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NextEng Consulting Group Inc.

December 7, 2021

Nishan Transport Inc.
C/o: Rohan Sovig
160 Avenue Labrosse
Pointe-Claire, QC H9R 1A1

Attention: Mr. Raj Chahal

Re: Engineering Service – Traffic Brief
Proposed Transport Truck / Trailer Parking Facility
12541 & 12577 Airport Road, Town of Caledon
Our Project No. NT-20-104

1.0 INTRODUCTION

NexTrans Consulting Engineers (A Division of NextEng Consulting Group Ltd.) was retained through Raj Chahal (the 'Owner') to undertake a Traffic Brief in support of a temporary Zoning By-law Amendment for a proposed transport truck/ trailer parking facility. The subject property is located east of Airport Road, between Healey Road to the northwest and Perdue Court / Davis Lane to the southeast and is municipally known as 12541 & 12577 Airport Road, in the Town of Caledon. This Traffic Brief conforms to the Peel Region guidelines, see **Appendix A** for the terms of reference that was sent to the Region for review. Since the Region has not provided comments on the Terms of Reference in a timely manner, the Traffic Brief has been prepared in accordance to the **Appendix A**. The location of the proposed development is illustrated in **Figure 1-1**.

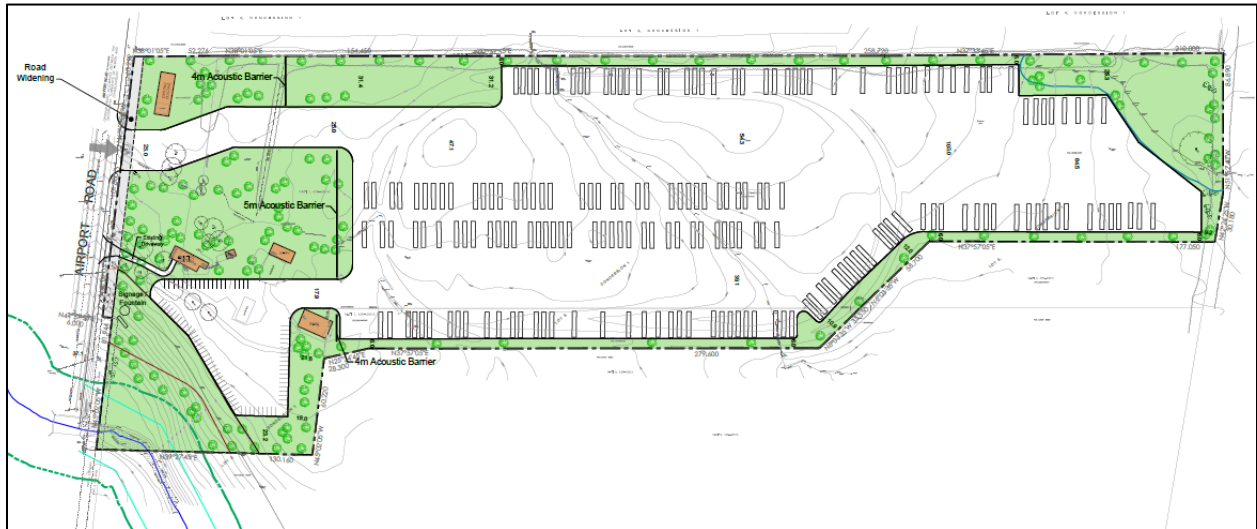
Figure 1-1 – Site Location



The subject properties are currently occupied by existing residential buildings, which will be converted for office use. The GFA of each residential building is approximately 1,500 ft² (139.35 m²). Based on the preliminary concept plan, prepared by Malone Given Parsons, dated April 27, 2020, the development proposal is to redevelop the existing subject lands into a transport truck/trailer parking facility on an 11.85 ha (118,500 m²) site. Vehicular access to the subject site is proposed through one (1) full movement entrance onto Airport Road and will also require road widening at the location of the entrance. The proposed site plan is provided in **Figure 1-2**, while **Appendix B** also provides a larger scale version of the proposed site plan.

Given the nature of the development proposal, the analysis will include the weekday morning and afternoon peak periods for traffic assessment purposes.

Figure 1-2 – Proposed Site Plan



2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

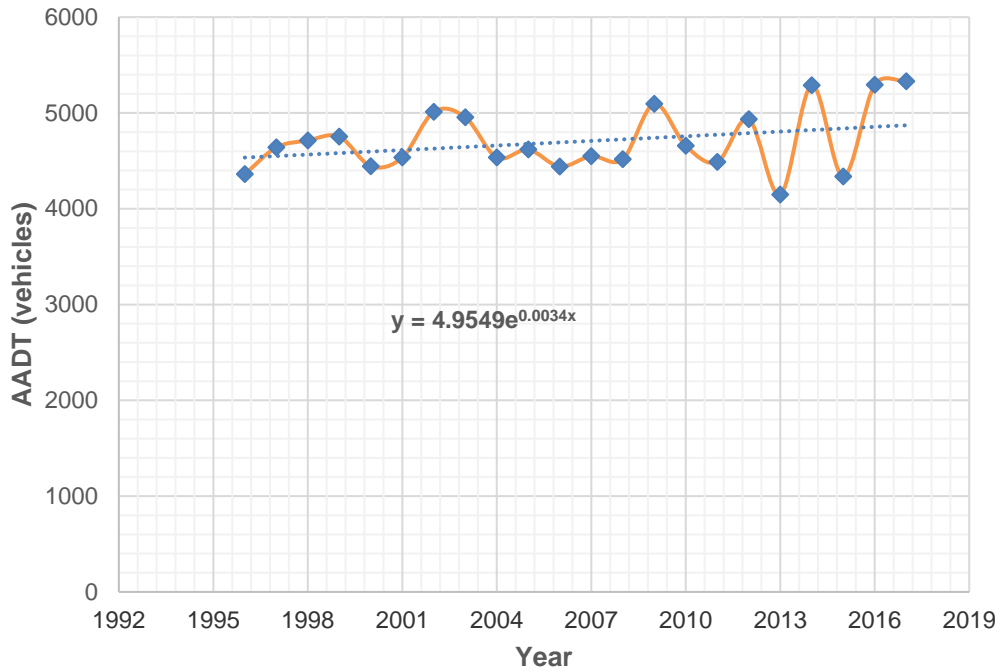
The existing subject lands are located east of Airport Road between Healey Road and Purdue Court and Davis Lane, in the Town of Caledon. The existing road network is described as follows:

Airport Road/ Regional Road 7: is a north-south regional road under the jurisdiction of Peel Region within the Town of Caledon and is classified as a Major Arterial road. Airport Road near the study area has an existing two-lane cross section (one lane per direction) and a posted speed limit of 80 km/h.

2.2. Existing Traffic Volumes

As such, historic traffic volumes at the intersection of the DHL site access on Airport Road, South of the subject site, were obtained from Spectrum on Thursday, December 13, 2018 during the morning (7:30 a.m. to 9:30 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak periods. Detailed traffic data sheets are provided in **Appendix C**. For the purposes of this assessment, a five-year horizon (2025) was selected to analyze the future background traffic volumes. The AADT data for years 1996 – 2017, shown in **Figure 2-1**, were provided by Peel Region and indicates a growth rate of 0.34%. As such, a conservative 1% growth rate per annum is taken for the north-south through traffic on Dixie Road.

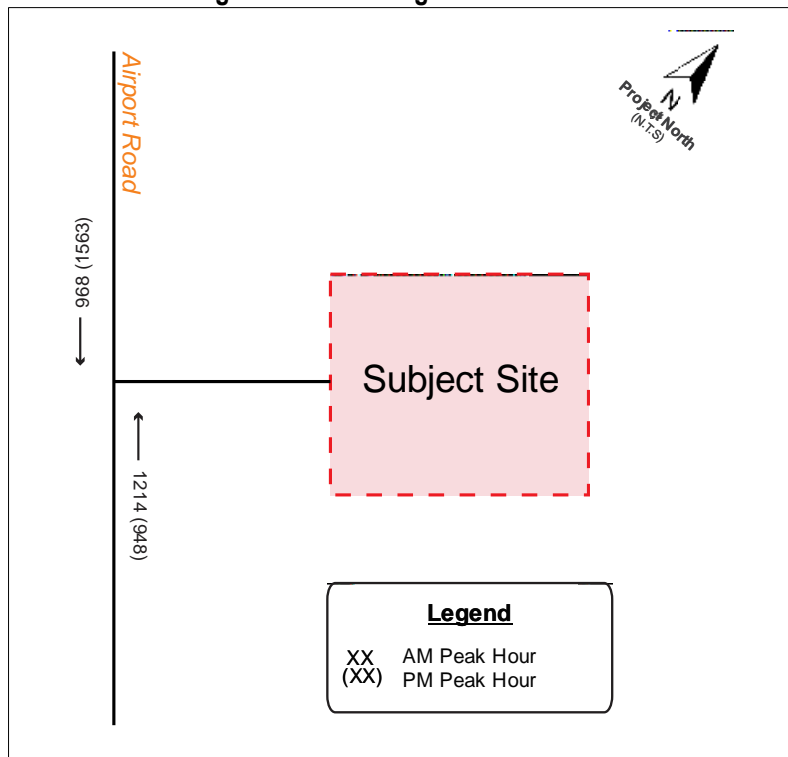
Figure 2-1 – AADT on Airport Road Near Subject Site



2.3. Existing Traffic Assessment

The historic volumes with applied growth rates are illustrated in Figure 2-2.

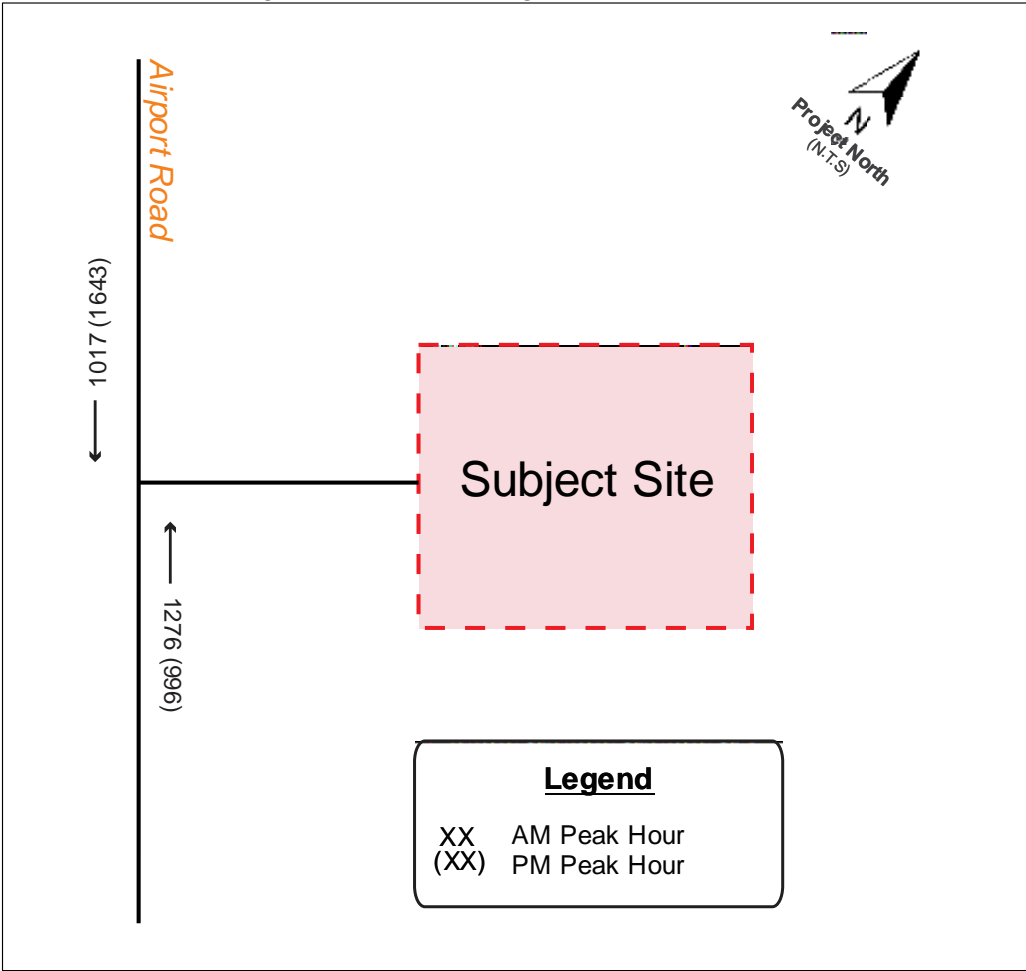
Figure 2-2 – Existing Traffic Volumes



3.0 FUTURE BACKGROUND CONDITIONS

As previously mentioned, a conservative 1% growth rate was applied to the northbound and southbound through volumes along Airport Road near the subject site. The future (2025) background traffic volumes are provided in **Figure 3-1**.

Figure 3-1 – Future Background Traffic Volumes

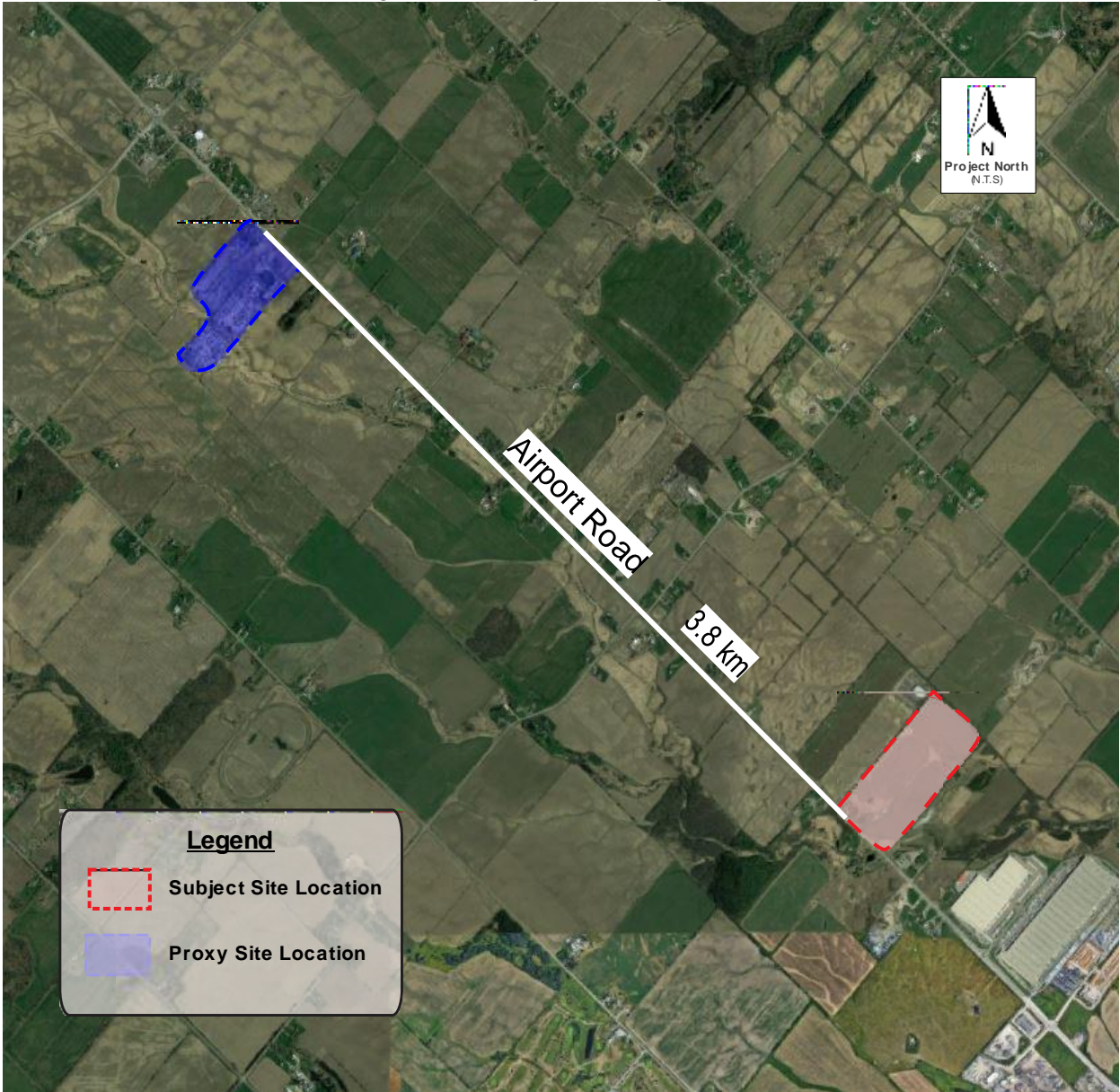


4.0 SITE TRAFFIC

The development proposal is to develop a truck trailer parking facility with a lot area of 118,500 m² and with an existing on-site building GFA of approximately 280 m². The proposed development is unique in the sense that the Trip Generation Manual, published by the Institute of Transportation Engineers (ITE), does not contain any information specific to land use case (truck/trailer parking facility).

To capture peak parking demand for the proposal, NexTrans Consulting Engineers opted to conduct driveway counts at an existing proxy site with a similar buildout as the proposed development. The proxy site is located approximately 3.8 km north of the subject site, municipally known as 13726 Airport Road and has a lot area of approximately 118,500 m² (10.5 ha). As Peel Region is currently following COVID-19 Phase 3 lockdown protocols, most businesses are functioning under regular hours of operation. Truck/trailer parking facilities are currently functioning, and it is our opinion that the proxy driveway counts are acceptable. The proxy site locations, in comparison to the subject site location, are shown in **Figure 4-1** below.

Figure 4-1 – Proxy Site Survey Location



The proxy site driveway counts were conducted on Thursday, August 13, 2020 and Friday, August 14, 2020 during the morning (7:00 A.M. to 9:15 A.M.) and afternoon (4:00 P.M. to 6:00 P.M.) peak periods. The results of the morning peak and afternoon peak driveway counts at the proxy site (i.e. 13726 Airport Road) are summarized in **Table 4.1** and **Table 4.2**, respectively.

Table 4.1 – Morning Peak Period

Movement	Thursday, August 13, 2020				Friday, August 14, 2020			
	In		Out		In		Out	
	Truck	Car	Truck	Car	Truck	Car	Truck	Car
7:00 a.m.	0	1	0	1	0	0	0	0
7:15 a.m.	0	0	0	0	0	0	1	0
7:30 a.m.	1	0	0	0	0	0	0	0
7:45 a.m.	0	3	1	1	0	1	1	0
8:00 a.m.	0	0	0	0	0	2	0	0
8:15 a.m.	0	2	0	0	0	1	0	0
8:30 a.m.	0	0	1	1	0	0	0	0
8:45 a.m.	1	1	0	1	1	1	0	1
Peak hour one-way Total	5		4		5		1	
Peak hour two-way Total	9				6			

The peak A.M. traffic volume from both survey days occurs on Thursday, August 13, 2020 from 7:45 A.M. to 8:45 A.M., with a total traffic volume of nine (9) vehicles during this time, or 0.86 trips/ ha.

Table 4.2 – Afternoon Peak Period

Movement	Thursday, August 13, 2020				Friday, August 14, 2020			
	In		Out		In		Out	
	Truck	Car	Truck	Car	Truck	Car	Truck	Car
4:00 p.m.	1	0	1	0	0	0	0	2
4:15 p.m.	0	2	0	5	0	0	0	0
4:30 p.m.	0	1	0	0	2	1	0	2
4:45 p.m.	2	3	1	3	1	1	0	3
5:00 p.m.	1	0	0	0	2	0	0	1
5:15 p.m.	1	1	0	1	3	1	0	2
5:30 p.m.	0	0	0	4	1	1	0	1
5:45 p.m.	0	0	0	0	0	1	0	3
Peak hour one-way Total	10		10		11		8	
Peak hour two-way Total	20				19			

The peak P.M. recorded traffic volume from the proxy site from both days occurs on Thursday, August 13, 2020 from 4:00 P.M. to 5:00 P.M. with a total traffic volume of 20 vehicles during this time, or 1.90 trips/ ha.

Based on the calculated proxy site trip rates, the proposed subject site is expected to generate 11 trips and 23 trips for the A.M. and P.M. peaks, respectively.

4.1. Site Trip Distribution and Assignment

The assumptions for trip distribution rates are based on the turning movement counts (TMC) obtained from Spectrum. As a result, the site traffic distribution is summarized in **Table 4.3**.

Table 4.3 – Site Traffic Trip Distribution

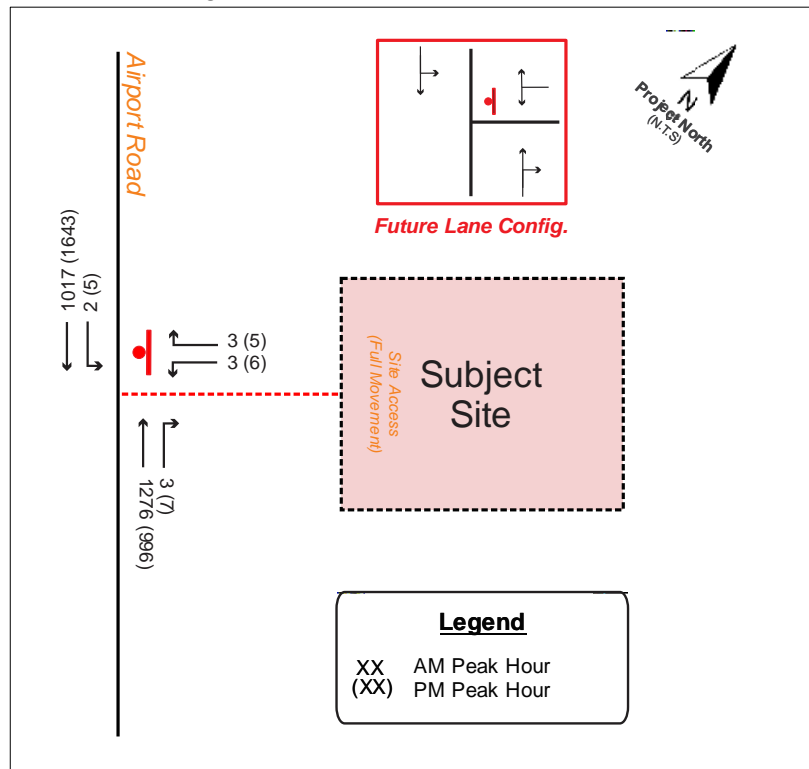
Direction	Via	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
North	Airport Road	50%	50%	43%	43%
South	Airport Road	50%	50%	57%	57%
Total		100%	100%	100%	100%

5.0 FUTURE TOTAL TRAFFIC CONDITIONS

The forecasted 2025 future total traffic volumes (future background traffic volumes plus site generated traffic volumes) are illustrated in **Figure 5-1**, for A.M. and P.M. peak hour, respectively, and were analyzed using Synchro 10 software. Based on communications with the client, all outbound A.M. peak hour traffic, as well as all inbound P.M. peak hour traffic is expected to be heavy vehicles. Therefore, a heavy vehicle percentage of 100% was applied accordingly in the traffic analysis.

The detailed calculations are provided in **Appendix D** and summarized in **Table 5.1**.

Figure 5-1 – Future Total Traffic Volumes



Based on proxy surveys of similar existing sites, a trip rate was prorated for the subject site and is expected to generate 11 trips (five (5) inbound and six (6) outbound) during the A.M. peak and 20 trips (12 inbound and 11 outbound) during the P.M. peak.

Table 5.1 – Future Total Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour			Weekday PM Peak Hour		
		LOS (v/c)	Delay (s)	Queue (95 th m)	LOS (v/c)	Delay (s)	Queue (95 th m)
Site Access and Airport Road (Unsignalized)	WBLR	E (0.06)	43.2	1.5	F (0.41)	194.5	10.4
	SBTL	A (0.02)	9.9	0.4	A (0.01)	0.0	0.3

As summarized in **Table 5.1**, under future total traffic conditions, the study area intersections will continue to operate at acceptable levels of service during both peak periods with the exception of the westbound shared lane (i.e. the egress driveway), which experiences a failing level of service during the P.M. peak hour. It is our experience that Synchro is overly conservative when assessing levels of service at unsignalized two-way stop-controlled intersections. Factors such as platooning and gap opportunities are not considered in the analysis as those parameters do not appear in the Synchro inputs for two way stop control analysis. However, the volume to capacity ratio (V/C) is at a very acceptable of 0.41 during weekday P.M. peak hour, which suggests that platooning of vehicles occurs at upstream and downstream signalized intersections along Airport Road, thereby creating gap opportunities for these maneuvers to be completed. **On this basis, it is NexTrans’ opinion that the unsignalized operations due to future background development growth and site traffic will be negligible and can be accommodated by the existing transportation road network with manageable traffic impact to the adjacent public roadways.**

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. As illustrated in **Figure 6-1**, the AutoTURN analysis demonstrates that a truck (WB-19 TAC-2017) can effectively maneuver through the study area.

6.2. Left Turn Storage Lane Warrant

The MTO Geometric Design Manual was reviewed to determine whether a left turn storage lane was warranted at the site access, as there are relatively large advancing and opposing volumes. The graph used to determine whether a left turn storage lane was warranted or not is included in **Appendix E** and was selected based on design speed and the percent of left turns in the advancing volume for both A.M. and P.M. peak hours, respectively.

Based on the advancing and opposing volumes for both A.M. and P.M., a left turn lane is warranted. However, as the percent of vehicles making left turns during both A.M. and P.M. peak hours is less than five percent (5%) (i.e. 0.68% and 0.9% for the A.M. and P.M. peaks, respectively), it was determined that a left turn storage lane would not be warranted.

6.3. Sight Line Analysis

For the purpose of sight distance assessment, a design speed of 100 km/hr (unposted speed plus 20 km/hr) under stop control will be utilized. Sight distance requirements will be considered for passenger vehicles approaching the proposed site access. The criteria applied for vehicles approaching the intersection is stopping sight distance refer to

TAC Figure 2.3.3.2, attached in **Appendix F**, Under the stopping sight distance assessment, the target height applied is 0.38 m for vehicle taillights, and for intersection movements a top of car height of 1.3 m is applied. A driver eye height of 1.05 m is applied for all scenarios. A road grade of -1.8% has been applied from the North approach, whereas the South approach has a road grade of 0.49%.

Required stopping distance, adjusted for effect of grade, is determined using the formula:

$$d = V^2 / 254(f \pm G)$$

Where:
 V = design speed
 f = Coefficient of friction (0.31) (TAC 1999, Table 1.2.5.2)

then: Stopping Sight Distance = $0.278tV + d$

Where:
 t = perception / reaction time = 2.5s (TAC 1999, Table 1.2.5.3)
 G = the percent grade divided by 100

Stopping Sight Distance Along Airport Road

Average G for North approach = -0.018
 Average G for South approach = 0.0049

$$\text{Minimum sight distance for North approach} = [0.278 \times 2.5 \times 100] + [100^2 / 254 (0.31 + (-0.018))]$$

$$= 204.33 \sim \mathbf{205 \text{ m}}$$

$$\text{Minimum sight distance for South approach} = [0.278 \times 2.5 \times 100] + [100^2 / 254 (0.31 + (0.0049))]$$

$$= 194.52 \sim \mathbf{195 \text{ m}}$$

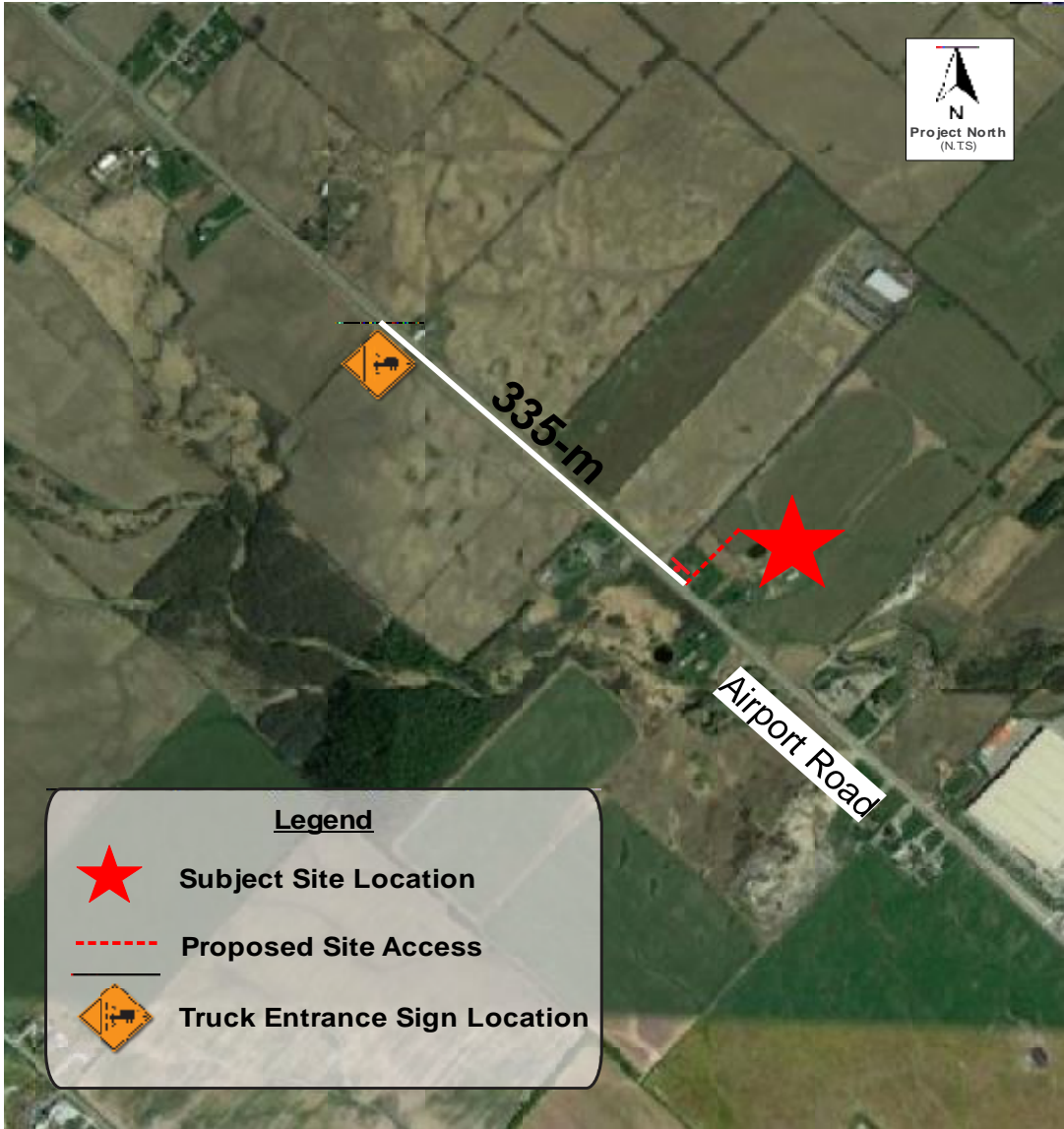
Actual sight distances approaching the proposed site access via Airport Road have been determined through an on-site visit. The results at the proposed site access via Airport Road are summarized in **Table 6.1**.

Table 6.1 – Stopping Sight Distance Assessment

Site Entrance	Stopping Sight Distance		
	Required	Achieved	Difference
North Approach	205 m	170 m	-20 m
South Approach	195 m	400+ m	+205 m

The stopping sight distance for vehicles coming from the South approach is adequate, with a surplus distance of 205 m. However, the stopping sight distance for vehicles coming from the North approach has a deficiency of 20 m. To mitigate this deficiency, NexTrans recommends adding a Truck Entrance sign along the North Approach, 335 m from the site entrance, as required by OTM Book 6 for this specific scenario. The location of the Truck Entrance sign, relative to the proposed site entrance is illustrated in **Figure 6-3**. With the addition of the proposed Truck Entrance sign, and when accounting for the fact that trucks are taller than passenger cars (i.e. 1.8 m vs 4.3 m, for cars and trucks, respectively) and therefore easier for oncoming vehicles to see, it is NexTrans' opinion that the stopping sight distance deficiency on the North approach is negligible.

Figure 6-3 – Truck Entrance Sign Location



7.0 CONCLUSION

The development proposal is to develop the 11.85 ha (118,500 m²) site to include a trucking facility. The site is currently occupied by two existing residential buildings, each with an approximate GFA of 1500 ft² (139.35 m²). Vehicular access to the subject site is proposed through one (1) full movement driveway onto Airport Road.

The findings and conclusions of our analysis are as follows:

- Based on a proxy survey of a similar existing site, the proposed development is anticipated to generate 10 two-way trips (five (5) inbound and five (5) outbound) and 21 two-way trips (10 inbound and 11 outbound) during A.M. and P.M. peak hours, respectively.
- The intersection capacity analysis results (based on the methodology and procedures outlined in the Highway Capacity Manual, HCM 2000, published by the Transportation Research Board) indicate that the intersection at the site access operates at acceptable levels of service during both peak periods with the exception of the westbound shared lane (i.e. the egress driveway) which experiences a failing level of service during the P.M.

Traffic Brief

peak hour. However, the volume to capacity ratio (V/C) is at a very acceptable of 0.41 during weekday P.M. peak hour, which suggests that platooning of vehicles occurs at upstream and downstream signalized intersections along Airport Road, thereby creating gap opportunities for these maneuvers to be completed.

- AutoTURN software was used to generate vehicular turning template to confirm and demonstrate the accessibility of a truck (WB-19 TAC-2017) through the proposed study area/loading space.
- The MTO Geometric Design Manual was consulted to determine if a left turn storage lane was warranted, however, it was found that no left turn storage was required for this development.
- The TAC Design Guide was consulted to determine required stopping sight distances on Airport Road for vehicles approaching the subject site. In addition, site surveys were conducted to determine achieved stopping sight distances and the results were compared to the required stopping sight distances. It was determined that the subject site has an adequate stopping site distance on the South approach, but a deficiency of 20 m stopping site distance on the North approach. By adding a Truck Entrance sign along the North Approach of Airport Road, 335 m from the site entrance, as required by OTM Book 6 for this specific scenario, it is our opinion that the deficiency is negligible.

The study concludes that the proposed development can adequately be accommodated by the existing transportation network with manageable 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

A Division of NextEng Consulting Group Inc.

Prepared by:



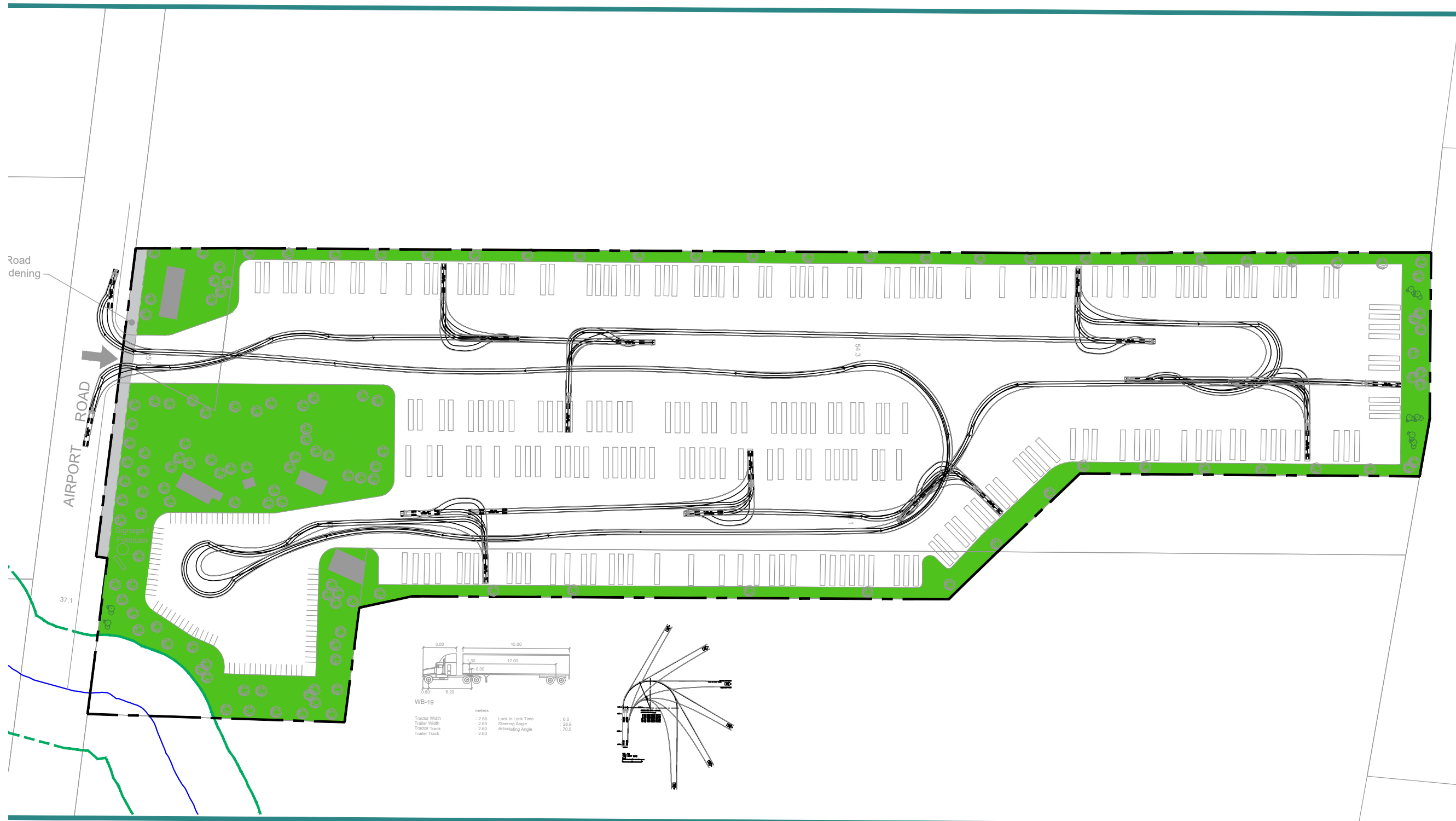
Kristian Aviles, B. Eng
Transportation Analyst

Approved by:



Richard Pernicky, MITE
Principal

TOWN OF CALEDON
 PLANNING
 RECEIVED
 Mar 18, 2022



--- Subject Lands - 11.85 ha
 — Watercourse

**CONCEPTUAL TRANSPORT
 TRUCK / TRAILER PARKING**
 12541 & 12577 AIRPORT ROAD
 Town of Caledon
 Regional Municipality of Peel

Date	Revision
Apr 27 / 20	

KEY PLAN

BENCHMARK

REVISIONS

NO	REVISION	DATE	BY

STAMP



PROJECT NAME:
TRANSPORT TRUCK/TRAILER PARKING FACILITY
 12541 & 12577 Airport Road
 (TOWN OF CALEDON)

DRAWING TITLE:
**AutoTURN Analysis
 (WB-19 TAC-2017)**

DESIGN BY: A.S.	DATE: August 20, 2020
CHECKED BY: R.P.	PROJECT NO: NT-20-104
DRAWN BY: A.S.	DRAWING NO:
SCALE: NTS	Figure 6-1

Appendix A – Terms of Reference

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

Phone: 905-503-2563
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NextEng Consulting Group Inc.

Terms of Reference

To: Dylan Prowse, Peel Region
From: Kristian Aviles, Transportation Analyst, Nexttrans Consulting Engineers
Date: August 4, 2020
Re: 12541 & 12577 Airport Road, Transport Truck/ Trailer Parking Facility – TOR for Traffic Brief

These terms of reference have been prepared to outline (for the Town's and Region's review and approval) the intended scope of work for a Traffic Brief for a proposed transport truck/ trailer parking facility. The subject site is located along Airport Road between Healey Road to the north and Perdue Court / Davis Lane to the south, in the Town of Caledon.

Introduction

The report introduction will include:

1. Description of site location (along Airport Road between Healey Road to the north and Perdue Court / Davis Lane to the south)
2. Description of nature of application
3. Description of proposed development and land use
4. Proposed study area

Existing Traffic Assessment

The existing conditions within the study area will be summarized and documented. This will include, but not limited to:

- A description of key roads and intersections (lanes, speed limits)
- Identifying forms of traffic control, lane configurations, turning restrictions
- Noting the location of adjacent driveways and access points
- Identifying other traffic generators in the vicinity of the site

Historic turning movement counts will be requested from the Town / Region during the weekday AM (7am-10am) and weekday PM (4pm-7pm) peak periods at the following study area intersection:

- Airport Road and DHL site access (approximately 800m south of site access)

Once traffic volumes have been collected, through volumes will be projected north to the site access location.

We understand that existing traffic volumes cannot be obtained due to the COVID-19 Pandemic, as counts do not represent typical conditions. However, would it be acceptable to obtain historic traffic data, and apply the appropriate growth rates to represent current conditions?

Future Background Traffic Assessment

Future Background consists of background growth and other background development traffic. Based on the Peel Region open data from years 1996 to 2017 a growth rate of -1% for NE and 0.3% for SW directions for the assumed full build-out year for the proposed development along with a 5-year time horizon period thereafter. As such, is it acceptable to use a growth rate of 1%?

We do understand that there is and may be further redevelopment applications, as such traffic generation associated with those developments will be included in our analysis to reflect our horizon year assessment.

Operational deficiencies as a result of future forecasted traffic volumes will be identified and mitigative measures will be proposed and documented in the final report.

Site Traffic Assessment

The weekday AM and PM peak hour traffic to be generated by the proposed development will be estimated based on information published in the *Trip Generation, 10th Edition*, by the Institute of Transportation Engineers (ITE), specifically LUC 030 Intermodal Truck Terminal.

The directional trip distribution and assignment for traffic approaching and departing the site will be determined based upon existing traffic patterns and Transportation Tomorrow Survey (TTS) 2016 data.

Future Total Traffic Assessment

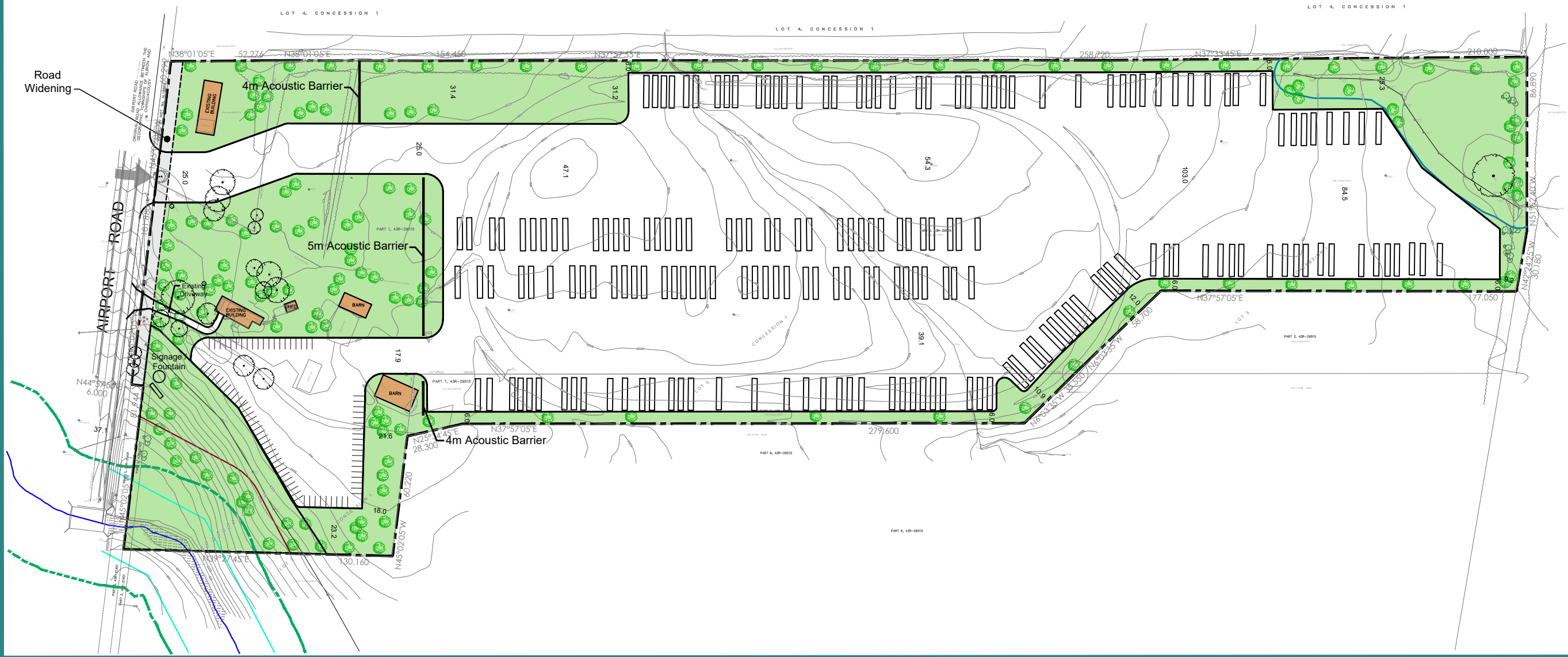
Future total traffic consists of future background plus site traffic. Operational deficiencies as a result of site traffic will be identified and mitigative measures will be proposed and documented in the final report. We will develop and recommend appropriate intersection controls and geometric improvements for all key intersections as well as determine the appropriateness of the proposed site access location(s) and the lane requirements at these new locations.

Parking / On Site Circulation and Site Access Review

- Review the available parking to determine whether the proposed parking supply is sufficient to accommodate the parking demand of the proposed site and meets current by-law requirements.
- We will review and provide comment on the most recent site plan with respect to the functionality of the internal vehicular circulation to facilitate vehicle maneuvering, loading, servicing, parking and pick-up / drop-off activities.
- Using Auto TURN, we will confirm the turning radius requirements and site circulation for passenger and heavy vehicles.
- Determine the appropriateness of access location and ensure adequate connections to main corridors are provided.

- Assign appropriate internal signage to site plan.
- Sight distances in accordance with the TAC Manual to be prepared.

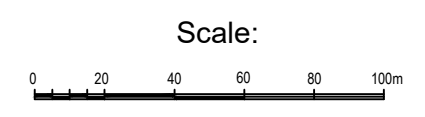
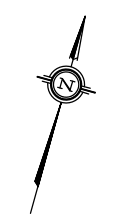
Appendix B – Preliminary Concept Plan



- Subject Lands - 11.85 ha
- Watercourse
- Watercourse +30m
- Meanderbelt
- Meanderbelt +30m
- Swamp Edge
- Top of Bank 10m Buffer
- Wetland 10m Buffer

Schedule of Land Use

Gravel Parking Area	7.78 ha
Vegetation Groundcover	2.89 ha
Environmental Area	1.18 ha
Total Area	11.85 ha



**CONCEPTUAL TRANSPORT
 TRUCK / TRAILER PARKING LAYOUT**

12541 & 12577 AIRPORT ROAD
 Town of Caledon
 Regional Municipality of Peel

Date	Revision	By
Jan 6 / 21		
Nov 3 / 21		
Nov 29 / 21		

Prepared For:



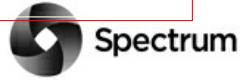
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Appendix C – Existing Traffic Data



Turning Movement Count (2 . KIPLING AVE & GARDNER EXP ON-OFF RAMPS)

Start Time	N Approach KIPLING AVE							E Approach GARDINER EXPRESSWAY WB OFF RAMP							SE Approach GARDINER EXPRESSWAY WB ON RAMP [FROM NB KIPLING AV							S Approach KIPLING AVE							W Approach GARDINER EXPRESSWAY WB ON RAMP							Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Bear Left N:SE	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	Hard Left E:SE	U-Turn E:E	Peds E:	Approach Total	Hard Right SE:E	Bear Right SE:N	Bear Left SE:W	Hard Left SE:S	U-Turn SE:SE	Peds SE:	Approach Total	Hard Right S:SE	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Bear Right W:SE	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total			
12:00:00	73	230	0	0	0	0	303	86	0	60	0	0	3	146	0	0	0	0	0	3	0	154	0	185	0	0	0	339	0	0	0	0	0	0	0	0	788	
12:15:00	101	213	0	0	0	0	314	94	1	75	0	0	2	170	0	0	0	0	0	2	0	159	0	206	0	0	0	365	0	0	0	0	0	0	0	0	849	
12:30:00	79	198	0	0	0	0	277	89	0	57	0	0	0	146	0	0	0	0	0	0	0	148	0	211	0	1	0	360	0	0	0	0	0	2	0	0	783	
12:45:00	80	251	0	0	0	0	331	109	0	76	0	0	0	185	0	0	0	0	0	0	0	159	0	181	0	0	0	340	0	0	0	0	0	0	0	0	856	3276
13:00:00	71	224	0	0	0	0	295	101	0	60	0	0	1	161	0	0	0	0	0	1	0	138	0	191	0	2	0	331	0	0	0	0	0	0	0	0	787	3275
13:15:00	94	210	0	0	0	0	304	117	0	52	0	0	3	169	0	0	0	0	0	2	0	145	0	186	0	0	0	331	0	0	0	0	0	0	0	0	804	3230
13:30:00	83	250	0	0	0	0	333	94	0	40	0	0	1	134	0	0	0	0	0	1	0	167	0	222	0	0	0	389	0	0	0	0	0	0	0	0	856	3303
13:45:00	92	227	0	0	0	0	319	102	0	52	0	0	0	154	0	0	0	0	0	0	0	152	0	216	0	0	0	368	0	0	0	0	0	0	0	0	841	3288
14:00:00	83	254	0	0	0	0	337	99	0	49	0	0	2	148	0	0	0	0	0	2	0	161	0	202	0	0	0	363	0	0	0	0	0	0	0	0	848	3349
14:15:00	71	246	0	0	0	0	317	80	1	52	0	0	0	133	0	0	0	0	0	0	0	171	0	194	0	1	0	366	0	0	0	0	0	0	0	0	816	3361
14:30:00	111	230	0	0	0	0	341	83	0	54	0	0	0	137	0	0	0	0	0	0	0	170	0	178	0	0	0	348	0	0	0	0	0	0	0	0	826	3331
14:45:00	65	254	0	0	0	0	319	86	1	49	0	0	2	136	0	0	0	0	0	2	0	153	0	180	0	0	0	333	0	0	0	0	0	0	0	0	788	3278
Grand Total	1003	2787	0	0	0	0	3790	1140	3	676	0	0	14	1819	0	0	0	0	0	13	0	1877	0	2352	0	4	0	4233	0	0	0	0	0	2	0	0	9842	-
Approach%	26.5%	73.5%	0%	0%	0%	-	-	62.7%	0.2%	37.2%	0%	0%	-	-	0%	0%	0%	0%	0%	-	-	44.3%	0%	55.6%	0%	0.1%	-	-	0%	0%	0%	0%	0%	-	-	-	-	-
Totals %	10.2%	28.3%	0%	0%	0%	38.5%	38.5%	11.6%	0%	6.9%	0%	0%	18.5%	18.5%	0%	0%	0%	0%	0%	0%	0%	19.1%	0%	23.9%	0%	0%	43%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Heavy	23	68	0	0	0	-	-	31	0	22	0	0	-	-	0	0	0	0	0	-	-	61	0	56	0	0	-	-	0	0	0	0	0	0	0	0	-	-
Heavy %	2.3%	2.4%	0%	0%	0%	-	-	2.7%	0%	3.3%	0%	0%	-	-	0%	0%	0%	0%	0%	-	-	3.2%	0%	2.4%	0%	0%	-	-	0%	0%	0%	0%	0%	0%	0%	0%	-	-
Bicycles	0	1	0	0	0	-	-	0	0	0	0	0	-	-	0	0	0	0	0	-	-	0	0	0	0	0	-	-	0	0	0	0	0	0	0	0	-	-
Bicycle %	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	-	-	0%	0%	0%	0%	0%	0%	0%	0%	-	-

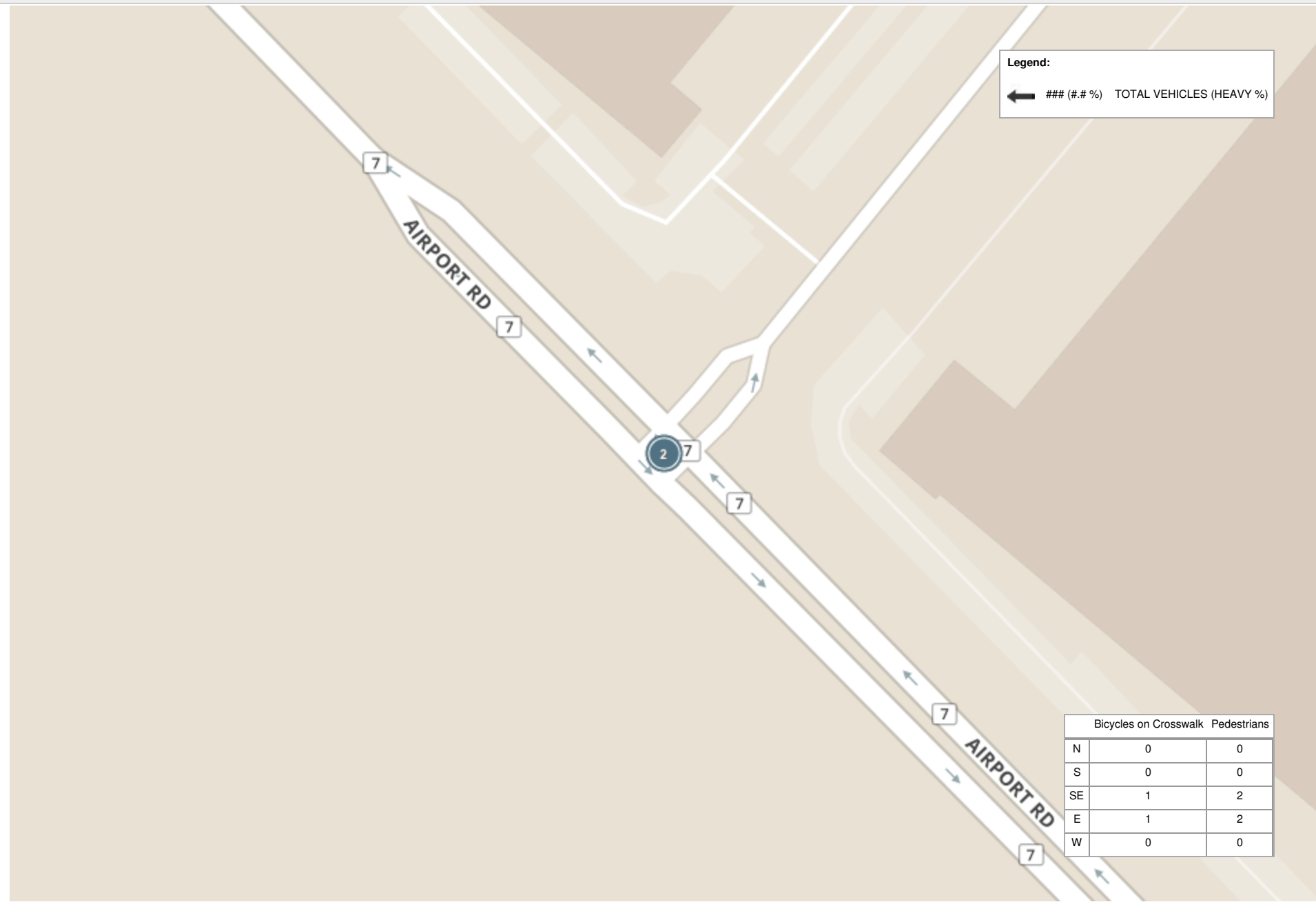


Peak Hour: 01:30 PM - 02:30 PM Weather: Overcast (4.4 °C)

Start Time	N Approach KIPLING AVE							E Approach GARDINER EXPRESSWAY WB OFF RAMP							SE Approach GARDINER EXPRESSWAY WB ON RAMP [FROM NB KIPLING AV							S Approach KIPLING AVE							W Approach GARDINER EXPRESSWAY WB ON RAMP							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
13:30:00	83	250	0	0	0	0	333	94	0	40	0	0	1	134	0	0	0	0	0	1	0	167	0	222	0	0	0	389	0	0	0	0	0	0	0	856
13:45:00	92	227	0	0	0	0	319	102	0	52	0	0	0	154	0	0	0	0	0	0	0	152	0	216	0	0	0	368	0	0	0	0	0	0	0	841
14:00:00	83	254	0	0	0	0	337	99	0	49	0	0	2	148	0	0	0	0	0	2	0	161	0	202	0	0	0	363	0	0	0	0	0	0	0	848
14:15:00	71	246	0	0	0	0	317	80	1	52	0	0	0	133	0	0	0	0	0	0	0	171	0	194	0	1	0	366	0	0	0	0	0	0	0	816
Grand Total	329	977	0	0	0	0	1306	375	1	193	0	0	3	569	0	0	0	0	0	3	0	651	0	834	0	1	0	1486	0	0	0	0	0	0	0	3361
Approach%	25.2%	74.8%	0%	0%	0%	-	-	65.9%	0.2%	33.9%	0%	0%	-	-	0%	0%	0%	0%	0%	-	43.8%	0%	56.1%	0%	0.1%	-	0%	0%	0%	0%	0%	0%	-	-		
Totals %	9.8%	29.1%	0%	0%	0%	38.9%	11.2%	0%	5.7%	0%	0%	16.9%	0%	0%	0%	0%	0%	0%	0%	0%	19.4%	0%	24.8%	0%	0%	44.2%	0%	0%	0%	0%	0%	0%	0%	0%	-	
PHF	0.89	0.96	0	0	0	0.97	0.92	0.25	0.93	0	0	0.92	0	0	0	0	0	0	0	0	0.95	0	0.94	0	0.25	0.96	0	0	0	0	0	0	0	0	-	
Heavy	4	22	0	0	0	26	12	0	8	0	0	20	0	0	0	0	0	0	0	0	17	0	19	0	0	36	0	0	0	0	0	0	0	-		
Heavy %	1.2%	2.3%	0%	0%	0%	2%	3.2%	0%	4.1%	0%	0%	3.5%	0%	0%	0%	0%	0%	0%	0%	0%	2.6%	0%	2.3%	0%	0%	2.4%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Lights	325	955	0	0	0	1280	363	1	185	0	0	549	0	0	0	0	0	0	0	0	634	0	815	0	1	1450	0	0	0	0	0	0	0	0	-	
Lights %	98.8%	97.7%	0%	0%	0%	98%	96.8%	100%	95.9%	0%	0%	96.5%	0%	0%	0%	0%	0%	0%	0%	0%	97.4%	0%	97.7%	0%	100%	97.6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Single-Unit Trucks	3	11	0	0	0	14	11	0	5	0	0	16	0	0	0	0	0	0	0	0	11	0	7	0	0	18	0	0	0	0	0	0	0	0	-	
Single-Unit Trucks %	0.9%	1.1%	0%	0%	0%	1.1%	2.9%	0%	2.6%	0%	0%	2.8%	0%	0%	0%	0%	0%	0%	0%	0%	1.7%	0%	0.8%	0%	0%	1.2%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Buses	0	9	0	0	0	9	1	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	-	
Buses %	0%	0.9%	0%	0%	0%	0.7%	0.3%	0%	1%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1.2%	0%	0%	0.7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Articulated Trucks	1	2	0	0	0	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	6	0	2	0	0	8	0	0	0	0	0	0	0	0	-	
Articulated Trucks %	0.3%	0.2%	0%	0%	0%	0.2%	0%	0%	0.5%	0%	0%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0.9%	0%	0.2%	0%	0%	0.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	
Pedestrians %	-	-	-	-	-	0%	-	-	-	-	-	33.3%	-	-	-	-	-	-	-	33.3%	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	0	-	-	-	-	-	-	-	0	-	-	
Bicycles on Crosswalk %	-	-	-	-	-	0%	-	-	-	-	-	16.7%	-	-	-	-	-	-	-	16.7%	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-
Bicycles on Road	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	0	0	-	-	
Bicycles on Road %	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	-	-	0%	-	-	-



Peak Hour: 01:30 PM - 02:30 PM Weather: Overcast (4.4 °C)





Turning Movement Count (2 . KIPLING AVE & GARDNER EXP ON-OFF RAMPS)

Start Time	N Approach KIPLING AVE							E Approach GARDINER EXPRESSWAY WB OFF RAMP						SE Approach GARDINER EXPRESSWAY EB ON RAMP (FROM NB KIPLING AV							S Approach KIPLING AVE							W Approach GARDINER EXPRESSWAY WB ON RAMP							Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Bear Left N:SE	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	Hard Left E:SE	U-Turn E:E	Peds E:	Approach Total	Hard Right SE:E	Bear Right SE:N	Bear Left SE:W	Hard Left SE:S	U-Turn SE:SE	Peds SE:	Approach Total	Hard Right S:SE	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Bear Right W:SE	Thru W:E	Left W:N	U-Turn W:W	Peds W:			Approach Total
07:30:00	44	136	0	0	0	0	180	91	0	67	0	0	0	158	0	0	0	0	0	1	0	99	0	157	0	0	0	256	0	0	0	0	0	0	0	594	
07:45:00	35	192	0	0	0	0	227	159	0	100	0	0	1	259	0	0	0	0	0	1	0	63	0	148	0	0	0	211	0	0	0	0	0	0	0	697	
08:00:00	33	230	0	0	0	0	263	101	0	97	0	0	0	198	0	0	0	0	0	0	0	75	0	169	0	0	0	244	0	0	0	0	1	0	0	705	
08:15:00	28	210	0	0	1	0	239	109	0	100	0	0	0	209	0	0	0	0	0	0	0	67	0	187	0	0	0	254	0	0	0	0	1	0	0	702	2698
08:30:00	32	182	0	0	0	0	214	122	0	115	0	0	1	237	0	0	0	0	0	0	0	61	0	198	0	1	0	260	0	0	0	0	0	0	0	711	2815
08:45:00	43	189	0	0	0	0	232	133	0	146	0	0	0	279	0	0	0	0	0	0	0	71	0	150	0	1	0	222	0	0	0	0	0	0	0	733	2851
09:00:00	55	210	0	0	0	0	265	103	0	103	0	0	2	206	0	0	0	0	0	2	0	113	0	188	0	0	0	301	0	0	0	0	0	0	0	772	2918
09:15:00	46	187	0	0	0	0	233	78	0	87	0	0	1	165	0	0	0	0	0	1	0	102	0	158	0	1	0	261	0	0	0	0	0	0	0	659	2875
BREAK																																					
16:00:00	65	259	0	0	0	0	324	65	0	47	0	0	2	112	0	0	0	0	0	2	0	126	0	175	0	1	0	302	0	0	0	0	0	0	0	738	
16:15:00	61	255	0	0	0	0	316	61	0	73	0	0	1	134	0	0	0	0	0	1	0	94	0	172	0	0	0	266	0	0	0	0	0	1	0	716	
16:30:00	52	252	0	0	0	0	304	70	0	77	0	0	3	147	0	0	0	0	0	4	0	105	0	183	0	1	0	289	0	0	0	0	0	0	0	740	
16:45:00	67	306	0	0	0	0	373	71	0	56	0	0	5	127	0	0	0	0	0	4	0	124	0	163	0	0	0	287	0	0	0	0	0	1	0	787	2981
17:00:00	76	339	0	0	1	0	416	77	0	76	0	0	2	153	0	0	0	0	0	2	0	121	0	189	0	1	0	311	0	0	0	0	0	0	0	880	3123
17:15:00	56	304	0	0	0	0	360	55	0	76	0	0	2	131	0	0	0	0	0	3	0	118	0	181	0	0	0	299	0	0	0	0	0	0	0	790	3197
17:30:00	55	312	0	0	0	0	367	64	0	93	0	0	4	157	0	0	0	0	0	4	0	80	0	151	0	0	0	231	0	0	0	0	0	0	0	755	3212
17:45:00	37	353	0	0	0	0	390	64	0	105	0	0	1	169	0	0	0	0	0	1	0	97	0	148	0	0	0	245	0	0	0	0	0	0	0	804	3229
Grand Total	785	3916	0	0	2	0	4703	1423	0	1418	0	0	25	2841	0	0	0	0	0	26	0	1516	0	2717	0	6	0	4239	0	0	0	0	0	4	0	11783	-
Approach%	16.7%	83.3%	0%	0%	0%	-	-	50.1%	0%	49.9%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	35.8%	0%	64.1%	0%	0.1%	-	0%	0%	0%	0%	0%	0%	0%	-	-	-	
Totals %	6.7%	33.2%	0%	0%	0%	39.9%	12.1%	0%	12%	0%	0%	24.1%	0%	0%	0%	0%	0%	0%	0%	0%	12.9%	0%	23.1%	0%	0.1%	36%	0%	0%	0%	0%	0%	0%	0%	-	-	-	
Heavy %	95	319	0	0	0	-	-	92	0	87	0	0	-	-	0	0	0	0	0	-	205	0	220	0	0	-	0	0	0	0	0	0	0	0	-	-	-
Heavy %	12.1%	8.1%	0%	0%	0%	-	-	6.5%	0%	6.1%	0%	0%	-	0%	0%	0%	0%	0%	0%	-	13.5%	0%	8.1%	0%	0%	-	0%	0%	0%	0%	0%	0%	0%	-	-	-	
Bicycles	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Bicycle %	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Peak Hour: 08:15 AM - 09:15 AM Weather: Snow (0.3 °C)

Start Time	N Approach KIPLING AVE							E Approach GARDINER EXPRESSWAY WB OFF RAMP							SE Approach GARDINER EXPRESSWAY EB ON RAMP [FROM NB KIPLING AV							S Approach KIPLING AVE							W Approach GARDINER EXPRESSWAY WB ON RAMP							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
08:15:00	28	210	0	0	1	0	239	109	0	100	0	0	0	209	0	0	0	0	0	0	0	67	0	187	0	0	0	254	0	0	0	0	0	1	0	702
08:30:00	32	182	0	0	0	0	214	122	0	115	0	0	1	237	0	0	0	0	0	0	0	61	0	198	0	1	0	260	0	0	0	0	0	0	0	711
08:45:00	43	189	0	0	0	0	232	133	0	146	0	0	0	279	0	0	0	0	0	0	0	71	0	150	0	1	0	222	0	0	0	0	0	0	0	733
09:00:00	55	210	0	0	0	0	265	103	0	103	0	0	2	206	0	0	0	0	0	2	0	113	0	188	0	0	0	301	0	0	0	0	0	0	0	772
Grand Total	158	791	0	0	1	0	950	467	0	464	0	0	3	931	0	0	0	0	0	2	0	312	0	723	0	2	0	1037	0	0	0	0	0	1	0	2918
Approach%	16.6%	83.3%	0%	0%	0.1%	-	-	50.2%	0%	49.8%	0%	0%	-	-	0%	0%	0%	0%	0%	-	30.1%	0%	69.7%	0%	0.2%	-	0%	0%	0%	0%	0%	-	-	-	-	
Totals %	5.4%	27.1%	0%	0%	0%	32.6%	16%	0%	15.9%	0%	0%	31.9%	0%	0%	0%	0%	0%	0%	0%	0%	10.7%	0%	24.8%	0%	0.1%	35.5%	0%	0%	0%	0%	0%	0%	0%	0%	-	
PHF	0.72	0.94	0	0	0.25	0.9	0.88	0	0.79	0	0	0.83	0	0	0	0	0	0	0	0	0.69	0	0.91	0	0.5	0.86	0	0	0	0	0	0	0	0	-	
Heavy	38	106	0	0	0	144	25	0	20	0	0	45	0	0	0	0	0	0	0	0	66	0	56	0	0	122	0	0	0	0	0	0	0	0	-	
Heavy %	24.1%	13.4%	0%	0%	0%	15.2%	5.4%	0%	4.3%	0%	0%	4.8%	0%	0%	0%	0%	0%	0%	0%	0%	21.2%	0%	7.7%	0%	0%	11.8%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Lights	120	685	0	0	1	806	442	0	444	0	0	886	0	0	0	0	0	0	0	0	246	0	667	0	2	915	0	0	0	0	0	0	0	0	-	
Lights %	75.9%	86.6%	0%	0%	100%	84.8%	94.6%	0%	95.7%	0%	0%	95.2%	0%	0%	0%	0%	0%	0%	0%	0%	78.8%	0%	92.3%	0%	100%	88.2%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Single-Unit Trucks	22	68	0	0	0	90	24	0	10	0	0	34	0	0	0	0	0	0	0	0	30	0	30	0	0	60	0	0	0	0	0	0	0	0	-	
Single-Unit Trucks %	13.9%	8.6%	0%	0%	0%	9.5%	5.1%	0%	2.2%	0%	0%	3.7%	0%	0%	0%	0%	0%	0%	0%	0%	9.6%	0%	4.1%	0%	0%	5.8%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Buses	0	27	0	0	0	27	0	0	7	0	0	7	0	0	0	0	0	0	0	0	1	0	21	0	0	22	0	0	0	0	0	0	0	0	-	
Buses %	0%	3.4%	0%	0%	0%	2.8%	0%	0%	1.5%	0%	0%	0.8%	0%	0%	0%	0%	0%	0%	0%	0%	0.3%	0%	2.9%	0%	0%	2.1%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Articulated Trucks	16	11	0	0	0	27	1	0	3	0	0	4	0	0	0	0	0	0	0	0	35	0	5	0	0	40	0	0	0	0	0	0	0	0	-	
Articulated Trucks %	10.1%	1.4%	0%	0%	0%	2.8%	0.2%	0%	0.6%	0%	0%	0.4%	0%	0%	0%	0%	0%	0%	0%	0%	11.2%	0%	0.7%	0%	0%	3.9%	0%	0%	0%	0%	0%	0%	0%	0%	-	
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	-	1	-	-	-	
Pedestrians %	-	-	-	-	-	0%	-	-	-	-	-	50%	-	-	-	-	-	-	33.3%	-	-	-	-	-	0%	-	-	-	-	-	-	16.7%	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	
Bicycles on Crosswalk %	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-

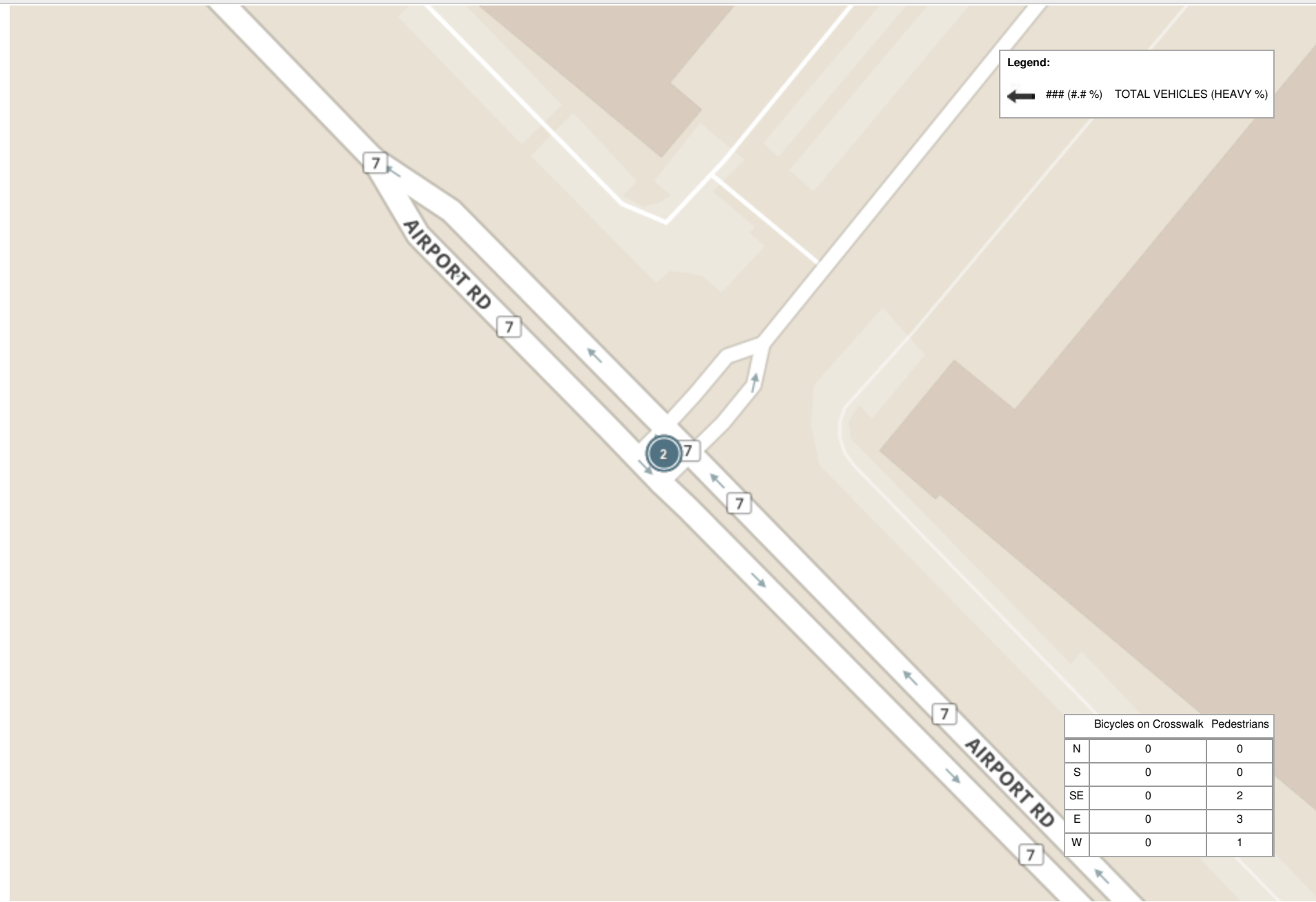


Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast (2.2 °C)

Start Time	N Approach KIPLING AVE							E Approach GARDINER EXPRESSWAY WB OFF RAMP							SE Approach GARDINER EXPRESSWAY EB ON RAMP [FROM NB KIPLING AV							S Approach KIPLING AVE							W Approach GARDINER EXPRESSWAY WB ON RAMP							Int. Total (15 min)
	Right	Thru	Bear Left	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Peds	Approach Total	Hard Right	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Bear Right	Thru	Left	U-Turn	Peds	Approach Total	
17:00:00	76	339	0	0	1	0	416	77	0	76	0	0	2	153	0	0	0	0	0	2	0	121	0	189	0	1	0	311	0	0	0	0	0	0	880	
17:15:00	56	304	0	0	0	0	360	55	0	76	0	0	2	131	0	0	0	0	0	3	0	118	0	181	0	0	0	299	0	0	0	0	0	0	790	
17:30:00	55	312	0	0	0	0	367	64	0	93	0	0	4	157	0	0	0	0	0	4	0	80	0	151	0	0	0	231	0	0	0	0	0	0	755	
17:45:00	37	353	0	0	0	0	390	64	0	105	0	0	1	169	0	0	0	0	0	1	0	97	0	148	0	0	0	245	0	0	0	0	0	0	804	
Grand Total	224	1308	0	0	1	0	1533	260	0	350	0	0	9	610	0	0	0	0	0	10	0	416	0	669	0	1	0	1086	0	0	0	0	0	0	3229	
Approach%	14.6%	85.3%	0%	0%	0.1%	-	-	42.6%	0%	57.4%	0%	0%	-	-	0%	0%	0%	0%	0%	-	38.3%	0%	61.6%	0%	0.1%	-	0%	0%	0%	0%	0%	-	-			
Totals %	6.9%	40.5%	0%	0%	0%	47.5%	8.1%	0%	10.8%	0%	0%	18.9%	0%	0%	0%	0%	0%	0%	0%	0%	12.9%	0%	20.7%	0%	0%	33.6%	0%	0%	0%	0%	0%	0%	0%	-		
PHF	0.74	0.93	0	0	0.25	0.92	0.84	0	0.83	0	0	0.9	0	0	0	0	0	0	0	0	0.86	0	0.88	0	0.25	0.87	0	0	0	0	0	0	0	-		
Heavy	9	37	0	0	0	46	13	0	19	0	0	32	0	0	0	0	0	0	0	0	33	0	32	0	0	65	0	0	0	0	0	0	-			
Heavy %	4%	2.8%	0%	0%	0%	3%	5%	0%	5.4%	0%	0%	5.2%	0%	0%	0%	0%	0%	0%	0%	0%	7.9%	0%	4.8%	0%	0%	6%	0%	0%	0%	0%	0%	0%	-			
Lights	215	1271	0	0	1	1487	247	0	331	0	0	578	0	0	0	0	0	0	0	0	383	0	637	0	1	1021	0	0	0	0	0	0	-			
Lights %	96%	97.2%	0%	0%	100%	97%	95%	0%	94.6%	0%	0%	94.8%	0%	0%	0%	0%	0%	0%	0%	0%	92.1%	0%	95.2%	0%	100%	94%	0%	0%	0%	0%	0%	0%	-			
Single-Unit Trucks	4	19	0	0	0	23	12	0	18	0	0	30	0	0	0	0	0	0	0	0	18	0	11	0	0	29	0	0	0	0	0	0	-			
Single-Unit Trucks %	1.8%	1.5%	0%	0%	0%	1.5%	4.6%	0%	5.1%	0%	0%	4.9%	0%	0%	0%	0%	0%	0%	0%	0%	4.3%	0%	1.6%	0%	0%	2.7%	0%	0%	0%	0%	0%	0%	-			
Buses	0	15	0	0	0	15	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	-			
Buses %	0%	1.1%	0%	0%	0%	1%	0%	0%	0.3%	0%	0%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	0%	1.8%	0%	0%	0%	0%	0%	0%	-			
Articulated Trucks	5	3	0	0	0	8	1	0	0	0	0	1	0	0	0	0	0	0	0	0	15	0	1	0	0	16	0	0	0	0	0	0	-			
Articulated Trucks %	2.2%	0.2%	0%	0%	0%	0.5%	0.4%	0%	0%	0%	0%	0.2%	0%	0%	0%	0%	0%	0%	0%	0%	3.6%	0%	0.1%	0%	0%	1.5%	0%	0%	0%	0%	0%	0%	-			
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	-	-	8	-	-	-	-	0	-	-	-	-	-	-	0	-	-		
Pedestrians%	-	-	-	-	-	0%	-	-	-	-	-	42.1%	-	-	-	-	-	-	-	42.1%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-		
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	-	-	2	-	-	-	-	0	-	-	-	-	-	-	0	-	-		
Bicycles on Crosswalk%	-	-	-	-	-	0%	-	-	-	-	-	5.3%	-	-	-	-	-	-	-	10.5%	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-		

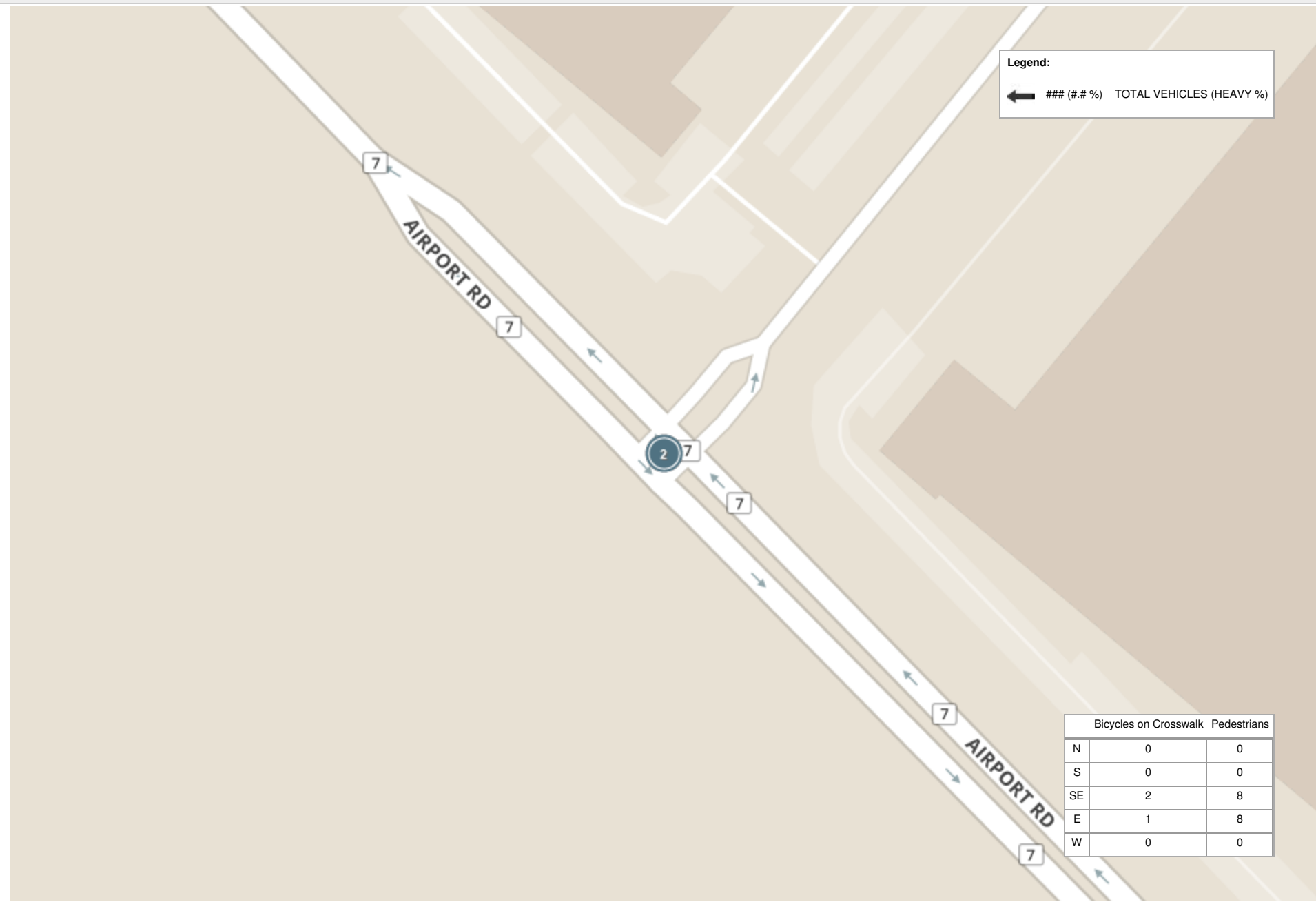


Peak Hour: 08:15 AM - 09:15 AM Weather: Snow (0.3 °C)





Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast (2.2 °C)



Appendix D – Future Total Traffic Assessment

ICM Unsignalized Intersection Capacity Analysis
 3: Site Access & Airport Road

08/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	3	3	1276	3	7	2
Future Volume (Veh/h)	3	3	1276	3	7	2
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)	3	3	1387	3	8	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None		None	
Median storage veh						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1406	1388			1390	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1406	1388			1390	
tC, single (s)	7.4	7.2			4.1	
tC, 2 stage (s)						
tF (s)	4.4	4.2			2.2	
p0 queue free %	97	97			98	
cM capacity (veh/h)	94	108			499	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	6	1390	10			
Volume Left	3	0	8			
Volume Right	3	3	0			
cSH	100	1700	499			
Volume to Capacity	0.06	0.82	0.02			
Queue Length 95th (m)	1.5	0.0	0.4			
Control Delay (s)	43.2	0.0	9.9			
Lane LOS	E		A			
Approach Delay (s)	43.2	0.0	9.9			
Approach LOS	E					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			77.3%	ICU Level of Service		D
Analysis Period (min)			15			

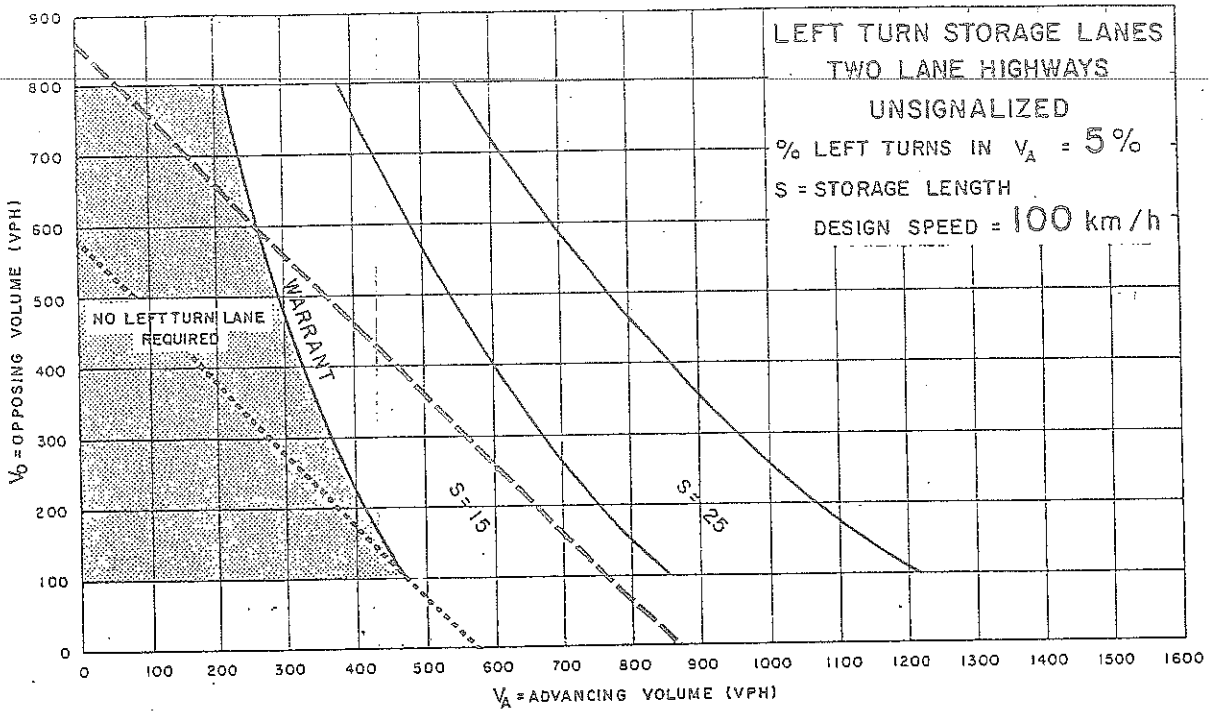
ICM Unsignalized Intersection Capacity Analysis
 3: Site Access & Airport Road

08/24/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	6	5	996	7	5	1643
Future Volume (Veh/h)	6	5	996	7	5	1643
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)	7	5	1083	8	5	1786
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	2883	1087			1091	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2883	1087			1091	
tC, single (s)	6.4	6.2			5.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			3.1	
p0 queue free %	61	98			99	
cM capacity (veh/h)	18	265			382	
Direction, Lane #						
	WB 1	NB 1	SB 1			
Volume Total	12	1091	1791			
Volume Left	7	0	5			
Volume Right	5	8	0			
cSH	29	1700	382			
Volume to Capacity	0.41	0.64	0.01			
Queue Length 95th (m)	10.4	0.0	0.3			
Control Delay (s)	194.5	0.0	0.0			
Lane LOS	F		A			
Approach Delay (s)	194.5	0.0	0.0			
Approach LOS	F					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			100.4%	ICU Level of Service		G
Analysis Period (min)			15			

Appendix E – Left Turn Storage Lane Warrant



--- TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

..... TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

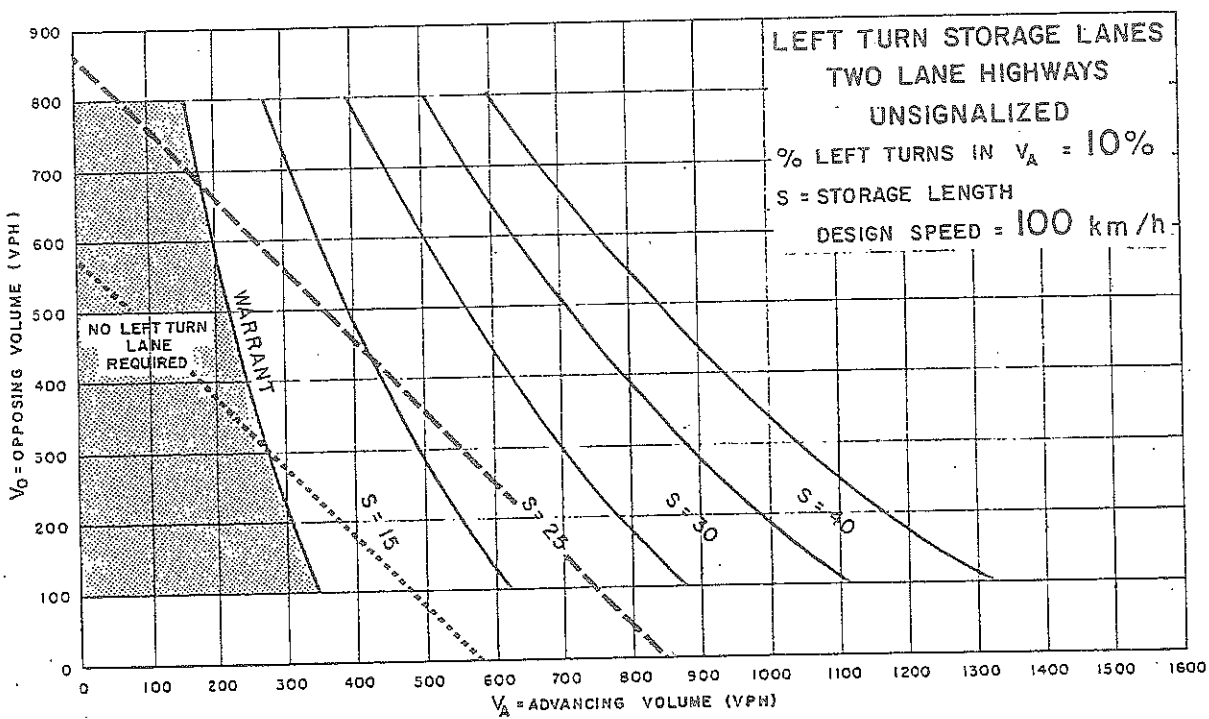


Figure EA-22

Appendix F – TAC Figure 2.3.3.2

Figure 2.3.3.2 Departure Sight Triangles

