

## **APPENDIX H**

### **Construction Staging Cost Estimates**

\$ 3,000 m2, conservative compared to MTO Parametric Guideline  
5.00% Ontario Discount rate

Description	Stage 1 Bridge Width (m)	Stage 1 Bridge Length (m)	Stage 1 Bridge Area (m <sup>2</sup> ) 2015	Realign Hwy 400 for Existing 6 Lanes, Staging Costs 2015, Note 1	Stage 1 Capital Costs, basic road and bridge 2015, Note 2	Stage 1 Maintenance Costs 25 Year 2015	Stage 1 25 year Structure Renewal Cost	Stage 1 Median Estimated Realignment Cost Sharing with MTO 2015, Note 1	Stage 1 Total Costs 2015	Stage 2 To 7 Lanes Cross 10 Lane Hwy 400 Costs, basic road and bridge 2015	Interchange Ramps and Auxiliary Lanes 2015, estimated	Stage 2 Throw Away Capital Costs to Implement Stage 2 and Interchange Ramps 2015	Stage 2 Potential 50% Bridge Cost Sharing with MTO 2015	Total Stage 2 Capital Costs 2015	Stage 2 - Present Value (2015)	Total Stage 1 plus Stage 2 Present Value	Other Pro's/Con's	General Comments
Option 1 - Five Lanes Over 6 lane realigned Existing Hwy 400	32.5	38.9	1,264.25	\$ 7.50	\$ 15.77	\$ 3.26	\$ 1.12	\$ 1.00	\$ 26.64	\$ 14.78	\$ 15.00	\$ 5.00	\$ 5.54	\$ 29.23	\$ 8.63	\$ 35.28	Not building structure that won't be used for at least 25 years until Hwy 400 is widened	MTO constructing concrete medians in 2017, see NOTE 1.
Option 2 - Five Lanes Over Future 10 lane realigned Existing Hwy 400	32.5	77.8	2,528.50	\$ 7.50	\$ 23.35	\$ 5.81	\$ 2.24	\$ 1.00	\$ 37.90	\$ 7.19	\$ 15.00	\$ 2.00	\$ 1.75	\$ 22.44	\$ 6.63	\$ 44.53	Small savings by minimizing future throw away costs, but at higher initial cost	Hwy widening anticipated in 25 years but MTO hasn't committed to schedule
Option 3 - Seven Lanes Over 6 lane realigned Existing Hwy 400	40.0	38.9	1,556.00	\$ 7.50	\$ 19.42	\$ 5.57	\$ 1.38	\$ 1.00	\$ 32.87	\$ 11.09	\$ 15.00	\$ 5.00	\$ 4.67	\$ 26.42	\$ 7.80	\$ 40.67	Not building structure that won't be used for 25 years until Hwy 400 is widened. 7 lanes isn't needed until the interchange built, if ever.	Without interchange 7 lane crossing may never be needed.
Option 4 - Seven Lanes Over Future 10 lane realigned Existing Hwy 400	40.0	77.8	3,112.00	\$ 7.50	\$ 28.76	\$ 8.71	\$ 2.76	\$ 1.00	\$ 46.73	\$ -	\$ 15.00	\$ 2.00	\$ -	\$ 17.00	\$ 5.02	\$ 51.75	Small savings by minimizing future throw away costs, but at highest initial cost	Interchange cannot be constructed until highway is widened due to Highway weaving issues

General Note: All Costs in Millions, Stage 2 in 25 years discounted at 5% Ontario Discount Rate. Debenture Costs assumed included through discount rate. No other cost or cost sharing is included.

General Note: Additional staging costs may be required depending on numerous issues including Hwy 400 contracts, works and conditions.

Note 1: realignment costs are unclear as scope is unclear, or cost that MTO would pay.

Note 2: Stage 1 Capital Costs increased by 100% to account for other items, contingency, engineering, land, and utility relocates

2013	length = 1.25 km												Total per year	Total 25 years
	Roads (\$/lane km)	Roads Winter (\$/lane km)	Sidewalk (\$/km)	Sidewalk Winter (\$/km)	Bike Lane (\$/km)	Bike Lane Winter (\$/km)	Road Bridges (m2/Area)	Bridges & Culverts (m2/Area)	Wastewater Collection (\$/km)	Stormwater Collection (\$/km)	Watermains Distribution (\$/km)			
	5725.75	4128.91	3271.857143	2,359.38	3,271.86	2,359.38	80.79	80.79	6,761.12	4,493.95	12,351.28		44885.05857	
Option 1	0	0	2.5	2.5	2.5	2.5	102,138.76						130294.9289	3257373.223
Option 2	0	0	2.5	2.5	2.5	2.5	204,277.52						232433.6864	5810842.161
Option 3	7	7	2.5	2.5	2.5	2.5	125,709.24						222848.0314	5571200.786
Option 4	7	7	2.5	2.5	2.5	2.5	251,418.48						348557.2714	8713931.786