



Welcome

Introductions

- MQO Research
- Department of Transportation and Infrastructure Renewal, Government of Nova Scotia
- CBCL Limited Consulting Engineers


Consultation Process

- Presentation by TIR to give an overview of the Highway Twinning Project to date (5 mins)
- Presentation by CBCL on the Highway Twinning Feasibility Study (15 mins)
- Individual review of questions (10 mins)
- Round table discussions (20 mins)
- Open dialogue (40 mins)
- Q and A (30 mins)
- Wrap up (5 mins)

Note: Copies of the presentation available upon leaving

Questions

1. What is your opinion of the current condition of the province's 100-series highways included in the study? (consider safety, traffic congestion, travel time)
2. Do you think twinning is the only option to improve the province's 100-series highways?
3. If twinning is the preferred option to improve the condition of the 100-series highways, do you support using tolls to twin highways sooner than would otherwise be possible given our current budget?
4. Do you have any other comments or questions?



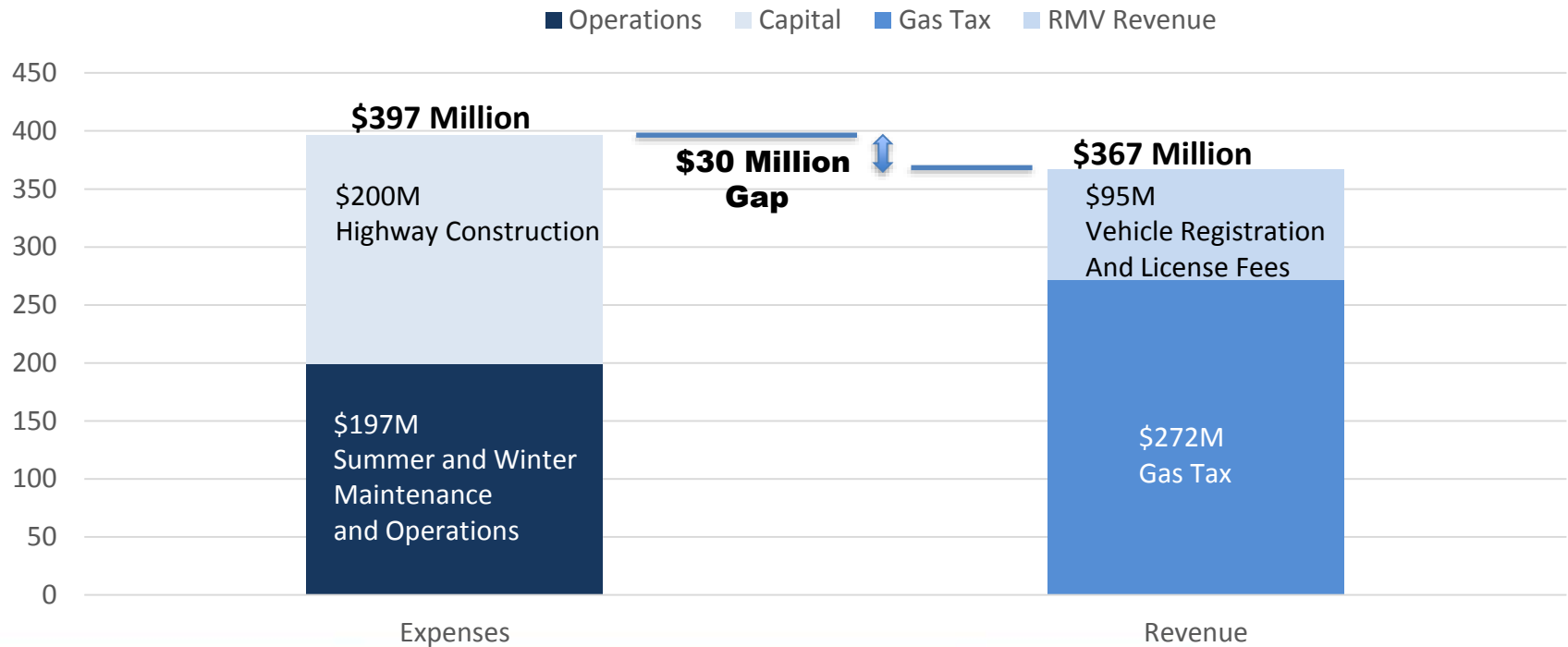
Nova Scotia Highway Twinning Feasibility Study

Nova Scotia's Highway System

- 23,000 kilometres of provincial roads and highways
- 4,100 bridges
- 90% of all roads in Nova Scotia are maintained by the Province
- Nova Scotia has some of the oldest highways and bridges

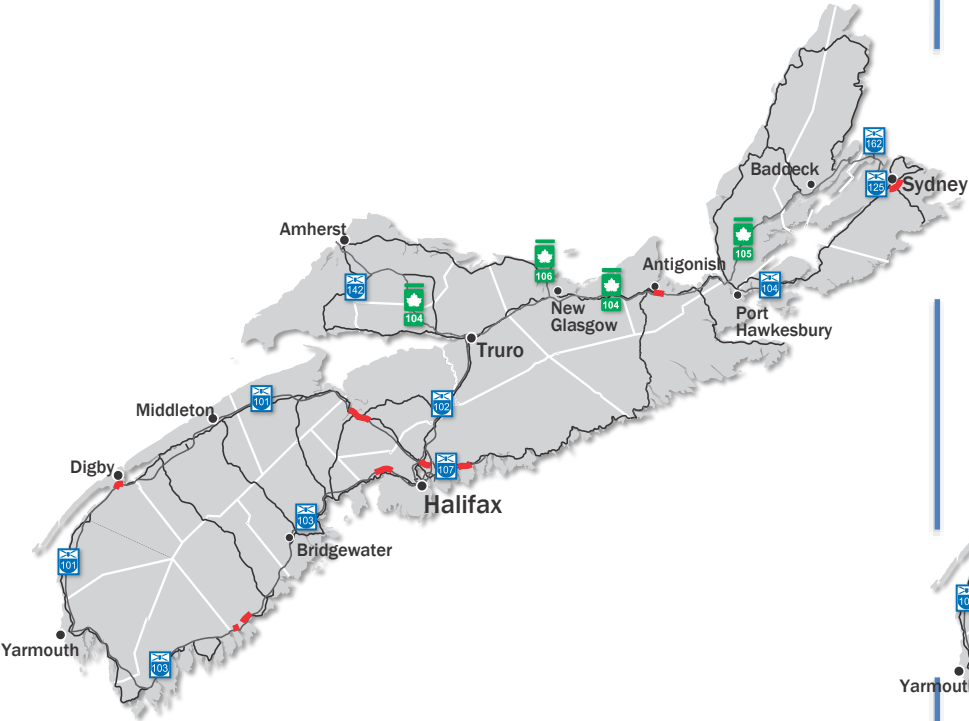
Provincial Highway Spending 2016/17

Expenditure Versus Revenue (\$ millions)



Nova Scotia Highway Construction Current Highway Projects Under Consideration

Nova Scotia Highway Construction Need and Demand



\$400 Million

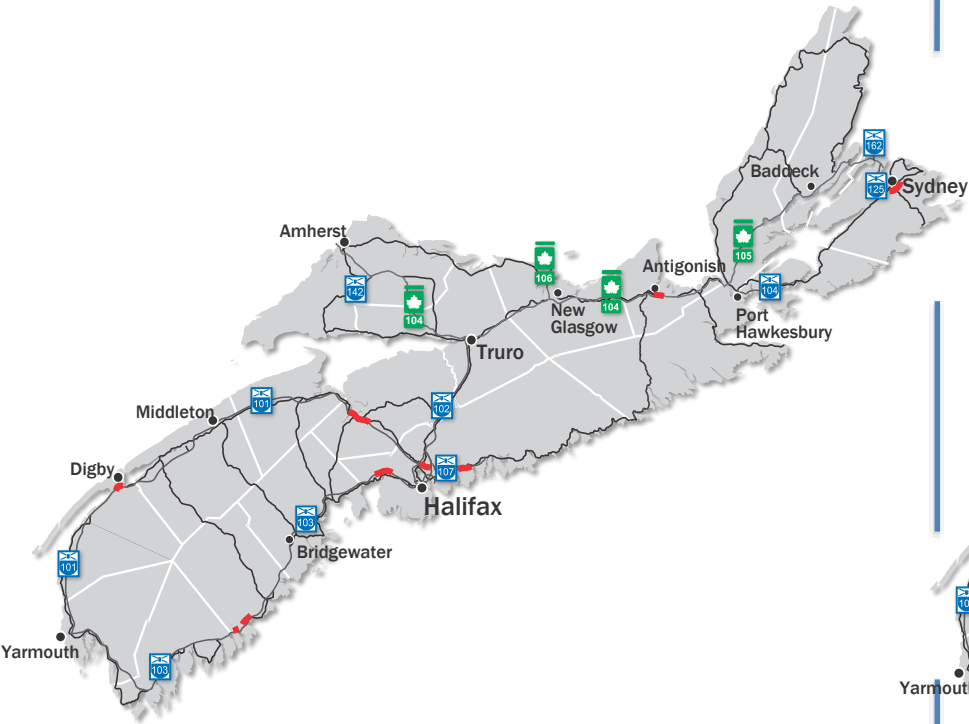
\$2.4 Billion

Current Safety Initiatives

- Safety studies on Highways 101,103,104, and 105
- Rumble Strips
- Wider paved shoulders
- Better signage
- Improved guardrails
- Resurfacing rutted sections
- High visibility pavement markings
- Speed feedback signs

Nova Scotia Highway Construction Current Highway Projects Under Consideration

Nova Scotia Highway Construction Need and Demand



\$400 Million

\$2.4 Billion

Highway Twinning Feasibility Study

Detailed Feasibility Study

Project Summary

Audrey Muir, Project Manager

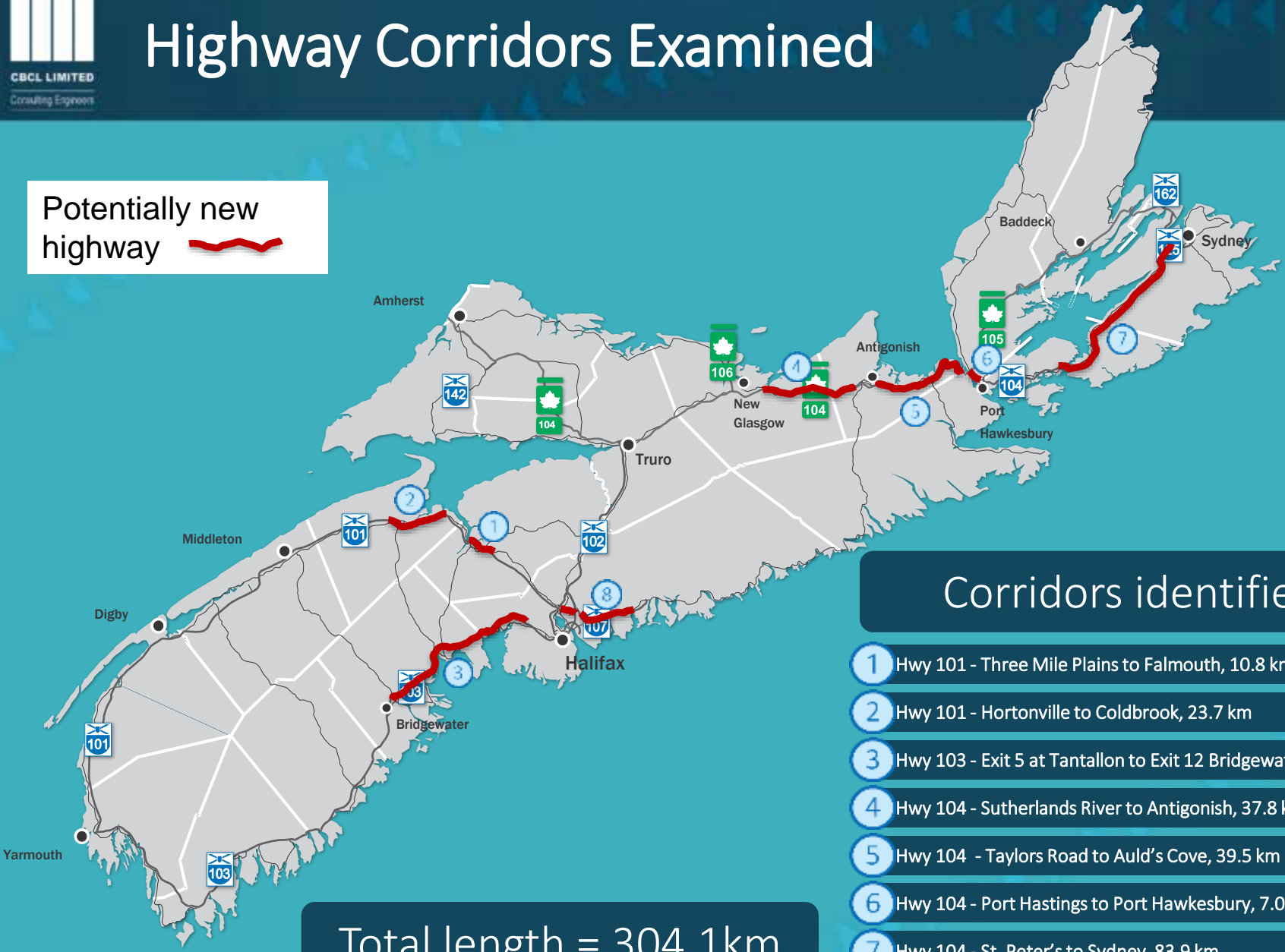
January, 2017

Study Objectives

- The Province is examining the feasibility of twinning 300 km of our 100-series highways
- This project could be delivered via a partnership approach similar to that of the Cobequid Pass and include tolling on highway sections
- This would result in these twinned highways being available decades earlier than could be achieved using conventional approaches

Highway Corridors Examined

Potentially new highway 



Total length = 304.1km

Corridors identified

- 1 Hwy 101 - Three Mile Plains to Falmouth, 10.8 km
- 2 Hwy 101 - Hortonville to Coldbrook, 23.7 km
- 3 Hwy 103 - Exit 5 at Tantallon to Exit 12 Bridgewater, 68.1 km
- 4 Hwy 104 - Sutherlands River to Antigonish, 37.8 km
- 5 Hwy 104 - Taylors Road to Auld's Cove, 39.5 km
- 6 Hwy 104 - Port Hastings to Port Hawkesbury, 7.0 km
- 7 Hwy 104 - St. Peter's to Sydney, 83.9 km
- 8 Hwy 107 - Porter's Lake to Duke Street, Bedford, 33.3 km

Summary of Tasks Completed for Study

Safety - examine reductions in the number of collisions

Examination of environmental constraints

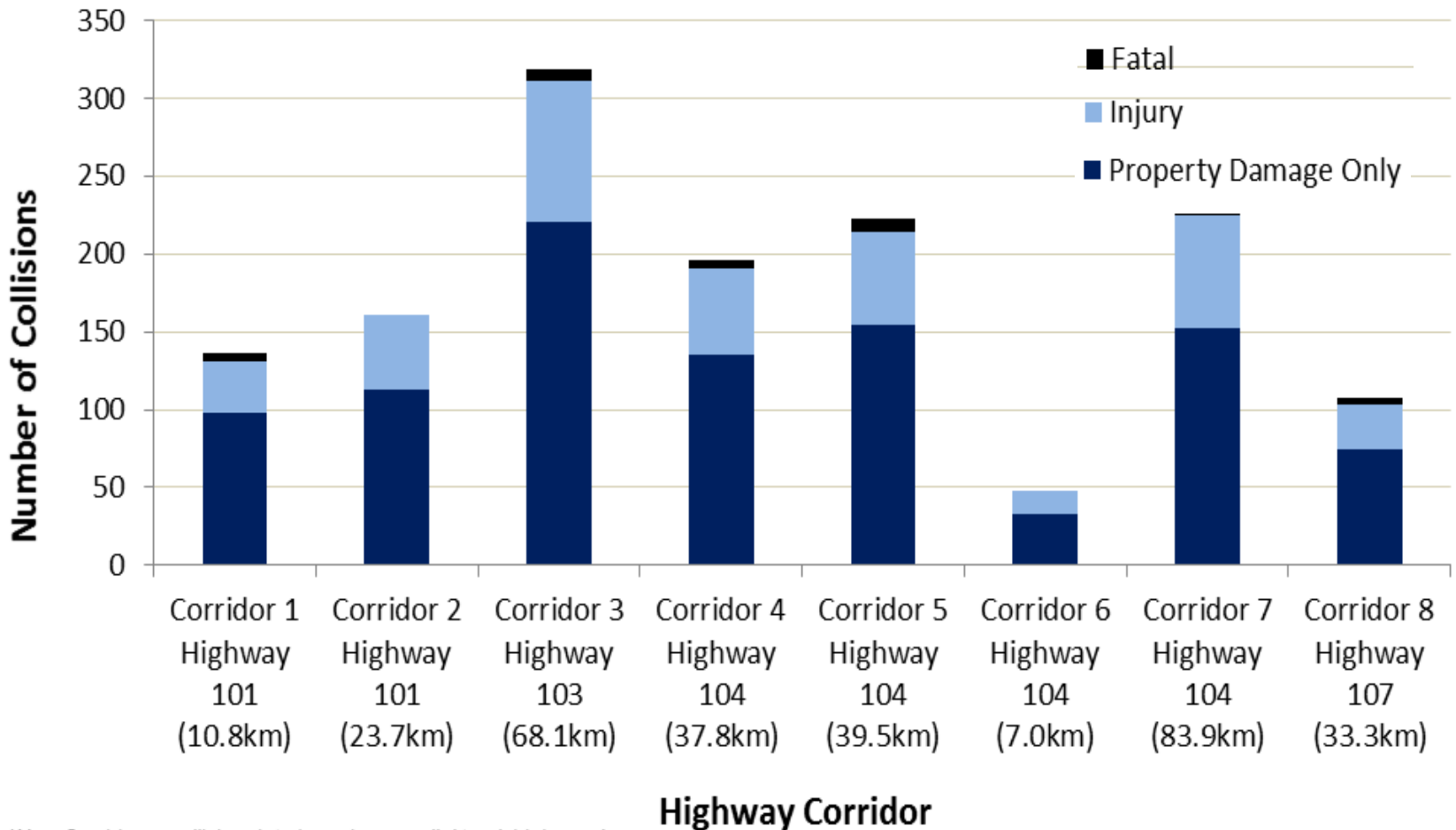
Estimate the cost to build twinned highways

Calculate the revenue generated by future tolls

Calculate/compare range of tolls required to fund twinned highways

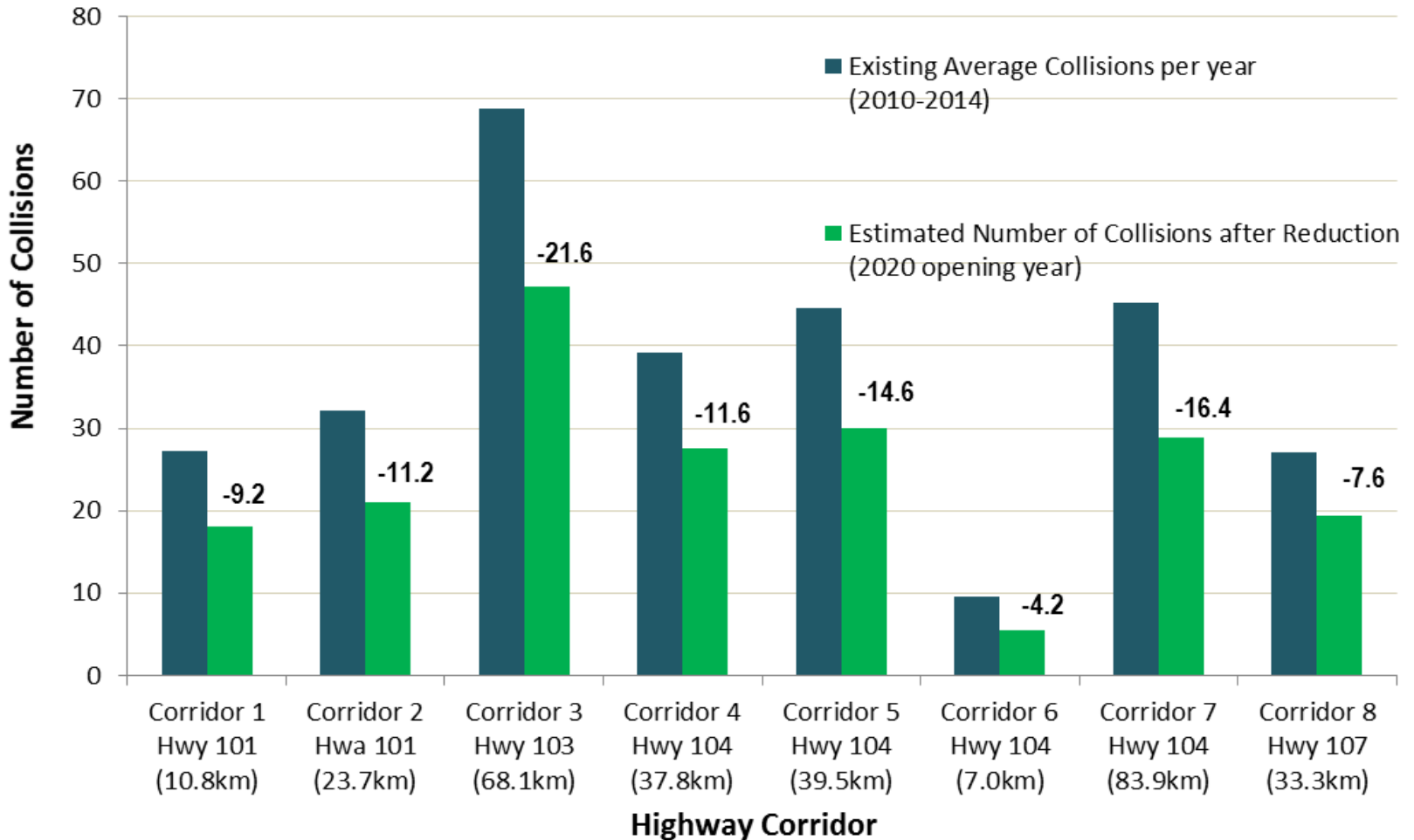
Undertake matrix assessment of each corridor

Total Number of Collisions by Severity (5-Year Data, 2010 to 2014)



**New Corridors - collision data based on parallel trunk highway 4*

Estimated Collision Reduction (Year of Opening)



Travel distance and travel time savings

The proposed twinning will offer travel distance and travel time cost savings. This table summarizes the estimated auto travel time / distance differences.



For example, a Bridgewater to Halifax return trip would be approximately 18 minutes shorter. A Coldbrook to Halifax return trip would be approximately 10 minutes shorter.



Corridor	Route	Approx. One Way Time Savings vs. Existing (mins)
1	Hwy 101- Three Mile Plains to Falmouth, 10.8 km	2
2	Hwy 101- Hortonville to Coldbrook, 23.7 km	3
3	Hwy 103- Exit 5 at Tantallon to Exit 12 Bridgewater, 68.1 km	9
4	Hwy 104- Sutherlands River to Antigonish, 37.8 km	3
5	Hwy 104- Taylors Road to Auld's Cove, 39.5 km	5
6	Hwy 104- Port Hastings to Port Hawkesbury, 7.0 km	4
7	Hwy 104- St. Peter's to Sydney, 83.9 km	22
8	Hwy 107- Porter's Lake to Duke Street, Bedford, 33.3 km	21

Construction Costs



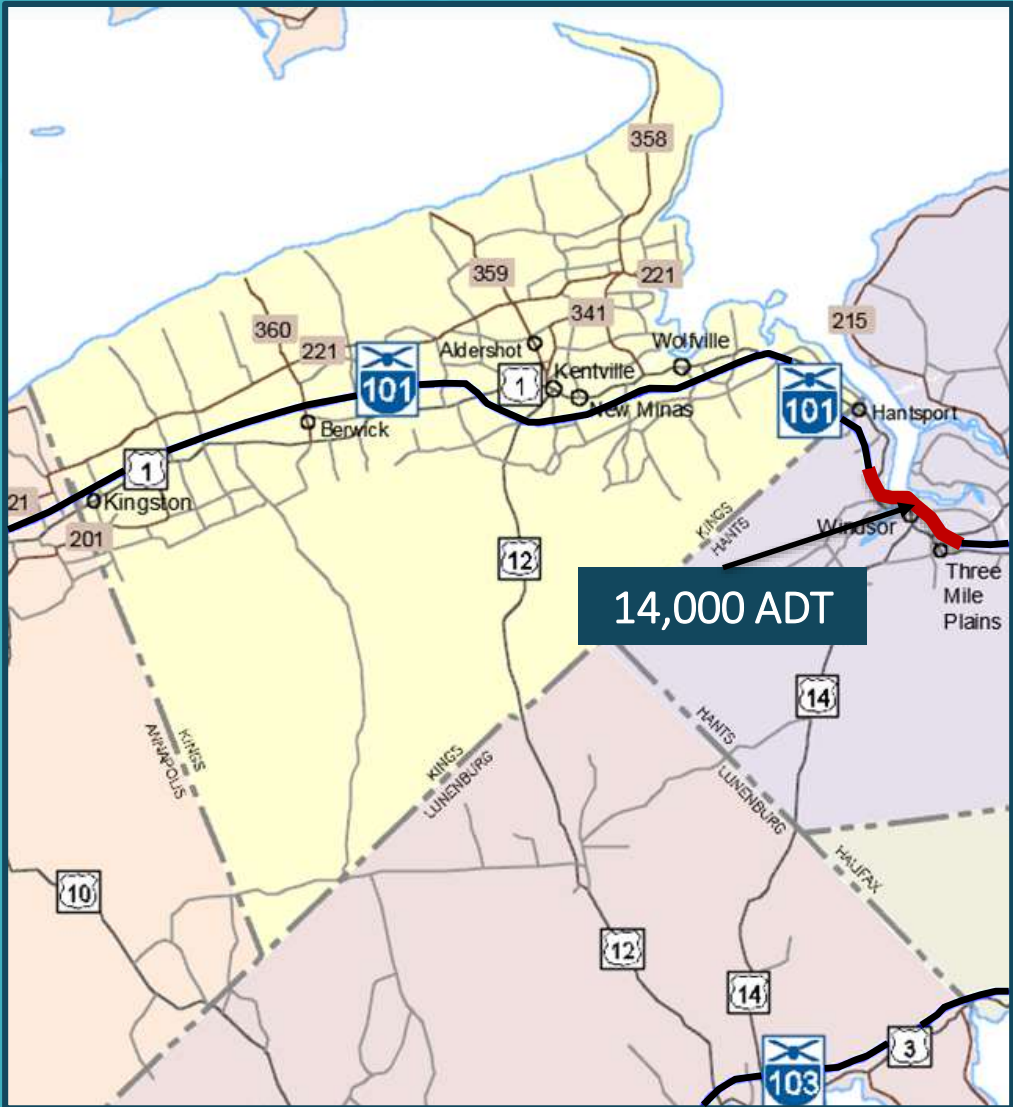
Cost Estimates

Class C Construction Estimate (+/- -15% to +20%)			Total
Corridor	Highway	Description	
1	101	Exit 5 Windsor to West of Exit 8	\$131,600,000
2	101	Hortonville to Coldbrook	\$168,500,000
3	103	Tantallon to Bridgewater	\$448,000,000
4	104	Sutherland's River to Antigonish	\$285,100,000
5	104	Taylor Road to Auld's Cove	\$279,200,000
6	104	Port Hastings to Port Hawkesbury (Major Arterial)	\$87,100,000
7	104	St. Peters to Sydney (Major Arterial)	\$491,300,000
8	107	Duke Street Bedford to Porters Lake	\$331,600,000
Total			\$2,222,400,000

Corridor

1

Highway 101 - Three Mile Plains to Falmouth



Construction Cost
\$131,600,000

Corridor Length
10.8 km

Possible Toll Range
\$0.65 to \$1.08

ADT = Average Daily Traffic

Corridor

2

Highway 101 - Hortonville to Coldbrook



Construction Cost
\$168,500,000

Corridor Length
23.7 km

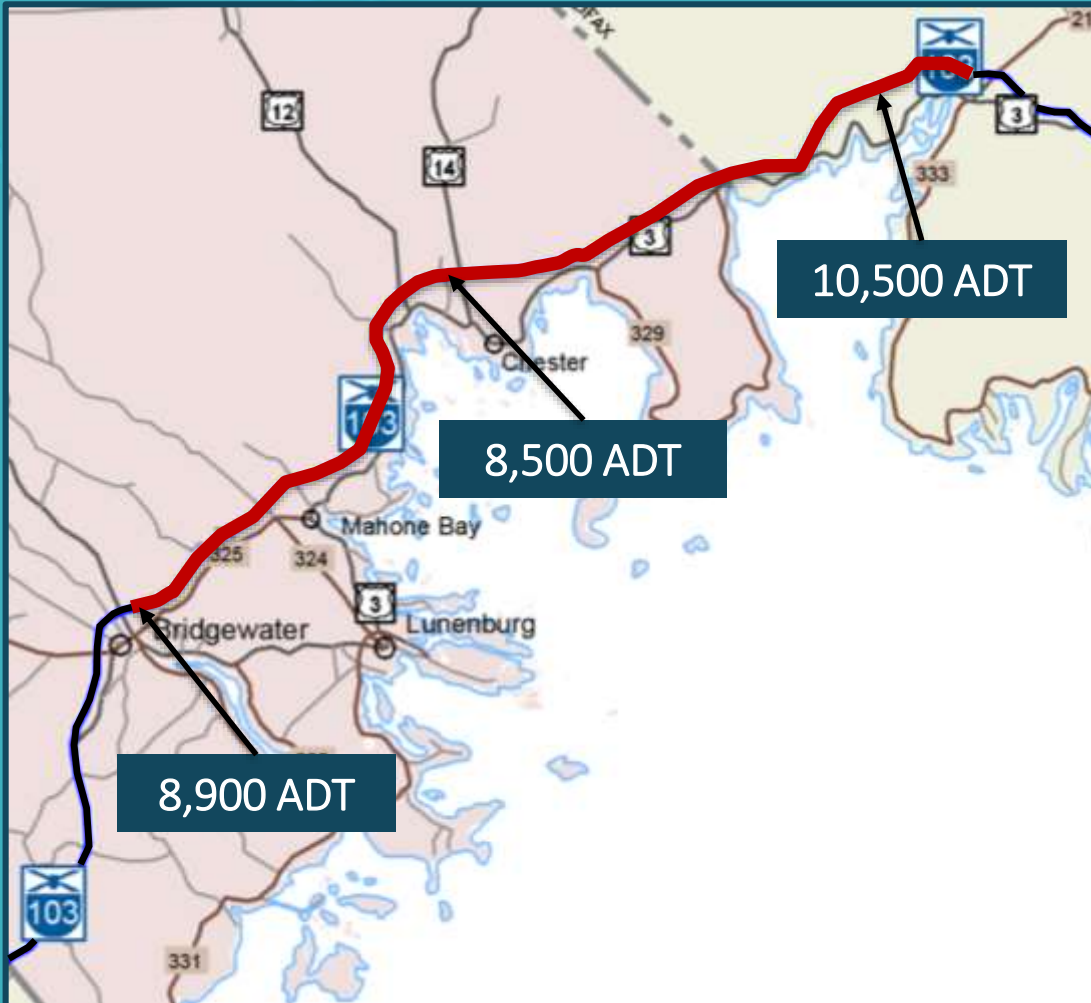
Possible Toll Range
\$1.42 to \$2.37

ADT = Average Daily Traffic

Corridor

3

Highway 103 - Exit 5 at Tantallon to Exit 12 Bridgewater



Construction Cost
\$448,000,000

Corridor Length
68.1 km

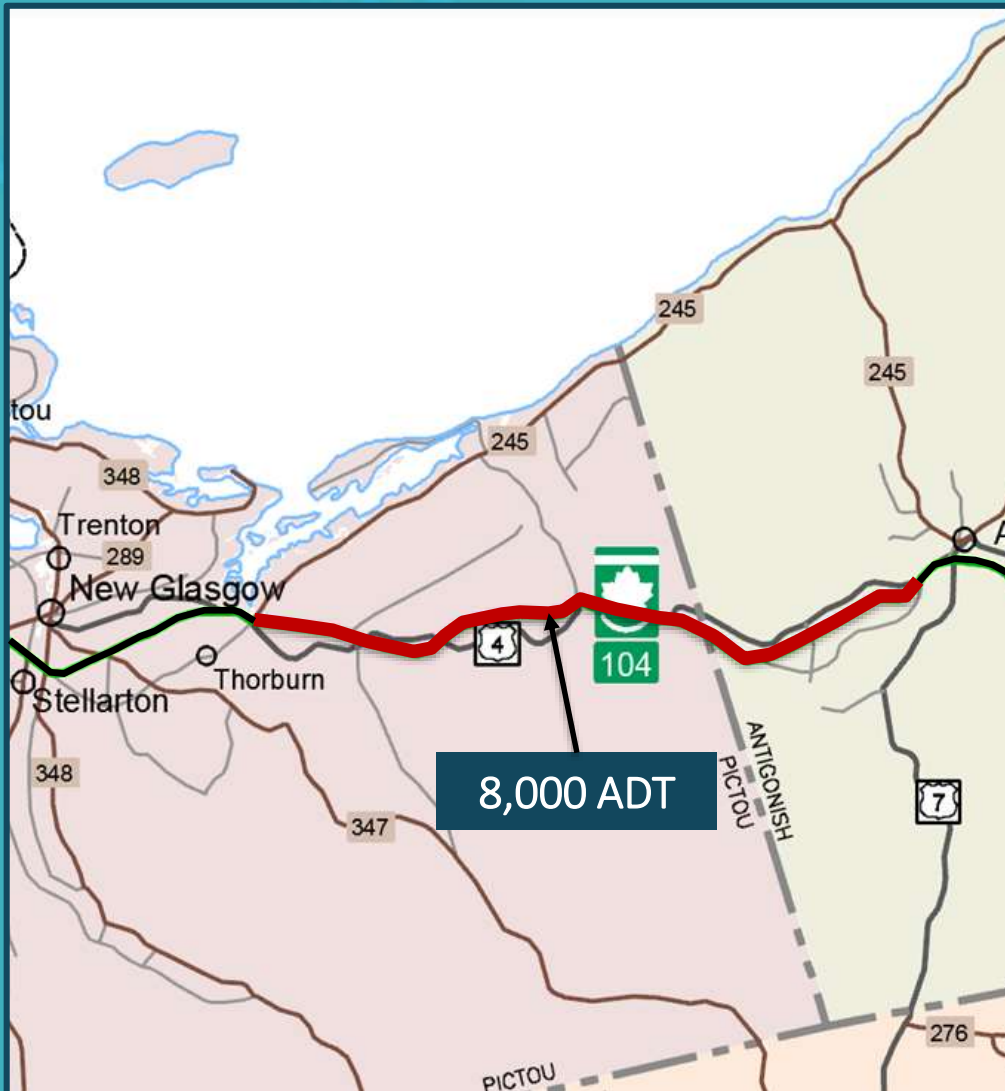
Possible Toll Range
\$4.08 to \$6.81

ADT = Average Daily Traffic

Corridor

4

Highway 104 - Sutherlands River to Antigonish



Construction Cost
\$285,100,000

Corridor Length
37.8 km

Possible Toll Range
\$2.27 to \$3.78

ADT = Average Daily Traffic



Construction Cost
\$279,200,000

Corridor Length
39.5 km

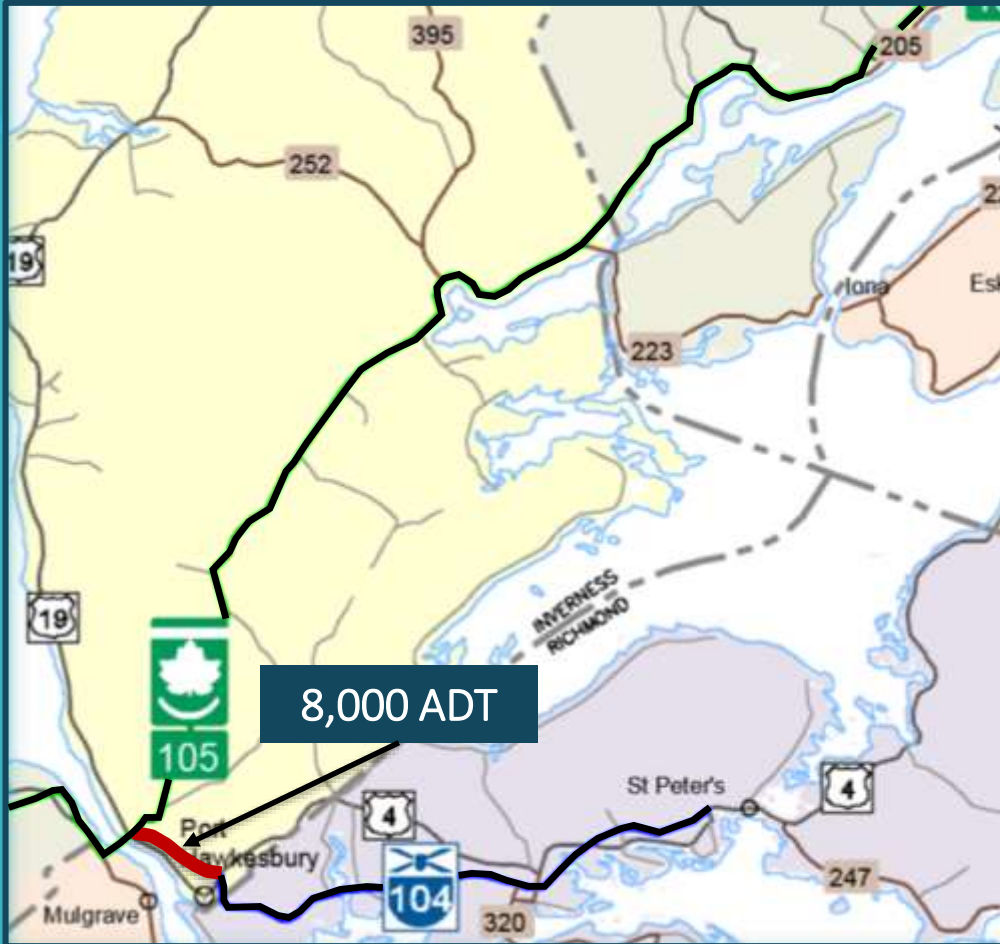
Possible Toll Range
\$2.37 to \$3.95

ADT = Average Daily Traffic

Corridor

6

Highway 104 - Port Hastings to Port Hawkesbury

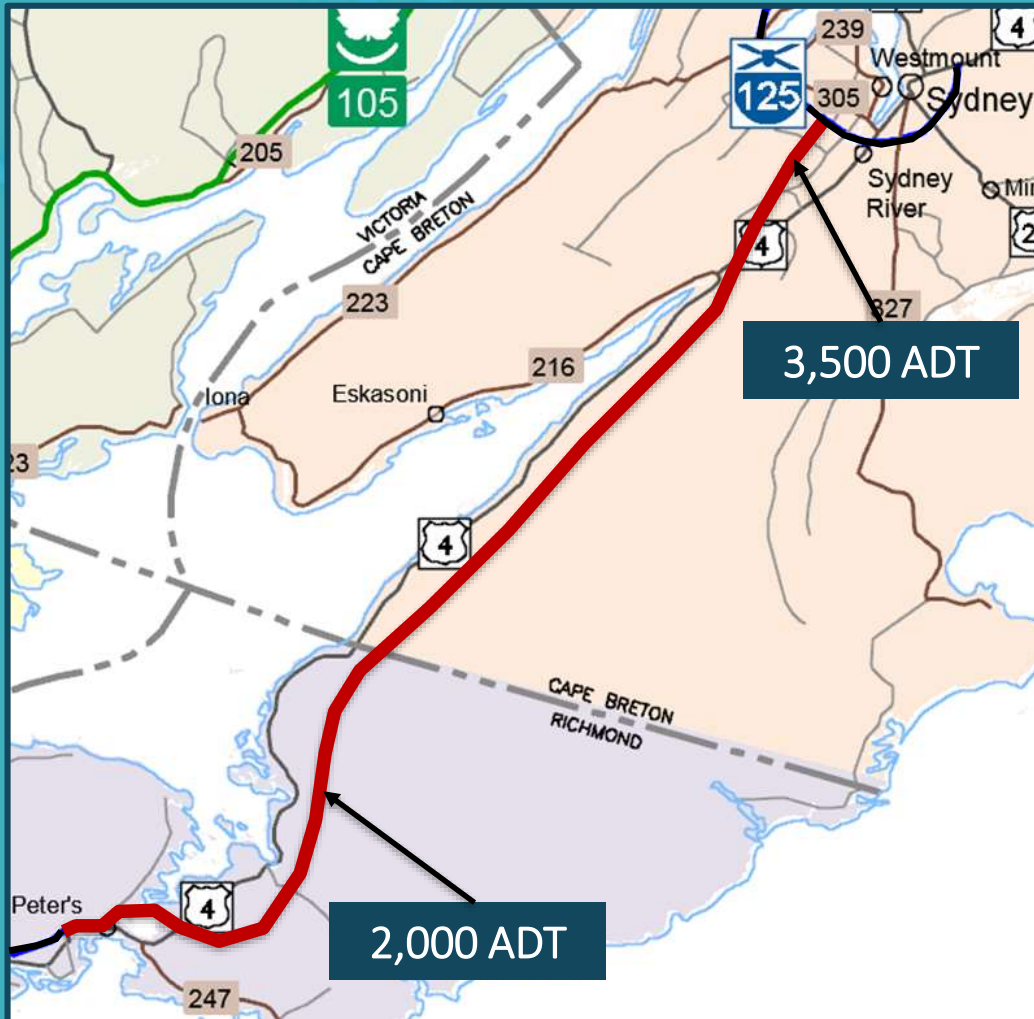


Construction Cost
\$87,100,000

Corridor Length
7.0 km

Possible Toll Range
\$0.42 to \$0.84

ADT = Average Daily Traffic



Construction Cost
\$491,300,000

Corridor Length
83.9 km

Possible Toll Range
\$5.03 to \$21.81

ADT = Average Daily Traffic



Construction Cost
\$331,600,000

Corridor Length
33.3 km

Possible Toll Range
\$2.00 to \$3.33

ADT = Average Daily Traffic

Project Revenue

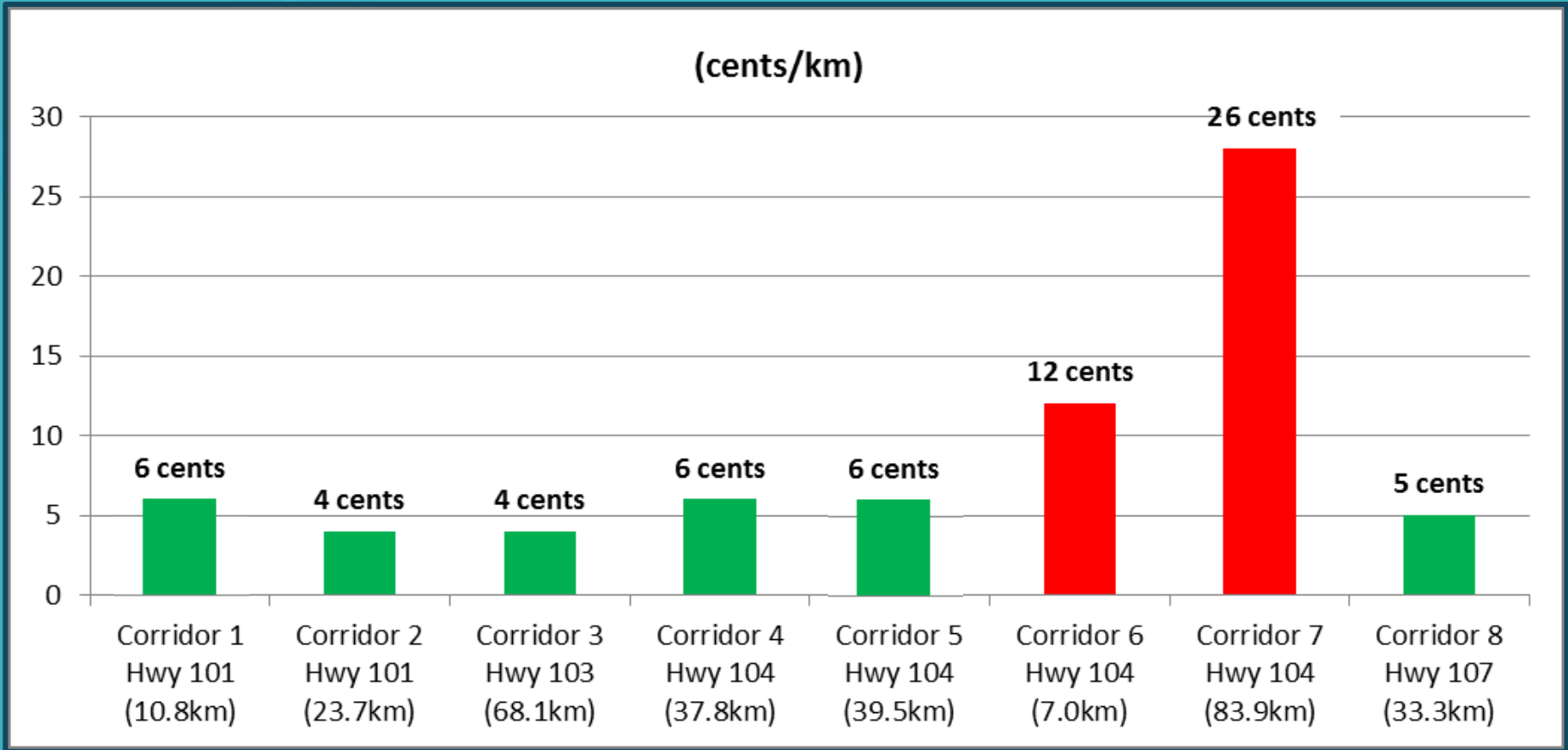
- We estimated future traffic volumes for each corridor using 5 year increments over the 30 year life of the project
- We estimated future revenue using a range of toll rates between 6 and 10 cents per kilometre

“Willingness to Pay” Survey Results



- 1,027 Nova Scotians surveyed
- The estimated median toll rate people were willing to pay was 6 cents per kilometre

Break even toll required for each corridor



Poor financial viability
Good financial viability

Criteria used for Assessment Matrix

- Safety
- Traffic volumes
- Cost vs Revenue
- Travel Time and Travel Cost Savings
- Environmental Concerns
- Land Acquisition



Ranking

Questions

1. What is your opinion of the current condition of the province's 100-series highways included in the study? (consider safety, traffic congestion, travel time)
2. Do you think twinning is the only option to improve the province's 100-series highways?
3. If twinning is the preferred option to improve the condition of the 100-series highways, do you support using tolls to twin highways sooner than would otherwise be possible given our current budget?
4. Do you have any other comments or questions?

Next Steps

- Complete 12 public meetings
- Share “What We Heard” document once complete
- Government will carefully review and consider all comments

Highway Twinning Feedback

For more information, locations and times of other sessions, or to send additional feedback online, visit:

- novascotia.ca/twinning
- Tweet us at: @NS_TIR #NSHighways

Or send us feedback by mail at:

Feedback-Highway Twinning

NSTIR

PO Box 186,

Halifax, Nova Scotia

B3J 2N2



Thank You