

Technical Memorandum



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To: File
From: Steve Taylor
CC:
Date: August 5, 2008 Revision No. 1
Project: Interprovincial Bridge Crossings
Project No.: 2006-029
Client Project No.: n/a
Re: Traffic Modelling and Forecast Trip Assignment

This technical memorandum summarizes the traffic modelling and forecast trip assignment for each of the 10 crossing corridors. Attached to this memorandum is a summary of the modelling runs dated May 31, 2008. The modelling has utilized the TRANS EMME 3 model. The forecast link volumes are based on identified improvements to the road network that will occur in the official plan horizon. It also includes the capacity of links on the network and restricts demand where capacity is not available within the local road network. The modelling reflects a regional scale analysis and provides a true distribution of trips to the network, but does not reflect a detailed level of analysis such as individual turning movement level of service. The detailed level of service analyses will be completed in Phase 2 of the study. During Stage 2, specific green times available to individual movements will be modelled to optimize the effectiveness of turning manoeuvres and establish storage lane requirements etc.

Table 1 summarizes the link volumes forecasted in the EMME 3 model and our estimate of a reasonable capacity. The links operating at or near capacity will operate at a level of service (LOS) D/E in the peak hour. Three traffic volume numbers are presented in the table below:

1. New Trips – this is the number of trips that occur on each roadway, as dispersed from the bridges
2. Existing Trips – this is the number of trips that would result regardless of bridges being present
3. Total Trips – this is the total number of trips on each roadway (new trips + existing trips)

With links that include an HOV lane, the HOV lane is assumed to operate at a lower lane density.

We have also summarized the conclusion of whether the EMME 3 modelling results should be able to be accommodated by the assigned links. Based on this analysis, it is our opinion that generally all links can accommodate the forecast demand and that the current alternatives are reasonable and technically feasible.

With respect to the Holly Acres Road connection, this alternative assumes minor widening of Holly Acres Road to provide turn lanes at all intersections and a 4-lane divided cross section between Carling Avenue and Richmond Road. From the interchange northerly, the roadway is currently a 4-lane divided cross section. This will include a dedicated left turn lane for the N-E move to Highway 417 (from the north to the east) and to side streets between Highway 417 and Carling Avenue. A typical 4-lane divided arterial has a level of daily traffic of 35,000 vehicles (reference City of Ottawa guidelines). The forecast AADT along Holy Acres is estimated to be approximately 22,000 vehicles.

Table 1
Link Volumes and Capacity Review

Alternative	Link	Direction	# New Trips	# Existing Trips	# Total Trips	Capacity (Total for specific direction)	Acceptable
Alt 1 - Pink/Riddell	Bridge	WB	831	0	831	1200	y
	Riddell	WB	471	13	484	900	y
	March	WB	287	81	368	900	y
		SB	142	1569	1711	1800	y
	Dunrobin	NB	42	251	293	900	y
	March Valley	SB	360	107	467	700	y
Alt 2 - Boul. Des Allumettieres-Riddell	Bridge	WB	852	0	852	1200	y
	Riddell	WB	491	8	499	900	y
	March	WB	295	83	378	900	y
		SB	150	1562	1712	1800	y
	Dunrobin	NB	46	247	293	900	y
	March Valley	SB	361	94	455	700	y
Alt 3 - LacDeschenes/Moodie/417	Bridge	SB	2015	0	2015	2400	y
	Carling	WB	277	602	879	900	y
		EB	387	751	1138	1800	y
	Moodie	SB	1351	238	1589	1800	y
	417	WB	462	3910	4372	7750	y
		EB	363	7991	8354	7750	Y (at capacity)
	416	SB	323	-	unknown	4000	y
Alt 4 - Lac Deschenes/HollyAcres/417/416	Bridge	SB	2177	0	2177	2400	y
	Carling	WB	308	582	890	1800	y
		EB	270	1241	1511	1800	y
	417	WB	490	4259	4749	7750	y
		EB	300	7405	7705	7750	Y (at capacity)
	Holly Acres	SB	1463	300	1763	1800	Y (at capacity)_
	416	SB	544	1704	2248	4000	y
	Corkstown	SB	136	8	144	600	y
Alt 5 - Kettle Island							Y (at capacity assume 2400)
	Bridge	SB	2763	0	2763	2400	
	Rockcliffe	WB	514	810	1324	1200	Y (at capacity assume 1200)

			EB	379	11	390	1200	y
		Aviation	SB	1113	153	1266	1600	y
		417	EB	300	3129	3429	6000	y
		St.Laurent	SB	282	159	441	600	y
Alt 6 - Lower Duck Island		Bridge	SB	2471	0	2471	2400	Y (at capacity assume 2400)
		174	WB	1181	3914	5095	6000*	y
			EB	876	2051	2927	6000*	y
		Jeanne D'Arc	SB	291	326	617	900	y
Alt 7 - Gatineau Airport		Bridge	SB	2312	0	2312	2400	y
		174	WB	1471	3496	4967	6000*	y
			EB	841	2101	2942	6000*	y
		Jeanne D'Arc	SB	283	322	605	900	y
Alt 8 - Tenth Line		Bridge	SB	2252	0	2252	2400	y
		174	WB	1034	1336	2370	6000*	y
		10th Line	SB	450	276	726	900	y
		St.Joseph	WB	276	644	920	900	y
			EB	124	356	480	900	y
Alt 9 - Petrie Island		Bridge	SB	2335	0	2335	2400	y
		174	WB	1475	1854	3329	6000*	y
			EB	47	302	349	1200	y
		Trim	SB	252	251	503	1800	y
		Old Mtl.	EB	21	121	142	900	y
		St.Joseph	WB	217	441	658	900	y
Alt 10 - Masson/Cumberland		Bridge	SB	1552	0	1552	2400	y
		174	WB	464	690	1154	1800*	y
			EB	41	258	299	900	y
		Old Mtl. Rd	WB	578	349	927	900	y
		Dunning Rd	SB	469	9	478	900	y
		Innes Rd	WB	149	-	unknown	900	y
Notes								
SB		Southbound						
WB		Westbound						
EB		Eastbound						
Unknown		Traffic volumes unavailable from model outputs.						
*		Assumes Widening of roadway by 1 lane/direction						