

H.2 – Auxiliary Turn Lane Memorandum

Schedule “C” Class Environmental Assessment for Airport
Road from Braydon Boulevard / Stonecrest Drive to
Countryside Drive



Memorandum

Date: Thursday, August 13, 2020

Project: Airport Road Class Environmental Assessment – Stonecrest Drive / Braydon Blvd to Countryside Drive

To: Anthony Reitmeier, Veronica Restrepo

From: Dan Lu

Subject: Auxiliary Turn Lane Requirements as Part of Airport Road Improvements

1.0 Introduction

This memo provides a brief summary of the traffic analysis and findings for investigating the auxiliary turning lane requirements for Airport Road as part of the Class Environmental Assessment for 6-lane widening, between Stonecrest Drive / Braydon Blvd and Countryside Drive. Two questions are being answered in this memo:

- Whether auxiliary left turn lanes require extension, and
- Whether auxiliary right turn lanes are required in the post-widening conditions.

2.0 Methodology

In order to identify the implications of traffic operations in post-widening conditions, the following information and tools were used:

- Existing Traffic Volumes
- Existing Signal Timing Plans
- Long Range Transportation Forecast (by Peel Region)
- Synchro 9 Traffic Analysis Software

The traffic volumes and signal timing plans information was provided by Peel Region as of June 2016. The Long Range Transportation Forecast EMME modelling outputs were provided by Peel Region in August 2016. The forecast methodology for horizon year (2041) traffic volumes is described in Section 4 of this memo.

3.0 Existing Conditions

3.1 Existing Auxiliary Left Turn Lanes

Using existing traffic volumes and signal timing plans, the following tables (**Table 1** and **Table 2**) summarize the level of service and 95th percentile queue lengths of each left turn movement. The purpose of reviewing the existing level of service is to identify potential areas of concern.

Based on the analysis results there are no existing critical left turn movements that require storage lane extension for the AM and PM peak hours. All of the existing storage lanes are sufficient to absorb the 95th percentile left turn queues.

Table 1: Existing AM Peak Level of Service – Left Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Existing Storage (m)*
Stonecrest Drive/Braydon Blvd	NBL	27	0.45	D	20.1	80
	SBL	13	0.03	A	2.2	75
Eagle Plains Drive	NBL	56	0.13	B	3.4	75
Camrose Street	NBL	18	0.05	B	1.1	75
Yellow Avens Blvd/Brock Drive	NBL	34	0.17	C	17.2	75
	SBL	18	0.03	A	4.7	60
Treeline Blvd	SBL	45	0.04	A	1.0	50
Countryside Drive	NBL	53	0.18	C	23.9	110
	SBL	48	0.10	A	6.7	130

*Existing Storage measurements include parallel lane and some taper which is part of deceleration lane. Green cells denote that the existing storage is greater than the 95th percentile queues.

Table 2: Existing PM Peak Level of Service – Left Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Existing Storage (m)*
Stonecrest Drive/Braydon Blvd	NBL	134	0.34	A	12.1	80
	SBL	45	0.32	B	14.8	75
Eagle Plains Drive	NBL	135	0.18	B	4.9	75
Camrose Street	NBL	34	0.04	A	1.1	75
Yellow Avens Blvd/Brock Drive	NBL	123	0.24	A	30.1	75
	SBL	28	0.10	A	6.1	60
Treeline Blvd	SBL	91	0.14	B	3.7	50
Countryside Drive	NBL	65	0.15	A	4.0	110
	SBL	15	0.05	A	2.2	130

*Existing Storage measurements include parallel lane and some taper which is part of deceleration lane. Green cells denote that the existing storage is greater than the 95th percentile queues.

3.2 Existing Auxiliary Right Turn Lanes

Similarly, the following tables (**Table 3** and **Table 4**) illustrate the levels of service for right turn movements for the AM and PM peaks.

Table 3: Existing AM Peak Level of Service – Right Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Storage (m)*
Stonecrest Drive/Braydon Blvd	NBR	127	0.15	A	3.3	600**
	SBR	7	0.01	A	0.0	75
Eagle Plains Drive	SBR	83	0.05	A	0.0	30
Camrose Street	SBR	4	0.00	A	0.0	25
Yellow Avens Blvd/Brock Drive	NBR	48	0.05	B	10.2	65
	SBR	9	0.01	A	0.4	30
Treeline Blvd	NBR	15	0.33	A	0.0	60
Countryside Drive	NBR	25	0.03	B	9.6	50
	SBR	93	0.10	A	2.7	130

* Existing Storage measurements include parallel lane and some taper which is part of deceleration lane.

**Continuous NBR lane based on 7-lane cross section south of Stonecrest/Braydon
 Green cells denote that the existing storage is greater than the 95th percentile queues.

Table 4: Existing PM Peak Level of Service – Right Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Storage (m)*
Stonecrest Drive/Braydon Blvd	NBR	303	0.28	A	2	600**
	SBR	17	0.02	A	0.9	75
Eagle Plains Drive	SBR	55	0.04	A	0	30
Camrose Street	SBR	10	0.01	A	0	25
Yellow Avens Blvd/Brock Drive	NBR	141	0.12	A	12	65
	SBR	14	0.01	A	0.6	30
Treeline Blvd	NBR	30	0.20	A	0	60
Countryside Drive	NBR	72	0.08	A	0	50
	SBR	83	0.09	A	0	130

* Existing Storage measurements include parallel lane and some taper which is part of deceleration lane.

**Continuous NBR lane based on 7-lane cross section south of Stonecrest/Braydon
 Green cells denote that the existing storage is greater than the 95th percentile queues.

The analysis results also show that the right turn lanes experience very little queuing along the study area. As a result, there are potential opportunities to convert to these dedicated right turn lanes into shared through lanes / right turns.

4.0 Traffic Volume Forecast

Traffic forecasts were developed using data extracted from the Region’s EMME macro planning model on a link level, spatially translated to match local Synchro intersection approach growth rates, and subsequently balanced using the Fratar/Furness method.

This information was provided as part of the Peel Region Development Charge Update and Intersection Improvement study of 2016-2017, where traffic volumes forecast were produced on a Regional level for all regional road intersections. The turning movement forecast volumes for Airport Road were further refined for turning movements where volumes may be overestimated.

4.1.1 Region’s Transportation Forecast

Using EMME model outputs provided by Peel Region, the Compound Annual Growth Rates (CAGR) for the Airport Road study area is listed below. These link growth rates were extracted from the model outputs provided by the Region in August 2016.

Table 5 illustrate the 2021 growth rates, which were calculated based on the Region’s EMME macro model link comparison between 2011 and 2021 horizons.

Table 5: Link Level Traffic Forecast – 2021 Horizon Year

Name	2011-2021 - CAGR							
	NB in	NB out	SB in	SB out	EB in	EB out	WB in	WB out
Eagle Plains Drive	4.6%	4.6%	3.1%	3.1%	0.0%	0.0%	0.0%	0.0%
Camrose Street	4.6%	4.8%	2.8%	3.1%	0.0%	0.0%	0.0%	0.0%
Braydon Blvd/Stonecrest Blvd	5.0%	4.6%	3.1%	1.9%	0.0%	0.0%	0.0%	0.0%
Brock Drive/Yellow Avens Blvd	4.8%	4.8%	2.8%	2.8%	0.0%	0.0%	0.0%	0.0%
Treeline Blvd	4.8%	4.8%	2.8%	2.8%	0.0%	0.0%	0.0%	0.0%
Countryside Drive	4.8%	0.0%	3.4%	2.8%	4.7%	6.7%	9.4%	9.3%

Table 6 illustrates the 2031 growth rates, which were calculated based on the Region’s EMME macro model link comparison between 2021 and 2031 horizons.

Table 6: Link Level Traffic Forecast – 2031 Horizon Year

Name	2021 - 2031 without GTAW - CAGR							
	NB in	NB out	SB in	SB out	EB in	EB out	WB in	WB out
Eagle Plains Drive	2.5%	2.5%	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%
Camrose Street	2.5%	2.9%	4.3%	3.0%	0.0%	0.0%	0.0%	0.0%
Braydon Blvd/Stonecrest Blvd	2.2%	2.5%	3.0%	2.2%	0.6%	0.0%	0.0%	2.4%
Brock Drive/Yellow Avens Blvd	2.9%	2.9%	4.3%	4.3%	0.0%	0.0%	0.0%	0.0%
Treeline Blvd	2.9%	2.9%	4.3%	4.3%	0.0%	0.0%	0.0%	0.0%
Countryside Drive	2.9%	4.2%	3.4%	4.3%	1.0%	1.5%	3.4%	0.4%

Based on the above link growth rates, the following turning movement level forecasting procedures were taken.

Table 7 illustrates the 2041 growth rates, which were calculated based on the Region’s EMME macro model link comparison between 2031 and 2041 horizons.

Table 7: Link Level Traffic Forecast – 2041 Horizon Year

Name	2031 - 2041 without GTAW - CAGR							
	NB in	NB out	SB in	SB out	EB in	EB out	WB in	WB out
Eagle Plains Drive	1.7%	1.7%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%
Camrose Street	1.7%	1.9%	0.5%	0.3%	0.0%	0.0%	0.0%	0.0%
Braydon Blvd/Stonecrest Blvd	1.9%	1.7%	0.3%	0.1%	0.1%	0.0%	0.0%	1.0%
Brock Drive/Yellow Avens Blvd	1.9%	1.9%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%
Treeline Blvd	1.9%	1.9%	0.5%	0.5%	0.0%	0.0%	0.0%	0.0%
Countryside Drive	1.9%	3.8%	0.5%	0.5%	0.4%	0.9%	3.4%	0.7%

4.1.2 Overall Forecasting Process

The high level steps taken for the region-wide traffic forecast are described below (refer to **Exhibit 1**).

- Calculate link volumes growths rates between 2011, 2021, 2031 and 2041 scenarios, based on the assumption that GTA West Highway would not get built.
- Apply screening/adjustments on link growth rates to avoid locations with very high growth percentages
 - Area north of Mayfield capped at 5% CAGR
 - Mature neighbourhoods in Mississauga were capped at 0%
 - All other links were capped at 10% CAGR
 - Note: the above “Capping” conditions did not apply to the Airport Road area since the forecast growth rates were not exceptionally high.
- Calculate approach volumes based on existing turning movement counts
- Apply EMME link volumes growth rates onto TMC approaches
- Since inbound and outbound approaches received different levels of growth, the Fratar/Furness balancing method was applied to redistribute turning movement volumes based on forecast approach volumes
- Upon completing the above exercise, each turning movement resulted in an individual effective growth rate with respect to the approach growth rates from the planning model.

Exhibit 1: Regional Planning Model Output

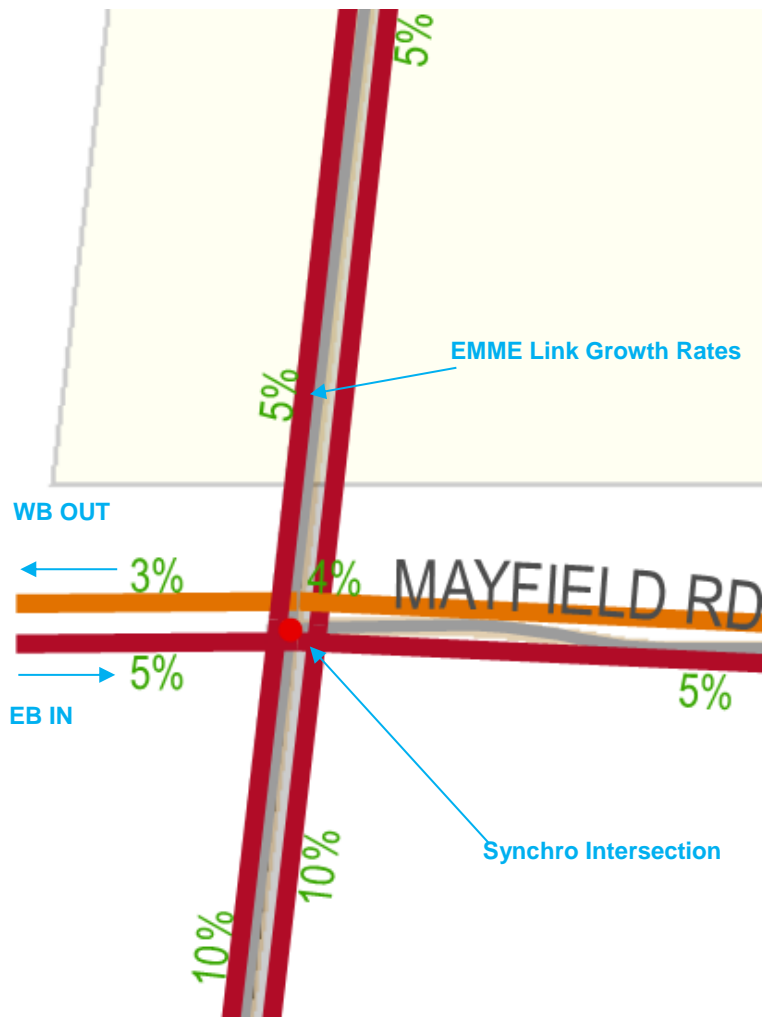


Table 8 provides a sample work flow of the Fratar/Furness adjustment.

Table 8: Fratar/Furness Method Sample Calculations

Existing Turning Movement Counts												Existing	
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	Intersection Total Volume	
117	54	11	22	649	159	103	619	276	76	213	17	2316	

Input Tables								EMME		
Target Volumes								Total IN	Total Out	Intersection Total Volume
NB in	NB out	SB in	SB out	EB in	EB out	WB in	WB out	3222	3190	3222
241	259	982	1192	1520	986	478	754			

Step 2 Iterations	South Leg	South Leg	North Leg	West Leg	East leg	IN	Target Factor				
			54	117	11			→	182	241	1.3235
		649		159	22			→	830	982	1.1832
		276	103		619			→	998	1520	1.5235
		76	17	213				→	306	478	1.5632
	↓	↓	↓	↓							
Out	1001	174	489	652							
Target	1192	259	754	986			Error 27.8%				
Factor	1.1906	1.4889	1.5413	1.5120			Repeat until target reached				

Target Error < 0.5%

Fratarred Turning Movement Volume											
NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
162	65	12	26	717	236	170	947	388	93	356	25

Fratarred Link Volume								Error	Furnished		
NB in	NB out	SB in	SB out	EB in	EB out	WB in	WB out	31.3	Total IN	Total Out	Intersection Total Volume
239	259	980	1199	1506	986	474	754		3198	3198	3198

Existing	Forecast	Growth Rates																															
<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>830 SB IN</p> <p>174 NB OUT</p> <table border="1" style="margin: auto;"> <tr><td>140</td><td>169</td><td>649</td><td>22</td><td>17</td></tr> <tr><td>103</td><td>619</td><td>276</td><td>117</td><td>54</td><td>11</td></tr> </table> <p>489 WB OUT</p> <p>998 EB IN</p> <p>1001 SB OUT</p> <p>182 NB IN</p> </div> <div style="text-align: center;"> <p>980 SB IN</p> <p>259 NB OUT</p> <table border="1" style="margin: auto;"> <tr><td>140</td><td>286</td><td>717</td><td>26</td><td>25</td></tr> <tr><td>170</td><td>947</td><td>388</td><td>182</td><td>66</td><td>12</td></tr> </table> <p>474 WB IN</p> <p>986 EB OUT</p> <p>1199 SB OUT</p> <p>239 NB IN</p> </div> <div style="text-align: center;"> <p>2% SB IN</p> <p>4% NB OUT</p> <table border="1" style="margin: auto;"> <tr><td>140</td><td>4%</td><td>1%</td><td>2%</td><td>4%</td></tr> <tr><td>5%</td><td>4%</td><td>3%</td><td>3%</td><td>2%</td><td>1%</td></tr> </table> <p>4% WB OUT</p> <p>4% EB IN</p> <p>2% SB OUT</p> <p>3% NB IN</p> </div> </div>	140	169	649	22	17	103	619	276	117	54	11	140	286	717	26	25	170	947	388	182	66	12	140	4%	1%	2%	4%	5%	4%	3%	3%	2%	1%
140	169	649	22	17																													
103	619	276	117	54	11																												
140	286	717	26	25																													
170	947	388	182	66	12																												
140	4%	1%	2%	4%																													
5%	4%	3%	3%	2%	1%																												

Notes: 2021 Forecast Volumes were calculated based on macro model growth between 2011-2021
 2031 Forecast Volumes were calculated based on macro model growth between 2021-2031
 2041 Forecast Volumes were calculated based on macro model growth between 2031-2041

4.1.3 Refinements

Upon developing the forecast volumes for turning movements, adjustments were considered and made to the forecast volume as a second level check, to ensure the percentage-based forecast volumes resulted in reasonable values relative to the capacity of arterial and collector roads. Examples of potential issues can be noted for cases where:

- High compound annual growth rates (CAGR) were derived between 2011 and 2021 EMME Model horizons due to various development projections
- Some developments planned between 2011 and 2021 were already built by 2016, the existing traffic volumes are closer to 2021 forecast levels than 2011.

The adjustments made to growth rates include:

- Left turns with future volumes between 400-800 vph were capped at 5% CAGR,
- Left turns with future volumes greater than 800 vph were capped at 2% CAGR,
- All movements with existing volume greater than 100 vph were capped at 10% CAGR,
- All movements where forecast volumes were lower than existing were assumed no growth instead

The above adjustments were made to each of the 2021, 2031 and 2041 forecasts, another adjustment made specifically to the turning movement forecast for the 2041 horizon year was:

- Through movements with future volumes greater than 4000 vph were capped at 2% CAGR.

All adjustments and caps to growth rates were reviewed and agreed with the Region as part of the Peel DC study.

Based on the above exercise, the resulting turning movement forecasts for the left turn and right turn movements along Airport Road are illustrated in **Table 9** and **Table 10**.

Table 9: Forecast Turning Movement Volume – Left Turns

Intersection Name	Movement	Existing AM	2041 AM	Existing PM	2041 PM
Stonecrest Drive/Braydon Blvd	NBL	27	52	134	197
	SBL	13	13	45	48
Eagle Plains Drive	NBL	56	74	135	169
Camrose Street	NBL	18	18	34	48
Yellow Avens Blvd/Brock Drive	NBL	34	44	123	149
	SBL	18	18	28	30
Treeline Blvd	SBL	45	52	91	125
Countryside Drive	NBL	53	53	65	212
	SBL	48	140	15	16

There was one adjustment required for the right turn volumes, where the NB observes a moderate link forecast leading to an increase NBR volume at the Stonecrest Drive/Braydon Blvd intersection. The movement also observes moderately high existing volumes. Since the neighbourhood east of Airport Road is largely built up and does not have any plans for intensification for the 2041 horizon year, the

existing volumes were adopted to avoid over estimating the effects of traffic accessing the neighbourhood streets. **Table 10** illustrates the resulting right turn volumes.

Table 10: Forecast Turning Movement Volume – Right Turns

Intersection Name	Movement	Existing AM	2041 AM	Existing PM	2041 PM
Stonecrest Drive/Braydon Blvd	NBR	127	136	303	303
	SBR	7	11	17	18
Eagle Plains Drive	SBR	83	83	55	60
Camrose Street	SBR	4	21	10	11
Yellow Avens Blvd/Brock Drive	NBR	48	69	141	182
	SBR	9	9	14	15
Treeline Blvd	NBR	15	15	30	33
Countryside Drive	NBR	25	52	72	86
	SBR	93	105	83	180

The full set of turning movement volumes for all movements are illustrated in **Appendix A**.

5.0 Horizon Year Auxiliary Lane Needs

Based on the horizon year forecast, the future traffic conditions are estimated using Synchro 9, by modifying the existing road configuration (to 6 through lanes) and importing the forecast volumes. Minor traffic signal adjustments were performed where required (splits and offsets), to exhaust lower cost operational options prior to identifying more costly improvements such as advanced left turn phases and auxiliary turning lanes. The following treatments were made to the turning lane configurations along Airport Road, in addition to providing 6 through lanes:

- Left turn lanes – maintain existing auxiliary lanes and storage lengths
- Right turn lanes – convert existing auxiliary lanes to shared through-right lanes.
 - For the boundary intersection at Countryside Drive (SBR), the existing auxiliary right turn lane is converted to allow shared through-rights
 - At Stonecrest Drive/Braydon Blvd (NBR), the existing continuous right turn lane is converted to allow shared through-rights

The operation measures of effectiveness (MOEs) are illustrated in the following sub sections.

5.1 Horizon Year Left Turn Lanes

Table 11 and **Table 12** illustrate the turning movement level of service for left turns along Airport Road, for the 2041 horizon during AM and PM peaks.

Table 11: 2041 AM Peak Level of Service – Left Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Existing Storage (m)	Extension Required?
Stonecrest Drive/Braydon Blvd	NBL	52	0.92	F	35.3	80	No
	SBL	13	0.08	B	1.7	75	No
Eagle Plains Drive	NBL	74	0.40	E	12.3	75	No
Camrose Street	NBL	18	0.12	D	2.9	75	No
Yellow Avens Blvd/Brock Drive	NBL	44	0.76	F	30.9	75	No
	SBL	18	0.07	A	1.3	60	No
Treeline Blvd	SBL	52	0.07	A	1.5	50	No
Countryside Drive	NBL	53	1.05	F	38.4	110	No
	SBL	140	0.85	D	51.4	130	No

Table 12: 2041 PM Peak Level of Service – Left Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Existing Storage (m)	Extension Required?
Stonecrest Drive/Braydon Blvd	NBL	197	0.80	D	51.1	80	No
	SBL	48	0.27	B	5.8	75	No
Eagle Plains Drive	NBL	169	0.49	C	18	75	No
Camrose Street	NBL	48	0.11	B	2.7	75	No
Yellow Avens Blvd/Brock Drive	NBL	149	0.96	E	23.7	75	No
	SBL	30	0.52	D	8.3	60	No
Treeline Blvd	SBL	125	0.32	C	9.4	50	No
Countryside Drive	NBL	212	1.42	F	87.3	110	No
	SBL	16	0.29	C	2.2	130	No

Based on the above, there are no left turn lanes that require storage extensions. Some of the turning movements are expected to experience higher delays leading to LOS ‘E’ or ‘F’ during the peak hours, caused by increased opposing through volumes. However, it is recognized that the low projected volumes will not build a significant queue that would require storage extension.

5.2 Horizon Year Right Turn Lanes

Table 13 and **Table 14** illustrate the turning movement level of service for right turns along Airport Road, for the 2041 horizon during AM and PM peaks.

Table 13: 2041 AM Peak Level of Service – Right Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Aux RTL Required?
Stonecrest Drive/Braydon Blvd	NBR	136	0.48	B	90.8	No
	SBR	11	0.99	C	269	No
Eagle Plains Drive	SBR	83	0.32	A	0	No
Camrose Street	SBR	21	0.01	A	0	No
Yellow Avens Blvd/Brock Drive	NBR	69	0.38	C	88.9	No
	SBR	9	0.79	A	57.6	No
Treeline Blvd	NBR	15	0.12	A	0	No
Countryside Drive	NBR	52	0.08	A	7.8	No
	SBR	105	0.15	A	1.9	No

Table 14: 2041 PM Peak Level of Service – Right Turn Lanes

Intersection Name	Movement	Volume	v/c Ratio	LOS	95th Queue (m)	Aux RTL Required?
Stonecrest Drive/Braydon Blvd	NBR	562	1.14	F	325	Yes*
	SBR	18	0.84	D	179.7	No
Eagle Plains Drive	SBR	60	0.23	A	0	No
Camrose Street	SBR	11	0.20	A	0	No
Yellow Avens Blvd/Brock Drive	NBR	182	0.75	B	195.9	No
	SBR	15	0.47	A	82.4	No
Treeline Blvd	NBR	33	0.27	A	0	No
Countryside Drive	NBR	86	0.13	B	10.9	No
	SBR	180	0.25	A	2.8	No

*Although the LOS does not warrant an auxiliary right turn lane, one is recommended due to high right turn volumes.

Based on the above, there are no auxiliary right turn lanes required as part of the 6-lane widening.

Notwithstanding this conclusion, through discussions with Peel Region internal stakeholders, it is recommended that the northbound right-turn lane at Braydon Boulevard be reinstated and included in the proposed design due to the high right turn volumes in the PM peak period. At all other intersections along the study corridor, it was agreed to convert the existing right turn lanes into through-right lanes as part of the Airport Road widening improvements.

6.0 Conclusions and Recommendations

Based on the analysis illustrated above, the following configurations are recommended for the left turn and right turn lanes along Airport Road, as part of the 6-lane widening preferred alternative:

- Left Turn Lanes – Maintain existing parallel lane lengths

- Right Turn Lanes – Convert existing auxiliary right turn lanes to continuous shared through-right lanes, with the following exception:
 - At Stonecrest Drive/Braydon Blvd (NBR), the existing auxiliary right turn lane is recommended to be maintained, in addition to the roadway widening;
 - For the boundary intersection at Countryside Drive (NBR), the existing auxiliary right turn lane is recommended to be maintained as a must-right movement as this is the limit of the Airport Road widening;
 - To address the capacity issue at Countryside Drive, a protected left turn is recommended on NBL to accommodate the 95th percentile queues in 2041.

Appendix A – Turning Movement Volumes

Intersection Name	Movement	2017 AM	2017 PM	2021 AM	2021 PM	2031 AM	2031 PM	2041 AM	2041 PM
Airport Road & Sandalwood Pkwy E/Humberwest Pkwy	EBL	136	261	165	261	268	261	268	261
	EBT	624	293	682	339	860	492	860	492
	EBR	279	107	350	161	325	144	325	144
	WBL	38	66	38	212	38	211	38	211
	WBT	177	654	177	772	230	978	230	978
	WBR	78	321	78	430	80	417	80	417
	NBL	94	318	94	318	141	400	141	400
	NBT	337	1181	337	1193	402	1397	402	1397
	NBR	7	53	7	120	7	238	7	238
	SBL	254	64	254	64	328	96	328	96
	SBT	1544	686	1604	768	1767	975	1767	975
SBR	137	113	196	113	478	113	478	113	
Airport Road & Stonecrest Dr/Braydon Blvd	EBL	28	31	28	31	32	31	32	33
	EBT	21	35	21	35	21	35	21	37
	EBR	128	74	130	89	131	122	133	137
	WBL	385	212	385	234	385	289	385	323
	WBT	40	37	40	37	40	37	40	39
	WBR	23	49	23	49	24	49	24	52
	NBL	28	138	33	155	42	182	52	197
	NBT	531	1517	646	1668	826	2120	995	2282
	NBR	128	309	134	332	132	473	136	562
	SBL	13	45	13	45	13	45	13	48
	SBT	1575	850	1777	1056	2377	1357	2451	1740
SBR	7	17	7	17	11	17	11	18	
Airport Road & Eagle Plains Drive	EBL	28	28	28	28	28	28	28	31
	EBR	130	77	132	80	137	85	137	97
	NBL	57	136	61	140	68	152	74	169
	NBT	461	1268	556	1435	721	1933	862	2192
	SBT	1429	702	1624	851	2205	1111	2281	1463
	SBR	83	55	83	55	83	55	83	60
Airport Road & Camrose Street	EBL	7	3	7	3	50	3	61	3
	EBR	62	14	62	14	62	18	62	20
	NBL	18	34	18	34	18	44	18	48
	NBT	513	1232	618	1388	783	1861	948	2108
	SBT	1596	734	1779	876	2704	1132	2840	1480
	SBR	4	10	4	10	19	10	21	11

Airport Road Class Environmental Assessment – Stonecrest Drive / Braydon Blvd to Countryside Drive
 Auxiliary Turn Lane Requirements as Part of 6-lane Widening on Airport Road

Intersection Name	Movement	2017 AM	2017 PM	2021 AM	2021 PM	2031 AM	2031 PM	2041 AM	2041 PM
Airport Road & Yellow Avens Blvd/Brock Dr	EBL	5	16	5	16	5	16	5	17
	EBT	6	6	6	6	6	6	6	6
	EBR	131	37	135	41	148	50	149	58
	WBL	186	75	195	81	228	95	232	106
	WBT	2	5	2	5	2	5	2	5
	WBR	37	28	37	28	37	28	37	30
	NBL	35	124	37	128	42	138	44	149
	NBT	440	1191	542	1340	759	2087	925	2363
	NBR	49	143	54	149	66	166	69	182
	SBL	18	28	18	28	18	28	18	30
	SBT	1244	698	1394	852	2155	1172	2267	1532
Airport Road & Treeline	SBR	9	14	9	14	9	14	9	15
	WBL	53	14	53	14	53	14	53	15
	WBR	81	40	89	42	101	47	110	52
	NBT	420	981	512	1095	701	1692	862	1934
	NBR	15	30	15	30	15	30	15	33
	SBL	45	93	47	100	51	110	52	125
Airport Road & Countryside Dr	SBT	1101	641	1231	779	1902	1065	2000	1421
	EBL	115	146	115	193	120	343	173	475
	EBT	234	187	299	269	323	304	323	385
	EBR	61	43	73	43	58	85	58	282
	WBL	134	130	175	130	322	141	418	216
	WBT	218	344	312	428	358	468	439	516
	WBR	30	37	30	45	58	35	174	38
	NBL	60	67	90	73	53	110	53	212
	NBT	399	885	418	951	634	1426	837	1593
	NBR	29	75	45	87	52	78	52	86
	SBL	51	17	61	27	86	15	140	16
Airport Road & Lacoste Blvd	SBT	837	541	942	598	1377	852	1405	1208
	SBR	97	96	113	149	105	164	105	180
	WBL	434	398	488	398	592	524	592	524
	WBR	59	65	59	65	59	65	59	65
	NBT	485	936	515	1060	889	1586	889	1586
	NBR	166	374	181	374	252	405	252	405
	SBL	48	41	48	41	48	41	48	41
	SBT	829	718	893	718	1162	1135	1162	1135