



APPENDIX D
Costs -
Updated



City of Brantford: 2020 Transportation Master Plan Update - 2051 Addendum - Active Transportation Capital Cost Estimates

#	Proposed Project	Facility Type	Length of ROW (km)	Sub-Total Cost	Contingency**	TOTAL Cost
SHORT-TERM 2021 – 2025						
1	Colborne Street – Wayne Gretzky Parkway to Garden Avenue	Road Diet	2.1	\$ 132,300	\$ 19,845	\$ 152,145
2	Colborne Street – Dalhousie Street to Wayne Gretzky Parkway	Bike Lanes	0.7	\$ 490,000	\$ 73,500	\$ 563,500
3	Colborne Street – Clarence Street to Dalhousie Street	Bike Lanes	1.3	\$ 39,000	\$ 5,850	\$ 44,850
3	Dalhousie Street – Colborne Street to Clarence Street	Bike Lanes	1.3	\$ 39,000	\$ 5,850	\$ 44,850
4	Clarence Street - Rail Corridor to Colborne Street	MUP	0.5	\$ 162,500	\$ 24,375	\$ 186,875
5	Fairview Road – King George Road to West Street	Road Diet	2.3	\$ 144,900	\$ 21,735	\$ 166,635
6	Tollgate Road – Paris Road to King George Road	Road Diet	1.5	\$ 94,500	\$ 14,175	\$ 108,675
7	Oak Park Road – Powerline Road to Hardy Road*	Bike Lanes	1.3			
8	Hardy Road – St. Andrews Drive to Paris Road	Bike Lanes	0.3	\$ 210,000	\$ 31,500	\$ 241,500
9	Veterans Memorial Parkway – Mount Pleasant Street to Erie Avenue*	MUP	1.2			
10	Dalhousie Street to Brant's Crossing	MUP	0.2	\$ 70,000	\$ 10,500	\$ 80,500
11	Colborne Street West – CR7 to D'Aubigny Road*	MUP	1.2			
12	Colborne Street West – D'Aubigny Road to D'Aubigny Trail (Oakhill Dr / Spalding Dr)	MUP	0.7	\$ 227,500	\$ 34,125	\$ 261,625
13	Wayne Gretzky Parkway Extension – Powerline Road to Park Road*	MUP	0.9			
14	Balmoral Drive – Powerline Road to Oxford Street	Bike Lanes	2.2	\$ 66,000	\$ 9,900	\$ 75,900
15	Oxford Street – Balmoral Drive to King George Road	Bike Lanes	0.5	\$ 15,000	\$ 2,250	\$ 17,250
16	Dunsdon Street - King George Road to Park Road	Road Diet	3.1	\$ 195,300	\$ 29,295	\$ 224,595
17	Dundas Street / Elgin Street - North Park to Wayne Gretzky Parkway	Bike Priority Street	3.0	\$ 330,000	\$ 49,500	\$ 379,500
18	1/4 of total Bike Route / Shared Use Lane projects around the City	Bike Route / Shared Use Lane	7.6	\$ 9,120	\$ 1,368	\$ 10,488
19	Programs (Studies, Events, Initiatives)	N/A	N/A	\$ 820,000	\$ -	\$ 820,000
MEDIUM-TERM 2026 – 2031						
20	Oak Park Road Extension – Hardy Road to Colborne Street*	MUP	4.3			
21	Paris Road - Oak Park Road to Golf Road*	Bike Lanes/Paved Shoulder	2.8			
22	Paris Road - Golf Road to Hardy Road	Bike Lanes/Paved Shoulder	1.6	\$ 504,000	\$ 75,600	\$ 579,600
23	Powerline Road – Oak Park Road to King George Road*	MUP & Bike Lanes	3.7			
24	Charing Cross Extension – West Street to Henry Street*	Bike Lanes	0.7			
25	Henry Street – Charing Cross Extension to WGP	Bike Lanes	0.8	\$ 560,000	\$ 84,000	\$ 644,000
26	Charing Cross – King George Road to West Street	Bike Lanes	1.5	\$ 1,050,000	\$ 157,500	\$ 1,207,500
27	Golf Road - Paris Road to Proposed mid-term Development Limit*	Bike Lanes/Paved Shoulder	1.9			
28	Lynden Road – West Street to Garden Avenue	Buffered Bike Lanes	2.4	\$ 1,968,000	\$ 295,200	\$ 2,263,200
29	Garden Avenue – Lynden Road to Henry Street	Buffered Bike Lanes	2.1	\$ 1,722,000	\$ 258,300	\$ 1,980,300
30	Henry Street – Garden Avenue to Garden Avenue	Bike Lanes	0.2	\$ 140,000	\$ 21,000	\$ 161,000
31	Garden Avenue – Henry Street to Elgin Street	Bike Lanes	0.8	\$ 120,000	\$ 18,000	\$ 138,000
32	Brantwood Park Road - Dunsdon Street to Lynden Road	Bike Lanes	1.6	\$ 100,800	\$ 15,120	\$ 115,920
33	Market Street to Mohawk Street	MUP	1.0	\$ 350,000	\$ 52,500	\$ 402,500
34	Shallow Creek Trail - Lynnwood Drive	MUP	1.1	\$ 385,000	\$ 57,750	\$ 442,750
35	William Street – Bedford Street to West Street	Road Diet	1.2	\$ 25,800	\$ 3,870	\$ 29,670
36	Albion Street – Bedford Street to West Street	Road Diet	1.1	\$ 23,650	\$ 3,548	\$ 27,198
37	Memorial / Baxter / Farringford / Edmondson – North Park Street to Wayne Gretzky Parkway Trail	Bike Priority Street	1.7	\$ 187,000	\$ 28,050	\$ 215,050
38	Queensway Drive - St. George Street to King George Road	Bike Priority Street	0.6	\$ 66,000	\$ 9,900	\$ 75,900
39	McMurry / Wells / North Park - Albion Street to St George Street	Bike Priority Street	0.8	\$ 88,000	\$ 13,200	\$ 101,200
40	1/4 of total Bike Route / Shared Use Lane projects around the City	Bike Route / Shared Use Lane	7.6	\$ 9,120	\$ 1,368	\$ 10,488
41	Programs (Studies, Events, Initiatives)	N/A	N/A	\$ 690,000	\$ -	\$ 690,000

#	Proposed Project	Facility Type	Length of ROW (km)	Sub-Total Cost	Contingency**	TOTAL Cost
LONG-TERM 2032 – 2051						
42	Powerline Road – King George Road to East City Boundary*	MUP & Bike Lanes	4.0			
43	Brantwood Park Road – Powerline Road to Banbury Road	Bike Lanes	0.7	\$ 44,100	\$ 6,615	\$ 50,715
44	Conklin Road Extension – Mt. Pleasant Road to Phelps Road*	Bike Lanes	2.8			
45	Conklin Road – L.E. & N Trail to Mt. Pleasant	Bike Lanes	0.2	\$ 140,000	\$ 21,000	\$ 161,000
46	Elgin Street – Wayne Gretzky Parkway to Garden Avenue	Bike Lanes	2.3	\$ 1,610,000	\$ 241,500	\$ 1,851,500
47	Roy Boulevard – Lynden Park Mall to Lynden Road	Bike Lanes	1.5	\$ 1,050,000	\$ 157,500	\$ 1,207,500
48	Diana Avenue	Bike Lanes	0.7	\$ 21,000	\$ 3,150	\$ 24,150
49	Erie Avenue – Birkett Lane to City Boundary	Bike Lanes/Paved Shoulder	0.8	\$ 120,000	\$ 18,000	\$ 138,000
50	Mohawk Street – Proposed trail (Cayuga St / Greenwich St) to Hamilton Brantford Rail Trail	Bike Lanes/Paved Shoulder	1.9	\$ 693,500	\$ 104,025	\$ 797,525
51	Paris Road – Hardy Road to Henderson Avenue	MUP	1.1	\$ 357,500	\$ 53,625	\$ 411,125
52	Colborne Street to Grey Street	MUP	0.5	\$ 175,000	\$ 26,250	\$ 201,250
53	Dante Crescent to Ludlow Crescent	MUP	0.2	\$ 70,000	\$ 10,500	\$ 80,500
54	Blackfriars Lane to Dunsdon Street	MUP	0.8	\$ 280,000	\$ 42,000	\$ 322,000
55	Colborne Street to Bruce Street	MUP	1.1	\$ 357,500	\$ 53,625	\$ 411,125
56	SC Johnson Trail (Dufferin Ave) - SC Johnson Trail (Yorkshire St)	MUP	1.7	\$ 552,500	\$ 82,875	\$ 635,375
57	New East/West Road – Paris Road to King George Road*	Buffered Bike Lanes	4.2			
58	New East/West Road – King George Road to East City Boundary*	Buffered Bike Lanes	4.5			
59	North Brantford Expansion – Golf Road to Wayne Gretzky Parkway	MUP	5.7	\$ 1,995,000	\$ 299,250	\$ 2,294,250
60	North Brantford Expansion Collector Roads	Bike Lanes	7.0	\$ 4,900,000	\$ 735,000	\$ 5,635,000
61	Tutela Heights Expansion – L.E. & N Trail to New Collector Road	MUP	0.3	\$ 105,000	\$ 15,750	\$ 120,750
62	Tutela Heights Expansion Collector Roads	Bike Lanes	1.4	\$ 980,000	\$ 147,000	\$ 1,127,000
63	Davern Road – Tutela Heights Road to Conklin Road Extension	Bike Lanes	0.8	\$ 656,000	\$ 98,400	\$ 754,400
64	Lynden/Garden Expansion Collector Roads	Bike Lanes	1.1	\$ 770,000	\$ 115,500	\$ 885,500
65	Lynden Road – Garden Avenue to East City Boundary	Bike Lanes	1.5	\$ 225,000	\$ 33,750	\$ 258,750
66	Rawdon Street - Darling Street to Able Avenue	Bike Priority Street	1.2	\$ 132,000	\$ 19,800	\$ 151,800
67	Wellington Street - West Street to Park Road North	Bike Priority Street	2.7	\$ 297,000	\$ 44,550	\$ 341,550
68	1/2 of total Bike Route / Shared Use Lane projects around the City	Bike Route / Shared Use Lane	15.2	\$ 18,240	\$ 2,736	\$ 20,976
69	Programs (Studies, Events, Initiatives)	N/A	N/A	\$ 1,375,000	\$ -	\$ 1,375,000
			145.0	\$ 27,958,830	\$ 3,761,075	\$ 31,719,905

Notes: All costs stated in 2020 dollars

* Costs captured as part of a roadway infrastructure project

** Contingency of 30% for Engineering assumed

Conventional

	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
Pop 2016 forecast										
Pop 2020 forecast	141,600	144,200	146,800	149,400	152,000	154,200	156,400	158,600	160,800	163,000
Bus Fleet	36	36	38	38	39	39	39	39	40	40
Revenue Hrs - Base	154,988	159,113	159,113	170,183	170,183	175,853	175,853	175,853	175,853	181,253
Revenue Hrs - Increase	4,125	-	11,070	-	5,670	-	-	-	5,400	-
Revenue Hrs - Total	159,113	159,113	170,183	170,183	175,853	175,853	175,853	175,853	181,253	181,253
Bus Expansion	\$ 1,100,000		\$ 2,200,000		\$ 1,100,000				\$ 1,100,000	
Bus Replacement	\$ 2,200,000	\$ 2,200,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000
Terminal (1 locations)	\$ 3,750,000	\$ 3,750,000								
Lynden Mall										
Brantford Commons										
Bus Stop/Signage	\$ 120,000		\$ 540,000		\$ 150,000				\$ 270,000	
Additional Shelters	\$ 60,000		\$ 270,000		\$ 75,000				\$ 135,000	
Transit Center										
ITS										
Studies (i.e.. Transit TMP)										
										\$27,820,000

Specialized

	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
In Service Vehicles	15	15	16	16	17	17	17	17	17	17
# Vehicles Replaced	2	2	2	2	2	2	2	2	2	2
Vehicle Expansion	1		1		1					
Revenue Hours										
Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
New Vehicles	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -
Telecom Software	\$ 50,000									
										\$ 5,800,000
										SUB TOTAL Conventional + Specialized
										\$33,620,000

Note: 2021 -2031 based on 2016 Transit Service Plan 2017-2026, with update to cost assumptions as discussed Aug 28/20
 2032-2051 based on service expansion and enhancement to Expansion Lands

Conventional

	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Short Term	Mid-Term	Long-Term	Longer-Term	
Pop 2016 forecast															
Pop 2020 forecast	165,600	168,200	170,800	173,400	164,000	166,200	168,400	170,600	172,800	165,000					
Bus Fleet	41	41	43	43	44	44	44	44	45	45					
Revenue Hrs - Base	181,253	185,378	185,378	196,448	196,448	202,118	202,118	202,118	202,118	207,518					
Revenue Hrs - Increase	4,125	-	11,070	-	5,670	-	-	-	5,400	-					
Revenue Hrs - Total	185,378	185,378	196,448	196,448	202,118	202,118	202,118	202,118	207,518	207,518					
Bus Expansion	\$ 1,100,000		\$ 2,200,000		\$ 1,100,000				\$ 1,100,000		\$ 1,100,000	\$ 2,200,000	\$ 5,500,000	\$ 5,500,000	
Bus Replacement	\$ 2,200,000	\$ 2,200,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 1,100,000	\$ 14,300,000	\$ 11,000,000	\$ 13,200,000	\$ 13,200,000	
Terminal (1 locations)											\$ -	\$ -	\$ 7,500,000	\$ -	
Lynden Mall											\$ 250,000	\$ -	\$ -	\$ -	
Brantford Commons											\$ 250,000	\$ -	\$ -	\$ -	
Bus Stop/Signage	\$ 120,000	\$ -	\$ 540,000	\$ -	\$ 150,000	\$ -	\$ -	\$ -	\$ 270,000	\$ -	\$ -	\$ -	\$ 1,080,000	\$ 1,080,000	
Additional Shelters	\$ 60,000	\$ -	\$ 270,000	\$ -	\$ 75,000	\$ -	\$ -	\$ -	\$ 135,000	\$ -	\$ -	\$ 100,000	\$ 540,000	\$ 540,000	
Transit Center											\$ -	\$ 1,100,000	\$ -	\$ -	
ITS											\$ 561,000	\$ 551,000	\$ -	\$ -	
Studies (i.e.. Transit TMP)	\$ 100,000										\$ 375,000	\$ 100,000	\$ -	\$ 100,000	
											\$ 20,420,000	\$ 16,836,000	\$ 15,051,000	\$ 27,820,000	\$ 20,420,000

Specialized

	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	Short Term	Mid-Term	Long-Term	Longer-Term		
In Service Vehicles	18	18	19	19	20	20	20	20	20	20						
# Vehicles Replaced	2	2	2	2	2	2	2	2	2	2						
Vehicle Expansion	1		1		1											
Revenue Hours																
Vehicle Replacement	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 1,540,000	\$ 3,750,000	\$ 5,000,000	\$ 5,000,000		
New Vehicles	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 750,000	\$ 750,000		
Telecom Software	\$ 50,000										\$ 30,000	\$ -	\$ 50,000	\$ 50,000		
											\$ 5,800,000	\$ 1,570,000	\$ 3,750,000	\$ 5,800,000	\$ 5,800,000	
											\$ 26,220,000	\$ 18,406,000	\$ 18,801,000	\$ 33,620,000	\$ 26,220,000	
															TOTAL Conventional + Specialized	\$ 97,047,000

Note: 2021 -2031 based on 2016 Transit Service Plan 2017-2026, with update to cost assumptions as discussed Aug 28/20
 2032-2051 based on service expansion and enhancement to Expansion Lands

City of Brantford: 2020 Transportation Master Plan Update - 2051 Addendum - Road Infrastructure Capital Cost Estimates

#	Proposed Project	Length of ROW (km)	ROW Lane Costs						Structure / Equipment Costs	Sub-Total Cost	Contingency***		TOTAL Cost	
			Roads	Sidewalks	MUP	Bike lane	Paved shoulder	Total Roadway			Construction	Engineering		
SHORT-TERM 2021 – 2025														
1	Veterans Memorial Parkway Widening (4 lanes – Mount Pleasant Street to Erie Avenue)*	1.19							\$ 11,477,705	\$ 18,454,800	\$ 29,932,505	\$ 5,986,501	\$ 4,489,876	\$ 40,408,881
2	Oak Park Road Widening (4 lanes – Powerline Road to Hwy 403 & Fen Ridge Court/Savannah Oaks Drive to Hardy Road)	1.33	\$ 3,072,300	\$ 957,600	\$ -	\$ -	\$ 232,750				\$ 4,262,650	\$ 852,530	\$ 1,278,795	\$ 6,393,975
3	Colborne Street West widening (4 lanes – CR7 to D'Aubigny Road)	1.15	\$ 1,328,250	\$ 414,000	\$ 373,750	\$ -	\$ 201,250				\$ 2,317,250	\$ 463,450	\$ 695,175	\$ 3,475,875
4	Wayne Gretzky Parkway Extension (4 lanes - Powerline Road to Park Road North)	0.85	\$ 1,963,500	\$ 306,000	\$ 276,250	\$ -	\$ 148,750				\$ 2,694,500	\$ 538,900	\$ 808,350	\$ 4,041,750
MEDIUM-TERM 2026 – 2031														
5	Oak Park Road Extension (4 Lanes – Hardy Road to Colborne Street)**	4.3							\$ 29,330,385	\$ 35,497,728	\$ 64,828,113	\$ 19,765,590	\$ 14,234,246	\$ 98,827,949
6	Paris Road widening (4 lanes – Oak Park Road to Golf Road)	2.81	\$ 6,491,100	\$ -	\$ -	\$ -	\$ 688,450				\$ 7,179,550	\$ 1,435,910	\$ 2,153,865	\$ 10,769,325
7A	Powerline Road widening (4 lanes – Oak Park Road to King George Road)	3.74	\$ 8,639,400	\$ 1,346,400	\$ 1,215,500	\$ 2,042,040	\$ -				\$ 13,243,340	\$ 2,648,668	\$ 3,973,002	\$ 19,865,010
8	Charing Cross Extension (4 Lanes – West Street to Henry Street)	0.74	\$ 1,709,400	\$ 532,800	\$ -	\$ 404,040	\$ -			\$ 10,000,000	\$ 12,646,240	\$ 2,529,248	\$ 3,793,872	\$ 18,969,360
9	Golf Road TSM (Paris Road to Proposed Development Limit)	1.9	\$ -	\$ 1,368,000	\$ -	\$ -	\$ 1,316,700			\$ 825,000	\$ 3,509,700	\$ 701,940	\$ 1,052,910	\$ 5,264,550
10	Mohawk Street / Greenwich Street / Murray Street intersection realignment & improvements	0.5	\$ 1,155,000	\$ 360,000	\$ -	\$ -	\$ -			\$ 850,000	\$ 2,365,000	\$ 473,000	\$ 709,500	\$ 3,547,500
LONG-TERM 2032 – 2051														
11	Wayne Gretzky Parkway widening (6 Lane – Lynden Road to Henry Street)	2.02	\$ 6,999,300	\$ -	\$ -	\$ -	\$ 353,500			\$ 12,000,000	\$ 19,352,800	\$ 3,870,560	\$ 5,805,840	\$ 29,029,200
7B	Powerline Road widening (4 lanes – King George Road to East City Boundary)	3.95	\$ 9,124,500	\$ 1,422,000	\$ 1,283,750	\$ 2,156,700	\$ -				\$ 13,986,950	\$ 2,797,390	\$ 4,196,085	\$ 20,980,425
12	Conklin Road Extension (2 lanes - Mt. Pleasant Road to Phelps Road)	2.8	\$ 3,234,000	\$ 2,016,000	\$ -	\$ 1,528,800	\$ -				\$ 6,778,800	\$ 1,355,760	\$ 2,033,640	\$ 10,168,200
13A	New East/West Road (2 lanes – Oak Park Road to King George Road)	4.2	\$ 4,851,000	\$ 3,024,000	\$ -	\$ 2,293,200	\$ -				\$ 10,168,200	\$ 2,033,640	\$ 3,050,460	\$ 15,252,300
13B	New East/West Road (2 lanes – King George Road to East City Boundary)	4.5	\$ 5,197,500	\$ 3,240,000	\$ -	\$ 2,457,000	\$ -				\$ 10,894,500	\$ 2,178,900	\$ 3,268,350	\$ 16,341,750
14	Clarence Street TSM (Icomm Drive to West Street)	1.5	\$ 1,237,500	\$ 1,080,000	\$ -	\$ -	\$ -			\$ 1,900,000	\$ 4,217,500	\$ 843,500	\$ 1,265,250	\$ 6,326,250
15	Highway 403 / Oak Park Road Interchange upgrade (to ultimate configuration)		\$ -	\$ -	\$ -	\$ -	\$ -			\$ 12,000,000	\$ 12,000,000	\$ 2,400,000	\$ 3,600,000	\$ 18,000,000
											\$ 220,377,598	\$ 50,875,487	\$ 56,409,216	\$ 327,662,300

Notes: All costs stated in 2020 dollars unless identified otherwise in reference reports (i.e. feasibility reports)

* Reference Costs Source: Veterans Memorial Parkway Widening and Extension, CIMA+, October 2018 - [Assume: Mt Pleasant to Bridge = 950 m (from feasibility study) and Bridge to existing 4-lane cross section west of Erie = 240 m]

** Reference Costs Source Oak Park Road Extension Feasibility Study , Parsons, July 2019

*** Contingency of 20% for Construction and 30% for Engineering assumed unless stated specifically in reference reports (i.e. feasibility reports).