

US/Canada International Bridge Feasibility Study

Seaway International Bridge

EXECUTIVE SUMMARY



PREPARED FOR:

**New York State Department of Transportation, U.S.A.
Federal Bridge Corporation Limited, Canada
Federal Highway Administration, U.S.A.
Seaway International Bridge Corporation, Canada**

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The Seaway International Bridge crossing is comprised of two bridges, the North Channel Bridge, which connects Cornwall, Ontario to Cornwall Island, and the South Channel Bridge, which connects Cornwall Island to Massena / Rooseveltown, New York. The North Channel Bridge is owned by the Federal Bridge Corporation Limited (FBCL) and the South Channel Bridge is jointly owned by FBCL and the Saint Lawrence Seaway Development Corporation (SLSDC). The operation and maintenance of the bridge is supported by the Seaway International Bridge Corporation Limited (SIBC). The crossing services both commercial and passenger vehicles and allows access for pedestrians.

The Seaway International Bridge crossing maintains a two-lane cross-section from the North Channel Bridge through to the South Channel Bridge. Vehicles travelling from the north end of the crossing to the south end of the crossing would pass by the North Channel Bridge, the maintenance facility and administration building, the toll facility, the Cornwall Island Road intersection with International Road, the Canada Border Services Agency (CBSA) facility, the South Channel Bridge, a duty-free store (NB traffic only) and the U.S. Customs & Border Protection (CBP) facility. The maintenance facility and administration building, the toll facility and the CBSA facility are all located on Cornwall Island. The duty-free store and the U.S. CBP facility are located on the U.S. mainland.

The Seaway International Bridge crossing is an important crossing internationally, regionally and locally to both the residents and economy of Eastern Ontario, Quebec, Northern New York State and Akwesasne. The Transportation in Canada 2003 Annual Report indicates that the Seaway International Bridge ranked 8th and 20th in terms of the number of passenger and commercial vehicles, respectively at the crossing when compared with all other international crossings between Canada and the United States, with approximately \$885 M¹ carried in trade annually.

Results from Origin-Destination Travel Surveys also indicate that passenger vehicle trips using this crossing are reflective of high frequency, short distance, daily trips and that a high proportion of commercial vehicle trips using this crossing have destinations in either Ontario, Quebec, New York or the Akwesasne lands. Survey results also show that many of the commercial vehicles using the crossing are empty, which is indicative of localized destinations and specialized commercial vehicle types. In addition, on weekdays, most of the passenger travel using the South Channel Bridge is local travel with 90% of trips in the winter and 71% of trips in the summer traveling between the City of Cornwall, Cornwall Island, the Massena area and Akwesasne lands in New York and Quebec.²

Since the opening of the Seaway International Bridge crossing in 1962, vehicle volumes have increased from approximately 500,000 annual vehicles to over 2.5 million annual vehicles in 2004, of which approximately 94% are passenger vehicles and the remaining 6% are commercial vehicles. Peak travel months for passenger vehicles were observed to occur in July and August, with August being the peak travel month of the year. The highest vehicle volumes were observed on August Fridays with peak hour volumes of

¹ 2003 Transborder Surface Freight Database, Bureau of Transportation Statistics, U.S. Department of Transportation.

² International Bridge and Three Nations Bridge Crossing Travel and Toll Impact Study, March 2002.

approximately 335 vehicles occurring in the late afternoon. Using historical vehicle volumes and socio-economic data, multiple linear regression models were developed to estimate 2031 passenger and commercial vehicle volumes. Model estimates indicated future year volumes of approximately 5.56 million passenger vehicles and 0.28 million commercial vehicles, or a total of 5.84 million vehicles annually.

As vehicle volumes have been increasing historically and are expected to double by 2031, operational issues were determined based on an understanding of processing capacities observed from a field survey, operational capacities identified from traffic microsimulation models and capacity analysis methodologies in the Highway Capacity Manual (HCM) 2000. In addition, problems identified by stakeholders were also noted and included in the identification of short-term and long-term issues and needs at the crossing.

The short and long-term needs identified from infrastructure capacities and dialogue with stakeholders are listed below. It is of note that the short-term needs identified in concurrent or recent studies in the study area or vicinity are also included, as the operational functionality of the crossing should be addressed as a whole entity.

Short-term needs:

- North Channel Bridge – new low level bridge
- Cornwall Island Road – intersection improvements
- International Road – turn lanes
- Consolidated intersections at Peace Tree Mall and West Service Road
- CBSA primary commercial vehicle processing improvements
- Toll booth operation improvements
- U.S. CBP facility improvements

Long-term needs:

- CBSA primary passenger and commercial processing booth improvements
- South Channel Bridge – capacity improvements

As part of the study process, various opportunities were identified to address each of the infrastructure needs. These opportunities were then assessed for operational and engineering feasibility. The operational review involved microsimulation modelling and concept development to ensure that proposed improvements could be implemented. The engineering feasibility screening process included an evaluation of natural factors, socio-economic factors, transportation factors, cost factors and implementation factors.

Based on the operational and engineering feasibility analysis, technically recommended short and long-term infrastructure improvements were identified. These improvements would require capital investments at the Seaway International Bridge crossing prior to 2012 to implement short-term improvements and capital investments beyond 2012 for long-term improvements. The technically recommended short and long-term improvements for the Seaway International Bridge are listed below.

Short-term (prior to 2012) capital investments are inclusive of the following:

- New two-lane low-level North Channel Bridge
- International Road turn lanes north of the Cornwall Island Road intersection
- Consolidated intersections at West Service Road and Peace Tree Mall
- Cornwall Island Road intersection improvements (e.g., traffic roundabout)
- CBSA (Canada Customs) facility improvements
 - Commercial vehicle booth
 - Commercial vehicle egress
 - Employee parking relocation
- Toll facility relocation south of CBSA facility
- U.S. CBP (Customs) facility improvements
 - Redesign of existing facility

Long-term (beyond 2012) capital investments are inclusive of the following:

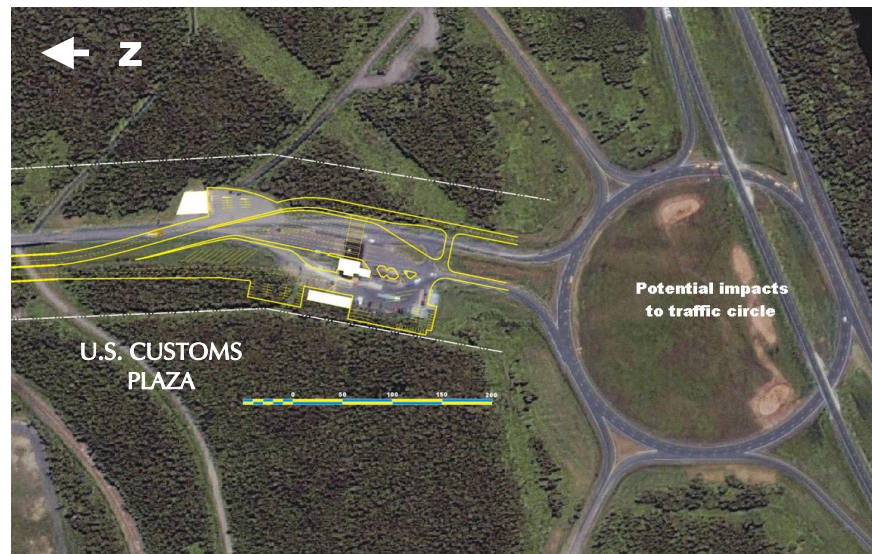
- Relocate maintenance / administration facility (if applicable) to south of Cornwall Island Road intersection
- CBSA facility improvement
 - Expand to include 5 passenger vehicle processing booths and 2 commercial vehicle processing booths
 - Construct new CBSA processing buildings and infrastructure
- New four-lane high-level South Channel Bridge

Functional concepts of the short-term and long-term improvements are shown in Figures 1 and 2, respectively.

Figure 1. Functional Concept of Short-Term Improvements

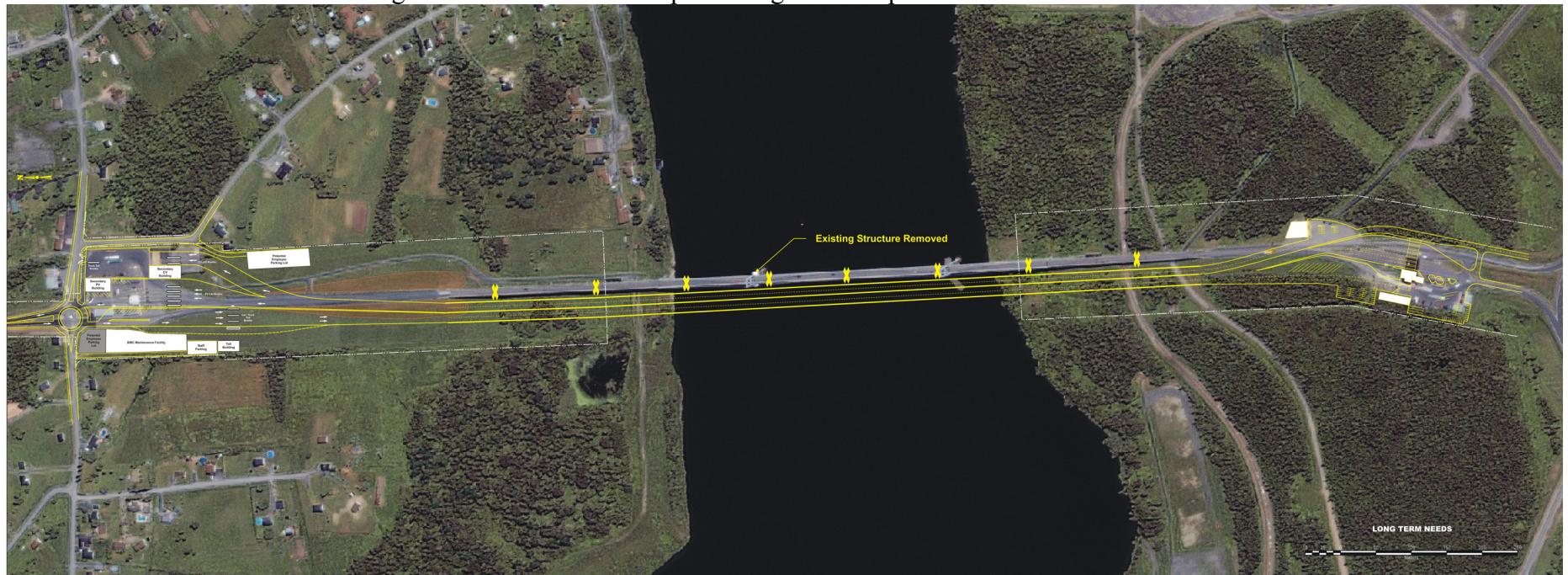


Aerial © 2004 Space Imaging, LLC.



Aerial © 2004 Space Imaging, LLC.

Figure 2. Functional Concept of Long-Term Improvements



Aerial © 2004 Space Imaging, LLC.

Prior to the implementation of these improvements, a resolution of issues regarding the operations of the international corridor, ownership of the international corridor and a financial commitment to the international corridor is required from the Seaway International Bridge Corporation, the Canadian and the American governments and the Mohawk Council of Akwesasne (Three Nations). The Seaway International Bridge Corporation (SIBC) will need to resolve existing and future issues associated with:

- SIBC's tolling policy (existing)
- Enforcement operations (existing) at the toll facility, and
- SIBC's financial self-sufficiency mandate (future)

The Canadian Government, American Government and the Mohawk Council of Akwesasne will need to address litigation, claims and ownership with respect to the operation of the International Corridor.

A commitment to a functional international corridor is also required by stakeholders at the Seaway International Bridge, which includes the Mohawk Council of Akwesasne, who have indicated that community concurrence will be demonstrated through a Council Resolution of Support. As part of its commitment to extensive public consultation, the Seaway International Bridge Corporation will continue to initiate meetings with the members of the U.S. / Canada International Bridge Feasibility Study Advisory Committee as planning work continues at the crossing, through to the establishment of a Three Nations Bridge Corridor Committee comprised of corridor stakeholders that are involved with major capital works along the international corridor.

Stakeholders in the Corridor Committee would include:

- Seaway International Bridge Corporation (SIBC)
- Federal Bridge Corporation Limited (FBCL)
- Transport Canada (TC)
- City of Cornwall
- Saint Lawrence Seaway Development Corporation (SLSDC)
- Federal Highway Administration (FHWA)
- New York State Department of Transportation (NYSDOT)
- St. Lawrence County
- Town of Massena
- Mohawk Council of Akwesasne (MCA)
- St. Regis Mohawk Tribe (SRMT)
- Mohawk Nation Council of Chiefs
- Canada Border Services Agency (CBSA)
- U.S. Customs and Border Protection (CBP)
- U.S. General Services Administration (GSA)
- Enbridge Gas

The Committee would be responsible for providing a forum for ongoing Community input and stakeholder dialogue as design concepts and strategies are developed following the completion of the U.S. / Canada International Bridge Feasibility Study.

The proposed schedule for the implementation of required improvements is summarized in Table 1.

Table 1. Proposed Implementation Schedule

INFRASTRUCTURE	2005	2006	2007-2010	2011	2018-2025
Traffic roundabout at Cornwall Island Road	1	3			
CBSA commercial vehicle egress	1	3			
CBSA employee parking	1	3			
International Road turn lanes	1	3			
Peace Tree Mall intersection	1	3			
West Service Road intersection	1	3			
CBSA commercial vehicle booth	2	3			
Toll booth relocation	2		4		
North Channel Bridge			4		
U.S. CBP facility			5		
Maintenance / administration building relocation				6	
South Channel Bridge				7	8
CBSA facility					9

Legend:

- 1 SIBC to begin the following studies and detailed design
- 2 SIBC to initiate studies and detailed design with consideration of available opportunities arising from the ongoing design of the U.S. CBP facility
- 3 SIBC, to obtain funds and initiate construction
- 4 SIBC, through FBCL, to secure funds and initiate construction
- 5 U.S. GSA to initiate construction
- 6 SIBC to undertake and reaffirm timing of bridge deck replacement and need and timing of capacity improvements
- 7 SIBC to assess need for relocation unless expedited as part of the toll booth reconstruction
- 8 SIBC and stakeholders to obtain funds and undertake detailed design and construction / rehabilitation of South Channel Bridge
- 9 SIBC, CBSA and stakeholders to obtain funds and undertake detailed design and construction of CBSA processing facilities

FACT SHEET

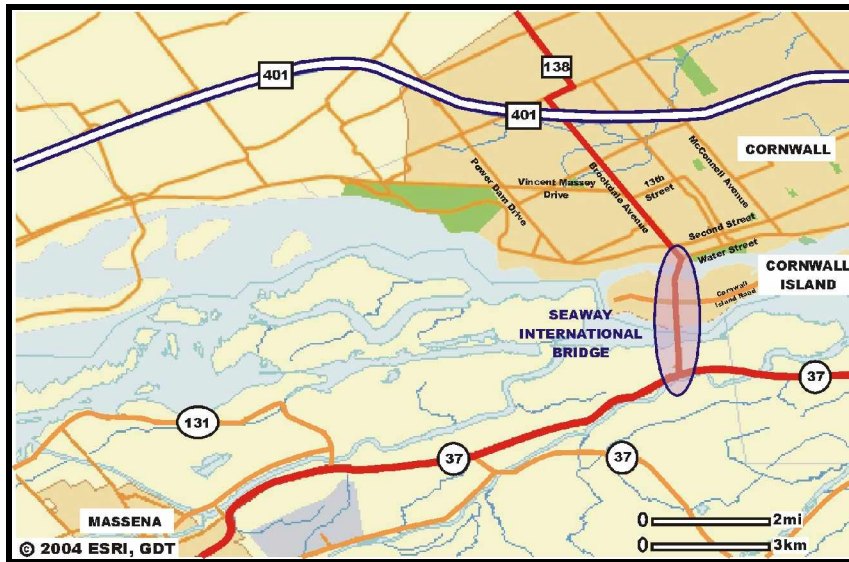
FACT SHEET

Crossing: Seaway International Bridge
 (Three Nations Bridge Crossing)

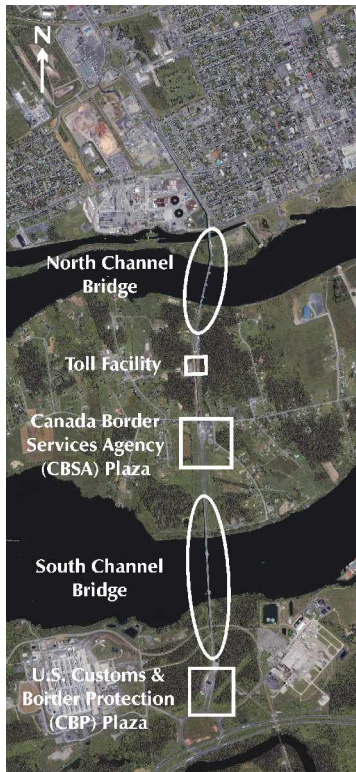
History: North Channel Bridge – Opened to public on July 3, 1962
 South Channel Bridge – Opened to public on December 1, 1958

Ownership: North Channel Bridge – Federal Bridge Corporation Limited
 South Channel Bridge – Federal Bridge Corporation Limited and Saint Lawrence Seaway Development Corporation

Location: Connects Cornwall and Cornwall Island, Ontario to Massena, New York



Existing Infrastructure:



North Channel Bridge:

- 33 viaducts and a 3-span continuous truss
- approximate 4% uphill grade for 914 m
- 36.6 m clearance over water
- 2-lane cross-section (8.2 m wide and a sidewalk on the west)
- requires truck spacing of 100 yards

Toll Facility:

- 2 toll booths, three lanes of travel
- centre lane is reversible for peak hour traffic
- tolls collected for both directions

Canada Border Services Agency (CBSA):

- 4 primary passenger vehicle inspection booths
- no primary commercial vehicle inspection booth

South Channel Bridge:

- 22 viaducts and a 3-span suspension bridge
- approximate 4% uphill grade for 640 m
- 36.6 m clearance over water
- 2-lane cross-section (8.2 m wide with a sidewalk on the east)
- requires truck spacing of 100 yards

U.S. Customs & Border Protection (U.S. CBP):

- 4 primary passenger vehicle inspection booths
- 1 primary commercial vehicle inspection booth

Existing Volumes: 2004 passenger vehicles: 2.4 million (8th busiest passenger vehicle land border crossing in Canada)
2004 commercial vehicles: 0.15 million (20th busiest commercial vehicle land border crossing in Canada)
2004 total vehicles: 2.55 million

Travel characteristics: Majority of trips are high frequency, short distance, daily trips

Trade characteristics: Regional trade mainly between Ontario, Quebec, Akwesasne lands and New York
Approximate trade value of \$885 million in 2004

Future Volumes: 2031 passenger vehicles: 5.56 million
2031 commercial vehicles: 0.28 million
2031 total vehicles: 5.84 million

Future Needs: Short-Term (by 2012):
North Channel Bridge – new two-lane low level bridge
International Road – turn lanes
Peace Tree Mall and West Service Road – consolidated intersections
Toll facility – relocation south of CBSA facility with additional processing capacity
Cornwall Island Road – intersection improvements
Canada Border Services Agency – primary commercial vehicle processing booth, commercial vehicle egress, employee parking relocation
U.S. Customs & Border Protection – facility improvements

Long-Term (beyond 2012):
Maintenance / administration facility – relocate south of CBSA (if applicable)
South Channel Bridge – new four-lane high-level bridge
Canada Border Services Agency – expand existing facility to include 5 primary passenger vehicle booths and 2 primary commercial vehicle processing booths

Implementation schedule:

INFRASTRUCTURE	2005	2006	2007-2010	2011	2018-2025
Traffic roundabout at Cornwall Island Road	U	W			
CBSA commercial vehicle egress	U	W			
CBSA employee parking	U	W			
International Road turn lanes	U	W			
Peace Tree Mall intersection	U	W			
West Service Road intersection	U	W			
CBSA commercial vehicle booth	V	W			
Toll booth relocation	V		X		
North Channel Bridge			X		
U.S. CBP facility			Y		
Maintenance / administration building relocation				Z	
South Channel Bridge				{	
CBSA facility					}

Legend:

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- Z SIBC to undertake and reaffirm timing of bridge deck replacement and need and timing of capacity improvements
- { SIBC to assess need for relocation unless expedited as part of the toll booth reconstruction
- | SIBC and stakeholders to obtain funds and undertake detailed design and construction / rehabilitation of South Channel Bridge
- } SIBC, CBSA and stakeholders to obtain funds and undertake detailed design and construction of CBSA processing facilities

Final Reports: Seaway – Draft Final Report posted on Teamcentral June 7, 2005
Seaway – Draft Task 1 Report posted on Teamcentral June 7, 2005
Seaway – Draft Task 2 Report posted on Teamcentral June 7, 2005
Seaway – Draft Task 3 Report posted on Teamcentral June 7, 2005
Seaway – Draft Task 4 Report posted on Teamcentral June 7, 2005