



U.S. Department of Transportation
Federal Highway
Administration



Transport Canada Transports
Canada Canada

Transportation Border Working Group

FINAL

Border Infrastructure Compendium
2003 and Beyond

Prepared for

Canada-U.S. Transportation Border Working Group

By the

New York State Department of Transportation

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Transportation Border Working Group

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Executive Summary

In the Spring of 2002, the Transportation Border Working Group (TBWG) formally recognized the need to obtain a more comprehensive understanding of the scope and estimated cost of planned and/or identified improvements at or in support of the international crossings between the U.S. and Canada. The New York State Department of Transportation, with the assistance of the U.S. Federal Highway Administration, agreed to lead a committee of TBWG members to undertake this effort.

Many different groups own, operate and maintain international crossing ports of entry and the rail and highway systems that serve them. In the past, projects have not always been advanced in a coordinated manner. Thus, identifying new projects, accurately assessing the scope of ongoing and planned projects, and determining the associated magnitude of funds required to complete them has been difficult to determine.

In order to identify the growing needs of travel and trade between the world's two largest trading partners (estimated at \$1.4 billion U.S. per day in 2001 and growing), a questionnaire was developed to enable all pertinent data to be gathered, identified and quantified from these appropriate agencies along the entire Northern Border. This information was assembled into a compendium, which if periodically updated to reflect current and future needs, will greatly facilitate interagency short- and long-term planning, coordination, and funding efforts. The Compendium includes port descriptions (ie. ownership, physical layout, annual traffic/trade, etc.), as well as detailed information on current or planned projects and other needs within or in support of border crossings including corridors and their approaches.

This Compendium focused on ports of entry that have dedicated commercial operations or significant non-commercial traffic. All other 24-hour/7-day operational crossings will be identified for potential needs assessment in subsequent efforts. It should also be noted that while the Compendium provides the most up-to-date information on border related needs, it should not be viewed as a comprehensive listing, as some agencies submitted data only for projects currently programmed for future construction, while other agencies included un-programmed projects for consideration as well.

While the TBWG recognizes that Federal Inspection Services and other agencies' staffing needs at these crossings are critical to the safe, secure and efficient operation of cross-border travel, this effort did not address or quantify those needs. Additionally, due to the sensitive nature of the information provided, individual project-related data associated with a port of entry or access to the port have been restricted and only overall summary tables showing the magnitude of expenditures have been included in the results.

The results submitted show that 224 projects are proposed to improve infrastructure and inspection operations at the U.S./Canada Border or in its vicinity at an estimated total cost of





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\$13.4 billion. This information has been organized, summarized and combined in comparative relationships to provide a more complete picture of the types of expenditures planned. The results of this effort showed:

- There were 194 projects identified for implementation in the Short Term (present to the end of 2009) at an estimated cost of \$4.0 billion. In the longer term (post 2009 period), only 30 projects were identified at an estimated cost of \$9.4 billion.
- The greatest number of projects is planned at the border crossings (55% or 124 projects). However, expenditures on these projects are \$1.8 billion (13% of the estimated needs).
- Corridor improvements account for 27% of the proposed projects (61) and will require the greatest resources to implement (75% of the total expenditures or \$10.0 billion).
- There are planned investments to improve and support travel between the U.S. and Canada at 96 of the 143 ports of entry listed in the Compendium. At 11 ports of entry, expenditures exceed \$100 million dollars

The Compendium development required a significant investment in time by members of the TBWG to bring this project to a successful conclusion. The effort identified the magnitude of the needs as well as a framework for the future to maintain, update, expand and share this information among both countries and the numerous states, provinces, authorities and enforcement agencies that are responsible for infrastructure improvements and operations at or approaching the border.

This report presents recommendations on who should update the Compendium, how and when it should be updated, how information should be shared, how the effort should be expanded and how an ongoing effort should be funded.

The Compendium identified that while major investments are required at the actual ports of entry themselves, an even larger investment will be required on the approaches and trade corridors that serve them. Investment in the approaches and trade corridors was estimated at \$11.6 billion. This level of investment indicates the substantial role needed by Federal, Provincial, and State Transportation agencies in support of these crossings in order to continue to maintain and expand international trade and travel. This illustrates and supports the continuing need for TBWG to provide effective communications and coordination among all agencies involved at or within the vicinity of the U.S./Canada Border.

While the overall identified investment of over \$13 billion may seem very large, *it represents the value of only ten days of trade between the U.S. and Canada;* trade that supports over 5.5 million jobs in the U.S. and Canada annually.





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Introduction

There are 143 highway, rail and water ports of entry listed in the Compendium between Canada and the United States. Many different groups own, operate or maintain these ports and the rail or highway systems serving them. They include private companies, crossing authorities, federal, state and provincial departments and ministries of transportation from both the U.S. and Canada. As a result, a picture of the magnitude of funds needed, both now and in the future, to meet the growing needs of travel and trade between the world's two largest trading partners (estimated at \$1.4 billion U.S. per day in 2001 and growing) has been difficult to determine.

To determine the funds required to meet U.S./Canada border crossing infrastructure needs, the Canada/U.S. Transportation Border Crossing Working Group (TBWG), lead by a committee of its members, undertook a project to quantify this information in the spring of 2002. The purpose was to obtain and organize all available information from the agencies involved at border crossings on current and planned projects and other needs within or in support of border crossings between the U.S. and Canada, including corridors and their approaches.

Questionnaires were developed to obtain information on the individual ports of entry, as well as to identify projects and other needs planned in both countries to improve or support travel to and within these ports. These questionnaires were given to members of the TBWG to obtain the requested information. The information was entered into a database to provide easy access and create summaries of the data.

Information on individual projects was included in the database, together with descriptions and locations of the various ports of entry. For security reasons, however, information on individual projects at each port is not included in this report. Only summaries of this information are provided. Information on each port is provided on a CD for information retrieval.

The following documents these activities and results, and suggests possible next steps to maintain, expand and update this information under the following sections:

- Purpose
- Study Background/Methodology
- Assumptions/Limitations
- Results
- Next Steps
- Conclusions





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Purpose

The purpose of this effort is to develop a compendium of Canadian/U.S. border facilities' existing needs and funding requirements. The sharing of information and improved coordination among affected agencies will allow agencies to better address these needs, and to maintain and improve the safety, security and efficiency of cross-border travel.

This effort is intended to:

1. Provide a valuable information resource on the magnitude of needs and necessary funding at or near the Canadian/U.S. border, based on uniform parameters and format, to facilitate interagency coordination, planning and policy development on infrastructure, technology and process initiatives.
2. Provide input to address the Canada - U.S. Smart Border Declaration, Action 19, Infrastructure Improvements¹.
3. Provide a comprehensive and coordinated basis for defining funding needs and for seeking Canadian and U.S. federal funding.

The effort focused on ports of entry that have dedicated commercial operations or significant non-commercial traffic. All other 24-hour/7-day operational crossings will be identified for potential needs assessment in subsequent efforts.

While the TBWG recognizes that Federal Inspection Services and other agencies' staffing needs at these crossings are critical to the safe, secure and efficient operation of cross-border travel, this effort does not quantify those needs.

(1) In December 2001, Governor Tom Ridge and Canadian Deputy Prime Minister John Manley signed the "Smart Border" Declaration and associated 30-point Action Plan to enhance the security of our shared border while facilitating the legitimate flow of people and goods. The action plan has four pillars: the secure flow of people, the secure flow of goods, secure infrastructure, and information sharing and coordination in the enforcement of these objectives. Action 19 - Infrastructure Improvements - Work to secure resources for joint and coordinated physical and technological improvements to key border points and trade corridors aimed at overcoming traffic management and growth challenges, including dedicated lanes and border modeling exercises.





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Study Background and Methodology

In the Spring of 2002, the Transportation Border Working Group (TBWG) recognized the need to obtain a more comprehensive understanding of the magnitude and cost of planned or identified improvements at or in support of the international crossings between the U.S. and Canada. The New York State Department of Transportation agreed to sponsor this undertaking with the assistance of the U.S. Federal Highway Administration, and lead a committee of TBWG members in undertaking this effort.²

Border infrastructure information and identified improvements were requested from all U.S. States and Canadian Provinces, U.S. and Canadian inspection agencies, and other appropriate organizations, according to a set format. The Compendium was developed in two Phases that are described as follows:

Phase I

In 2002, a database file obtained by the Canada/U.S. Transportation Border Working Group from U.S. Customs and Border Protection identified the near-term border crossing needs for all U.S. highway, rail and port border crossings. This database provided a port description, and identified the infrastructure and operational needs at each U.S. Port of Entry as requested by the U.S. inspection agencies.

This database was expanded and updated to include additional information provided by individual states, Canadian Provinces, bridge authorities and others to obtain as complete a picture as possible of all planned improvements or needs on the border and approaches and corridors accessing the border between the U.S. and Canada. This was accomplished by developing a questionnaire that was sent to agencies identified as being responsible for improvements at these ports, highway approaches, or nearby corridors. The information was entered into a database, summarized and presented at the TBWG meeting in December 2002 in Vancouver, British Columbia.

The initial results showed a significant investment was planned along the border by many different agencies. However, information from all key implementation agencies had not been obtained at that time. In addition, TBWG requested the database be expanded to include additional infrastructure information and identification of prime funding sources to pay for these projects. Also requested were better definitions of the projects (i.e. corridor project, approach project, port project), along with additional project classification(s).

- (2) TBWG Needs Compendium Committee Members: Gerard Cioffi, New York DOT, Lead; Tim Angus, Transport Canada; Margaret Grant-McGivney/Emilia Rodriguez, New Brunswick DOT; Alicia Nolan, Federal Highway Administration; Gary Ragatz, Customs and Border Protection; Kevin Rousseau, Maine DOT; Wayne Sauer/Janice Baird, Canadian Customs and Revenue Agency; David Smith, Ontario Ministry of Transportation; C. William Wells, General Services Administration





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Phase II

Following up on the comments on the Phase I results, effort was undertaken in 2003 to expand and update the database, as well as to obtain projects from other key implementation agencies operating at or near the U.S. / Canada Border. The port and project information previously submitted by each agency was returned to that agency with a request to:

- Update the information;
- Add the additional information that was being requested;
- Add any new projects;

This information was obtained, the database updated, and updated information was again returned to each agency that submitted projects for verification.

In addition, the location of each port was geo-coded, so information on an individual port could be easily retrieved for review. A program and templates were also developed to allow direct entry and updating the database. The update, verification and enhancement were completed in the Fall 2003.

Product

The final product of this study, in addition to this report, is a CD with an ACCESS database containing a summary of information submitted for individual projects and ports. Due to security and sensitivity issues, however, the CD does not contain listings of individual projects, only summary tables that combine the results of submitted projects. The port information contained in the CD includes pictures or sketches of the crossings. Both the port information and sketches have been geo-coded to provide easy access to this information. This report and the summary tables are also contained on the CD, along with templates for updating both port and project information. Two templates were created; one for Port Description and the other for Project Description. Figures 1 and 2, in the following section, show these templates.

Information Collected

The intent of the Compendium was to collect information concerning the Port Of Entry and projects planned to enhance operations at each of these ports or on the approaches or corridors leading to these ports. Information requested for each Port Of Entry "Port Description" included a description of the port (including possible aerial photograph or sketch) and information on traffic volumes and value of trade using the crossing, the owner and some of the facilities available to process traffic (primary inspection booths, etc.).





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The following information was requested for each port of entry:

Port Description

Port ID# (per CBP data base code, provided with the request)

Port Name

City

State

Province

Facility Owner (GSA, Federal Bridge Corp. Ltd, Operating Authority, etc.)

Year Facility Constructed

Facilities Picture - (yes/no) was a picture(s) provided of the port

Schematic - (yes/no) was a schematic(s) provided of the port

Facility Location

History Background (Information on the port)

On the U.S. Approach:

- **Connecting Highway:**
- **Approach Lanes:**
- **Primary Inspection Lanes:**
- **Toll Lanes:**
- **Priority Lanes:**

On the Canada Approach:

- **Connecting Highway:**
- **Approach Lanes:**
- **Primary Inspection Lanes:**
- **Toll Lanes:**
- **Priority Lanes:**

Annual Traffic Volumes and **Year** obtained

Bi-Directional Volumes (volume into the U.S. and volume into Canada) by **year represented** for

- **Truck:**
- **Passenger Cars:**
- **Bus/Others:**
- **Total:**

Trade Volume (US\$): (and **year** represented)

BTS Port ID#: - (Used to determine Trade Volume) provided





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The following information was requested for each project planned to support operations within the port or on the approaches or trade corridor that serve this port(s).

Project Description

Port ID# (per CBP data base code, provided with the request)

Project Location

Completion Date

Estimate Cost

Project Scope (description of project)

Project Summary (Need for or objective of the project)

Contact (Person to contact for further information) **Agency**

Project Classification (border, approach, trade corridor)

Primary Funding Source

Secondary Funding Source

Infrastructure Project Classification (port, highway, bridge, ITS, CVO, rail)

Country Responsible for Project (USA/Canada/Both)

State/Province/Agency Responsible for Project





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The projects were classified as follows:

1. **Border Crossings and Plaza Facilities:** Improvements being considered directly at the port of entry to either country by:
 - a. Transportation Facilities - Project within the port itself or connecting the U.S. Port Of Entry with the Canadian Port Of Entry to improve the flow of traffic between or through the international crossing. These projects would include additional lanes on the highway or bridge that cross the international boundary between the two countries.
 - b. Enforcement/Security Facilities – Projects within the ports of entry planned to enhance enforcement and security. These projects include reconstruction of the enforcement plazas, additional primary inspection lanes or priority lanes for processing low risk travelers and goods, expanded parking in the secondary inspection area, new buildings or equipment to support enforcement efforts within the enforcement plazas, etc.
2. **Border Approaches:** Improvements being considered along the approaches within 5 kilometers of a port of entry to either country that would improve access, safety or mobility:
 - a. Highways
 - b. Bridges
 - c. Intelligent Transportation Systems (ITS)
 - d. Commercial Vehicle Operations (CVO)
3. **Trade Corridors:** Improvements considered along approach corridors within 100 kilometers of a port of entry to support trade and travel between the two countries:
 - a. Highways
 - b. Bridges
 - c. Intelligent Transportation Systems (ITS)
 - d. Commercial Vehicle Operations (CVO)
4. **Rail Projects**

The templates used to obtain this information are shown in Figure 1 and Figure 2





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Figure 1

Port Description

Border Crossing Project Report

Port ID
Facility Owner
Facility Location
History Background

Port Name

City
State
Year Facility Constructed

Province
Facilities Picture

Schematic

USA

Connecting Highway:

Approach Lanes:

Primary Inspection Lanes:

Toll Lanes:

Priority Lanes:

Annual Volumes

Bi-Directional:

Total:

Truck:

Passenger Cars:

Bus/Others:

Trade Volume (US\$):

Year

Canada

Connecting Highway:

Approach Lanes:

Primary Inspection Lanes:

Toll Lanes:

Priority Lanes:

Year To USA:

Year

To Canada:

Year:

BTS Port ID#: -

(Used to determine Trade Volume)





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Project Description

Figure 2

<u>Crossing Project</u>	<u>Port ID</u>	<u>Project Number</u>	<u>Estimate Cost</u>
Project Location		Completion	
Project Scope			
Project Summary			
Contact		Project Classification	Primary Funding Source
Agency		Infrastructure Project Classification	Secondary Funding Source
Country Responsible for Project (USA/Canada/Both)			
State/Province/Agency Responsible for Project			





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Assumptions and Limitations

In assembling the available information, the following assumptions and facts should be noted:

1. All dollars are in U.S. dollars. If Canadian dollar estimates were provided they were divided by 1.5 to reflect U.S. dollars.
2. Projects submitted by agencies without an identified completion date were classified as the near term (present to 2009).
3. Projects under construction were not included.
4. Information was gathered from myriad of sources.
5. Comprehensiveness of results by agency varies. For some agencies only active projects were submitted (those currently programmed for future construction), while other agencies included un-programmed projects (projects where a need has been identified but resources to implement this project have not yet been identified or allocated).
6. The various agencies that provided information have different capital planning periods. As a result, while some agencies submitted information on possible projects that may not be constructed for 20 or 30 years, others submitted only shorter term or programmed projects (projects expected to be constructed in the next 0 to 5 years).
7. Although the original intent was to make the detailed information provided by the agencies available, a number of participants expressed concern on releasing project level detail. The reasons were generally:
 - That publishing a possible or planned project with an associated cost estimate to construct, might be viewed as a commitment to construct the project;
 - That a possible or planned project, along with project information for Federal Inspection Services projects at the border crossings was confidential and not releasable.

It is believed because of these issues the cost of some projects were not included in the TBWG members' submissions, and in some cases, possibly why certain projects were not included in the submissions.

To address this issue, individual project-related data associated with a port of entry or access to the port was restricted and only overall summary tables showing the magnitude of expenditures have been included in the results.





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Results

The results submitted show that 224 projects are proposed to improve infrastructure and inspection operations at the U.S./Canada Border or in its vicinity at an estimated total cost of \$13.365 billion. This information has been summarized into the following four tables. All dollar values are in U.S. dollars:

**Table 1 –Summary of Total Costs by Country
(Short Term, Present to 2009, and Long Term, beyond 2009)**

It is planned that most of these projects (194) shown in Table 1 are to be implemented in the Short Term (present to the end of 2009) at an estimated cost of \$4.003 billion. It also indicates that the amount of investment planned in Canada is nearly equal to the amount to be spent, short-term, in the U.S. While only 30 projects were identified for the post 2009 period, they have an estimated cost of \$9.362 billion.

Table 2 –Summary of Total Costs by Project Classification

Table 2 summarizes expenditures in each State or Province by whether it is at the border, on its approaches or associated with a trade corridor. The table shows the greatest number of projects is planned at the border crossings themselves (55% or 124 projects). However, the expenditures on these 124 projects are \$1.763 billion or only 13% of the funds estimated.

The table also shows that while only 27% of the proposed projects (61) are associated with improvement to Trade Corridors, Trade Corridor projects will require the greatest resources to implement (75% of the total expenditure) or \$10.047 billion. The majority of the Trade Corridor expenditures would be in Michigan, New York, Ontario and New Brunswick.





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Border Crossing and Corridor Needs Assessment

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Prepared by the Sear-Brown Group

Table 1: Summary of Total Costs by Country

Country	Present - 2009		2009+		Total	
	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)
USA	130	\$2,372.3	19	\$8,952.0	149	\$11,324.3
Canada	64	\$1,630.4	11	\$410.0	75	\$2,040.4
Grand Total	194	\$4,002.7	30	\$9,362.0	224	\$13,364.7





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Table 2: Summary of Total Costs by Project Classification

Table 2A: USA

State	Border		Approach		Corridor		Total	
	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)
Alaska	4	\$2.0					4	\$2.0
Washington	9	\$102.3	2	\$119.8	7	\$238.5	18	\$460.5
Idaho	1	\$7.5			1	\$75.6	2	\$83.1
Montana	9	\$60.9					9	\$60.9
North Dakota	17	\$117.6					17	\$117.6
Minnesota	5	\$40.6					5	\$40.6
Michigan	6	\$253.7	3	\$464.0	4	\$6,245.0	13	\$6,962.7
New York	22	\$570.6	11	\$357.0	19	\$2,404.4	52	\$3,332.0
Vermont	12	\$100.9			1	\$40.1	13	\$141.0
New Hampshire	1	\$5.9					1	\$5.9
Maine	13	\$109.0	2	\$9.0			15	\$118.0
Total	99	\$1,371.0	18	\$949.7	32	\$9,003.5	149	\$11,324.3

Table 2B: Canada

Province	Border		Approach		Corridor		Total	
	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)	# of Projects	Cost Estimate (Millions US\$)
Yukon Territory								
British Columbia	4	\$43.4	1	\$53.0	11	\$84.9	16	\$181.3
Alberta	1	\$16.7					1	\$16.7
Saskatchewan			1	\$0.035			1	\$0.0
Manitoba	1	\$0.2					1	\$0.2
Ontario	13	\$290.7	14	\$521.4	13	\$453.3	40	\$1,265.4
Quebec	3	\$16.6			1	\$75.0	4	\$91.6
New Brunswick	3	\$24.0	5	\$30.8	4	\$430.5	12	\$485.3
Total	25	\$391.5	21	\$605.2	29	\$1,043.7	75	\$2,040.4
Grand Total	124	\$1,762.5	39	\$1,554.9	61	\$10,047.2	224	\$13,364.7





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Table 3 – Summary of Total Costs by Infrastructure Classification

This table provides a summary by State or Province on projects planned to improve the Approaches or Trade Corridors leading to the border by the primary project type, highway, bridges, ITS, CVO, and Rail.

The majority of the \$1.555 billion expenditure for Approach Projects (those within 5 kilometers of the port of entry) is for bridge projects (54%). These expenditures include such major bridges as the Thousand Island Bridges and the Grand Island Bridges in New York, which serve the international crossings but are not at the international crossing.

As would be expected, the majority of the \$10.047 billion expenditures for Trade Corridor projects (those within 100 kilometer of a crossing) are for highway projects (96%).

It should also be noted that of the expenditures on both the Approaches and Trade Corridors leading to international crossings, ITS projects are only \$0.05 billion dollars or 0.5% of all expenditure of projects listed in the Compendium. The majority of these projects are associated with major border crossings in New York, Ontario, New Brunswick and Washington.

Table 4 – Total by Ports of Entry

This table summarizes projects submitted and expenditures associated with each port of entry between the U.S. and Canada. For each port, costs are included for the border crossing and plaza facilities and the border approaches. Trade Corridor improvements have not been attached to any single port of entry (since these improvements may serve more than one port).

This table shows planned investment to improve and support travel between the U.S. and Canada at 96 of the 143 ports of entry listed in the Compendium either by the U.S. or Canada. Ports of entry where expenditures are at \$100 million dollars or more include:

- The Ambassador Bridge, the Blue Water Bridge and a new bridge crossing between Ontario and Michigan.
- The Seaway International Bridge (Massena), Lewiston-Queenston Bridge, Thousand Islands Bridge (Alexandria Bay), Peace Bridge, and Whirlpool Rapids Bridge crossings between New York and Ontario
- The Port of Champlain crossing between New York and Quebec
- The Peace Arch (Blaine) and Lynden crossings between Washington and British Columbia





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Table 3: Summary of Total Costs by Infrastructure Classification

Table 3A: Approach Projects

State/Province	Highways		Bridges		ITS		CVO		Total	
	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)
Alaska										
Washington	2	\$119.8							2	\$119.8
Idaho										
Montana										
North Dakota										
Minnesota										
Michigan	1	\$125.0	2	\$339.0					3	\$464.0
New York	4	\$33.0	3	\$315.0	4	\$9.0			11	\$357.0
Vermont										
New Hampshire										
Maine	1	\$4.0	1	\$5.0					2	\$9.0
Yukon Territory										
British Columbia	1	\$53.0							1	\$53.0
Alberta										
Saskatchewan	1	\$0.0							1	\$0.0
Manitoba										
Ontario	6	\$335.0	3	\$175.6	5	\$10.8			14	\$521.4
Quebec										
New Brunswick	2	\$23.3	2	\$5.7	1	\$1.8			5	\$30.8
Total	18	\$693.1	11	\$840.3	10	\$21.5			39	\$1,554.9





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Table 3: Summary of Total Costs by Infrastructure Classification

State/Province	Highways		Bridges		ITS		CVO		Rail		Total	
	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)
Alaska												
Washington	3	\$232.6			1	\$2.1	3	\$3.8			7	\$238.5
Idaho	1	\$75.6									1	\$75.6
Montana												
North Dakota												
Minnesota												
Michigan	4	\$6,245.0									4	\$6,245.0
New York	5	\$2,049.0	1	\$300.0	4	\$27.5	1	\$6.0			19	\$2,404.4
Vermont			1	\$40.1							1	\$40.1
New Hampshire												
Maine												
Yukon Territory												
British Columbia	10	\$83.6					1	\$1.3			11	\$84.9
Alberta												
Saskatchewan												
Manitoba												
Ontario	12	\$452.0			1	\$1.3					13	\$453.3
Quebec	1	\$75.0									1	\$75.0
New Brunswick	3	\$428.3			1	\$2.2					4	\$430.5
Total	39	\$9,641.1	2	\$340.1	7	\$33.1	5	\$11.0	8	\$22.0	61	\$10,047.2





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Table 4: Total by Port ID - Border and Approach Projects

State/ PortID	Prov	Port Name	USA		Canada		Total	
			#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)
AK01	YK	Haines (Dalton Cache)	1	\$0.5			1	\$0.5
AK02	YK	Poker Creek	1	\$0.5			1	\$0.5
AK03	YK	Skagway	1	\$0.5			1	\$0.5
AK04	YK	Tok - Station Bldg. (Alcan)	1	\$0.5			1	\$0.5
ID01	BC	Eastport			1	\$5.0	1	\$5.0
ID02	BC	Porthill	1	\$7.5			1	\$7.5
ME00	NB	New Calais (St. Stephen)	3	\$45.6	4	\$31.8	7	\$77.4
ME01	QC	St. Francis - Daaquam						
ME02	QC	St. Francis - Est Court						
ME03	NB	St. Francis - St. Pamphile						
ME04	NB	Van Buren						
ME05	NB	Eastport						
ME06	n/a	Portland						
ME07	NB	Orient						
ME08	NB	Forest City	1	\$4.6			1	\$4.6
ME09	NS	Bar Harbor Ferry Crossing						
ME10	NB	Hamlin	1	\$5.7			1	\$5.7
ME11	NB	Bridgewater	1	\$9.8			1	\$9.8
ME12	NB	Calais BS - Ferry Point						
ME13	NB	Calais BS						
ME14	QC	Coburn Gore						
ME15	NB	Easton	1	\$0.4			1	\$0.4
ME16	NB	Fort Kent	1	\$5.0	1	\$5.0	2	\$10.0
ME17	NB	Fort Fairfield			1	\$4.0	1	\$4.0
ME18	NB	Monticello	1	\$5.5			1	\$5.5
ME19	NB	Houlton	1	\$0.1	1	\$13.3	2	\$13.4
ME20	QC	Jackman	1	\$17.8	1	\$6.0	2	\$23.8
ME21	QC	Jackman - St. Aurelie						
ME22	NB	Limestone	1	\$5.4			1	\$5.4
ME23	NB	Lubec						
ME24	NB	Madawaska	1	\$14.7	1	\$0.7	2	\$15.4
ME25	NB	Vanceboro	2	\$3.4			2	\$3.4
MI01	ON	Detroit Ambassador Bridge Pass Bldg.	2	\$159.9	1	\$300.0	3	\$459.9
MI02	ON	Detroit Ambassador Bridge Cargo Bldg.						
MI03	ON	Detroit Windsor Tunnel						
MI04	ON	Port Huron-Blue Water Bridge	2	\$234.0	4	\$7.0	6	\$241.0
MI05	ON	Sault Ste. Marie	3	\$18.9	2	\$21.5	5	\$40.4
MI06	ON	Algonac Ferry						
MI07	ON	Marine City Ferry						
MI08	ON	Site not yet identified	2	\$305.0	1		3	\$305.0
MN01	MB	Warroad	1	\$15.7			1	\$15.7
MN02	ON	Baudette						
MN03	ON	Crane Lake						
MN04	ON	Ely						
MN05	ON	Grand Portage						
MN06	ON	International Falls						
MN07	MB	Lancaster	1	\$7.5			1	\$7.5
MN08	MB	Noyes	1	\$6.0			1	\$6.0
MN09	ON	Ranier RR Station						
MN10	MB	Pine Creek (Roseau)	1	\$5.5			1	\$5.5
MN11	ON	Grand Marais						
MN12	MB	Roseau	1	\$6.0			1	\$6.0
MT01	AB	Wild Horse	1	\$5.6			1	\$5.6





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Table 4: Total by Port ID - Border and Approach Projects

State/ PortID	Prov	Port Name	USA		Canada		Total	
			#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)
MT02	AB	Goat Haunt						
MT03	BC	Trail Creek						
MT04	SK	Willow Creek						
MT05	AB	Piegan BS & Qtrs.						
MT06	SK	Scobey	1	\$5.7			1	\$5.7
MT07	AB	Roosville	1	\$6.0			1	\$6.0
MT08	AB	Whitlash	1	\$4.5			1	\$4.5
MT09	SK	Raymond	1	\$8.4			1	\$8.4
MT10	SK	Opheim						
MT11	SK	Morgan	1	\$5.7			1	\$5.7
MT12	AB	Del Bonita	1	\$5.6			1	\$5.6
MT13	SK	Whitetail	1	\$5.5			1	\$5.5
MT14	AB	Sweetgrass	1	\$13.8	1	\$16.7	2	\$30.5
MT15	SK	Turner						
MT16	AB	Chief Mountain						
ND01	MB	St. John	1	\$5.2			1	\$5.2
ND02	MB	Maida	1	\$5.1			1	\$5.1
ND03	MB	Carbury	1	\$5.6			1	\$5.6
ND04	SK	Noonan	1	\$5.1			1	\$5.1
ND05	SK	Northgate	1	\$3.0			1	\$3.0
ND06	MB	Sarles	1	\$5.2			1	\$5.2
ND07	SK	Portal	1	\$22.2	1	\$0.035	2	\$22.2
ND08	MB	Westhope	1	\$5.6			1	\$5.6
ND09	MB	Hansboro	1	\$5.2			1	\$5.2
ND10	MB	Walhalla	1	\$5.3			1	\$5.3
ND11	SK	Sherwood	1	\$5.5			1	\$5.5
ND12	MB	Pembina			1	\$0.2	1	\$0.2
ND13	SK	Fortuna	1	\$5.5			1	\$5.5
ND14	SK	Ambrose	1	\$1.3			1	\$1.3
ND15	MB	Nече	1	\$5.2			1	\$5.2
ND16	MB	Hannah	1	\$5.1			1	\$5.1
ND17	MB	Dunseith	1	\$22.0			1	\$22.0
ND18	MB	Antler	1	\$5.5			1	\$5.5
NH01	QC	Pittsburgh	1	\$5.9			1	\$5.9
NY01	ON	Massena	3	\$132.1	4	\$45.5	7	\$177.6
NY02	QC	Mooers	1	\$6.1			1	\$6.1
NY03	ON	Lewiston-Queenston Bridge	4	\$108.0	4	\$129.0	8	\$237.0
NY04	ON	Niagara Falls - Whirlpool Rapids	4	\$12.6			4	\$12.6
NY05	QC	Burke - Jamisons Line	1	\$6.0			1	\$6.0
NY06	ON	Ogdensburg	2	\$15.4	1	\$5.0	3	\$20.4
NY07	ON	Niagara Falls - Rainbow Bridge	2	\$5.0			2	\$5.0
NY08	QC	Fort Covington	1	\$6.5			1	\$6.5
NY09	QC	Churubusco	1	\$6.2			1	\$6.2
NY10	QC	Chateaugay	1	\$6.2			1	\$6.2
NY11	QC	Cannon Corners	1	\$6.0			1	\$6.0
NY12	QC	Canadian Pacific RR						
NY13	QC	Overton Corners	1	\$6.4			1	\$6.4
NY14	ON	Cape Vincent						
NY15	ON	Alexandria Bay	3	\$236.6	6	\$161.9	9	\$398.5
NY16	ON	Buffalo - Peace Bridge	3	\$155.0	3	\$52.2	6	\$207.2
NY17	QC	Champlain	1	\$107.5			1	\$107.5
NY18	ON	International Bridge RR						
NY19	QC	Trout River	1	\$6.1			1	\$6.1





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Table 4: Total by Port ID - Border and Approach Projects

State/ PortID	Prov	Port Name	USA		Canada		Total	
			#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)	#	Cost Estimate (Millions US\$)
NY20	QC	CSR-RR						
NY21	ON	Whirlpool Bridge RR	2	\$100.0	1	\$90.0	3	\$190.0
NY22	ON	Canadian Pacific RR						
NY23	QC	Rouses Point - St. Johns Hwy	1	\$6.0			1	\$6.0
VT01	QC	Derby Line - I-91	1	\$25.1	1	\$10.0	2	\$35.1
VT02	QC	Highgate Springs						
VT03	QC	North Troy						
VT04	QC	Norton	1	\$13.9			1	\$13.9
VT05	QC	East Richford Rte 105	1	\$5.6			1	\$5.6
VT06	QC	Richford Rte139	1	\$11.5			1	\$11.5
VT07	QC	West Berkshire	1	\$5.9			1	\$5.9
VT08	QC	Alburg Springs	1	\$6.2	1	\$0.6	2	\$6.8
VT09	QC	Franklin (Morses Line)	1	\$6.1			1	\$6.1
VT10	QC	Alburg						
VT11	QC	Beebe Plain	1	\$4.9			1	\$4.9
VT12	QC	Beecher Falls	1	\$5.0			1	\$5.0
VT13	QC	Canaan	1	\$5.3			1	\$5.3
VT14	QC	Derby Line - Rte. 5	1	\$4.8			1	\$4.8
VT15	QC	Richford (Pinnacle Road)	1	\$6.7			1	\$6.7
WA01	BC	Blaine (Peace Arch)	1	\$41.9	2	\$73.0	3	\$114.9
WA02	BC	Metaline Falls	1	\$6.4			1	\$6.4
WA03	BC	Lynden	1	\$92.8	1	\$7.0	2	\$99.8
WA04	BC	Laurier	1	\$6.0			1	\$6.0
WA05	BC	Frontier	1	\$6.1			1	\$6.1
WA06	BC	Danville						
WA07	BC	Curlew (Ferry)	1	\$6.1			1	\$6.1
WA08	BC	Port Angeles Blackball (Trailer)						
WA09	BC	Blaine BS (Pacific Hwy)	2	\$31.5			2	\$31.5
WA10	BC	Boundary	1	\$6.1			1	\$6.1
WA11	BC	Nighthawk	1	\$5.9			1	\$5.9
WA12	BC	Roche Harbor						
WA13	BC	Anacortes Ferry Crossing						
WA14	BC	Port Angeles (Victoria Rapid Transit)						
WA15	BC	Sumas						
WA16	BC	Point Roberts						
WA17	BC	Oroville	1	\$19.2	1	\$11.4	2	\$30.7
WA18	BC	Port Angeles (Blackball)						
		Total	117	\$2,320.8	46	\$996.7	163	\$3,317.5

* The Detroit Ambassador Bridge Pass Bldg. (MI01) and Cargo Bldg. (MI02) are listed as two separate ports of entry. This reflects that part of the port is own by General Service Administration (GSA), as identified with one Port ID number, while another part is leased to GSA and is identified with another Port ID number.

** The Niagara Falls - Whirlpool Rapids (NY04) and Railroad (NY21) are also listed as separate Ports of Entry.





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Next Steps

While the information included in this 2003 Compendium was the most up-to-date available, it only represents a “snapshot” in time. In these changing times at the U.S. / Canada Border, rapid changes are occurring and many new projects are proposed to support new initiatives such as FAST and NEXUS to enhance national security while maintaining or improving the flow of people and goods between the U.S. and Canada. Thus, there is a continued need for updating this database and sharing of information on projects among the various TBWG members.

The Compendium could also be expanded. This Compendium concentrated on obtaining information and projects at the higher highway volume commercial and passenger ports of entry between the two countries. Information on smaller, lower traffic volume ports was incorporated only if provided by agencies. Similarly, information and projects at water and rail crossings were not directly sought. Again, they were included if submitted by a TBWG member. Expanding the Compendium to obtain a broader cross section of all projects and updated and expanded information on port operations at all Ports of Entry needs to be considered.

In order to address the need to maintain, update and expand the 2003 Compendium, the following questions must be considered:

- Who should maintain the Compendium?
- How can it be maintained and updated?
- When should it be updated?
- What information can be shared and with whom can it be shared?
- Should it be expanded to include other ports, modes and agencies operating at the Border?
- How will these updates be funded?

Who should maintain (house) the Compendium?

The development of the 2003 Compendium was coordinated by the New York State Department of Transportation (NYSDOT) and it currently possesses the detailed information provided by the various agencies. Copies of the report and CD will be distributed to the TBWG members. All releasable information will be provided to FHWA and Transport Canada for posting on behalf of TBWG to the FHWA website.

Due to the sensitivity of the information in the database, the responsibility for taking control of and maintaining the entire database needs to be given careful consideration. It could be maintained by a permanent committee of TBWG or by the recently created Border Infrastructure/Modeling Working Group (BIMWG)³.

BIMWG may be the most appropriate choice. Its mandate includes: to “Identify and assess evolving operational needs requiring border facilities enhancements and border infrastructure





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improvements, including approaches leading to and from the border facility footprint, signage and Intelligent Transportation Systems.” And, also, to “Coordinate activities with and provide an effective linkage to the Canada-U.S. Transportation Border Working Group (TBWG) and the U.S. Border Station Partnership Council.

How can it be updated and maintained?

The 2003 Compendium updating templates were developed for possible future use and updates of the database. While these templates were developed to assist the update and allow more direct access to the information contained in the database, they can also be converted to a Web-based updating site. Given the sensitive nature of some of the information contained within the Compendium database, any WEB site created should be secure and restricted to only certain agencies. Using a secure WEB site would allow periodic updates of the database with little operator intervention (i.e. significantly reducing the cost to update the database and to share information among agencies). It would also allow each agency to access the database and obtain the information desired in a format that would be appropriate for their needs.

The sensitivity of project information contained in the database would require restricted access to part of the database. Most of the information contained within the Compendium, however, is not identified as sensitive. Thus, an added layer to the compendium database would allow sensitive data to be entered, but would restrict general access to only certain data items or summaries.

When should it be updated?

Given the evolving and fast moving changes at the border, yearly updates are suggested. This should meet the time frame for most agencies to program projects and provide updated information on travel and value of shipments through each of the ports of entry. An annual update should not be overly cumbersome if the updates could be conducted directly using a secure WEB site, as each agency would be able to directly input updated information into the data base, verify it was correct, and use it as necessary.

- (3) BIMWG representation: U. S. Bureau of Customs and Border Protection (CBP), U.S. Federal Highway Administration (FHWA), U.S. General Services Administration (GSA), Canada Customs and Revenue Agency (CCRA), Transport Canada (TC), Infrastructure Canada (IC), Citizenship and Immigration Canada (CIC), provincial and state governments and bridge and tunnel operators as required.

What information can be shared and with whom can it be shared?

This issue of what information can be shared, at what level of detail, and with who needs to be addressed by the TBWG. During the course of developing the Compendium, it was decided to not share /release detailed project-level information, but instead to only release the summary





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tables presented in the report. By addressing this issue, it is believed that the agencies would generally be less likely to withhold information. This issue needs to be further explored to determine what is sensitive, why, and who should be able to see this information. Updating and sharing information within the database can then be refined as necessary.

Should it be expanded to other ports, modes and agencies operating at the Border?

Additional information should be sought to obtain a complete picture of the border crossing needs. Obtaining information on smaller, lower volume highway ports was not a priority in developing the 2003 Compendium; however, the framework developed was designed to include these ports. Similarly, information from other operators at the international border that are not TBWG members was not directly sought. These would include railroad operators, bridge and tunnel operators and water port operators. In future updates it is recommended that direct involvement of these agencies would assist in both expanding and providing a more complete picture of both the port and planned projects within the Compendium.

How will these updates be funded?

The development of the 2003 Compendium was funded by NYSDOT and FHWA at a cost of \$75,000. The cost of updating and maintaining the Compendium, as developed, should be less extensive, particularly if modifications are made so the updating and entry of new data and projects can be done using a secure WEB site.

It is estimated that an annual cost of \$25,000 would be necessary to update and maintain the Compendium. Resources for these updates and maintenance effort from the federal transportation and inspection agencies with in-kind support provided by state and provincial transportation agencies.





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Conclusions

The “Border Infrastructure Compendium - 2003 and Beyond” prepared for the Canada-U.S. Transportation Border Working Group required a significant investment in time by all members of the TBWG to bring this project to a successful conclusion. Review of the results, however, indicated that this was a worthwhile undertaking. Two hundred and twenty-four (224) projects costing over \$13 billion were identified to address both long term and short term needs to support trade between the world’s two greatest trading partners, the U.S. and Canada. The effort not only identified the magnitude of the needs but also a framework for the future to maintain, update and share this information among both countries and the numerous states, provinces, authorities and enforcement agencies that are responsible for infrastructure improvements and operations at or approaching the border. Of the 143 rail, highway and water ports identified to serve travel and trade between the U.S. and Canada, the Compendium identified projects associated with 96 of them. These results were obtained in spite of a limited effort to obtain information on rail, water and many of the low volume travel ports of entry between the U.S. and Canada.

The 2003 Compendium met the purpose of identifying the magnitude of needs and necessary funding to support cross border travel, at least for highway travel. To fully meet this objective will require expansion and updating this database. It also generally met the purpose of defining funding needs among all agencies in a comprehensive and coordinated manner. Finally, and perhaps most importantly, the effort has established a sound basis for sharing information and facilitating interagency coordination among affected agencies to comprehensively identify needs.

The Compendium shows an investment need in the short term (Present to 2009) of over \$4.0 billion to support 194 projects in the U.S. and Canada, with a longer-term investment of an additional \$9.4 billion. It also identified that with major investments required at the ports of entry; even larger investments are needed on the approaches and trade corridors that serve them. Investment in the approaches and trade corridors was estimated at \$11.6 billion. This level of investment on the approaches and trade corridors serving the crossings indicates the substantial role needed by Federal, Provincial, and State Transportation agencies in support of these crossings in order to continue to maintain and expand this international trade and travel. This illustrates and supports the continuing need for the existence of the TBWG in order to provide effective communications and coordination among all agencies that are involved at or in the vicinity of the U.S. / Canada Border.

While the overall identified investment of over \$13 billion may seem very large, it represents only the value of ten days of trade between the U.S. and Canada; trade that supports over 5.5 million jobs in the U.S. and Canada annually.

