



Sunrock Industries Canada ULC
Ready Mix Concrete Plant

424 Hillis Road
Zoning By-Law Amendment

Transportation Impact Study

2026-February-19

CA0054344.1346-CA





wsp.com

February 19, 2026

Sunrock Industries Canada ULC
200 Horizon Drive, Suite 100
Raleigh, NC 27615
United States of America

Attention: Mr. Tracy E. Davis, PE
Director of Environmental Compliance

Dear Mr. Davis:

Subject: Sunrock Industries Canada Hillis Road
Selwyn Township, Peterborough County, Ontario
Transportation Impact Study
WSP Ref.: CA0054344.1346-CA

We are pleased to submit this Transportation Impact Study Report in support of your Application for Zoning By-Law Amendment to permit a concrete ready-mix plant. Specifically, this Report supports the proposed ready-mix plant in addition to the permitted as-of-right aggregate extraction and sales operation and stone depot. This submission outlines the analysis procedures, technical assumptions, and findings of the demand forecasting and operational analysis that addresses the potential impacts related to the proposed ready-mix plant and as-of-right permitted uses located at 424 Hillis Road in Selwyn Township within the County of Peterborough, Ontario.

This report assesses study area intersection traffic level of service impacts related to the proposed concrete ready-mix plant and permitted uses. The analysis undertaken as part of this Transportation Impact Study demonstrates that site traffic impacts reflect good levels of service without any general intersection lane geometry or traffic control improvements outside of the improvements related to pavement surface along Hillis Road and radii at the intersection of Hillis Road and County Road 12.

Despite the predicted high levels of service identified by the operational performance analysis based on the existing intersection lane geometry and traffic control, the forecast prevailing traffic volumes on County Road 12, taking into consideration the number of left-turning vehicles onto Hillis Road, does satisfy the warrant for a dedicated left-turn lane from the County Road. The warrant requirements are outlined in the Ministry of Transportation of Ontario Supplement to the Transportation Association of Canada Geometric Design Standards for Canadian Roads and is adopted by the County of Peterborough and referenced in their Traffic Impact Assessment Guidelines.

If you have any questions or require clarification regarding any aspect of the analysis contained in this Report, please do not hesitate to contact the undersigned at your convenience.

Yours sincerely,

A handwritten signature in blue ink that reads "Scott Fortner". The signature is written in a cursive style with a large, prominent "S" and "F".

Scott Fortner, P.Eng.
Senior Project Manager

SF/sf

Encl.

SIGNATURES

PREPARED BY



J. Scott Fortner, P.Eng.
Senior Project Manager, Transportation

REVIEWED BY

A handwritten signature in blue ink that reads 'R Macleod'.

Robert Macleod, CPI
Traffic Analyst, Transportation

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EXECUTIVE SUMMARY

INTRODUCTION

This Transportation Impact Study has been prepared in support of an application by Sunrock Industries Canada ULC (Sunrock) to Selwyn Township for a Zoning By-Law Amendment to permit the development of a concrete ready-mix plant. The site is located at 424 Hillis Road in Selwyn Township within the County of Peterborough, Ontario. The site is situated on the north side of Hillis Road, with an existing driveway entrance located approximately 395 m west of the centre line of Peterborough County Road 12. The site is currently vacant, and Sunrock's development plans include an aggregate extraction and sales operation and a stone depot for trans-shipment in addition to the proposed concrete ready-mix plant.

Sunrock proposes to use the existing site access as part of a site design that will accommodate incoming vehicles with sufficient vehicle storage on the approach to the weigh-scales, as well as sufficient sight distance along Hillis Road, for traffic entering and leaving the site, which was previously used for aggregate extraction and sales.

The scope of this assessment largely reflects consideration of the County of Peterborough *Traffic Impact Assessment Guidelines*. Based on a review of weekday daytime traffic generation assumptions developed for a similar Sunrock concrete ready-mix plant in Georgina, Ontario and confirmation from Sunrock that expected weekday trip generation for the Hillis Road site is expected to be similar, revisions were applied to reflect the proposed 24-hour / 7 day a week operation. Forecast site traffic generation related to the proposed ready-mix plant includes approximately 25 inbound and 25 outbound trucks during each of the weekday and weekend peak hours plus approximately 10 passenger vehicle trips in each of the inbound and outbound directions during each of the peak hours.

Current active licensure under the Aggregate Resources Act (License 3293) permits aggregate extraction and delivery at a rate of 127,000 tonnes annually. Sunrock intends to maintain the flexibility to extract, sell and distribute aggregate under the existing license. The proponent has indicated that for the time being, material will likely just be stockpiled and that traffic generation related to this mining operation will be nominal. Nevertheless, the traffic impacts will be assessed based on the assumption that all material (to the permitted maximum) is mined and shipped. Forecast site traffic generation related to the as-of-right aggregate extraction and delivery operation includes approximately five (5) inbound and five (5) outbound trucks during each of the weekday and weekend peak hours plus approximately three (3) passenger vehicle trips in each of the inbound and outbound directions during each of the peak hours. Sunrock also plans to operate the as-of-right stone depot use at the site. This use is forecast to generate approximately 25 inbound and 25 outbound trucks during each of the weekday and weekend peak hours. The depot will be

staffed by the same employees operating the mining operation and will generate no additional passenger vehicle traffic.

TRAFFIC ANALYSIS AND FINDINGS

The proposed concrete ready-mix plant together with the mining operation and the stone depot are expected to result in a total truck traffic generation of 55 inbound and 55 outbound trips during the weekday morning and afternoon and weekend peak hours. Corresponding passenger vehicle traffic generation is expected to include 13 inbound and 13 outbound trips during each of the assessed peak hours. Site traffic impacts are assessed for the intersection of County Road 12 and Hillis Road and for the Hillis Road site entrance.

The traffic analysis has considered existing conditions based on turning movement data collected on Thursday June 12, 2025, and Saturday, November 1, 2025. Capacity and level of service analysis reflects the application of *Synchro 12* and *SimTraffic*, to establish current operating performance.

Background traffic volume forecasts to 2031 reflect the application of the 2.0% per annum compound growth rate to the through traffic volumes on County Road 12 based on direction provided by the County of Peterborough's *Traffic Impact Assessment Guidelines*. The background traffic volume forecasts also reflect the planned completion of the development of uses in the Lily Lake Planning Area, including the Durham Building Corporation proposal, the partially completed Lily Lake Estates, and the Jackson Heights Subdivision. The traffic assignments for these proposed developments were adopted from available traffic impact assessments provided by the County of Peterborough.

Background conditions operating performance to 2031 is assessed based on existing intersection lane geometry and traffic control. This analysis is presented for the purpose of establishing the incremental impact of background traffic growth alone, without the incremental site generated traffic.

Assignment of the Sunrock site-generated traffic related to the proposed concrete ready-mix plant and the as-of-right mining and stone depot operations reflects two trip distribution scenarios. The first reflects Sunrock's assessment of market area, which support an assumption that 90% of site-generated traffic approaches from and departs towards the south on County Road 12 with the balance approaching from and departing towards the north. A second trip distribution scenario reflects an equal split between trips approaching from and departing towards the north and south. Traffic analysis has been undertaken to reflect impacts based on each of the two trip distribution scenarios.

The assessment of 2031 total traffic conditions demonstrates that all individual movements at the County Road 12 intersection with Hillis Road can be expected to operate with a level

of service (LOS) A with the exception of a weekday afternoon peak hour eastbound left-turn LOS B, based on the current lane geometry and traffic control. This single LOS B reflects conditions based on both trip distribution scenarios and lies near the LOS A/B threshold with an average delay of no more than 11 seconds. The analysis also demonstrates that 95th percentile queue lengths based on the current lane geometry and traffic control will not exceed 24 m and 5 m on the County Road 12 northbound and southbound approaches, respectively and 30 m on the Hillis Road approach. Analysis for the site entrance confirms that all movements will operate with a LOS A, without any queuing on the Hillis Road approaches and up to 30 m 95th percentile queue length on the driveway approach.

The combined impact of background traffic growth and site traffic generation confirms that level of service impacts, alone, do not trigger any need for general intersection lane geometry or traffic control improvements. Notwithstanding this, warrant analysis for a dedicated left-turn lane on the northbound approach to Hillis Road confirms that the combined effect of advancing and opposing traffic volumes and the proportion of left-turning traffic in the advancing volume satisfies the requirement based on the assumed design speed of 100 km/h. The required left-turn storage length based on the requirements outlined in the *Ministry of Transportation of Ontario (MTO) Supplement to the Transportation Association of Canada (TAC) Geometric Design Standards for Canadian Roads* would be 30 m, plus the required deceleration and taper length requirements. To the extent that the County adopts the TAC and MTO Supplement design guidance, a taper length of 160 m and a 70 m parallel lane length corresponds to a 100 km/h design speed. This would accommodate the reported 95th percentile left-turn lane queue length of up to 20 m based on a reassessment of operating performance with a dedicated left-turn lane.

It is also relevant to point out that there is little to no background turning volume demand at the County Road 12 intersection with Hillis Road. The highest individual movement peak hour turning volume is 4 vehicles based on the weekday and Saturday turning movement data collection undertaken as part of this study. This volume happens to be the northbound left-turn volume during the Saturday peak hour, representing only 2 % of the advancing volume under 2031 background conditions. A dedicated left-turn lane is clearly not required under existing or background conditions. Similar analysis also demonstrates that the left-turn lane warrant is not satisfied based on 2031 conditions assuming that only the as-of-right mining and stone-depot operations are active i.e., there is no concrete ready-mix plant. To the extent that the ready-mix plant is not currently permitted and is the newest use, the additional traffic generated by this use triggers adherence to the left-turn lane warrant at this location.

SITE ACCESS

The traffic analysis demonstrates that the proposed site access at its current location on Hillis Road will operate with good levels of service during the 2031 weekday morning and afternoon and weekend peak hours. Traffic on the Hillis Road approaches to the existing access is accommodated with a LOS A. Traffic turning onto Hillis Road from the existing driveway would also operate with a LOS A based on the projected travel demand.

A review of available sight distance for the current site access driveway was carried out as part of this study using survey data provided by Sunrock. The analysis confirms that the available sight distance for an eastbound vehicle on Hillis Road approaching the driveway is 101 m and that the available sight distance for a westbound vehicle approaching the site driveway is 133 m. The eastbound sight distance is driven by the vertical profile constraint rather than the horizontal alignment while the westbound stopping sight distance is constrained first by the horizontal alignment. The available eastbound sight distance is just greater than the minimum grade-adjusted stopping sight distance requirement of 97 m identified for a 60 km/h design speed in the *TAC Geometric Design Guide for Canadian Roads* based on the more conservative taillight height assumption of 0.38 m rather than the equally acceptable 0.60 m height. The available westbound sight distance (assuming conservatively that the edge of pavement is the limitation of drivers' line of sight) exceeds the minimum stopping sight distance requirement of 85 m. In fact, the required minimum stopping sight distance would be marginally less in this uphill section of Hillis Road. It is relevant to note that the site had also previously operated as an aggregate mining operation and that the site access location remains unchanged.

SWEPT PATH ANALYSIS

Swept path analysis was undertaken to identify any requirement to widen the Hillis Road approach to County Road 12 to accommodate simultaneous truck movements onto and from the County Road. This analysis demonstrates that a WB 20 vehicle cannot turn onto Hillis Road from either direction on County Road 12 while a similar vehicle is waiting on the Hillis Road approach to access County Road 12 without improvements to approach geometry at this location. A similar constraint is identified for a WB 20 turning right onto County Road 12, assuming that this vehicle does not encroach on the northbound lane. Some combination of Hillis Road widening, increased edge of pavement radii, and throat widening on the Hillis Road approach would be required to accommodate these manoeuvres. Sunrock will need to work with their road design consultant to develop an intersection design that accommodates not only the warranted northbound left-turn lane, but also these vehicle turning path requirements.

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- Technical Appendix C – Turning Movement Volume Data
- Technical Appendix D – Existing Conditions Analysis
- Technical Appendix E – Background Conditions Analysis
- Technical Appendix F – Total Conditions Analysis

1 INTRODUCTION

1.1 BACKGROUND

Sunrock Industries Canada ULC (Sunrock) is submitting an application for a Zoning By-Law Amendment to Selwyn Township to permit the development of a concrete ready-mix plant for a site located at 424 Hillis Road in Selwyn Township within the County of Peterborough, Ontario. The site is situated on the north side of Hillis Road, with an existing driveway entrance located approximately 395 m west of the centre line of Peterborough County Road 12. The site is currently vacant, and Sunrock's development plans include an aggregate extraction and sales operation and a stone depot for trans-shipment (both permitted as-of-right) in addition to the proposed concrete ready-mix plant.

Sunrock proposes to use the existing site access as part of a site design that will accommodate incoming vehicles with sufficient vehicle storage on the approach to the weigh-scales, as well as sufficient sight distance along Hillis Road, for traffic entering and leaving the site, which was previously used for aggregate extraction and sales. This access is illustrated in the current Concept Plan included in *Figure 1-1* and in *Appendix A* for reference.

WSP Canada Inc. was retained by Sunrock to prepare this Transportation Impact Assessment in support of the application to the Township. This study addresses the operational performance impacts at the intersection of County Road 12 and Hillis Road and at the site access onto Hillis Road. The Study has been largely carried out based on the County of Peterborough's *Transportation Assessment Guidelines*. A full Transportation Impact Study has been carried out (as prescribed by the guidelines) to support the Zoning By-Law Amendment application. The potential future site traffic impacts have been investigated to establish any requirements for intersection lane geometry and/or traffic control improvements to accommodate future traffic volumes. This Transportation Impact Assessment provides an overview of the expected impacts.

1.2 STUDY OBJECTIVES

The purpose of this study is to provide an assessment of the operating performance at the adjacent intersection of County Road 12 and Hillis Road as well as at the site driveway. This evaluation includes an assessment of future vehicular levels of service at these intersections. The site location is illustrated in study area context in *Figure 1-2*.

The analysis includes the evaluation of vehicular intersection operating performance and specifically the identification of average delays, level of service impacts, and vehicle queue lengths on each of the stop-controlled intersection approaches.

The primary objectives of this Transportation Impact Assessment are outlined below:

- ▶ To assess the vehicular level of service impacts related to background traffic growth, and identify any corresponding requirements for any intersection lane geometry and/or traffic control improvements, unrelated to the incremental site-generated traffic; and
- ▶ To assess the incremental traffic impacts related to the planned site traffic generation and identify any additional intersection lane geometry and/or traffic control improvements that are required to accommodate these incremental impacts.

We are confident that the relative traffic impact of site traffic related to the proposed uses can be accommodated, and that this Transportation Assessment demonstrates this adequately.

1.3 STUDY METHODOLOGY

Sunrock is planning future operations with the expectation that approval of the application for Zoning By-Law Amendment to permit the operation of a concrete ready-mix plant will be granted later in 2026. This Transportation Impact Assessment addresses 2031 traffic conditions during both weekday and weekend peak hours.

The traffic analysis reflects current operating performance, 2031 background operating performance, and corresponding 2031 total operating performance, considering the impacts of forecast site traffic. Background traffic volumes reflect the application of a 2.0% per annum compound general corridor traffic growth rate to the through volumes on County Road 12 and assumes that there will be no general background growth along Hillis Road. This rate of growth is identified in the County of Peterborough's *Traffic Impact Assessment Guidelines*. The background traffic volume forecasts also reflect the planned completion of the development of uses in the Lily Lake Planning Area, including the Durham Building Corporation proposal, the partially completed Lily Lake Estates, and the Jackson Heights Subdivision. The traffic assignments for these proposed developments was adopted from available traffic impact assessments provided by the County of Peterborough.

Assessed existing vehicular traffic operating conditions reflect observed traffic volumes and current lane geometry and traffic control. Level of service analysis has been undertaken for each of the weekday morning and afternoon peak hours as well as a typical weekend peak hour, through the development and application of a *Synchro 12* model, and delays/levels of service and queuing have been evaluated through the application of the *SimTraffic* microsimulation tool that is part of the *Synchro* software suite. Background conditions analysis to 2031 are also assessed on the basis of the existing study area intersection lane geometry and traffic control, to establish any anticipated operational impacts based on the background traffic alone.

Synchro is a macroscopic traffic analysis software package that assesses operating performance based on the Highway Capacity Manual (HCM) methodology. We note that the existing conditions analysis reflects the observed peak hour factors on an intersection-by-intersection basis, and that all future conditions capacity analysis reflects these same peak hour factors. *SimTraffic* is a microsimulation modelling tool that dynamically assesses vehicle movements, to establish operating levels of service and queuing.

The Level of Service (LOS), in the context of traffic flow through an intersection, is a performance metric that represents quality of service from the vehicle drivers' perspective. The Highway Capacity Manual (HCM) defines six levels of service, between A and F, where 'A' represents the best operating conditions and 'F' represents the least desirable. The assessed levels of service are based on the delay ranges summarized below in *Table 1-1*.

Table 1-1 Highway Capacity Manual Intersection Level of Service Criteria

Level of Service	Stop Controlled Intersection Delay
A	≤10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

The County of Peterborough *Traffic Impact Assessment Guidelines* specify that all unsignalized public road study intersections and the critical movements at these intersections must operate at an acceptable level of service (LOS). Specifically, the intersections and the individual movements must operate at a LOS D or better in urban/rural roadside environments with posted speed limits greater than 60 km/h.

The assessment of future background traffic conditions establishes any potential impacts without the planned development of the site. This analysis provides the basis for identifying any lane geometry and/or traffic control improvements required to support background travel demand. This analysis is presented in *Section 3*.

Future vehicular traffic operating conditions were reassessed to reflect the incremental impacts corresponding to the proposed operations at the site, as the basis for identifying any potential additional lane geometry and/or traffic control improvements driven by the proposed concrete ready-mix plant and the as-of-right operation of both aggregate mining and stone depot operations. This analysis is presented in *Section 5*.

1.4 KEY TECHNICAL ASSUMPTIONS

The traffic analysis focusses on study area intersection impacts during the typical weekday morning and afternoon peak hours as well as the weekend peak hour. The analysis reflects the following key technical assumptions:

1. Current weekday morning and afternoon peak hour intersection turning movement volumes at the County Road 12 intersection with Hillis Road reflect demand recorded by WSP on Thursday, June 12, 2025. Weekend peak hour volumes at this location reflect demand recorded by WSP on Saturday, November 1, 2025. Turning movement data is assumed to represent typical weekday and weekend conditions.
2. The traffic generation for the planned site operations has been estimated on the basis of input from Sunrock and a comprehensive review of available trip generation data for similar sites.
3. Assignment of the Sunrock site-generated traffic related to the proposed concrete ready-mix plant and the as-of-right mining and stone depot operations reflects two trip distribution scenarios. The first reflects Sunrock's assessment of market area, which support an assumption that 90% of site-generated traffic approaches from and departs towards the south on County Road 12 with the balance approaching from and departing towards the north. A second trip distribution scenario reflects an equal split between trips approaching from and departing towards the north and south. Traffic analysis has been undertaken to reflect impacts based on each of the two trip distribution scenarios.
4. Future background traffic volumes reflect the application of a 2.0% per annum compound general corridor traffic growth rate to the County Road 12 through traffic volumes at Hillis Road based on direction provided by the County of Peterborough's *Traffic Impact Assessment Guidelines*.
5. Key assumptions related specifically to the level of service analysis are summarized below:
 - ▶ Peak hour factors applied as part of the existing conditions analysis reflect the observed conditions on an overall individual intersection basis i.e., not by individual movement, for each peak hour
 - ▶ Peak hour factors applied as part of the future conditions capacity analysis reflect the same peak hour factors assessed for existing conditions
 - ▶ Heavy vehicle percentages reflect the current vehicle classification for all existing conditions level of service analysis
 - ▶ Heavy vehicle percentages reflect the current vehicle classification for all background conditions capacity and level of service analysis

- ▶ Heavy vehicle percentages applied to future total conditions analysis reflect the influence of the incremental truck traffic generation corresponding to the planned site operations
- ▶ Lane widths reflect the existing conditions
- ▶ Link speeds reflect the current posted speed limits

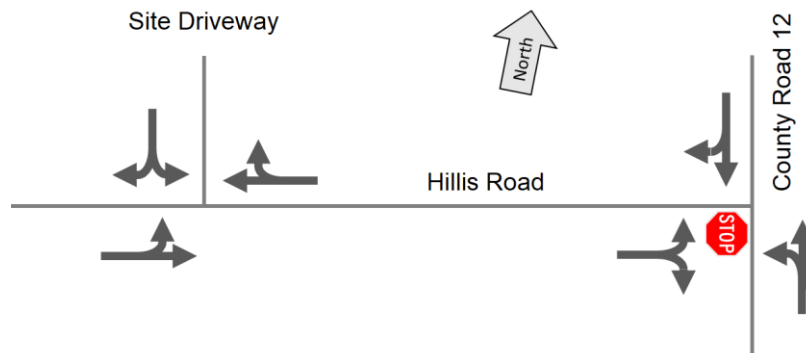
2 EXISTING TRAFFIC CONDITIONS

2.1 EXISTING ROAD NETWORK AND TRAFFIC CONTROL

All future traffic generated by the Sunrock site will access the study area road network using the single existing driveway onto Hillis Road, approximately 395 m west of County Road 12.

The current lane geometry and traffic control are illustrated schematically in *Figure 2-1*.

Figure 2-1 Existing Lane Geometry and Traffic Control



Peterborough County Road 12 is under the jurisdiction of the County of Peterborough. County Road 12 has a two-lane basic cross-section throughout the study area. The intersection with Hillis Road is stop controlled on the Hillis Road approach. The County Road 12 posted speed limit is 80 km/h in proximity to Hillis Road and decreases to 60 km/h approximately 230 m to the north of the Hillis Road intersection.

Hillis Road is under the jurisdiction of Selwyn Township. The roadway has a two-lane basic cross section and is stop controlled at its intersection with County Road 12. Hillis Road terminates at its unopened road allowance approximately 1.06 km west of County Road 12. While there are no speed limit signs on this section of Hillis Road, the posted speed limit is assumed to be 50 km/h as this is the speed limit on Stockdale Road on the other end of the unopened road allowance.

2.2 EXISTING TRAFFIC VOLUMES

Current weekday morning and afternoon street peak hour intersection turning movement volumes at the County Road 12 intersection with Hillis Road reflect demand recorded by WSP on Thursday, June 12th, 2025. Weekend intersection turning movement volumes were also recorded by WSP on Saturday, November 1st, 2025. Turning movement data is assumed to reflect typical conditions. Demand reflects weekday morning and afternoon street peak hour volumes for the individual intersections beginning at 7:30 a.m. and 4:00

p.m. and a Saturday street peak hour beginning at 1:00 p.m. This intersection turning movement data is included in *Appendix B* for reference. The weekday and weekend peak hour turning movement volumes (total vehicles), derived for the purpose of the existing conditions analysis, are summarized in *Figure 2-2* and the corresponding peak hour truck volumes are summarized in *Figure 2-3*.

Figure 2-2 Existing Peak Hour Traffic Volumes: All Vehicles

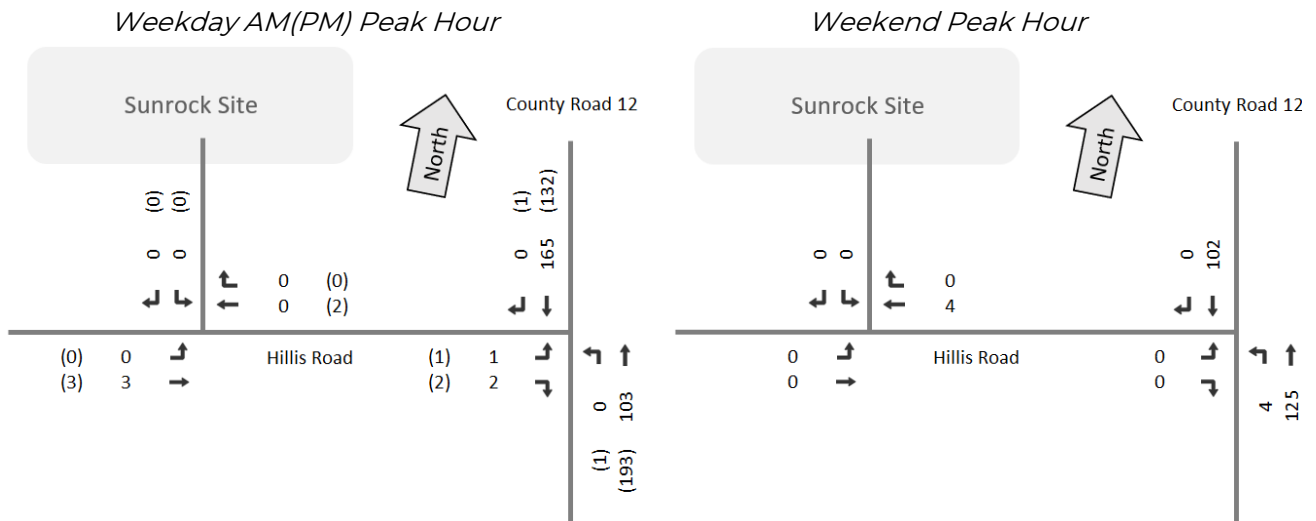
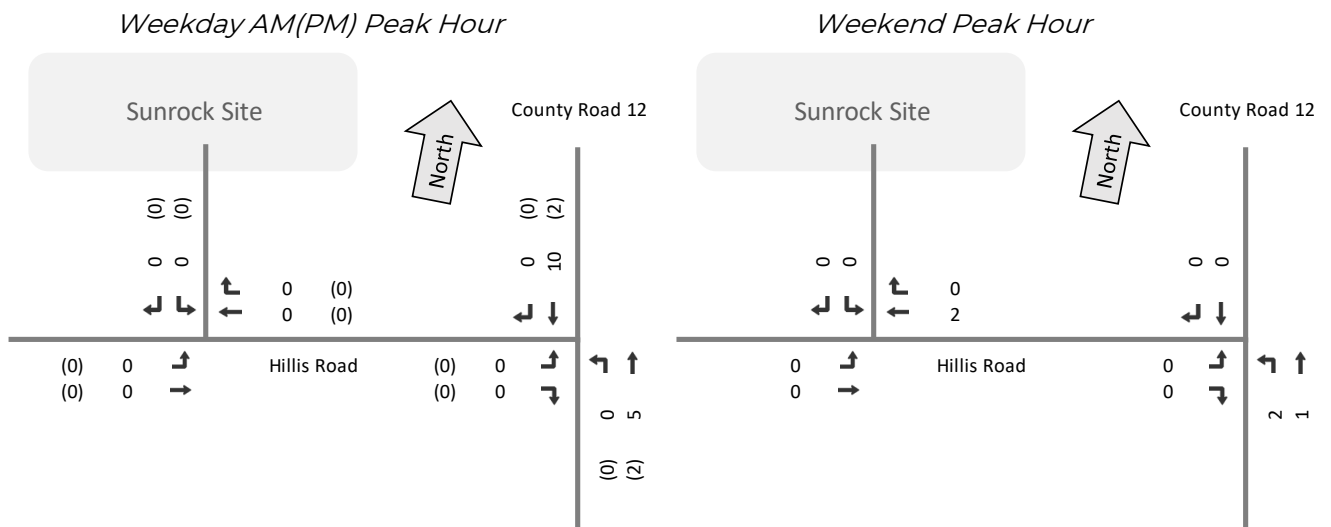


Figure 2-3 Existing Peak Hour Traffic Volumes: Trucks



2.3 EXISTING INTERSECTION OPERATING PERFORMANCE

Current operating performance is assessed using *Synchro 12* and *SimTraffic*. Weekday street peak hour operating conditions reflect the existing traffic volumes (all vehicles) summarized

in *Figure 2-2* and the effect of the existing truck volumes summarized in *Figure 2-3*, as well as the current lane geometry and traffic control illustrated in *Figure 2-1*. A summary of the peak hour levels of service for the intersection of County Road 12 and Hillis Road is presented in *Table 2-1*. Detailed *Synchro* and *SimTraffic* analysis output is provided in *Appendix C*. Average delay and levels of service, as well as the 95th percentile queue lengths, were assessed using *SimTraffic* microsimulation.

Table 2-1 Existing Peak Hour Levels of Service

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	4/2 s	A/A	5 m	6/2 s	A/A	6 m	0/0 s	A/A	0 m
NB Left/Through	0/0 s	A/A	0 m	1/0 s	A/A	1 m	0/0 s	A/A	0 m
SB Through/Right	0/0 s	A/A	0 m	0/0 s	A/A	0 m	0/0 s	A/A	0 m
Overall Intersection	0 s	A		0 s	A		0 s	A	

Notes: 1. 95th percentile condition

The level of service analysis demonstrates that all individual intersection movements currently operate with a LOS A and all 95th percentile queue lengths are no greater than a single car length without exception. Operating performance reflects excellent weekday and weekend levels of service.

3 FUTURE BACKGROUND CONDITIONS

3.1 FUTURE BACKGROUND TRAFFIC

Future background intersection turning movement volume forecasts to 2031 reflect an assumed 2% per annum compound general background corridor traffic growth rate to the through traffic volumes on County Road 12. Hillis Road traffic volumes are assumed to be stable. The corresponding 2031 intersection turning movement volume forecasts are summarized below in *Figure 3-1* for all vehicles and in *Figure 3-2* for trucks.

Figure 3-1 General Background Peak Hour Traffic Volumes: All Vehicles

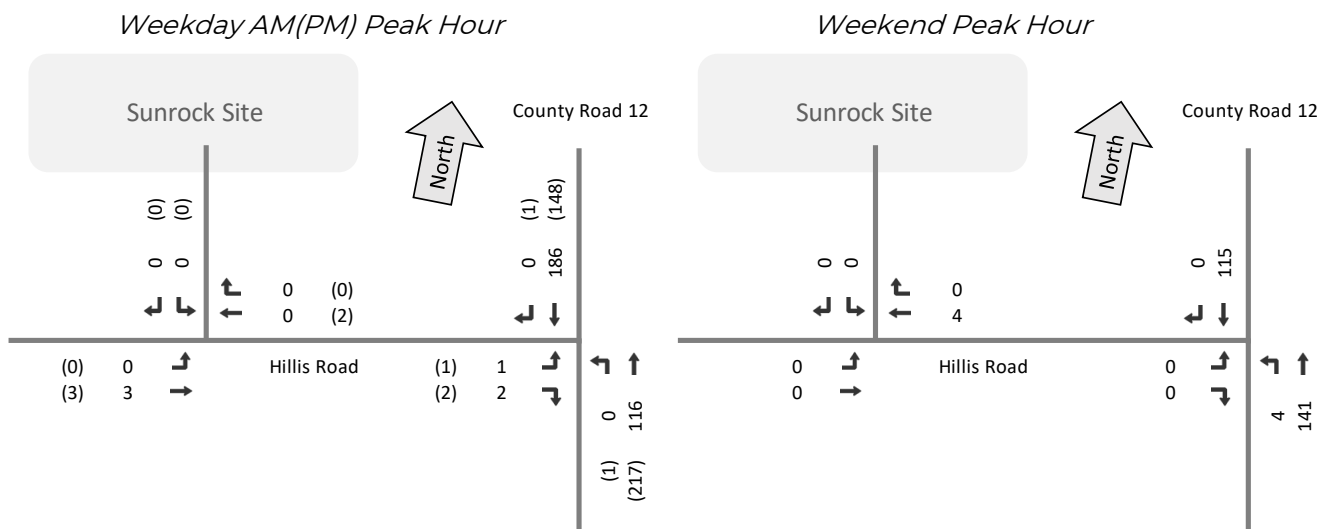
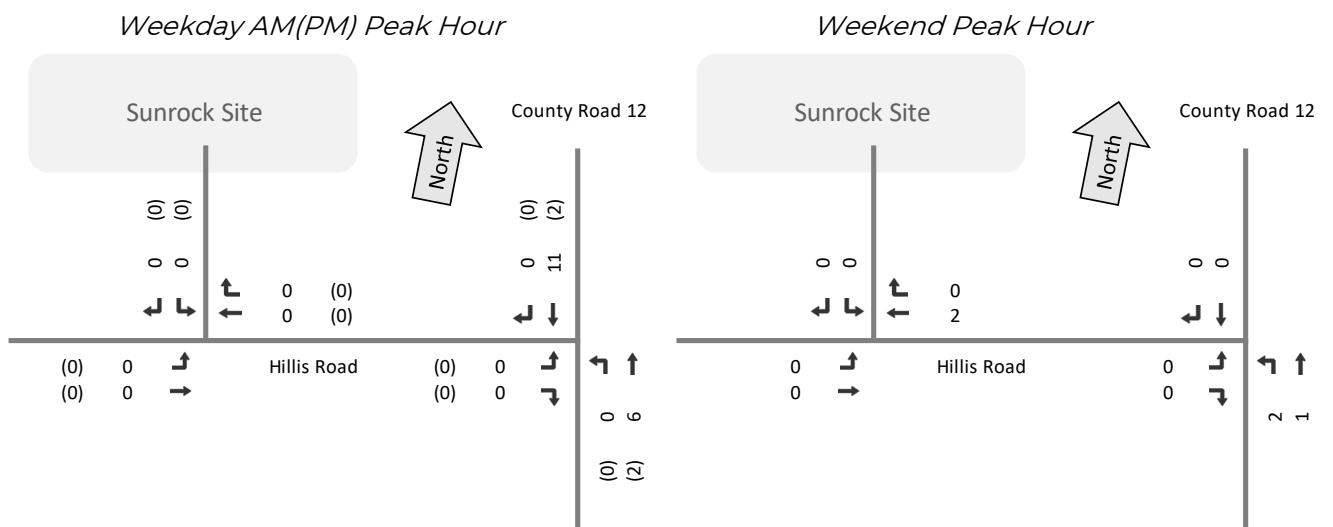


Figure 3-2 General Background Peak Hour Traffic Volumes: Trucks



The traffic analysis also considered the impact of planned future background development in the Lily Lake Planning Area, based on travel demand forecasts provided by the County of Peterborough, including the Durham Building Corporation proposal, the partially completed Lily Lake Estates, and the Jackson Heights Subdivision. The weekday traffic assignments for these proposed developments were adopted from available traffic impact assessments provided by the County. Weekend traffic generation was not considered as a part of these studies and was, therefore, assessed as part of this current assignment. Summaries of the trip generation for the individual development proposals are provided in *Tables 3-1 through 3-3*. These summaries also include the peak hour traffic volumes assigned to the north along County Road 12 towards Hillis Road (**highlighted in red text**).

Table 3-1 Background Development Trip Generation: Durham Building Corporation

Land Use	Size	Rate/ Trips	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing ITE Land Use: 210	898 Units	Rate Trips	0.18 153	0.53 458	0.71 610	0.53 458	0.31 269	0.84 727	53% 434	47% 385	$T=0.90(X)+10.97$ 819
Average of: Condominium/Townhouse ITE Land Use: 230	699 Units	Rate	0.09	0.44	0.53	0.43	0.21	0.64	53%	47%	$T=0.90(X)+10.97$
Single-Family Detached Housing ITE Land Use: 210 (for Medium Density Housing)		Trips	66	324	390	316	156	472	339	301	640
Commercial ITE Land Use: 820	4240 sq.m. (46000 sf)	Rate	1.3	0.8	2.1	3.72	4.02	7.74	51%	49%	$\ln(T)=0.69\ln(X)+3.33$
Trips (total)		48	52	100	44	56	100	200	192	392	
Trips (External)		7	8	15	11	14	25	50	48	98	
Trips (Internal)	41	44	85	33	42	75	150	144	294		
Single Family Detached Housing ITE Land Use: 210 (for elementary school block)	40 Units	Rate Trips	0.25 10	0.73 29	0.98 39	0.73 29	0.43 17	1.16 46	- -	- -	- -
Total Area									Total Area		
Total External Trips			236	819	1054	814	456	1270	823	734	1557
Total External Trip Distribution to CR 12 North			4%	4%	-	4%	4%	-	4%	4%	-
Total External Trips to/from CR 12 North			9	33	42	33	18	51	33	29	62

Table 3-2 Background Development Trip Generation: Lily Lake Estates

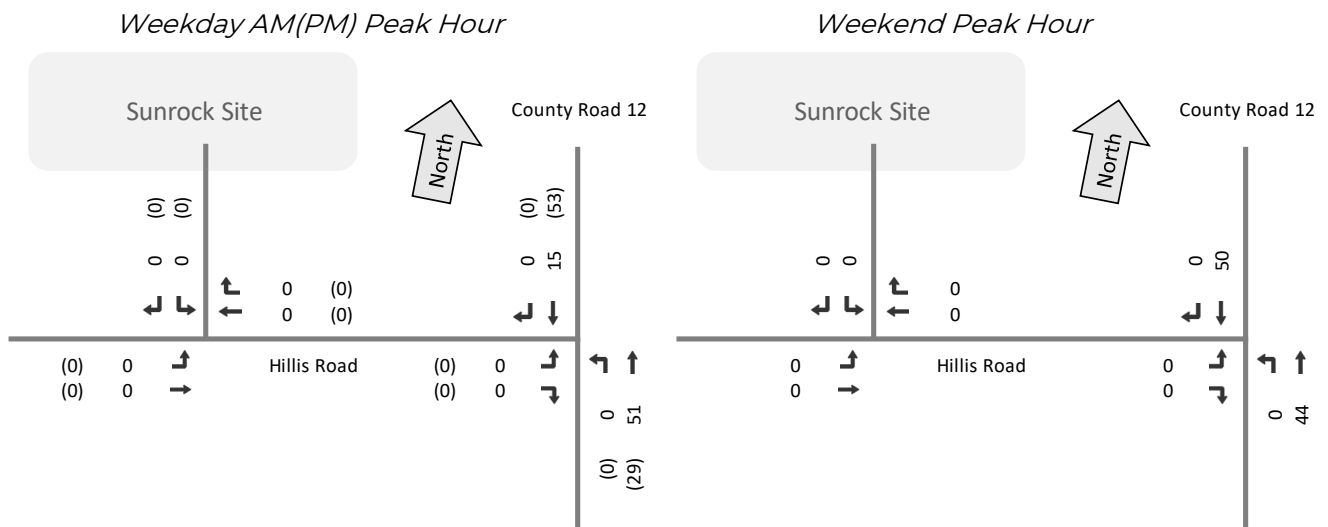
Land Use	Size	Rate/ Trips	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing ITE Land Use: 210	365 Units	Rate Trips	0.18 66	0.55 199	0.73 265	0.58 212	0.34 125	0.92 337	53% 180	47% 159	$T=0.90(X)+10.97$ 339
Average of: Condominium/Townhouse ITE Land Use: 230 (Weekday Only)	159 Units	Rate	0.11	0.51	0.62	0.52	0.26	0.78	53%	47%	$T=0.90(X)+10.97$
Single-Family Detached Housing ITE Land Use: 210 (All Saturday Trips) (for Medium Density Housing)		Trips	17	81	98	83	41	124	82	72	154
Commercial ITE Land Use: 826 (822 Saturday)	3200 sq.m. (34000 sf)	Rate	1.3	1.41	2.71	1.19	1.52	2.71	-	-	-
Trips (Internal)		44	48	92	40	52	92	-	-	-	
Single Family Detached Housing ITE Land Use: 210 (for elementary school block)	40 Units	Rate Trips	0.25 10	0.73 29	0.98 39	0.73 29	0.43 17	1.16 46	- -	- -	- -
Total Area									Total Area		
Total External Trips			93	309	401	324	183	507	262	231	493
Total External Trip Distribution to CR 12 North (Appendix Figure C)			4%	4%	-	4%	4%	-	4%	4%	-
Total External Trips to/from CR 12 North			4	12	16	13	7	20	10	9	19

Table 3-3 Background Development Trip Generation: Jackson Heights Subdivision

Land Use	Size	Rate/ Trips	AM Peak Hour			PM Peak Hour			Weekend Peak Hour		
			In	Out	Total	In	Out	Total	In	Out	Total
Single-Family Detached Housing ITE Land Use: 210	170 Units	Rate Trips	0.19 32	0.56 95	0.75 127	0.63 107	0.37 63	1 170	53% 87	47% 77	T=0.90(X)+10.97 164
Condominium/Townhouse ITE Land Use: 230 (LUC 210 for Saturday)	122 Units	Rate Trips	0.10 12	0.46 56	0.56 68	0.44 54	0.21 26	0.65 80	53% 64	47% 57	T=0.90(X)+10.97 121
Average of: Condominium/Townhouse ITE Land Use: 230 (Weekday Only) Single-Family Detached Housing ITE Land Use: 210 (All Saturday Trips) (for Medium Density Housing)	14 Units	Rate Trips	0.14 2	0.52 7	0.66 9	0.54 8	0.29 4	0.83 12	53% 13	47% 11	T=0.90(X)+10.97 24
Total Area									Total Area		
Total Trips			46	158	204	169	93	262	164	145	309
Total Trip Distribution to Lily Lake West			10%	10%	-	10%	10%	-	10%	10%	-
Total External Trip Distribution to CR 12 North (Appendix Figure C of Durham Building Corp. TIS)			4%	4%	-	4%	4%	-	4%	4%	-
Total Trips to/from CR 12 North			2	6	8	7	4	11	7	6	13

All background development traffic generated by these residential subdivision proposals has been assumed to be passenger vehicle traffic. The combined assignment of the three background development proposals is summarized below in *Figure 3-3*.

Figure 3-3 Background Development Peak Hour Traffic Volumes: Passenger Vehicles



The combined background development traffic summarized above in *Figure 3-3* is added to the general background corridor traffic growth conditions illustrated in *Figure 3-1*, and the resulting total background traffic volume conditions are summarized in *Figures 3-4 and 3-5*.

Figure 3-4 Total Background Peak Hour Traffic Volumes: All Vehicles

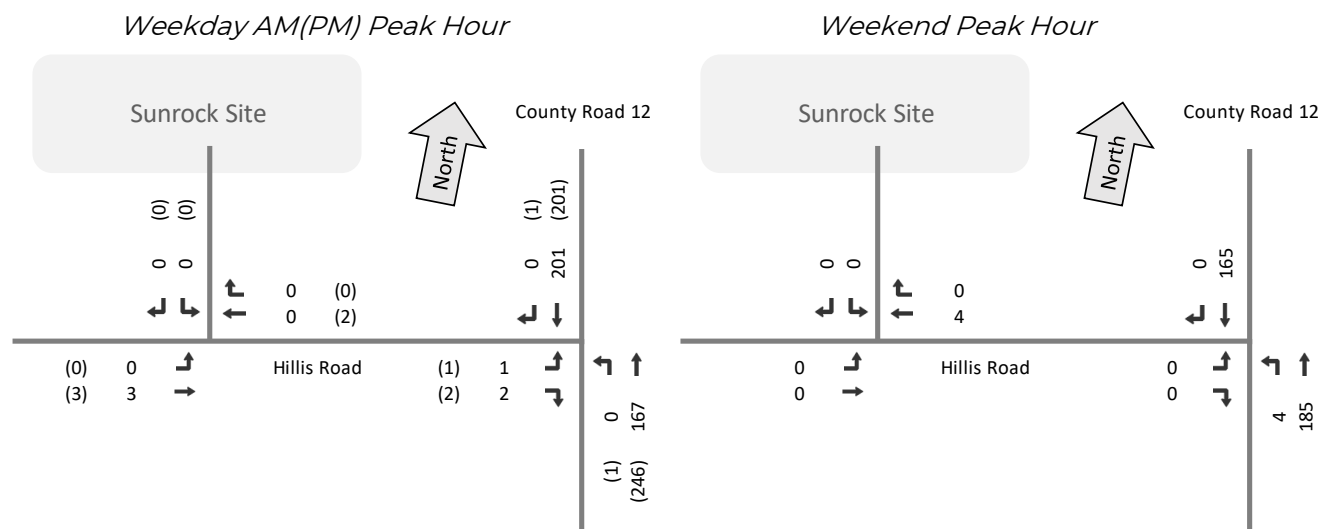
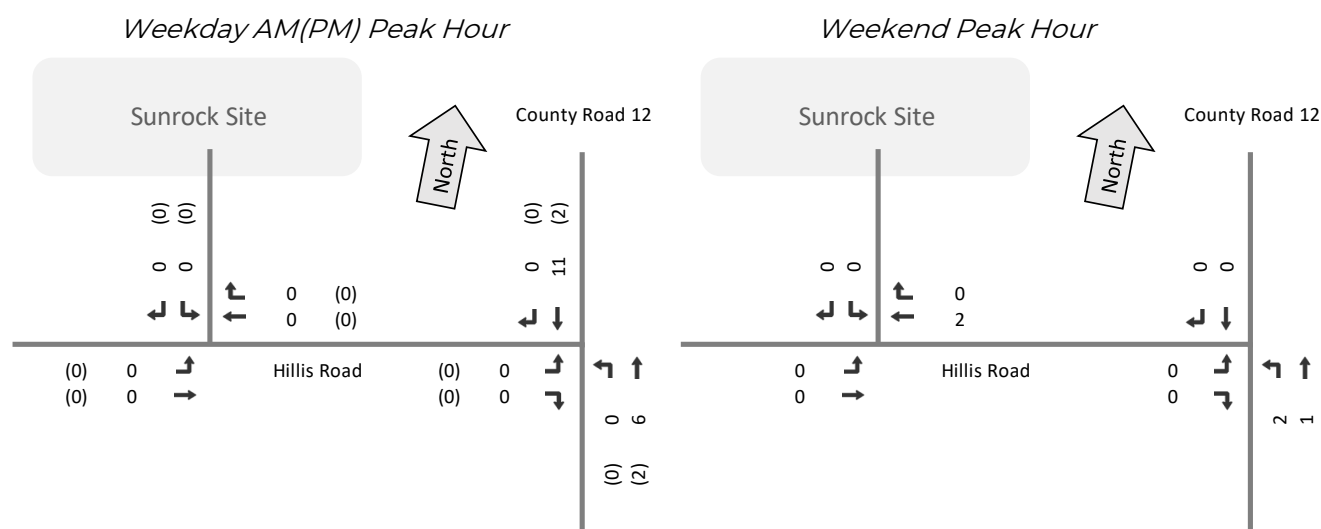


Figure 3-5 Total Background Peak Hour Traffic Volumes: Trucks



3.2 2031 BACKGROUND INTERSECTION OPERATING PERFORMANCE

Future operating performance was first assessed based on the projected 2031 background travel demand summarized in *Figure 3-4* and accounting for the effect of the projected truck traffic volumes summarized in *Figure 3-5*. This analysis reflects the existing lane geometry and traffic control summarized in *Figure 2-1*.

Summaries of the assessed 2031 background weekday and weekend peak hour operating performance are presented in *Table 3-4*, and detailed output from the capacity and level of service analysis is presented in *Appendix D*.

Table 3-4 2031 Background Peak Hour Levels of Service

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	6/3 s	A/A	6 m	0/2 s	A/A	6 m	0/0 s	A/A	0 m
NB Left/Through	0/0 s	A/A	0 m	0/0 s	A/A	0 m	1/0 s	A/A	2 m
SB Through/Right	0/0 s	A/A	0 m	0/0 s	A/A	0 m	0/0 s	A/A	0 m
Overall Intersection	0 s	A		0 s	A		0 s	A	

Notes: 1. 95th percentile condition

The level of service analysis demonstrates that all individual intersection movements can be expected to continue to operate with a LOS A and all 95th percentile queue lengths are expected to continue to be no greater than a single car length without exception. Operating performance is expected to continue to reflect excellent weekday and weekend levels of service.

4 SITE GENERATED TRAFFIC

4.1 DEVELOPMENT PROPOSAL

The Sunrock site is currently licensed under the Aggregate Resources Act (License 3293) for a maximum of 127,000 tonnes of aggregate leaving the site annually. Sunrock intends to maintain the flexibility to extract, sell and distribute aggregate under the existing license. The proponent has indicated that for the time being, material will likely just be stockpiled and that traffic generation related to this mining operation will be nominal. Nevertheless, the traffic impacts will be assessed based on the assumption that all material (to the permitted maximum) is mined and shipped.

Sunrock also plans to operate the as-of-right stone depot use at the site. While this use will generate truck traffic, it will be staffed by the same employees operating the mining operation and will generate no additional passenger vehicle traffic.

The application for a Zoning By-Law Amendment is being made by Sunrock to permit the proposed concrete ready-mix plant. A traffic impact analysis for similar Sunrock concrete ready-mix plant in Georgina, Ontario was undertaken and Sunrock has confirmed that expected weekday trip generation for the Hillis Road site will be similar with revisions to reflect the proposed 24-hour / 7 day a week operation.

4.2 DEVELOPMENT SITE TRIP GENERATION

Consultation with Sunrock confirms that the projected site traffic generation related to the proposed concrete ready-mix operation will be similar to that assessed by WSP in support of a similar application by Sunrock to operate a concrete ready-mix plant in the Town of Georgina. We have summarized below the ready-mix plant trip generation assumptions for the Hillis Road site based on the assumptions adopted for the weekday operation in Georgina and the relevant revisions to reflect the 24-hour / 7 day a week operation proposed for the Hillis Road site:

- Concrete loading will operate in two 12-hour shifts throughout the week, beginning at 6:00 a.m. and 6:00 p.m.
- Concrete delivery vehicles are expected to leave the site at no more than 4-minute intervals, as this is the fastest that the vehicles can be loaded. Therefore, up to 15 trucks can be assumed to leave and enter the site during each of the weekday and weekend peak hours.
- A total of up to 20 drivers and staff arrive at the plant, between 5:30 and 7:30 a.m. and between 5:30 and 7:30 p.m. on weekdays. Expected arrival patterns reflect 10 of these passenger vehicle trips occurring during each of the weekday morning and afternoon

peak hours. Similarly, 20 staff leave the site to go home over a two-hour period beginning at 4:00 p.m. and 4:00 a.m. on weekdays. Expected departure patterns reflect 10 of those passenger vehicle trips occurring during each of the weekday peak hours.

- While drivers and staff will arrive at and leave the site on weekend days during the same periods identified for the weekday operation above, these period will not coincide with the weekend peak hours (that are generally mid-day), the analysis assumes hypothetically and conservatively that the driver and staff arrival and departure trips coincide with the weekend peak hours.
- While the ready-mix plant is expected to generate only half as many truck trips and require only half as much staff during the overnight shift, the traffic analysis will conservatively reflect the same driver/staff trip-making assumptions for the overnight shift that are adopted for the daytime operations.
- Based on a daily total of up to 40 loads of gravel arriving at the site to support the ready-mix concrete operation, the proponent has estimated up to 6 truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.
- Based on a daily total of up to 8 tanker truck trips in and out of the site for the delivery of cement and admixture, the Sunrock estimates 2 tanker truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.
- Based on a daily total of up to 6 trips in and out of the site, related to visits by maintenance teams and other miscellaneous service providers, the proponent has conservatively estimated 2 truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.

The assessed weekday and weekend peak hour concrete ready-mix plant trip generation is summarized below in *Table 4-1*.

Table 4-1 Concrete Ready-Mix Plant Site Traffic Generation

Vehicle Type	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Concrete Delivery Trucks	30	15	15	30	15	15	30	15	15
Gravel and Cement Tanker Trucks	16	8	8	16	8	8	16	8	8
Miscellaneous Trucks	4	2	2	4	2	2	4	2	2
Total Trucks	50	25	25	50	25	25	50	25	25
Passenger Vehicles (Drivers and Staff)	20	10	10	20	10	10	20	10	10
Total Passenger Vehicles	20	10	10	20	10	10	20	10	10
Total Site Traffic	70	35	35	70	35	35	70	35	35

The Hillis Road site is currently licensed under the Aggregate Resources Act (License 3293) for a maximum of 127,000 tonnes of aggregate leaving the site annually. Sunrock does not plan to apply to the Ministry of Natural Resources and Forestry for any increase to this

maximum annual tonnage, but does intend to maintain the flexibility to extract, sell and distribute aggregate under the existing license. Sunrock has indicated that for the time being, material will likely just be stockpiled and that traffic generation related to this mining operation will be nominal. Nevertheless, the traffic impacts have been assessed assuming that all material (to the permitted maximum) is mined and shipped. Traffic impact analysis was undertaken previously for Sunrock for a site in Burnt River, Ontario, and included an assessment of trip generation for an existing aggregate extraction and distribution operation at that location. That site was already operating and in 2021, and an annual total of 109,181.35 tonnes of aggregate left the site. Detailed records available from Sunrock included monthly records as well as corresponding records of average payload per truck and hourly deliveries and these were reviewed to establish a weekday site peak hour trip generation for the operation at that location. We have applied those same records for the 2021 operation and have factored the trip volume up to reflect the potential trip generation corresponding to the 127,000-tonnage maximum under the current license for the Hillis Road site, in comparison to the observed 109,181.35 tonne extraction/ delivery for the site in Burnt River. The Burnt River site operates only on weekdays and during daytime hours. Despite this, the trip generation for the Burnt River site has been factored up (as described above) as if all material is shipped on weekdays during the same daytime operating hours for the Burnt River site. The corresponding peak hour truck and operations staff trip generation adopted for the purpose of the weekday morning and afternoon and weekend peak hour traffic analyses for the Hillis site is conservatively overstated recognizing that the same total truck trip generation will be spread out over both weekdays and weekends and over 24 hours daily rather than being concentrated within only the daytime operating hours on weekdays. The traffic analysis, therefore, reflects a conservative and likely overstated concentration of trips during the weekday and weekend peak hours. Based on the available data for the Burnt River site, we have conservatively estimated (overstated) the potential site peak hour truck trip generation related to the aggregate sales use for the Hillis Road site and this analysis is presented in *Table 4-2*.

The traffic analysis assumes that the passenger vehicle / light truck trip generation related to the aggregate sales use for each shift of the Hillis Road site will be similar to that of the daytime weekday operation at the Burnt River site, which employs a team of fifteen operations employees. Turning movement counts undertaken during the weekday morning and afternoon peak hours at the Burnt River site access were considered in developing the corresponding trips adopted for the purpose of assessing traffic impacts for the Hillis Road site, as summarized in the following table. This passenger vehicle / light truck trip data is summarized in *Table 4-3* below.

Table 4-2 Mining Operation Truck Trip Generation

Site Operation Metrics (Assuming only Daytime/Weekday Operation)	Level of Activity
Peak monthly aggregate delivery (Based on 127,000 tonnes annually)	19,167.94 tonnes
Number of working (open) days per month (range)	20 to 23
Conservative number of working (open) days per month	20
Average tonnes per day during peak month	958.40
Average tonnes per hour during peak month for 11 operating hours	87.13
Average payload based on site haul records	26.84
Average trucks per hour per direction during peak month based on average payload	3.25
Peak Hour to Average Hour truck traffic generation based on Burnt River site haul records	1.45
Number of trucks during site peak per direction (inbound and outbound) during peak month	5

Table 4-3 Mining Operation Passenger Vehicle Trip Generation

Site Operation Metrics	Level of Activity
Number of site operations employees per shift	15
Number of inbound passenger/light vehicles trips: am (pm) peak hour	3 (3)
Number of outbound passenger/light vehicles trips: am (pm) peak hour	3 (3)

The resulting weekday and weekend peak hour mining operation truck and passenger vehicle / light truck trip generation is summarized below in *Table 4-4*.

Table 4-4 Mining Operation Site Traffic Generation

Vehicle Type	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Aggregate Trucks	10	5	5	10	5	5	10	5	5
Total Trucks	10	5	5	10	5	5	10	5	5
Passenger Vehicles (Staff)	6	3	3	6	3	3	6	3	3
Total Passenger Vehicles	6	3	3	6	3	3	6	3	3
Total Site Traffic	16	8	8	16	8	8	16	8	8

In addition to the trip generation for the planned concrete ready-mix plant use and the as-of-right aggregate extraction and sales operation, traffic generation has been estimated to reflect Sunrock’s intent to operate an as-of-right stone depot use at the site. The trip generation assumptions, based on the Sunrock’s input is outlined below:

- The stone depot will generate a total of up to 25 trucks per hour and this demand has been assumed to reflect conditions during the weekday morning and afternoon and weekend peak hours.
- A reasonable estimate of the proportion of single unit dump trucks and semi-tractor trailer dump trucks is approximately 50% each.
- The stone depot will be operated by the same staff that operate the mining operations and therefore there are no additional operations staff trips generated specifically by the stone depot operation.

The resulting assessed weekday and weekend peak hour trip generation corresponding to the stone depot is summarized below in *Table 4-5*.

Table 4-5 Stone Depot Site Traffic Generation

Vehicle Type	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stone Depot Single Unit Trucks	24	12	12	24	12	12	24	12	12
Stone Depot Tractor Trailer Trucks	26	13	13	26	13	13	26	13	13
Total Site Traffic	50	25	25	50	25	25	50	25	25

4.3 SITE TRIP DISTRIBUTION

Assignment of the Sunrock site-generated traffic related to the proposed concrete ready-mix plant and the as-of-right mining and stone depot operations reflects two trip distribution scenarios. The first reflects Sunrock’s assessment of market area, which support an assumption that 90% of site-generated traffic approaches from and departs towards the south on County Road 12 with the balance approaching from and departing towards the north. A second trip distribution scenario reflects an equal split between trips approaching from and departing towards the north and south. Traffic analysis has been undertaken to reflect impacts based on each of the two trip distribution scenarios.

4.4 DEVELOPMENT SITE TRAFFIC ASSIGNMENT

The site traffic assignment based on the application of the trip distribution assumptions described above in *Section 4.3*, to the site traffic generation summarized in *Tables 4-1, 4-4 and 4-5*, is illustrated in *Figures 4-1 through 4-4* for Trip Distribution Scenarios 1 and 2.

Figure 4-1 2031 Peak Hour Site Traffic Volumes Scenario 1: All Vehicles

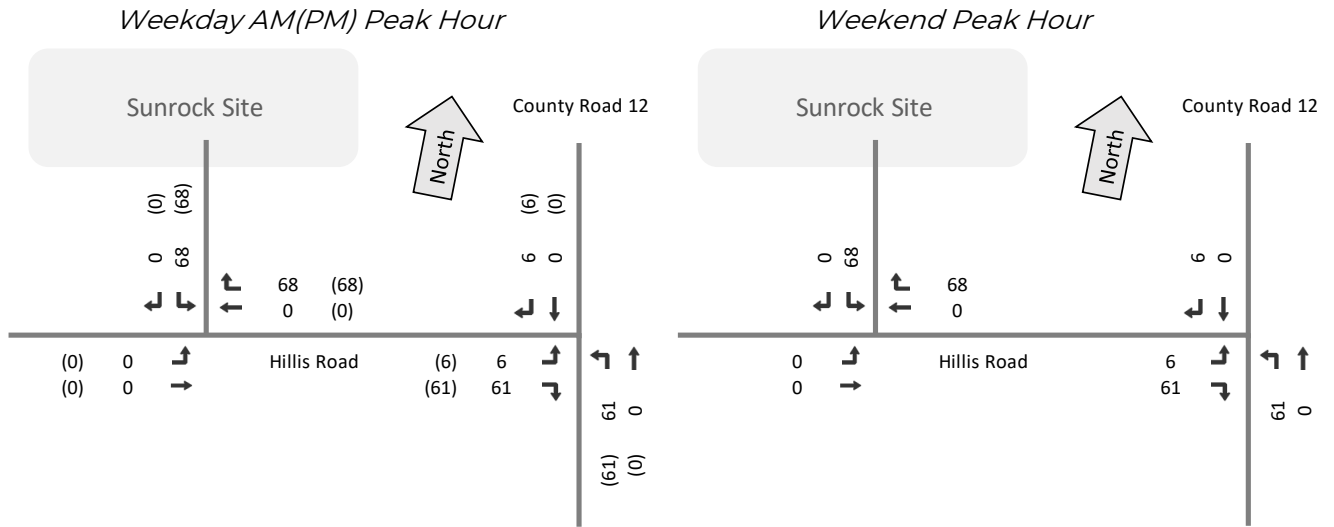


Figure 4-2 2031 Peak Hour Site Traffic Volumes Scenario 1: Trucks

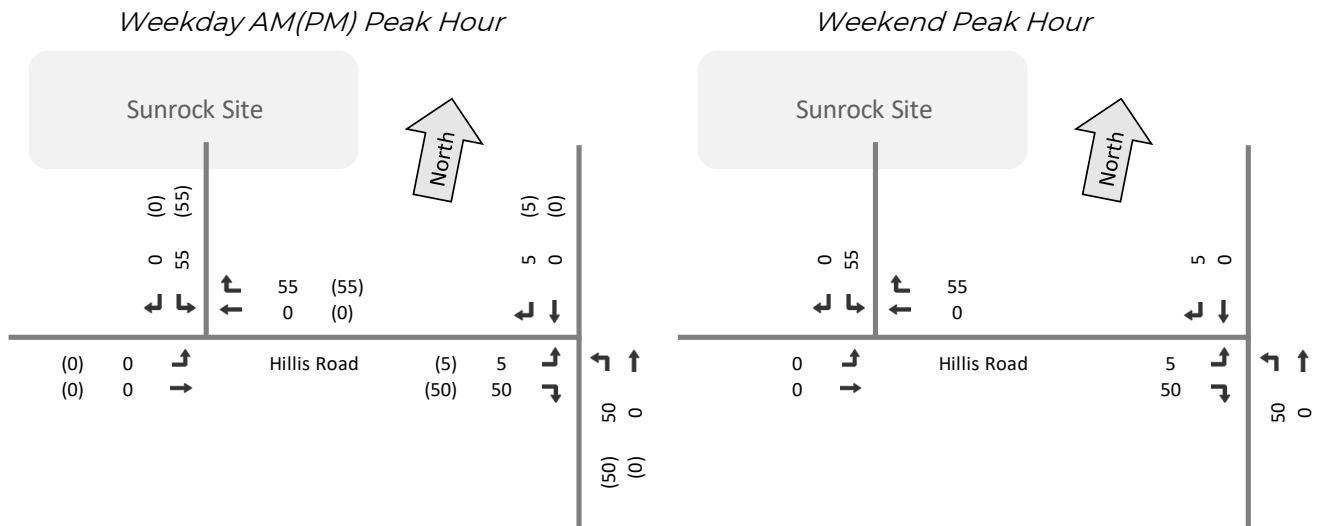


Figure 4-3 2031 Peak Hour Site Traffic Volumes Scenario 2: All Vehicles

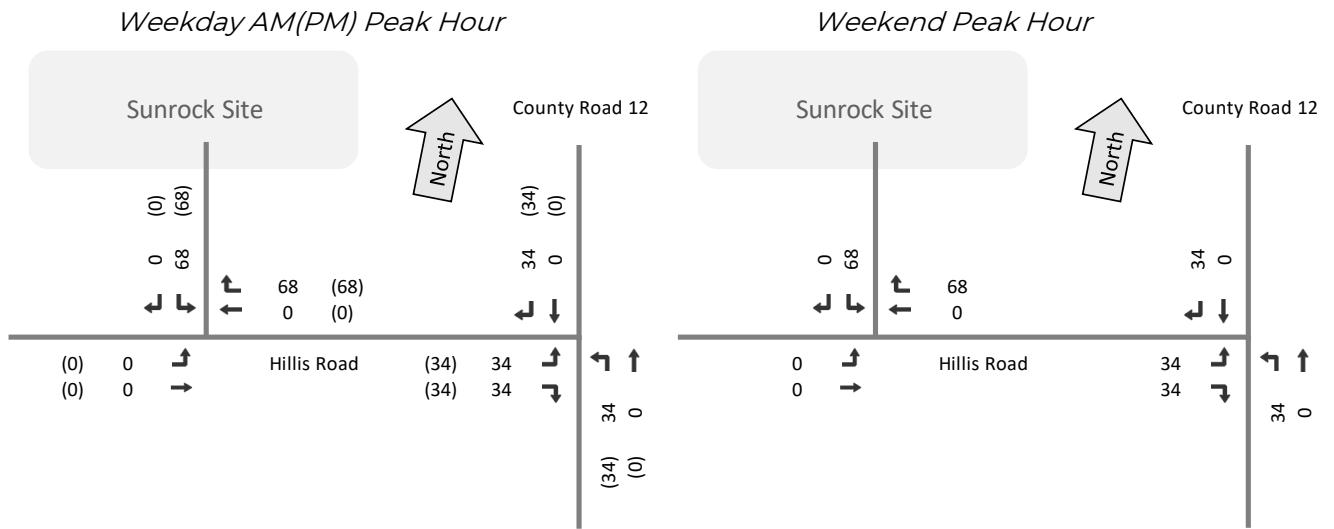
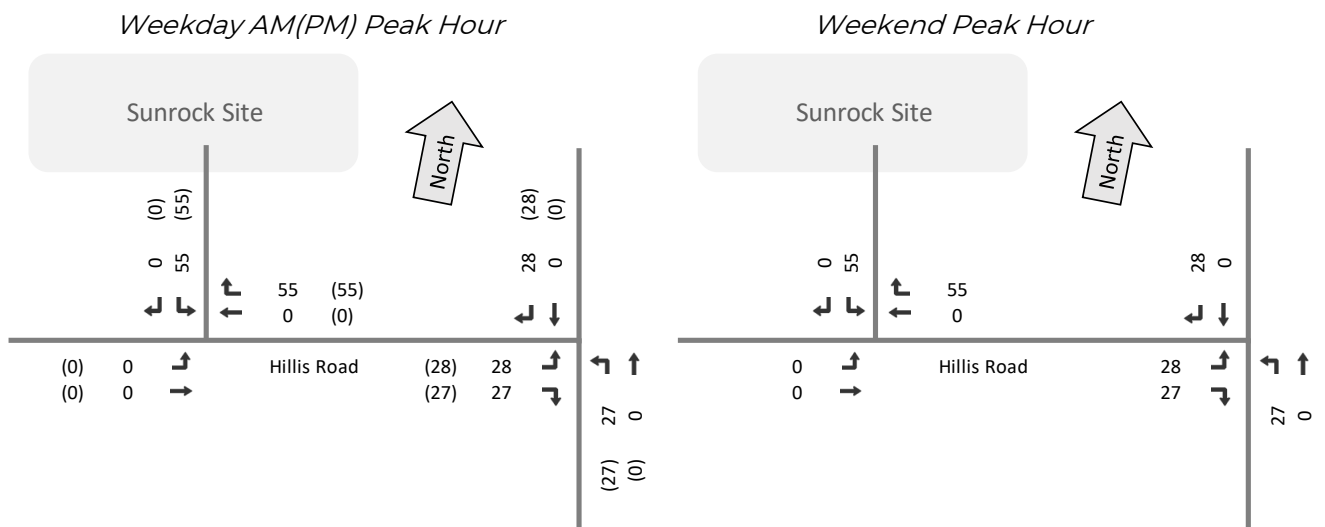


Figure 4-4 2031 Peak Hour Site Traffic Volumes Scenario 2: Trucks



5 FUTURE TOTAL TRAFFIC CONDITIONS

5.1 FUTURE TOTAL TRAFFIC VOLUMES

The 2031 future total traffic volumes reflect the sum of the assessed background traffic volumes summarized in *Figures 3-4 and 3-5*, and the proposed development traffic volumes summarized in *Figures 4-1 through 4-4* and are summarized in *Figures 5-1 through 5-4*.

Figure 5-1 2031 Peak Hour Total Traffic Volumes: Scenario 1 (All Vehicles)

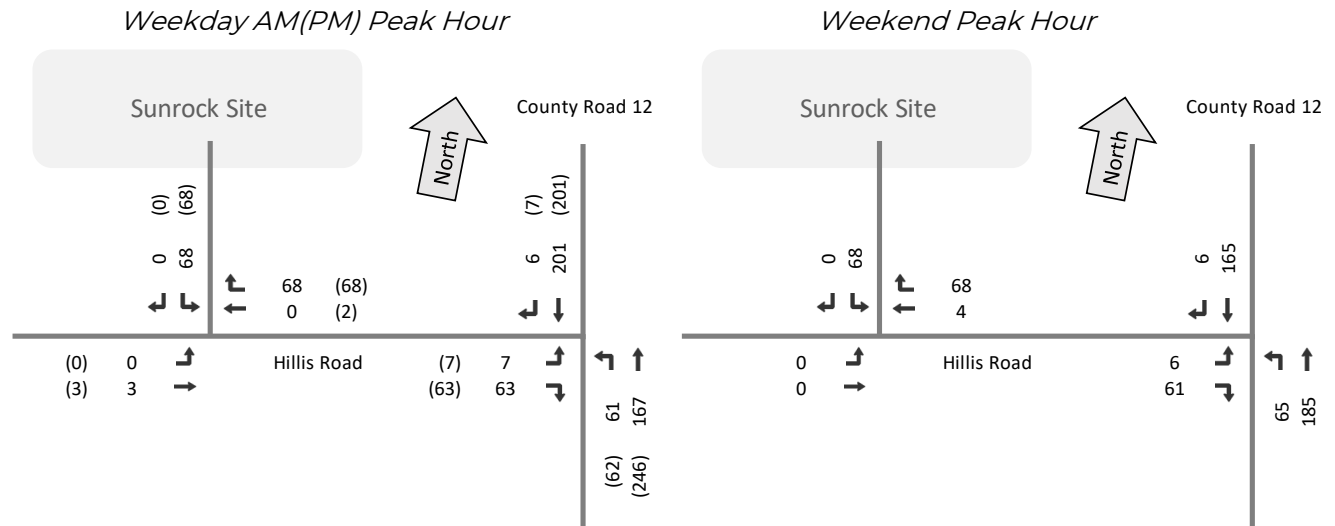


Figure 5-2 2031 Peak Hour Total Traffic Volumes: Scenario 1 (Trucks)

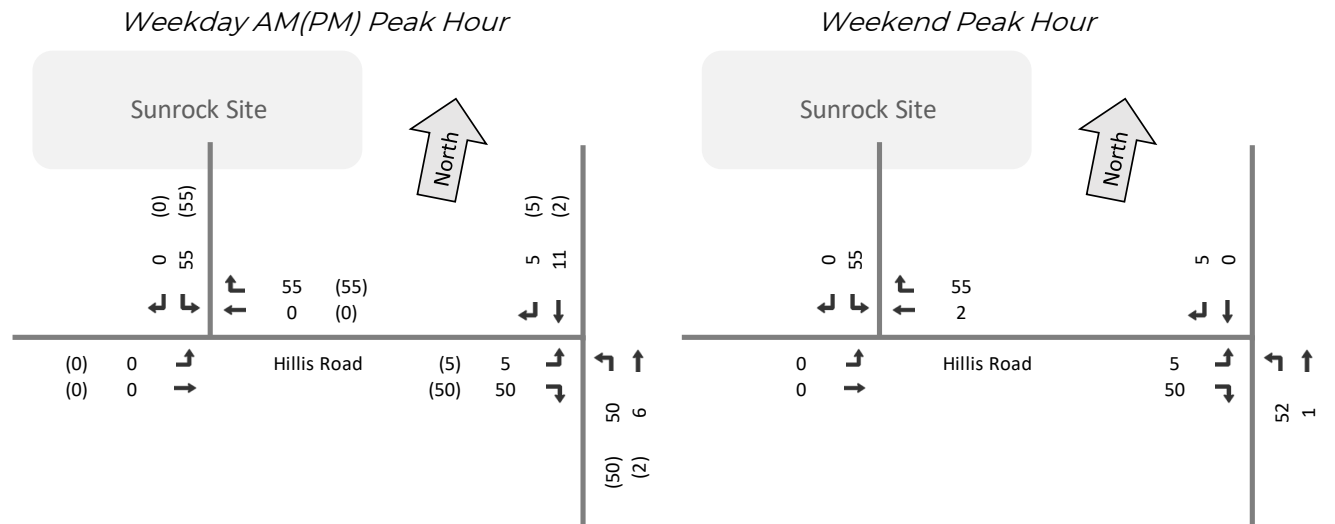


Figure 5-3 2029 AM(PM) Peak Hour Total Traffic Volumes: Scenario 2 (All Vehicles)

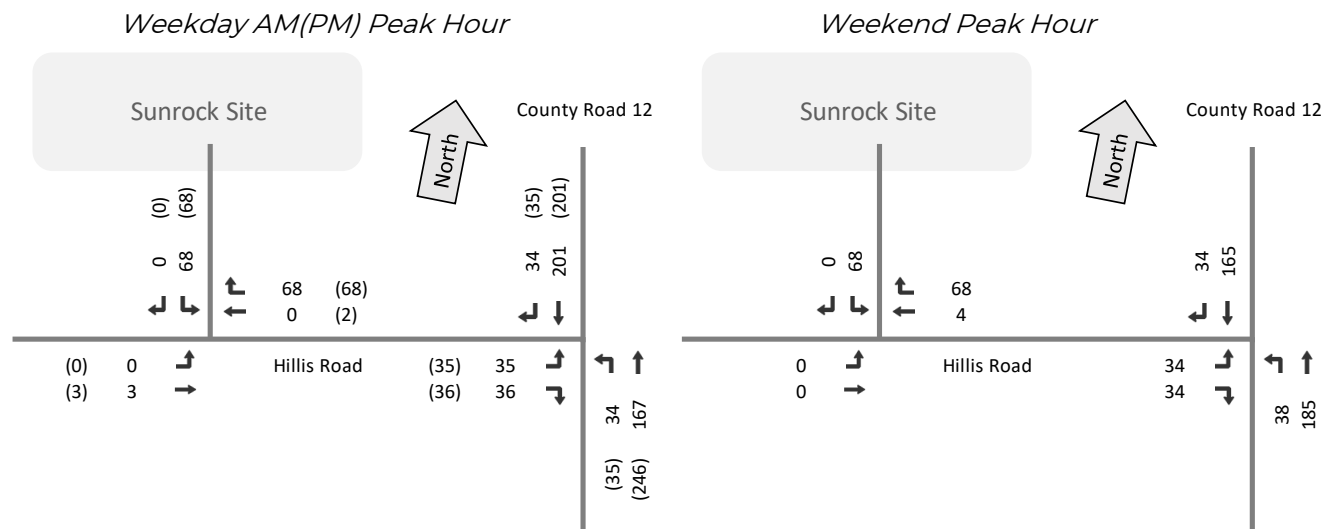
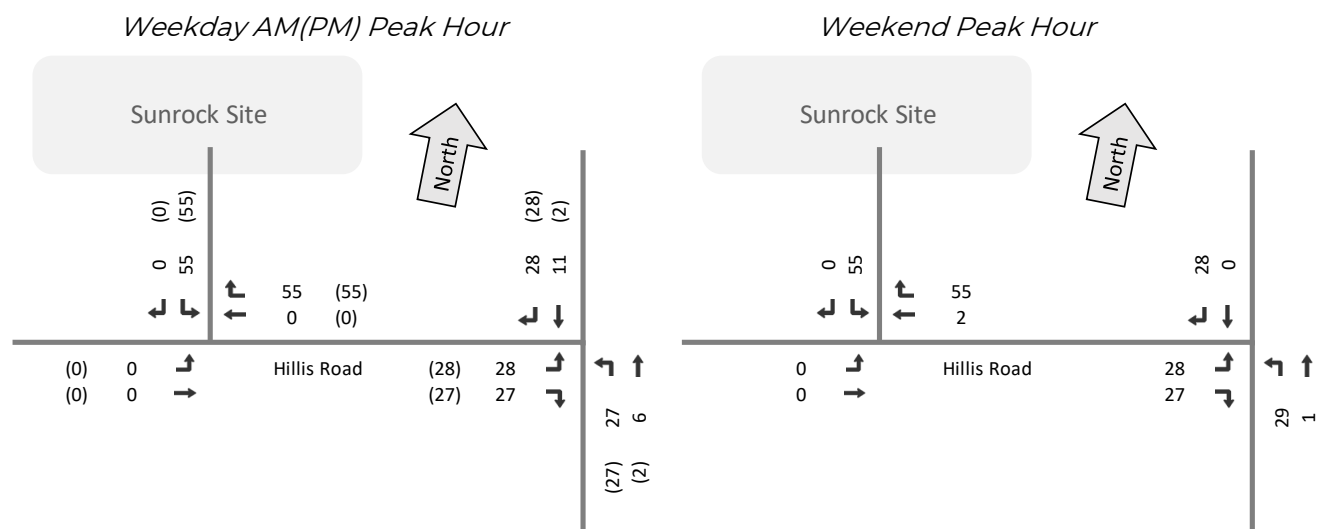


Figure 5-4 2029 AM(PM) Peak Hour Total Traffic Volumes: Scenario 2 (All Trucks)



5.2 2031 TOTAL INTERSECTION OPERATING PERFORMANCE

Operating performance was reassessed on the basis of the projected 2031 total travel demand summarized in *Figures 5-1 through 5-4* to establish the level of service impacts corresponding to the estimated site traffic, based on site Trip Distribution Scenarios 1 and 2. This analysis, as with the background conditions analysis, reflects the existing lane geometry and traffic control, including the existing signal timings.

Summaries of the assessed 2031 total weekday peak hour operating performance for the intersection of County Road 12 and Hillis Road and for the Hillis Road site entrance are

presented in *Tables 5-1 and 5-2*, for site Trip Distribution Scenarios 1 and 2, respectively. Detailed level of service analysis output from *SimTraffic* is presented in *Appendix E*.

Table 5-1 2031 Total Peak Hour Levels of Service: Scenario 1

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	9/5 s	A/A	28 m	11/6 s	B/A	29 m	8/6 s	A/A	27 m
NB Left/Through	2/2 s	A/A	24 m	2/2 s	A/A	19 m	2/2 s	A/A	16 m
SB Through/Right	1/0 s	A/A	4 m	1/0 s	A/A	2 m	1/0 s	A/A	3 m
Overall Intersection	2 s	A		2 s	A		2 s	A	
<i>Hillis Road at Sunrock Driveway</i>									
EB Left/Through	0/0 s	A/A	0 m	0/0 s	A/A	0 m	0/0 s	A/A	0 m
WB Through/Right	0/1 s	A/A	0 m	0/1 s	A/A	0 m	1/1 s	A/A	0 m
SB Left/Right	5/0 s	A/A	29 m	5/0 s	A/A	30 m	5/0 s	A/A	29 m
Overall Intersection	3 s	A		3 s	A		3 s	A	

Notes: 1. 95th percentile condition

Table 5-2 2031 Total Peak Hour Levels of Service: Scenario 2

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	10/6 s	A/A	30 m	10/6 s	B/A	29 m	9/6 s	A/A	29 m
NB Left/Through	2/1 s	A/A	17 m	2/1 s	A/A	17 m	2/1 s	A/A	17 m
SB Through/Right	1/0 s	A/A	4 m	1/1 s	A/A	2 m	1/0 s	A/A	5 m
Overall Intersection	2 s	A		2 s	A		2 s	A	
<i>Hillis Road at Sunrock Driveway</i>									
EB Left/Through	0/0 s	A/A	0 m	0/0 s	A/A	0 m	0/0 s	A/A	0 m
WB Through/Right	0/1 s	A/A	0 m	0/1 s	A/A	0 m	2/1 s	A/A	0 m
SB Left/Right	5/0 s	A/A	29 m	5/0 s	A/A	29 m	5/0 s	A/A	30 m
Overall Intersection	3 s	A		3 s	A		3 s	A	

Notes: 1. 95th percentile condition

The assessment of 2031 total traffic conditions demonstrates that all individual movements at the County Road 12 intersection with Hillis Road can be expected to operate with a level of service (LOS) A with the exception of a weekday afternoon peak hour eastbound left-turn LOS B, based on the current lane geometry and traffic control. This single LOS B reflects conditions based on both trip distribution scenarios and lies near the LOS A/B threshold with an average delay of no more than 11 seconds. The analysis also demonstrates that 95th percentile queue lengths based on the current lane geometry and traffic control will not

exceed 24 m and 5 m on the County Road 12 northbound and southbound approaches, respectively and 30 m on the Hillis Road approach. Analysis for the site entrance confirms that all movements will operate with a LOS A, without any queuing on the Hillis Road approaches and up to a 30 m 95th percentile queue length on the driveway approach.

The level of service analysis demonstrates that site traffic impacts can be accommodated without any lane geometry or traffic control improvements from a level of service analysis perspective. The analysis presented in the following section of the report addresses a review of sight distances, turning lane warrant analysis, and swept path analysis. The turning lane warrant analysis demonstrates that the prevailing criteria for justification of a northbound left-lane from County Road 12 are satisfied, and to that extent, operating performance for the County Road 12 intersection with Hillis Road has been reassessed to reflect this improvement. The resulting level of service impacts are summarized below in Tables 5-3 and 5-4. These summaries confirm that there is little to no change to the levels of service. The only noticeable impact is the elimination of any queuing for northbound through vehicles.

Table 5-3 2031 Total Peak Hour Levels of Service: Scenario 1 with Northbound Left Turn Lane

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	9/6 s	A/A	28 m	10/2 s	B/A	27 m	8/5 s	A/A	27 m
NB Left	2 s	A	20 m	2 s	A	17 m	2 s	A	17 m
NB Through	0 s	A	0 m	1 s	A	0 m	0 s	A	0 m
SB Through/Right	1/0 s	A/A	1 m	1/0 s	A/A	0 m	1/0 s	A/A	0 m
Overall Intersection	1 s	A		1 s	A		2 s	A	

Notes: 1. 95th percentile condition

Table 5-4 2031 Total Peak Hour Levels of Service: Scenario 2 with Northbound Left Turn Lane

Intersection/Movement	Weekday AM Peak Hour			Weekday PM Peak Hour			Weekend Peak Hour		
	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹	Delay	LOS	Queue ¹
<i>County Road 12 at Hillis Road</i>									
EB Left/Right	10/6 s	A/A	29 m	10/6 s	A/A	27 m	9/6 s	A/A	29 m
NB Left	2 s	A	16 m	2 s	A	16 m	2 s	A	16 m
NB Through	1 s	A	0 m	1 s	A	0 m	1 s	A	0 m
SB Through/Right	1/0 s	A/A	3 m	1/1 s	A/A	5 m	1/0 s	A/A	0 m
Overall Intersection	2 s	A		2 s	A		2 s	A	

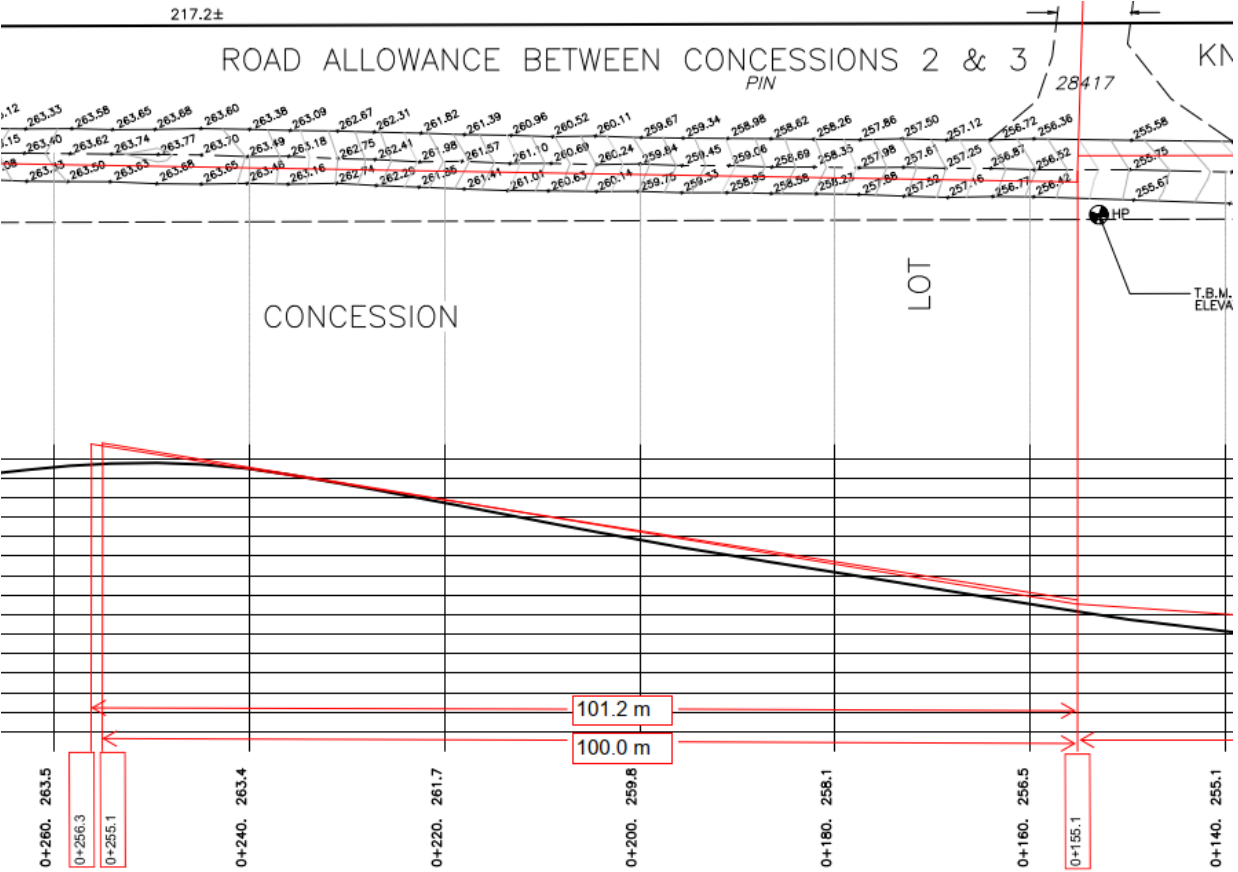
Notes: 1. 95th percentile condition

6 ROADWAY GEOMETRY REVIEW

6.1 SIGHT DISTANCE

The County of Peterborough Traffic Impact Assessment Guidelines address the requirement to review sight lines for development access. A review of available sight distance for the current site access driveway was carried out as part of this study using survey data provided by Sunrock. The sight line illustrated in *Figure 6-1* demonstrate that the available sight distance for an eastbound vehicle on Hillis Road approaching the driveway is 101 m. Sight distance is measured from the driver’s eye height with a TAC design value of 1.08 m to the 0.60 m height of a vehicle tail or brake light specified by the TAC Geometric Design Guide for Canadian Roads. The TAC Guide applies this vehicle tail or brake light height but also indicates that for a more conservative analysis, a vehicle tail or brake light of 0.38 can be used. This conservative height has only a marginal impact on available sight distance, reducing it to 100 m.

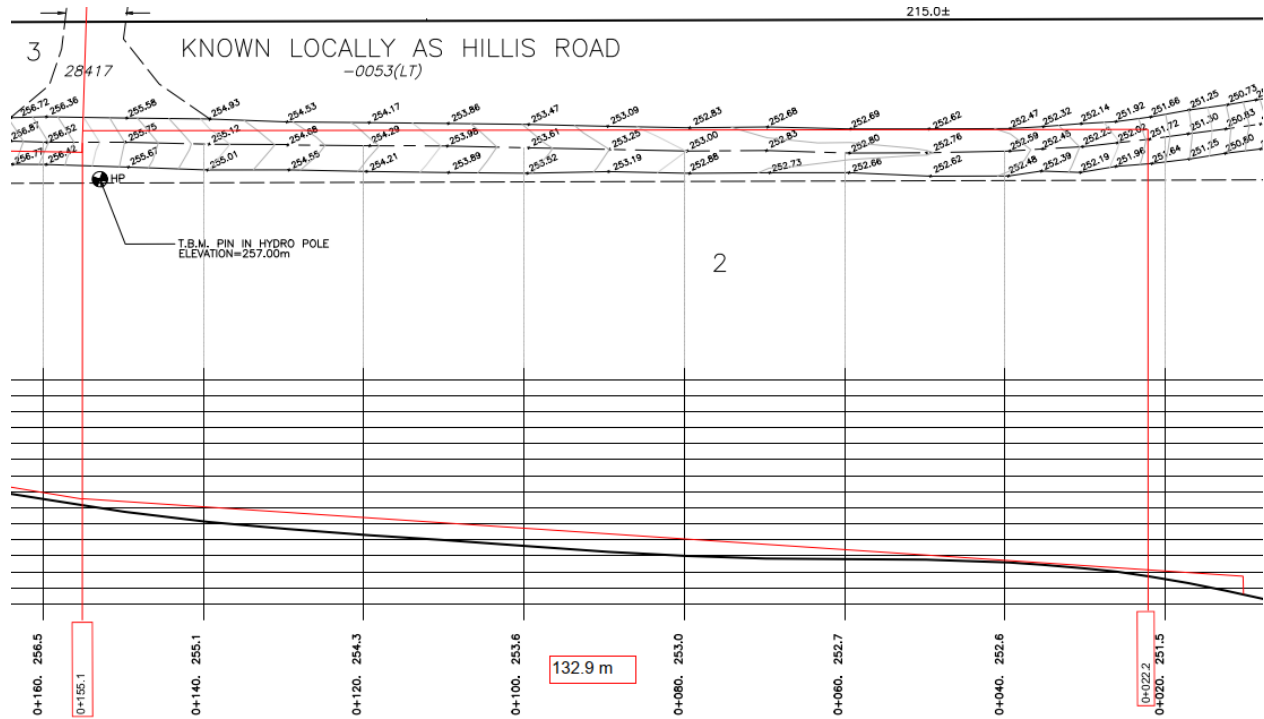
Figure 6-1 Eastbound Sight Line Analysis



The eastbound sight distanced is driven by the vertical profile constraint rather than the horizontal alignment while the westbound stopping sight distance is constrained first by the

horizontal alignment. The sight line illustrated in *Figure 6-2* demonstrates that the available sight distance for a westbound vehicle approaching the site driveway is 133 m.

Figure 6-2 Westbound Sight Line Analysis



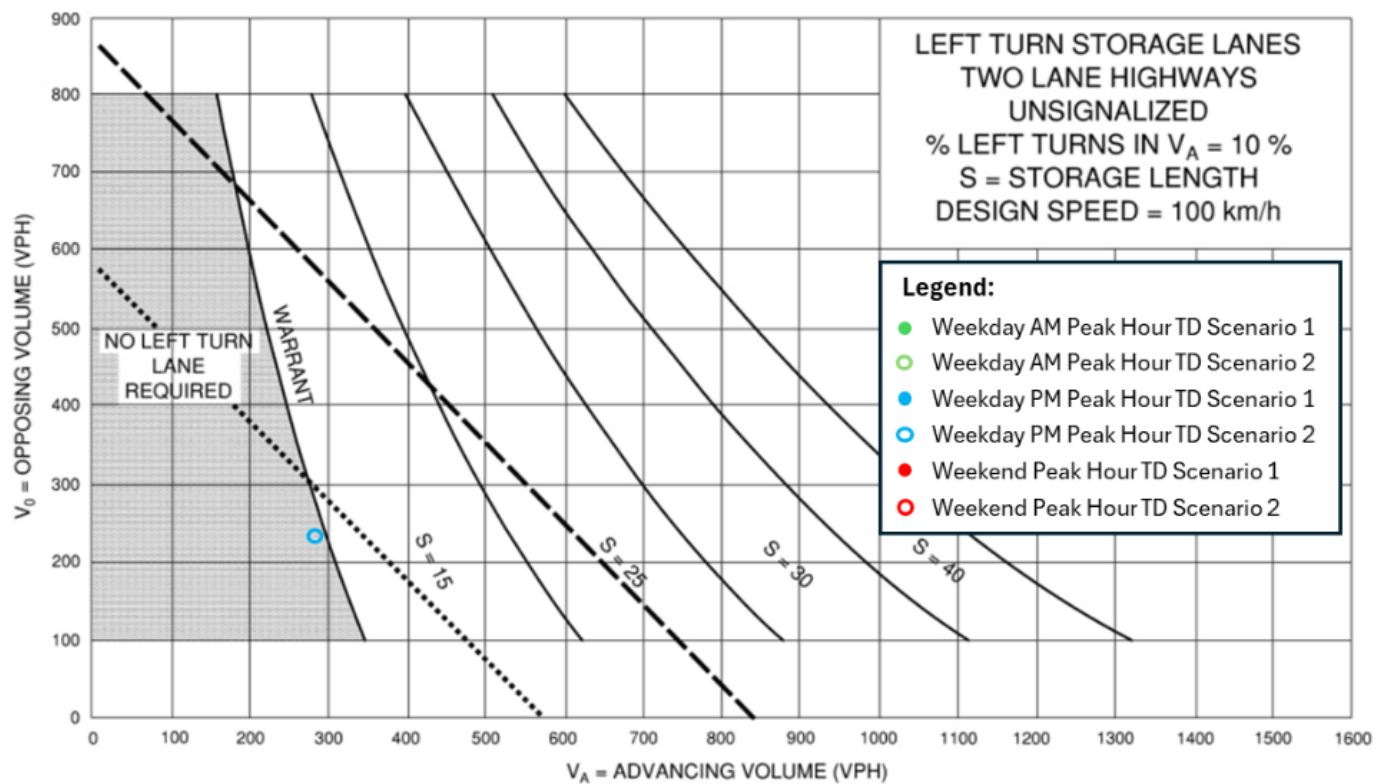
The available eastbound sight distance is nominally greater than the minimum grade-adjusted stopping sight distance requirement of 97 m identified for a 60 km/h design speed in the *TAC Geometric Design Guide for Canadian Roads* based on each of the applicable and more conservative tail or brake light heights. The available westbound sight distance (assuming conservatively that the edge of pavement is the limitation of drivers' line of sight) exceeds the minimum stopping sight distance requirement of 85 m. In fact, the required minimum stopping sight distance would be marginally less in this uphill section of Hillis Road. It is relevant to note that the site had also previously operated as an aggregate mining operation and that the site access location remains unchanged.

6.2 TURNING LANE WARRANT ANALYSIS

The combined impact of background traffic growth and site traffic generation confirms that level of service impacts, alone, do not trigger any need for general intersection lane geometry or traffic control improvements. Notwithstanding this, warrant analysis for a dedicated left-turn lane on the northbound approach to Hillis Road undertaken using the procedure outlined in the *Ministry of Transportation of Ontario (MTO) Supplement to the Transportation Association of Canada (TAC) Geometric Design Standards for Canadian*

Roads¹ confirms that the combined effect of advancing and opposing traffic volumes and the proportion of left-turning traffic in the advancing volumes satisfies the requirement based on the assumed County Road 12 design speed of 100 km/h. The analyses corresponding to each of the peak hours and based on each of the site trip distribution scenarios is illustrated in Figures 6-3 through Figure 6-7. We note that where the volume of left-turning traffic represents a percentage of the advancing volume i.e. % Left Turns value, that lies between two graphs, we have plotted the advancing and opposing volume on both graphs to ensure that any finding that the warrant for a left-turn lane is sound. This analysis demonstrates that the criteria for a dedicated left-turn lane from County Road 12 are satisfied for each of the weekday morning and afternoon and weekend peak hour conditions based on Site Trip Distribution Scenario 1 (the likely trip distribution) and also for the weekday afternoon peak hour condition based on Site Trip Distribution Scenario 2.

Figure 6-3 County Road 12 Left-Turn Lane Warrant Analysis: 10% Left Turns



¹ MTO Supplement to TAC Geometric Design Standards for Canadian Roads, Exhibits-9A-23 through 9A-25, MTO Standards and Contracts Branch Highway Design Office, June 2017

Figure 6-4 County Road 12 Left-Turn Lane Warrant Analysis: 15% Left Turns

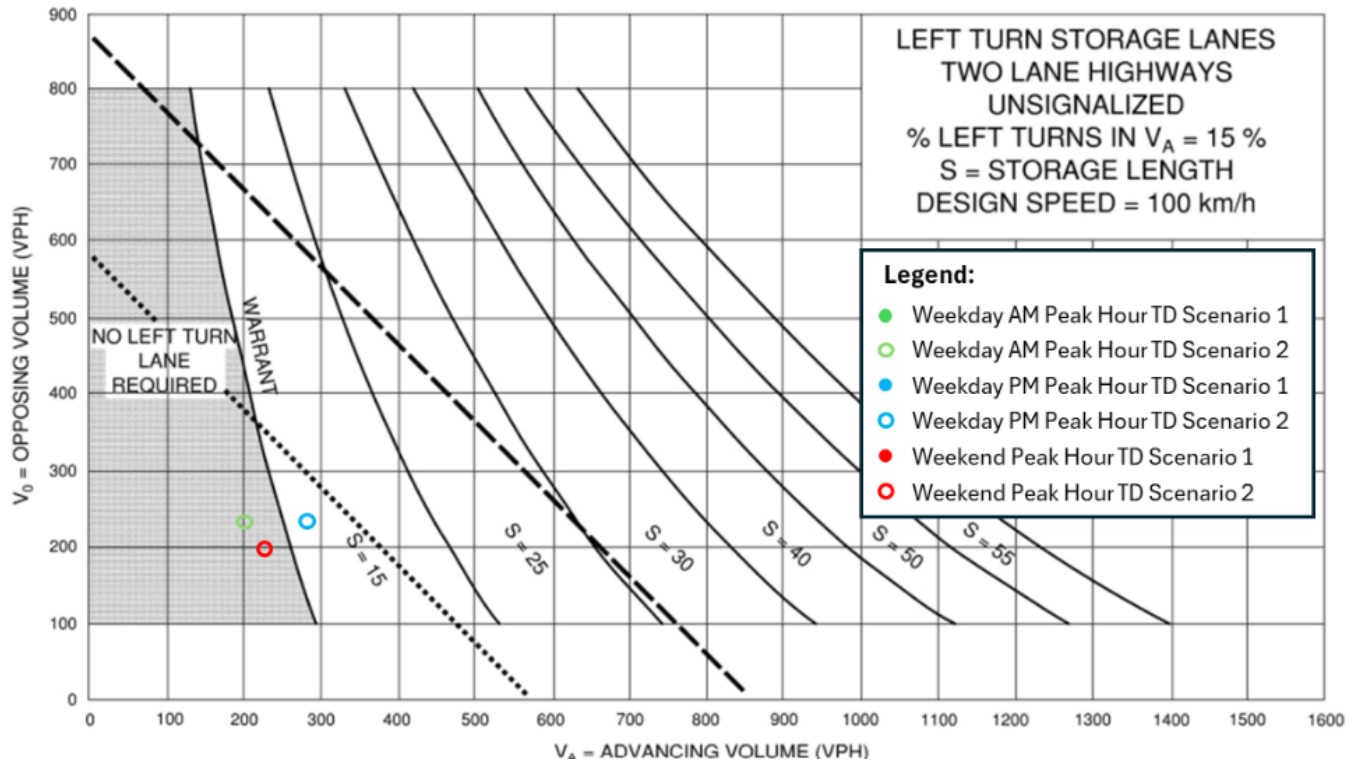


Figure 6-5 County Road 12 Left-Turn Lane Warrant Analysis: 20% Left Turns

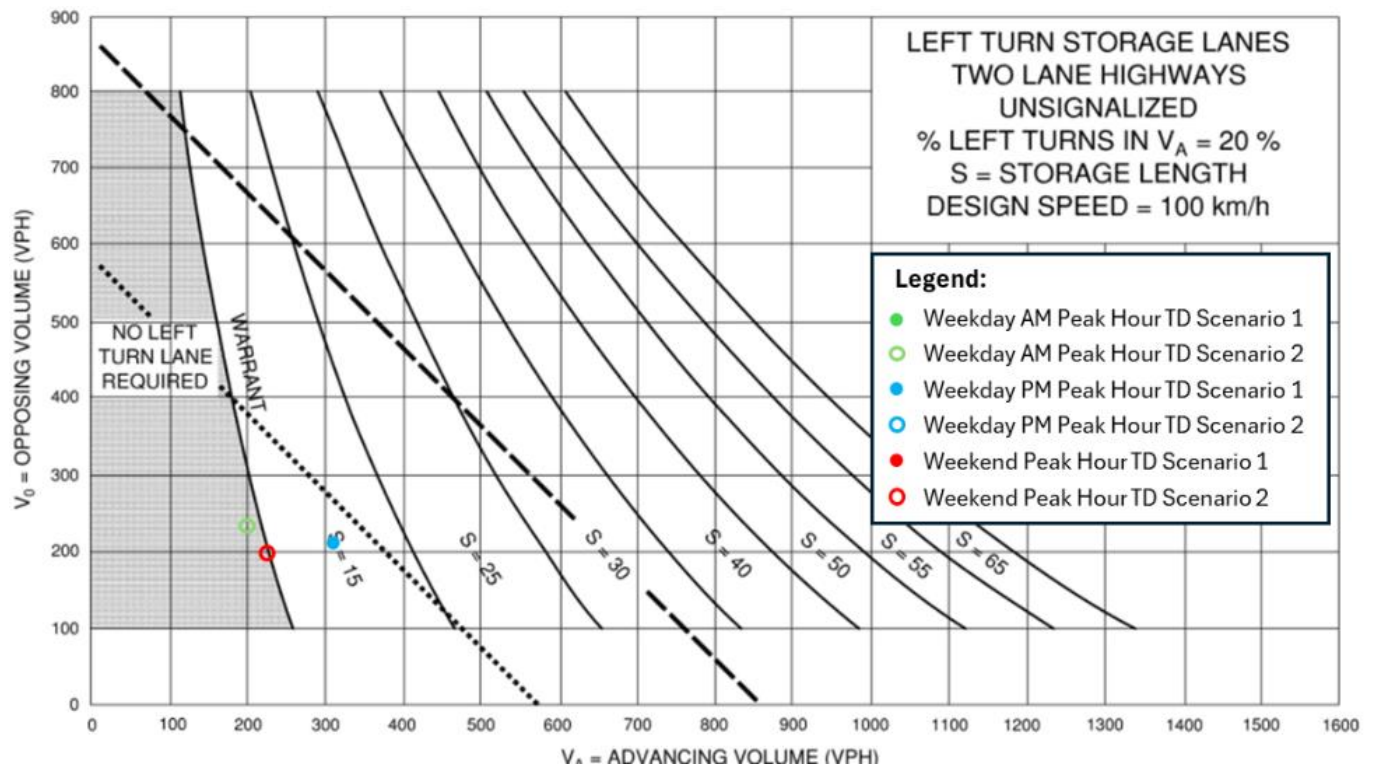


Figure 6-6 County Road 12 Left-Turn Lane Warrant Analysis: 25% Left Turns

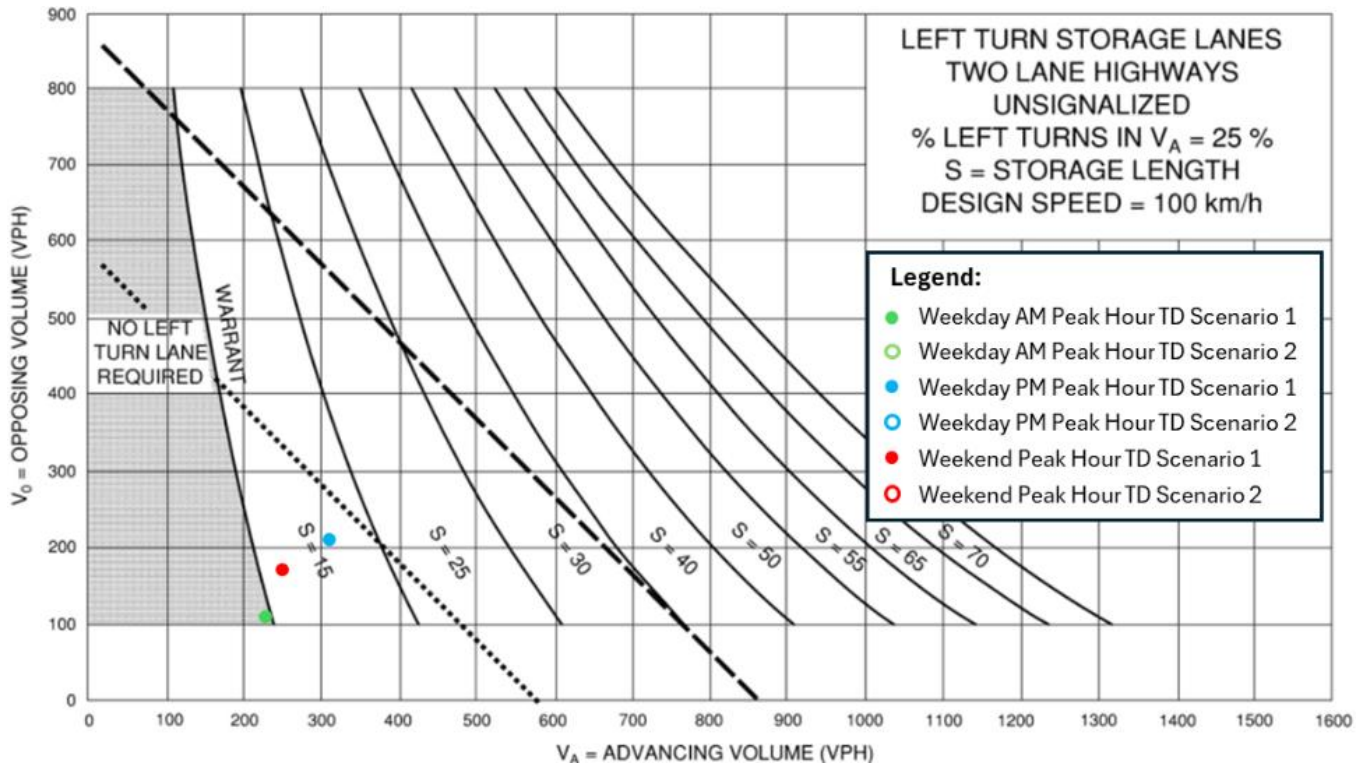
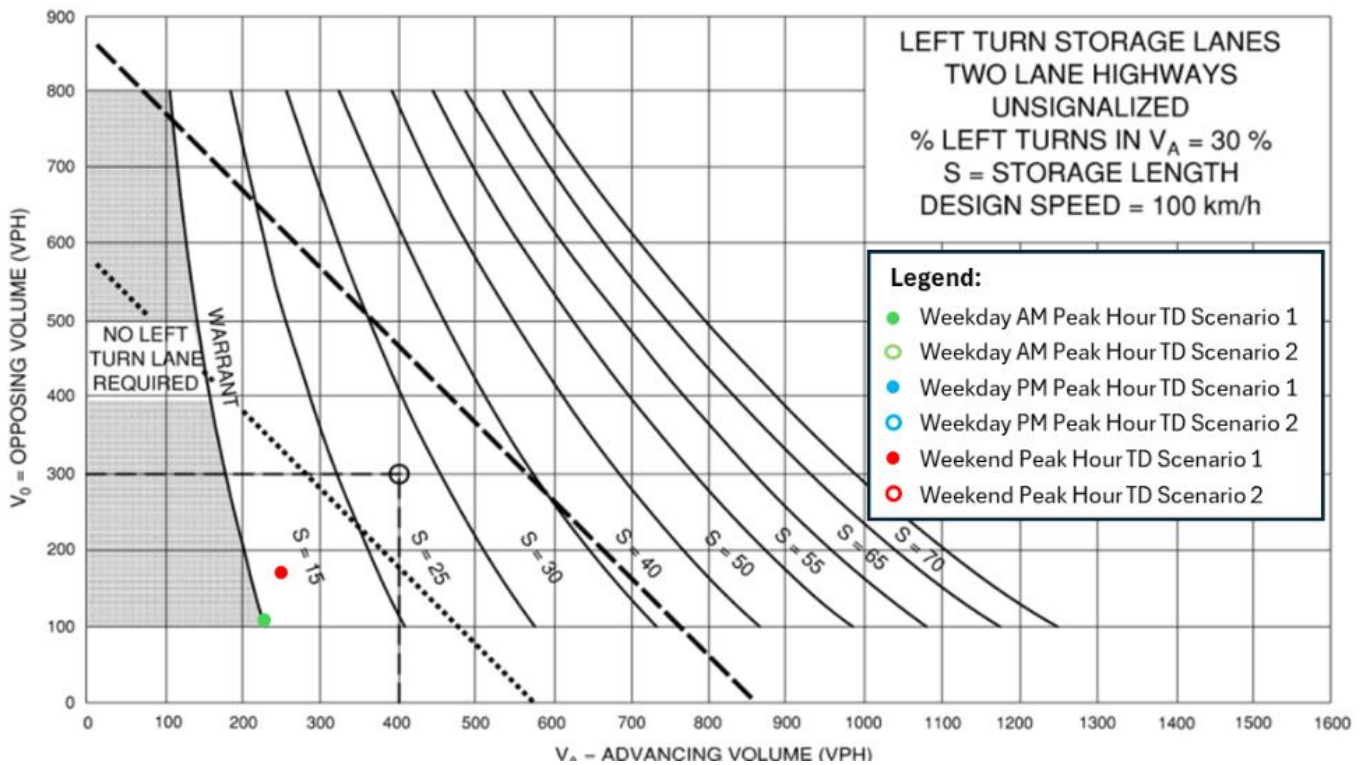


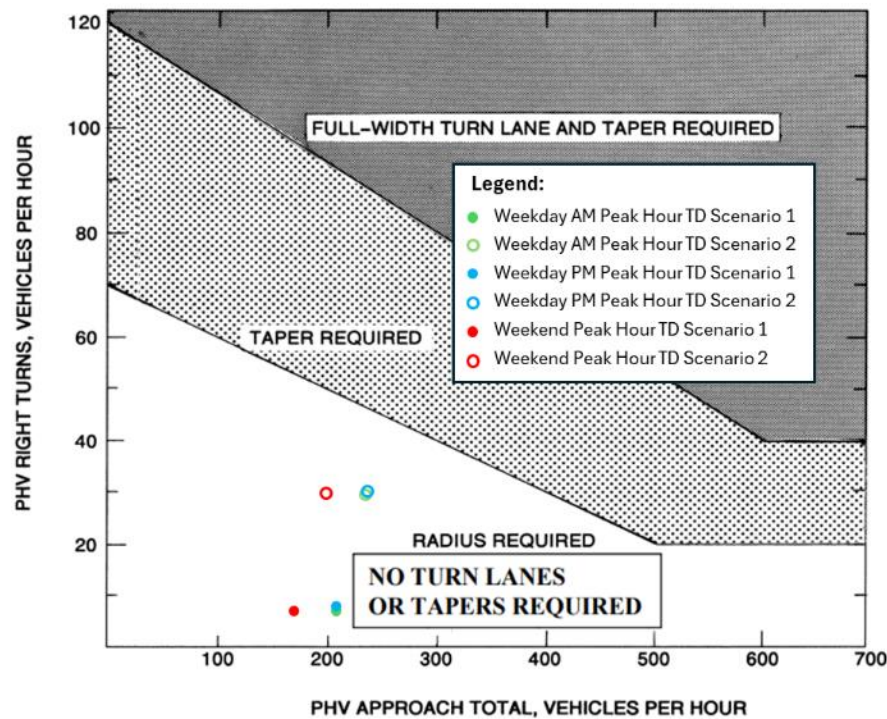
Figure 6-7 County Road 12 Left-Turn Lane Warrant Analysis: 30% Left Turns



The required left-turn storage length based on the requirements outlined in the *Ministry of Transportation of Ontario (MTO) Supplement to the Transportation Association of Canada (TAC) Geometric Design Standards for Canadian Roads* would be 30 m. This length reflects the 15 m storage length identified by the graphs presented above plus the adjustment required to reflect the additional storage lane length for commercial vehicles. Based on the 15 m storage length from the warrant graphs and the highest commercial vehicle percentage of the left-turn volumes (50%) provided in Exhibit 9A-1 of the MTO Supplement, this adjustment is 15 m. The resulting 30 m storage would accommodate the reported 95th percentile left-turn lane queue length of up to 20 m based on a reassessment of operating performance with a dedicated left-turn lane. To the extent that the County adopts the TAC and MTO Supplement design guidance, a taper length of 160 m and a 70 m parallel lane length corresponds to a 100 km/h design speed.

A similar review of the warrant criteria for a dedicated southbound right-turn lane from County Road 12 onto Hillis Road reflects the County's application of the Virginia Department of Transportation guidance from Appendix F of their Access Management Design Standards for Entrances and Intersections² and the warrant nomograph illustrated below in *Figure 6-8*.

Figure 6-8 County Road 12 Right-Turn Lane Warrant Analysis



² *Access Management Design Standards for Entrances and Intersections Appendix F*, Virginia Department of Transportation, Figure 3-26 Warrants for Right Turn Treatment (2-Lane Highway), p. F-90, December 2025

The illustration in *Figure 6-8* demonstrates that neither a dedicated turning lane nor a taper is required to accommodate the right-turning traffic under either of the assessed site trip distribution scenarios. While only a radius is required, the intersection improvements implemented by Sunrock will include suitable radii to accommodate the largest vehicles accessing their site.

6.3 SWEPT VEHICLE PATH ANALYSIS

Survey data collected by Sunrock includes all approaches of the County Road 12 intersection with Hillis Road, to inform a swept vehicle path analysis for largest trucks passing through the intersection. We have assessed the swept path of a WB 20 or typical semi tractor trailer combination negotiating southbound right turn, northbound left-turn and eastbound right-turn manoeuvres while a similar truck is waiting on the Hillis Road approach to enter County Road 12. The results of this analysis are presented in *Figures 6-8 through 6-10*.

Figure 6-9 Swept Vehicle Path Analysis: Southbound Right Turn

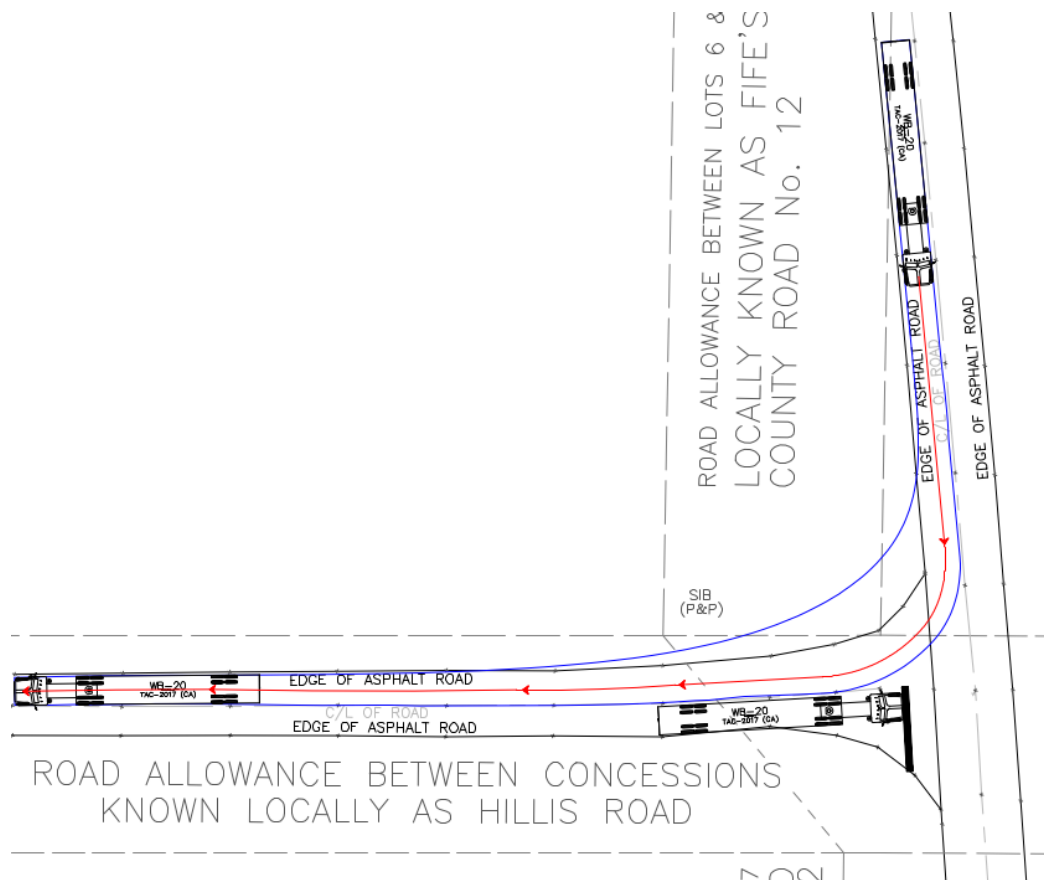


Figure 6-10 Swept Vehicle Path Analysis: Northbound Left Turn

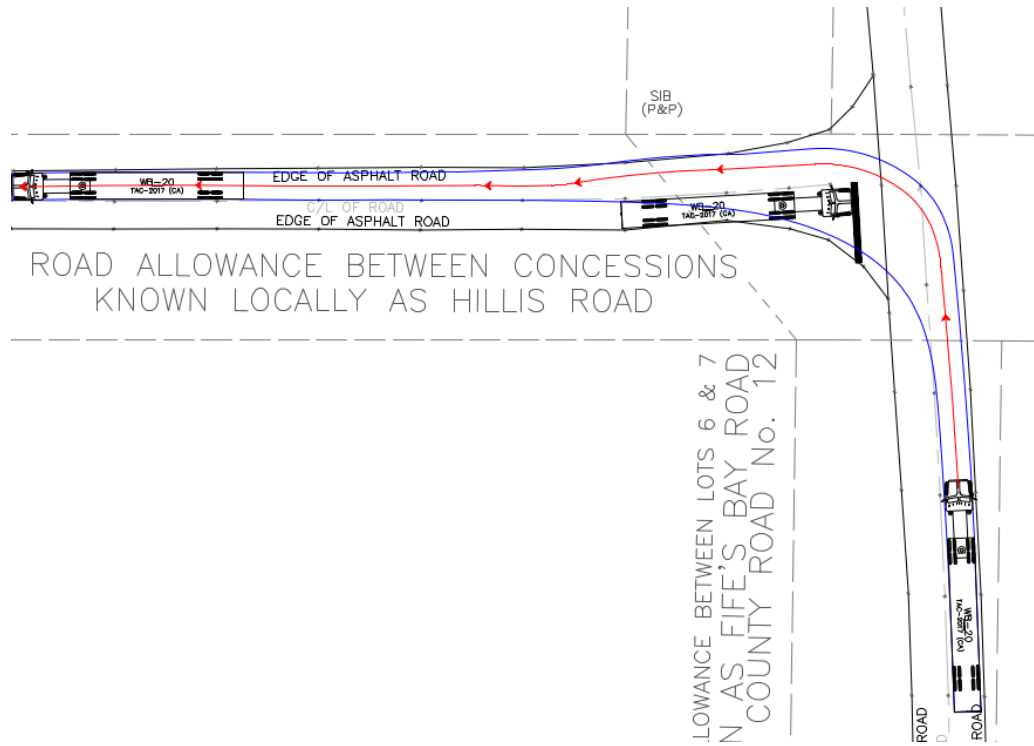


Figure 6-11 Swept Vehicle Path Analysis: Eastbound Right Turn



This swept path analysis demonstrates that a WB 20 vehicle cannot turn onto Hillis Road from either direction on County Road 12 while a similar vehicle is waiting on the Hillis Road approach to access County Road 12 without improvements to approach geometry at this location. A similar constraint is identified for a WB 20 turning right onto County Road 12, assuming that this vehicle does not encroach on the northbound lane. Some combination of Hillis Road widening, increased edge of pavement radii, and throat widening on the Hillis Road approach would be required to accommodate these manoeuvres. Sunrock will need to work with their road design consultant to develop an intersection design that accommodates not only the warranted northbound left-turn lane, but also these vehicle turning path requirements. Considerations may include whether widening of Hillis Road on the approach to County Road 12 will be to the north, to the south or centred on the current alignment as well as what property availability there is in the intersection quadrants on either side of Hillis Road. To this end, the analysis presented here has been undertaken for the sole purpose of demonstrating that the existing geometry does not accommodate the assessed truck movements. Additional swept path analysis will be required as part of the design work to demonstrate that the proposed improvements accommodate these vehicles.

7 STUDY FINDINGS

The following points summarize the key findings and recommendations arising from the review of future operating performance and site characteristics:

7.1 EXISTING CONDITIONS

- ▶ All individual movements at the County Road 12 intersection with Hillis Road currently operate with a LOS A during all peak hours without exception.
 - ▶ All 95th percentile queue lengths are no greater than a single car length
-

7.2 2031 BACKGROUND CONDITIONS

- ▶ All individual movements at the County Road 12 intersection with Hillis Road can be expected to continue to operate with a LOS A during all peak hours without exception under background conditions to 2031.
 - ▶ All 95th percentile queue lengths can be expected to extend no more than a single car length:
-

7.3 2031 TOTAL CONDITIONS

- ▶ All individual movements at the County Road 12 intersection with Hillis Road and at the Hillis Road site entrance can be expected to operate with a LOS A with the exception of a weekday afternoon peak hour eastbound left-turn LOS B on the Hillis Road approach to County Road 12. This analysis reflects the current lane geometry and traffic control under total conditions to 2031, for each of the site trip distribution scenarios at County Road 12. This single LOS B reflects conditions based on both trip distribution scenarios and lies near the LOS A/B threshold with an average delay of no more than 11 seconds.
- ▶ The 95th percentile queue lengths based on the current lane geometry and traffic control will not exceed 24 m and 5 m on the County Road 12 northbound and southbound approaches, respectively and 30 m on the Hillis Road approach. Analysis for the site entrance confirms that there will be no queuing on the Hillis Road approaches and up to a 30 m 95th percentile queue length on the driveway approach.
- ▶ Similar operating performance can be expected with the introduction of a dedicated northbound left-turn lane from County Road 12. The only noticeable impact of this improvement is the expected elimination of any queuing of northbound through traffic.

7.4 ROADWAY GEOMETRY REVIEW

- ▶ The available eastbound stopping sight distance on the Hillis Road approach to the site driveway is nominally greater than the minimum grade-adjusted stopping sight distance requirement of 97 m identified for a 60 km/h design speed in the *TAC Geometric Design Guide for Canadian Roads*. Available sight distance is 101 m and 100 m based on the applicable and more conservative tail or brake light heights, respectively.
- ▶ The available westbound sight distance (assuming conservatively that the edge of pavement is the limitation of drivers' line of sight) exceeds the minimum stopping sight distance requirement of 85 m. In fact, the required minimum stopping sight distance would be marginally less in this uphill section of Hillis Road.
- ▶ While level of service impacts, alone, do not trigger any need for general intersection lane geometry or traffic control improvements, warrant analysis for a dedicated left-turn lane on the northbound approach to Hillis Road confirms that the prevailing criteria are satisfied for this lane geometry improvement. A storage length of 30 m would accommodate the assessed queue lengths and the geometric design requirements specify a 70 m parallel lane length and a 160 m taper length.
- ▶ Warrant analysis for a dedicated right-turn lane on the southbound approach to Hillis Road confirms that the prevailing criteria are not satisfied and that neither a dedicated turn lane nor a taper is required. However, the design of intersection improvements will ensure that suitable radii will be provided to accommodate the largest vehicles generated by the site.
- ▶ Swept path analysis for the intersection of County Road 12 and Hillis Road was undertaken for the largest vehicles accessing the site and confirms that a WB-20 is unable to negotiate turning movements into or from the Hillis Road approach, particularly whilst an eastbound vehicle is waiting on Hillis Road to enter County Road 12. Accordingly, the intersection improvements in addition to the addition of a northbound left-turn lane will be required to accommodate these vehicles. Improvements will include throat widening of the Hillis Road approach as well as increased turning radii for southbound and eastbound right-turning vehicles. Road design to be undertaken by others on behalf of Sunrock will need to include additional swept path analysis to ensure that turning vehicle requirements are adequately accommodated.




A

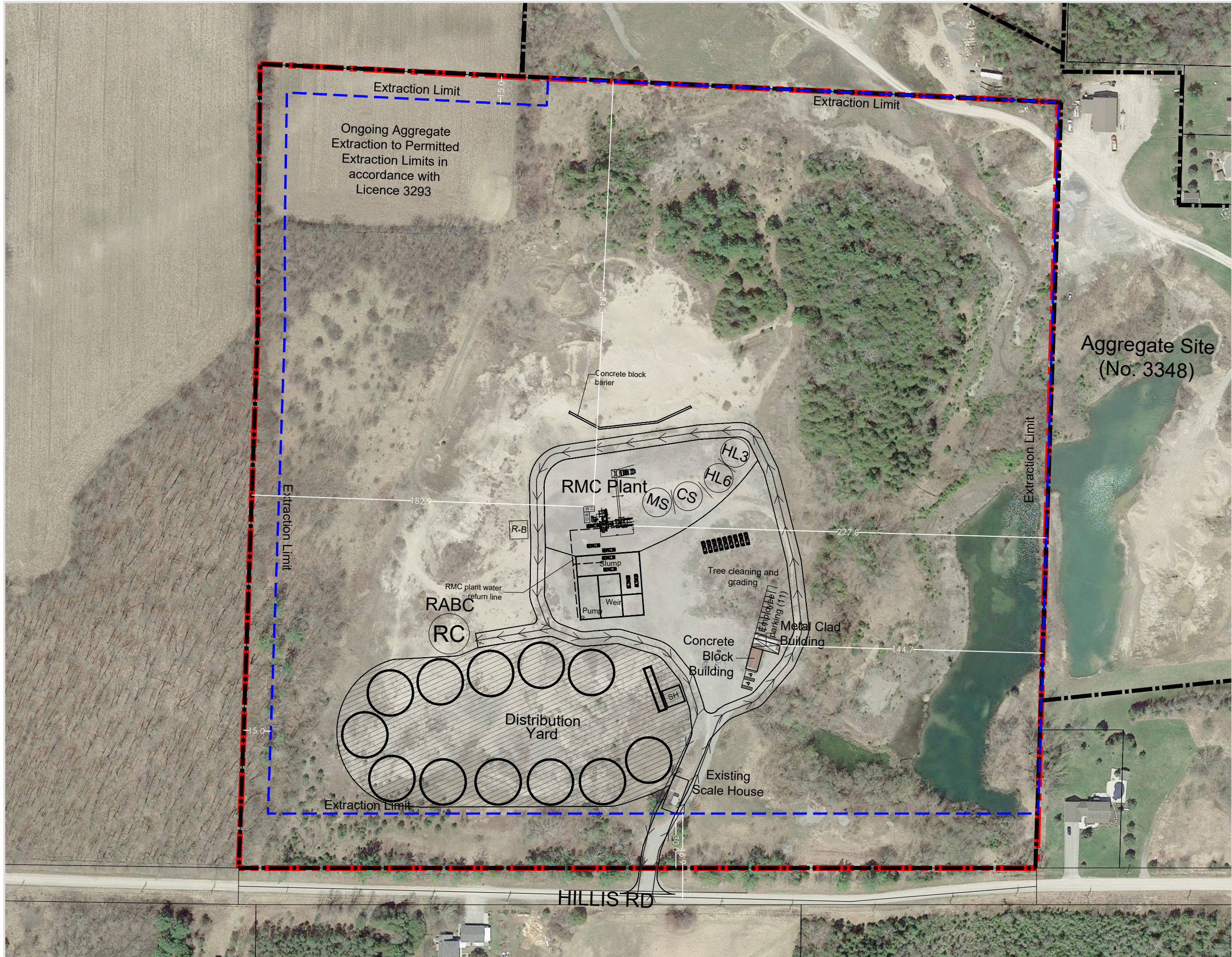
CONCEPT PLAN

Appendix

CONCEPT PLAN

424 Hillis Rd.
Township of Selwyn
County of Peterborough

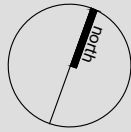
-  Subject Lands
-  Licence Boundary
-  Excavation Setback Limit



Aggregate Site
(No. 3348)

- Notes:**
- For conceptual purposes only
 - Source: Google Satellite Imagery (2020)
 - Contained information licensed under the Open Government Licence – County of Peterborough and Ontario

DATE:	February, 2026
FILE:	1669S
SCALE :	1: 2,000
DRAWN:	PL



K:\1669S 424 HILLIS ROAD AND 785 FIFE'S BAY ROAD\ICPC FEB5 2026.DWG

B

TERMS OF REFERENCE

Appendix



October 29, 2025

County of Peterborough
Planning and Public Works Department
Engineering and Design Division
470 Water Street
Peterborough, ON K9H 3M3

Attention: Mr. Pete Hynes
Senior Project Coordinator

Township of Selwyn
Public Works Department
1310 Centre Line
Selwyn, ON K9J 6X5

Attention: Mr. Adam Tobin
Public Works Manager

**Subject: Sunrock Industries Canada Ready Mix Plant
424 Hillis Road
Traffic Impact Assessment Terms of Reference UPDATE
Our File: CA0024495.2355**

Dear Messieurs Hynes and Tobin:

We are contacting you to update the scope of work required to support a Zoning By-law Amendment Application by Sunrock Industries Canada, for the development of a ready-mix concrete plant on a site which currently has as-of-right permission (and is licenced) to operate as an aggregate extraction and sales operation as well as a stone depot for trans-shipment on Hillis Road in the Township of Selwyn. We note that we were unaware of the as-of-right stone depot operation at the time of preparing the terms of reference shared with you in November 2024. In addition to now reflecting the stone depot in our analysis, our Client has directed WSP to expand the previously scoped analysis to also reflect weekend operations for each of the ready-mix plant, the aggregate extraction/sales operation and the stone depot.

We are currently retained to undertake a traffic impact assessment in support of a Zoning By-law Amendment Application to permit the proposed concrete ready-

610 Chartwell Road
Suite 300
Oakville, ON, Canada L6J 4A5

Tel.: +1 905-823-8500
Fax: +1 905-823-8503
wsp.com

mix plant use at 424 Hillis Road, and to reflect in the traffic analysis the as-of-right permitted use to extract and distribute aggregates. The proponent proposes to use the existing site driveway located approximately 395 m west of the centreline of Country Road 12 in the Township of Selwyn. As indicated above, this retainer will be updated to also reflect impacts related to the as-of-right stone depot and weekend operations for all uses based on Saturday traffic volumes.

Pursuant to the County of Peterborough Traffic Impact Assessment Guidelines, we are circulating our updated terms of reference for your records and any comments you wish to add to those offered during our initial circulation.

We had previously confirmed that Section 4.0 Scope of Traffic Impact Assessment, of the County's Traffic Impact Assessment guidelines indicates that a full Traffic Impact Study is required for the purpose of assessing future traffic impacts. We had also consulted with the proponent to confirm that projected site traffic generation related to the proposed concrete ready-mix operation will be similar to that assessed in support of a similar application by Sunrock Industries Canada to operate a concrete ready-mix plant in the Town of Georgina. We have summarized below the ready-mix plant trip generation assumptions for the Hillis Road site based on the assumptions adopted for the weekday operation in Georgina and the relevant revisions to reflect the 24-hour / 7 day a week operation proposed for the Hillis Road site:

- Concrete loading will operate in two 12-hour shifts throughout the week, beginning at 6:00 a.m. and 6:00 p.m.
- Concrete delivery vehicles are expected to leave the site at no more than 4-minute intervals, as this is the fastest that the vehicles can be loaded. Therefore, up to 15 trucks can be assumed to leave and enter the site during each of the weekday and weekend peak hours.
- A total of up to 20 drivers and staff arrive at the plant at the plant, between 5:30 and 7:30 a.m. and between 5:30 and 7:30 p.m. on weekdays. Expected arrival patterns reflect 10 of these passenger vehicle trips occurring during each of the weekday morning and afternoon peak hours. Similarly, 20 staff leave the site to go home over a two-hour period beginning at 4:00 p.m. and 4:00 a.m. on weekdays. Expected departure patterns reflect 10 of those passenger vehicle trips occurring during each of the weekday peak hours.
- While drivers and staff will arrive at and leave the site on weekend days during the same periods identified for the weekday operation above, these period will not coincide with the weekend peak hours (that are generally mid-day), the analysis assumes hypothetically and conservatively that the driver and staff arrival and departure trips coincide with the weekend peak hours.
- While the ready-mix plant is expected to generate only half as many truck trips and require only half as much staff during the overnight shift, the traffic analysis



will conservatively reflect the same driver/staff trip-making assumptions for the overnight shift that are adopted for the daytime operations.

- Based on a daily total of up to 40 loads of gravel arriving at the site to support the ready-mix concrete operation, the proponent has estimated up to 6 truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.
- Based on a daily total of up to 8 tanker truck trips in and out of the site for the delivery of cement and add mixture, the proponent has estimated a volume of 2 tanker truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.
- Based on a daily total of up to 6 trips in and out of the site, related to visits by maintenance teams and other miscellaneous service providers, the proponent has conservatively estimated 2 truck trips in and out of the site during each of the weekday morning and afternoon and weekend peak hours.
- Turning movement data collected on a Saturday has been assumed to provide the basis for all weekend peak hour analysis, as confirmed appropriate by the County.
- The assessed weekday and weekend peak hour trip generation is summarized below:

Vehicle Type	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Concrete Delivery Trucks	30	15	15	30	15	15	30	15	15
Gravel and Cement Tanker Trucks	16	8	8	16	8	8	16	8	8
Miscellaneous Trucks	4	2	2	4	2	2	4	2	2
Total Trucks	50	25	25	50	25	25	50	25	25
Passenger Vehicles (Drivers and Staff)	20	10	10	20	10	10	20	10	10
Total Passenger Vehicles	20	10	10	20	10	10	20	10	10
Total Site Traffic	70	35	35	70	35	35	70	35	35

The Hillis Road site is currently licensed under the Aggregate Resources Act (License 3293) for a maximum of 127,000 tonnes of aggregate leaving the site annually. Sunrock does not plan to apply to the Ministry of Natural Resources and Forestry for any increase to this maximum annual tonnage, but does intend to maintain the flexibility to extract, sell and distribute aggregate under the existing license. The proponent has indicated that for the time being, material will likely just be stockpiled and that traffic generation related to this mining operation will be nominal. Nevertheless, the traffic impacts will be assessed based on the assumption that all material (to the permitted maximum) is mined and shipped. Traffic impact analysis undertaken previously for Sunrock Industries Canada, for a site on Kawartha Lakes Road County Road 121 in Burnt River, Ontario,



included an assessment trip generation for an aggregate extraction and distribution operation. That site was already operating and in 2021, and an annual total of 109,181.35 tonnes of aggregate left the site. Detailed records available from Sunrock Industries Canada included monthly records as well as corresponding records of average payload per truck and hourly deliveries and these were reviewed to establish a weekday site peak hour trip generation for the operation at that location. We propose to use the same records of this 2021 operation and to factor these trips to reflect the potential trip generation corresponding to the 127,000-tonnage maximum under the current license for the Hillis Road site, in comparison to the observed 109,181.35 tonne extraction/delivery for the site in Burnt River. The Burnt River site operates only on weekdays and during daytime hours. Despite this, the trip generation for the Burnt River site has been factored up (as described above) as if all material is shipped on weekdays during the same daytime operating hours for the Burnt River site. The corresponding peak hour truck and operations staff trip generation adopted for the purpose of the weekday morning and afternoon and weekend peak hour traffic analyses for the Hillis site is conservatively overstated recognizing that the same total truck trip generation will be spread out over both weekdays and weekends and over 24 hours daily rather than being concentrated within only the daytime operating hours on weekdays. The traffic analysis, therefore, reflects a conservative and likely overstated concentration of trips during the weekday and weekend peak hours.

Based on the available data for the Burnt River site, we have conservatively estimated / overstated the potential site peak hour truck trip generation related to the aggregate sales use for the Hillis Road site and have summarized this in the following table. This trip generation will be applied to each of the weekday morning and afternoon and weekend peak hours.

Site Operation Metrics (Assuming only Daytime/Weekday Operation)	Level of Activity
Peak monthly aggregate delivery	19,167.94 tonnes
Number of working (open) days per month (range)	20 to 23
Conservative number of working (open) days per month	20
Average tonnes per day during peak month	958.40
Average tonnes per hour during peak month for 11 operating hours	87.13
Average payload based on site haul records	26.84
Average trucks per hour per direction during peak month based on average payload	3.25
Peak Hour to Average Hour truck traffic generation based on Burnt River site haul records	1.45
Number of trucks during site peak per direction (inbound and outbound) during peak month	5



The traffic analysis assumes that the passenger vehicle / light truck trip generation related to the aggregate sales use for each shift of the Hillis Road site will be similar to that of the daytime weekday operation at the Burnt River site, which employs a team of fifteen operations employees. Turning movement counts undertaken during the weekday morning and afternoon peak hours at the Burnt River site access were considered in developing the corresponding trips adopted for the purpose of assessing traffic impacts for the Hillis Road site, as summarized in the following table.

Site Operation Metrics	Level of Activity
Number of site operations employees per shift	15
Number of inbound passenger/light vehicles trips: am (pm) peak hour	3 (3)
Number of outbound passenger/light vehicles trips: am (pm) peak hour	3 (3)

In addition to the trip generation for the planned concrete ready-mix plant use and the as-of-right aggregate extraction and sales operation, traffic generation has been estimated to reflect the proponent's more recent indication that they intend to operate the as-of-right stone depot use at the site. The trip generation assumptions, based on the proponent's input is outlined below:

- The stone depot will generate a total of up to 25 trucks per hour and this demand has been assumed to reflect conditions during the weekday morning and afternoon and weekend peak hours.
- A reasonable estimate of the proportion of single unit dump trucks and semi-tractor trailer dump trucks is approximately 50% each.
- The stone depot will be operated by the same staff that operate the mining operations and therefore there are no additional operations staff trips generated specifically by the stone depot operation.
- The assessed weekday and weekend peak hour trip generation is summarized below:

Vehicle Type	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	Total	In	Out	Total	In	Out	Total	In	Out
Stone Depot Single Unit Trucks	24	12	12	24	12	12	24	12	12
Stone Depot Tractor Trailer Trucks	26	13	13	26	13	13	26	13	13
Total Site Traffic	50	25	25	50	25	25	50	25	25

Based on the site trip generation assumptions outlined above, the combined direction site traffic volumes are over 130 trips and, therefore, exceed the threshold for a Traffic Brief. We have scoped a full traffic impact study, accordingly.

We have also carried out a desktop review of the Hillis Road profile in proximity to the site using the elevation profile generated by aerial photographic imagery to understand that the available sight distance on the eastbound approach to the existing entrance appears to be approximately 95 to 100 m. While the speed limit does not appear to be posted, we are assuming that the posted speed limit is the same as that for Hillis Road easterly from Highway 7 (Frank Hill Road). The minimum stopping sight distance based on a corresponding 60 km/h design speed adjusted for a grade of approximately 8.5%, is 96 m. Accordingly, the available stopping sight distance likely satisfies the requirement in this regard. Sight distance to the existing driveway is greater in the westbound direction and the minimum stopping sight distance requirement is also less as approaching vehicles are travelling uphill rather than downhill. Accordingly, requirements appear to be satisfied in both directions based on this preliminary review. It is also relevant to point out that the site was previously an active gravel extraction site and is zoned accordingly and therefore trucks were previously permitted to enter and leave the site at this location. Based on this preliminary review, it would be reasonable to find that vertical alignment does not adversely limit sight lines. We propose to review surveyed plan and profile data collected by the proponent, to confirm the appropriateness of the sight lines on the approaches to the existing site driveway.

Subject to any collision history known to the County and/or the Township, we are not aware of any safety/operational concerns along Hillis Road and at the intersection with County Road 12. We have assumed that any review of collision history is not required as part of the Traffic Impact Study and have confirmed this with the Township of Selwyn and County of Peterborough.

Planned Development Proposal

Sunrock Industries Canada is planning to develop a concrete ready-mix plant at the previous site of Brock Aggregates Inc. on Hillis Road west of County Road 12. Operations of the plant are expected to commence in 2026. Access to the plant is proposed at the existing site driveway, situated approximately 395 m west of the centreline of Country Road 12.

Sunrock Industries Canada also plans to maintain the flexibility to extract and sell aggregate under the current Aggregate Resources Act License 3293 for a maximum of 127,000 tonnes of aggregate leaving the site annually. Sunrock also plans to operate a stone depot based on as-of-right zoning for the site.

The assignment of site generated traffic for each of the concrete ready-mix plant, the aggregate sales operation and the stone depot will reflect two scenarios in order to address the uncertainties related to site traffic distribution along County Road 12. These scenarios will largely reflect assumptions for greater orientation of traffic to/from the south on County Road 12 versus to/from the north and vice-



versa. Our understanding from Sunrock Industries Canada is that the majority of site traffic is expected to approach from and depart towards the south, and this has been considered in the development of the alternative trip distribution scenarios.

Key Analysis Requirements

We are proposing that the Traffic Impact Study will address operational performance at each of the Hillis Road site entrance and the nearby intersection with County Road 12. Current weekday morning and afternoon and Saturday peak hour travel demand will be established on the basis of turning movement volume data collected at the intersection of Hillis Road with County Road 12 and will assume that demand observed on the Hillis Road approach to County Road 12 is similar to that immediately next to the existing site driveway. A seven-day continuous count will also be undertaken to inform the pavement design and ensure that the analysis of peak hour operating performance reflects peak travel demand along Hillis Road.

The traffic analysis will include intersection capacity and level of service analysis as well as microsimulation, using *Synchro/SimTraffic*. This analysis will identify weekday morning and afternoon and Saturday peak hour queuing, delay, and corresponding levels of service for all individual movements at each of the site driveway and at County Road 12.

We are proposing to assess a 2031 condition based on a five-year planning horizon analysis beyond the anticipated 2026 opening day. This assumption reflects the requirements outlined in the Traffic Impact Assessment Guidelines.

The future traffic conditions analysis will include consideration of study area background development traffic. The County and has provided the available traffic impact assessments for the relevant planning applications to be accounted for as part of the traffic analysis in support of the Sunrock proposal. The traffic analysis in support of the Sunrock proposal will also reflect general background corridor traffic growth based on the application of a 2% per annum growth rate to the through traffic volumes on County Road 12. It is reasonable to assume that there will be no general background traffic growth along Hillis Road on the basis that it is a dead-end roadway.

Site traffic generated by the development proposal has been estimated based on input from the proponent with regards to the planned operations and individual traffic components and has been outlined above.

The assessment of future site traffic impacts based on a five-year planning horizon to 2031 will establish any requirements for intersection lane geometry and/or traffic control improvements.

The County's Traffic Impact Assessment Guidelines indicate that travel demand management is not usually a consideration for planned developments in the

County and would only apply to larger scale developments. This is not the case for the Sunrock Industries Canada proposal and therefore it has been assumed that such analysis is not required.

Parking space to accommodate trucks, staff and visitors is not constrained by the site and will be on gravel surfaces that can be easily expanded as required. The Traffic Impact Study will speak to this flexibility. We note that the current Township of Selwyn Zoning By-law specifies a parking requirement of 1 space per 37 m² of gross floor area for an Industrial Establishment. We note that the current municipal zoning designation is Extractive Industrial (M3) and Environmental Projection (EP).

Vehicle circulation will be evaluated to address emergency vehicle access if required by the Township. However, we can acknowledge that, as with the parking considerations, the site is not constrained in this regard.

Proposed Scope of Work

Based on our updated understanding of the proposal and the requirements of the County's Traffic Impact Assessment Guidelines, we have developed the following work program that identifies the major tasks that will be carried out as part of the traffic analysis in support of the Zoning By-law Amendment Application:

Consultation

- Submit updated terms of reference for Traffic Impact Study to the Township of Selwyn and the County of Peterborough for review and comment
- Address any potential discrepancies between the updated terms of reference and any additional requirements identified by the Township and/or the County

Data Collection

- Collect seven-day continuous traffic volume and vehicle classification data for Hillis Road west of County Road 12 to inform the pavement design (by others) for improvements to the segment of Hillis Road westerly to the site driveway
- Collect weekday and Saturday peak period turning movement volume and vehicle classification data for the intersection of County Road 12 and Hillis Road, noting that the proponent has confirmed that there is no current site traffic generation and that the demand on the Hillis Road approach to County road 12 can be assumed to reflect the background travel demand adjacent to the site
- Obtain relevant background development proposal input, including traffic assignments, from the County of Peterborough and Township of Selwyn, as input to the evaluation of background traffic operations

Travel Demand Forecasting

- Summarize existing weekday morning and afternoon and Saturday peak hour traffic volumes on Hillis Road adjacent to the site and the turning movement volumes at the County Road 12 intersection with Hillis Road, including a review of the seven-day continuous count data and the application of any adjustments to the turning movement volume data to reflect higher volumes observed on Hillis Road on another day
- Confirm suitable general background corridor traffic growth rate as 2% per annum (compounded) based on direction provided by the County's Traffic Impact Assessment Guidelines and confirm that this need only be appropriately applied to County Road 12 through traffic volumes at Hillis Road
- Apply background corridor traffic growth rate to establish corresponding traffic volume projections to 2031 (five years beyond the planned opening day for site operations)
- Establish any background development traffic volumes along Hillis Road and County Road 12, based on the available input from the County of Peterborough and Township of Selwyn, based on the available traffic assignments, noting that Saturday traffic assignments will require estimation where only weekday operations were assessed by others
- Summarize combined 2031 background traffic volumes, including general corridor traffic growth and background development traffic growth
- Estimate site trip generation for the proposed concrete ready-mix plant based on a first principles approach and information available from the proponent with respect to raw materials transport, concrete transport and staffing (summarized above)
- Estimate site trip generation for the proposed aggregate sales operation based on proxy data available for the proponent's Burnt River operation (summarized above)
- Estimate site trip generation for the stone depot based on input available from proponent with regards to anticipated operations (summarized above)
- Develop two (2) trip distribution scenarios and assign site traffic to reflect a range of travel pattern assumptions that reasonably address the uncertainty of the proportion of trips approaching and departing to/from the north and south along County Road 12
 - *Trip Distribution Scenario 1:* 90% of site traffic will approach from County Road 12 south of the site and 10% will approach from the north
 - *Trip Distribution Scenario 2:* 50% of site traffic will approach from County Road 12 south of the site and 50% will approach from the north

- Prepare summaries of the site traffic assignment and corresponding 2031 total traffic volumes at the Hillis Road intersections with each of the site driveway and County Road 12

Operational Analysis

- Develop a capacity and level of service analysis model to evaluate levels of service and queuing at the Hillis Road intersections with each of the site entrance and County Road 12
- Assess 2031 weekday morning and afternoon and Saturday peak hour intersection levels of service at the Hillis Road intersections with each of the site driveway and County Road 12 based on the current lane geometry and traffic control. This analysis will be undertaken using *Synchro* and will include microsimulation using *SimTraffic*
- Summarize any assessed operational constraints and any related requirements for intersection lane geometry and / or traffic control improvements, based on the levels of service and any required application of turning lane warrant analysis or traffic control warrant analysis

Site Circulation, Parking and Demand Management

- Demonstrate that the Site Plan reflects the application of the parking standard included in the Township of Selwyn Zoning By-law and document the flexibility of the site to accommodate parking expansion, as required
- Prepare a vehicle tracking summary (swept path analysis), if required by the Township of Selwyn, to demonstrate that emergency vehicle access on site is suitably accommodated

Documentation and Meetings

- Prepare a draft Traffic Impact Study report for review by Sunrock Industries Canada and follow up to discuss any comments and feedback prior to finalizing the report for submission to the Township of Selwyn and County of Peterborough
- Follow up with the Township of Selwyn and the County of Peterborough to address any minor comments and revise and finalize the report, accordingly

If the updated work plan meets with approval of the Township of Selwyn and the County of Peterborough, we respectfully request your acknowledgement in this regard. If you have any questions or require clarification with respect to these Terms of Reference, please do not hesitate to contact us at your convenience




and we would be happy to discuss the requirements further and update the terms of reference.

Yours very truly,

WSP CANADA LIMITED

A handwritten signature in blue ink that reads "J. Scott Fortner". The signature is written in a cursive style.

J. Scott Fortner, P.Eng.
Senior Project Manager

A large, bold, red letter 'C' is positioned on the left side of the page. It is the first letter of the main title.

TURNING MOVEMENT
VOLUME DATA

A red diagonal bar with a white border is positioned in the lower half of the page. The word 'Appendix' is written in white, bold, sans-serif font, rotated 90 degrees counter-clockwise, and centered within the bar.

Appendix



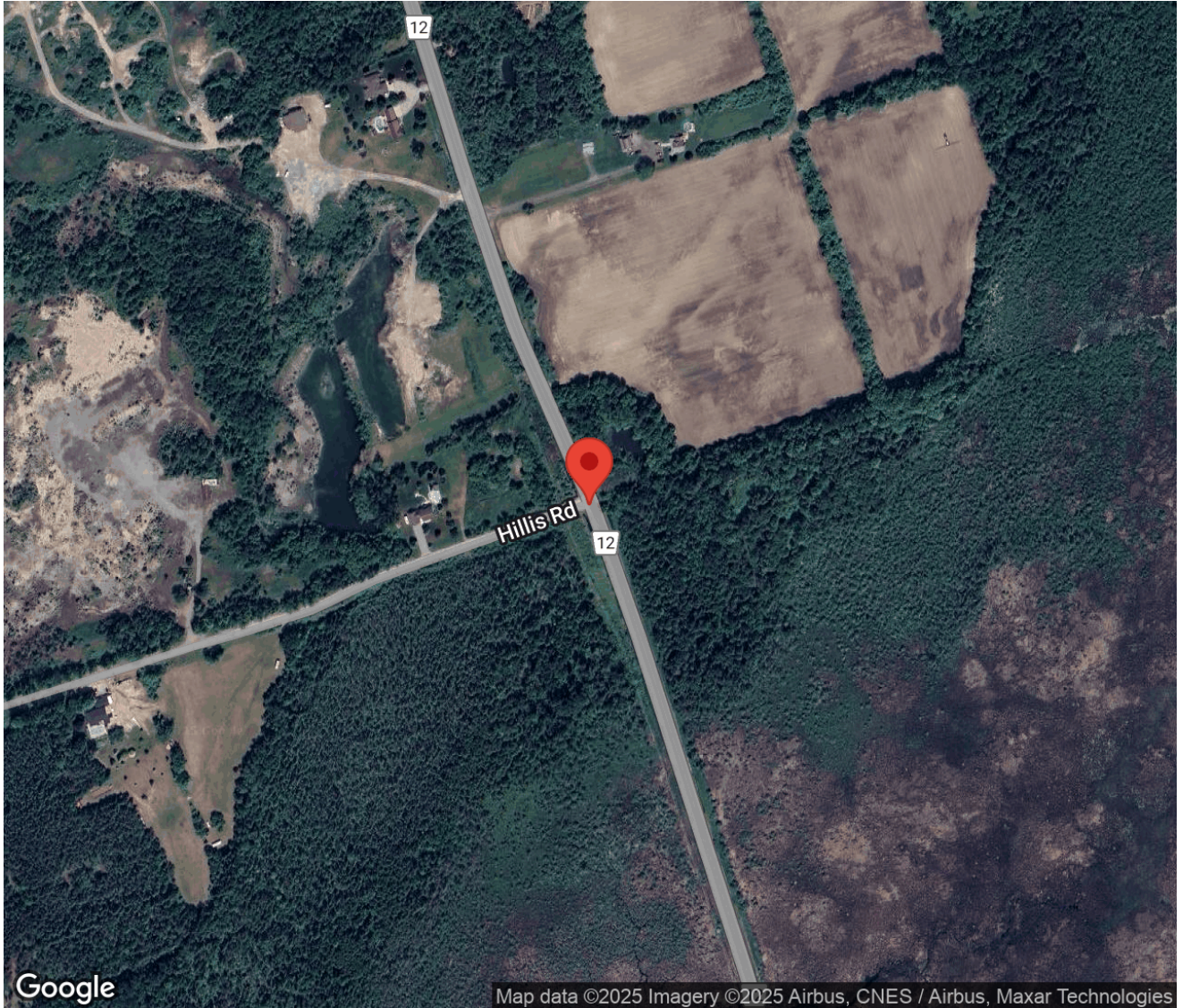
Project #25-192 - WSP

Intersection Count Report

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
Municipality: Selwyn
Count Date: Thursday, Jun 12, 2025
Site Code: 2519200001
Count Categories: Cars, Medium Trucks, Heavy Trucks, Bicycles, Pedestrian
Count Period: 07:00-09:00, 11:00-14:00, 15:00-18:00
Weather: Clear
Comments:

Traffic Count Map

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
Site Code: 2519200001
Municipality: Selwyn
Count Date: Jun 12, 2025



Traffic Count Summary

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

Fifes Bay Rd (CR 12) - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	145	0	0	145	0	0	85	0	0	85	0	230
08:00 - 09:00	0	138	0	0	138	0	1	100	0	0	101	0	239
BREAK													
11:00 - 12:00	0	84	0	0	84	0	1	105	0	0	106	0	190
12:00 - 13:00	0	88	0	0	88	0	4	89	0	0	93	0	181
13:00 - 14:00	0	80	1	0	81	0	1	123	0	0	124	0	205
BREAK													
15:00 - 16:00	0	105	2	0	107	0	0	169	0	0	169	0	276
16:00 - 17:00	0	132	1	0	133	0	1	194	0	0	195	0	328
17:00 - 18:00	0	126	0	0	126	0	4	153	0	0	157	0	283
GRAND TOTAL	0	898	4	0	902	0	12	1018	0	0	1030	0	1932



Traffic Count Summary

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

Hillis Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
07:00 - 08:00	0	0	0	0	0	0	1	0	2	0	3	0	3
08:00 - 09:00	0	0	0	0	0	0	0	0	3	0	3	1	3
BREAK													
11:00 - 12:00	0	0	0	0	0	0	1	0	2	0	3	0	3
12:00 - 13:00	0	0	0	0	0	0	1	0	2	0	3	0	3
13:00 - 14:00	0	0	0	0	0	0	0	0	2	0	2	0	2
BREAK													
15:00 - 16:00	0	0	0	0	0	0	1	0	1	0	2	0	2
16:00 - 17:00	0	0	0	0	0	0	1	0	2	0	3	0	3
17:00 - 18:00	0	0	0	0	0	0	0	0	2	0	2	1	2
GRAND TOTAL	0	0	0	0	0	0	5	0	16	0	21	2	21



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

North Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
07:00	0	18	0	0	18	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
07:15	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	53	0	0	53	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
07:45	0	38	0	0	38	0	1	0	0	1	0	4	0	0	4	0	0	0	0	0	0
08:00	0	30	0	0	30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0
08:15	0	34	0	0	34	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	39	0	0	39	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
08:45	0	29	0	0	29	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	0	269	0	0	269	0	5	0	0	5	0	9	0	0	9	0	0	0	0	0	0



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

North Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
11:00	0	23	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	22	0	0	22	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
11:45	0	22	0	0	22	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12:00	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	26	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	14	1	0	15	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
13:30	0	27	0	0	27	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0
13:45	0	20	0	0	20	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	246	1	0	247	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	0



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

North Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds	
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total		
15:00	0	21	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	27	1	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	23	0	0	23	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	0	0
15:45	0	30	1	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	26	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	37	1	0	38	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	42	0	0	42	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
17:00	0	31	0	0	31	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0
17:15	0	31	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	29	0	0	29	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0
17:45	0	30	0	0	30	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0
SUBTOTAL	0	352	3	0	355	0	5	0	0	5	0	2	0	0	2	0	4	0	0	4	0	0
GRAND TOTAL	0	867	4	0	871	0	15	0	0	15	0	11	0	0	11	0	5	0	0	5	0	0



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

South Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds	
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total		
07:00	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
07:15	0	17	0	0	17	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
07:30	0	26	0	0	26	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0
07:45	0	22	0	0	22	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0
08:00	0	26	0	0	26	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	1	0
08:15	0	24	0	0	24	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:30	1	26	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	21	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	1	178	0	0	179	0	2	0	0	2	0	3	0	0	3	0	2	0	0	2	0	0



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

South Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
11:00	0	27	0	0	27	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
11:15	0	24	0	0	24	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
11:30	1	24	0	0	25	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0
11:45	0	25	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00	0	21	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	1	22	0	0	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	1	19	0	0	20	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
12:45	2	24	0	0	26	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0
13:00	0	28	0	0	28	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0
13:15	1	31	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	34	0	0	34	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
13:45	0	25	0	0	25	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	6	304	0	0	310	0	10	0	0	10	0	0	0	0	0	0	3	0	0	3	0



Traffic Count Data

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Municipality: Selwyn
 Count Date: Jun 12, 2025

South Approach - Fifes Bay Rd (CR 12)

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
15:00	0	41	0	0	41	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
15:15	0	40	0	0	40	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
15:30	0	40	0	0	40	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
15:45	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	44	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	47	0	0	47	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
16:30	0	58	0	0	58	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
16:45	1	42	0	0	43	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
17:00	1	34	0	0	35	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	0
17:15	1	40	0	0	41	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
17:30	1	36	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	1	37	0	0	38	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	5	503	0	0	508	0	4	0	0	4	0	4	0	0	4	0	5	0	0	5	0
GRAND TOTAL	12	985	0	0	997	0	16	0	0	16	0	7	0	0	7	0	10	0	0	10	0

Peak Hour Diagram

Specified Period

From: 07:00:00
To: 09:00:00

One Hour Peak

From: 07:30:00
To: 08:30:00

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
Site Code: 2519200001
Count Date: Jun 12, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Fifes Bay Rd (CR 12) runs N/S

North Approach

	Out	In	Total
	155	99	254
MT	4	2	6
HT	6	3	9
	0	1	1
Totals	165	105	270

Fifes Bay Rd (CR 12)

	0	0	0
HT	0	6	0
MT	0	4	0
	0	155	0
Totals	0	165	0

Peds: 0



Peds: 0

Hillis Rd

	HT	MT		Totals
	0	0	0	0
	0	0	1	1
	0	0	2	2

Peds: 1

Peds: 0

West Approach

	Out	In	Total
	3	0	3
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	3	0	3

Totals	0	104	0
	0	98	0
MT	0	2	0
HT	0	3	0
	0	1	0

Fifes Bay Rd (CR 12)

South Approach

	Out	In	Total
	98	157	255
MT	2	4	6
HT	3	6	9
	1	0	1
Totals	104	167	271

- Cars

MT - Medium Trucks

HT - Heavy Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Count Date: Jun 12, 2025
 Period: 07:00 - 09:00

Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Fifes Bay Rd (CR 12)						South Approach Fifes Bay Rd (CR 12)						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
07:30		55	0	0	0	55	0	27		0	0	27					0		0		0	0	0	0	82
07:45		43	0	0	0	43	0	24		0	0	24					0		1		1	0	0	2	69
08:00		32	0	0	0	32	0	28		0	0	28					0		0		0	0	1	0	60
08:15		35	0	0	0	35	0	25		0	0	25					0		0		1	0	0	1	61
Grand Total		165	0	0	0	165	0	104		0	0	104					0	0	1		2	0	1	3	272
Approach %		100	0	0	-	-	0	100		0	-	-					-	-	33.3		66.7	0	-	-	
Totals %		60.7	0	0	60.7	60.7	0	38.2		0	38.2	38.2					0	0	0.4		0.7	0	1.1	1.1	
PHF		0.75	0	0	0.75	0.75	0	0.93		0	0.93	0.93					0	0	0.25		0.5	0	0.38	0.83	
Cars		155	0	0	155	155	0	98		0	98	98					0	0	1		2	0	3	256	
% Cars		93.9	0	0	93.9	93.9	0	94.2		0	94.2	94.2					0	0	100		100	0	100	94.1	
Medium Trucks		4	0	0	4	4	0	2		0	2	2					0	0	0		0	0	0	6	
% Medium Trucks		2.4	0	0	2.4	2.4	0	1.9		0	1.9	1.9					0	0	0		0	0	0	2.2	
Heavy Trucks		6	0	0	6	6	0	3		0	3	3					0	0	0		0	0	0	9	
% Heavy Trucks		3.6	0	0	3.6	3.6	0	2.9		0	2.9	2.9					0	0	0		0	0	0	3.3	
Bicycles		0	0	0	0	0	0	1		0	1	1					0	0	0		0	0	0	1	
% Bicycles		0	0	0	0	0	0	1		0	1	1					0	0	0		0	0	0	0.4	
Peds					0	-				0	-	-					0	-				1	-	1	
% Peds					0	-				0	-	-					0	-				100	-	-	

Peak Hour Diagram

Specified Period

From: 11:00:00
To: 14:00:00

One Hour Peak

From: 13:00:00
To: 14:00:00



Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
Site Code: 2519200001
Count Date: Jun 12, 2025

Weather conditions: Clear



**** Unsignalized Intersection ****

Major Road: Fifes Bay Rd (CR 12) runs N/S

North Approach

	Out	In	Total
	77	118	195
MT	3	4	7
HT	0	0	0
	1	1	2
Totals	81	123	204

Fifes Bay Rd (CR 12)

	0	1	0
HT	0	0	0
MT	0	3	0
	1	76	0
Totals	1	80	0

Peds: 0



Peds: 0





Peds: 0



Peds: 0

Hillis Rd

	HT	MT		Totals
0	0	0	0	0
0	0	0	0	0
0	0	0	2	2



West Approach

	Out	In	Total
	2	2	4
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	2	2	4

Totals	1	123	0
	1	118	0
MT	0	4	0
HT	0	0	0
	0	1	0

Fifes Bay Rd (CR 12)

South Approach

	Out	In	Total
	119	78	197
MT	4	3	7
HT	0	0	0
	1	1	2
Totals	124	82	206

 - Cars

MT - Medium Trucks

HT - Heavy Trucks

 - Bicycles

Comments



Peak Hour Summary

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Count Date: Jun 12, 2025
 Period: 11:00 - 14:00

Peak Hour Data (13:00 - 14:00)

Start Time	North Approach Fifes Bay Rd (CR 12)						South Approach Fifes Bay Rd (CR 12)						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
13:00		15	0	0	0	15	0	31		0	0	31					0		0		0	0	0	0	46
13:15		15	1	0	0	16	1	31		0	0	32					0		0		0	0	0	0	48
13:30		29	0	0	0	29	0	35		0	0	35					0		0		0	0	0	0	64
13:45		21	0	0	0	21	0	26		0	0	26					0		0		2	0	0	2	49
Grand Total	80	1	0	0	81	1	123	0	0	124	0	0	0	2	0	0	2	207							
Approach %	98.8	1.2	0	-	0.8	99.2	0	-	-	0	100	0	-												
Totals %	38.6	0.5	0	39.1	0.5	59.4	0	59.9	0	0	1	0	1												
PHF	0.69	0.25	0	0.7	0.25	0.88	0	0.89	0	0	0.25	0	0.25	0.81											
Cars	76	1	0	77	1	118	0	119	0	0	2	0	2	198											
% Cars	95	100	0	95.1	100	95.9	0	96	0	0	100	0	100	95.7											
Medium Trucks	3	0	0	3	0	4	0	4	0	0	0	0	0	7											
% Medium Trucks	3.8	0	0	3.7	0	3.3	0	3.2	0	0	0	0	0	3.4											
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
Bicycles	1	0	0	1	0	1	0	1	0	0	0	0	0	2											
% Bicycles	1.3	0	0	1.2	0	0.8	0	0.8	0	0	0	0	0	1											
Peds				0	-				0	-				0	-	0									
% Peds				0	-				0	-				0	-	0									

Peak Hour Diagram

Specified Period

From: 15:00:00
To: 18:00:00

One Hour Peak

From: 16:00:00
To: 17:00:00

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
Site Code: 2519200001
Count Date: Jun 12, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: Fifes Bay Rd (CR 12) runs N/S

North Approach

	Out	In	Total
	131	192	323
MT	1	1	2
HT	1	1	2
	0	1	1
Totals	133	195	328

Fifes Bay Rd (CR 12)

	0	0	0
HT	0	1	0
MT	0	1	0
	1	130	0
Totals	1	132	0

Peds: 0

Peds: 0



Peds: 0

Peds: 0

Hillis Rd

	HT	MT		Totals
0	0	0	0	0
0	0	0	1	1
0	0	0	2	2

West Approach

	Out	In	Total
	3	2	5
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	3	2	5

Totals	1	194	0
	1	191	0
MT	0	1	0
HT	0	1	0
	0	1	0

Fifes Bay Rd (CR 12)

South Approach

	Out	In	Total
	192	132	324
MT	1	1	2
HT	1	1	2
	1	0	1
Totals	195	134	329

- Cars

MT - Medium Trucks

HT - Heavy Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: Fifes Bay Rd (CR 12) & Hillis Rd
 Site Code: 2519200001
 Count Date: Jun 12, 2025
 Period: 15:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Fifes Bay Rd (CR 12)						South Approach Fifes Bay Rd (CR 12)						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
16:00		25	0	0	0	25	0	44		0	0	44					0		1		2	0	0	3	72
16:15		26	0	0	0	26	0	48		0	0	48					0		0		0	0	0	0	74
16:30		38	1	0	0	39	0	59		0	0	59					0		0		0	0	0	0	98
16:45		43	0	0	0	43	1	43		0	0	44					0		0		0	0	0	0	87
Grand Total		132	1	0	0	133	1	194		0	0	195					0	0	1	2	0	0	3	331	
Approach %		99.2	0.8	0	-	-	0.5	99.5		0	-	-					-	-	33.3	66.7	0	-	-	-	
Totals %		39.9	0.3	0	-	40.2	0.3	58.6		0	-	58.9					0	-	0.3	0.6	0	-	-	0.9	
PHF		0.77	0.25	0	0	0.77	0.25	0.82		0	0	0.83					0	0	0.25	0.25	0	0	0.25	0.84	
Cars		130	1	0	-	131	1	191		0	-	192					0	-	1	2	0	-	3	326	
% Cars		98.5	100	0	-	98.5	100	98.5		0	-	98.5					0	-	100	100	0	-	100	98.5	
Medium Trucks		1	0	0	-	1	0	1		0	-	1					0	-	0	0	0	-	0	2	
% Medium Trucks		0.8	0	0	-	0.8	0	0.5		0	-	0.5					0	-	0	0	0	-	0	0.6	
Heavy Trucks		1	0	0	-	1	0	1		0	-	1					0	-	0	0	0	-	0	2	
% Heavy Trucks		0.8	0	0	-	0.8	0	0.5		0	-	0.5					0	-	0	0	0	-	0	0.6	
Bicycles		0	0	0	-	0	0	1		0	-	1					0	-	0	0	0	-	0	1	
% Bicycles		0	0	0	-	0	0	0.5		0	-	0.5					0	-	0	0	0	-	0	0.3	
Peds					0	-					0	-					0	-					0	-	
% Peds					0	-					0	-					0	-					0	-	



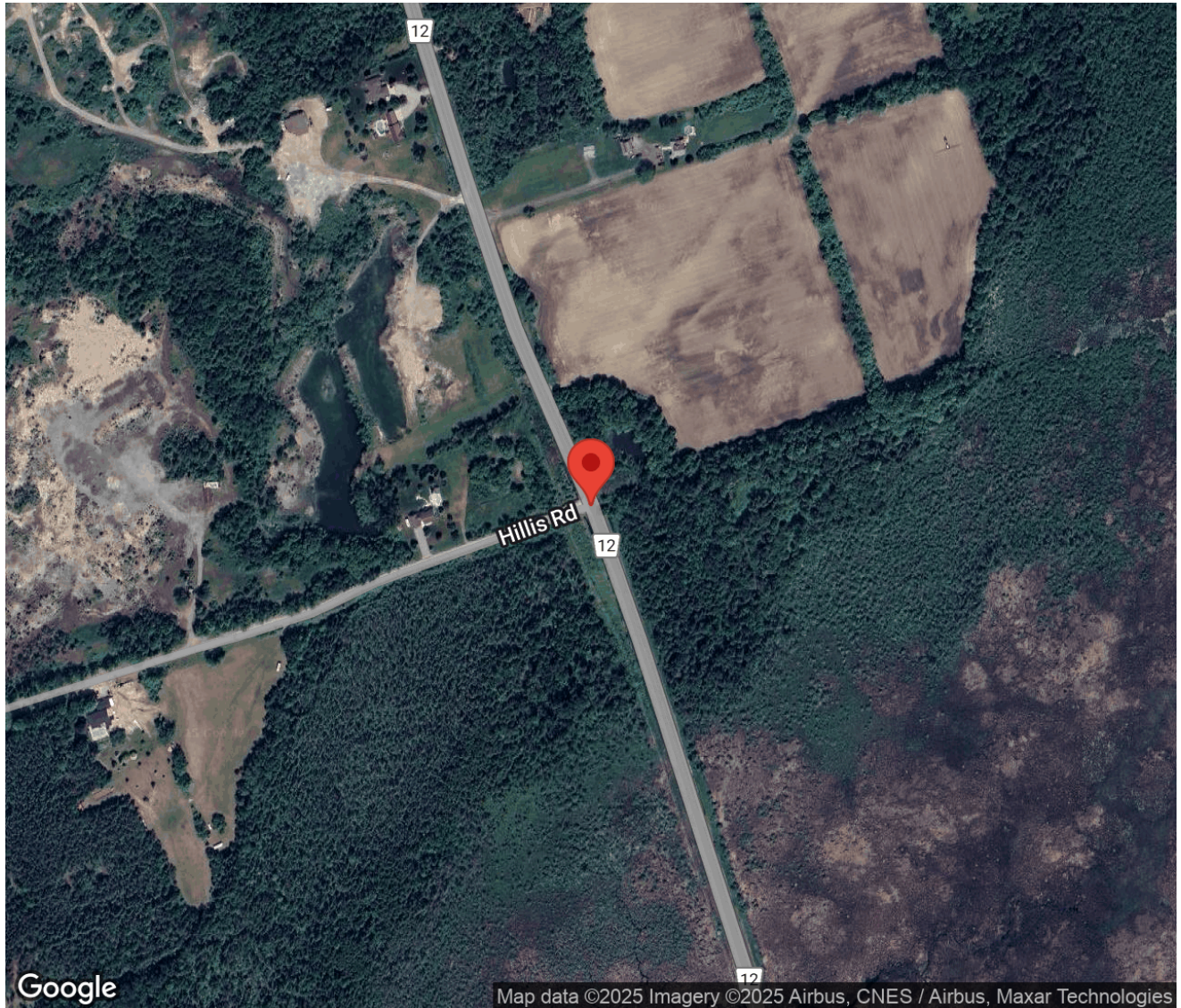
Project #25-364 - WSP

Intersection Count Report

Intersection: CR 12 & Hillis Rd
Municipality: Peterborough
Count Date: Saturday, Nov 01, 2025
Site Code: 2536400001
Count Categories: Cars, Medium Trucks, Heavy Trucks, Bicycles, Pedestrian
Count Period: 09:00-17:00
Weather: Clear
Comments:

Traffic Count Map

Intersection: CR 12 & Hillis Rd
Site Code: 2536400001
Municipality: Peterborough
Count Date: Nov 01, 2025



Traffic Count Summary

Intersection: CR 12 & Hillis Rd
 Site Code: 2536400001
 Municipality: Peterborough
 Count Date: Nov 01, 2025

CR 12 - Traffic Summary

Hour	North Approach Totals						South Approach Totals						Total
	Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
09:00 - 10:00	0	51	1	0	52	0	0	69	0	0	69	0	121
10:00 - 11:00	0	90	2	0	92	0	3	96	0	0	99	0	191
11:00 - 12:00	0	87	0	0	87	0	0	95	0	0	95	0	182
12:00 - 13:00	0	72	0	0	72	0	1	104	0	0	105	0	177
13:00 - 14:00	0	102	0	0	102	0	2	125	0	0	127	0	229
14:00 - 15:00	0	57	1	0	58	0	3	106	0	0	109	0	167
15:00 - 16:00	0	73	0	0	73	0	1	110	0	0	111	0	184
16:00 - 17:00	0	88	0	0	88	0	4	84	0	0	88	0	176
GRAND TOTAL	0	620	4	0	624	0	14	789	0	0	803	0	1427

Traffic Count Summary

Intersection: CR 12 & Hillis Rd
 Site Code: 2536400001
 Municipality: Peterborough
 Count Date: Nov 01, 2025

Hillis Rd - Traffic Summary

Hour	East Approach Totals						West Approach Totals						Total
	Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Medium Trucks, Heavy Trucks, Bicycles						
	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	
09:00 - 10:00	0	0	0	0	0	0	2	0	2	0	4	0	4
10:00 - 11:00	0	0	0	0	0	0	1	0	2	0	3	0	3
11:00 - 12:00	0	0	0	0	0	0	0	0	1	0	1	0	1
12:00 - 13:00	0	0	0	0	0	0	0	0	3	0	3	0	3
13:00 - 14:00	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00 - 15:00	0	0	0	0	0	0	0	0	1	0	1	0	1
15:00 - 16:00	0	0	0	0	0	0	2	0	1	0	3	0	3
16:00 - 17:00	0	0	0	0	0	0	0	0	3	0	3	0	3
GRAND TOTAL	0	0	0	0	0	0	5	0	13	0	18	0	18

Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	←	↑	→	↻	Total	
14:00	0	20	1	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	15	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	18	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	19	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	20	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	24	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	21	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	21	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	620	4	0	624	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	0	620	4	0	624	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	
14:00	2	29	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	1	21	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	24	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	31	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	0	22	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	0	28	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	1	29	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	1	25	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	1	23	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	1	18	0	0	19	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16:45	1	17	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	14	786	0	0	800	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0
GRAND TOTAL	14	786	0	0	800	0	2	0	0	2	0	1	0	0	1	0	0	0	0	0	0



Start Time	Cars					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	↶	↑	↷	↶	Total	
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:15	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	5	0	13	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL	5	0	13	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Peak Hour Diagram

Specified Period

From: 09:00:00
To: 12:00:00

One Hour Peak

From: 10:30:00
To: 11:30:00

Intersection: CR 12 & Hillis Rd
Site Code: 2536400001
Count Date: Nov 01, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: CR 12 runs N/S

North Approach

	Out	In	Total
	95	100	195
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	95	100	195

CR 12

	0	0	0
HT	0	0	0
MT	0	0	0
	0	95	0
Totals	0	95	0



Peds: 0

Hillis Rd

	HT	MT		Totals
	0	0	0	0
HT	0	0	0	0
MT	0	0	0	0
	0	0	2	2

Peds: 0



Peds: 0

Peds: 0

West Approach

	Out	In	Total
	2	3	5
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	2	3	5

Totals	3	100	0
	3	100	0
MT	0	0	0
HT	0	0	0
	0	0	0

CR 12

South Approach

	Out	In	Total
	103	97	200
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	103	97	200

- Cars

MT - Medium Trucks

HT - Heavy Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: CR 12 & Hillis Rd
 Site Code: 2536400001
 Count Date: Nov 01, 2025
 Period: 09:00 - 12:00

Peak Hour Data (10:30 - 11:30)

Start Time	North Approach CR 12						South Approach CR 12						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
10:30		25	0	0	0	25	3	22		0	0	25					0		0		0	0	0	0	50
10:45		21	0	0	0	21	0	33		0	0	33					0		0		1	0	0	1	55
11:00		25	0	0	0	25	0	18		0	0	18					0		0		0	0	0	0	43
11:15		24	0	0	0	24	0	27		0	0	27					0		0		1	0	0	1	52
Grand Total		95	0	0	0	95	3	100		0	0	103					0		0		2	0	0	2	200
Approach %		100	0	0	-	-	2.9	97.1		0	-	-					0		100		0	-	-	-	
Totals %		47.5	0	0	-	47.5	1.5	50		0	-	51.5					0		0		1	0	-	1	
PHF		0.95	0	0	0	0.95	0.25	0.76		0	0	0.78					0		0		0.5	0	0	0.5	0.91
Cars		95	0	0	-	95	3	100		0	-	103					0		2		0	0	0	2	200
% Cars		100	0	0	-	100	100	100		0	-	100					0		100		0	0	0	100	100
Medium Trucks		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
% Medium Trucks		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
Heavy Trucks		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
% Heavy Trucks		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
Bicycles		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
% Bicycles		0	0	0	-	0	0	0		0	-	0					0		0		0	0	0	0	0
Peds					0	-				0	-						0				0	-		0	
% Peds					0	-				0	-						0				0	-		0	

Peak Hour Diagram

Specified Period

From: 12:00:00
To: 15:00:00

One Hour Peak

From: 13:00:00
To: 14:00:00

Intersection: CR 12 & Hillis Rd
Site Code: 2536400001
Count Date: Nov 01, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: CR 12 runs N/S

North Approach

	Out	In	Total
	102	124	226
MT	0	1	1
HT	0	0	0
	0	0	0
Totals	102	125	227

CR 12

	0	0	0
HT	0	0	0
MT	0	0	0
	0	102	0
Totals	0	102	0



Peds: 0

Hillis Rd

	HT	MT		Totals
	0	0	0	0
HT	0	0	0	0
MT	0	0	0	0
	0	0	0	0
Totals	0	0	0	0

Peds: 0



Peds: 0

Peds: 0

West Approach

	Out	In	Total
	0	2	2
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	0	2	2

Totals	2	125	0
	2	124	0
MT	0	1	0
HT	0	0	0
	0	0	0

CR 12

South Approach

	Out	In	Total
	126	102	228
MT	1	0	1
HT	0	0	0
	0	0	0
Totals	127	102	229

- Cars

MT - Medium Trucks

HT - Heavy Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: CR 12 & Hillis Rd
 Site Code: 2536400001
 Count Date: Nov 01, 2025
 Period: 12:00 - 15:00

Peak Hour Data (13:00 - 14:00)

Start Time	North Approach CR 12						South Approach CR 12						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
13:00		35	0	0	0	35	0	37		0	0	37					0		0		0	0	0	0	72
13:15		17	0	0	0	17	1	30		0	0	31					0		0		0	0	0	0	48
13:30		27	0	0	0	27	1	33		0	0	34					0		0		0	0	0	0	61
13:45		23	0	0	0	23	0	25		0	0	25					0		0		0	0	0	0	48
Grand Total		102	0	0	0	102	2	125		0	0	127					0	0	0	0	0	0	0	0	229
Approach %		100	0	0	-	-	1.6	98.4		0	-	-					0	0	0		0	0	0	-	
Totals %		44.5	0	0		44.5	0.9	54.6		0		55.5					0	0	0		0	0	0	0	
PHF		0.73	0	0		0.73	0.5	0.84		0		0.86					0	0	0		0	0	0	0	0.8
Cars		102	0	0		102	2	124		0		126					0	0	0		0	0	0	0	228
% Cars		100	0	0		100	100	99.2		0		99.2					0	0	0		0	0	0	0	99.6
Medium Trucks		0	0	0		0	0	1		0		1					0	0	0		0	0	0	0	1
% Medium Trucks		0	0	0		0	0	0.8		0		0.8					0	0	0		0	0	0	0	0.4
Heavy Trucks		0	0	0		0	0	0		0		0					0	0	0		0	0	0	0	0
% Heavy Trucks		0	0	0		0	0	0		0		0					0	0	0		0	0	0	0	0
Bicycles		0	0	0		0	0	0		0		0					0	0	0		0	0	0	0	0
% Bicycles		0	0	0		0	0	0		0		0					0	0	0		0	0	0	0	0
Peds					0	-				0	-						0	-			0	-		0	0
% Peds					0	-				0	-						0	-			0	-		0	0

Peak Hour Diagram

Specified Period

From: 15:00:00
To: 17:00:00

One Hour Peak

From: 15:30:00
To: 16:30:00

Intersection: CR 12 & Hillis Rd
Site Code: 2536400001
Count Date: Nov 01, 2025

Weather conditions: Clear

**** Unsignalized Intersection ****

Major Road: CR 12 runs N/S

North Approach

	Out	In	Total
	85	106	191
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	85	106	191

CR 12

	0	0	0
HT	0	0	0
MT	0	0	0
	0	85	0
Totals	0	85	0



Peds: 0

Hillis Rd

	HT	MT		Totals
	0	0	0	0
	0	0	1	1
	0	0	1	1

Peds: 0



Peds: 0

Peds: 0

West Approach

	Out	In	Total
	2	3	5
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	2	3	5

Totals	3	105	0
	3	105	0
MT	0	0	0
HT	0	0	0
	0	0	0

CR 12

South Approach

	Out	In	Total
	108	86	194
MT	0	0	0
HT	0	0	0
	0	0	0
Totals	108	86	194

- Cars

MT - Medium Trucks

HT - Heavy Trucks

- Bicycles

Comments



Peak Hour Summary

Intersection: CR 12 & Hillis Rd
 Site Code: 2536400001
 Count Date: Nov 01, 2025
 Period: 15:00 - 17:00

Peak Hour Data (15:30 - 16:30)

Start Time	North Approach CR 12						South Approach CR 12						East Approach						West Approach Hillis Rd						Total Vehic es
	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	←	↑	→	↻	Peds	Total	
15:30		19	0	0	0	19	0	28		0	0	28					0		1		1	0	0	2	49
15:45		20	0	0	0	20	1	29		0	0	30					0		0		0	0	0	0	50
16:00		22	0	0	0	22	1	25		0	0	26					0		0		0	0	0	0	48
16:15		24	0	0	0	24	1	23		0	0	24					0		0		0	0	0	0	48
Grand Total		85	0	0	0	85	3	105		0	0	108					0	0	1		1	0	0	2	195
Approach %		100	0	0	-	-	2.8	97.2		0	-	-					-	-	50		50	0	-	-	
Totals %		43.6	0	0	-	43.6	1.5	53.8		0	-	55.4					0	0	0.5		0.5	0	-	1	
PHF		0.89	0	0	0	0.89	0.75	0.91		0	0	0.9					0	0	0.25		0.25	0	0	0.25	0.98
Cars		85	0	0	-	85	3	105		0	-	108					0	0	1		1	0	0	2	195
% Cars		100	0	0	-	100	100	100		0	-	100					0	0	100		100	0	-	100	100
Medium Trucks		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
% Medium Trucks		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
Heavy Trucks		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
% Heavy Trucks		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
Bicycles		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
% Bicycles		0	0	0	-	0	0	0		0	-	0					0	0	0		0	0	0	0	0
Peds					0	-				0	-						0	-				0	-		0
% Peds					0	-				0	-						0	-				0	-		0

D

EXISTING CONDITIONS
ANALYSIS

Appendix

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	3.6	2.3	0.1	0.2	0.2
Vehicles Entered	1	3	112	171	287
Vehicles Exited	1	3	112	171	287
Hourly Exit Rate	1	3	112	171	287
Input Volume	1	2	103	165	271
% of Volume	100	150	109	104	106
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.2	0.2
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Entered	3	3
Vehicles Exited	3	3
Hourly Exit Rate	3	3
Input Volume	3	3
% of Volume	100	100
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.0
Total Del/Veh (s)	0.4
Vehicles Entered	286
Vehicles Exited	284
Hourly Exit Rate	284
Input Volume	545
% of Volume	52
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB
Directions Served	LR
Maximum Queue (m)	9.0
Average Queue (m)	0.9
95th Queue (m)	5.1
Link Distance (m)	375.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	
Directions Served	
Maximum Queue (m)	
Average Queue (m)	
95th Queue (m)	
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.1	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	6.0	2.2	0.9	0.2	0.2	0.0	0.2
Vehicles Entered	1	3	1	199	138	1	343
Vehicles Exited	1	3	1	199	138	1	343
Hourly Exit Rate	1	3	1	199	138	1	343
Input Volume	1	2	1	193	132	1	330
% of Volume	100	150	100	103	105	100	104
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.1	0.0
Vehicles Entered	4	2	6
Vehicles Exited	4	2	6
Hourly Exit Rate	4	2	6
Input Volume	3	2	5
% of Volume	133	100	120
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.0
Total Del/Veh (s)	0.4
Vehicles Entered	343
Vehicles Exited	342
Hourly Exit Rate	342
Input Volume	665
% of Volume	51
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (m)	8.9	1.6
Average Queue (m)	1.1	0.1
95th Queue (m)	5.8	1.1
Link Distance (m)	375.9	257.3
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.3	0.2	0.1	0.1
Vehicles Entered	3	130	94	227
Vehicles Exited	3	130	94	227
Hourly Exit Rate	3	130	94	227
Input Volume	4	125	102	231
% of Volume	75	104	92	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	0.1	0.1
Vehicles Entered	3	3
Vehicles Exited	3	3
Hourly Exit Rate	3	3
Input Volume	4	4
% of Volume	75	75
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.1
Total Delay (hr)	0.0
Total Del/Veh (s)	0.3
Vehicles Entered	227
Vehicles Exited	227
Hourly Exit Rate	227
Input Volume	466
% of Volume	49
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement

Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 0

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BACKGROUND
CONDITIONS ANALYSIS

Appendix

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.9	2.7	0.2	0.2	0.2
Vehicles Entered	1	4	169	203	377
Vehicles Exited	1	4	169	203	377
Hourly Exit Rate	1	4	169	203	377
Input Volume	1	2	167	201	371
% of Volume	100	200	101	101	102
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.2	0.2
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	0.0	0.0
Vehicles Entered	5	5
Vehicles Exited	5	5
Hourly Exit Rate	5	5
Input Volume	3	3
% of Volume	167	167
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.0
Total Del/Veh (s)	0.4
Vehicles Entered	377
Vehicles Exited	377
Hourly Exit Rate	377
Input Volume	745
% of Volume	51
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB
Directions Served	LR
Maximum Queue (m)	8.9
Average Queue (m)	1.1
95th Queue (m)	5.8
Link Distance (m)	375.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	
Directions Served	
Maximum Queue (m)	
Average Queue (m)	
95th Queue (m)	
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)		0.0	0.1	0.2	0.2	0.1	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)		2.2	0.1	0.2	0.3	0.0	0.3
Vehicles Entered	0	4	1	247	209	2	463
Vehicles Exited	0	4	1	248	209	2	464
Hourly Exit Rate	0	4	1	248	209	2	464
Input Volume	1	2	1	246	201	1	452
% of Volume	0	200	100	101	104	200	103
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.1
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.0	0.0	0.0
Vehicles Entered	4	2	6
Vehicles Exited	4	2	6
Hourly Exit Rate	4	2	6
Input Volume	3	2	5
% of Volume	133	100	120
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.1
Total Del/Veh (s)	0.5
Vehicles Entered	463
Vehicles Exited	462
Hourly Exit Rate	462
Input Volume	909
% of Volume	51
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB
Directions Served	LR
Maximum Queue (m)	8.9
Average Queue (m)	1.1
95th Queue (m)	5.8
Link Distance (m)	375.9
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	
Directions Served	
Maximum Queue (m)	
Average Queue (m)	
95th Queue (m)	
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	NBL	NBT	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.5	0.2	0.2	0.2
Vehicles Entered	3	187	159	349
Vehicles Exited	3	186	159	348
Hourly Exit Rate	3	186	159	348
Input Volume	4	185	165	354
% of Volume	75	101	96	98
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	All
Denied Delay (hr)	0.0	0.0
Denied Del/Veh (s)	0.0	0.0
Total Delay (hr)	0.0	0.0
Total Del/Veh (s)	0.2	0.2
Vehicles Entered	3	3
Vehicles Exited	3	3
Hourly Exit Rate	3	3
Input Volume	4	4
% of Volume	75	75
Denied Entry Before	0	0
Denied Entry After	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.0
Total Del/Veh (s)	0.4
Vehicles Entered	349
Vehicles Exited	348
Hourly Exit Rate	348
Input Volume	712
% of Volume	49
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	NB
Directions Served	LT
Maximum Queue (m)	2.7
Average Queue (m)	0.1
95th Queue (m)	2.0
Link Distance (m)	257.3
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	
Directions Served	
Maximum Queue (m)	
Average Queue (m)	
95th Queue (m)	
Link Distance (m)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

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TOTAL CONDITIONS
ANALYSIS

Appendix

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	8.8	4.2	5.4	2.3	1.8	0.9	0.2	2.0
Vehicles Entered	3	2	65	63	161	196	9	499
Vehicles Exited	3	2	65	62	160	197	9	498
Hourly Exit Rate	3	2	65	62	160	197	9	498
Input Volume	7	1	63	61	167	201	6	506
% of Volume	43	200	103	102	96	98	150	98
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.4	1.1	4.7	2.8
Vehicles Entered	3	71	68	142
Vehicles Exited	3	71	68	142
Hourly Exit Rate	3	71	68	142
Input Volume	3	68	68	139
% of Volume	100	104	100	102
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.5
Total Del/Veh (s)	3.5
Vehicles Entered	500
Vehicles Exited	497
Hourly Exit Rate	497
Input Volume	1151
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	29.4	34.4	5.2
Average Queue (m)	16.5	6.7	0.2
95th Queue (m)	27.9	23.8	3.9
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	31.5
Average Queue (m)	16.9
95th Queue (m)	28.9
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.3	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	11.0	3.0	5.9	2.3	1.7	0.9	0.2	2.0
Vehicles Entered	5	2	63	56	250	200	7	583
Vehicles Exited	5	2	63	56	250	200	7	583
Hourly Exit Rate	5	2	63	56	250	200	7	583
Input Volume	7	1	63	62	246	201	7	587
% of Volume	71	200	100	90	102	100	100	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.4	1.1	4.8	2.9
Vehicles Entered	2	1	63	67	133
Vehicles Exited	2	1	63	67	133
Hourly Exit Rate	2	1	63	67	133
Input Volume	3	2	68	68	141
% of Volume	67	50	93	99	94
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.6
Total Del/Veh (s)	3.4
Vehicles Entered	582
Vehicles Exited	582
Hourly Exit Rate	582
Input Volume	1315
% of Volume	44
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	33.2	25.4	3.7
Average Queue (m)	16.2	5.1	0.1
95th Queue (m)	29.0	18.7	2.1
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	35.3
Average Queue (m)	16.8
95th Queue (m)	29.6
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	8.4	2.8	5.5	1.9	1.6	0.8	0.2	1.9
Vehicles Entered	5	1	64	61	178	150	6	465
Vehicles Exited	5	1	64	61	178	150	6	465
Hourly Exit Rate	5	1	64	61	178	150	6	465
Input Volume	6	1	61	65	185	165	6	489
% of Volume	83	100	105	94	96	91	100	95
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.6	0.8	4.6	2.7
Vehicles Entered	3	65	69	137
Vehicles Exited	3	65	70	138
Hourly Exit Rate	3	65	70	138
Input Volume	4	68	68	140
% of Volume	75	96	103	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.4
Total Del/Veh (s)	3.4
Vehicles Entered	464
Vehicles Exited	467
Hourly Exit Rate	467
Input Volume	1118
% of Volume	42
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	26.9	19.3	5.0
Average Queue (m)	16.4	4.2	0.2
95th Queue (m)	26.9	15.9	2.9
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	32.1
Average Queue (m)	17.3
95th Queue (m)	28.8
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.2	0.2	0.3	0.2
Total Delay (hr)	0.1	0.1	0.0	0.1	0.1	0.0	0.3
Total Del/Veh (s)	9.8	5.9	1.9	1.4	1.1	0.4	2.1
Vehicles Entered	30	35	35	164	193	40	497
Vehicles Exited	30	35	34	163	193	40	495
Hourly Exit Rate	30	35	34	163	193	40	495
Input Volume	35	36	34	167	201	34	507
% of Volume	86	97	100	98	96	118	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.3	0.8	4.7	2.5
Vehicles Entered	3	2	72	62	139
Vehicles Exited	3	2	72	62	139
Hourly Exit Rate	3	2	72	62	139
Input Volume	3	1	68	68	140
% of Volume	100	200	106	91	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.5
Total Del/Veh (s)	3.7
Vehicles Entered	498
Vehicles Exited	495
Hourly Exit Rate	495
Input Volume	1154
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	35.2	21.0	5.7
Average Queue (m)	16.7	4.5	0.2
95th Queue (m)	29.8	17.0	3.5
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	29.3
Average Queue (m)	16.7
95th Queue (m)	28.5
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.3	0.3	0.2	0.2
Total Delay (hr)	0.1	0.1	0.0	0.1	0.1	0.0	0.4
Total Del/Veh (s)	10.1	5.8	1.9	1.4	1.4	0.5	2.2
Vehicles Entered	34	35	36	246	202	34	587
Vehicles Exited	33	36	36	245	202	34	586
Hourly Exit Rate	33	36	36	245	202	34	586
Input Volume	35	36	35	246	201	35	588
% of Volume	94	100	103	100	100	97	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.0	0.2	0.8	4.6	2.5
Vehicles Entered	4	6	67	66	143
Vehicles Exited	4	6	68	65	143
Hourly Exit Rate	4	6	68	65	143
Input Volume	3	6	68	68	145
% of Volume	133	100	100	96	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.3
Total Delay (hr)	0.6
Total Del/Veh (s)	3.7
Vehicles Entered	592
Vehicles Exited	590
Hourly Exit Rate	590
Input Volume	1321
% of Volume	45
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	31.5	23.6	2.5
Average Queue (m)	16.7	4.7	0.1
95th Queue (m)	29.4	17.4	1.8
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	33.1
Average Queue (m)	16.7
95th Queue (m)	29.0
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.3	0.2	0.2	0.2	0.2
Total Delay (hr)	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.3
Total Del/Veh (s)	9.1	0.9	5.9	1.9	1.4	0.8	0.3	2.1
Vehicles Entered	34	1	34	37	186	162	31	485
Vehicles Exited	34	1	34	37	186	162	31	485
Hourly Exit Rate	34	1	34	37	186	162	31	485
Input Volume	34	1	34	38	185	165	34	491
% of Volume	100	100	100	97	101	98	91	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	1.5	0.8	4.7	2.8
Vehicles Entered	3	65	68	136
Vehicles Exited	3	65	68	136
Hourly Exit Rate	3	65	68	136
Input Volume	4	68	68	140
% of Volume	75	96	100	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.0
Denied Del/Veh (s)	0.2
Total Delay (hr)	0.5
Total Del/Veh (s)	3.7
Vehicles Entered	485
Vehicles Exited	486
Hourly Exit Rate	486
Input Volume	1121
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (m)	37.5	23.6	6.8
Average Queue (m)	17.8	3.7	0.3
95th Queue (m)	29.3	16.6	4.7
Link Distance (m)	375.9	257.3	290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	37.8
Average Queue (m)	17.3
95th Queue (m)	30.2
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	3.7	0.4	0.2	0.2	0.7
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	8.5	4.2	5.5	1.6	0.4	0.8	0.2	1.4
Vehicles Entered	3	2	65	63	161	196	9	499
Vehicles Exited	3	2	65	62	160	197	9	498
Hourly Exit Rate	3	2	65	62	160	197	9	498
Input Volume	7	1	63	61	167	201	6	506
% of Volume	43	200	103	102	96	98	150	98
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.4	1.0	4.7	2.7
Vehicles Entered	3	71	68	142
Vehicles Exited	3	71	68	142
Hourly Exit Rate	3	71	68	142
Input Volume	3	68	68	139
% of Volume	100	104	100	102
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.7
Total Delay (hr)	0.4
Total Del/Veh (s)	2.8
Vehicles Entered	500
Vehicles Exited	497
Hourly Exit Rate	497
Input Volume	1151
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	29.4	25.1	1.4
Average Queue (m)	16.6	5.9	0.0
95th Queue (m)	28.0	20.0	1.0
Link Distance (m)	374.1		290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		100.0	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	31.5
Average Queue (m)	16.9
95th Queue (m)	28.9
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	3.7	0.4	0.2	0.1	0.6
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	10.4	1.9	5.0	1.7	0.5	0.8	0.3	1.3
Vehicles Entered	5	2	63	56	250	200	7	583
Vehicles Exited	5	2	63	56	250	200	7	583
Hourly Exit Rate	5	2	63	56	250	200	7	583
Input Volume	7	1	63	62	246	201	7	587
% of Volume	71	200	100	90	102	100	100	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.2	0.9	4.7	2.8
Vehicles Entered	2	1	63	67	133
Vehicles Exited	2	1	63	67	133
Hourly Exit Rate	2	1	63	67	133
Input Volume	3	2	68	68	141
% of Volume	67	50	93	99	94
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.6
Total Delay (hr)	0.4
Total Del/Veh (s)	2.4
Vehicles Entered	582
Vehicles Exited	581
Hourly Exit Rate	581
Input Volume	1315
% of Volume	44
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	31.5	22.0
Average Queue (m)	15.4	5.1
95th Queue (m)	27.3	17.1
Link Distance (m)	374.1	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	100.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	33.5
Average Queue (m)	15.7
95th Queue (m)	27.2
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	3.7	0.4	0.2	0.2	0.7
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	8.1	2.8	5.4	1.5	0.4	0.8	0.3	1.5
Vehicles Entered	5	1	64	61	178	150	6	465
Vehicles Exited	5	1	64	61	178	150	6	465
Hourly Exit Rate	5	1	64	61	178	150	6	465
Input Volume	6	1	61	65	185	165	6	489
% of Volume	83	100	105	94	96	91	100	95
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.6	0.8	4.6	2.7
Vehicles Entered	3	65	69	137
Vehicles Exited	3	65	70	138
Hourly Exit Rate	3	65	70	138
Input Volume	4	68	68	140
% of Volume	75	96	103	99
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.7
Total Delay (hr)	0.4
Total Del/Veh (s)	2.8
Vehicles Entered	464
Vehicles Exited	467
Hourly Exit Rate	467
Input Volume	1118
% of Volume	42
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	28.3	23.9
Average Queue (m)	16.6	4.3
95th Queue (m)	26.9	16.8
Link Distance (m)	374.1	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	100.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	32.1
Average Queue (m)	17.3
95th Queue (m)	28.8
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	3.7	0.3	0.2	0.3	0.5
Total Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	0.2
Total Del/Veh (s)	9.5	5.8	1.5	0.6	1.1	0.4	1.7
Vehicles Entered	30	35	35	164	193	40	497
Vehicles Exited	30	35	34	163	193	40	495
Hourly Exit Rate	30	35	34	163	193	40	495
Input Volume	35	36	34	167	201	34	507
% of Volume	86	97	100	98	96	118	98
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.1	0.2	0.6	4.7	2.4
Vehicles Entered	3	2	72	62	139
Vehicles Exited	3	2	72	62	139
Hourly Exit Rate	3	2	72	62	139
Input Volume	3	1	68	68	140
% of Volume	100	200	106	91	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	0.4
Total Del/Veh (s)	3.2
Vehicles Entered	498
Vehicles Exited	495
Hourly Exit Rate	495
Input Volume	1154
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	33.2	19.8	5.7
Average Queue (m)	16.5	3.8	0.2
95th Queue (m)	29.0	15.6	3.4
Link Distance (m)	374.1		290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		100.0	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	29.3
Average Queue (m)	16.7
95th Queue (m)	28.5
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	3.6	0.3	0.3	0.2	0.5
Total Delay (hr)	0.1	0.1	0.0	0.0	0.1	0.0	0.3
Total Del/Veh (s)	10.0	5.8	1.5	0.6	1.4	0.5	1.8
Vehicles Entered	34	35	36	246	202	34	587
Vehicles Exited	33	36	36	245	202	34	586
Hourly Exit Rate	33	36	36	245	202	34	586
Input Volume	35	36	35	246	201	35	588
% of Volume	94	100	103	100	100	97	100
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	EBT	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.1
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.0	0.1	0.8	4.6	2.5
Vehicles Entered	4	6	67	66	143
Vehicles Exited	4	6	68	65	143
Hourly Exit Rate	4	6	68	65	143
Input Volume	3	6	68	68	145
% of Volume	133	100	100	96	99
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	0.5
Total Del/Veh (s)	3.3
Vehicles Entered	592
Vehicles Exited	590
Hourly Exit Rate	590
Input Volume	1321
% of Volume	45
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB	SB
Directions Served	LR	L	TR
Maximum Queue (m)	34.0	19.8	9.2
Average Queue (m)	16.8	4.4	0.3
95th Queue (m)	29.7	16.1	4.9
Link Distance (m)	374.1		290.4
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)		100.0	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	33.1
Average Queue (m)	16.7
95th Queue (m)	29.0
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

1: County Rd 12 & Hillis Rd Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.0	0.0	0.0	3.6	0.3	0.2	0.2	0.5
Total Delay (hr)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	8.8	0.9	5.7	1.6	0.6	0.8	0.2	1.7
Vehicles Entered	34	1	34	37	186	162	31	485
Vehicles Exited	34	1	34	37	186	162	31	485
Hourly Exit Rate	34	1	34	37	186	162	31	485
Input Volume	34	1	34	38	185	165	34	491
% of Volume	100	100	100	97	101	98	91	99
Denied Entry Before	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0

2: Hillis Rd & Sunrock Site Access Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.2	0.1
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	1.3	0.8	4.8	2.8
Vehicles Entered	3	65	68	136
Vehicles Exited	3	65	68	136
Hourly Exit Rate	3	65	68	136
Input Volume	4	68	68	140
% of Volume	75	96	100	97
Denied Entry Before	0	0	0	0
Denied Entry After	0	0	0	0

Total Network Performance

Denied Delay (hr)	0.1
Denied Del/Veh (s)	0.5
Total Delay (hr)	0.4
Total Del/Veh (s)	3.2
Vehicles Entered	485
Vehicles Exited	486
Hourly Exit Rate	486
Input Volume	1121
% of Volume	43
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: County Rd 12 & Hillis Rd

Movement	EB	NB
Directions Served	LR	L
Maximum Queue (m)	33.9	22.5
Average Queue (m)	17.8	3.7
95th Queue (m)	28.5	16.3
Link Distance (m)	374.1	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)	100.0	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hillis Rd & Sunrock Site Access

Movement	SB
Directions Served	LR
Maximum Queue (m)	37.8
Average Queue (m)	17.3
95th Queue (m)	30.2
Link Distance (m)	99.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0
