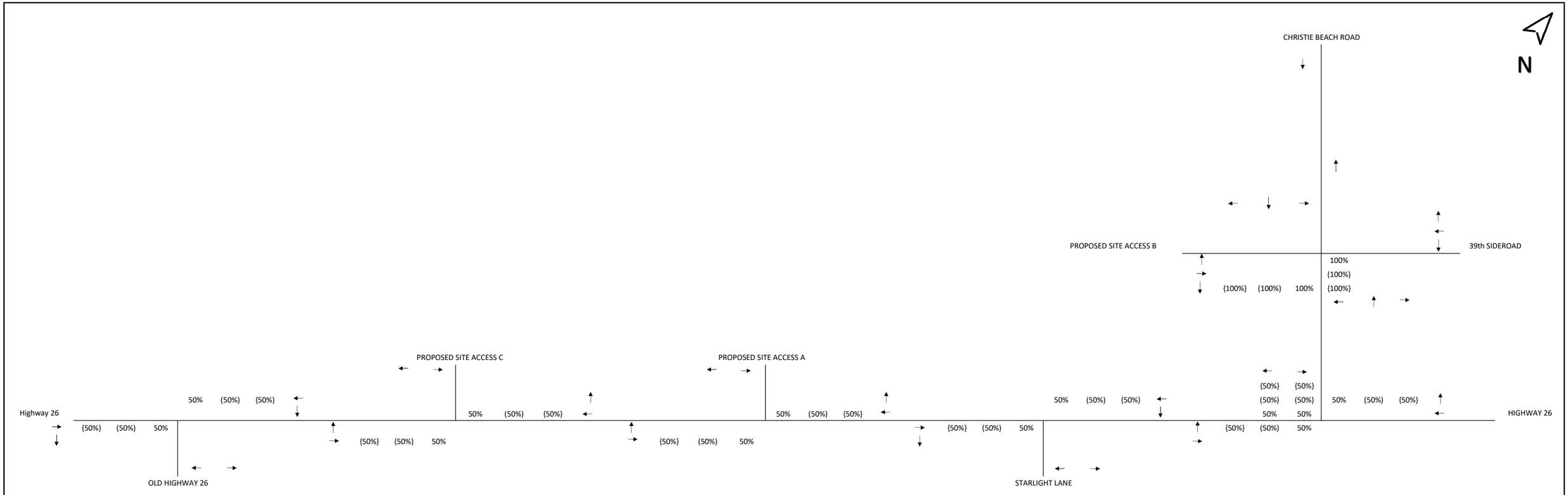
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 18



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 3 RESIDENTIAL TRIP DISTRIBUTION

DRAWN BY: **KH**

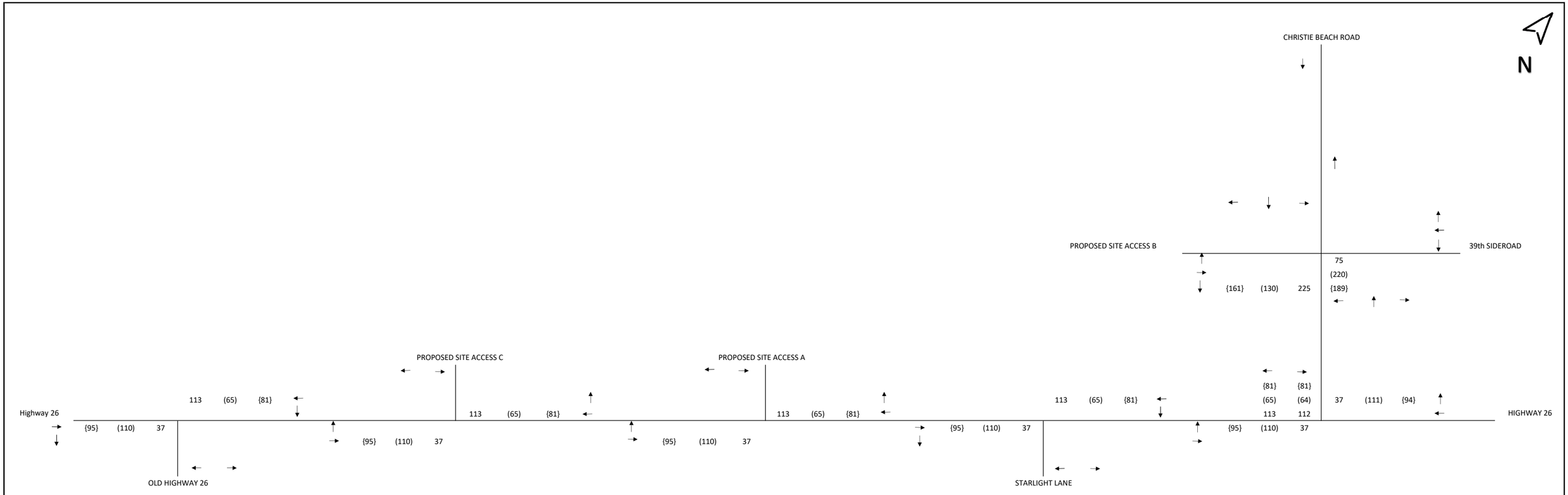
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 19



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 3 RESIDENTIAL TRIP ASSIGNMENT

DRAWN BY: **KH**

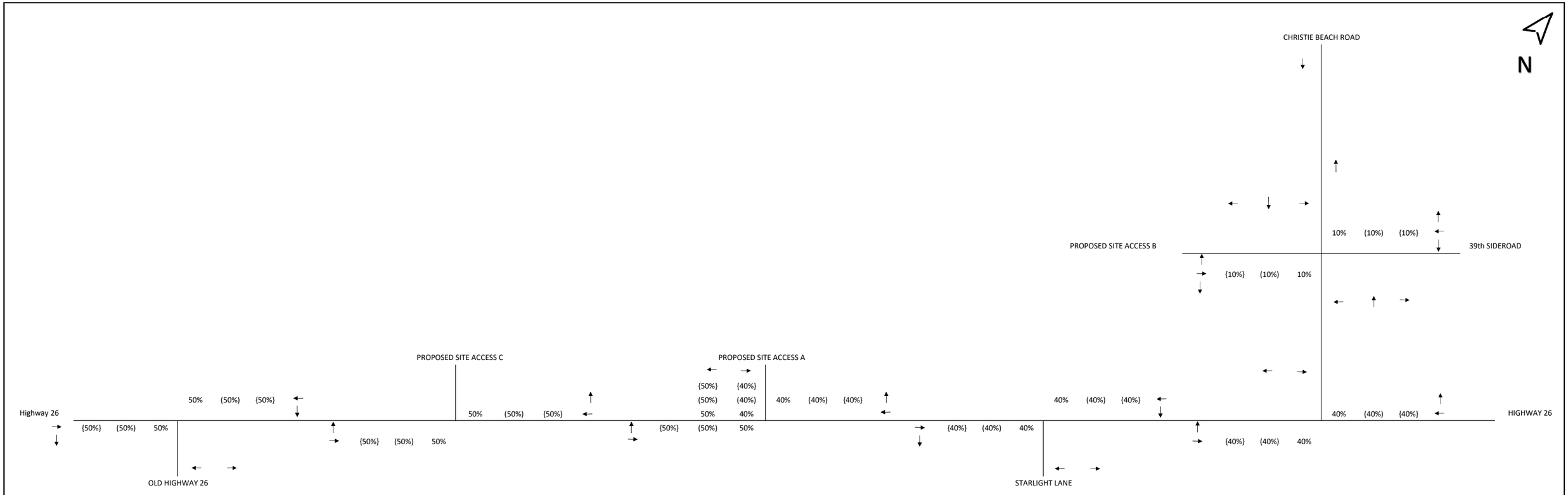
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 20



LEGEND:

##% (##%) {##%} **AM (PM) {SAT} PEAK HOUR PERCENTAGE**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 3 COMMUNITY CENTRE TRIP DISTRIBUTION

DRAWN BY: **KH**

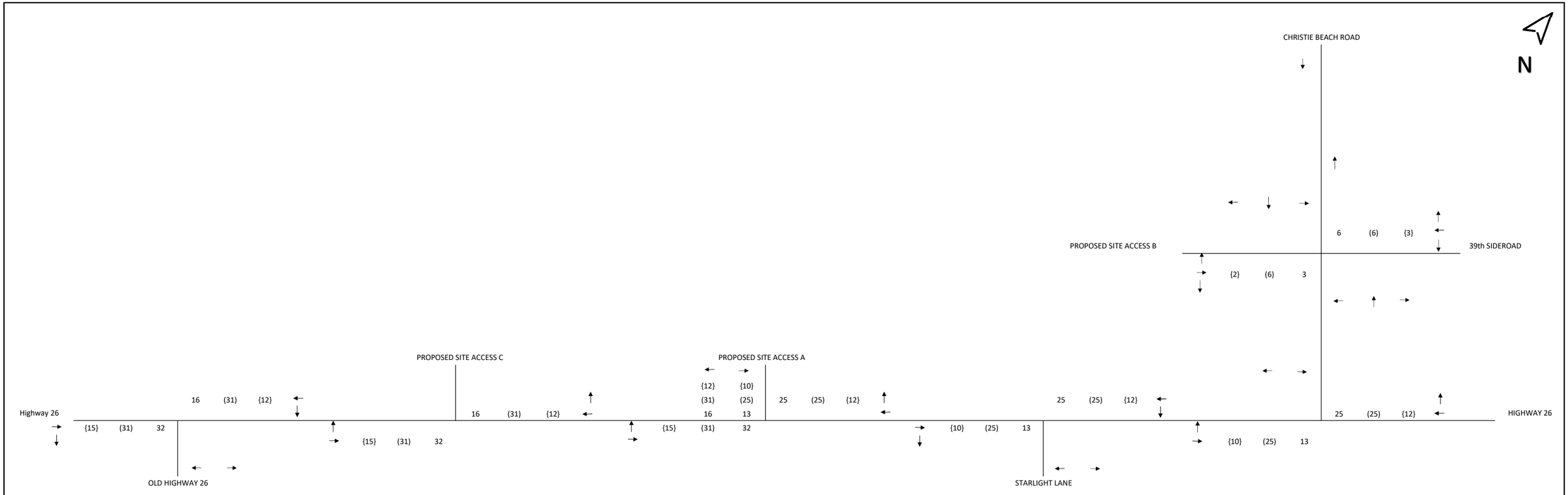
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 21



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

PHASE 3 COMMUNITY CENTRE TRIP ASSIGNMENT

DRAWN BY: **KH**

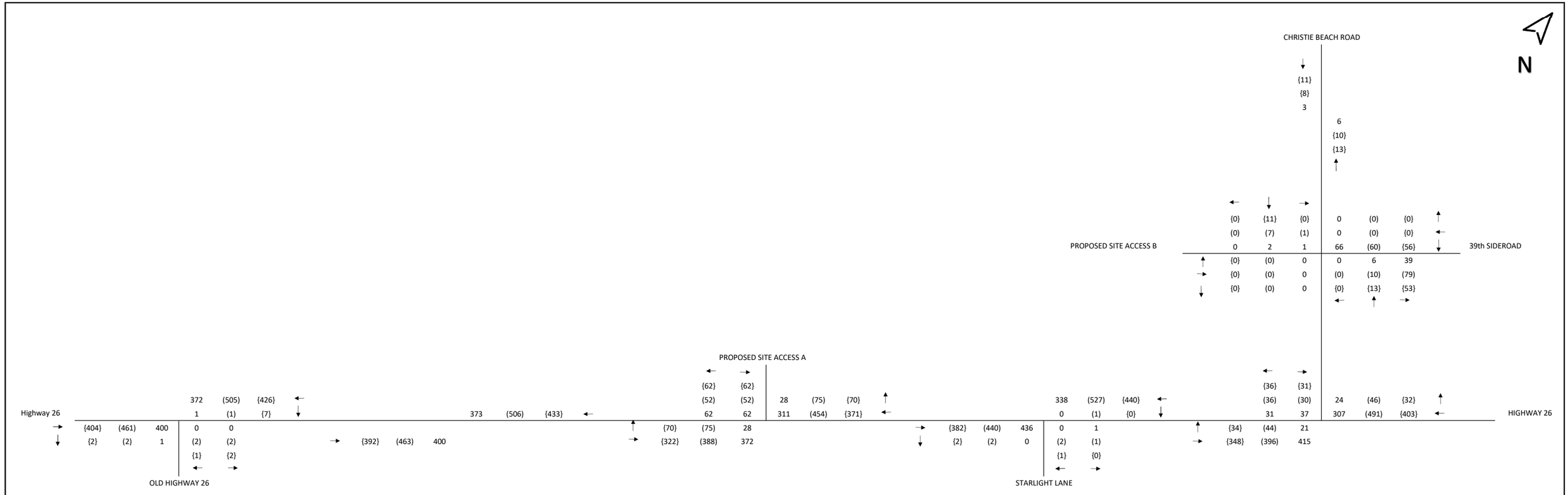
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 22



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2027 FUTURE TOTAL VOLUMES

DRAWN BY: **KH**

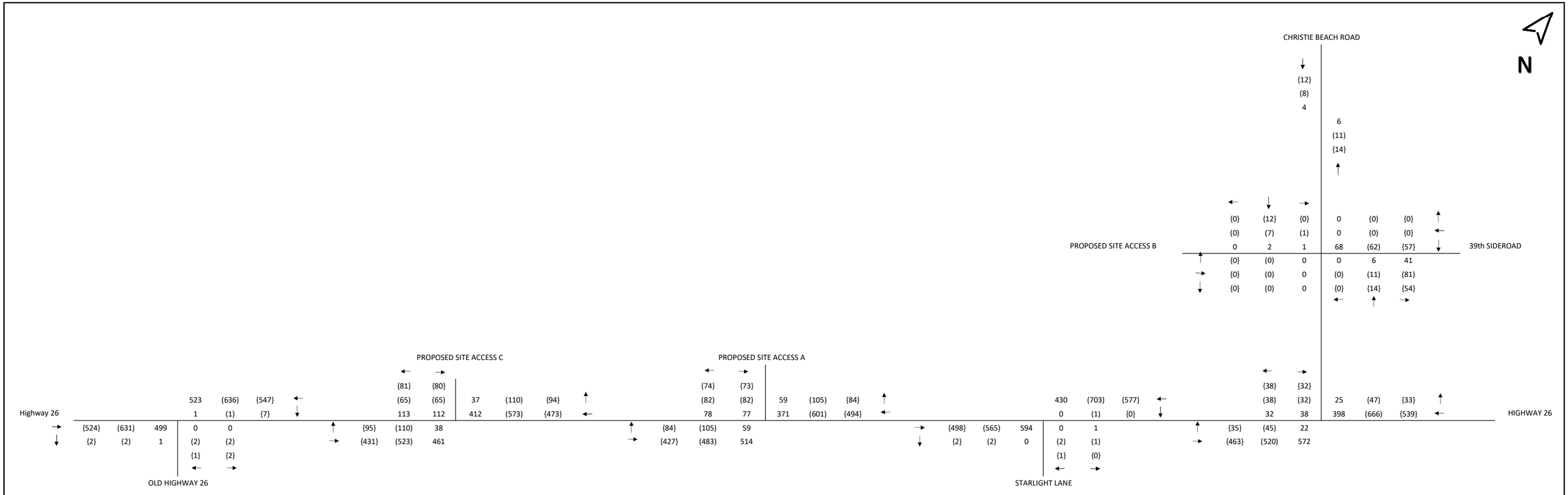
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 23



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2031 FUTURE TOTAL VOLUMES

DRAWN BY: **KH**

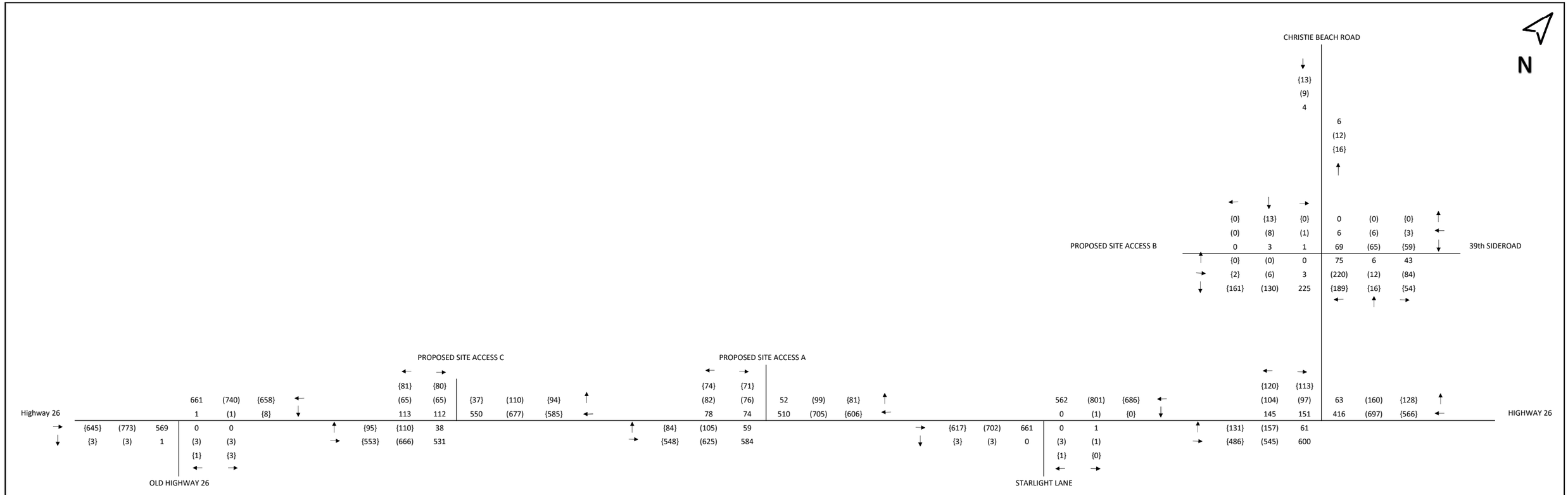
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 24



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2035 FUTURE TOTAL VOLUMES

DRAWN BY: **KH**

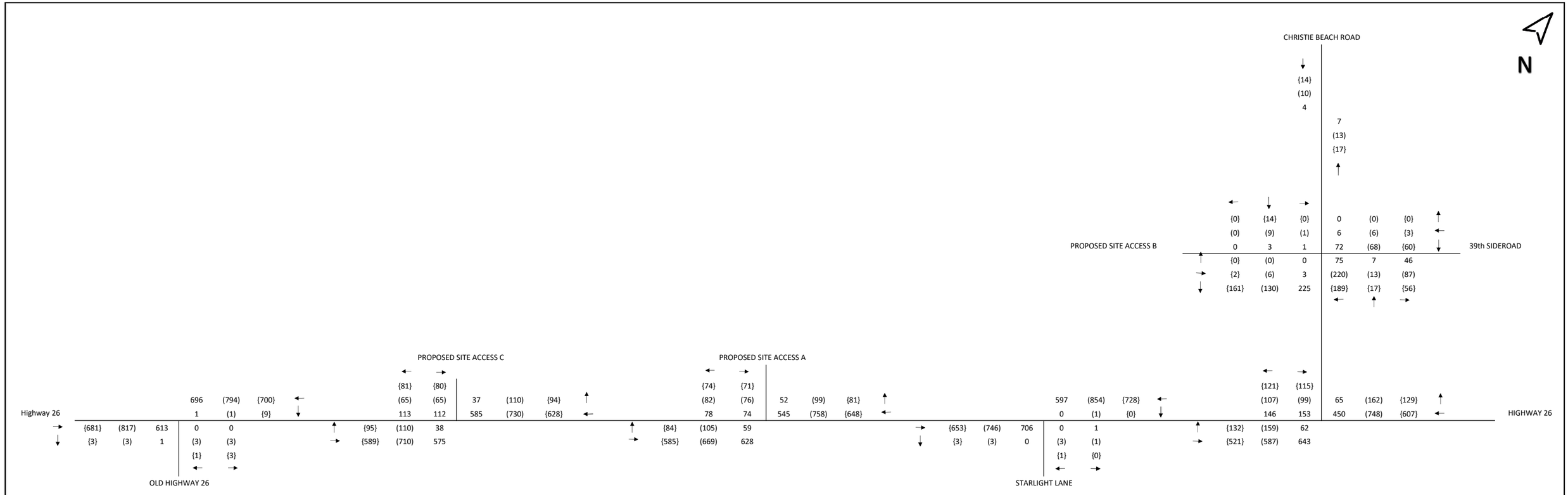
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 25



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2040 FUTURE TOTAL VOLUMES

DRAWN BY: **KH**

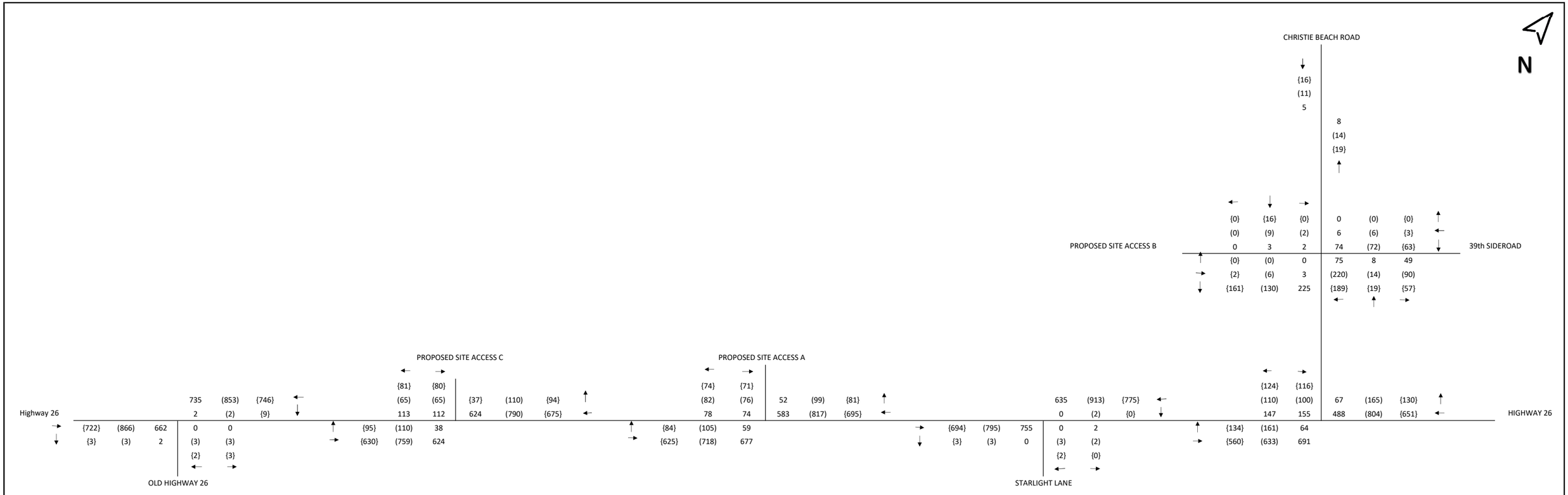
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 26



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2045 FUTURE TOTAL VOLUMES

DRAWN BY: **KH**

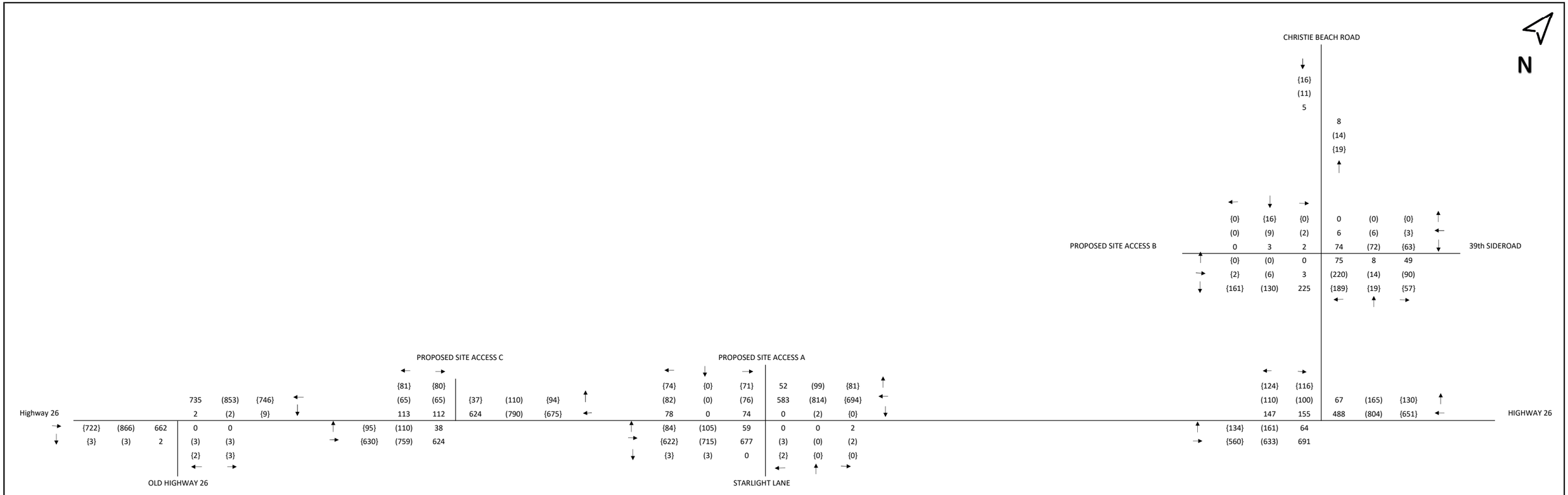
CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 27



LEGEND:

(##) {##} **AM (PM) {SAT} PEAK HOUR VOLUMES**

DIRECTION OF TRAVEL

NOTE: THIS FIGURE IS A SCHEMATIC ONLY AND NOT TO BE SCALED

PROJECT:

PARKBRIDGE MEAFORD DEVELOPMENT
MUNICIPALITY OF MEAFORD
COUNTY OF GREY

DRAWING:

2045 FUTURE TOTAL REALIGNED VOLUMES

DRAWN BY: **KH**

CHECK BY: **KH**

SCALE: **N.T.S.**

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FIGURE FIG. 28