



An Assessment of Future Bilateral Trade Flows and Their Implications for U.S. Border Infrastructure Investment

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For presentation at 49th Annual Pacific Northwest Regional Economic Conference, April 23, 2015

Motivation for Study

Dawson, Sands and Woods, 2013:

“In addition to improving processes, it is clear that the borders of North America (including U.S.-Canada) *need significant investment in infrastructure*” [emphasis added]

Many others have echoed calls for substantial investments in border infrastructure.

Focus of Study

- To assess the likely future growth in bilateral trade flows (at both the aggregate and commodity levels).
- To assess and prioritize northern border ports and trade corridors in terms of the likely increases in trade processed through those ports.
- We take a U.S. perspective on these issues,* although border infrastructure improvements frequently require investment on both sides of the border.

*We focus on U.S. land ports.

Conclusions of Study

- Projections are for relatively slow growth in aggregate trade with some variations across major commodity categories.
- There is some concordance between our priority list of ports/corridors and the priorities listed by the U.S. and Canada.
- There is also disagreement with regard to specific ports, especially major ports (Port Huron, Buffalo, and perhaps Detroit).
- Variability of flows means that more attention should be paid to “managing” demand for port capacity, e.g. slot assignments, and less attention to capital projects to expand capacity.

Outline of Study

- Summarize overall bilateral trade flows (1990-2013).
- Examine commodity composition of trade flows.
- Link commodity trade flows to specific border ports.
- Outline likely scenarios for future trade flows at the commodity level.
- Develop scenarios for future capacity demanded at individual ports.

Table 1

Canada's Trade with the United States

	<u>Imports</u> <u>(in 1,000 dollars)</u>	<u>% of</u> <u>U.S. Imports</u>	<u>Exports</u> <u>(in 1,000 dollars)</u>	<u>% of</u> <u>U.S. Exports</u>
1990	91,372,024	18.4	83,673,800	21.6
1992	98,629,800	18.4	90,594,300	20.6
1994	128,405,900	19.2	114,438,600	22.8
1996	153,892,600	19.4	134,210,200	21.9
1998	173,256,000	18.9	156,603,500	23.3
2000	230,838,300	18.7	178,940,900	22.7
2002	209,087,700	17.8	160,922,700	23.1
2004	256,359,800	17.2	189,879,900	23.1
2006	302,437,900	16.1	230,656,000	22.1
2008	339,491,400	15.9	261,149,800	20.0
2010	277,636,700	14.3	249,256,500	19.3
2013	332,077,869	14.7	301,609,600	18.9

Main Point:
Trade with
Canada as a share
of total U.S. trade
has declined
noticeably since
2000.

Source: U.S. Trade in Goods and Services – Balance of payments Basis, <https://www.census.gov/foreign-trade/statistics/historical/gands.pdf>

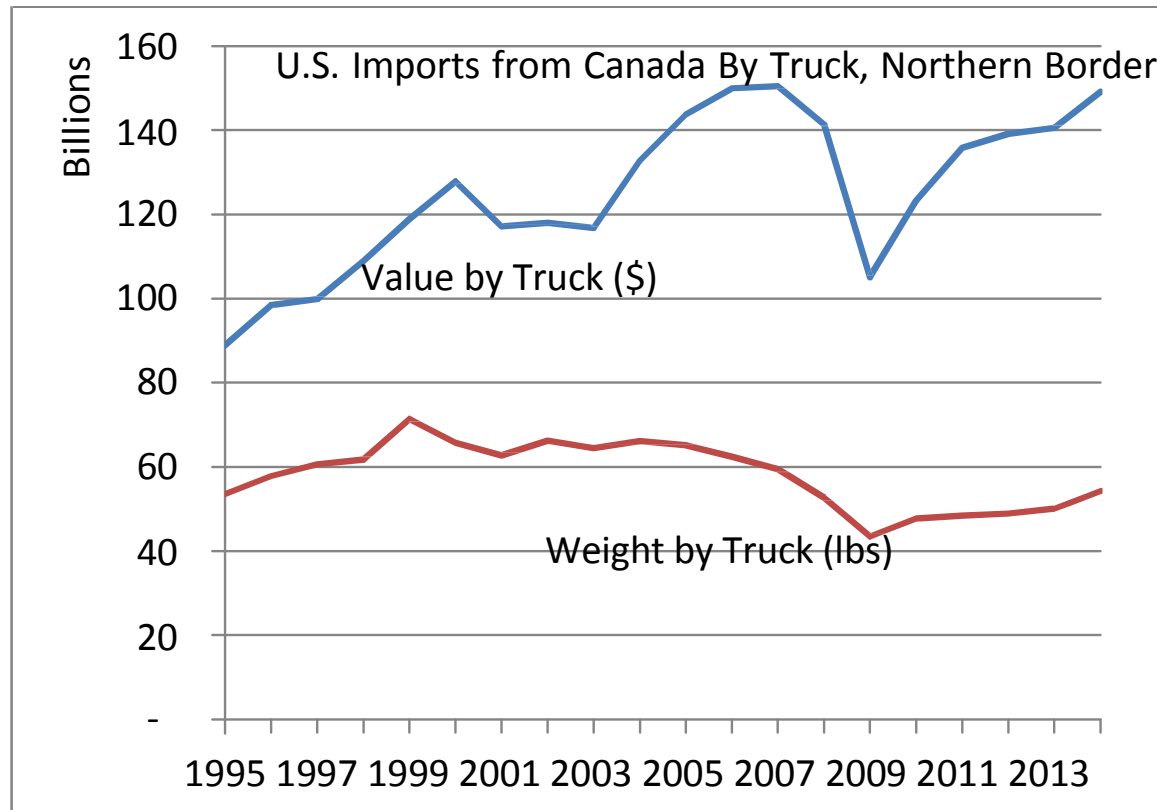
Summary of Table 1

	<u>1990-2000</u>	<u>2000-2013</u>
Nominal Growth in Imports	153%	44%
Growth in Import Price Deflator	17%	39%
Nominal Growth in Exports	114%	69%
Growth in Export Price Deflator	4%	32%

Main Points

- Growth in bilateral trade (both nominal and real) slowed substantially in the post-2000 period compared to 1990-2000.

Another Indication of Slowing Real Trade Growth



This chart shows BTS data for US Imports from Canada by truck.

Likely Reasons for Slowdown Post-2000

- 9/11 border security-related impacts certainly relevant for 2000-2006 (especially for imports).
- Recession-impact relevant for 2008-2009 (especially for imports given depth of U.S. recession).

Conference Board of Canada:

Main impact on Canadian exports to U.S. is competition from third parties (especially China).

Table 2
Country Shares of U.S. Imports

	<u>1990</u>	<u>2000</u>	<u>2013</u>
Canada	18.4	18.8	14.6
China	3.1	8.2	19.4
France	2.7	2.5	2.0
Germany	5.7	4.8	5.1
Italy	2.6	2.1	1.7
Japan	18.2	12.1	6.1
Korea	3.7	3.3	2.8
Mexico	6.1	11.2	12.4
Taiwan	4.6	3.3	1.7
U.K.	4.1	3.6	2.3
ROW	30.8	30.1	31.9

Table 3
Country Shares of U.S. Exports

	<u>1990</u>	<u>2000</u>	<u>2013</u>
Australia	2.2%	1.6%	1.7%
Belgium	2.6	1.8	2.0
Canada	21.1	22.6	19.0
China	1.2	2.1	7.7
France	3.5	2.6	2.0
Germany	4.8	3.8	3.0
Japan	12.4	8.4	4.1
Korea	3.7	3.6	2.6
Mexico	7.2	14.3	14.3
Netherlands	3.3	2.8	2.7
Singapore	2.0	2.3	1.9
Taiwan	2.9	3.1	1.6
U.K.	6.0	5.3	3.0
ROW	27.1	25.7	34.4

Inferences from Tables 2 and 3

- Growth of U.S. trade with China may have significantly reduced the growth rate of bilateral trade post-2000.
- U.S. trade with Mexico is substantial, although shares have been relatively stable post-2000.

Table 4
Top U.S. Commodity Imports from Canada

<u>HTS</u>	<u>\$ Millions</u>			<u>Percentage of Total Imports from Canada</u>		
	<u>1990</u>	<u>2000</u>	<u>2013</u>	<u>1990</u>	<u>2000</u>	<u>2013</u>
87 (motor vehicles and parts)	26,271	56,000	55,704	28.8	24.5	16.8
27 (mineral fuels)	9,865	31,000	109,000	10.8	13.7	32.9
84 (nuclear reactors, barriers, machinery and mechanical appliances)	7,537	18,776	19,752	8.3	8.2	6.0
48 (paper and products)	6,324	10,133	6,790	6.9	4.4	2.0
85 (electrical machinery)	4,568	16,910	7,881	5.0	7.4	2.4
98 (special)	3,763	10,849	10,176	4.1	4.7	3.1
44 (wood and products)	3,487	10,802	7,884	3.8	4.7	2.4

Table 5
Top U.S. Commodity Exports to Canada

<u>HTS</u>	<u>\$ Millions</u>			<u>Percentage of Total Exports to Canada</u>		
	<u>1990</u>	<u>2000</u>	<u>2013</u>	<u>1990</u>	<u>2000</u>	<u>2013</u>
87 (motor vehicles and parts)	17,926	33,746	51,702	21.6	19.1	17.2
84 (machinery)	16,097	35,739	45,298	19.4	20.3	15.1
85 (electrical machinery)	9,717	25,382	26,774	11.7	14.4	8.9
98 (special)	3,163	4,108	8,890	3.8	2.3	3.0
90 (instruments)	2,726	6,513	9,373	3.3	3.7	3.1
39 (plastics)	2,611	7,119	13,047	3.2	4.0	4.4
27 (mineral fuels)	2,171	2,781	24,658	2.6	1.6	8.2
73 (iron and steel)	1,561	3,849	7,879	1.9	2.2	2.6

Observations About Commodity Composition of Canada-U.S. Trade

- Highly concentrated in a handful of products.
- Canada's share of trade in major traded goods has declined 2000-2013.
- Outlook for future bilateral trade flows is contingent on outlook for main traded products.
- Outlook for main traded products is contingent on:
 - Future real economic growth in Canada and U.S.
 - Future competition from third countries.

Actual Average Annual Real GDP Growth

	<u>1990-2000</u>	<u>2000-2013</u>
Canada	3.33%	2.20%
U.S.	4.02	1.93

Forecast Average Annual Real GDP Growth (Conference Board)

	<u>2014-2019</u>	<u>2020-2025</u>
Canada	2.1%	1.8%
U.S.	1.7	1.7

Implications of Aggregate Growth Scenarios

- Projected real growth rates suggest growth in bilateral trade will be more like period 2000-2013 than 1990-2000, other things constant.
- Projected slow growth in bilateral trade suggests modest increase in demand for “processing capacity” at land ports, on average.
- Individual ports might experience above or below average increases in demand for additional processing capacity depending upon commodity mix.

Procedure for Assessing Outlook for Individual Ports

- We first assess the outlook for bilateral trade in the main traded commodities taking into account:
 - The outlook for third-party trade with the U.S.
 - Other economic and political developments.
- We then link commodity composition of trade to individual land ports to assess relative capacity demands at individual ports.

Table 6
Commodity Analysis – Recent Experience
U.S. Imports of HTS 87 by Country (Percentage Share)

	<u>Percentage Share</u>				
<u>Country</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2013</u>
Canada	35.2	39.7	34.2	31.0	22.4
China	0.1	0.5	1.2	2.1	3.9
Germany	9.6	7.8	10.2	12.2	13.2
Japan	38.0	31.2	26.2	24.8	20.0
Korea	1.8	1.8	3.2	5.1	6.6
Mexico	4.9	10.1	15.9	13.4	23.9
U.K.	2.3	2.3	2.4	3.6	2.5
ROW	8.1	6.6	6.7	7.8	7.5

Table 7
Commodity Analysis – Recent Experience
U.S. Exports of HTS 87 by Country (Percentage Share)

	<u>Percentage Share</u>				
<u>Country</u>	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2013</u>
Canada	55.6	50.2	54.5	51.3	38.6
China	0.2	0.3	0.3	1.1	7.7
Germany	3.8	3.5	3.4	5.9	4.5
Japan	5.1	8.0	4.2	1.9	1.2
Korea	1.1	1.3	0.7	0.8	0.9
Mexico	10.5	8.6	18.2	13.6	16.1
U.K.	1.5	1.4	1.9	2.0	1.6
ROW	22.2	26.7	16.8	23.4	29.4

Commodity Analysis Example: HTS 87 (autos and parts)

- U.S. trade with Mexico continues to displace U.S. trade with Canada
 - Continued “southern” migration of U.S. auto plants
- Potential for growth in trade with China
- Conclusion: relatively slow (below-average) future growth in bilateral trade in HTS 87

Table 28

Trade Growth Prospects with Canada for Major Commodities

	<u>U.S. Imports</u>	<u>U.S. Exports</u>
Above-average growth	Wood products	Mineral fuels Plastics Electrical machinery
Average growth	Machinery	Machinery Iron and steel
Below-average growth	Motor vehicles and parts Paper products Mineral fuels Electrical machinery	Motor vehicles and parts Instruments

Table 29
Projected Demand for Additional Infrastructure –
Based on Port Commodity Composition

<u>Above-Average</u>	<u>Average</u>	<u>Below-Average</u>
Alexandria Bay	Blaine	Buffalo
Pembina		Detroit
Champlain-Rouses Point		Port Huron
International Falls		

These 8 major ports account for around 82% of U.S. imports from Canada and around 87% of U.S. exports to Canada

Main Sources of Sensitivity

- Outlook for commodity trade growth rates (particularly exports of machinery)
- Current capacity utilization rates
 - Comprehensive wait times unavailable
 - Wait times at Michigan and NY state ports shorter than at Blaine

Comparison of Border Delays, July 2013 –June 2014

Crossing	12-month Mean
Pacific Highway to USA	9.8 minutes
Pacific Highway to Canada	5.9 minutes*
Peace Bridge to USA	7.8 minutes
Peace Bridge to Canada	3.0 minutes
Queenston-Lewiston Bridge to USA	3.8 minutes
Queenston-Lewiston Bridge to Canada	2.2 minutes

- July 1 2012 – June 30 2013 for Pacific Highway to Canada
- Source: Border Wait Time Data Warehouse, www.borderdatawarehouse.com/Crossings#/

(Similar patterns for FY2012 CBP Data in Roberts et al for Detroit, Buffalo, Blaine)

U.S. and Canadian Government Priority Ports

U.S. Government	Canadian Government
Alexandria Bay*	Lacolle, Quebec/Champlain, NY*
Buffalo/Lewiston	Landsdowne, Ontario/Alexandria Bay*
Port Huron	Fort Erie, Ontario/Buffalo
	Emerson, Manitoba/Pembina, ND
	North Portal, Saskatchewan/Portal, ND*

*Corresponds to our priority ranking

Demand Management

- Relevant for all ports but particularly for non-priority ports that are operating at or near full capacity
 - Slot management (shippers are assigned specific crossing times)
 - Peak-load pricing
 - Flexible use of Fast-lane capacity (Davidson-Springer example)