

Appendix I

Cost Estimate

Cost estimate

The estimated overall project cost, including demolition, new construction, and supporting elements is between \$260,000,000 and \$460,000,000. Additional analysis shows that simply maintaining and appropriately reconstructing aging infrastructure on the current expressway would cost between \$125,000,000 to \$220,000,000 over the next 20 years, essentially offsetting a portion of the overall project cost.

The estimated project cost of \$260-\$460M accounts for the elements listed in the table to the right, including pre-construction design and engineering, construction, incidentals, management, acquisitions, and inflation. Construction costs include construction for both the Scajaquada Parkway and the supporting elements, as well as demolition for the new, at-grade parkway. Contingencies and inflation are incorporated into the estimate by percentage. The low to high cost range represents current 2023 estimates and 2033 (10 year) estimates, respectively.

Estimated project cost is relatively low due to multiple factors including:

- A portion of the project is located in a park and sparsely populated area (west) vs. a typical, dense urban setting. Therefore, this project will likely have fewer impacts to infrastructure, utilities and right-of-way, and a lower cost.
- No large bridges are proposed to be constructed.
- Proposed roadway is only two lanes, will be at grade, and will not require new elevated structures or significant traffic control devices/treatments at intersections.

This cost estimate is a pre-conceptual estimate that does not have the benefit of detailed design and engineering. Future phases of the project will include detailed engineering which will be used to develop more precise cost estimates.

Cost Estimate Components:

- Design & Engineering
- Construction
 - Demolition
 - Scajaquada Parkway Construction
 - Supporting Elements Construction
 - Aesthetic Treatments including Gateways, Misc. Landscaping
- Incidentals
- General Conditions
- Contingencies
- Mobilization
- Acquisitions
- Construction Management
- Inflation

PROJECT COST ESTIMATE - REGION CENTRAL

DEMOLITION COSTS

	Quantity	Unit	Unit Price	Estimated Cost
Bridge Removals				
Route 198 Bridge Segments				
I-190 Ramps to west of Grant	104,650	SF	\$125	\$13,081,250
Hoyt Lake Bridge	9,350	SF	\$125	\$1,168,750
Subtotal				\$14,250,000
Route 198 Ramps				
I-190 Ramps	159,500	SF	\$125	\$19,937,500
Tonawanda Ramps	23,000	SF	\$125	\$2,875,000
Grant Ramps	13,200	SF	\$125	\$1,650,000
Elmwood Ramps	6,250	SF	\$125	\$781,250
Main/Kensington	18,075	SF	\$125	\$2,259,375
Route 33 Ramps	31,500	SF	\$125	\$3,937,500
Subtotal				\$31,440,625
Pavement Removal				
Route 198 Segments				
I-190 Ramps to Nottingham	38,525	CY	\$55	\$2,118,875
Nottingham to Parkside	24,500	CY	\$55	\$1,347,500
Parkside to Route 33 Ramps	24,100	CY	\$55	\$1,325,500
Subtotal				\$4,791,875
Route 198 Ramps				
I-190 Ramps	2,600	CY	\$55	\$143,000
Tonawanda Ramps	525	CY	\$55	\$28,875
Grant Ramps	6,075	CY	\$55	\$334,125
Elmwood Ramps	5,500	CY	\$55	\$302,500
Delaware Ramps	5,925	CY	\$55	\$325,875
Route 33 Ramps	14,625	CY	\$55	\$804,375
Subtotal				\$1,938,750
Total Demolition Cost				\$52,421,250

IMPROVEMENT COSTS

	Quantity	Unit	Unit Price	Estimated Cost
Route 198				
New Bridges				
Letchworth St extension over creek	4,320	SF	\$595	\$2,570,400
Ped crossing over creek	2,160	SF	\$595	\$1,285,200
Subtotal				\$3,855,600
New Roadway Segments (Includes Roadway, Sidewalks, Bike Paths, Utilities)				
Niagara Street to Parkside	2.85	LM	\$8,913,000	\$25,402,050
Parkside to Route 33	0.85	LM	\$23,274,000	\$19,782,900
Subtotal				\$45,184,950
New Medians				
Niagara Street to Parkside	2.85	LM	\$416,000	\$1,185,600
Trees	2.85	LM	\$474,000	\$1,350,900
Parkside to Route 33	0.85	LM	\$780,000	\$663,000
Trees	0.85	LM	\$792,500	\$673,625
Subtotal				\$3,873,125
Infill				
Parkside to Route 33 - Entire below grade section	80,925	CY	\$15	\$1,213,875
Subtotal				\$1,213,875
Street Lighting				
Rt 198	5,000,000	LS	\$5,000,000	\$5,000,000
Subtotal				\$5,000,000
Signage				
Rt 198	1,000,000	LS	\$1,000,000	\$1,000,000
Subtotal				\$1,000,000
New Signalized Intersections (including ADA ramps)				
Niagara Street to Parkside	9	EACH	\$400,000	\$3,600,000
Parkside to Route 33	2	EACH	\$400,000	\$800,000
Subtotal				\$4,400,000
New Complex Intersections (such as Roundabouts)				
Niagara Street to Parkside	1	EACH	\$4,000,000	\$4,000,000
Parkside to Route 33	1	EACH	\$4,000,000	\$4,000,000
Subtotal				\$8,000,000
Hazardous Waste Remediation				\$150,000
Public Utility Relocations (Water & Sanity Sewer)				\$525,000
Total Route 198 Construction Cost				\$73,202,550

SUPPORTING ELEMENTS COSTS

	Quantity	Unit	Unit Price	Estimated Cost
Letchworth St Extension (new road)	0.3	LM	\$4,563,000	\$1,368,900
Subtotal				\$1,368,900
Bike Corridor				
Elmwood Ave	0.18	LM	\$441,000	\$79,380
Lincoln Pkwy	0.5	LM	\$441,000	\$220,500
Amherst St	0.65	LM	\$441,000	\$286,650
Subtotal				\$586,530
Multimodal Corridor				
Hertel Ave	0.54	LM	\$2,415,000	\$1,304,100
Military Rd	0.5	LM	\$2,415,000	\$1,207,500
Grant St	1.38	LM	\$2,415,000	\$3,332,700
Amherst St	0.61	LM	\$2,415,000	\$1,473,150
W. Delavan Ave	1.58	LM	\$2,415,000	\$3,815,700
Elmwood Ave	0.56	LM	\$2,415,000	\$1,352,400
Delaware Ave	0.61	LM	\$2,415,000	\$1,473,150
Main St	0.51	LM	\$2,415,000	\$1,231,650
Jefferson Ave	0.71	LM	\$2,415,000	\$1,714,650
Fillmore Ave	0.89	LM	\$2,415,000	\$2,149,350
Subtotal				\$19,054,350
Enhanced Vehicle Accomodations				
Forest Ave	1.52	LM	\$2,263,000	\$3,439,760
Delaware Ave	0.41	LM	\$2,263,000	\$927,830
W. Delavan Ave	1.18	LM	\$2,263,000	\$2,670,340
Kensington Ave	0.58	LM	\$2,263,000	\$1,312,540
Subtotal				\$8,350,470
Bike/Ped Connection				
Cemetery	0.7	LM	\$441,000	\$308,700
Subtotal				\$308,700
Transit Connection	1	LS	\$3,650,000	\$3,650,000
Subtotal				\$3,650,000
New Ramps				
New I-190 Ramp	0.1	LM	\$2,643,000	\$264,300
I-90 Infill	12,965	CY	\$15	\$194,475
New Route 33 Ramps	0.3	LM	\$2,643,000	\$792,900
Subtotal				\$1,251,675
Other				
Intersection Improvement	1	EACH	\$500,000	\$500,000
Bike/Ped Crossing				
Elmwood Crossing	2,340	SF	\$595	\$1,392,300
Delavan Crossing	4,500	SF	\$595	\$2,677,500
Ferry Crossing	2,160	SF	\$595	\$1,285,200
Mobility Hub	3	LS	\$2,000,000	\$6,000,000
Subtotal				\$11,855,000
Total Supporting Element Cost				\$46,425,625

Subtotal Construction Cost		\$172,049,425
Aesthetic Treatments Gateways, Misc Landscaping	8.5%	\$14,624,201
Incidentals	5.0%	\$8,602,471
General Conditions	10%	\$17,204,943
Design & Engineering	8%	\$13,763,954
Contingencies	25%	\$43,012,356
Mobilization	4%	\$6,881,977
Acquisitions	2%	\$3,440,989
Construction Management	4%	\$6,881,977
Estimated Total Project Cost (2023)		\$286,462,293
Estimated Total Project Cost Range (2023-Budget Estimate)	-10% - +25%	\$260,000,000 - \$360,000,000
Estimated Future Total Project Cost Range (5 yr-2028-Budget Estimate)*	13.50%	\$295,000,000 - \$409,000,000
Estimated Future Total Project Cost Range (10 yr-2033-Budget Estimate)*	27%	\$330,000,000 - \$458,000,000

* - Used 10-year average annual inflation of 2.7%

PROJECT COST ESTIMATE ASSUMPTIONS - REGION CENTRAL

Bridge Removals	Average \$/SF from 2022 bid openings: Demo - \$123.50 Use \$125
Pavement Removal	Excavation & Restoration Avg. NYSDOT \$ \$55 CY
New Bridges	Average \$/SF from 2022 bid openings: Replacement - \$594.50 Use \$595
New Roadway Segments	See Prelim Estimate Sheets for each segment Includes Roadway, Sidewalks, Bike Paths Includes utilities
New Medians	From LA 10' wide median, 20' long with 8-12" topsoil 6.5 cubic yards topsoil @ \$45/cy = \$280 200 sf seed @ \$.75/sf = \$112.50 (1) street tree @ \$800/ea = \$800 7.5 cubic yards planting soil @ \$95/cy = \$712.5 (or \$1500 per tree planting) - Assume trees are 50' apart Equates to approx \$104,000 LM (Fill/Seed) per 10 of median & \$158,500 LM (trees)
Infill	Embankment - Infill only, New roadway treatment & utilities included with "New Roadway Segment Costs" Intersection treatment included with "New Complex Intersections" Avg. NYSDOT \$ \$15 CY
New Signalized Intersections	Average \$/int from 2022 bid openings: New Signals - \$400,000
New Complex Intersections	Average \$/int from recent bid openings: Cost - \$4,000,000
Hazardous Waste Remediation	From FEIS, Extrapolated to new length
Public Utility Relocations (Water & Sanity Sewer)	From FEIS, Extrapolated to new length
Supporting Elements	
Letchworth St Extension (new road)	See Prelim Estimate Sheets
Bike Corridor	See Prelim Estimate Sheets
Multimodal Corridor	See Prelim Estimate Sheets Assume some ADA ped improvements (ramps, signals, etc.) = \$50,000 LM Bus shelters & Micromobility accomodations - assume \$2,000 LM
Enhanced Vehicle Accomodations	See Prelim Estimate Sheets Add signal coordination - assume \$61,000 LM Assume traffic signal improvements - assume \$600,000 LM
Bike/Ped Connection	See Prelim Estimate Sheets
Transit Connection	Internet research - assume 3 new buses at \$550,000 per bus, and Operations at \$200,000 per year x 10 years = \$3,650,000
New Ramps	See Prelim Estimate Sheets Infill - Assume \$15 CY
Other	Intersection Improvement - New signals/ramps + 100 ft each approach of pvmt/sidewalk Bike/Ped Crossing - See New Bridges Mobility Hubs - Internet research - assume \$2,000,000 per hub

NO BUILD COST ESTIMATE - REGION CENTRAL

MAINTENANCE COSTS

	Quantity	Unit	Minor Rehab Unit Price	Minor Rehab Estimated Cost Per Occurrence	Minor Rehab Occurrences	Minor Rehab Estimated Cost	Major Rehab Unit Price	Major Rehab Estimated Cost Per Occurrence	Major Rehab Occurrences	Major Rehab Estimated Cost	Total Bridge Maintenance Cost
Bridge Maintenance											
Route 198 Bridge Segments											
I-190 Ramps to west of Grant	104,650	SF	\$80	\$8,372,000	1	\$8,372,000	\$110	\$11,511,500	1	\$11,511,500	\$19,883,500
Hoyt Lake Bridge	9,350	SF	\$80	\$748,000	1	\$748,000	\$110	\$1,028,500	1	\$1,028,500	\$1,776,500
Subtotal	114,000	SF		\$9,120,000		\$9,120,000		\$12,540,000		\$12,540,000	\$21,660,000
Route 198 Ramps											
I-190 Ramps	159,500	SF	\$80	\$12,760,000	1	\$12,760,000	\$110	\$17,545,000	1	\$17,545,000	\$30,305,000
Tonawanda Ramps	23,000	SF	\$80	\$1,840,000	1	\$1,840,000	\$110	\$2,530,000	1	\$2,530,000	\$4,370,000
Grant Ramps	13,200	SF	\$80	\$1,056,000	1	\$1,056,000	\$110	\$1,452,000	1	\$1,452,000	\$2,508,000
Elmwood Ramps	6,250	SF	\$80	\$500,000	1	\$500,000	\$110	\$687,500	1	\$687,500	\$1,187,500
Main/Kensington	18,075	SF	\$80	\$1,446,000	1	\$1,446,000	\$110	\$1,988,250	1	\$1,988,250	\$3,434,250
Route 33 Ramps	31,500	SF	\$80	\$2,520,000	1	\$2,520,000	\$110	\$3,465,000	1	\$3,465,000	\$5,985,000
Subtotal	251,525	SF		\$20,122,000		\$20,122,000		\$27,667,750		\$27,667,750	\$47,789,750
Bridge Total Cost	365,525	SF		\$29,242,000		\$29,242,000		\$40,207,750		\$40,207,750	\$69,449,750

Bridge Rehab Costs

Minor Rehab = deck/abuttment/pier repairs, bearing maintenance = \$80/SF every 10 years
 Major Rehab = deck replacement/bearing replacement/joint replacement/railing replacement = ~ \$110/SF every 20 years

	Quantity	Unit	Crack Sealing Unit Price	Crack Sealing Estimated Cost Per Occurrence	Crack Sealing Occurrences	Crack Sealing Estimated Cost	Minor Rehab Unit Price	Minor Rehab Estimated Cost Per Occurrence	Minor Rehab Occurrences	Minor Rehab Estimated Cost	Total Highway Maintenance Cost
Highway Maintenance											
Route 198 Segments											
I-190 Ramps to Nottingham	57,800	SY	\$7	\$404,600	5	\$2,023,000	\$33	\$1,907,400	2	\$3,814,800	\$5,837,800
Nottingham to Parkside	36,675	SY	\$7	\$256,725	5	\$1,283,625	\$33	\$1,210,275	2	\$2,420,550	\$3,704,175
Parkside to Route 33 Ramps	36,175	SY	\$7	\$253,225	5	\$1,266,125	\$33	\$1,193,775	2	\$2,387,550	\$3,653,675
Subtotal	130,650	SY		\$914,550	5	\$4,572,750		\$4,311,450	2	\$8,622,900	\$13,195,650
Route 198 Ramps											
I-190 Ramps	3,900	SY	\$7	\$27,300	5	\$136,500	\$33	\$128,700	2	\$257,400	\$393,900
Tonawanda Ramps	800	SY	\$7	\$5,600	5	\$28,000	\$33	\$26,400	2	\$52,800	\$80,800
Grant Ramps	9,125	SY	\$7	\$63,875	5	\$319,375	\$33	\$301,125	2	\$602,250	\$921,625
Elmwood Ramps	8,275	SY	\$7	\$57,925	5	\$289,625	\$33	\$273,075	2	\$546,150	\$835,775
Delaware Ramps	8,900	SY	\$7	\$62,300	5	\$311,500	\$33	\$293,700	2	\$587,400	\$898,900
Route 33 Ramps	21,950	SY	\$7	\$153,650	5	\$768,250	\$33	\$724,350	2	\$1,448,700	\$2,216,950
Subtotal	52,950	SY		\$370,650	5	\$1,853,250		\$1,747,350	2	\$3,494,700	\$5,347,950
Highway Total Cost	183,600	SY		\$1,285,200		\$6,426,000		\$6,058,800		\$12,117,600	\$18,543,600

Highway Rehab Costs

Crack Sealing = \$7/SY = \$0.07M/Lane-Mile (every 3 years)
 2" Mill & Fill Minor Rehab = \$33/SY (every 8 years)

Subtotal Maintenance Cost		\$87,993,350
Aesthetic Treatments Gateways, Misc Landscaping	0.0%	\$0
Incidentals	5.0%	\$4,399,668
General Conditions	10%	\$8,799,335
Design & Engineering	8%	\$7,039,468
Contingencies	25%	\$21,998,338
Mobilization	4%	\$3,519,734
Acquisitions	0%	\$0
Construction Management	4%	\$3,519,734
Estimated Total Maintenance Cost (2023)		\$137,269,627
Estimated Total Maintenance Cost Range (2023-Budget Estimate)	-10% - +25%	\$124,000,000 - \$172,000,000
Estimated Future Total Maintenance Cost Range (5 yr-2028-Budget Estimate)	13.50%	\$141,000,000 - \$195,000,000
Estimated Future Total Maintenance Cost Range (10 yr-2033-Budget Estimate)	27%	\$157,000,000 - \$218,000,000

* - Used 10-year average annual inflation of 2.7%

Assumptions:

Unit costs based average \$ from recent bid openings.
 Maintenance Costs projected over a 20 year span