



paradigm
TRANSPORTATION SOLUTIONS LIMITED

191 Wellington Road 7 and 290 South Street, Elora

Transportation Impact Study

Paradigm Transportation Solutions Limited

October 2025
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Client:

James Keating Construction (2004) Limited

Client Contact:

Richard Kelly-Ruetz

GSP Group

72 Victoria Street South, Suite 201
Kitchener ON N2G 4Y9

Consultant Project Team

Rajan Philips, M.Sc. (PI), P.Eng.
Maddison Murch, P.Eng.

Paradigm Transportation Solutions Limited

5A-150 Pinebush Road
Cambridge ON N1R 8J8

p: 519.896.3163

905.381.2229

416.479.9684

www.ptsl.com

191 Wellington Road 7 and 290 South Street, Elora Transportation Impact Study



Rajan Philips, M.Sc. (PI), P.Eng.

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Executive Summary

Content

Paradigm Transportation Solutions Limited has been retained to conduct this Transportation Impact Study (TIS) for a proposed residential development located at 191 Wellington Road 7 and 290 South Street in Elora, Township of Centre Wellington, Wellington County.

This TIS includes an analysis of existing traffic conditions, a description of the proposed development, traffic forecasts for build-out (2027) and five years from build-out (2032), assessment of traffic impacts with recommendations to accommodate the proposed development as appropriate, and site circulation review.

Development Concept

The subject site is located on the west side of South Street north of David Street, and east of Wellington Road 7. The proposed development includes 25 townhouse units. Vehicle access to the development is provided via a full-moves access to South Street, with four units of the development having direct access to South Street.

The development is anticipated to be completed by 2027.

Conclusions

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

- ▶ **Existing Traffic Conditions:** The intersection of David Street and South Street is operating with acceptable levels of service.
- ▶ **Development Trip Generation:** The development is forecast to generate 12 and 14 trips during the AM and PM peak hours, respectively. The development is a low trip generator and adds minimal traffic to the surrounding road system.
- ▶ **Background Traffic Conditions:** The intersection of David Street and South Street is forecast to operate with acceptable levels of service under 2027 and 2032 background traffic conditions.
- ▶ **Total Traffic Conditions:** The intersection of David Street and South Street is forecast to operate with acceptable levels of service under 2027 and 2032 total traffic conditions.
- ▶ **Site Access:**



- The site access intersection on South Street is forecast to operate with LOS A during the AM and PM peak hours.
- A northbound left-turn lane is not warranted at the site access on South Street under total traffic conditions.
- ▶ **David Street and South Street:** An eastbound left-turn lane is not warranted at David Street and South Street under total traffic conditions.
- ▶ **Site Circulation:** The proposed geometry on-site is sufficient to accommodate the intended design vehicles.

Recommendations

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



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1 Introduction

1.1 Overview

Paradigm Transportation Solutions Limited has been retained to conduct this Transportation Impact Study (TIS) for a proposed residential development located at 191 Wellington Road 7 and 290 South Street in Elora, Township of Centre Wellington, Wellington County. **Figure 1.1** illustrates the subject development location.

The subject site is located on the west side of South Street north of David Street, and east of Wellington Road 7. The proposed development includes 25 townhouse units. Vehicle access to the development is provided via a full-moves access to South Street, with four units of the development having direct access to South Street.

The development is anticipated to be completed by 2027.

1.2 Purpose and Scope

The purpose of this report is to identify and assess the potential traffic impact resulting from the proposed development. The scope of the study, developed in consultation with Centre Wellington and Wellington County staff via e-mail in September 2025, includes:

- ▶ Assessment of the current traffic and site conditions within the study area;
- ▶ Estimates of background traffic growth for build-out (2027) and five years from build-out (2032);
- ▶ Estimates of additional traffic generated by the subject site;
- ▶ Analyses of the impact of future traffic on the surrounding road network, including the following study area intersections:
 - South Street and David Street (unsignalized); and
 - Site access on South Street (future).
- ▶ Recommendations necessary to mitigate the site generated traffic in a satisfactory manner; and
- ▶ Site circulation review.

Appendix A contains the pre-study consultation material and responses from the Township and County.



This study has been prepared in accordance with the requirements detailed by the *Wellington County Traffic Impact Study Guidelines*¹.

¹ Dillon Consulting, *Wellington County Road Master Action Plan Appendix G: Traffic Impact Study Guidelines*, October 2021.





Location of Subject Site

191 Wellington Road 7 & 290 South Street, Elora TIS
250524

Figure 1.1

2 Existing Conditions

2.1 Road Network

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

- ▶ **South Street** is a north-south township road with a two-lane cross section and an assumed speed limit of 40 km/h. Sidewalks are provided on the west side of the roadway.
- ▶ **David Street** is an east-west township road with a two-lane cross section and a posted speed limit of 40 km/h. Sidewalks are provided on both sides of the roadway.

The intersection at South Street and David Street operates under stop-control on the South Street approach.

2.2 Traffic Volumes

Turning movement counts were collected at the intersection of David Street and South Street by Paradigm on 14 August 2025.

Given the tourist activity in Elora, traffic counts were collected under summer conditions. Average Annual Daily Traffic (AADT) data published by MTO² indicates that summer traffic volumes on Highway 6 through Fergus are approximately 1.2 times higher than AADT volumes. Therefore, traffic volumes collected under summer conditions are considered conservative for this traffic impact assessment.

Figure 2.1 illustrates the existing weekday AM and PM peak hour traffic volumes.

Appendix B contains the detailed traffic counts for the intersection of South Street and David Street.

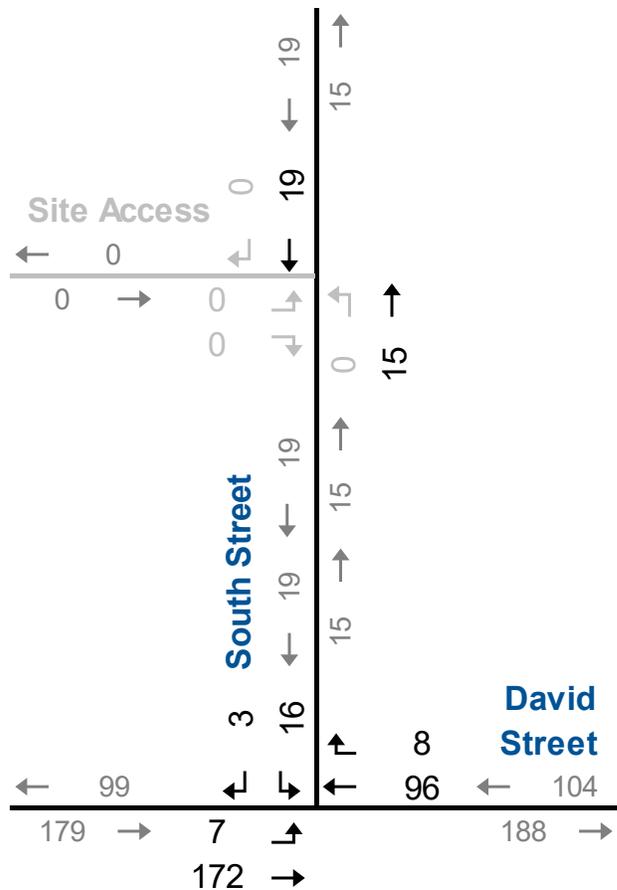
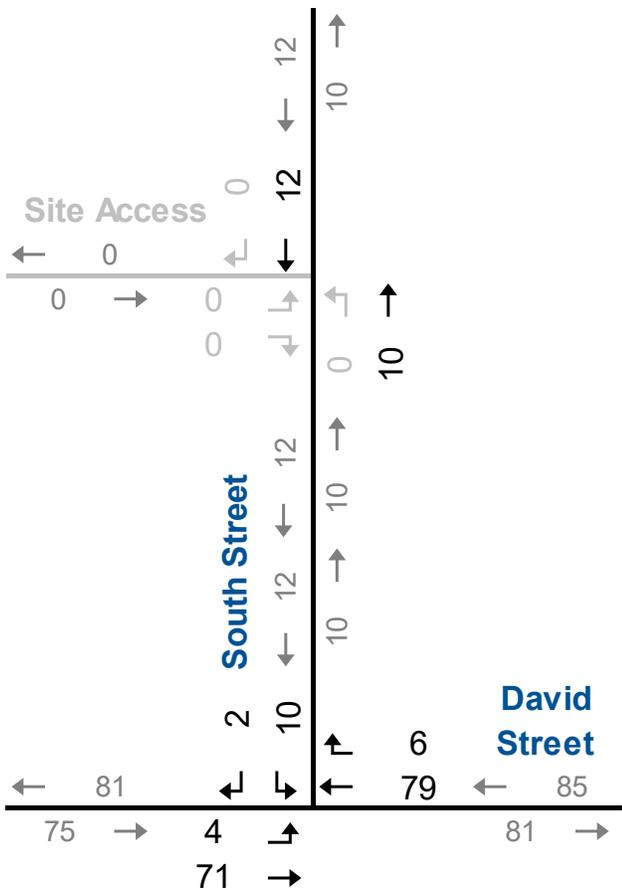
² Ontario, Ministry of Transportation, Provincial Highways Traffic Volumes 1988-2019, 2021.





AM Peak Hour

PM Peak Hour



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Existing Traffic Volumes

Figure 2.1

2.3 Traffic Operations

The operations at the study area intersections have been assessed using Synchro 12. The following conditions are identified as critical at unsignalized intersections:

- ▶ Overall intersection level of service (LOS) is E or F; and/or
- ▶ 95th percentile queues exceed available storage.

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

The highest possible rating is LOS A, under which the average total delay is equal to or less than 10.0 seconds per vehicle. When the average delay exceeds 80 seconds for signalized intersections, 50 seconds for unsignalized intersections or when the volume to capacity ratio is greater than 1.0, the movement is classed as LOS F and remedial measures are usually implemented, if they are feasible. LOS E is usually used as a guideline for the determination of road improvement needs on through lanes, while LOS F may be acceptable for left-turn movements at peak times, depending on delays.

Table 2.1 summarizes the results of the intersection operational analysis under existing conditions, including the AM and PM peak hour LOS, v/c ratios, and 95th percentile queues.

The results indicate that the intersection of David Street and South Street is operating with acceptable levels of service, and with no problem movements.

Appendix C contains the detailed Synchro 12 reports.



TABLE 2.1: EXISTING TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach															
				Eastbound				Westbound				Northbound				Southbound			
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach
AM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 7 V/C < 0.00 Q < 0	< A 7 0.00 0	< A 7 0.00 0	< A 7 0.00 0	A 0	< A 7 0.00 0	A 9										
PM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 7 V/C < 0.01 Q < 0	< A 7 0.01 0	< A 7 0.01 0	< A 7 0.01 0	A 0	< A 7 0.01 0	B 10										

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



3 Development Concept

3.1 Description

The subject site is located on the west side of South Street north of David Street, and east of Wellington Road 7. The proposed development includes 25 townhouse units. Vehicle access to the development is provided via a full-moves access to South Street, with four units of the development having direct access to South Street.

The development is anticipated to be completed by 2027.

Figure 3.1 shows the development concept.

3.1.1 Sight Distance

A clear line of sight is available along South Street to the south of the site access and vertical curvature is provided to the north.

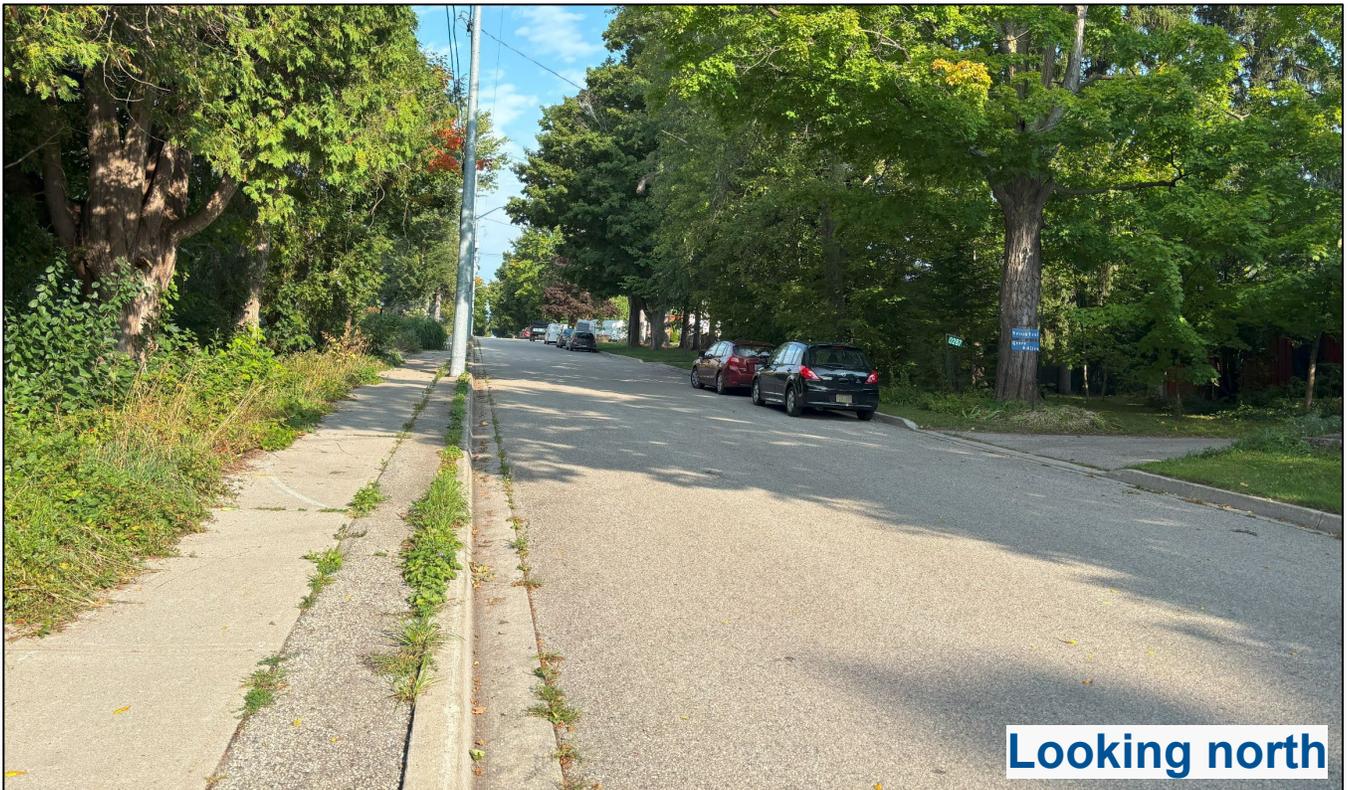
The *Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads*³ has been used to assess available sight distance at the proposed site access location on South Street. For a design speed of 50 km/h, the minimum required stopping distance is 65 metres and the minimum required intersection sight distance (right-turn from stop) is 95 metres.

Figure 3.2 illustrates the visibility at the proposed site access on South Street.

The proposed location of the site access provides for over 120 metres of sight distance to the north along South Street, exceeding the minimum TAC requirement.

³ Transportation Association of Canada, *Geometric Design Guide for Canadian Roads*, (Ottawa: TAC, 2017).





Looking north



Looking south

3.2 Trip Generation

The Institute of Transportation Engineers (ITE) Trip Generation Manual⁴ rates for Land Use Code (LUC) 215 Single-Family Attached Housing have been used to estimate the peak hour traffic volumes generated by this development.

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

TABLE 3.1: TRIP GENERATION

Land Use	Number of Units	AM Peak Hour			PM Peak Hour				
		Rate	In	Out	Total	Rate	In	Out	Total
LUC 215 - Single-Family Attached Housing	25	0.48	3	9	12	0.57	8	6	14
Total Trip Generation			3	9	12		8	6	14

3.3 Trip Distribution and Assignment

The trip distribution was determined based on existing travel patterns at the intersection of David Street and South Street. **Table 3.2** displays the breakdown of trip distributions used in this study.

TABLE 3.2: ESTIMATED TRIP DISTRIBUTION

Origin/Destination	Percentage
North via South St	10%
East via David St	55%
West via David St	35%
Total	100%

Trips generated by 21 of the 25 units have been assigned to the site access intersection on South Street. The remaining trips to the four townhouse units with driveways directly to South Street are shown as through trips on South Street.

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

It is noted that the development is a low trip generator and as shown in **Figure 3.2**, adds fewer than five vehicles per hour (vph) during either peak hour and in either direction on David Street or South Street.

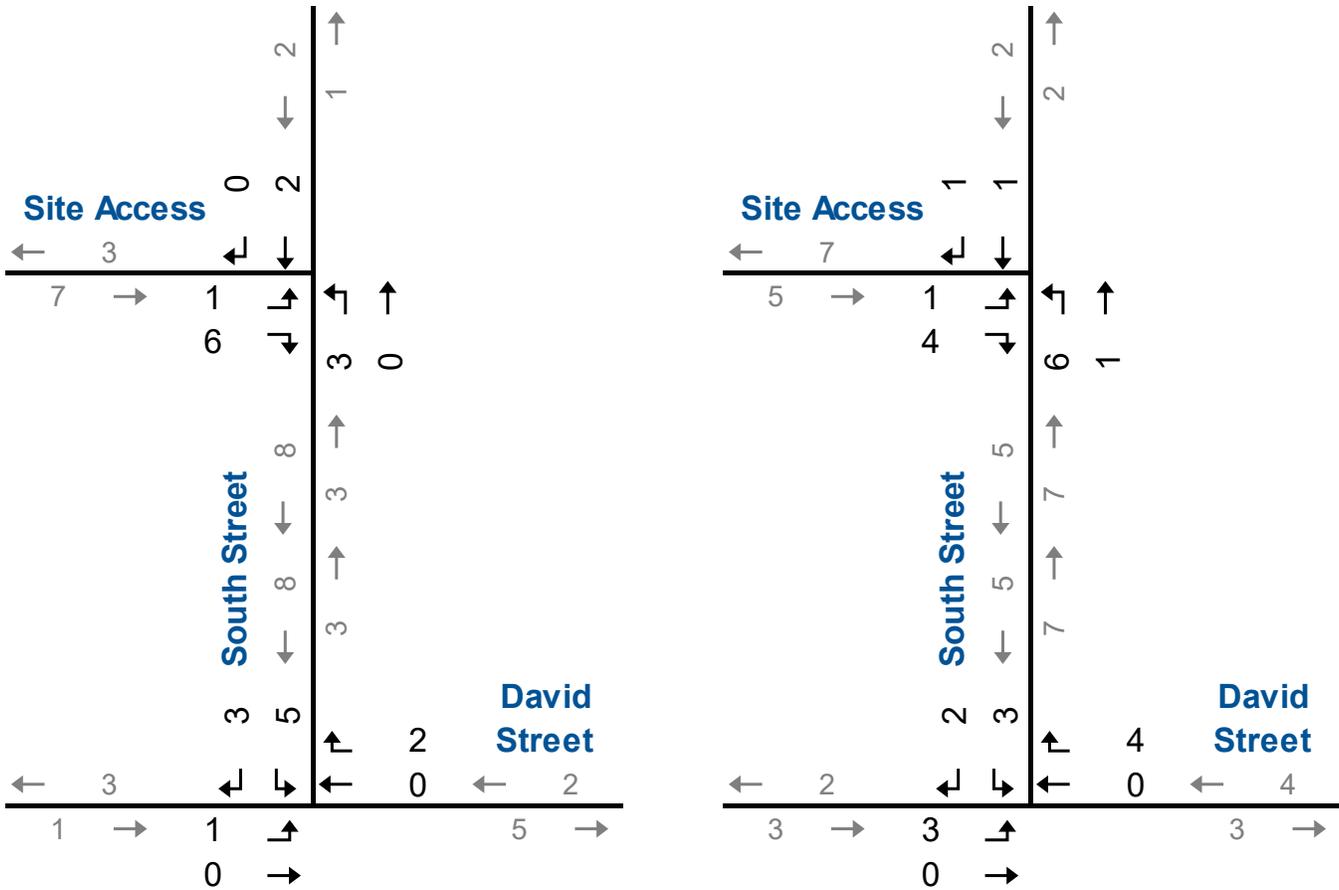
⁴ Institute of Transportation Engineers, *Trip Generation Manual*, 11th ed., (Washington, DC: ITE, 2021).





AM Peak Hour

PM Peak Hour



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Site Generated Traffic Volumes

4 Evaluation of Future Traffic Conditions

The assessment of future traffic conditions in this section includes estimates of future background and total traffic volumes, and the analyses for the 2027 and 2032 horizon years.

4.1 Background Traffic Forecasts

4.1.1 General Growth

To derive the 2027 and 2032 generalized background traffic volumes, a growth rate of 2% was applied to the existing roadway traffic volumes. This growth rate was confirmed with the Township and County during the pre-study consultation.

4.1.2 Other Area Developments

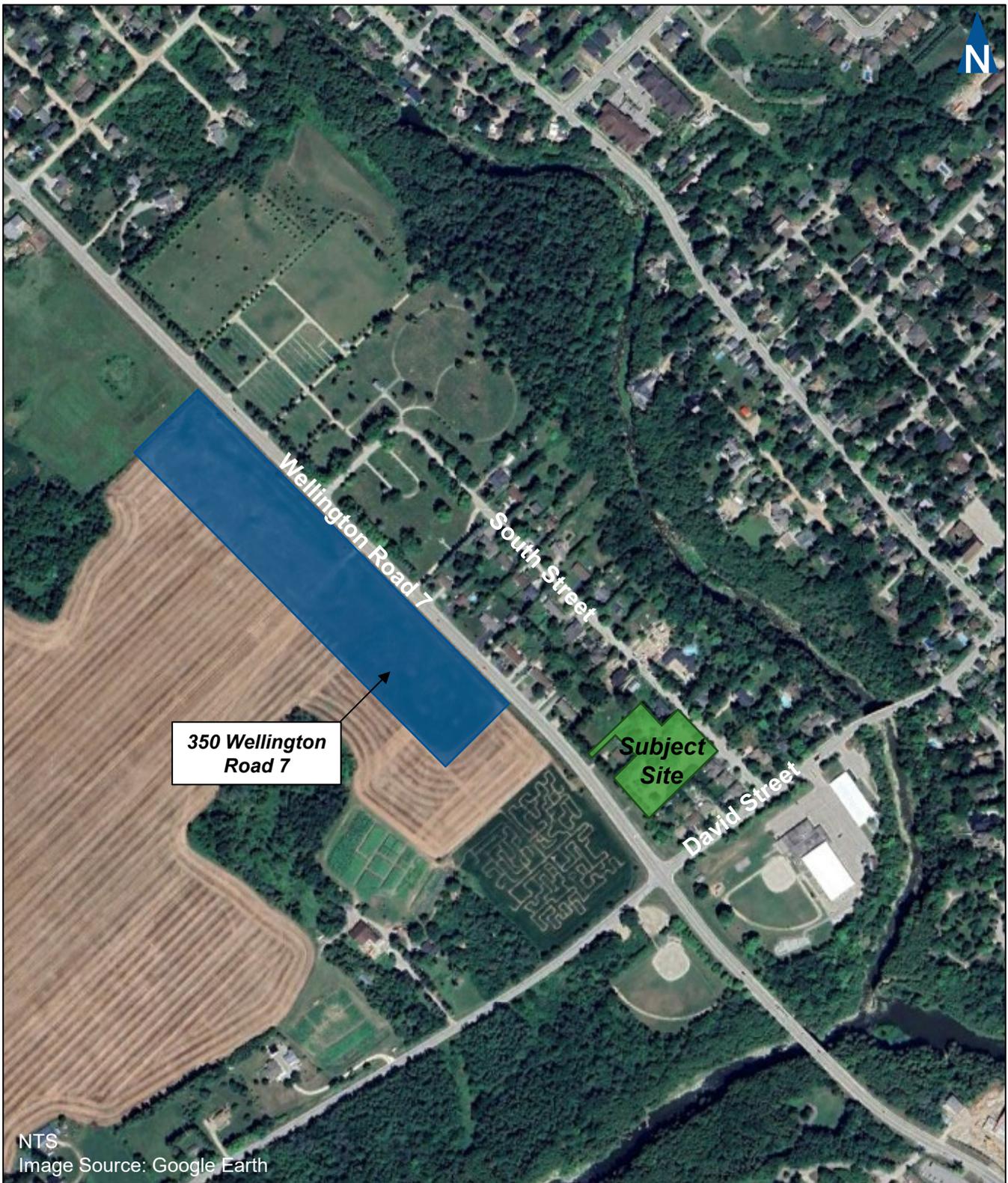
In addition to the above general traffic growth, the proposed residential development at 350 Wellington Road 7 has been included in the background traffic forecasts. The development includes 273 townhouse units with three driveways onto Wellington Road 7. The TIS completed in November 2022⁵ indicates that the development is forecast to generate 110 AM peak hour trips and 140 PM peak hour trips.

Figure 4.1 illustrates the location of the proposed development at 350 Wellington Road 7 in proximity to the subject site.

Appendix D contains the other area development traffic volumes.

⁵ JD Northcote Engineering Inc., *350 Wellington Road 7 Traffic Impact Study*, November 2022.





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Image Source: Google Earth



Other Area Development Location

191 Wellington Road 7 & 290 South Street, Elora TIS
250524

Figure 4.1

4.2 2027 (Build-Out) Horizon

4.2.1 Background Traffic

Figure 4.2 illustrates the 2027 background traffic volumes, including road traffic growth and other area development traffic.

The 2027 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

Table 4.1 summarizes the results of the 2027 background traffic operations. The results indicate that the intersection of David Street and South Street is forecast to operate with acceptable levels of service during the AM and PM peak hours.

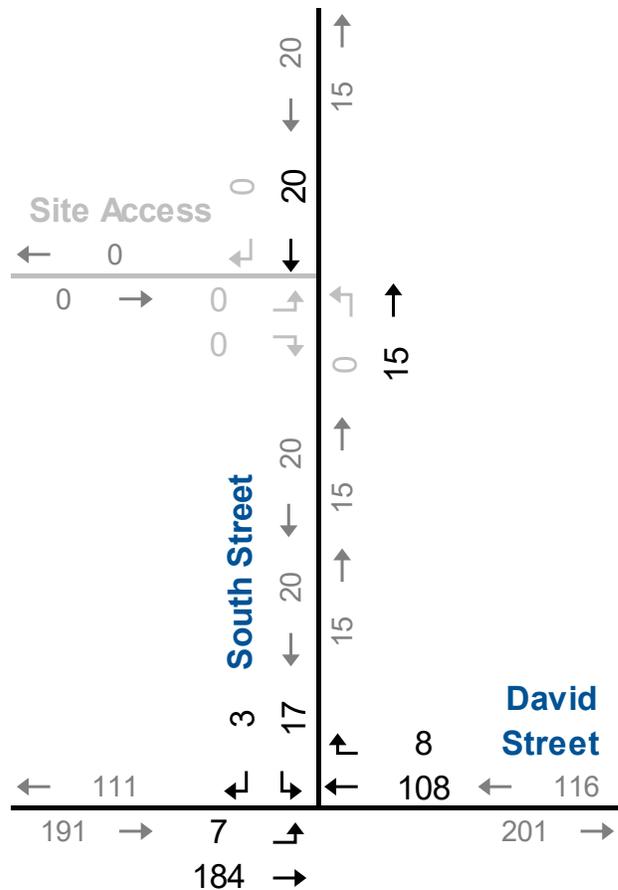
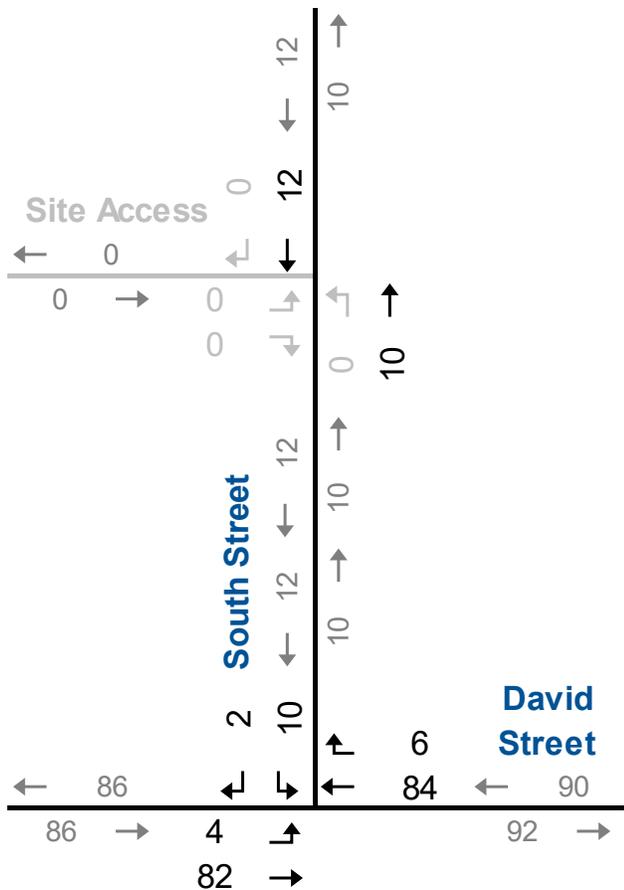
Appendix E contains the supporting detailed Synchro 12 reports.





AM Peak Hour

PM Peak Hour



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2027 Background Traffic Volumes

TABLE 4.1: 2027 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach																
				Eastbound				Westbound				Northbound				Southbound				
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	
AM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 7 V/C < 0.00 Q < 0	< A	< 7	< 0.00	< 0	< A	< 0	< 0.00	< 0	< A	< 0	< 0.02	< 0	< A	< 9	< 0	< A	< 9
PM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 8 V/C < 0.01 Q < 0	< A	< 8	< 0.01	< 0	< A	< 0	< 0.00	< 0	< A	< 0	< 0.03	< 1	< B	< 10	< 0.03	< B	< 10

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



4.2.2 Total Traffic

Figure 4.3 illustrates the 2027 total traffic volumes, including trips generated by the proposed development.

The 2027 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.2 summarizes the results of the 2027 total traffic operations. The results indicate that the intersection of David Street and South Street is forecast to operate with acceptable levels of service during the AM and PM peak hours.

The site access intersection on South Street is forecast to operate with LOS A during the AM and PM peak hours.

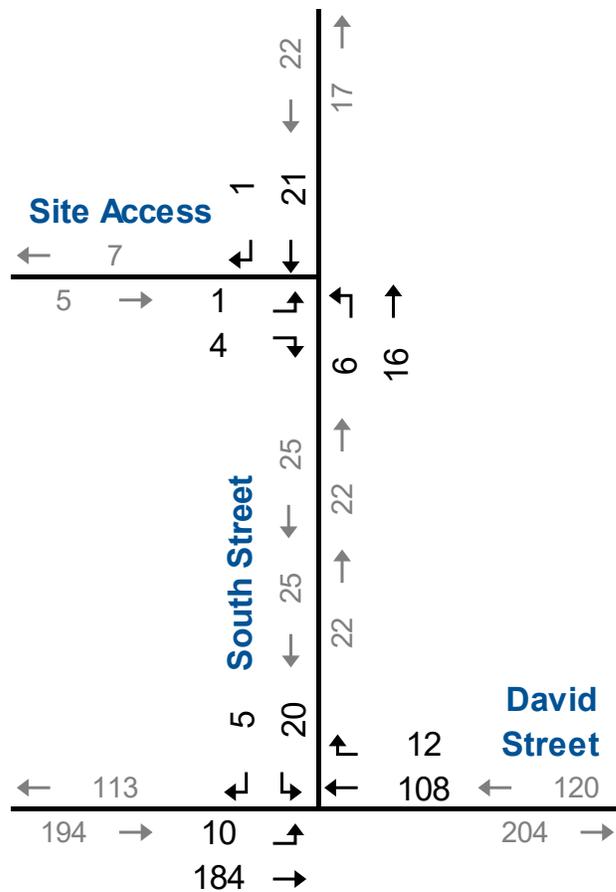
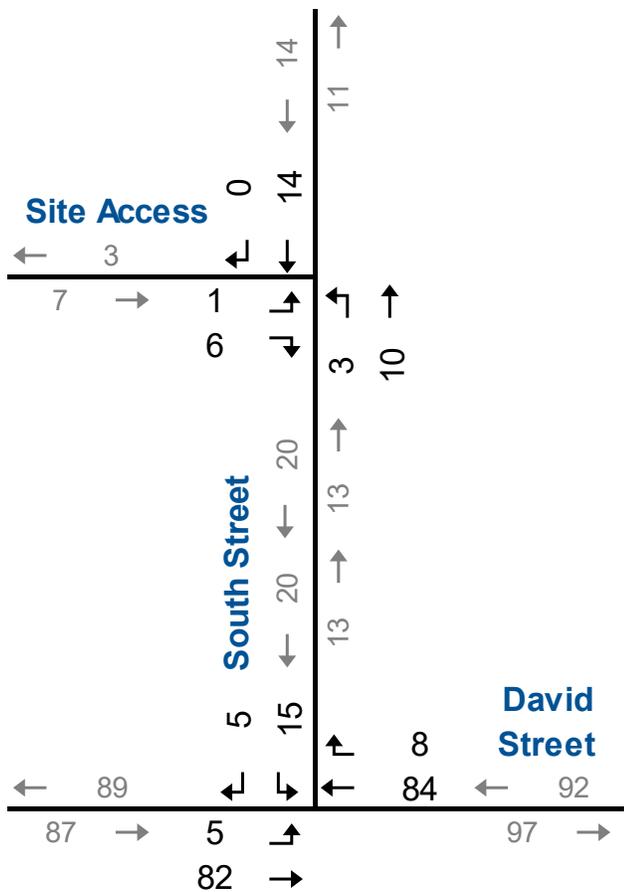
Appendix F contains the supporting detailed Synchro 12 reports.





AM Peak Hour

PM Peak Hour



NTS



2027 Total Traffic Volumes

Figure 4.3

TABLE 4.2: 2027 TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach															
				Eastbound				Westbound				Northbound				Southbound			
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach
AM Peak Hour	David Street & South Street	TWSC	LOS < Delay < V/C < Q <	A 7 0.00 0	> > > >		A 0 0.00 0	> > > >	A 0 0.00 0					A 9 0.03 1	> > > >		A 9		
	South Street & Site Access	TWSC	LOS A Delay 8 V/C 0.01 Q 0	> > > >									< < < <	A 7 0.00 0		A 2	> > > >	A 0	
PM Peak Hour	David Street & South Street	TWSC	LOS < Delay < V/C < Q <	A 8 0.01 0	> > > >		A 0 0.00 0	> > > >	A 0 0.00 0					B 10 0.04 1	> > > >		B 11		
	South Street & Site Access	TWSC	LOS A Delay 8 V/C 0.01 Q 0	> > > >								< < < <	A 7 0.00 0		A 2	> > > >	A 0		

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



4.3 2032 (Five-Year) Horizon

4.3.1 Background Traffic

Figure 4.4 illustrates the 2032 background traffic volumes, including road traffic growth and other area development traffic.

The 2027 background traffic volumes have been analyzed using the same methodology as under existing traffic conditions.

Table 4.3 summarizes the results of the 2032 background traffic operations. The results indicate that the intersection of David Street and South Street is forecast to operate with acceptable levels of service during the AM and PM peak hours.

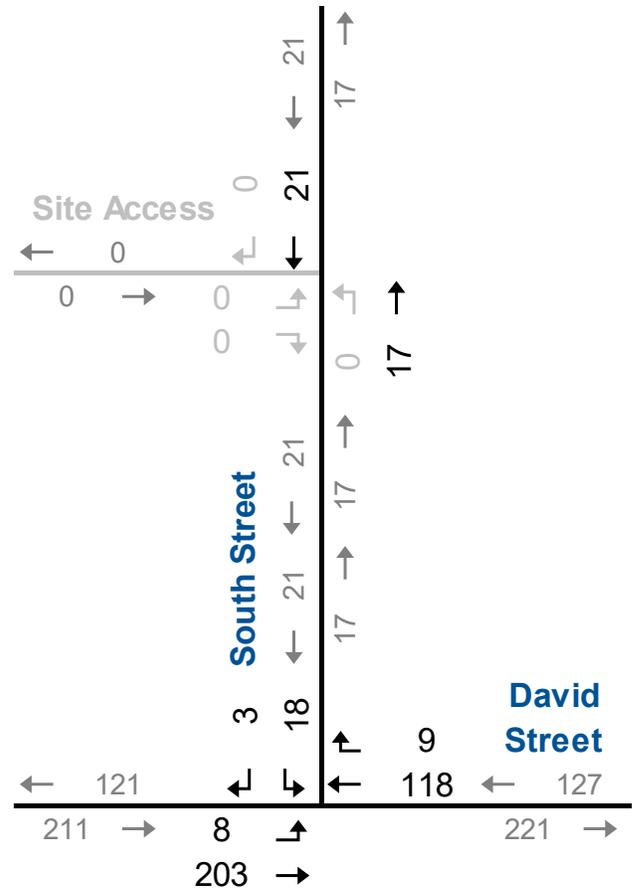
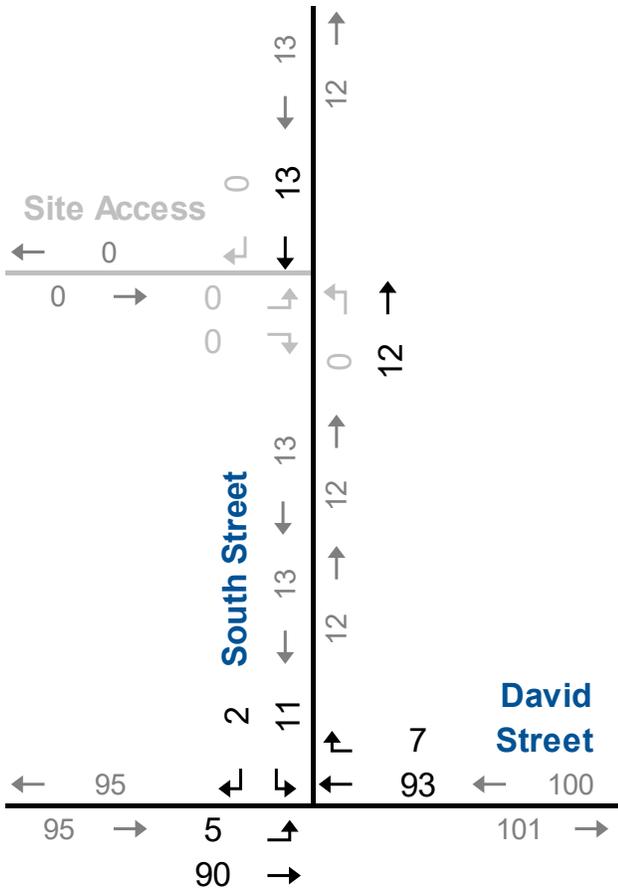
Appendix G contains the supporting detailed Synchro 12 reports.





AM Peak Hour

PM Peak Hour



NTS



2032 Background Traffic Volumes

TABLE 4.3: 2032 BACKGROUND TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach															
				Eastbound				Westbound				Northbound				Southbound			
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach
AM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 7 V/C < 0.00 Q < 0	A			A 0				A 0				A 10			A 10	
PM Peak Hour	David Street & South Street	TWSC	LOS < A Delay < 8 V/C < 0.01 Q < 0	A			A 0				A 0				B 11			B 11	

MOE - Measure of Effectiveness

LOS - Level of Service

Delay - Average Delay per Vehicle in Seconds

V/C - Volume to Capacity Ratio

Q - 95th Percentile Queue Length (m)

TWSC - Two-Way Stop Control

</> - Shared with through movement



4.3.2 Total Traffic

Figure 4.5 illustrates the 2032 total traffic volumes, including trips generated by the proposed development.

The 2032 total traffic volumes have been analyzed using the same methodology as under existing and background traffic conditions.

Table 4.4 summarizes the results of the 2032 total traffic operations. The results indicate that the intersection of David Street and South Street is forecast to operate with acceptable levels of service during the AM and PM peak hours.

The site access intersection on South Street is forecast to operate with LOS A during the AM and PM peak hours.

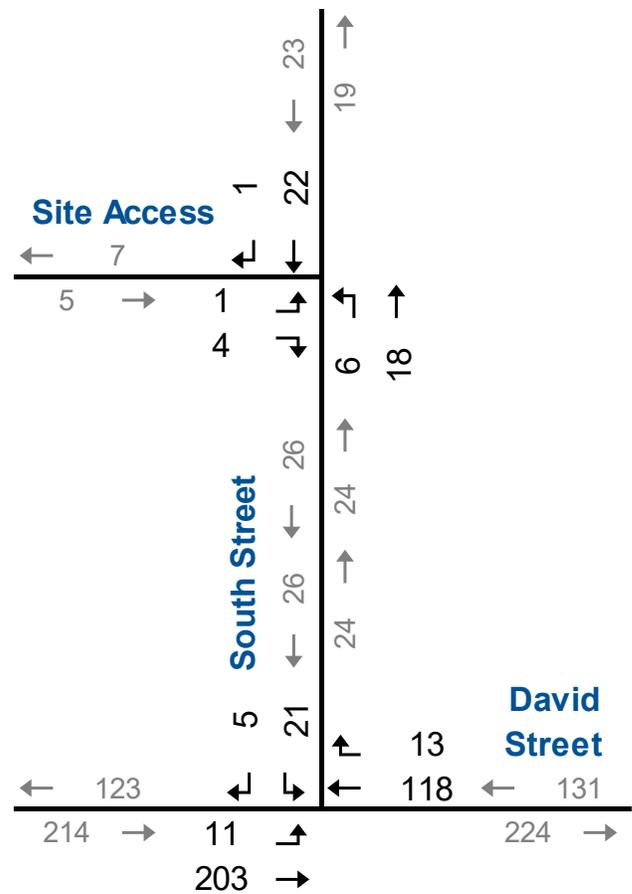
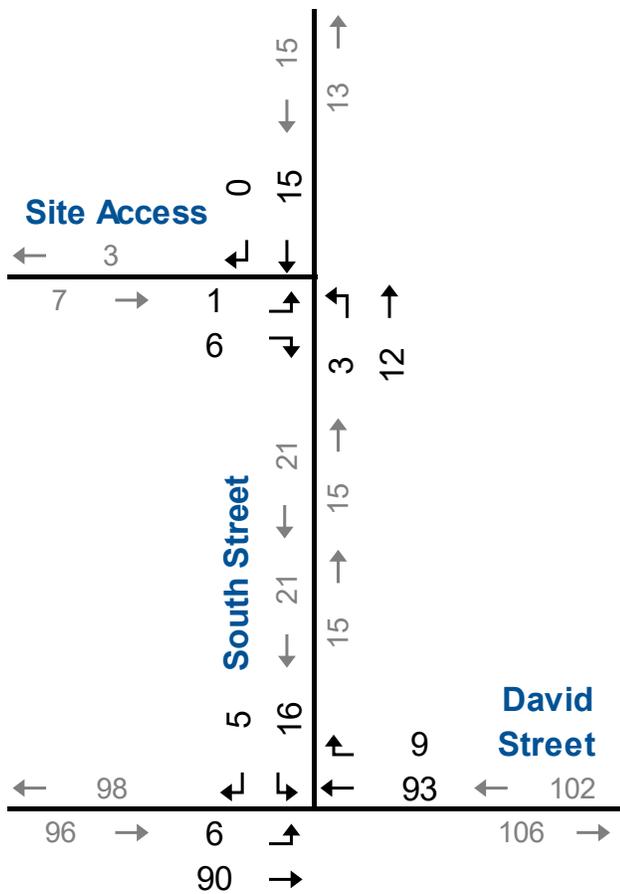
Appendix H contains the supporting detailed Synchro 12 reports.





AM Peak Hour

PM Peak Hour



NTS



2032 Total Traffic Volumes

Figure 4.5

TABLE 4.4: 2032 TOTAL TRAFFIC OPERATIONS

Analysis Period	Intersection	Control Type	MOE	Direction/Movement/Approach															
				Eastbound				Westbound				Northbound				Southbound			
				Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach	Left	Through	Right	Approach
AM Peak Hour	David Street & South Street	TWSC	LOS < Delay < V/C < Q <	A 7 0.00 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0	> > > >	< < < <	A 7 0.00 0	> > > >	A 1 0.03 1	> > > >	A 10 0.03 1	> > > >	A 10 0.03 1		
	South Street & Site Access	TWSC	LOS A Delay 8 V/C 0.01 Q 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0	> > > >	< < < <	A 7 0.00 0	> > > >	A 1 0.00 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0			
PM Peak Hour	David Street & South Street	TWSC	LOS < Delay < V/C < Q <	A 8 0.01 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0	> > > >	< < < <	A 7 0.00 0	> > > >	A 2 0.04 1	> > > >	B 11 0.04 1	> > > >	B 11 0.04 1		
	South Street & Site Access	TWSC	LOS A Delay 8 V/C 0.01 Q 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0	> > > >	< < < <	A 7 0.00 0	> > > >	A 2 0.00 0	> > > >	A 0 0.00 0	> > > >	A 0 0.00 0			

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



4.4 Left-Turn Lanes

*The Ministry of Transportation Design Supplement for the TAC Geometric Design Guide for Canadian Roads*⁶ provides guidance on the assessment and/or need for auxiliary left-turn lanes. Warrants have been assessed for a northbound left-turn lane on South Street at the proposed site access and an eastbound left-turn lane on David Street at South Street.

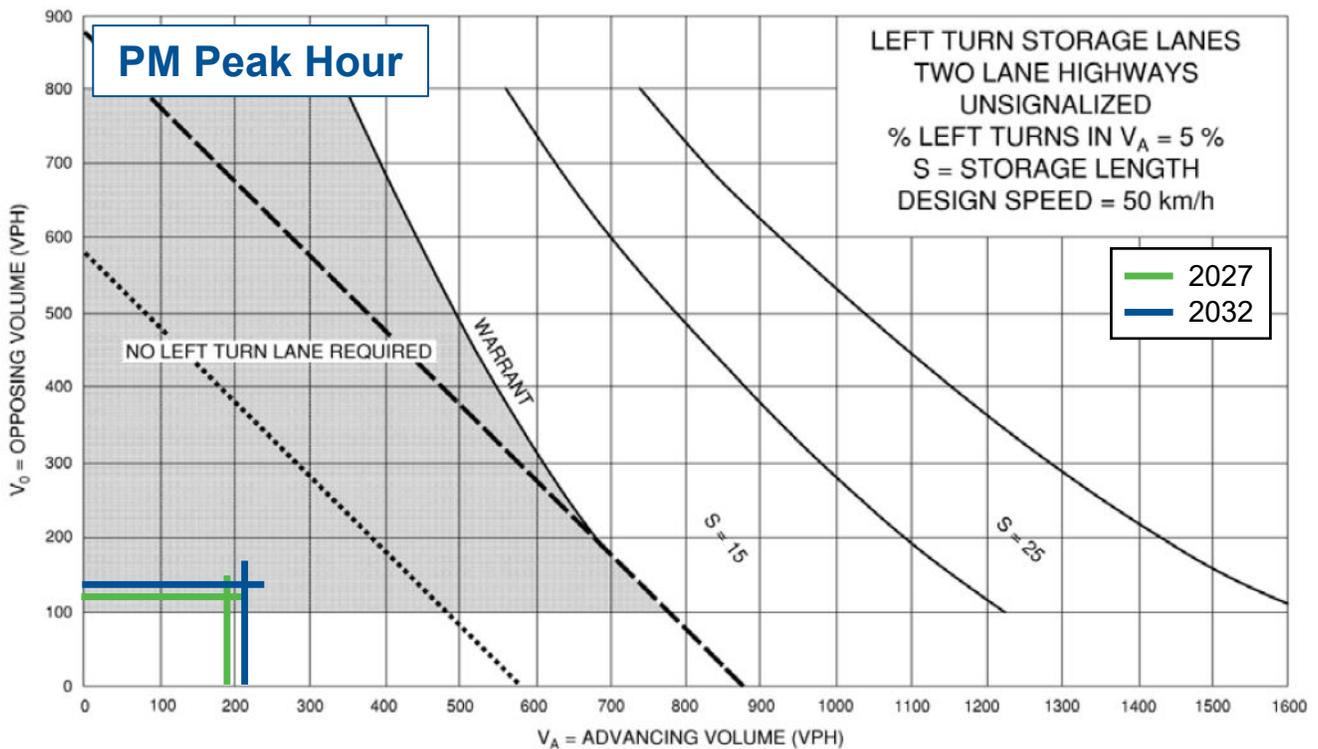
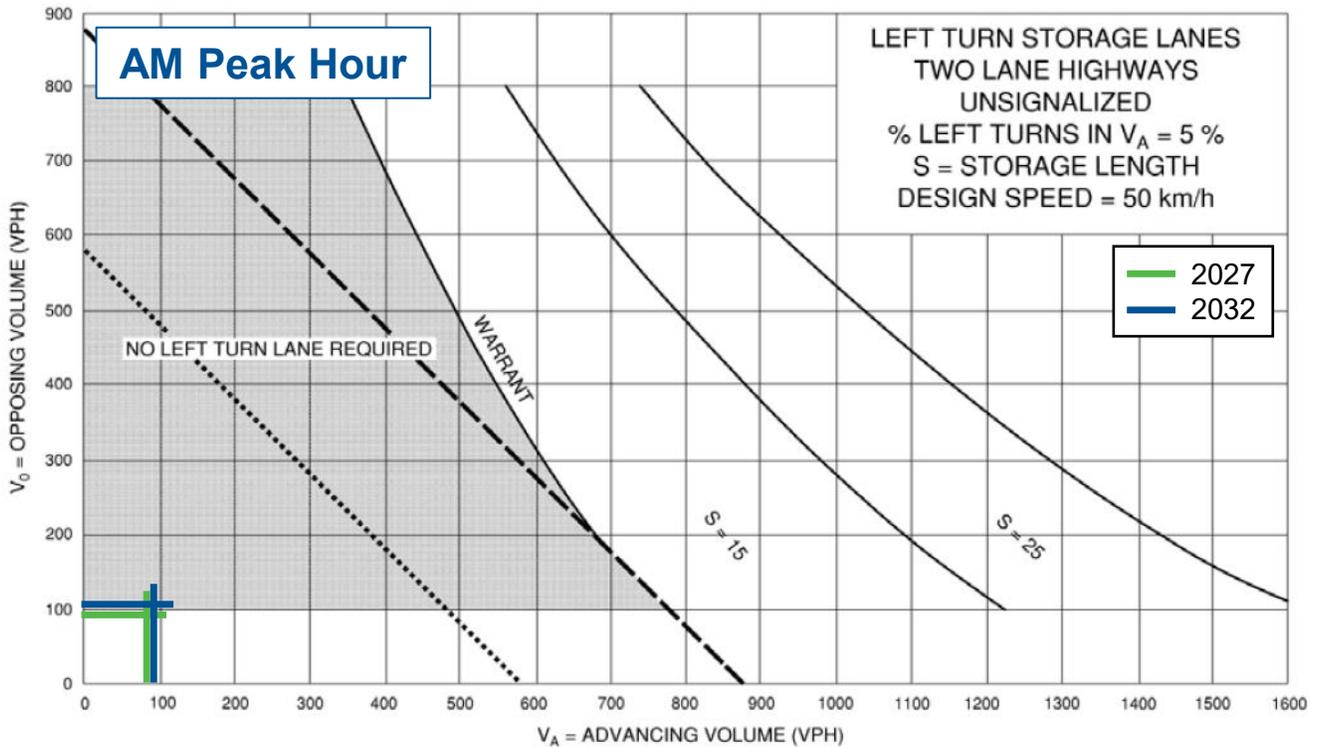
The warrant nomograph is used to determine if a left-turn lane is needed based on criteria such as design speed, advancing volume, opposing volume and percent of advancing vehicles performing a left-turn maneuver. A minimum threshold of greater than 100 vehicles per hour (vph) opposing vehicles are used in assessing the requirement of a left-turn lane. Based on this criterion, a northbound left-turn lane is not warranted at the proposed site access on South Street.

Warrants have been calculated for eastbound left-turns at South Street and David Street. The warrant was calculated using the nomographs for left-turn lanes on a two-lane undivided highway at an unsignalized intersection with a design speed of 50 km/h (10 km/h over the posted speed limit). Based on this criterion, an eastbound left-turn lane is not warranted under 2027 or 2032 total traffic conditions.

Figure 5.1 shows the warrant nomographs.

⁶ Ontario Ministry of Transportation, *MTO Design Supplement for TAC Geometric Design Guide for Canadian Roads*, (Toronto: Queen's Printer for Ontario, 2020).





Eastbound Left-Turn Lane Warrants David Street & South Street

5 Site Circulation

The site circulation has been assessed using the following design vehicles:

- ▶ TAC Passenger Car (P);
- ▶ TAC Medium Single Unit (MSU);
- ▶ Molok Waste Collection Truck; and
- ▶ NCHRP Pumper Fire Truck.

Appendix I contains the reduced scale vehicle turning movement diagrams for the site. The diagrams were produced using the Site Plan and AutoTURN swept path analysis software.

The proposed geometry on-site is sufficient to accommodate the intended design vehicles.



6 Conclusions and Recommendations

6.1 Conclusions

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

- ▶ **Existing Traffic Conditions:** The intersection of David Street and South Street is operating with acceptable levels of service.
- ▶ **Development Trip Generation:** The development is forecast to generate 12 and 14 trips during the AM and PM peak hours, respectively. The development is a low trip generator and adds minimal traffic to the surrounding road system.
- ▶ **Background Traffic Conditions:** The intersection of David Street and South Street is forecast to operate with acceptable levels of service under 2027 and 2032 background traffic conditions.
- ▶ **Total Traffic Conditions:** The intersection of David Street and South Street is forecast to operate with acceptable levels of service under 2027 and 2032 total traffic conditions.
- ▶ **Site Access:**
 - The site access intersection on South Street is forecast to operate with LOS A during the AM and PM peak hours.
 - A northbound left-turn lane is not warranted at the site access on South Street under total traffic conditions.
- ▶ **David Street and South Street:** An eastbound left-turn lane is not warranted at David Street and South Street under total traffic conditions.
- ▶ **Site Circulation:** The proposed geometry on-site is sufficient to accommodate the intended design vehicles.

6.2 Recommendations

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



Appendix A

Pre-Study Consultation



Maddison Murch

From: Lee Wheildon <LWheildon@centrewellington.ca>
Sent: September 4, 2025 1:59 PM
To: Rajan Philips; Colin Baker; Duy Lam Tran
Cc: Richard Kelly-Ruetz; Maddison Murch
Subject: Re: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Rajan,

Township Staff have reviewed and considered your rationale as noted in your email provided, and agree that the trip generation will be relatively low output from the site.

From Township Staff's perspective the two locations as originally requested can be removed from the terms of reference for the study. Paradigm should confirm this with the County as well to confirm any objections, as these locations involve County roadways.

Regards,

Lee

Get [Outlook for Android](#)

From: Rajan Philips <rphilips@ptsl.com>
Sent: Thursday, September 4, 2025 10:05:48 AM
To: Lee Wheildon <LWheildon@centrewellington.ca>; Colin Baker <CBaker@centrewellington.ca>; Duy Lam Tran <dtran@centrewellington.ca>
Cc: Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>; Maddison Murch <mmurch@ptsl.com>
Subject: FW: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

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Hi Lee,

Thank you for your response to Maddi and your comments.

Re your request to add the intersections at David Street/Wellington Road 7 and South Street intersection/Wellington Road 7, we appreciate that these two intersections would normally be included in the network analysis for a development at the subject site location.

However, the proposed development with 25 SD units is a low trip generator with minimal addition of traffic to South Street, David Street and WR 7.

The table below summarizes trip generation estimates for the development. The AM/PM peak hour total trip estimates of 12 vph and 14 vph are well below the 100vph threshold that usually triggers a TIS requirement.

Land Use	Number of Units	AM Peak Hour				PM Peak Hour			
		Rate	In	Out	Total	Rate	In	Out	Total
LUC 215 - Single-Family Attached Housing	25	0.48	3	9	12	0.57	8	6	14
Total Trip Generation			3	9	12		8	6	14

The additional trips in any direction on any of the three roads will be less than five vph.

Operationally, there will be virtually no impact on any of the three intersections. However, there will be interest/concern by adjacent residents re the new development.

Our approach to address this is to obtain existing traffic counts at the South St/David St intersection, illustrate existing traffic volumes on the two roadways and demonstrate that the impact due to the additional traffic will be minimal.

This is the approach taken by MTO and a number of other municipalities for developments that are low trip generators.

In this case we will also provide operational analysis for the driveway and the South St/David St intersection.

Based on the above, kindly reconsider if the two additional intersections (David Street/Wellington Road 7 and South Street intersection/Wellington Road 7) should be included for analysis.

Thank you for your consideration.

Regards,

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

Paradigm Transportation Solutions Limited

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

Office Hours: 07:30 – 17:30 M-T, closed Fridays



Employee-owned | Client-centric | Solution-focused



From: Lee Wheildon <LWheildon@centrewellington.ca>

Sent: September 3, 2025 4:33 PM

To: Maddison Murch <mmurch@ptsl.com>

Cc: Colin Baker <CBaker@centrewellington.ca>; Duy Lam Tran <dtran@centrewellington.ca>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>; Rajan Philips <rphilips@ptsl.com>

Subject: RE: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Maddison,

Please see the highlighted Township comments below.

Should you have any questions or concerns, please do not hesitate to contact me.

Regards,



From: Lee Wheildon
Sent: August 22, 2025 2:25 PM
To: Colin Baker <CBaker@centrewellington.ca>
Cc: Duy Lam Tran <dtran@centrewellington.ca>
Subject: FW: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Colin,

As briefly discussed, this morning, I have briefly reviewed the TOR for the TIS from Paradigm for the above noted development property and have provided my thoughts below as highlighted.

Please let me know if you have any other comments/concerns.

Should you have any questions or concerns, please do not hesitate to contact me.

Regards,



From: Maddison Murch <mmurch@ptsl.com>
Sent: July 29, 2025 1:36 PM
To: pasqualec@wellington.ca; Lee Wheildon <LWheildon@centrewellington.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>
Subject: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

You don't often get email from mmurch@ptsl.com. [Learn why this is important](#)

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Hi Pasquale and Lee,

We have been retained to prepare a Transportation Impact Study for the proposed residential development at 284-290 South Street in Elora. The proposed development includes 25 townhouse units with access to South Street. A preliminary concept plan is attached.

Based on the above information, we have prepared the following scope of work for your review/approval:

- Analysis Periods: Weekday AM and PM peak hours.
- Study Area Intersections:
 - South Street and David Street (unsignalized); and
 - Future site driveway to South Street (unsignalized).

Please add the following locations

- **David Street at County Road 7**
- **South Street at County Road 7**

Please confirm if summer counts are acceptable. Please complete in September.

Horizon Year: Existing conditions, build-out and five years from build-out.

- Background Growth: 2% compounded per annum, **please confirm. 2% is acceptable.**
- Background Developments: **Please confirm and provide TIS report or site statistics. 350 County Road 7 – see attached TIS study. Please confirm receipt of the attached study. If not, I will try and send under separate email.**
- Background roadway improvements: **Please confirm. No Township roadway improvements in the immediate area.**
- Trip Generation: ITE Trip Generation Manual 11th Edition.
- Trip Distribution: Existing traffic patterns.
- Site Circulation: On-site AutoTURN review including fire, garbage and delivery truck design vehicles.
- The study will be prepared in accordance with the *Wellington County Road Master Action Plan Appendix G: Traffic Impact Study Guidelines*.

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

Regards,

Maddison Murch, P.Eng.

Transportation Engineer



5A-150 Pinebush Road, Cambridge ON N1R 8J8

p: 519.896.3163 x205

m: 226.268.3697

e: mmurch@ptsl.com

w: www.ptsl.com

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Maddison Murch

From: Pasquale Costanzo <pasqualec@wellington.ca>
Sent: September 8, 2025 3:31 PM
To: Maddison Murch
Cc: Rajan Philips; Richard Kelly-Ruetz; Lee Wheildon
Subject: RE: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation
Attachments: Re (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Hi Maddison,

I agree with the comments provided by Lee and okay with not reviewing WR7 at David/South St intersections for the study.

Take care

Pasquale Costanzo, C.E.T., CMMII Infrastructure Specialist

Technical Services Supervisor
County of Wellington, Roads Division
74 Woolwich Street Guelph ON N1H 3T9
T 519.837.2601 x 2250
E pasqualec@wellington.ca
W www.wellington.ca

From: Maddison Murch <mmurch@ptsl.com>
Sent: Thursday, September 4, 2025 4:32 PM
To: Pasquale Costanzo <pasqualec@wellington.ca>
Cc: Rajan Philips <rphilips@ptsl.com>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>
Subject: RE: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

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Hi Pasquale,

I'm just following up to see if the County has any comments on the TIS scope of work below. We received comments back from the Township, see attached for their feedback and discussion.

Regards,

Maddison Murch, P.Eng.
Transportation Engineer



5A-150 Pinebush Road, Cambridge ON N1R 8J8
p: 519.896.3163 x205

m: 226.268.3697

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From: Maddison Murch

Sent: August 25, 2025 2:16 PM

To: pasqualec@wellington.ca; Lee Wheildon <lwheildon@centrewellington.ca>

Cc: Rajan Philips <rphilips@ptsl.com>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>

Subject: RE: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Hi Pasquale and Lee,

I'm just following up again regarding my email below. Please let us know if you have any comments or questions.

Regards,

Maddison Murch, P.Eng.

Transportation Engineer



5A-150 Pinebush Road, Cambridge ON N1R 8J8

p: 519.896.3163 x205

m: 226.268.3697

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From: Maddison Murch

Sent: August 8, 2025 8:25 AM

To: pasqualec@wellington.ca; Lee Wheildon <lwheildon@centrewellington.ca>

Cc: Rajan Philips <rphilips@ptsl.com>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>

Subject: RE: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Hi Pasquale and Lee,

I'm just following up on my below email. Please let us know if you have any comments or questions.

Regards,

Maddison Murch, P.Eng.

Transportation Engineer



5A-150 Pinebush Road, Cambridge ON N1R 8J8

p: 519.896.3163 x205
m: 226.268.3697

Paradigm is operating on a 4-day workweek. Our offices are closed Fridays.

From: Maddison Murch
Sent: July 29, 2025 1:36 PM
To: pasqualec@wellington.ca; LWheildon@centrewellington.ca
Cc: Rajan Philips <rphilips@ptsl.com>; Richard Kelly-Ruetz <rkelly-ruetz@gspgroup.ca>
Subject: (250524) 284-290 South Street, Elora TIS Pre-Study Consultation

Hi Pasquale and Lee,

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- Study Area Intersections:
 - South Street and David Street (unsignalized); and
 - Future site driveway to South Street (unsignalized).**Please confirm if summer counts are acceptable.**
- Horizon Year: Existing conditions, build-out and five years from build-out.
- Background Growth: 2% compounded per annum, **please confirm.**
- Background Developments: **Please confirm and provide TIS report or site statistics.**
- Background roadway improvements: **Please confirm.**
- Trip Generation: ITE Trip Generation Manual 11th Edition.
- Trip Distribution: Existing traffic patterns.
- Site Circulation: On-site AutoTURN review including fire, garbage and delivery truck design vehicles.
- The study will be prepared in accordance with the *Wellington County Road Master Action Plan Appendix G: Traffic Impact Study Guidelines.*

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

Regards,

Maddison Murch, P.Eng.
Transportation Engineer



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p: 519.896.3163 x205
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Appendix B

Existing Traffic Data





Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: South Street & David Street
Site Code: 250524
Start Date: 08/14/2025
Page No: 1

Turning Movement Data

Start Time	David Street W Eastbound					David Street W Westbound					South Street Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
7:00 AM	0	7	0	0	7	17	0	0	0	17	0	1	0	0	1	25
7:15 AM	0	2	0	0	2	15	0	0	1	15	0	0	0	0	0	17
7:30 AM	0	10	0	0	10	19	2	0	2	21	2	1	0	0	3	34
7:45 AM	1	16	0	0	17	20	0	0	0	20	2	1	0	0	3	40
Hourly Total	1	35	0	0	36	71	2	0	3	73	4	3	0	0	7	116
8:00 AM	0	14	0	0	14	18	0	0	0	18	2	1	0	3	3	35
8:15 AM	0	20	0	0	20	24	0	0	0	24	1	0	0	2	1	45
8:30 AM	0	16	0	0	16	17	1	0	0	18	1	1	0	0	2	36
8:45 AM	1	24	0	0	25	21	1	0	0	22	0	1	0	0	1	48
Hourly Total	1	74	0	0	75	80	2	0	0	82	4	3	0	5	7	164
9:00 AM	1	12	0	0	13	24	1	0	0	25	2	0	0	0	2	40
9:15 AM	0	20	0	0	20	19	1	0	0	20	1	0	0	0	1	41
9:30 AM	1	17	0	0	18	16	2	0	0	18	2	1	0	0	3	39
9:45 AM	2	22	0	0	24	20	2	0	0	22	5	1	0	0	6	52
Hourly Total	4	71	0	0	75	79	6	0	0	85	10	2	0	0	12	172
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11:30 AM	0	33	0	0	33	29	3	0	0	32	3	4	0	0	7	72
11:45 AM	0	26	0	0	26	17	4	0	0	21	5	0	0	0	5	52
Hourly Total	0	59	0	0	59	46	7	0	0	53	8	4	0	0	12	124
12:00 PM	2	34	0	0	36	21	0	0	0	21	3	1	0	1	4	61
12:15 PM	0	51	0	1	51	23	2	0	0	25	2	0	0	2	2	78
12:30 PM	0	28	0	0	28	33	0	0	0	33	2	1	0	0	3	64
12:45 PM	2	37	0	0	39	19	3	0	0	22	0	0	0	0	0	61
Hourly Total	4	150	0	1	154	96	5	0	0	101	7	2	0	3	9	264
1:00 PM	2	33	0	0	35	20	3	0	0	23	0	1	0	0	1	59
1:15 PM	2	42	0	0	44	23	3	0	0	26	1	0	0	0	1	71
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	4	75	0	0	79	43	6	0	0	49	1	1	0	0	2	130
3:00 PM	0	26	0	0	26	21	4	0	0	25	1	1	0	0	2	53
3:15 PM	0	33	0	0	33	29	3	0	0	32	3	2	0	0	5	70
3:30 PM	2	33	0	0	35	30	2	0	0	32	2	0	0	0	2	69
3:45 PM	1	32	0	0	33	20	1	0	0	21	1	1	0	0	2	56
Hourly Total	3	124	0	0	127	100	10	0	0	110	7	4	0	0	11	248
4:00 PM	3	35	0	0	38	23	1	0	0	24	1	2	0	0	3	65
4:15 PM	2	33	0	0	35	25	1	0	0	26	2	0	0	0	2	63
4:30 PM	3	43	0	0	46	25	2	0	0	27	3	0	0	0	3	76

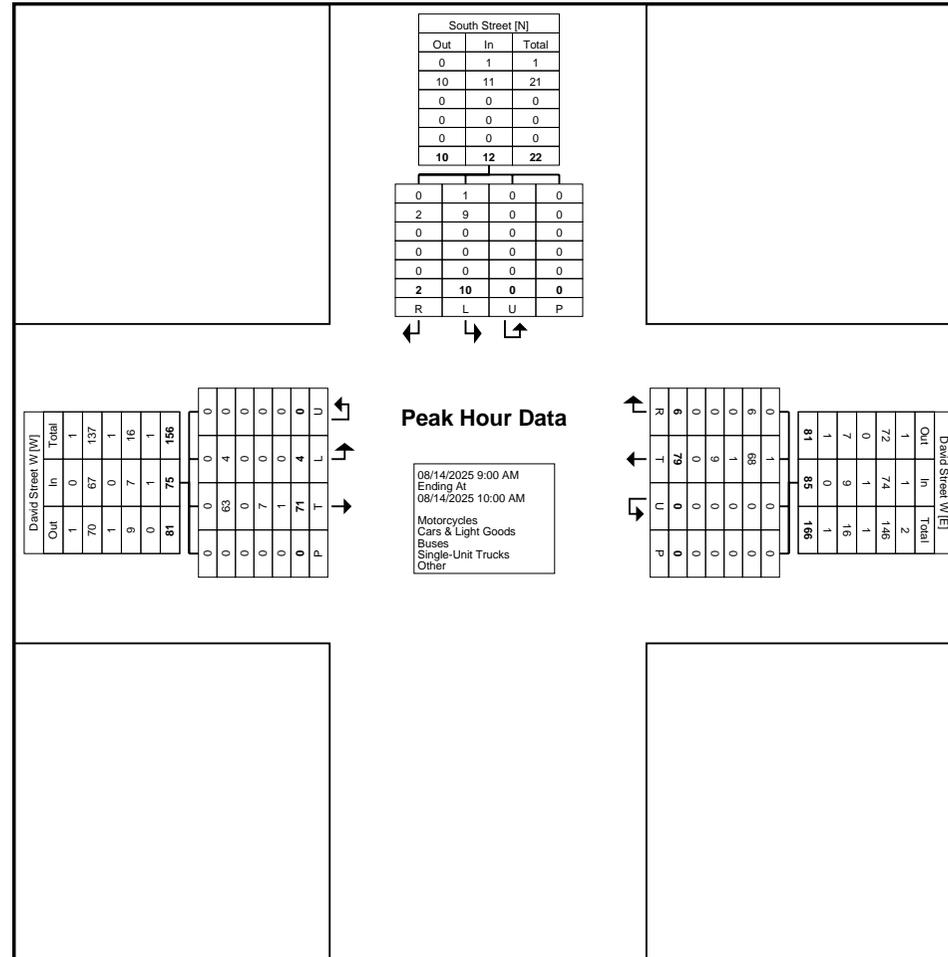
4:45 PM	2	44	0	0	46	23	1	0	0	24	7	2	0	0	9	79
Hourly Total	10	155	0	0	165	96	5	0	0	101	13	4	0	0	17	283
5:00 PM	0	52	0	0	52	23	4	0	0	27	4	1	0	0	5	84
5:15 PM	0	35	0	0	35	21	2	1	3	24	1	0	0	3	1	60
5:30 PM	0	44	0	0	44	22	2	0	0	24	0	0	0	0	0	68
5:45 PM	1	25	0	0	26	23	3	0	0	26	1	0	0	0	1	53
Hourly Total	1	156	0	0	157	89	11	1	3	101	6	1	0	3	7	265
Grand Total	28	899	0	1	927	700	54	1	6	755	60	24	0	11	84	1766
Approach %	3.0	97.0	0.0	-	-	92.7	7.2	0.1	-	-	71.4	28.6	0.0	-	-	-
Total %	1.6	50.9	0.0	-	52.5	39.6	3.1	0.1	-	42.8	3.4	1.4	0.0	-	4.8	-
Motorcycles	0	6	0	-	6	6	0	0	-	6	1	0	0	-	1	13
% Motorcycles	0.0	0.7	-	-	0.6	0.9	0.0	0.0	-	0.8	1.7	0.0	-	-	1.2	0.7
Cars & Light Goods	26	856	0	-	882	646	52	1	-	699	57	23	0	-	80	1661
% Cars & Light Goods	92.9	95.2	-	-	95.1	92.3	96.3	100.0	-	92.6	95.0	95.8	-	-	95.2	94.1
Buses	0	1	0	-	1	1	0	0	-	1	0	0	0	-	0	2
% Buses	0.0	0.1	-	-	0.1	0.1	0.0	0.0	-	0.1	0.0	0.0	-	-	0.0	0.1
Single-Unit Trucks	1	30	0	-	31	32	0	0	-	32	1	0	0	-	1	64
% Single-Unit Trucks	3.6	3.3	-	-	3.3	4.6	0.0	0.0	-	4.2	1.7	0.0	-	-	1.2	3.6
Articulated Trucks	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Articulated Trucks	0.0	0.1	-	-	0.1	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	0.1
Bicycles on Road	1	5	0	-	6	15	2	0	-	17	1	1	0	-	2	25
% Bicycles on Road	3.6	0.6	-	-	0.6	2.1	3.7	0.0	-	2.3	1.7	4.2	-	-	2.4	1.4
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	6	-	-	-	-	11	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: South Street & David Street
Site Code: 250524
Start Date: 08/14/2025
Page No: 5



Turning Movement Peak Hour Data Plot (9:00 AM)



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: South Street & David Street
Site Code: 250524
Start Date: 08/14/2025
Page No: 6

Turning Movement Peak Hour Data (12:00 PM)

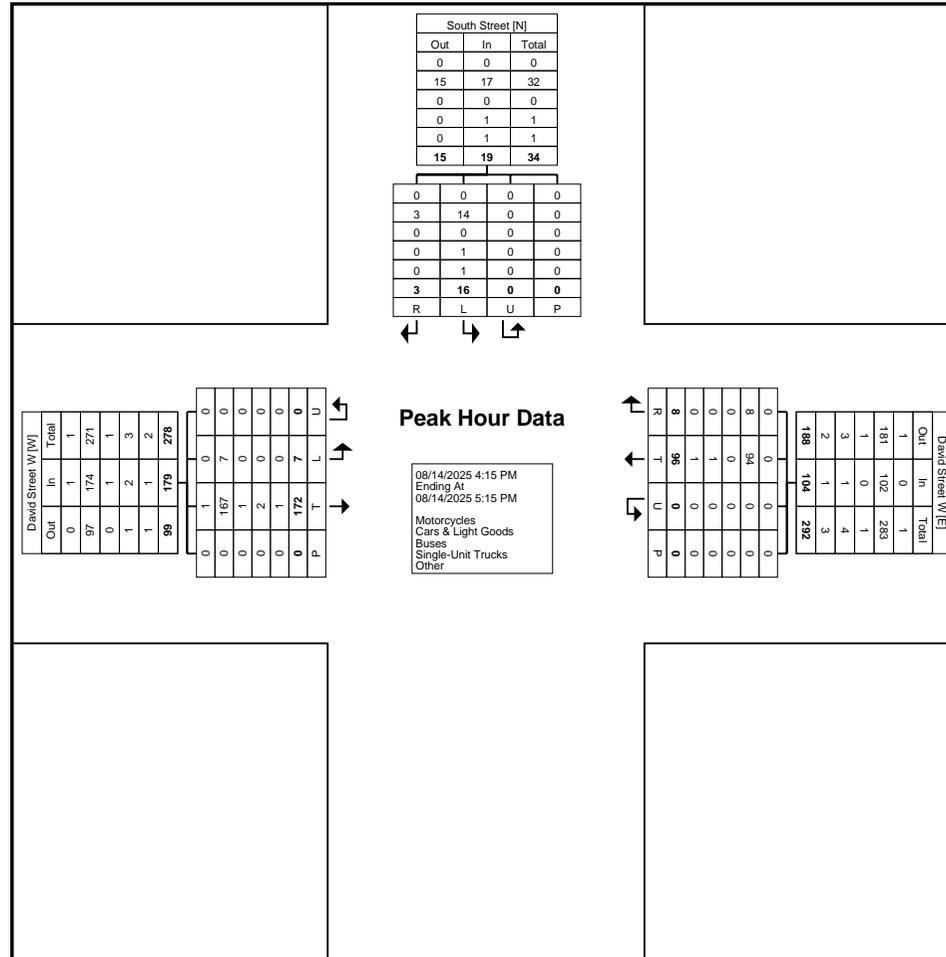
Start Time	David Street W Eastbound					David Street W Westbound					South Street Southbound					Int. Total
	Left	Thru	U-Turn	Peds	App. Total	Thru	Right	U-Turn	Peds	App. Total	Left	Right	U-Turn	Peds	App. Total	
12:00 PM	2	34	0	0	36	21	0	0	0	21	3	1	0	1	4	61
12:15 PM	0	51	0	1	51	23	2	0	0	25	2	0	0	2	2	78
12:30 PM	0	28	0	0	28	33	0	0	0	33	2	1	0	0	3	64
12:45 PM	2	37	0	0	39	19	3	0	0	22	0	0	0	0	0	61
Total	4	150	0	1	154	96	5	0	0	101	7	2	0	3	9	264
Approach %	2.6	97.4	0.0	-	-	95.0	5.0	0.0	-	-	77.8	22.2	0.0	-	-	-
Total %	1.5	56.8	0.0	-	58.3	36.4	1.9	0.0	-	38.3	2.7	0.8	0.0	-	3.4	-
PHF	0.500	0.735	0.000	-	0.755	0.727	0.417	0.000	-	0.765	0.583	0.500	0.000	-	0.563	0.846
Motorcycles	0	1	0	-	1	0	0	0	-	0	0	0	0	-	0	1
% Motorcycles	0.0	0.7	-	-	0.6	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.4
Cars & Light Goods	2	140	0	-	142	88	5	0	-	93	7	1	0	-	8	243
% Cars & Light Goods	50.0	93.3	-	-	92.2	91.7	100.0	-	-	92.1	100.0	50.0	-	-	88.9	92.0
Buses	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Buses	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Single-Unit Trucks	1	7	0	-	8	5	0	0	-	5	0	0	0	-	0	13
% Single-Unit Trucks	25.0	4.7	-	-	5.2	5.2	0.0	-	-	5.0	0.0	0.0	-	-	0.0	4.9
Articulated Trucks	0	0	0	-	0	0	0	0	-	0	0	0	0	-	0	0
% Articulated Trucks	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0	0.0	-	-	0.0	0.0
Bicycles on Road	1	2	0	-	3	3	0	0	-	3	0	1	0	-	1	7
% Bicycles on Road	25.0	1.3	-	-	1.9	3.1	0.0	-	-	3.0	0.0	50.0	-	-	11.1	2.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	-	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	3	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	100.0	-	-



Paradigm Transportation Solutions Limited
5A-150 Pinebush Rd

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

Count Name: South Street & David Street
Site Code: 250524
Start Date: 08/14/2025
Page No: 9



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

Appendix C

Existing Traffic Operations Reports



Lanes, Volumes, Timings
 1: David Street & South Street

Existing AM
 South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	71	79	6	10	2
Future Volume (vph)	4	71	79	6	10	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.979	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1717	1679	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1717	1679	0	1784	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	13%	0%	0%	0%
Adj. Flow (vph)	4	77	86	7	11	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	81	93	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.0% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Traffic Vol, veh/h	4	71	79	6	10	2
Future Vol, veh/h	4	71	79	6	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	11	13	0	0	0
Mvmt Flow	4	77	86	7	11	2

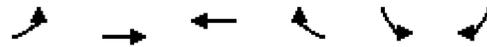
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	92	0	-	0	175 89
Stage 1	-	-	-	-	89 -
Stage 2	-	-	-	-	86 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1515	-	-	-	819 974
Stage 1	-	-	-	-	939 -
Stage 2	-	-	-	-	943 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1515	-	-	-	817 974
Mov Cap-2 Maneuver	-	-	-	-	817 -
Stage 1	-	-	-	-	937 -
Stage 2	-	-	-	-	943 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.39	0	9.36
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	96	-	-	-	840
HCM Lane V/C Ratio	0.003	-	-	-	0.016
HCM Control Delay (s/veh)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lanes, Volumes, Timings
1: David Street & South Street

Existing PM
South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	7	172	96	8	16	3
Future Volume (vph)	7	172	96	8	16	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.989		0.980	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1861	1862	0	1699	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1861	1862	0	1699	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	6%	0%
Adj. Flow (vph)	8	187	104	9	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	195	113	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.7%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	7	172	96	8	16	3
Future Vol, veh/h	7	172	96	8	16	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	0	6	0
Mvmt Flow	8	187	104	9	17	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	113	0	-	0	311
Stage 1	-	-	-	-	109
Stage 2	-	-	-	-	202
Critical Hdwy	4.1	-	-	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	2.2	-	-	-	3.554
Pot Cap-1 Maneuver	1489	-	-	-	673
Stage 1	-	-	-	-	906
Stage 2	-	-	-	-	822
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1489	-	-	-	670
Mov Cap-2 Maneuver	-	-	-	-	670
Stage 1	-	-	-	-	901
Stage 2	-	-	-	-	822

Approach	EB	WB	SB
HCM Control Delay, s/v	0.29	0	10.28
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	70	-	-	-	702
HCM Lane V/C Ratio	0.005	-	-	-	0.029
HCM Control Delay (s/veh)	7.4	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

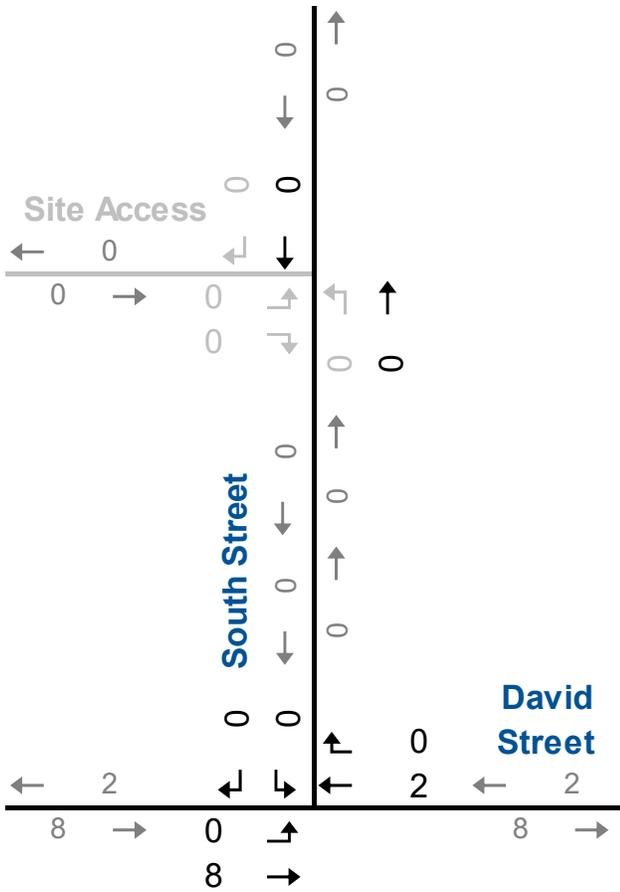
Appendix D

Other Area Development Traffic Volumes

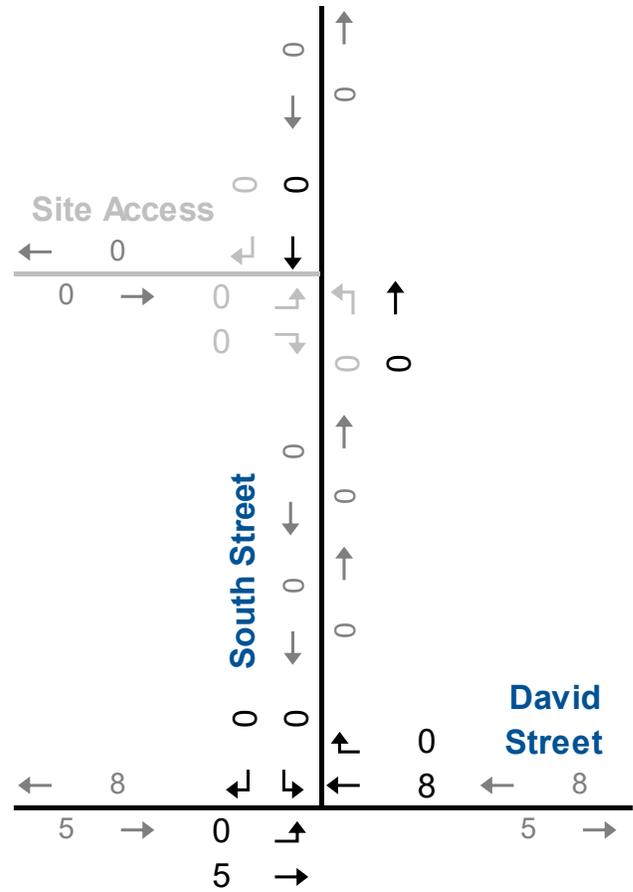




AM Peak Hour



PM Peak Hour



NTS



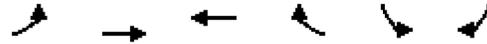
Other Area Development Traffic Volumes 350 Wellington Road 7

Appendix E

2027 Background Traffic Operations Reports



Lanes, Volumes, Timings
 1: David Street & South Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	4	82	84	6	10	2
Future Volume (vph)	4	82	84	6	10	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.979	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1716	1678	0	1784	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1716	1678	0	1784	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	13%	0%	0%	0%
Adj. Flow (vph)	4	89	91	7	11	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	93	98	0	13	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	17.6% ICU Level of Service A
Analysis Period (min)	15

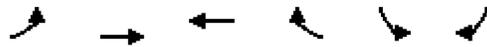
Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	4	82	84	6	10	2
Future Vol, veh/h	4	82	84	6	10	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	11	13	0	0	0
Mvmt Flow	4	89	91	7	11	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	98	0	-	0	192 95
Stage 1	-	-	-	-	95 -
Stage 2	-	-	-	-	98 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1508	-	-	-	801 968
Stage 1	-	-	-	-	934 -
Stage 2	-	-	-	-	931 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1508	-	-	-	799 968
Mov Cap-2 Maneuver	-	-	-	-	799 -
Stage 1	-	-	-	-	931 -
Stage 2	-	-	-	-	931 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.34	0	9.45
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	84	-	-	-	823
HCM Lane V/C Ratio	0.003	-	-	-	0.016
HCM Control Delay (s/veh)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lanes, Volumes, Timings
 1: David Street & South Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↷	↷
Traffic Volume (vph)	7	184	108	8	17	3
Future Volume (vph)	7	184	108	8	17	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.981	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1860	1864	0	1700	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1860	1864	0	1700	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	6%	0%
Adj. Flow (vph)	8	200	117	9	18	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	208	126	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

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

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	7	184	108	8	17	3
Future Vol, veh/h	7	184	108	8	17	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	0	6	0
Mvmt Flow	8	200	117	9	18	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	126	0	-	0	337
Stage 1	-	-	-	-	122
Stage 2	-	-	-	-	215
Critical Hdwy	4.1	-	-	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	2.2	-	-	-	3.554
Pot Cap-1 Maneuver	1473	-	-	-	650
Stage 1	-	-	-	-	894
Stage 2	-	-	-	-	811
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1473	-	-	-	647
Mov Cap-2 Maneuver	-	-	-	-	647
Stage 1	-	-	-	-	889
Stage 2	-	-	-	-	811

Approach	EB	WB	SB
HCM Control Delay, s/v	0.27	0	10.49
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	66	-	-	-	678
HCM Lane V/C Ratio	0.005	-	-	-	0.032
HCM Control Delay (s/veh)	7.5	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Appendix F

2027 Total Traffic Operations Reports



Lanes, Volumes, Timings
 1: David Street & South Street

2027 Total AM
 South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	82	84	8	15	5
Future Volume (vph)	5	82	84	8	15	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.988		0.968	
Flt Protected		0.997			0.963	
Satd. Flow (prot)	0	1716	1679	0	1771	0
Flt Permitted		0.997			0.963	
Satd. Flow (perm)	0	1716	1679	0	1771	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		101.9	
Travel Time (s)		11.4	10.5		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	13%	0%	0%	0%
Adj. Flow (vph)	5	89	91	9	16	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	94	100	0	21	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

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

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	82	84	8	15	5
Future Vol, veh/h	5	82	84	8	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	11	13	0	0	0
Mvmt Flow	5	89	91	9	16	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	100	0	-	0	196 96
Stage 1	-	-	-	-	96 -
Stage 2	-	-	-	-	100 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1505	-	-	-	798 966
Stage 1	-	-	-	-	933 -
Stage 2	-	-	-	-	929 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1505	-	-	-	795 966
Mov Cap-2 Maneuver	-	-	-	-	795 -
Stage 1	-	-	-	-	930 -
Stage 2	-	-	-	-	929 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.43	0	9.45
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	103	-	-	-	832
HCM Lane V/C Ratio	0.004	-	-	-	0.026
HCM Control Delay (s/veh)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
2: South Street & Site Access

2027 Total AM
South St, Elora TIS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	6	3	10	14	0
Future Volume (vph)	1	6	3	10	14	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.882					
Flt Protected	0.994			0.989		
Satd. Flow (prot)	1666	0	0	1879	1900	0
Flt Permitted	0.994			0.989		
Satd. Flow (perm)	1666	0	0	1879	1900	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	58.0			101.9	89.3	
Travel Time (s)	5.2			9.2	8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	7	3	11	15	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	14	15	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

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

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	6	3	10	14	0
Future Vol, veh/h	1	6	3	10	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	7	3	11	15	0

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	33	15	15	0	0
Stage 1	15	-	-	-	-
Stage 2	17	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	986	1070	1616	-	-
Stage 1	1013	-	-	-	-
Stage 2	1011	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	984	1070	1616	-	-
Mov Cap-2 Maneuver	984	-	-	-	-
Stage 1	1011	-	-	-	-
Stage 2	1011	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.43	1.67	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	415	-	1057	-	-
HCM Lane V/C Ratio	0.002	-	0.007	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings
 1: David Street & South Street

2027 Total PM
 South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	10	184	108	12	20	5
Future Volume (vph)	10	184	108	12	20	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.986		0.975	
Flt Protected		0.997			0.961	
Satd. Flow (prot)	0	1859	1857	0	1697	0
Flt Permitted		0.997			0.961	
Satd. Flow (perm)	0	1859	1857	0	1697	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		101.9	
Travel Time (s)		11.4	10.5		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	6%	0%
Adj. Flow (vph)	11	200	117	13	22	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	211	130	0	27	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	26.9%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	184	108	12	20	5
Future Vol, veh/h	10	184	108	12	20	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	0	6	0
Mvmt Flow	11	200	117	13	22	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	130	0	-	0	346 124
Stage 1	-	-	-	-	124 -
Stage 2	-	-	-	-	222 -
Critical Hdwy	4.1	-	-	-	6.46 6.2
Critical Hdwy Stg 1	-	-	-	-	5.46 -
Critical Hdwy Stg 2	-	-	-	-	5.46 -
Follow-up Hdwy	2.2	-	-	-	3.554 3.3
Pot Cap-1 Maneuver	1467	-	-	-	643 932
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	806 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1467	-	-	-	638 932
Mov Cap-2 Maneuver	-	-	-	-	638 -
Stage 1	-	-	-	-	884 -
Stage 2	-	-	-	-	806 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.39	0	10.51
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	93	-	-	-	681
HCM Lane V/C Ratio	0.007	-	-	-	0.04
HCM Control Delay (s/veh)	7.5	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
2: South Street & Site Access

2027 Total PM
South St, Elora TIS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	4	6	16	21	1
Future Volume (vph)	1	4	6	16	21	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892			0.994		
Flt Protected	0.990			0.986		
Satd. Flow (prot)	1678	0	0	1873	1802	0
Flt Permitted	0.990			0.986		
Satd. Flow (perm)	1678	0	0	1873	1802	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	58.0			101.9	87.3	
Travel Time (s)	5.2			9.2	7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	5%	0%
Adj. Flow (vph)	1	4	7	17	23	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	0	24	24	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.1% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	1	4	6	16	21	1
Future Vol, veh/h	1	4	6	16	21	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	1	4	7	17	23	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	54	23	24	0	0
Stage 1	23	-	-	-	-
Stage 2	30	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	959	1059	1604	-	-
Stage 1	1004	-	-	-	-
Stage 2	997	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	955	1059	1604	-	-
Mov Cap-2 Maneuver	955	-	-	-	-
Stage 1	1000	-	-	-	-
Stage 2	997	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.49	1.98	0
HCM LOS	A		

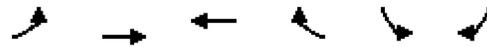
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	491	-	1037	-	-
HCM Lane V/C Ratio	0.004	-	0.005	-	-
HCM Control Delay (s/veh)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix G

2032 Background Traffic Operations Reports



Lanes, Volumes, Timings
 1: David Street & South Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (vph)	5	90	93	7	11	2
Future Volume (vph)	5	90	93	7	11	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.981	
Flt Protected		0.998			0.959	
Satd. Flow (prot)	0	1717	1679	0	1787	0
Flt Permitted		0.998			0.959	
Satd. Flow (perm)	0	1717	1679	0	1787	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	13%	0%	0%	0%
Adj. Flow (vph)	5	98	101	8	12	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	103	109	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	18.8%
Analysis Period (min)	15
	ICU Level of Service A

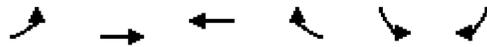
Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	90	93	7	11	2
Future Vol, veh/h	5	90	93	7	11	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	11	13	0	0	0
Mvmt Flow	5	98	101	8	12	2

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	109	0	-	0	214 105
Stage 1	-	-	-	-	105 -
Stage 2	-	-	-	-	109 -
Critical Hdwy	4.1	-	-	-	6.4 6.2
Critical Hdwy Stg 1	-	-	-	-	5.4 -
Critical Hdwy Stg 2	-	-	-	-	5.4 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1494	-	-	-	779 955
Stage 1	-	-	-	-	924 -
Stage 2	-	-	-	-	921 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1494	-	-	-	776 955
Mov Cap-2 Maneuver	-	-	-	-	776 -
Stage 1	-	-	-	-	921 -
Stage 2	-	-	-	-	921 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.39	0	9.59
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	95	-	-	-	799
HCM Lane V/C Ratio	0.004	-	-	-	0.018
HCM Control Delay (s/veh)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
 1: David Street & South Street



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↶		↷	↷
Traffic Volume (vph)	8	203	118	9	18	3
Future Volume (vph)	8	203	118	9	18	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.990		0.982	
Flt Protected		0.998			0.958	
Satd. Flow (prot)	0	1860	1864	0	1699	0
Flt Permitted		0.998			0.958	
Satd. Flow (perm)	0	1860	1864	0	1699	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		191.2	
Travel Time (s)		11.4	10.5		17.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	6%	0%
Adj. Flow (vph)	9	221	128	10	20	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	230	138	0	23	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	27.2%
Analysis Period (min)	15
	ICU Level of Service A

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	8	203	118	9	18	3
Future Vol, veh/h	8	203	118	9	18	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	0	6	0
Mvmt Flow	9	221	128	10	20	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	138	0	-	0	371
Stage 1	-	-	-	-	133
Stage 2	-	-	-	-	238
Critical Hdwy	4.1	-	-	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	2.2	-	-	-	3.554
Pot Cap-1 Maneuver	1458	-	-	-	622
Stage 1	-	-	-	-	883
Stage 2	-	-	-	-	792
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1458	-	-	-	617
Mov Cap-2 Maneuver	-	-	-	-	617
Stage 1	-	-	-	-	877
Stage 2	-	-	-	-	792

Approach	EB	WB	SB
HCM Control Delay, s/v	0.28	0	10.76
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	68	-	-	-	648
HCM Lane V/C Ratio	0.006	-	-	-	0.035
HCM Control Delay (s/veh)	7.5	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

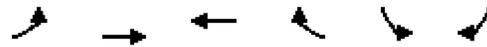
Appendix H

2032 Total Traffic Operations Reports



Lanes, Volumes, Timings
 1: David Street & South Street

2032 Total AM
 South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↙
Traffic Volume (vph)	6	90	93	9	16	5
Future Volume (vph)	6	90	93	9	16	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.988		0.969	
Flt Protected		0.997			0.963	
Satd. Flow (prot)	0	1718	1679	0	1773	0
Flt Permitted		0.997			0.963	
Satd. Flow (perm)	0	1718	1679	0	1773	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		101.9	
Travel Time (s)		11.4	10.5		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	13%	0%	0%	0%
Adj. Flow (vph)	7	98	101	10	17	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	105	111	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.7%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	6	90	93	9	16	5
Future Vol, veh/h	6	90	93	9	16	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	11	13	0	0	0
Mvmt Flow	7	98	101	10	17	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	111	0	-	0	217
Stage 1	-	-	-	-	106
Stage 2	-	-	-	-	111
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1492	-	-	-	776
Stage 1	-	-	-	-	923
Stage 2	-	-	-	-	919
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1492	-	-	-	772
Mov Cap-2 Maneuver	-	-	-	-	772
Stage 1	-	-	-	-	919
Stage 2	-	-	-	-	919

Approach	EB	WB	SB
HCM Control Delay, s/v	0.46	0	9.58
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	113	-	-	-	809
HCM Lane V/C Ratio	0.004	-	-	-	0.028
HCM Control Delay (s/veh)	7.4	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
2: South Street & Site Access

2032 Total AM
South St, Elora TIS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	6	3	12	15	0
Future Volume (vph)	1	6	3	12	15	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.882					
Flt Protected	0.994			0.991		
Satd. Flow (prot)	1666	0	0	1883	1900	0
Flt Permitted	0.994			0.991		
Satd. Flow (perm)	1666	0	0	1883	1900	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	58.0			101.9	89.3	
Travel Time (s)	5.2			9.2	8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	1	7	3	13	16	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	0	16	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary

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

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		
Traffic Vol, veh/h	1	6	3	12	15	0
Future Vol, veh/h	1	6	3	12	15	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1	7	3	13	16	0

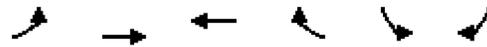
Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	36	16	16	0	0
Stage 1	16	-	-	-	-
Stage 2	20	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	982	1069	1614	-	-
Stage 1	1012	-	-	-	-
Stage 2	1008	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	980	1069	1614	-	-
Mov Cap-2 Maneuver	980	-	-	-	-
Stage 1	1010	-	-	-	-
Stage 2	1008	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.44	1.45	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	360	-	1055	-	-
HCM Lane V/C Ratio	0.002	-	0.007	-	-
HCM Control Delay (s/veh)	7.2	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Lanes, Volumes, Timings
 1: David Street & South Street

2032 Total PM
 South St, Elora TIS



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	↔
Traffic Volume (vph)	11	203	118	13	21	5
Future Volume (vph)	11	203	118	13	21	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987		0.976	
Flt Protected		0.997			0.961	
Satd. Flow (prot)	0	1859	1859	0	1698	0
Flt Permitted		0.997			0.961	
Satd. Flow (perm)	0	1859	1859	0	1698	0
Link Speed (k/h)		40	40		40	
Link Distance (m)		126.8	116.9		101.9	
Travel Time (s)		11.4	10.5		9.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	1%	0%	6%	0%
Adj. Flow (vph)	12	221	128	14	23	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	233	142	0	28	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.6	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	29.7%
ICU Level of Service	A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	11	203	118	13	21	5
Future Vol, veh/h	11	203	118	13	21	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	2	1	0	6	0
Mvmt Flow	12	221	128	14	23	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	380
Stage 1	-	-	-	-	135
Stage 2	-	-	-	-	245
Critical Hdwy	4.1	-	-	-	6.46
Critical Hdwy Stg 1	-	-	-	-	5.46
Critical Hdwy Stg 2	-	-	-	-	5.46
Follow-up Hdwy	2.2	-	-	-	3.554
Pot Cap-1 Maneuver	1453	-	-	-	614
Stage 1	-	-	-	-	881
Stage 2	-	-	-	-	787
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1453	-	-	-	609
Mov Cap-2 Maneuver	-	-	-	-	609
Stage 1	-	-	-	-	873
Stage 2	-	-	-	-	787

Approach	EB	WB	SB
HCM Control Delay, s/v	0.39	0	10.78
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	93	-	-	-	651
HCM Lane V/C Ratio	0.008	-	-	-	0.043
HCM Control Delay (s/veh)	7.5	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lanes, Volumes, Timings
2: South Street & Site Access

2032 Total PM
South St, Elora TIS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1	4	6	18	22	1
Future Volume (vph)	1	4	6	18	22	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.892			0.995		
Flt Protected	0.990			0.987		
Satd. Flow (prot)	1678	0	0	1875	1804	0
Flt Permitted	0.990			0.987		
Satd. Flow (perm)	1678	0	0	1875	1804	0
Link Speed (k/h)	40			40	40	
Link Distance (m)	58.0			101.9	87.3	
Travel Time (s)	5.2			9.2	7.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	5%	0%
Adj. Flow (vph)	1	4	7	20	24	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	0	0	27	25	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.6			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	1.6			1.6	1.6	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	16.2% ICU Level of Service A
Analysis Period (min)	15

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	4	6	18	22	1
Future Vol, veh/h	1	4	6	18	22	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	5	0
Mvmt Flow	1	4	7	20	24	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	57	24	25	0	0
Stage 1	24	-	-	-	-
Stage 2	33	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-
Pot Cap-1 Maneuver	955	1058	1603	-	-
Stage 1	1003	-	-	-	-
Stage 2	995	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	951	1058	1603	-	-
Mov Cap-2 Maneuver	951	-	-	-	-
Stage 1	999	-	-	-	-
Stage 2	995	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	8.5	1.81	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	450	-	1035	-	-
HCM Lane V/C Ratio	0.004	-	0.005	-	-
HCM Control Delay (s/veh)	7.3	0	8.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Appendix I

AutoTURN Plots

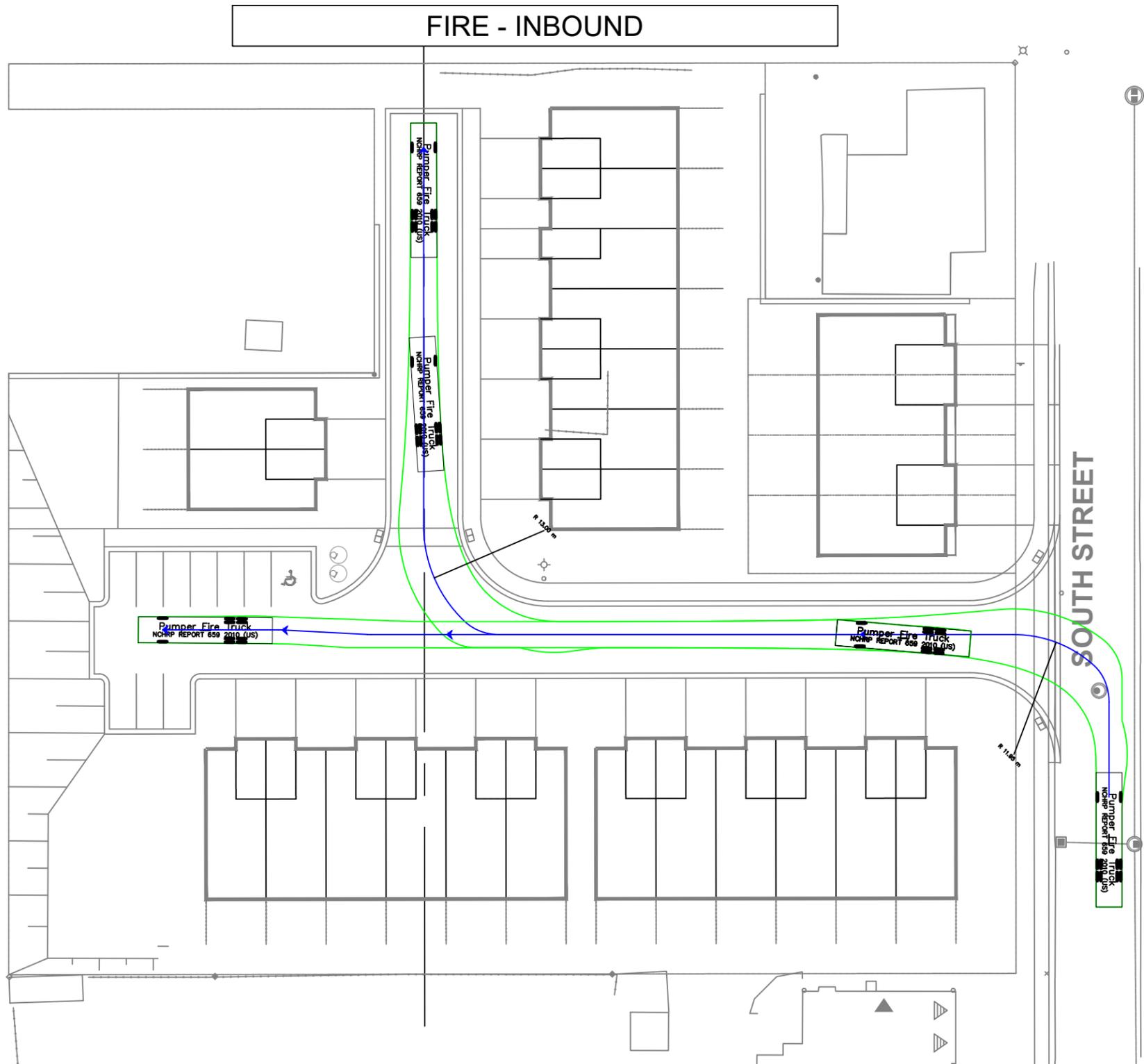




WELLINGTON RD. 7

FIRE - INBOUND

SOUTH STREET



Pumper Fire Truck
NORPP REPORT 659 2010 (US)

Pumper Fire Truck
NORPP REPORT 659 2010 (US)

Pumper Fire Truck
NORPP REPORT 659 2010 (US)

NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN

DESIGN VEHICLE:

Pumper Fire Truck

meters

- Width : 2.59
- Track : 2.59
- Lock to Lock Time : 6.0
- Steering Angle : 37.8

AUTOTURN ASSESSMENT
191 WELLINGTON ROAD 7 & 290 SOUTH STREET
WELLINGTON COUNTY (ELORA)

PROJECT NO.: 250524
DATE: SEPT 2025
SCALE: 1:500

DESIGN: SC
DRAWN: SC
CHECK: MM

DRAWING NO.:

01

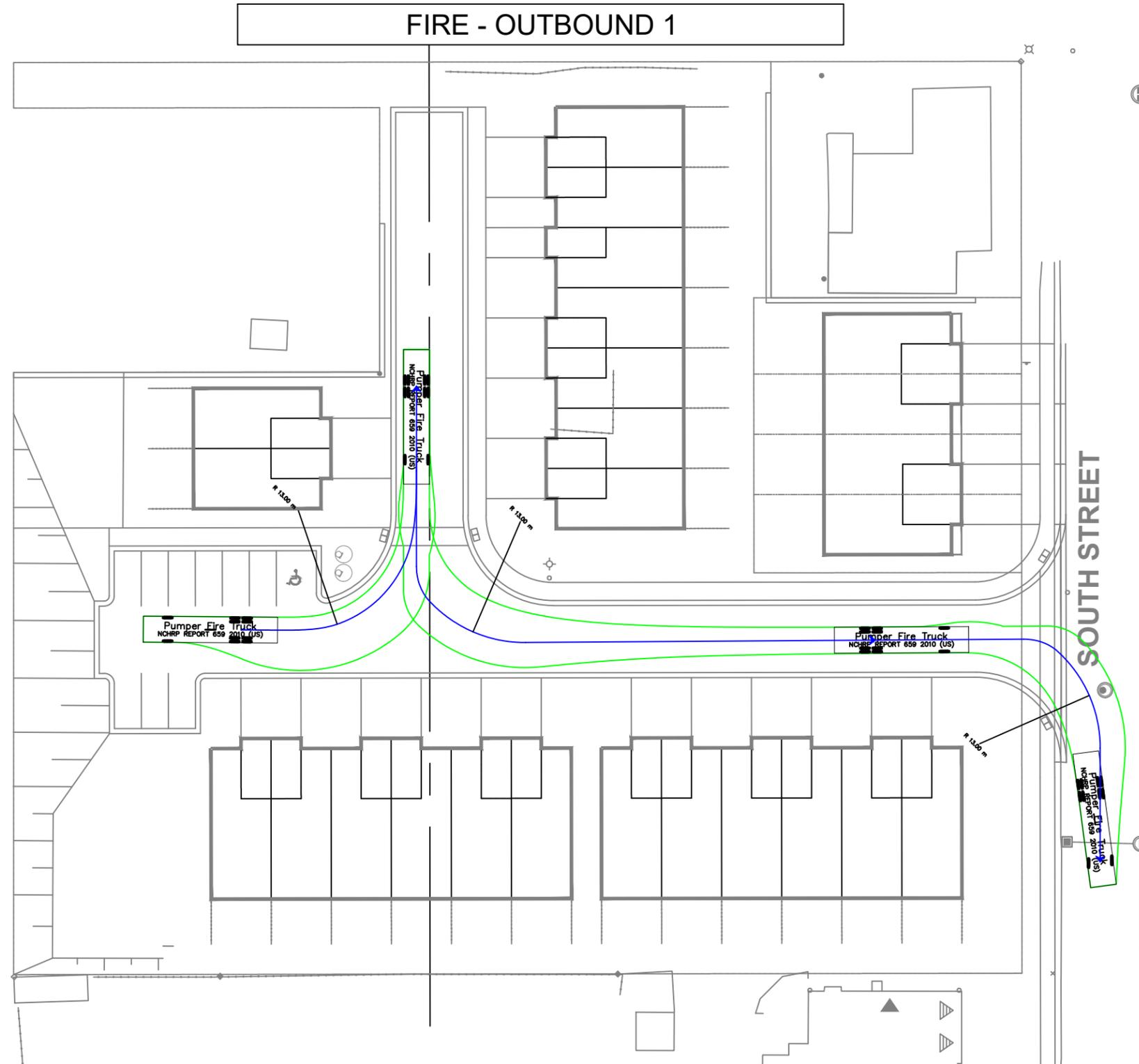
THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



WELLINGTON RD. 7

FIRE - OUTBOUND 1

SOUTH STREET



Pumper Fire Truck
NOHRP REPORT 659 2010 (US)

Pumper Fire Truck
NOHRP REPORT 659 2010 (US)

Pumper Fire Truck
NOHRP REPORT 659 2010 (US)

NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN

DESIGN VEHICLE:

Pumper Fire Truck

meters

- Width : 2.59
- Track : 2.59
- Lock to Lock Time : 6.0
- Steering Angle : 37.8

AUTOTURN ASSESSMENT
191 WELLINGTON ROAD 7 & 290 SOUTH STREET
WELLINGTON COUNTY (ELORA)



PROJECT NO.: 250524	DATE: SEPT 2025	SCALE: 1:500	DRAWING NO.: 02
DESIGN: SC	DRAWN: SC	CHECK: MM	

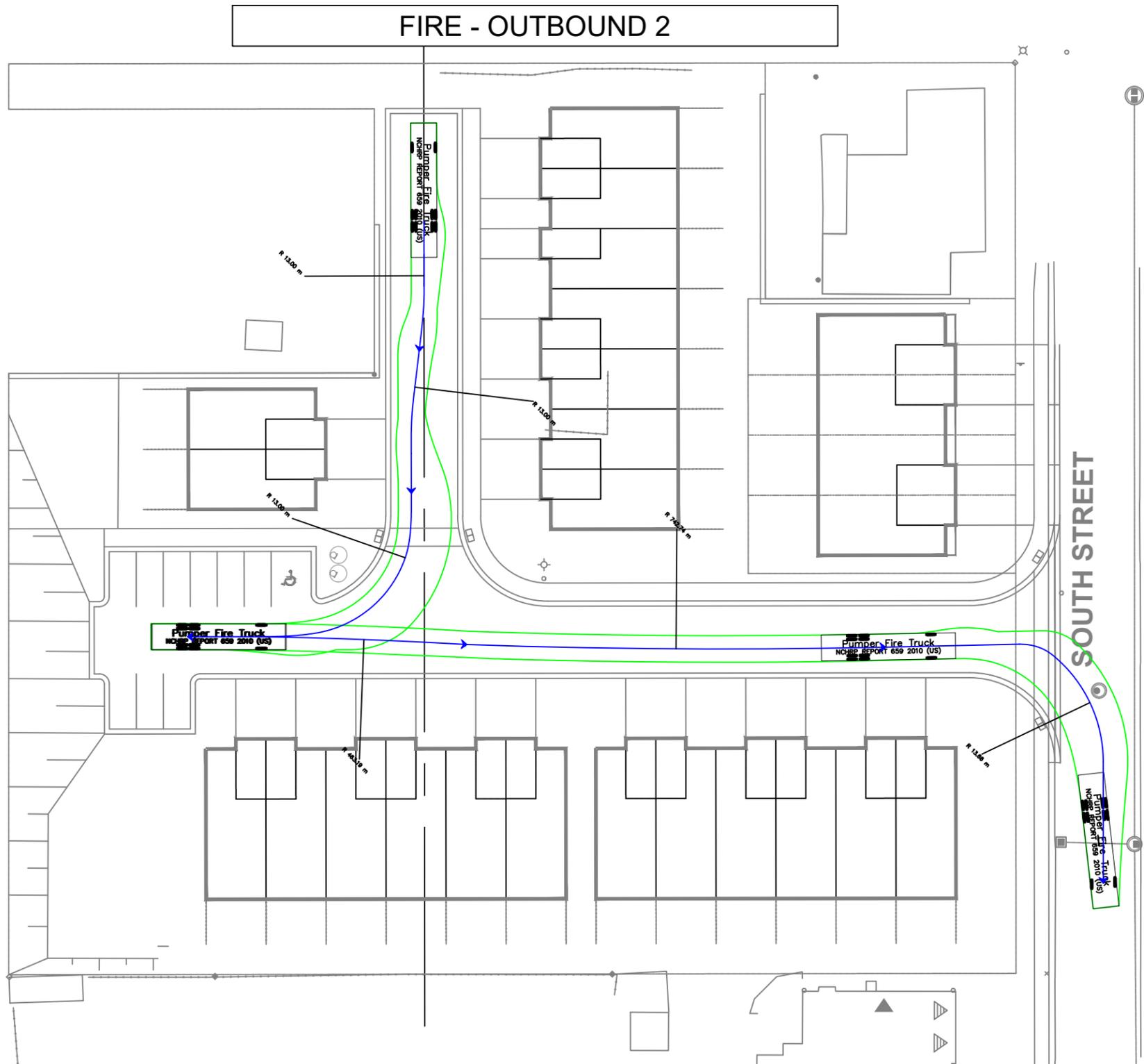
THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.



WELLINGTON RD. 7

FIRE - OUTBOUND 2

SOUTH STREET



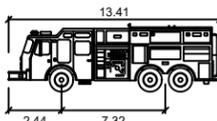
Pumper Fire Truck
NOISE REPORT 659 2010 (US)

Pumper Fire Truck
NOISE REPORT 659 2010 (US)

Pumper Fire Truck
NOISE REPORT 659 2010 (US)

R 1200 m

DESIGN VEHICLE:



Pumper Fire Truck

Width	: 2.59
Track	: 2.59
Lock to Lock Time	: 6.0
Steering Angle	: 37.8

AUTOTURN ASSESSMENT
191 WELLINGTON ROAD 7 & 290 SOUTH STREET
WELLINGTON COUNTY (ELORA)



PROJECT NO.: 250524

DATE: SEPT 2025

SCALE: 1:500

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DESIGN: SC

DRAWN: SC

CHECK: MM

03

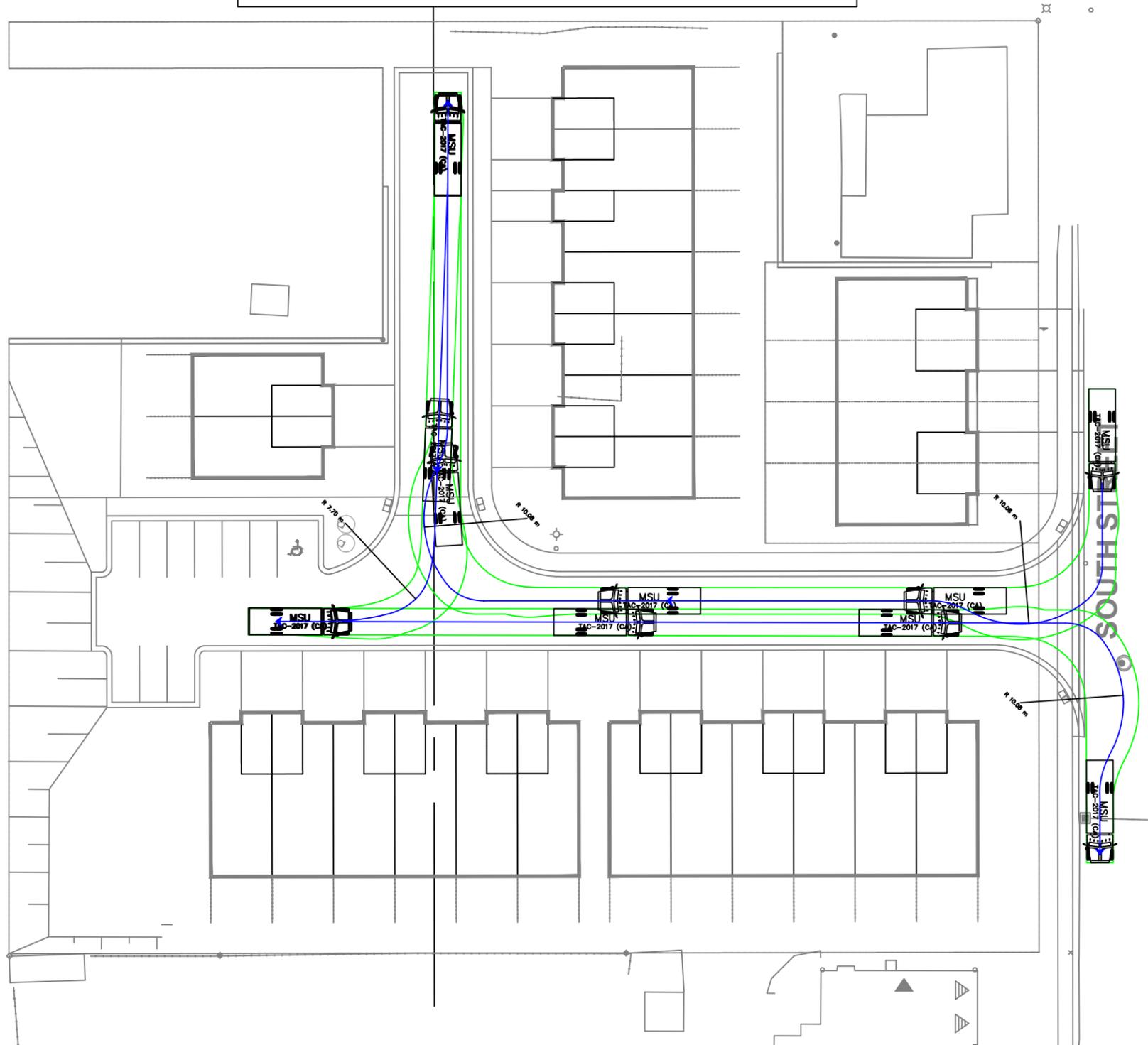
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NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN

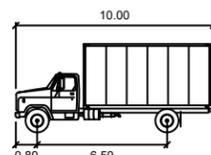


TAC MEDIUM SINGLE UNIT (MSU)

WELLINGTON RD. 7



DESIGN VEHICLE:



MSU

- Width : 2.60
- Track : 2.60
- Lock to Lock Time : 6.0
- Steering Angle : 40.2

AUTOTURN ASSESSMENT

191 WELLINGTON ROAD 7 & 290 SOUTH STREET

WELLINGTON COUNTY (ELORA)



PROJECT NO.: 250524

DATE: SEPT 2025

SCALE: 1:500

DRAWING NO.:

DESIGN: SC

DRAWN: SC

CHECK: MM

04

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

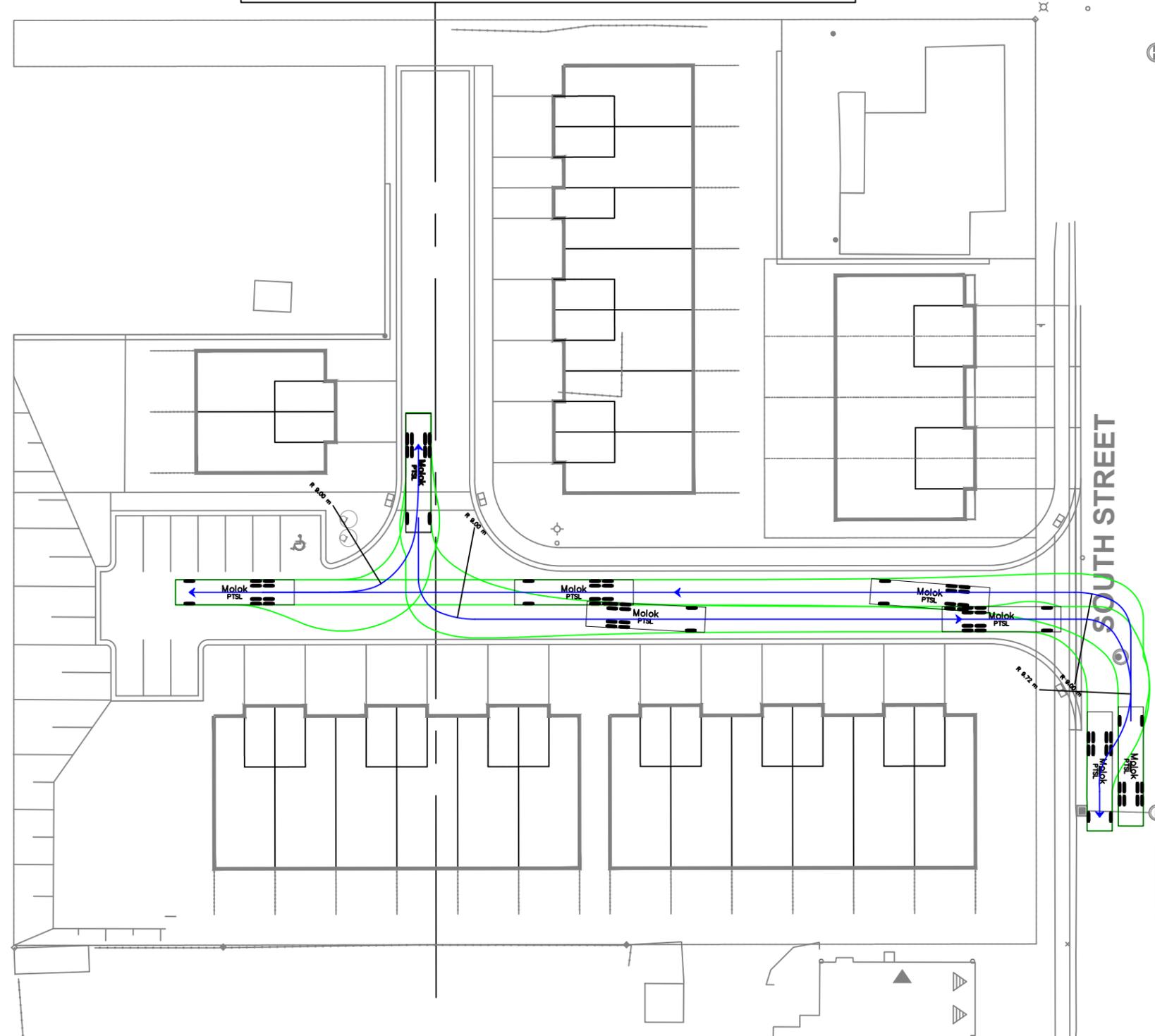
NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN



MOLOK WASTE COLLECTION

WELLINGTON RD. 7

SOUTH STREET



THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN

DESIGN VEHICLE:

Molok

Width : 2.47 meters
 Track : 2.47
 Lock to Lock Time : 6.0
 Steering Angle : 53.0

AUTOTURN ASSESSMENT
191 WELLINGTON ROAD 7 & 290 SOUTH STREET
WELLINGTON COUNTY (ELORA)



PROJECT NO.: 250524 DATE: SEPT 2025 SCALE: 1:500

DESIGN: SC DRAWN: SC CHECK: MM

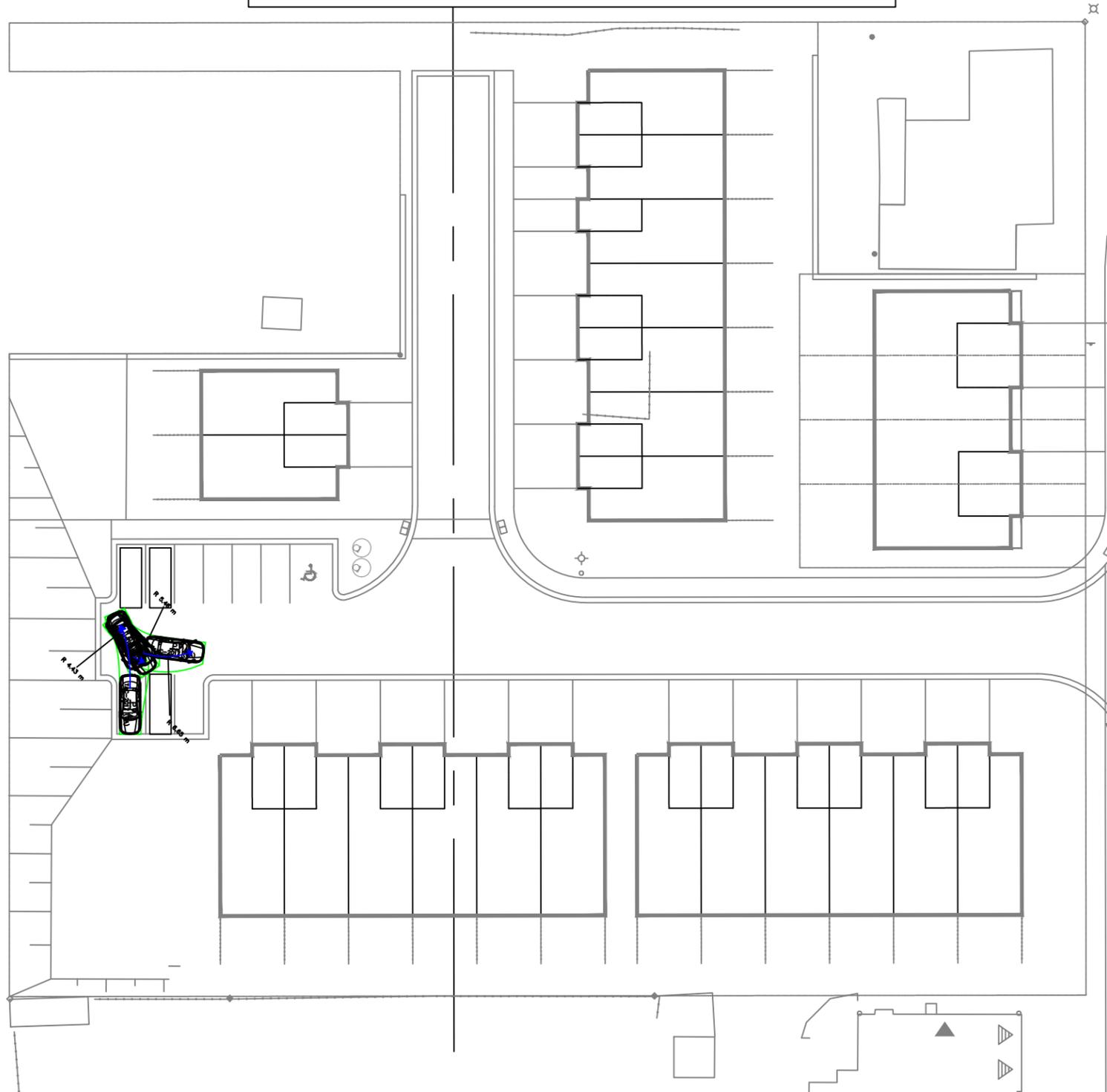
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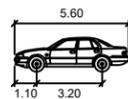
WELLINGTON RD. 7

TAC PASSENGER CAR (P)

SOUTH STREET



DESIGN VEHICLE:



- P
- Width : 2.00 meters
- Track : 2.00
- Lock to Lock Time : 6.0
- Steering Angle : 35.9

AUTOTURN ASSESSMENT
191 WELLINGTON ROAD 7 & 290 SOUTH STREET
WELLINGTON COUNTY (ELORA)



PROJECT NO.: 250524

DATE: SEPT 2025

SCALE: 1:500

DRAWING NO.:

DESIGN: SC

DRAWN: SC

CHECK: MM

06

THIS AUTOTURN SWEEP PATH ANALYSIS HAS BEEN PREPARED USING BASE PLANS PROVIDED BY OTHERS. THE PRACTITIONER HAS NOT INSPECTED THE ACCURACY AND/OR THE COMPLETENESS OF THESE BASE PLANS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.

NO.	DATE	INITIAL	REVISION DETAIL
01	2025-10-27	SC	UPDATED SITE PLAN