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Transportation Impact Study

PROPOSED TEMPORARY TRUCK & TRAILER PARKING FACILITY

13291 Airport Road
Town of Caledon, ON

April 7, 2025
Project No: NT-24-207

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Aurora ON L4G 6W8
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nexTrans CONSULTING ENGINEERS
NextEng Consulting Group Inc.

April 7, 2025

Giampaolo Developments
1 Kenview Boulevard, Suite 301
Brampton, ON L6T 5E6

Attention: **Shonese Wallace-Morgan**

Re: **Engineering Serivce – Transportation Impact Study**
Proposed Temporary Truck and Trailer Parking Facility
13291 Airport Road, Town of Caledon
Our Project No. NT-24-207

Nextrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study Update in support of a Temporary Zoning By-law Amendment application for the above noted property.

The subject lands are located east of Airport Road and north of Old School Road, in the Town of Caledon. Based on the site plan prepared by Humphries Planning Group Inc., the development proposal seeks the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.

This study concludes that the proposed development can adequately be accommodated by the future transportation network with a negligible traffic impact to the adjacent public roadways.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS

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Issues and Revisions Registry

Identification	Date	Description of issued and/or revision
Transportation Impact Study	April 1, 2025	For client submission

EXECUTIVE SUMMARY

Nextrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study in support of a Temporary Zoning By-law Amendment application for a site located east of Airport Road and north of Old School Road, municipally addressed as 13291 Airport Road, in the Town of Caledon.

Development Proposal

The development proposal seeks the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.

Capacity Analysis

Trip rates were determined through driveway counts at a proxy site. Based on the trip generation calculations, the proposed development is projected to generate a total of 31 new two-way trips (16 inbound and 15 outbound) and 89 new two-way trips (49 inbound and 40 outbound) during the weekday AM peak hour and PM peak hour, respectively.

Based on the results of the capacity analysis of future total traffic volumes, the study area intersection and proposed site access are projected to operate with residual capacity, with acceptable levels of service and with acceptable delay and queue lengths.

Site Plan Review

The proposed full movement site access is complaint with the full movement access spacing requirements noted in the Region's RCS.

It is noted that no auxiliary turning lanes are proposed for the temporary truck and trailer parking facility; however, the future Airport Road cross-section will provide a two-way left-turn lane, which will provide storage for inbound left-turning traffic. Additionally, given the temporary nature of the development proposal, it is our opinion that an inbound right-turn lane is not required.

The 100m internal queueing capacity measured from the property line to the entry/exit gate is sufficient to accommodate the outbound truck queueing without the need for outbound auxiliary turning lanes.

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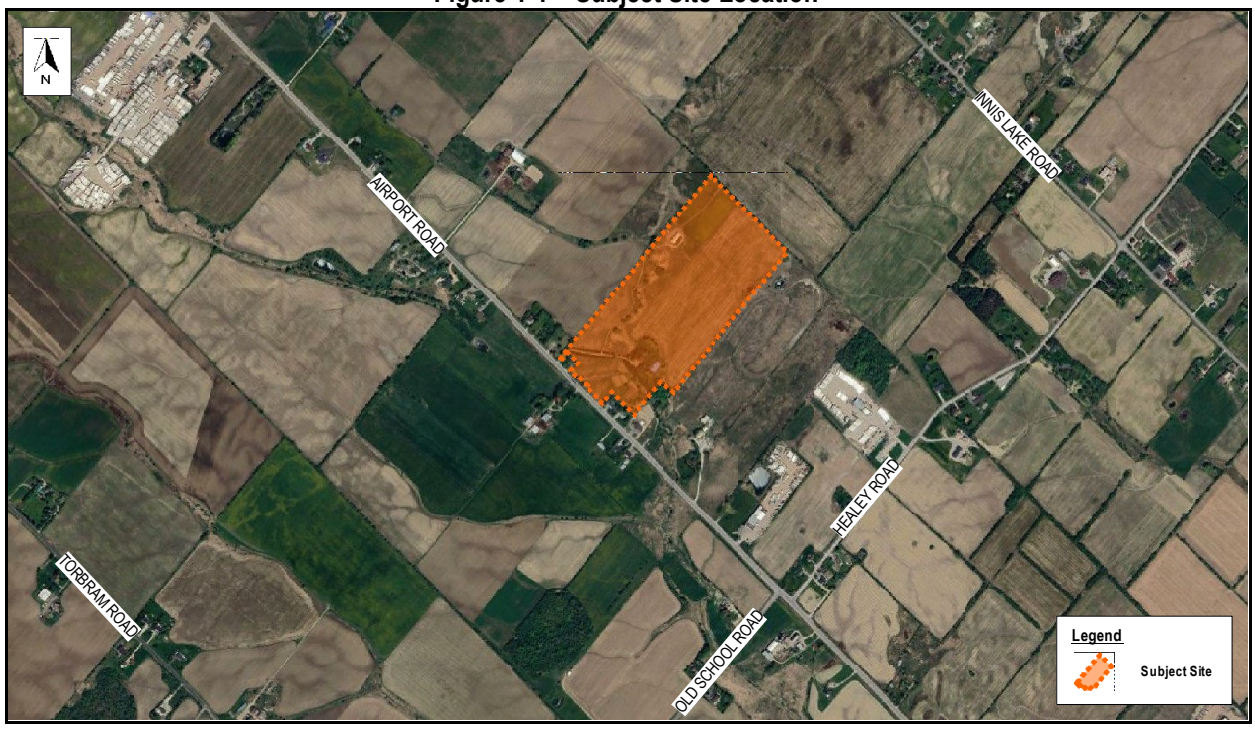
1.0 INTRODUCTION

Nextrans Consulting Engineers (A Division of NextEng Consulting Group Inc.) was retained through Giampaolo Developments (the 'Client') to undertake a Transportation Impact Study Update in support of a Temporary Zoning By-law Amendment application for a proposed truck and trailer parking facility. The subject lands are located east of Airport Road and north of Old Church Road, municipally addressed as 13291 Airport Road, in the Town of Caledon (the 'Town').

The location of the proposed development is illustrated in **Figure 1-1**.

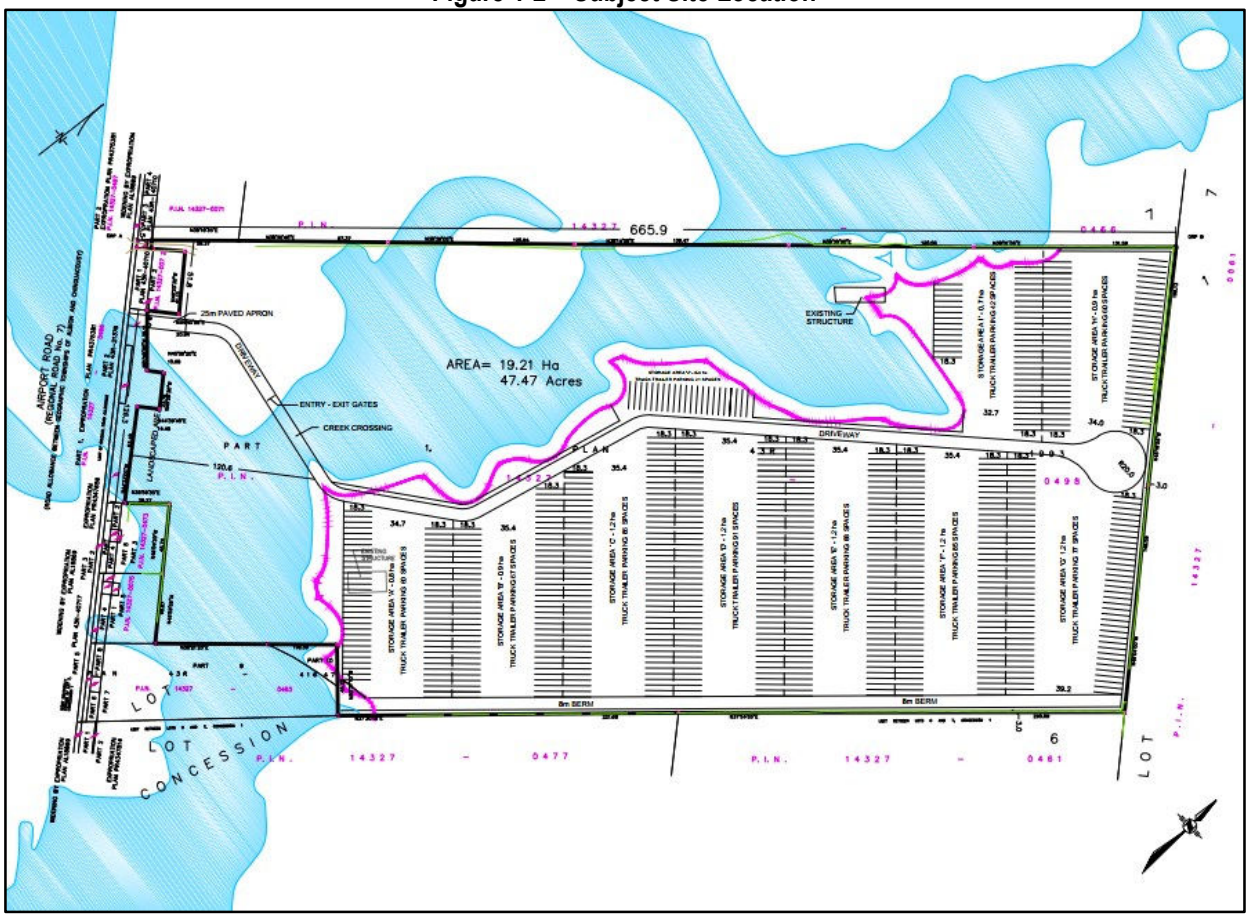
Figure 1-1 – Subject Site Location



The development proposal seeks the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.

The proposed site plan is illustrated in **Figure 1-2** and is enclosed in full detail in **Appendix A**.

Figure 1-2 – Subject Site Location



1.1. Study Approach

A Terms of Reference was submitted to municipal and regional staff outlining the proposed work plan. Comments were provided by both municipal and regional staff, which are enclosed in **Appendix B** with the Terms of Reference.

In accordance with the Terms of Reference provided to staff, weekday morning (AM) and weekday afternoon (PM) peak traffic periods were assessed. The baseline year for this study is 2025, and a five (5)-year horizon was selected for future traffic assessments (2030).

2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

The subject lands are located east of Airport Road and north of Old School Road, in the Town of Caledon. The existing road network is described as follows:

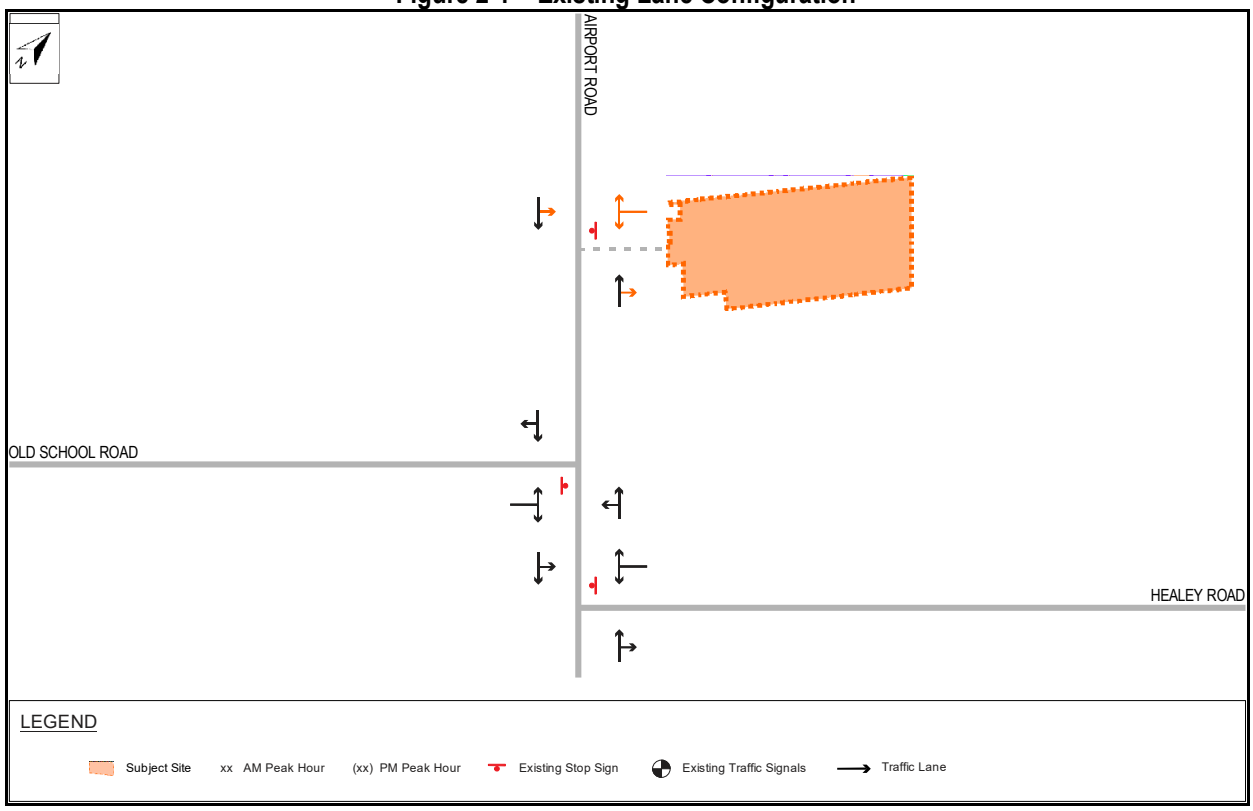
Airport Road is an arterial road under the jurisdiction of Peel Region and travels generally in the north-south directions. Airport Road is classified as a Suburban Connector in accordance with Peel Region's Road Characterization Study. Airport Road currently has a two (2)-lane cross section (one (1) lane per direction) with gravel shoulders and there is posted speed limit of 80 km/h near the subject site.

Old School Road is an east-west collector road under the jurisdiction of the Town of Caledon. Old School Road currently has a two (2)-lane cross section (one (1) lane per direction) with gravel shoulders and there is a posted speed limit of 70 km/h near the subject site.

Healey Road is an east-west collector road under the jurisdiction of the Town of Caledon. Healey Road currently has a two (2)-lane cross section (one (1) lane per direction) with gravel shoulders and there is a posted speed limit of 70 km/h near the subject site.

The existing lane configurations relevant to the study area are illustrated in **Figure 2-1**.

Figure 2-1 – Existing Lane Configuration



2.2. Existing Traffic Volumes

Weekday morning and afternoon peak period turning movement counts (TMC) were undertaken by Spectrum Traffic at the nearest existing study area intersections during the weekday AM and PM peak periods. Existing traffic data, including is enclosed in **Appendix C**. A summary of traffic data collection is provided in **Table 2.1**.

Table 2.1: Traffic Data Collection Summary

Intersection	Source	Survey Date
TMC Data		
Old School Road and Airport Road	Spectrum Traffic Inc.	March 5, 2025
Healey Road and Airport Road	Spectrum Traffic Inc.	March 5, 2025

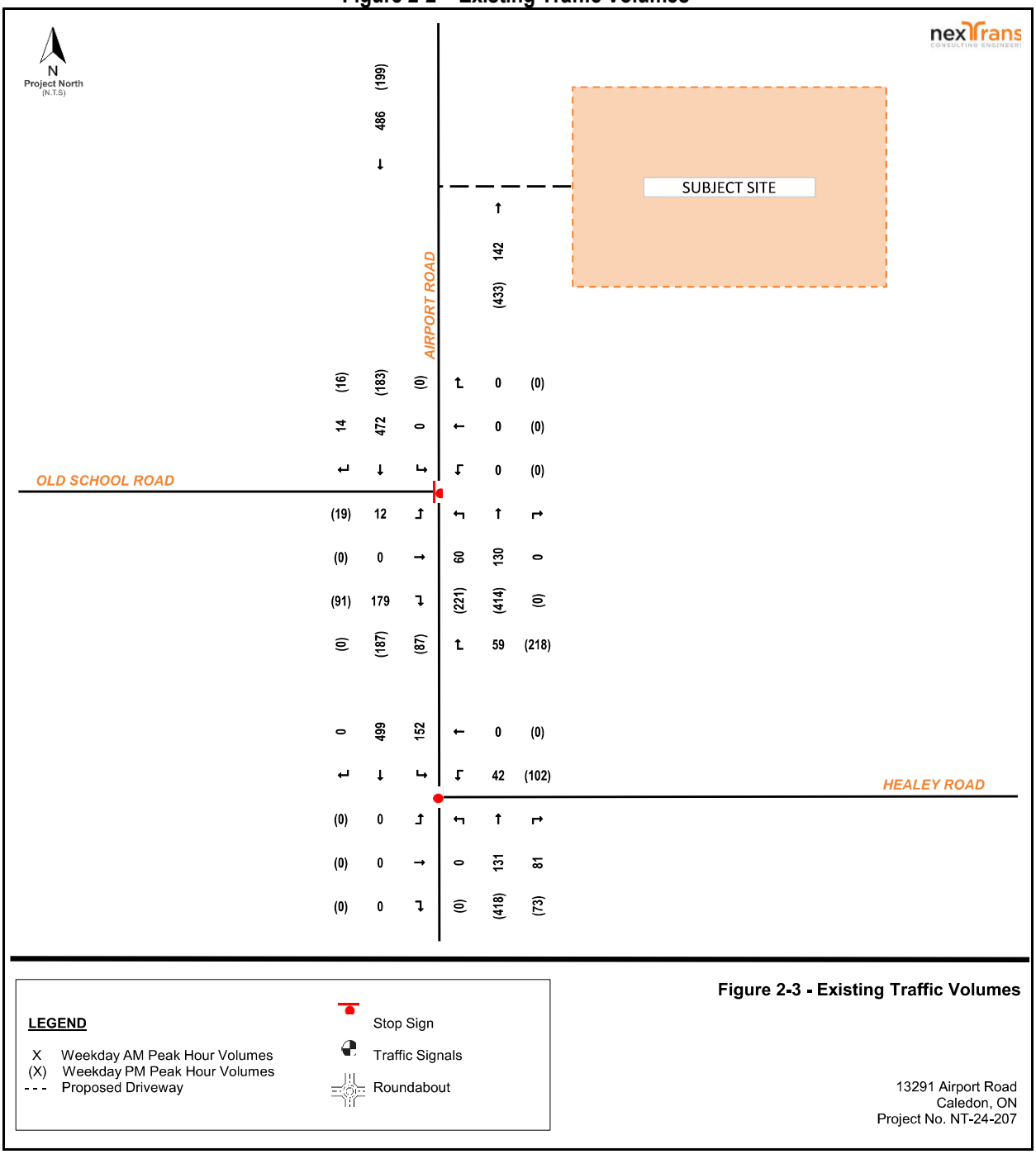
2.3. Existing Traffic Assessment

The methodology of the software follows the procedures described and outlined in the highway capacity manual, HCM 2000, published by the Transportation Research Board. It is to be noted that trips at the site access were

conservatively projected from the Old School and Airport Road intersection, noting that between the intersection and the site access there is an existing truck dealership.

The existing traffic volumes are illustrated in **Figure 2-2.**

Figure 2-2 – Existing Traffic Volumes



The existing traffic volumes and were analyzed using Synchro 10 software. The detailed results are enclosed in **Appendix D** and summarized in **Table 2.2**.

Table 2.2: Level of Service – Existing Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
		v/c	Delay (s)	LOS	95th Queue (m)	v/c	Delay (s)	LOS	95th Queue (m)
Airport Road & Old School Road	EBLR	0.37	15.4	C	12.8	0.24	14.5	B	7.2
	NBLT	0.06	3.1	A	1.4	0.18	4.2	A	5.0
	SBTR	0.30	0.0	-	0.0	0.13	0.0	-	0.0
Airport Road & Healey Road	WBLR	0.28	18.2	C	8.8	0.87	50.3	F	66.9
	NBTR	0.13	0.0	-	0.0	0.32	0.0	-	0.0
	SBLT	0.12	3.0	A	3.1	0.10	3.5	A	2.4

Based on the results of the capacity analysis under existing traffic conditions, the study area intersection is currently operating with residual capacity, with acceptable levels of service, and with negligible delays and queues lengths during weekday AM and PM peak hours. It is noted that the westbound left right movement at the intersection of Airport Road and Healey Road currently operates with a failing level of service (LOS 'F'); however, it is noted that there is still residual capacity available.

3.0 FUTURE BACKGROUND CONDITIONS

As established in the Terms of Reference, a five (5)-year horizon from the baseline year of 2025 was analyzed for future background traffic conditions (2030).

3.1. Future Corridor Growth

Peel Region AADT data was reviewed to determine an appropriate growth rate to project future traffic volumes; however, the count station nearest to the subject site (Station ID 00720610) does not provide data from the last 7 years. The next nearest count station to the subject site is located approximately 1.5km north of Old School Road (Station ID 722010) and provides AADT data from 2018, 2019, 2022, 2023 and 2024; however, it is noted that the 2024 southwest AADT data plot is inconsistent with years prior and is 40% greater than the AADT data recorded for 2023 southwest. On this basis, future growth was determined based on the available northeast AADT data, which is calculated as 3% and was applied to the existing traffic volumes to forecast future growth. The corridor growth calculations are enclosed in **Appendix E**.

3.2. Planned Transportation Infrastructure Improvements

The Peel Region Municipal Class Environmental Assessment of Airport Road from 1.0km north of Mayfield Road to 0.6km north of King Street and the Airport Road – Design Plan Between Mayfield Road and King Street was reviewed to determine the future transportation network on Airport Road.

3.2.1. Airport Road Widening

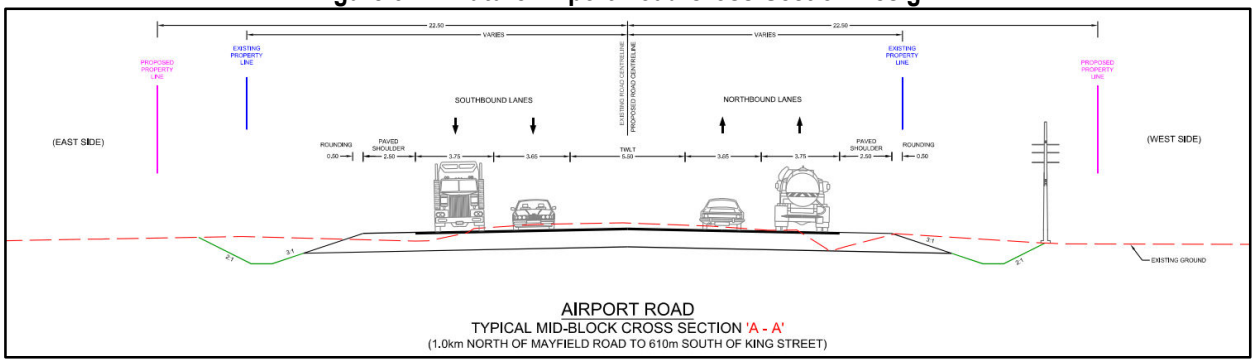
Based on the results of the EA traffic analysis, Regional staff determined recommended several measures. Two of the measures recommended by Regional staff by 2031 are noted below:

- By 2031, a road widening to five lanes (four through lanes and a centre two-way left-turn) on Airport Road within the study will be required based on link level volumes and signal/roundabout analysis.

- Airport Road/Old School Road/ Healey Road – a partial 2-lane roundabout is recommended by 2031 with two entries and approaches on the north and south approaches and either a right turn bypass or a flared two-lane entry on Healey Road.

The above-noted measures will be modeled for the future background traffic conditions to reflect the Region's ultimate roadway design. An excerpt of the typical Airport Road cross-section design is illustrated in **Figure 3-1** below.

Figure 3-1 – Future Airport Road Cross-Section Design



3.2.2. Highway 413

The Ontario government has recognized the need to build priority highways faster as the province continues to grow. Through the *Reducing Gridlock, Saving You time Act*, a statute – the Highway 413, was introduced to create an accelerated Environmental Assessment process for the construction of Highway 413. The 2025 key milestones for Highway 413 include the refinement of the Preliminary Design of the Preferred Route to 100% completion and the completion of the Final Environmental Impact Assessment Report (EIAR), following a 30-day comment review period.

Based on the 50% preliminary design of the proposed Highway 413, the subject lands are located within the preliminary route study area, and there are on/off ramps contemplated on the subject lands. Notwithstanding this, it is critical to note that at the time of preparing this Study, Highway 413 is still in the planning and early development stages and the exact completion date is uncertain. The provincial government has estimated that construction could take approximately 10 years, but this timeline is subject to change depending on environmental assessments, legal challenges, political factors, etc. An excerpt of the 50% preliminary design from the Province's interactive map near the subject site is illustrated below in **Figure 3-2**.

Figure 3-2 – Highway 413 50% Preliminary Design at Airport Road

3.3. Background Developments

In response to the Terms of Reference submitted to reviewing agencies, the Town of Caledon Transportation staff requested that several development applications be considered in the analysis of future background traffic volumes. Based on the development applications that were requested for consideration by staff, it is noted that only the following had information available through the Town's development application portal:

- 13846 & 13940 Airport Road
- Mayfield Tullamore Lands, 0 & 12245 Torbram Road

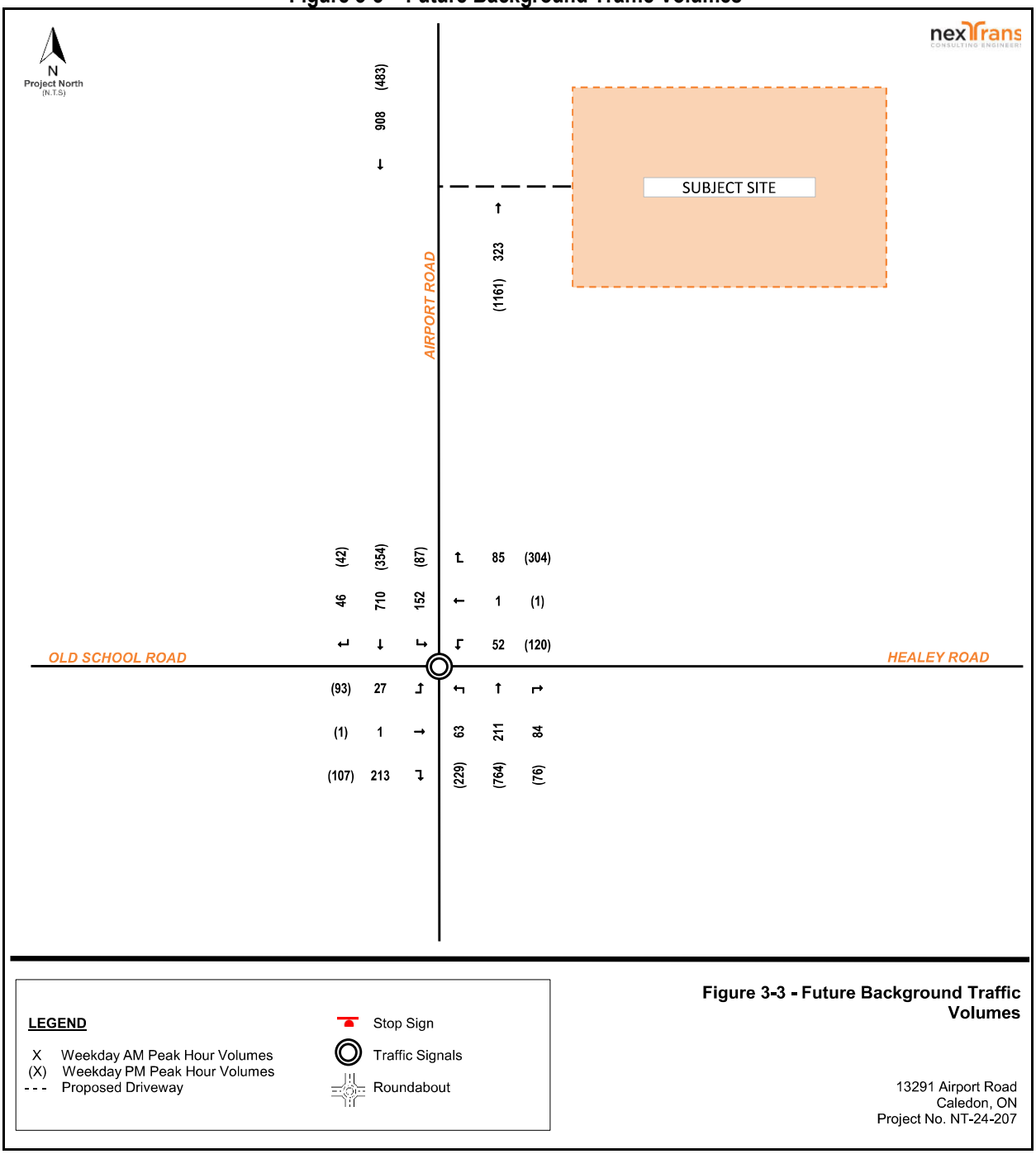
Excerpts of site traffic figures of the above noted development applications are enclosed in **Appendix F**.

3.4. Future Background Traffic Assessment

As previously noted, the Region's EA report recommended that a roundabout be implemented at the intersection of Airport Road and Old School Road/Healey Road. Additionally, the Region's EA report recommended that Airport Road be widened to a five-lane cross-section. As such, the future road network was incorporated in the Synchro model. In accordance with the future road network, the traffic volumes at the Airport Road/ Old School Road and Airport Road/ Healey Road intersections were consolidated into one intersection for the purposes of traffic modelling.

The estimated future background traffic volumes (i.e., future background growth volumes + background development site traffic volumes) are illustrated in **Figure 3-3.**

Figure 3-3 – Future Background Traffic Volumes



The methodology used for the future background traffic analysis follows the procedures described and outlined in HCM 2010 Roundabout, published by the Transportation Research Board. The detailed calculations are enclosed in **Appendix G** and **Table 3.1** summarizes the level of service at the study area intersections under future background traffic conditions.

Table 3.1: Level of Service – Future Background Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
		v/c	Delay (s/veh)	LOS	95th Queue (veh)	v/c	Delay (s/veh)	LOS	95th Queue (veh)
Airport Road & Old School Road / Healey Road	**Overall**	**-**	**9.2**	**A**	**-**	**-**	**14.4**	**B**	**-**
	EBLTR	0.46	14.4	B	2	0.34	10.0	A	2
	WBLT	0.07	4.8	A	0	0.30	13.2	B	1
	WBTR	0.10	5.1	A	0	0.72	28.7	D	6
	NBLT	0.20	6.2	A	1	0.60	12.4	B	4
	NBTR	0.23	6.5	A	1	0.67	14.5	B	5
	SBLT	0.46	9.1	A	2	0.34	9.2	A	2
	SBTR	0.52	10.1	B	3	0.38	9.6	A	2

Based on the results of the capacity analysis under future background traffic conditions, the study area intersection is projected to operate with residual capacity, with acceptable levels of service, with negligible delays and queue lengths during weekday AM and PM peak hours.

4.0 SITE TRAFFIC

4.1. Trip Generation

As previously identified, the development proposal is for a temporary truck and trailer parking facility, with a total site area of 19.4ha; however, because of existing flood hazard lands, only 9.6ha of the subject site is developable to provide truck and trailer parking spaces. A total of 677 temporary truck and trailer parking spaces are envisioned.

It is standard practice to use the ITE Trip Generation Manual, published by the Institute of Transportation Engineers (ITE) to determine the number of trips that a site will generate; however, the Trip Generation Manual does not contain trip information for truck and trailer parking facilities. In lieu of information available in the ITE Trip Generation Manual, Nextrans opted to use turning movement count survey data that was collected previously at a similar proxy site in the Town of Caledon. The previously surveyed proxy site operated the same land use as the proposed development and is municipally addressed as 6186 Airport Road and was fully operational at the time that the driveway counts were surveyed; however, it is to be noted that the site is no longer operational.

The proxy site had an approximate lot area of 5.52ha and provided both truck and truck + trailer parking, as well as repurposing an existing detached single family dwelling as an office. The proxy site driveway counts were conducted on September 21, 2023, and September 22, 2023, during morning peak period (7:00AM – 9:00AM) and afternoon peak period (4:00PM – 6:00PM).

The results of the proxy site trip generation surveys are summarized in **Appendix H** and the peak hour trip generation results from each day of surveys are detailed in **Table 4.1** below.

Table 4.1 – Proxy Site Turning Movement Counts

Time Period	Parameter	September 21, 2023			September 22, 2023		
		Inbound	Outbound	Total	Inbound	Outbound	Total
AM Peak Period	Gross Trips	9	7	16	**9**	**9**	**18**
	Trip Rate	1.63	1.27	2.90	**1.63**	**1.63**	**3.26**
PM Peak Period	Gross Trips	**28**	**23**	**51**	28	12	40
	Trip Rate	**5.07**	**4.17**	**9.24**	5.07	2.17	7.25s

The peak number of trips generated by the proxy site during AM peak hour occurred on the second survey day, with a total of 18 two-way trips or **3.26 trips/ha**. The peak number of trips generated by the proxy site during PM peak hour occurred on the first survey day, with a total of 51 two-way trips or **9.24 trips/ha**.

Using the observed rates collected from the proxy site, the trip generation calculations for the subject site are detailed in **Table 4.2**.

Table 4.2 – Site Traffic Trip Generation

Parameter	AM Peak Hour			PM Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Gross Trips	16	15	31	49	40	89

Based on the trip generation calculations, the proposed development is projected to generate a total of 31 new two-way trips (16 inbound and 15 outbound) and 89 new two-way trips (49 inbound and 40 outbound) during the weekday AM peak hour and PM peak hour, respectively.

4.2. Trip Distribution

The assumptions for trip distribution rates are based on the distributional splits of existing TMC data within the study area road network, as well as engineering judgement for routes that drivers would likely take to and from the site access. The heavy vehicle volumes were specifically considered for trip distribution rates given the nature of the proposed development.

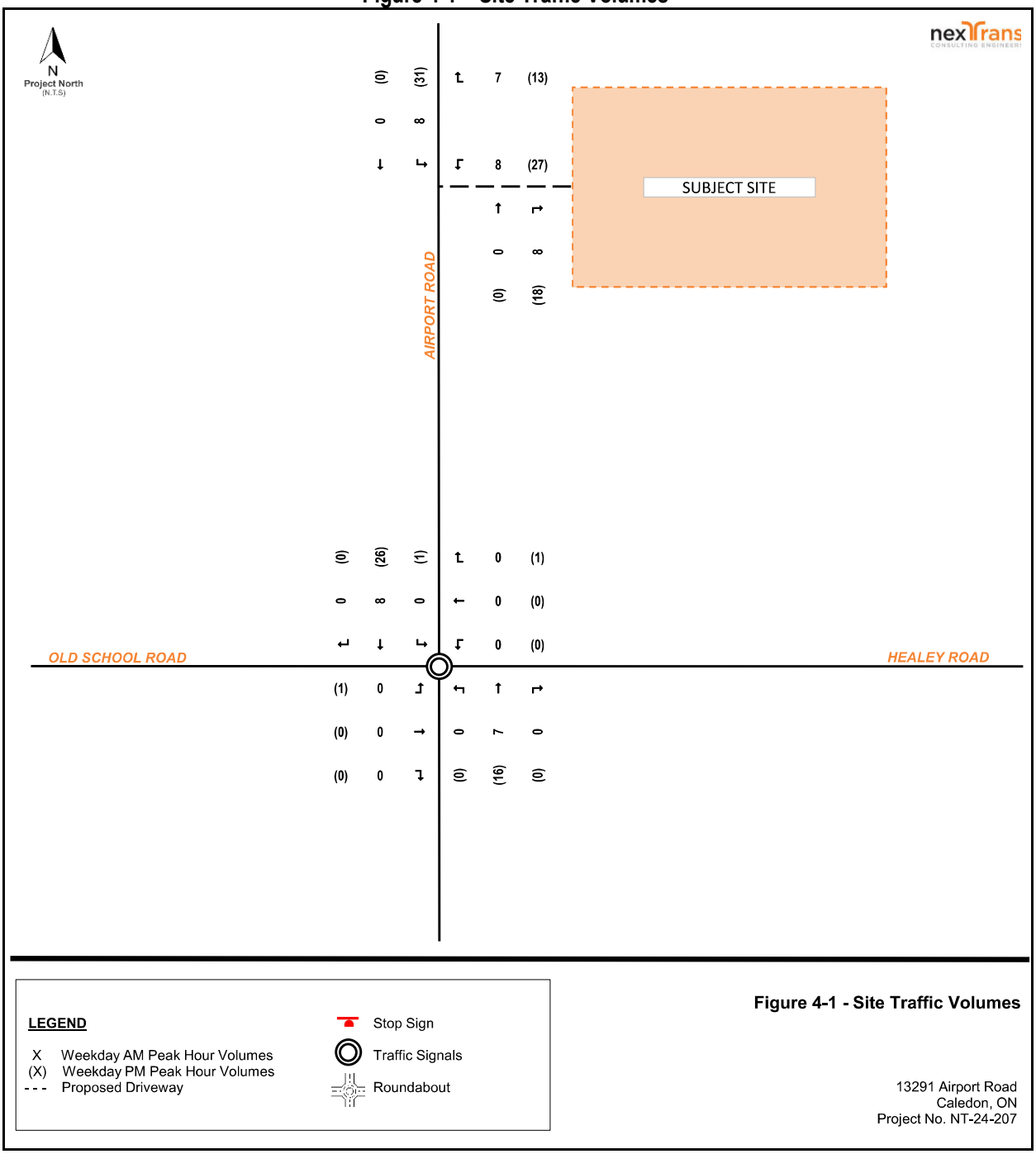
Trip distribution is summarized in **Table 4.2** and trip assignment is illustrated in **Figure 4-1**.

Table 4.3 – Site Traffic Trip Distribution

Corridor	Direction	AM		PM	
		Inbound	Outbound	Inbound	Outbound
Airport Road	North	51%	47%	64%	32%
	South	47%	51%	32%	64%
Old School Road	West	1%	1%	2%	2%
Healey Road	East	1%	1%	2%	2%
Total		**100%**	**100%**	**100%**	**100%**

Trip assignment for all site generated traffic is illustrated in **Figure 4-1**.

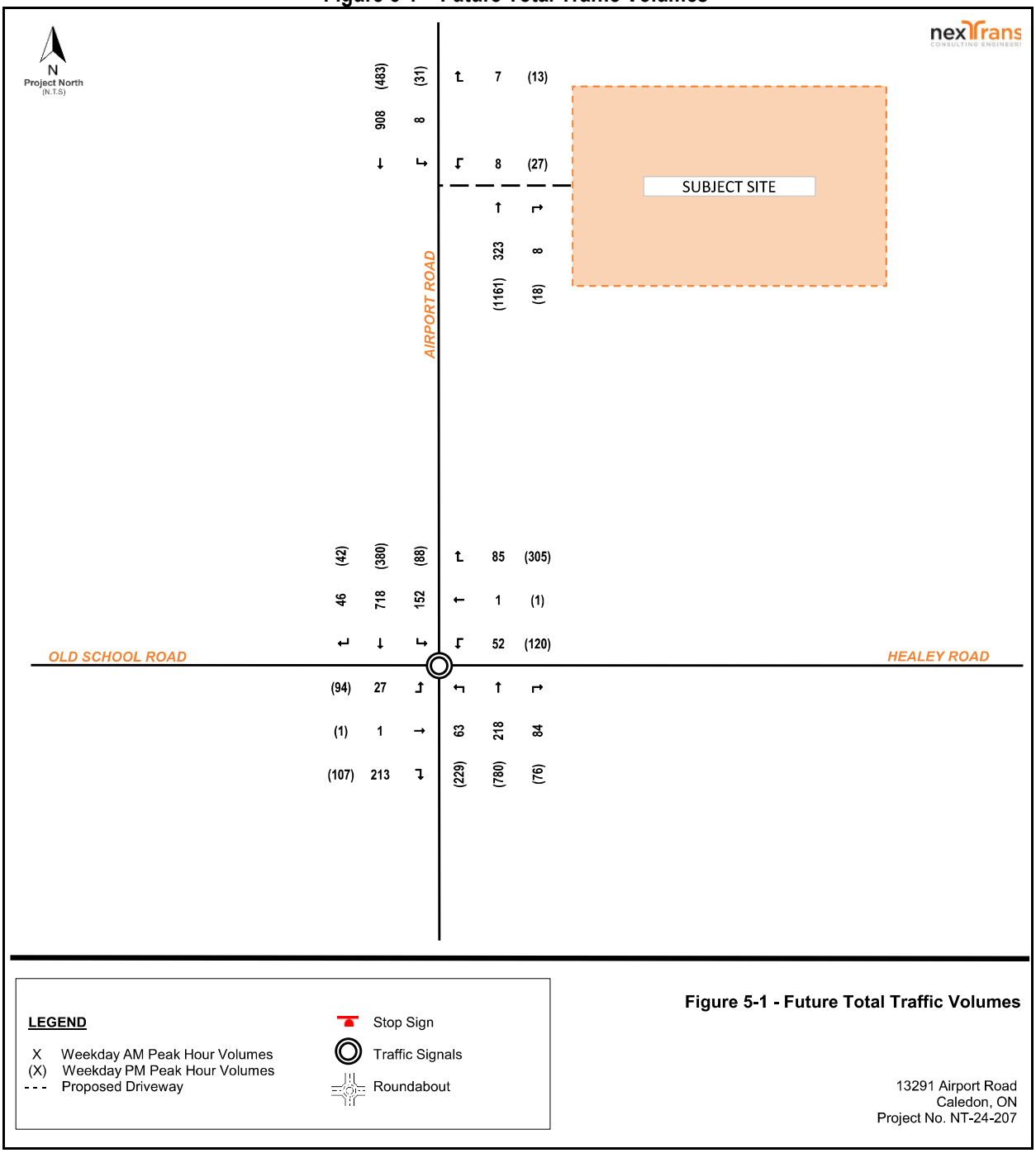
Figure 4-1 – Site Traffic Volumes



5.0 FUTURE TOTAL ANALYSIS

The forecasted future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in **Figure 5-1** and were analyzed using Synchro 10 software. Procedures outlined in HCM 2010 Roundabout were used for the operational assessment of the proposed roundabout at the future consolidated intersection of Airport Road/ Old School Road and Healey Road, whereas procedures outlined in HCM 2000 were used at the unsignalized site access.

Figure 5-1 – Future Total Traffic Volumes



The detailed calculations are enclosed in **Appendix I** and are summarized in **Table 5.1**.

Table 5.1 – Level of Service – Future Total Traffic Assessment

Intersection	Movement	Weekday AM Peak Hour				Weekday PM Peak Hour			
		v/c	Delay (s/veh)	LOS	95th Queue (veh)	v/c	Delay (s/veh)	LOS	95th Queue (veh)
Roundabout									
Airport Road & Old School Road / Healey Road	**Overall**	**-**	**9.3**	**A**	**-**	**-**	**14.8**	**B**	**-**
	EBLTR	0.47	14.6	B	2	0.35	10.4	B	2
	WBLT	0.07	4.8	A	0	0.31	13.5	B	1
	WBTR	0.10	5.1	A	0	0.73	30.0	D	6
	NBLT	0.21	6.3	A	1	0.61	12.7	B	4
	NBTR	0.23	6.5	A	1	0.68	14.9	B	6
	SBLT	0.46	9.1	A	2	0.36	9.5	A	2
	SBTR	0.52	10.1	B	3	0.40	10.0	B	2
Unsignalized Intersections									
		v/c	Delay (s)	LOS	95th Queue (m)	v/c	Delay (s)	LOS	95th Queue (m)
Proposed Site Access & Airport Road	WBLR	0.04	14.3	B	0.9	0.35	50.5	F	10.8
	NBR	0.14	0.0	-	0.0	0.49	0.0	-	0.0
	SBL	0.01	10.1	B	0.3	0.16	24.8	C	4.2

Based on the results of the capacity analysis of future total traffic volumes, the study area intersection and proposed site access are projected to operate with residual capacity, with acceptable levels of service and with acceptable delay and queue lengths. It is noted that the westbound movement at the proposed site access is forecast to operate with a failing level of service during PM peak hour as a result of the extensive delay that is projected at this movement (50.5s). Notwithstanding this, there is ample residual capacity available at this movement (v/c = 0.35) and the 95th percentile queue length can be accommodated by the internal queueing capacity.

On this basis, the site traffic generated by the proposed development is projected to have a negligible impact on the future traffic operations of the surrounding road network.

6.0 SITE PLAN REVIEW

6.1. Vehicle Maneuverability Assessment

AutoTURN software was used to generate a vehicular turning template to confirm and demonstrate the accessibility of the proposed study area. The AutoTURN analysis demonstrates that a standard truck and trailer (WB-20 TAC-2017) can access the subject site and maneuver the proposed parking spaces. The AutoTURN analysis is provided in **Figure 6-1**.

6.2. Access Review

It is to be noted that a full movement access onto Airport Road is envisioned for the proposed development and will be located approximately 55m south of the northerly property line. The proposed temporary truck and trailer parking facility will consolidate three (3) existing driveways onto Airport Road into one (1) site access.

The Peel Region Road Characterization Study (RCS) was reviewed to determine the required access characteristics for the subject site.

Access Spacing

As previously noted in this Study, Airport Road is classified as a Suburban Connector in accordance with the Peel Region Road Characterization Study. Based on Table 1: Median Opening Spacing from the Road Characterization Study, the minimum spacing requirement between full movement accesses onto Suburban Connectors is 300m.

Within 300m of the proposed full movement access onto Airport Road, there is one (1) full movement driveway approximately 165m north of the proposed site access and one (1) full movement driveway approximately 222m south of the proposed site access, which each provide access to single family residences. Based on the Region's Airport Road Design Plan, it is noted that the adjacent properties have been bought out and as such, are vacant. On this basis, the proposed full movement site access is complaint with the full movement access spacing requirements noted in the Region's RCS.

Auxiliary Lanes

Table 4: Auxiliary Lane Placement from the Region's RCS indicates that auxiliary left turn lanes are required for access onto Suburban Connectors, whereas the requirement for right turn lanes is conditional based on the results of the traffic impact assessment. Trip generation calculations for the proposed development forecast a total of 31 and 89 two-way trips during AM and PM peak hour, respectively. Based on Table 5: Volume Thresholds for Access Control from the Region's RCS, the trip projections fall within the 'Medium Impact' threshold of 60-100 veh/hr peak hour, which triggers the auxiliary lane requirement for new developments.

It is noted that no auxiliary turning lanes are proposed for the temporary truck and trailer parking facility. Notwithstanding that auxiliary lanes are required in accordance with the Region's RCS access guidelines, there are several critical factors to consider that conflict with the provision of auxiliary turning lanes for the proposed temporary land use.

The existing pavement width of Airport Road within the vicinity of the subject site is approximately 7m and there are approximately 3m gravel shoulders on each side of the existing paved roadway. The implementation of an auxiliary turning lane would require the physical widening of the existing pavement width, which would result in extensive road works within the existing public right of way to accommodate. Further to this, it is noted that Peel Region has undertaken a Municipal Class Environmental Assessment for Airport Road from 1.0km north of Mayfield Road to 0.6km north of King Street, which includes the segment of Airport Road that fronts the subject site. Based on the Region's Airport Road Design Plan, it is noted that the typical future cross-section of Airport Road will include two (2) through travel lanes in both the northbound and southbound directions, as well as a two-way left-turn lane and paved shoulders. On this basis, once the widening of Airport Road has been completed, the proposed two-way left-turn lane will be available at the entrance of the subject site.

Based on the 50% preliminary design of the proposed Highway 413, the subject lands are located within the preliminary route study area. Given the temporary nature of the development proposal, it is our opinion that an inbound right-turn lane is not required.

Access Width

Based on Table 6: Design Criteria for Access of the Region's RCS, it is noted that a 9.0m minimum access width is required for accesses onto Suburban Connectors. The proposed temporary truck and trailer parking facility proposes an 8.0m access width, which is 1.0m shorter than the minimum requirement. Notwithstanding this, it is noted that the 9.0m access width prescribed for accesses onto industrial connectors presupposes that outbound auxiliary turning

lanes will be provided; however, the proposed development does not propose outbound turning lanes. It is our opinion that the 100m of internal queueing capacity measured from the property line to the entry/exit gate is sufficient to accommodate the outbound truck queueing without the need for outbound auxiliary turning lanes.

7.0 CONCLUSION / FINDINGS

7.1. Study Findings

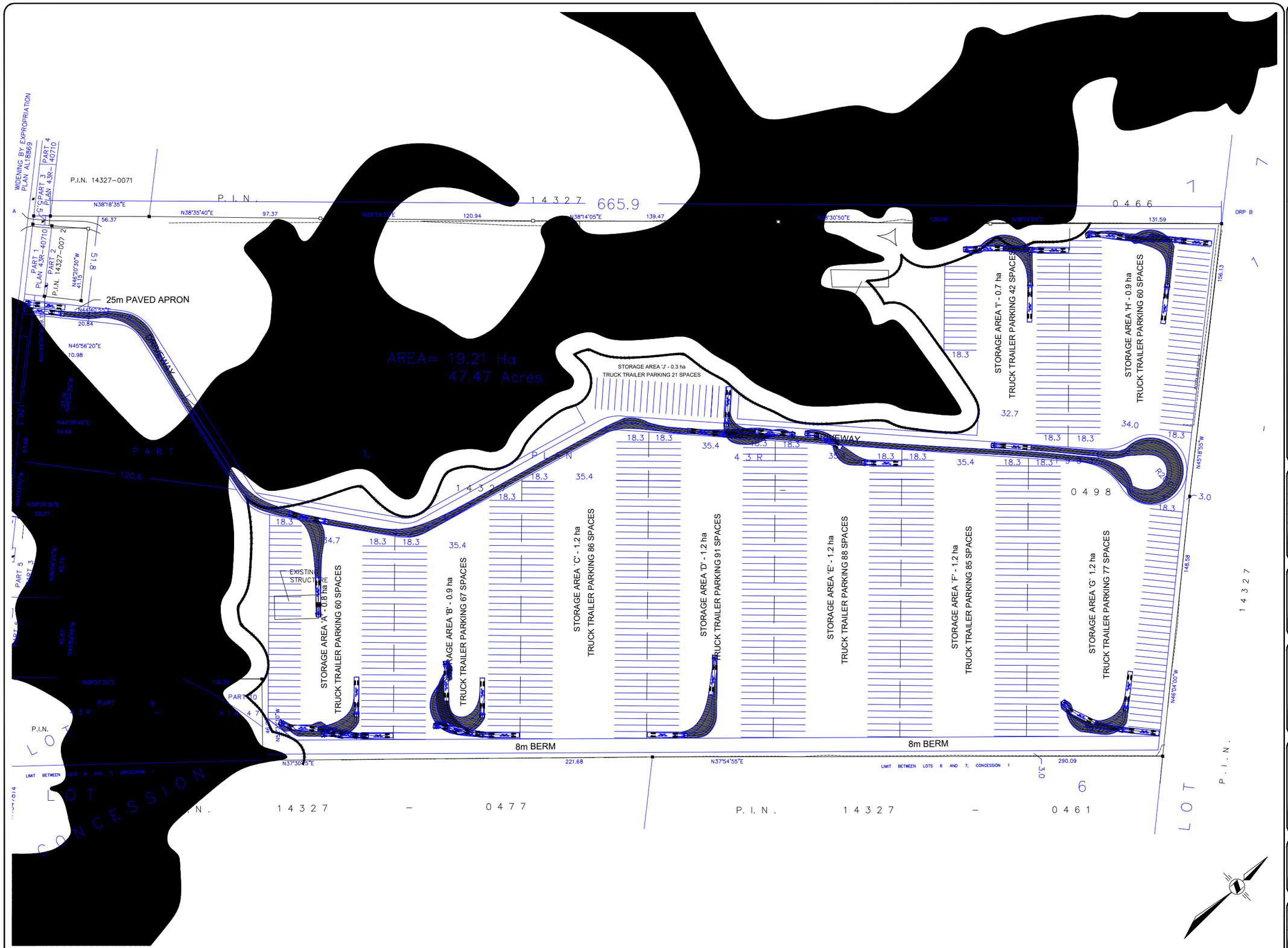
The findings and conclusions of our analysis are as follows:

- The development proposal seeks the redevelopment of the existing 19.4ha subject lands to facilitate a temporary truck and trailer parking facility that will provide a total of 677 truck and trailer parking spaces on 9.6ha of the subject lands. Vehicular access to the site is envisioned via a full movement entrance onto Airport Road.
- Based on the results of the capacity analysis under existing traffic conditions, the study area intersection is currently operating with residual capacity, with acceptable levels of service, and with negligible delays and queues lengths during weekday AM and PM peak hours. It is noted that the westbound left right movement at the intersection of Airport Road and Healey Road currently operates with a failing level of service (LOS 'F'); however, it is noted that there is still residual capacity available.
- Airport Road will be upgraded from its current cross-section of two (2) travel lanes to four (4) travel lanes (two (2) per direction) and a centre two-way left-turn lane.
- The Old School Road and Healey Road intersections with Airport Road will be consolidated into one intersection that will provide a roundabout for traffic control.
- The Highway 413 design plan proposes on/off ramps that will be built onto the subject lands, at which time the subject site will no longer be operational; however, the timeline for completion is uncertain.
- Based on the results of the capacity analysis under future background traffic conditions, the study area intersection is projected to operate with residual capacity, with acceptable levels of service, with negligible delays and queue lengths during weekday AM and PM peak hours.
- Trip rates were determined through driveway counts at a proxy site. Based on the trip generation calculations, the proposed development is projected to generate a total of 31 new two-way trips (16 inbound and 15 outbound) and 89 new two-way trips (49 inbound and 40 outbound) during the weekday AM peak hour and PM peak hour, respectively.
- Based on the results of the capacity analysis of future total traffic volumes, the study area intersection and proposed site access are projected to operate with residual capacity, with acceptable levels of service and with acceptable delay and queue lengths. It is noted that the westbound movement at the proposed site access is forecast to operate with a failing level of service during PM peak hour as a result of the extensive delay that is projected at this movement (50.5s). Notwithstanding this, there is ample residual capacity available at this movement (v/c = 0.35) and the 95th percentile queue length can be accommodated by the internal queueing capacity.
- AutoTURN analysis demonstrates that a Peel Region waste collection vehicle will be able to access the site.
- The proposed full movement site access is complaint with the full movement access spacing requirements noted in the Region's RCS.
- It is noted that no auxiliary turning lanes are proposed for the temporary truck and trailer parking facility; however, the future Airport Road cross-section will provide a two-way left-turn lane, which will provide storage for inbound left-turning traffic.
- The 100m internal queueing capacity measured from the property line to the entry/exit gate is sufficient to accommodate the outbound truck queueing without the need for outbound auxiliary turning lanes.

7.2. Study Conclusions

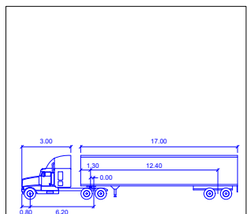
Based on the study assessment, our report concludes the following:

- The proposed development temporary land use will have a negligible impact to the future operations of the adjacent road network.
- The planned roadway improvements on Airport Road will provide adequate connection to the proposed temporary truck and trailer parking facility.
- The proposed access design is generally compliant with the design elements outlined in the Region's Road Characterization Study and given the temporary nature of the proposed land use, will adequately facilitate the traffic forecasted for the proposed development.



KEY PLAN

VEHICLE PROFILE



WB-20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

REVISIONS

NO	REVISION	DATE	BY

STAMP

nexTrans CONSULTING ENGINEERS
Suite 201, 520 Industrial Parkway South
Aurora ON L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

PROJECT NAME:

TEMP. TRUCK & TRAILER PARKING FACILITY

13291 AIPORT ROAD

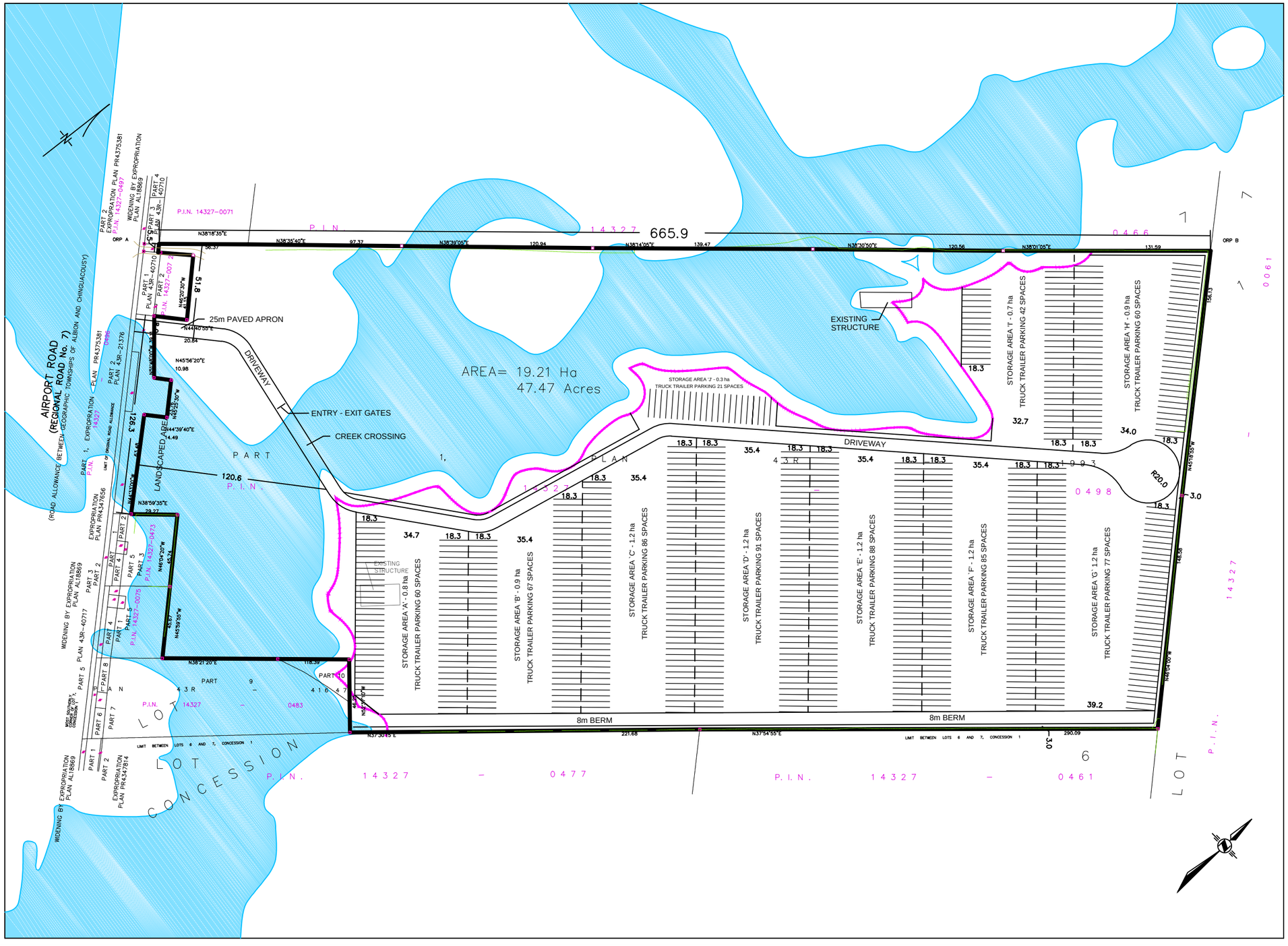
TOWN OF CALEDON

DRAWING TITLE:

AutoTURN Analysis
WB-20 TAC-2017

DESIGN BY: K.A.	DATE: April 1, 2025
CHECKED BY: R.P.	PROJECT NO. NT-24-207
DRAWN BY: K.A.	
SCALE: NTS	DRAWING NO. Figure 6-1

Appendix A – Site Plan



KEY PLAN Scale N.T.S.

HUMPHRIES PLANNING GROUP INC.
190 PIPPIN ROAD, SUITE A, VAUGHAN, ONTARIO, L4K 4X9
TEL (905)264-7678, FAX (905)264-8073
www.humphriesplanning.com

TRUCK AND TRAILER PARKING

DEVELOPMENT STATISTICS

TOTAL SITE AREA	19.4 ha
TEMPORARY TRUCK & TRAILER PARKING AREAS 'A' THROUGH 'F'	9.6 ha
TOTAL TEMPORARY TRUCK & TRAILER PARKING SPACES	677

TYPICAL PARKING SPACE (3.66m X 18.3m)

FLOOD HAZARD LANDS

10m BUFFER FLOOD HAZARD LANDS

TEMPORARY USE SITE PLAN

13291 AIRPORT ROAD

PART OF LOT 7,
CONCESSION 1
(GEOGRAPHIC TOWNSHIP OF ALBION)
TOWN OF CALEDON
REGIONAL MUNICIPALITY OF PEEL

SCALE:

20 0 20 50 100m

HUMPHRIES PLANNING GROUP INC.
190 PIPPIN ROAD, SUITE A, VAUGHAN, ONTARIO, L4K 4X9
TEL (905)264-7678, FAX (905)264-8073
www.humphriesplanning.com

File Number:	Drawing Number: A
Date Drawn: 14 AUG 24	
Drawn By: BT	
Checked By: R.H.	
Date Revised: 21 MAR 25	
CAD File No.:	

Appendix B – Terms of Reference

520 Industrial Parkway South, Suite 201
Aurora, Ontario L4G 6W8

Phone: 905-503-2563
www.nextrans.ca

NextEng Consulting Group Inc.

To: Arash Olia, Town of Caledon
Hashim Hamdani, Region of Peel

From: Kristian Aviles, Nextrans Consulting Engineers

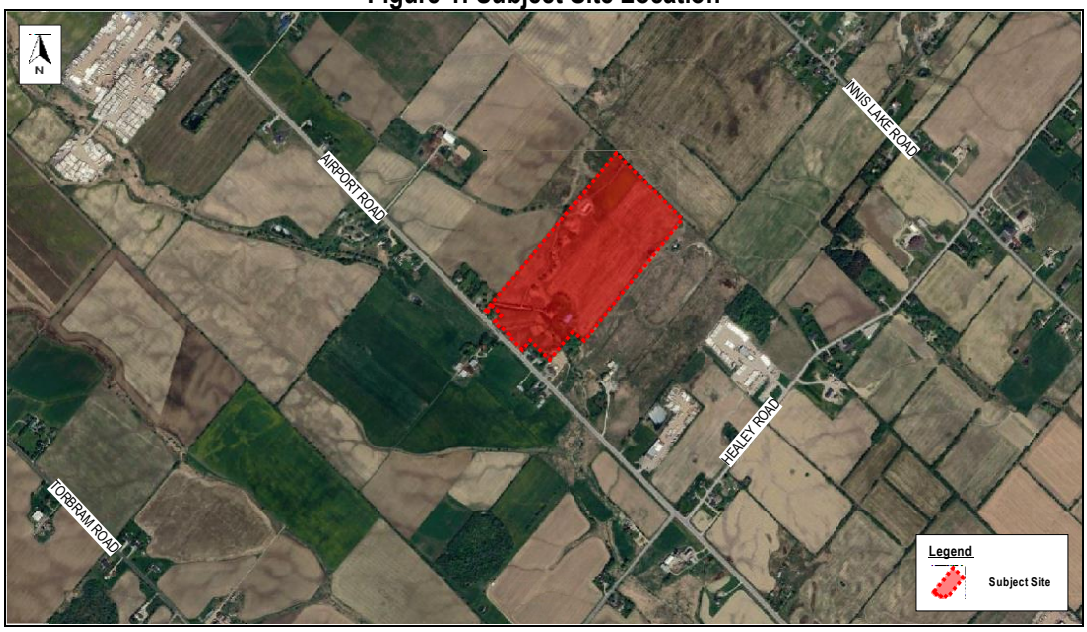
Date: February 19, 2025

Re: **Terms of Reference – Transportation Impact Study**
Proposed Temporary Truck and Trailer Parking Development
13291 Airport Road, Town of Caledon
Our Project No. NT-24-207

INTRODUCTION

We wish to confirm the following work plan for a Transportation Impact Study for a proposed truck and trailer parking development located north of Old School Road and east of Airport Road, (herein 'subject site'), in the Town of Caledon. The subject lands are currently occupied by a single-family dwelling. **Figure 1** illustrates the location of the subject site.

Figure 1: Subject Site Location



Based on the site plan provided, the development proposal is to redevelop the subject lands to accommodate a temporary truck and trailer parking facility that will provide a total of 729 truck and trailer parking spaces. Vehicular access to the site is envisioned via a full movement access onto Airport Road. The following outlines the proposed Terms of Reference for our study.

STUDY AREA

Nextrans proposes to collect new turning movement count (TMC) data at the following study area intersection during AM (7:00 AM – 10:00 AM) and PM (4:00 PM – 7:00 PM) peak periods:

1. Old School Road and Airport Road (unsignalized)
2. Healey Road and Airport Road (unsignalized)
3. Airport Road and Site Access (unsignalized)

BACKGROUND TRAFFIC

General Corridor Growth Rate – Peel Region historical AADT data will be reviewed to establish corridor growth rates.

Road Network Improvements – Nextrans will note any road network improvements identified within the study area and account for any traffic diversions associated with these improvements within in our analysis.

Background Development Traffic – Nextrans will consult with the Town of Caledon for any relevant background developments to be considered within the study. Nextrans requests that all relevant background traffic documents be made available.

TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

Nextrans has reviewed the Institute of Transportation Engineers (ITE) Trip Generation Manual 11th Edition to determine the site traffic generated by the proposed development on the surrounding road network; however, it is noted that information for the proposed land use is not available. As such, Nextrans proposes to use driveway counts conducted at similar existing truck and trailer parking facilities that we have previously surveyed and apply the observed trip rates to the site.

The general trip distribution will follow distribution patterns of existing TMC data. Trip assignment will be completed accordingly to reflect the configuration of the proposed site accesses, turning restrictions, and logical routings.

FUTURE TRAFFIC SCENARIOS

Future background and future total analyses for the study area intersections will be conducted over a five (5)-year horizon from the baseline year of 2025, for a future analysis year of 2030.

REMEDIAL MEASURES

Under future total conditions, any through or shared through/turning movements at the studied intersections that exceed a V/C ratio of 0.90 or exclusive movements that exceed a V/C ratio of 1.00 will be identified. If remedial actions such as signal optimization are unsuccessful this will also be identified. If remedial measures are to be employed, a scenario will be provided demonstrating the change in intersection operations.

PARKING & LOADING

The Town of Caledon's Comprehensive Zoning By-law 2006-50 will be used to determine the vehicle parking requirements for the site.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS

Kristian Aviles, B.Eng
Transportation Analyst

Outlook

Transportation Development comments - Terms of Reference - PARC-24-269C - 13291 Airport Road - Our file D-00721404E

From Barnes, Catherine <catherine.barnes@peelregion.ca>
Date Fri 2/28/2025 11:14 AM
To Kristian Aviles <kristian@nextrans.ca>
Cc Hamdani, Hashim <Hashim.Hamdani@peelregion.ca>; Arash Olia <arash.olia@caledon.ca>

Hi Kristian,

The Region has reviewed the Terms of Reference provided and find it to be satisfactory as long as our comments below are taken into consideration and included in the TIS;

Please see the traffic comments below and the link here for the detailed Region of Peel TIS formatting and contact information for background traffic (growth rate, AADT, signal timing, etc.).

- Regional Road (Airport Road) – Suburban Connector

Access Type	Minimum Spacing Requirement
Full to Full	300 m
Full to RI/RO	75 m
Full to LI/RI/RO	150 m

- Please review the Controlled Access By-law 62-2013, which speaks to the Road Characterization Study (RCS). The RCS defines our various road classifications as well as the minimum access spacing distances that are associated with them.
- Access type, location, and configuration (including the need for auxiliary turn lanes) will be determined after receipt and review of the Traffic Impact study. For full movement intersections on Suburban connector roadways – auxiliary turn lanes will be required, this should be reviewed in the TIS.
- Any proposed connection to Airport Road should adhere to the spacing requirements set out within the Region's Road Characterization study.
- Please note that there is a Capital Project within the vicinity of this site; Capital Project 14-4030 Road Widening – Airport Road -from Mayfield Road to King Street. The Project Manager for the Capital Project is Jerry Tan. Jerry must be consulted for any additional requirements that may be necessitated due to the Capital Project, including but not limited to additional property requirements over and above the Official Plan requirements, pedestrian infrastructure and any other urbanization that may be required. (jerry.tan@peelregion.ca)
- Truck restrictions, truck routes and any heavy truck conflicts should be provided in the TIS.
- Traffic volume analysis will be required.
- Proxy sites will also be required.

Study Intersections

- Agree

Horizon Years/Time frame

- Agree

Growth Rates

- Please contact transportation planning data team to confirm the growth rate, see contact info below;

Contacts

- Please see the following contacts to obtain data for your analysis:
  - Please contact Transportation Planning transportationplanningdata@peelregion.ca to confirm growth rates along the subject Regional road(s).
  - Please contact Damian Jamroz (damian.jamroz@peelregion.ca) Supervisor of Traffic Operations to obtain the most recent TMCs and/or average annual daily traffic (AADT).
  - Please contact Rebecca Caughey (Rebecca.caughey@peelregion.ca)Supervisor of Traffic Signals and Streetlighting, to obtain traffic signal timing parameters and ensure that the information includes the appropriate walk/don't walk splits, recall modes and offsets.
  - Please contact Development Services Planning staff to obtain details on surrounding developments in the area that would affect traffic capacity in the planning horizon year(s).
  - Please contact your Local Municipality Planning Department both City of Brampton & Town of Caledon to obtain details on the surrounding developments in the area that would affect traffic capacity in the planning horizon years. Some developments have not been noted on the Background Development page.

I trust this to be satisfactory; please do not hesitate to contact me should you have any questions or concerns.

Catherine Barnes
Region of Peel
Specialist, Transportation Development
Transportation Division, Public Works.
10 Peel Centre Drive, Suite B, 4th Floor
Brampton, ON , L6T 4B9
Please contact me via email as I am out of the office working remotely.

Region of Peel
working with you

Please consider the environment before printing this email.

Our working hours may be different. Please do not feel obligated to reply outside of your working hours.

The Region of Peel is situated on the Treaty Lands and Territory of the Mississaugas of the Credit First Nation as well as the traditional territory of the Anishinabeg, Huron-Wendat and Haudenosaunee peoples.

Outlook

RE: Transportation Impact Study Terms of Reference

From Kavleen Younan <Kavleen.Younan@caledon.ca>
Date Wed 3/5/2025 1:33 PM
To Kristian Aviles <kristian@nextrans.ca>
Cc Tharushe Jayaveer <Tharushe.Jayaveer@caledon.ca>

Hi Kristian,

Please see our comments below on the proposed ToR. Let me know if there are any questions.

- Given the location of the proposed development, the ToR should be circulate the with the Region.
- Please ensure that HCM 6th Edition methodology is utilized to establish control delay, Level of Service and volume-to-capacity ratios.
- The Applicant should consider the current development application page and mapping development applications of note include:
    - SPA 2022-0011 13846 and 13940 Airport Road
    - 12552 Torbram Rd - Golf Course (Geranium)
    - POPA 2024-0006 - Mayfield Tullamore Secondary Plan

  Note: we are currently anticipating the submission of multiple applications in the area including but not limited to the Tullamore North Secondary Plan, and the OP F1/F2 Secondary Plan area's, please continually check the development application page for update / reach out to Town staff as required.

  Also, ensure the applications to the north are accounted for in the assumed growth rates
    - SPA 2016-0073 2992 King Street
    - Triple Crown Developments
- Truck Traffic:
    - A truck route plan should be included in the report. Note that trucks should not be utilizing Town roadways with truck restrictions. Local deliveries and collections are exempt from heavy truck restrictions if the location cannot be reached by any other road.
- Proxy Sites:
    - The proxy sites used to determine traffic generation should be comparable to the context of the proposed development. Many proxy sites have rail connections, are in urban centers with more multimodal options, or are missing exact locations.
    - Staff preference is for proxy site data to be collected for 2 consecutive days during the complete business hours of the operation. This will assist town staff to accurately determine the peak hour period of the site and compare it to the peak period of the adjacent roadways.
    - The proxy sites should preferably be located in the Town of Caledon, appropriate justification is expected for proxy sites located in other municipalities. Justification should include (but not be limited to) a comparison of multimodal transportation between Caledon and the location of the proxy sites to ensure the context is comparable)
    - The study must outline the similarities between the proxy site and the proposed site and why they will generate a similar trips
    - Raw survey data must be appended to the report. It should also be confirmed that no major events (i.e. winter storm) occurred impacting the validity of the survey counts
- Parking Review:
    - Parking spaces should be provided as per the rates in the Zoning By-Law. If less than the required parking spaces are proposed, a parking justification should be prepared.
    - Should a reduction from zoning's requirements be proposed, a parking justification study, to the satisfaction of Town Transportation Staff, will be required. A TOR outlining the proposed scope of

work for the Parking Justification Study should be sent to Town Staff.
    - Barrier-free parking requirements should be reviewed in accordance with the Town's Traffic By-Law 2024-048 Schedule O and AODA.
    - Electric Vehicle parking requirements outlined in the Town's Green Development Standard should be included.
    - Ensure bicycle parking is included in the parking review.
- Site Access and Circulation Review:
    - The Access Review should include a discussion of corner clearance, sightlines, curb radii and throat length. The review should be completed in accordance with the requirements outlined within the OPSD 350.010 drawing and the TAC Geometric Design Guide.
    - The review will also include all design components internal to the site, such as driving aisle width, parking and loading space dimensions, compliance with fire route requirements, etc.
    - On-site vehicle swept path analysis (AutoTurn) utilizing the proper design vehicles should be conducted at critical parking and circulation areas to ensure study design vehicles (as required) can navigate on-site and access/egress of the aisles, parking spaces, and loading spaces.
- A Pavement Marking and Signage Plan for the Town will be required as part of a site plan application. Ensure that Fire Route locations are also shown on the drawings in compliance with BL-2024-048.

Kavleen S. Younan, P.Eng.
Transportation Engineer
Engineering, Public Works & Transportation Department

Email: kavleen.younan@caledon.ca
Town of Caledon | www.caledon.ca | www.visitcaledon.ca | Follow us @TownofCaledon

STRATEGIC PLAN 2023-2035

The best of rural and urban life for everyone

From: Kavleen Younan
Sent: Monday, March 3, 2025 12:03 PM
To: Kristian Aviles <kristian@nextrans.ca>
Cc: Emma Howlett <Emma.Howlett@caledon.ca>
Subject: RE: Transportation Impact Study Terms of Reference

Hi Kristian,

I apologize for the delay. We're hoping to have the comments to you by Wednesday this week.

Kavleen S. Younan, P.Eng.
Transportation Engineer
Engineering, Public Works & Transportation Department

Email: kavleen.younan@caledon.ca
Town of Caledon | www.caledon.ca | www.visitcaledon.ca | Follow us @TownofCaledon

STRATEGIC PLAN 2023-2035

The best of rural and urban life for everyone

From: Kristian Aviles <kristian@nextrans.ca>
Sent: Wednesday, February 26, 2025 12:19 PM
To: Kavleen Younan <Kavleen.Younan@caledon.ca>
Cc: Emma Howlett <Emma.Howlett@caledon.ca>
Subject: RE: Transportation Impact Study Terms of Reference

Hi Kavleen,

Just wanted to follow up regarding the Terms of Reference to understand if you've completed your review and if you have any comments.

Thanks,

Kristian Aviles, B.Eng.
Transportation Analyst

o: 905-503-2563 ext. 206
c: 647-928-1222
e: kristian@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

From: Kavleen Younan <Kavleen.Younan@caledon.ca>
Sent: February 20, 2025 3:38 PM
To: Kristian Aviles <kristian@nextrans.ca>
Cc: Emma Howlett <Emma.Howlett@caledon.ca>
Subject: RE: Transportation Impact Study Terms of Reference

Hi Kristian,

Thanks for sending this along, we'll review and get back to you shortly.

Kavleen S. Younan, P.Eng.
Transportation Engineer
Engineering, Public Works & Transportation Department

Email: kavleen.younan@caledon.ca
Town of Caledon | www.caledon.ca | www.visitcaledon.ca | Follow us @TownofCaledon

STRATEGIC PLAN 2023-2035

The best of rural and urban life for everyone

From: Kristian Aviles <kristian@nextrans.ca>
Sent: Thursday, February 20, 2025 3:29 PM
To: Domenica.D'Amico@caledon.ca
Cc: Kavleen Younan <Kavleen.Younan@caledon.ca>
Subject: FW: Transportation Impact Study Terms of Reference

Good afternoon Domenica and Kavleen,

I received an autoreply message from Arash stating that he's no longer with the Town. As such, I kindly ask that you please review the attached terms of reference and confirm if the proposed scope of work is acceptable.

Thank you,

Kristian Aviles, B.Eng.
Transportation Analyst

o: 905-503-2563 ext. 206
c: 647-928-1222
e: kristian@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

From: Kristian Aviles
Sent: February 20, 2025 3:26 PM
To: Hamdani, Hashim <Hashim.Hamdani@peelregion.ca>; Arash Olia <arash.olia@caledon.ca>
Subject: Transportation Impact Study Terms of Reference

Good afternoon,

Please see the attached terms of reference for the scope of work for a Transportation Impact Study for a proposed temporary truck and trailer parking facility located at 13291 Airport Road in the Town of Caledon.

Please advise if the proposed scope of work is acceptable at your earliest convenience.

Thank you,

Kristian Aviles, B.Eng.
Transportation Analyst

o: 905-503-2563 ext. 206
c: 647-928-1222
e: kristian@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers
A Division of NextEng Consulting Group Inc.
520 Industrial Parkway South, Suite 201
Aurora ON L4G 6W8

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Appendix C – Traffic Data

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Turning Movement Count (1 . AIRPORT RD & OLD SCHOOL RD) CustID: 00720510

Start Time	Southbound AIRPORT RD					Northbound AIRPORT RD					Eastbound OLD SCHOOL RD					Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-03-05 07:00:00	2	113	0	0	115	23	8	0	0	31	26	1	0	0	27	173	
2025-03-05 07:15:00	3	139	0	0	142	32	15	0	0	47	34	6	0	0	40	229	
2025-03-05 07:30:00	5	123	0	0	128	27	15	0	0	42	45	3	0	0	48	218	
2025-03-05 07:45:00	3	114	0	0	117	35	13	0	0	48	61	1	0	0	62	227	847
2025-03-05 08:00:00	3	96	0	0	99	36	17	0	0	53	39	2	0	0	41	193	867
2025-03-05 08:15:00	1	110	0	0	111	40	8	0	0	48	43	2	0	0	45	204	842
2025-03-05 08:30:00	2	85	0	0	87	39	9	0	0	48	28	2	0	0	30	165	789
2025-03-05 08:45:00	0	75	0	0	75	40	12	0	0	52	45	2	0	0	47	174	736
2025-03-05 09:00:00	2	73	0	0	75	42	9	0	0	51	34	2	0	0	36	162	705
2025-03-05 09:15:00	2	89	0	0	91	30	13	0	0	43	26	2	0	0	28	162	663
2025-03-05 09:30:00	0	57	0	0	57	36	13	0	0	49	23	1	0	0	24	130	628
2025-03-05 09:45:00	3	57	0	0	60	26	10	0	0	36	15	1	0	0	16	112	566
BREAK																	
2025-03-05 15:00:00	2	43	0	0	45	71	26	0	0	97	31	7	0	0	38	180	
2025-03-05 15:15:00	3	37	0	0	40	96	47	0	0	143	39	3	0	0	42	225	
2025-03-05 15:30:00	6	49	0	0	55	93	44	0	0	137	28	2	0	0	30	222	
2025-03-05 15:45:00	1	46	0	0	47	108	67	0	0	175	19	2	0	0	21	243	870
2025-03-05 16:00:00	3	50	0	0	53	90	52	0	0	142	28	5	0	0	33	228	918
2025-03-05 16:15:00	4	46	0	0	50	90	44	0	0	134	26	4	0	0	30	214	907
2025-03-05 16:30:00	3	34	0	0	37	116	61	0	0	177	20	6	0	0	26	240	925
2025-03-05 16:45:00	6	53	0	0	59	118	64	0	0	182	17	4	0	0	21	262	944
2025-03-05 17:00:00	7	48	0	0	55	90	36	0	0	126	20	2	0	0	22	203	919
2025-03-05 17:15:00	2	40	0	0	42	100	44	0	0	144	17	3	0	0	20	206	911
2025-03-05 17:30:00	2	34	0	0	36	92	33	0	0	125	19	5	0	0	24	185	856
2025-03-05 17:45:00	2	42	0	0	44	108	48	0	0	156	16	1	0	0	17	217	811
Grand Total	67	1653	0	0	1720	1578	708	0	0	2286	699	69	0	0	768	**4774**	-
Approach%	3.9%	96.1%	0%		-	69%	31%	0%		-	91%	9%	0%		-	**-**	-
Totals %	1.4%	34.6%	0%		36%	33.1%	14.8%	0%		47.9%	14.6%	1.4%	0%		16.1%	**-**	-
Heavy	2	210	0		-	150	5	0		-	15	6	0		-	**-**	-
Heavy %	3%	12.7%	0%		-	9.5%	0.7%	0%		-	2.1%	8.7%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Mist (2 °C)

Start Time	Southbound AIRPORT RD					Northbound AIRPORT RD					Eastbound OLD SCHOOL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
2025-03-05 07:15:00	3	139	0	0	142	32	15	0	0	47	34	6	0	0	40	229
2025-03-05 07:30:00	5	123	0	0	128	27	15	0	0	42	45	3	0	0	48	218
2025-03-05 07:45:00	3	114	0	0	117	35	13	0	0	48	61	1	0	0	62	227
2025-03-05 08:00:00	3	96	0	0	99	36	17	0	0	53	39	2	0	0	41	193
Grand Total	14	472	0	0	486	130	60	0	0	190	179	12	0	0	191	**867**
Approach%	2.9%	97.1%	0%		-	68.4%	31.6%	0%		-	93.7%	6.3%	0%		-	**-**
Totals %	1.6%	54.4%	0%		56.1%	15%	6.9%	0%		21.9%	20.6%	1.4%	0%		22%	**-**
PHF	0.7	0.85	0		0.86	0.9	0.88	0		0.9	0.73	0.5	0		0.77	0.95
Heavy	0	32	0		32	29	0	0		29	2	1	0		3	64
Heavy %	0%	6.8%	0%		6.6%	22.3%	0%	0%		15.3%	1.1%	8.3%	0%		1.6%	7.4%
Lights	14	440	0		454	101	60	0		161	177	11	0		188	803
Lights %	100%	93.2%	0%		93.4%	77.7%	100%	0%		84.7%	98.9%	91.7%	0%		98.4%	92.6%
Single-Unit Trucks	0	10	0		10	10	0	0		10	0	0	0		0	20
Single-Unit Trucks %	0%	2.1%	0%		2.1%	7.7%	0%	0%		5.3%	0%	0%	0%		0%	2.3%
Buses	0	3	0		3	11	0	0		11	2	1	0		3	17
Buses %	0%	0.6%	0%		0.6%	8.5%	0%	0%		5.8%	1.1%	8.3%	0%		1.6%	2%
Articulated Trucks	0	19	0		19	8	0	0		8	0	0	0		0	27
Articulated Trucks %	0%	4%	0%		3.9%	6.2%	0%	0%		4.2%	0%	0%	0%		0%	3.1%

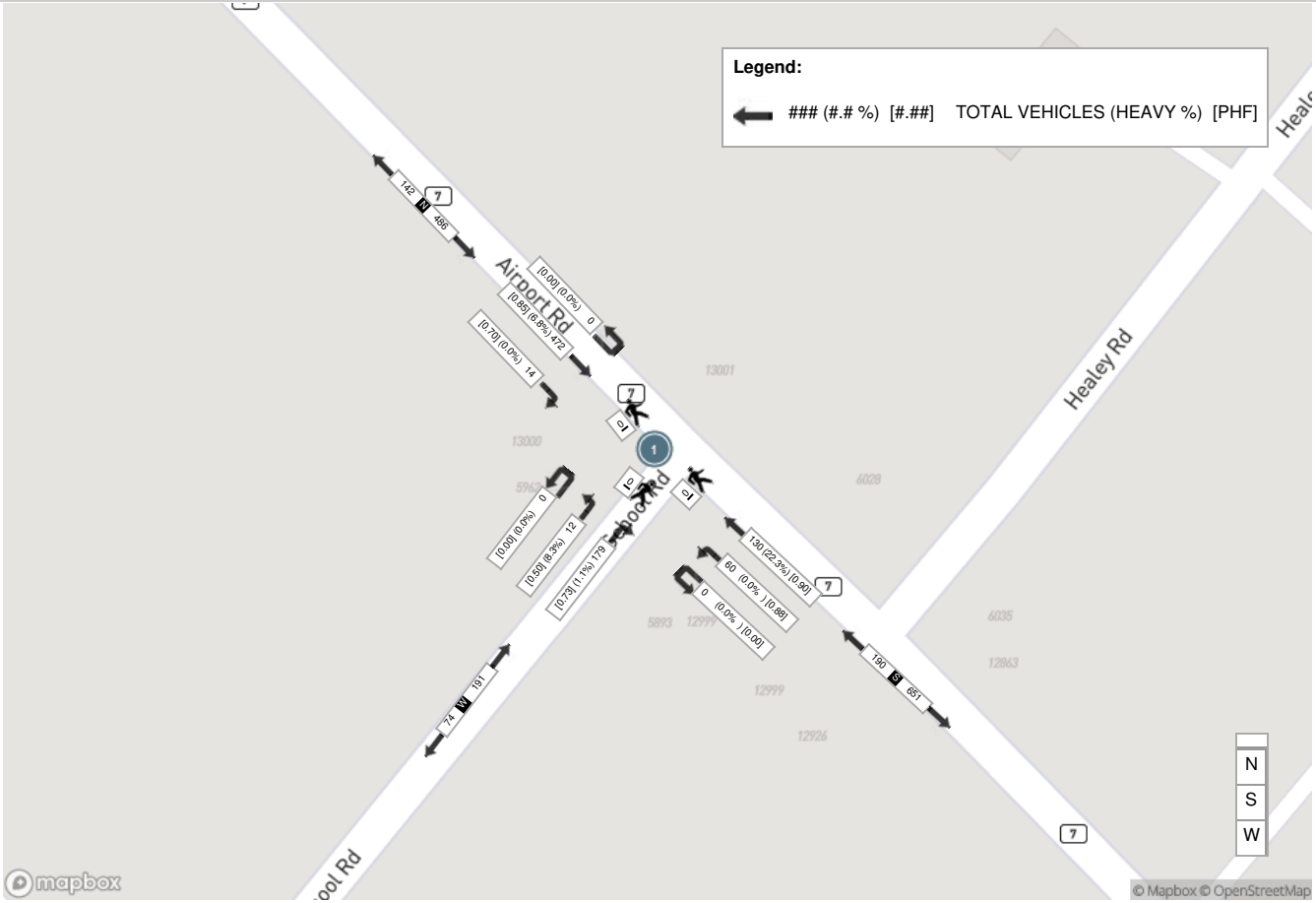
NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Mist (6 °C)

Start Time	Southbound AIRPORT RD					Northbound AIRPORT RD					Eastbound OLD SCHOOL RD					Int. Total (15 min)
	Right	Thru	UTurn	Peds	Approach Total	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	
2025-03-05 16:00:00	3	50	0	0	53	90	52	0	0	142	28	5	0	0	33	228
2025-03-05 16:15:00	4	46	0	0	50	90	44	0	0	134	26	4	0	0	30	214
2025-03-05 16:30:00	3	34	0	0	37	116	61	0	0	177	20	6	0	0	26	240
2025-03-05 16:45:00	6	53	0	0	59	118	64	0	0	182	17	4	0	0	21	262
Grand Total	16	183	0	0	199	414	221	0	0	635	91	19	0	0	110	**944**
Approach%	8%	92%	0%		-	65.2%	34.8%	0%		-	82.7%	17.3%	0%		-	**-**
Totals %	1.7%	19.4%	0%		21.1%	43.9%	23.4%	0%		67.3%	9.6%	2%	0%		11.7%	**-**
PHF	0.67	0.86	0		0.84	0.88	0.86	0		0.87	0.81	0.79	0		0.83	0.9
Heavy	0	36	0		36	19	1	0		20	5	1	0		6	62
Heavy %	0%	19.7%	0%		18.1%	4.6%	0.5%	0%		3.1%	5.5%	5.3%	0%		5.5%	6.6%
Lights	16	147	0		163	395	220	0		615	86	18	0		104	882
Lights %	100%	80.3%	0%		81.9%	95.4%	99.5%	0%		96.9%	94.5%	94.7%	0%		94.5%	93.4%
Single-Unit Trucks	0	11	0		11	4	0	0		4	2	1	0		3	18
Single-Unit Trucks %	0%	6%	0%		5.5%	1%	0%	0%		0.6%	2.2%	5.3%	0%		2.7%	1.9%
Buses	0	15	0		15	4	0	0		4	3	0	0		3	22
Buses %	0%	8.2%	0%		7.5%	1%	0%	0%		0.6%	3.3%	0%	0%		2.7%	2.3%
Articulated Trucks	0	10	0		10	11	1	0		12	0	0	0		0	22
Articulated Trucks %	0%	5.5%	0%		5%	2.7%	0.5%	0%		1.9%	0%	0%	0%		0%	2.3%

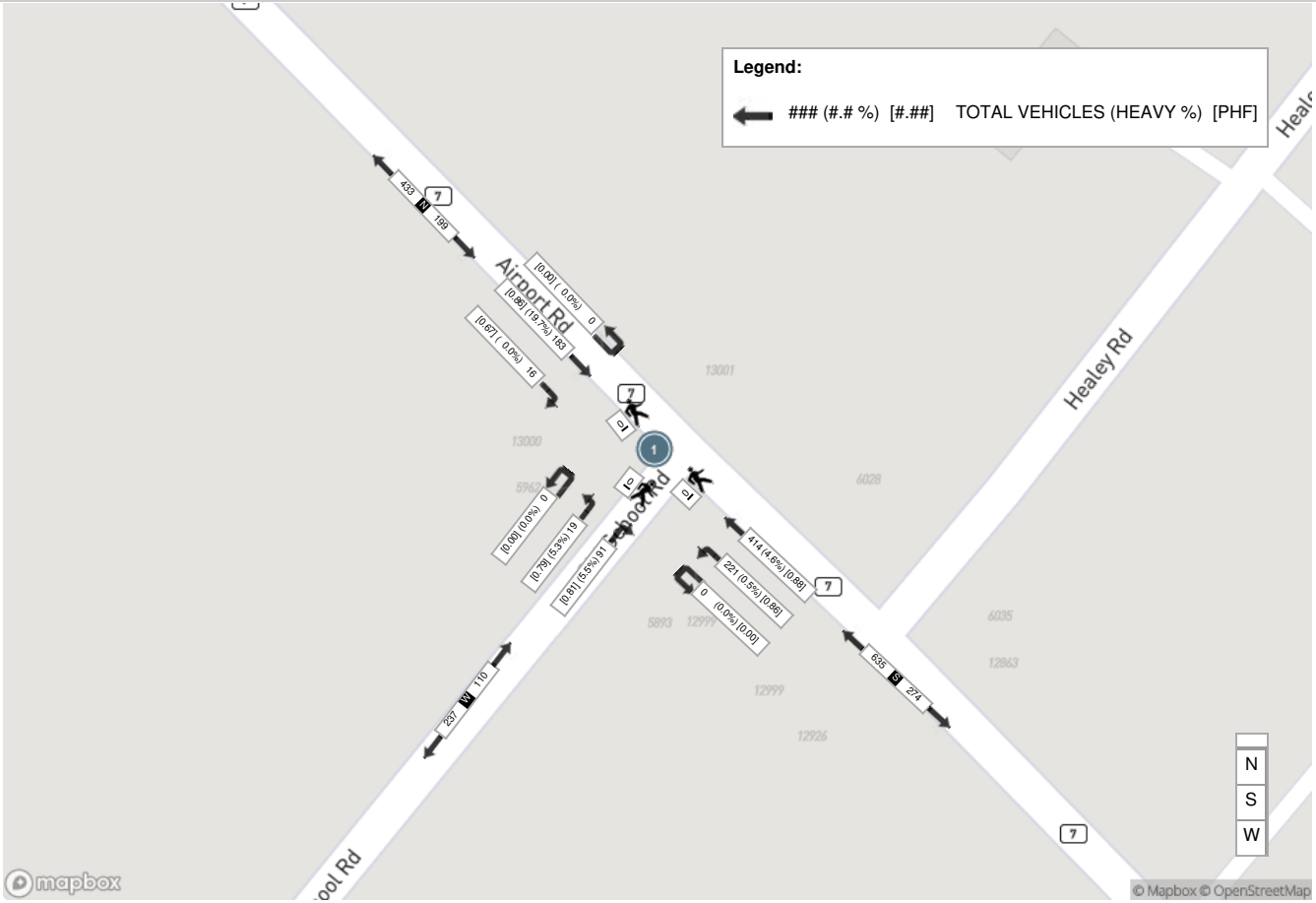
NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Mist (2 °C)



NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Mist (6 °C)



NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Turning Movement Count (2 . AIRPORT RD & HEALEY RD) CustID: 00720469

Start Time	Southbound AIRPORT RD					Westbound HEALEY RD					Northbound AIRPORT RD					Int. Total (15 min)	Int. Total (1 hr)
	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	UTurn S:S	Peds S:	Approach Total		
2025-03-05 07:00:00	116	23	0	0	139	8	8	0	0	16	20	23	0	0	43	198	
2025-03-05 07:15:00	140	33	0	0	173	16	18	0	0	34	18	33	0	0	51	258	
2025-03-05 07:30:00	130	38	0	0	168	14	8	0	0	22	27	26	0	0	53	243	
2025-03-05 07:45:00	125	50	0	0	175	14	8	0	0	22	22	38	0	0	60	257	956
2025-03-05 08:00:00	104	31	0	0	135	15	8	0	0	23	14	34	0	0	48	206	964
2025-03-05 08:15:00	117	36	0	0	153	11	13	0	0	24	16	36	0	0	52	229	935
2025-03-05 08:30:00	85	28	0	0	113	14	7	0	0	21	21	36	0	0	57	191	883
2025-03-05 08:45:00	79	41	0	0	120	12	11	0	0	23	24	41	0	0	65	208	834
2025-03-05 09:00:00	75	31	0	0	106	8	14	0	0	22	19	42	0	0	61	189	817
2025-03-05 09:15:00	94	22	0	0	116	13	10	0	0	23	13	28	0	0	41	180	768
2025-03-05 09:30:00	60	19	0	0	79	17	6	0	0	23	8	33	0	0	41	143	720
2025-03-05 09:45:00	57	16	0	0	73	6	7	0	0	13	16	31	0	0	47	133	645
BREAK																	
2025-03-05 15:00:00	45	30	0	0	75	26	16	0	0	42	20	68	0	0	88	205	
2025-03-05 15:15:00	35	41	0	0	76	46	23	0	0	69	36	95	0	0	131	276	
2025-03-05 15:30:00	51	26	0	0	77	39	31	0	0	70	13	105	0	0	118	265	
2025-03-05 15:45:00	45	20	0	0	65	69	10	0	0	79	10	104	0	0	114	258	1004
2025-03-05 16:00:00	49	29	0	0	78	49	30	0	0	79	20	94	0	0	114	271	1070
2025-03-05 16:15:00	50	22	0	0	72	44	19	0	0	63	18	86	0	0	104	239	1033
2025-03-05 16:30:00	33	21	0	0	54	60	19	0	0	79	17	119	0	0	136	269	1037
2025-03-05 16:45:00	55	15	0	0	70	65	34	0	0	99	18	119	0	0	137	306	1085
2025-03-05 17:00:00	52	16	0	0	68	34	13	0	0	47	12	94	0	0	106	221	1035
2025-03-05 17:15:00	41	15	0	0	56	32	15	0	0	47	4	106	0	0	110	213	1009
2025-03-05 17:30:00	35	18	0	0	53	29	30	0	0	59	14	95	0	0	109	221	961
2025-03-05 17:45:00	45	14	0	0	59	44	24	0	0	68	13	112	0	0	125	252	907
Grand Total	1718	635	0	0	2353	685	382	0	0	1067	413	1598	0	0	2011	**5431**	-
Approach%	73%	27%	0%		-	64.2%	35.8%	0%		-	20.5%	79.5%	0%		-	**-**	-
Totals %	31.6%	11.7%	0%		43.3%	12.6%	7%	0%		19.6%	7.6%	29.4%	0%		37%	**-**	-
Heavy	216	9	0		-	10	50	0		-	32	142	0		-	**-**	-
Heavy %	12.6%	1.4%	0%		-	1.5%	13.1%	0%		-	7.7%	8.9%	0%		-	**-**	-
Bicycles	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-
Bicycle %	-	-	-		-	-	-	-		-	-	-	-		-	**-**	-

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Mist (2 °C)

Start Time	Southbound AIRPORT RD					Westbound HEALEY RD					Northbound AIRPORT RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-03-05 07:15:00	140	33	0	0	173	16	18	0	0	34	18	33	0	0	51	258
2025-03-05 07:30:00	130	38	0	0	168	14	8	0	0	22	27	26	0	0	53	243
2025-03-05 07:45:00	125	50	0	0	175	14	8	0	0	22	22	38	0	0	60	257
2025-03-05 08:00:00	104	31	0	0	135	15	8	0	0	23	14	34	0	0	48	206
Grand Total	499	152	0	0	651	59	42	0	0	101	81	131	0	0	212	**964**
Approach%	76.7%	23.3%	0%		-	58.4%	41.6%	0%		-	38.2%	61.8%	0%		-	**-**
Totals %	51.8%	15.8%	0%		67.5%	6.1%	4.4%	0%		10.5%	8.4%	13.6%	0%		22%	**-**
PHF	0.89	0.76	0		0.93	0.92	0.58	0		0.74	0.75	0.86	0		0.88	0.93
Heavy	32	2	0		34	0	5	0		5	7	29	0		36	75
Heavy %	6.4%	1.3%	0%		5.2%	0%	11.9%	0%		5%	8.6%	22.1%	0%		17%	7.8%
Lights	467	150	0		617	59	37	0		96	74	102	0		176	889
Lights %	93.6%	98.7%	0%		94.8%	100%	88.1%	0%		95%	91.4%	77.9%	0%		83%	92.2%
Single-Unit Trucks	9	0	0		9	0	2	0		2	0	10	0		10	21
Single-Unit Trucks %	1.8%	0%	0%		1.4%	0%	4.8%	0%		2%	0%	7.6%	0%		4.7%	2.2%
Buses	3	2	0		5	0	0	0		0	5	11	0		16	21
Buses %	0.6%	1.3%	0%		0.8%	0%	0%	0%		0%	6.2%	8.4%	0%		7.5%	2.2%
Articulated Trucks	20	0	0		20	0	3	0		3	2	8	0		10	33
Articulated Trucks %	4%	0%	0%		3.1%	0%	7.1%	0%		3%	2.5%	6.1%	0%		4.7%	3.4%

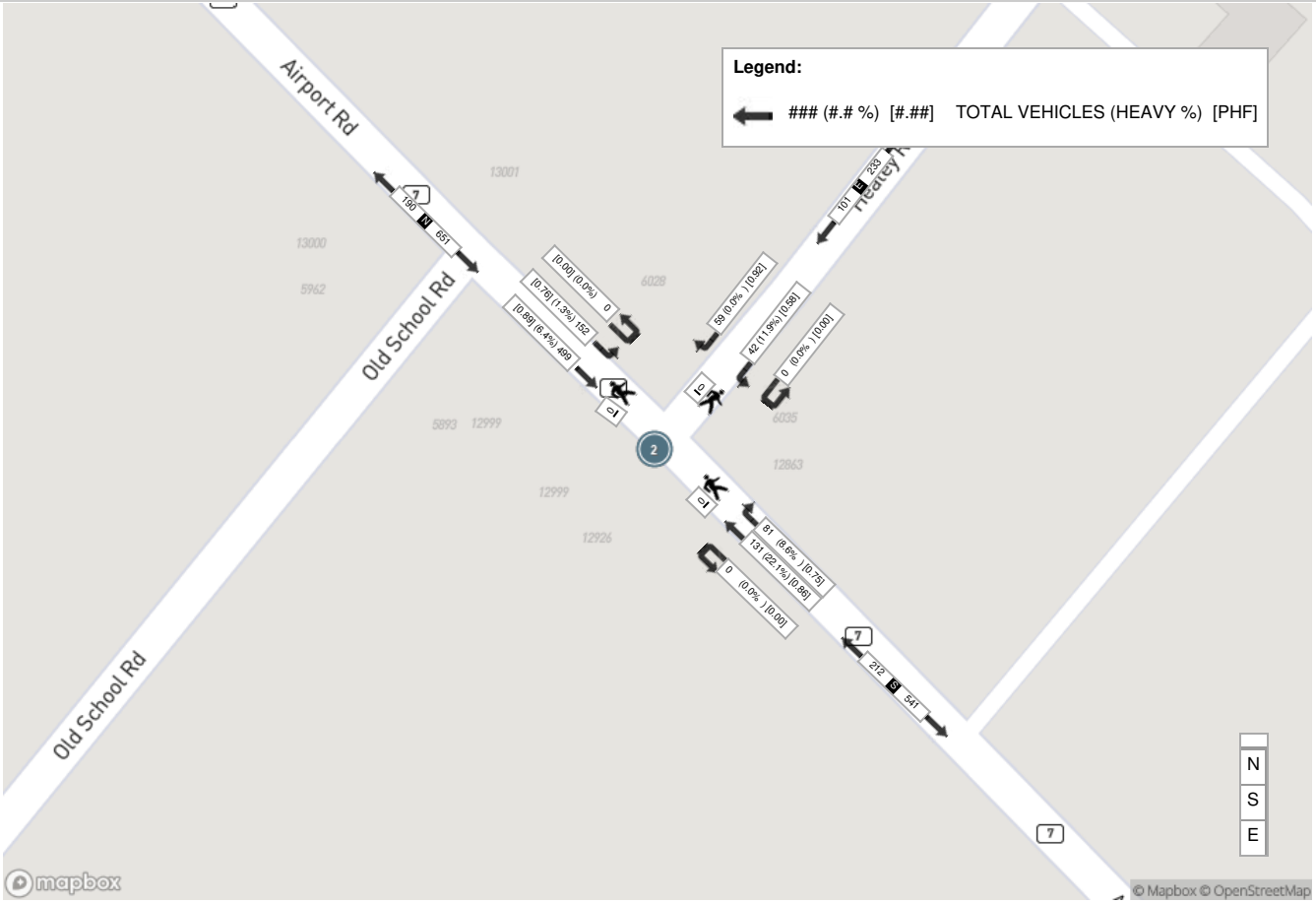
NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Mist (6 °C)

Start Time	Southbound AIRPORT RD					Westbound HEALEY RD					Northbound AIRPORT RD					Int. Total (15 min)
	Thru	Left	UTurn	Peds	Approach Total	Right	Left	UTurn	Peds	Approach Total	Right	Thru	UTurn	Peds	Approach Total	
2025-03-05 16:00:00	49	29	0	0	78	49	30	0	0	79	20	94	0	0	114	271
2025-03-05 16:15:00	50	22	0	0	72	44	19	0	0	63	18	86	0	0	104	239
2025-03-05 16:30:00	33	21	0	0	54	60	19	0	0	79	17	119	0	0	136	269
2025-03-05 16:45:00	55	15	0	0	70	65	34	0	0	99	18	119	0	0	137	306
Grand Total	187	87	0	0	274	218	102	0	0	320	73	418	0	0	491	**1085**
Approach%	68.2%	31.8%	0%		-	68.1%	31.9%	0%		-	14.9%	85.1%	0%		-	**-**
Totals %	17.2%	8%	0%		25.3%	20.1%	9.4%	0%		29.5%	6.7%	38.5%	0%		45.3%	**-**
PHF	0.85	0.75	0		0.88	0.84	0.75	0		0.81	0.91	0.88	0		0.9	0.89
Heavy	39	2	0		41	1	12	0		13	6	18	0		24	78
Heavy %	20.9%	2.3%	0%		15%	0.5%	11.8%	0%		4.1%	8.2%	4.3%	0%		4.9%	7.2%
Lights	148	85	0		233	217	90	0		307	67	400	0		467	1007
Lights %	79.1%	97.7%	0%		85%	99.5%	88.2%	0%		95.9%	91.8%	95.7%	0%		95.1%	92.8%
Single-Unit Trucks	11	2	0		13	0	4	0		4	3	4	0		7	24
Single-Unit Trucks %	5.9%	2.3%	0%		4.7%	0%	3.9%	0%		1.3%	4.1%	1%	0%		1.4%	2.2%
Buses	18	0	0		18	1	5	0		6	0	3	0		3	27
Buses %	9.6%	0%	0%		6.6%	0.5%	4.9%	0%		1.9%	0%	0.7%	0%		0.6%	2.5%
Articulated Trucks	10	0	0		10	0	3	0		3	3	11	0		14	27
Articulated Trucks %	5.3%	0%	0%		3.6%	0%	2.9%	0%		0.9%	4.1%	2.6%	0%		2.9%	2.5%

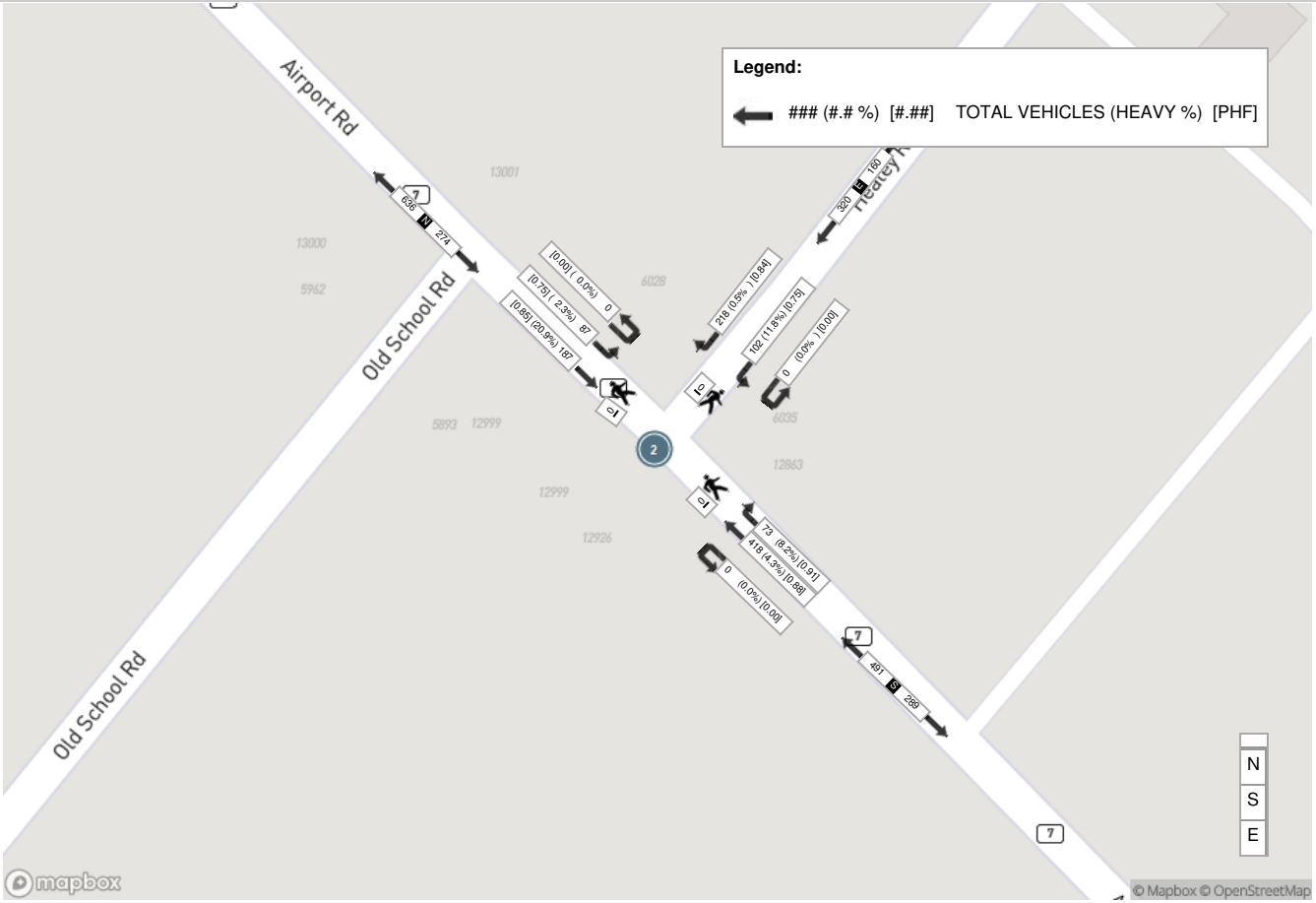
NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY
SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:15 AM - 08:15 AM Weather: Mist (2 °C)

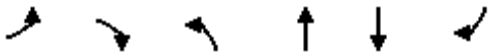


NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:00 PM - 05:00 PM Weather: Mist (6 °C)



Appendix D – Existing Traffic Analysis



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	179	60	130	472	14
Future Volume (Veh/h)	12	179	60	130	472	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	13	188	63	137	497	15
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	768	504	512			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	768	504	512			
tC, single (s)	6.5	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	96	67	94			
cM capacity (veh/h)	340	569	1064			

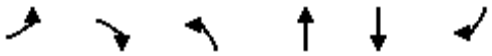
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	201	200	512
Volume Left	13	63	0
Volume Right	188	0	15
cSH	546	1064	1700
Volume to Capacity	0.37	0.06	0.30
Queue Length 95th (m)	12.8	1.4	0.0
Control Delay (s)	15.4	3.1	0.0
Lane LOS	C	A	
Approach Delay (s)	15.4	3.1	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	4.1		
Intersection Capacity Utilization	57.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	42	59	131	81	152	499
Future Volume (Veh/h)	42	59	131	81	152	499
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	45	63	141	87	163	537
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1048	184			228	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1048	184			228	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	79	93			88	
cM capacity (veh/h)	212	863			1346	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	108	228	700
Volume Left	45	0	163
Volume Right	63	87	0
cSH	379	1700	1346
Volume to Capacity	0.28	0.13	0.12
Queue Length 95th (m)	8.8	0.0	3.1
Control Delay (s)	18.2	0.0	3.0
Lane LOS	C		A
Approach Delay (s)	18.2	0.0	3.0
Approach LOS	C		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	19	91	221	414	183	16
Future Volume (Veh/h)	19	91	221	414	183	16
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	21	101	246	460	203	18
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1164	212	221			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1164	212	221			
tC, single (s)	6.4	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.4	2.2			
p0 queue free %	88	88	82			
cM capacity (veh/h)	173	818	1354			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	122	706	221
Volume Left	21	246	0
Volume Right	101	0	18
cSH	499	1354	1700
Volume to Capacity	0.24	0.18	0.13
Queue Length 95th (m)	7.2	5.0	0.0
Control Delay (s)	14.5	4.2	0.0
Lane LOS	B	A	
Approach Delay (s)	14.5	4.2	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	4.5		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

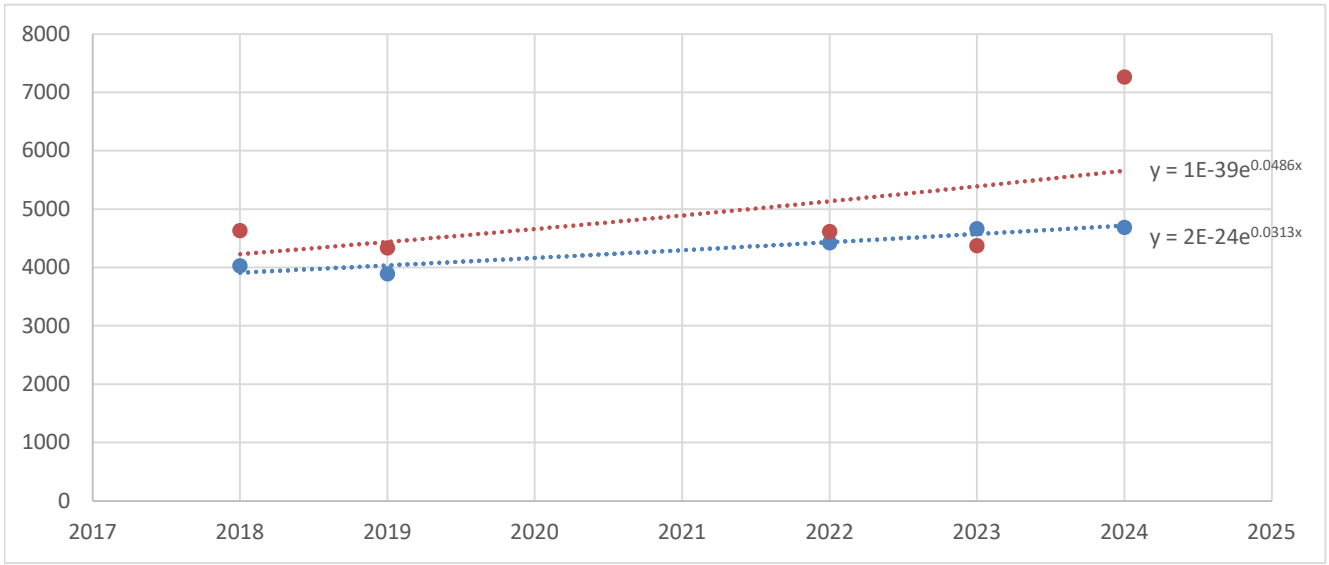
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	102	218	418	73	87	187
Future Volume (Veh/h)	102	218	418	73	87	187
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	115	245	470	82	98	210
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	917	511			552	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	917	511			552	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	56	57			90	
cM capacity (veh/h)	262	565			1018	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	360	552	308
Volume Left	115	0	98
Volume Right	245	82	0
cSH	412	1700	1018
Volume to Capacity	0.87	0.32	0.10
Queue Length 95th (m)	66.9	0.0	2.4
Control Delay (s)	50.3	0.0	3.5
Lane LOS	F		A
Approach Delay (s)	50.3	0.0	3.5
Approach LOS	F		

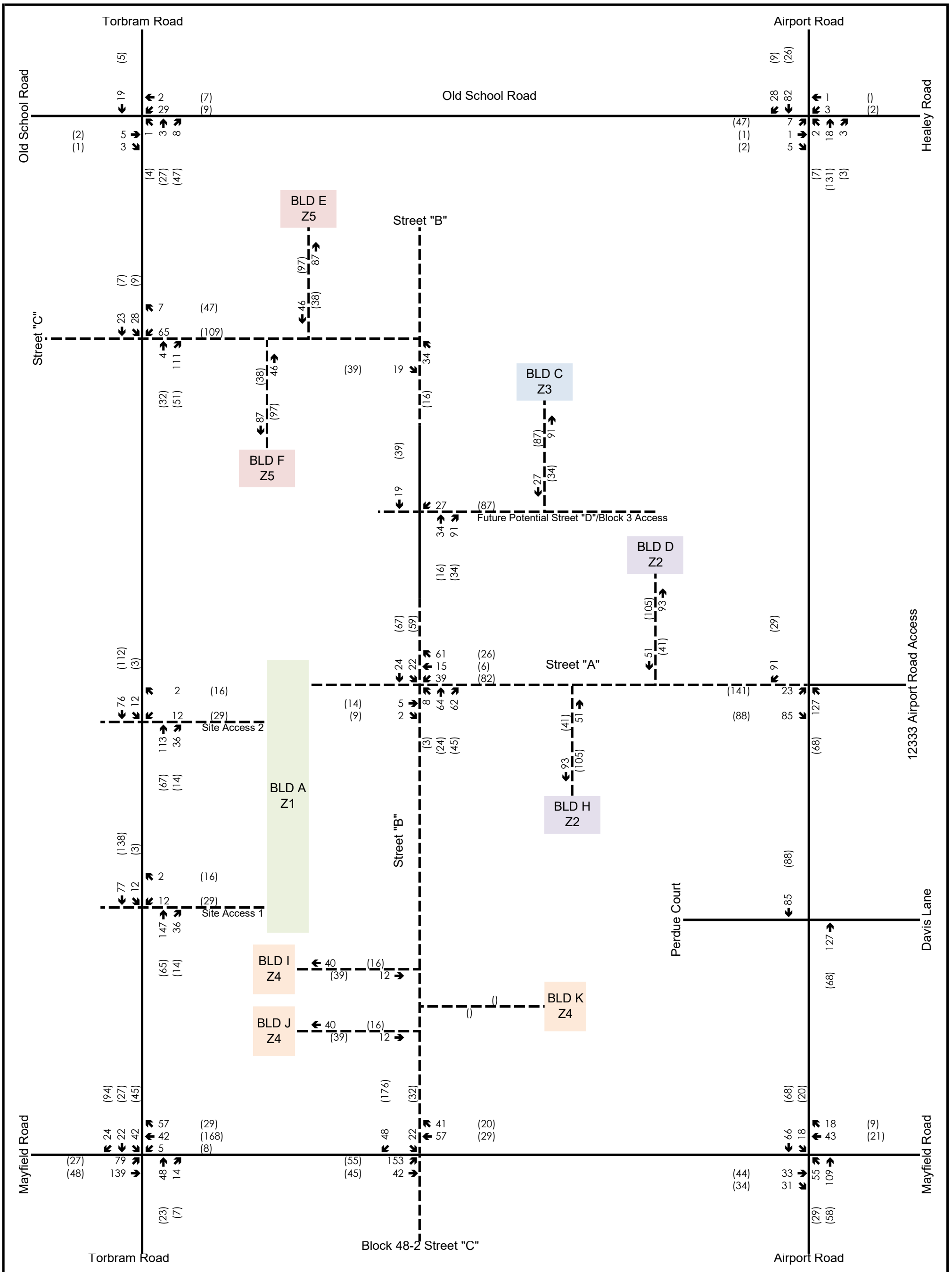
Intersection Summary			
Average Delay	15.7		
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

Appendix E – Corridor Growth Calculations

Between	Direction	2018	2019	2022	2023	2024
1.5KM NORTH OF OLD SCHOOL ROAD	Northeast	4029	3888	4422	4664	4684
	Southwest	4628	4336	4615	4375	7263

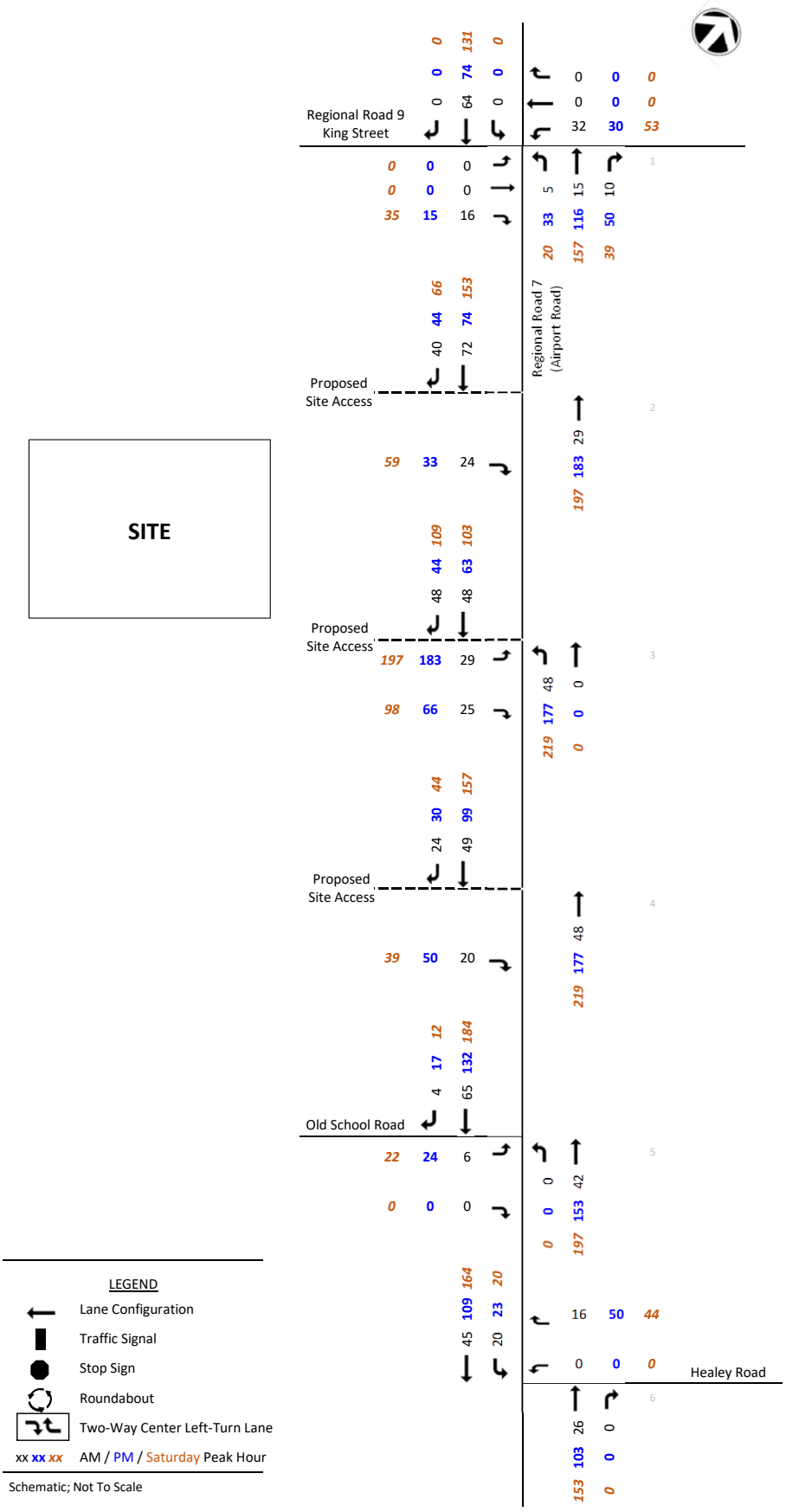


Appendix F – Background Development Excerpts



Legend	Tullamore Industrial	CROZIER CONSULTING ENGINEERS	Figure 14
xx A.M. Peak Hour Traffic Volumes (xx) P.M. Peak Hour Traffic Volumes	Trip Assignment (Total)		Project No. 2022-5842 Date. 2023.10.20 Analyst. TDS

Figure 8: Site Trip Assignment, Weekday AM and PM, and Saturday Peak Hours



Appendix G – Future Background Traffic Analysis

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	253	145	376	955
Demand Flow Rate, veh/h	257	145	425	1007
Vehicles Circulating, veh/h	1014	367	191	122
Vehicles Exiting, veh/h	115	249	1080	390
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.4	5.0	6.4	9.6
Approach LOS	B	A	A	A

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.386	0.614	0.471	0.529	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	257	56	89	200	225	473	534
Cap Entry Lane, veh/h	556	858	874	979	989	1031	1037
Entry HV Adj Factor	0.984	1.000	1.000	0.884	0.886	0.949	0.948
Flow Entry, veh/h	253	56	89	177	199	449	506
Cap Entry, veh/h	547	858	874	865	876	978	983
V/C Ratio	0.463	0.065	0.102	0.204	0.228	0.459	0.515
Control Delay, s/veh	14.4	4.8	5.1	6.2	6.5	9.1	10.1
LOS	B	A	A	A	A	A	B
95th %tile Queue, veh	2	0	0	1	1	2	3

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	223	472	1187	537
Demand Flow Rate, veh/h	235	472	1232	616
Vehicles Circulating, veh/h	702	1256	206	391
Vehicles Exiting, veh/h	305	182	731	1337
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.0	24.3	13.5	9.4
Approach LOS	A	C	B	A

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.284	0.716	0.470	0.530	0.471	0.529
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	235	134	338	579	653	290	326
Cap Entry Lane, veh/h	691	441	469	968	978	843	859
Entry HV Adj Factor	0.949	1.000	1.000	0.963	0.963	0.871	0.874
Flow Entry, veh/h	223	134	338	558	629	253	285
Cap Entry, veh/h	656	441	469	933	942	734	751
V/C Ratio	0.340	0.304	0.721	0.598	0.668	0.344	0.379
Control Delay, s/veh	10.0	13.2	28.7	12.4	14.5	9.2	9.6
LOS	A	B	D	B	B	A	A
95th %tile Queue, veh	2	1	6	4	5	2	2

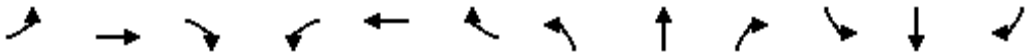
Appendix H – Proxy Site Survey Data

6186 Mayfield Road Trip Generation Survey Results

	AM Peak																			
Date	21-Sep-23										22-Sep-23									
Time	Inbound					OUTBOUND					Inbound					OUTBOUND				
Vehicle	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL
7:00	2	1	0	1	4	0	1	1	0	2	1	1	2	1	5	0	2	2	0	4
7:15	0	1	1	0	2	0	0	0	1	1	0	0	1	1	2	0	0	1	1	2
7:30	0	0	1	1	2	1	2	0	0	3	1	0	0	0	1	1	0	0	1	2
7:45	0	0	1	0	1	0	0	0	1	1	1	0	0	0	1	0	0	1	0	1
8:00	1	0	1	0	2	0	0	1	1	2	0	1	2	0	3	1	2	1	0	4
8:15	0	0	1	0	1	1	0	0	0	1	1	0	1	0	2	0	0	0	1	1
8:30	1	1	0	0	2	1	0	0	1	2	1	1	0	0	2	0	0	2	1	3
8:45	1	0	1	1	3	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0
Total 1-way	9					7					9					9				
Total 2-way	16										18									

	PM Peak																			
Date	21-Sep-23										22-Sep-23									
Time	Inbound					OUTBOUND					Inbound					OUTBOUND				
Vehicle	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL	CAR	SU TRUCK	TRUCK	UCK+TRAIL	TOTAL
16:00	3	0	1	1	5	2	0	1	0	3	1	0	2	0	3	1	0	0	0	1
16:15	2	4	1	0	7	3	0	1	0	4	1	1	2	1	5	1	0	1	0	2
16:30	0	2	1	1	4	2	0	0	0	2	4	2	3	3	12	1	0	2	1	4
16:45	2	1	2	1	6	2	0	0	0	2	0	1	2	1	4	0	0	1	1	2
17:00	3	4	0	3	10	6	1	2	0	9	2	0	2	3	7	1	0	1	1	3
17:15	4	3	1	0	8	4	0	1	1	6	3	1	1	0	5	0	2	1	0	3
17:30	1	3	1	3	8	3	0	1	0	4	2	1	3	2	8	0	1	1	0	2
17:45	0	1	1	0	2	3	0	0	1	4	1	0	1	0	2	0	0	0	2	2
Total 1-way	28					23					28					12				
Total 2-way	51										40									

Appendix I – Future Total Traffic Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	27	1	213	52	1	85	63	218	84	152	718	46
Future Volume (veh/h)	27	1	213	52	1	85	63	218	84	152	718	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	28	1	224	55	1	89	66	229	88	160	756	48
Approach Volume (veh/h)		253			145			383			964	
Crossing Volume (veh/h)		971			323			189			122	
High Capacity (veh/h)		637			1075			1194			1259	
High v/c (veh/h)		0.40			0.13			0.32			0.77	
Low Capacity (veh/h)		496			880			988			1047	
Low v/c (veh/h)		0.51			0.16			0.39			0.92	

Intersection Summary					
Maximum v/c High	0.77				
Maximum v/c Low	0.92				
Intersection Capacity Utilization	67.6%	ICU Level of Service		C	

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

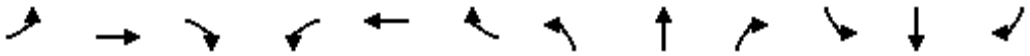
Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	253	145	383	964
Demand Flow Rate, veh/h	257	145	433	1017
Vehicles Circulating, veh/h	1024	375	191	122
Vehicles Exiting, veh/h	115	249	1090	398
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.6	5.0	6.4	9.7
Approach LOS	B	A	A	A

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.386	0.614	0.471	0.529	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	257	56	89	204	229	478	539
Cap Entry Lane, veh/h	552	853	869	979	989	1031	1037
Entry HV Adj Factor	0.984	1.000	1.000	0.882	0.886	0.948	0.948
Flow Entry, veh/h	253	56	89	180	203	453	511
Cap Entry, veh/h	543	853	869	863	876	977	983
V/C Ratio	0.466	0.066	0.102	0.208	0.232	0.464	0.520
Control Delay, s/veh	14.6	4.8	5.1	6.3	6.5	9.1	10.1
LOS	B	A	A	A	A	A	B
95th %tile Queue, veh	2	0	0	1	1	2	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	7	7	323	7	8	908
Future Volume (Veh/h)	7	7	323	7	8	908
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	8	351	8	9	987
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	866	180			359	
vC1, stage 1 conf vol	355					
vC2, stage 2 conf vol	512					
vCu, unblocked vol	866	180			359	
tC, single (s)	8.8	8.9			6.1	
tC, 2 stage (s)	7.8					
tF (s)	4.5	4.3			3.2	
p0 queue free %	97	99			99	
cM capacity (veh/h)	305	597			715	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	16	234	125	9	494	494
Volume Left	8	0	0	9	0	0
Volume Right	8	0	8	0	0	0
cSH	404	1700	1700	715	1700	1700
Volume to Capacity	0.04	0.14	0.07	0.01	0.29	0.29
Queue Length 95th (m)	0.9	0.0	0.0	0.3	0.0	0.0
Control Delay (s)	14.3	0.0	0.0	10.1	0.0	0.0
Lane LOS	B			B		
Approach Delay (s)	14.3	0.0		0.1		
Approach LOS	B					

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Right Turn Channelized												
Traffic Volume (veh/h)	94	1	107	120	1	305	229	780	76	88	380	42
Future Volume (veh/h)	94	1	107	120	1	305	229	780	76	88	380	42
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	104	1	119	133	1	339	254	867	84	98	422	47
Approach Volume (veh/h)		224			473			1205			567	
Crossing Volume (veh/h)		653			1225#			203			388	
High Capacity (veh/h)		826			517			1181			1021	
High v/c (veh/h)		0.27			0.91			1.02			0.56	
Low Capacity (veh/h)		659			393			977			832	
Low v/c (veh/h)		0.34			1.20			1.23			0.68	

Intersection Summary					
Maximum v/c High	1.02				
Maximum v/c Low	1.23				
Intersection Capacity Utilization	83.6%	ICU Level of Service		E	
# Crossing flow exceeds 1200, method is not applicable					

Intersection	
Intersection Delay, s/veh	14.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	2	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	224	473	1205	567
Demand Flow Rate, veh/h	236	473	1251	651
Vehicles Circulating, veh/h	737	1276	208	391
Vehicles Exiting, veh/h	305	183	765	1358
Follow-Up Headway, s	3.186	3.186	3.186	3.186
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.4	25.3	13.9	9.8
Approach LOS	B	D	B	A

Lane	Left	Left	Right	Left	Right	Left	Right
Designated Moves	LTR	LT	TR	LT	TR	LT	TR
Assumed Moves	LTR	LT	R	LT	TR	LT	TR
RT Channelized							
Lane Util	1.000	0.283	0.717	0.470	0.530	0.470	0.530
Critical Headway, s	4.113	4.293	4.113	4.293	4.113	4.293	4.113
Entry Flow, veh/h	236	134	339	588	663	306	345
Cap Entry Lane, veh/h	675	434	463	967	977	843	859
Entry HV Adj Factor	0.949	1.000	1.000	0.963	0.963	0.870	0.871
Flow Entry, veh/h	224	134	339	566	638	266	300
Cap Entry, veh/h	640	434	463	931	941	734	748
V/C Ratio	0.350	0.309	0.733	0.608	0.679	0.363	0.401
Control Delay, s/veh	10.4	13.5	30.0	12.7	14.9	9.5	10.0
LOS	B	B	D	B	B	A	B
95th %tile Queue, veh	2	1	6	4	6	2	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	27	12	1161	17	31	483
Future Volume (Veh/h)	27	12	1161	17	31	483
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	13	1262	18	34	525
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			TWLTL			TWLTL
Median storage veh)			2			2
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1602	640			1280	
vC1, stage 1 conf vol	1271					
vC2, stage 2 conf vol	330					
vCu, unblocked vol	1602	640			1280	
tC, single (s)	8.8	8.9			6.1	
tC, 2 stage (s)	7.8					
tF (s)	4.5	4.3			3.2	
p0 queue free %	70	95			84	
cM capacity (veh/h)	97	246			215	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	42	841	439	34	262	262
Volume Left	29	0	0	34	0	0
Volume Right	13	0	18	0	0	0
cSH	120	1700	1700	215	1700	1700
Volume to Capacity	0.35	0.49	0.26	0.16	0.15	0.15
Queue Length 95th (m)	10.8	0.0	0.0	4.2	0.0	0.0
Control Delay (s)	50.5	0.0	0.0	24.8	0.0	0.0
Lane LOS	F			C		
Approach Delay (s)	50.5	0.0		1.5		
Approach LOS	F					

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	42.6%	ICU Level of Service	A
Analysis Period (min)	15		