

IMTC Cascade Gateway Border Circulation Analysis FAST Program Technical Report

1. Introduction

History and policy objectives of the FAST program

The Free and Secure Trade Program (FAST) is a U.S.-Canada response that arose from the Smart Border Declaration (SBD) – a binational, executive-level policy response to the terrorist attacks of 9/11 that was signed in December of 2001. FAST was subsequently unveiled a year later in December, 2002.

The goal of FAST is to improve security and efficiency by encouraging those engaged in cross-border freight movements to apply for pre-approval and corresponding access to dedicated, expedited inspection lanes at ports-of-entry.

FAST enrollment provides expedited inspection, with faster processing and a shorter required window between e-manifest submittal and border arrival. When fully integrated at a port-of-entry, full FAST compliance allows approved drivers, shippers, and carriers to use a dedicated FAST lane to bypass lineups of non-FAST trucks.

Dedicated access lanes are a significant investment that requires partnership between inspection agencies and, at a minimum, whoever owns the road approaching the inspection facility.

The program was initiated as a binational undertaking, administered by Canada Border Services Agency (CBSA) and U.S. Customs & Border Protection (CBP). It embraces the economies of scale offered by the United States and Canada's similar security objectives, legal systems, and long standing alliance.

FAST was also created with an understanding that enrolled carriers and drivers would be more highly desired by shippers and even able in some cases to charge higher rates for predictably shorter wait times.

Infrastructure to support FAST operations

The U.S. port-of-entry at Pacific Highway was rebuilt in 1999. Part of the improvements included increasing the number of commercial vehicle booths from two to three. Following designation of one of the three booths as a future FAST lane, IMTC partners set out to design and fund widening of British Columbia Highway 15 to accommodate an additional lane that would enable FAST trucks to bypass the typical queue of regular truck traffic. The successful completion of widened and reconfigured approach lanes for the U.S. port was completed in 2004 as a result of interagency partnership and funding from both U.S. and Canadian sources. The southbound FAST lane at Pacific Highway port opened in November 2004. The total cost to Transport Canada and the B.C.

Ministry of Transportation for creating the FAST lane is estimated at \$7.76 million (CAD).

The CBSA port at Pacific Highway added a third truck booth in 2007. This addition was made as the Washington State Department of Transportation (WSDOT) completed a full rebuild of WA State Route 543, the one mile connection between Interstate 5 and the Pacific Highway port-of-entry. Construction was completed in December 2007 and included a dedicated, northbound FAST lane which CBSA immediately opened for business. The addition of this northbound FAST lane was part of an overall project that cost about \$50 million (USD).

2. Process

What makes a truck a FAST truck?

For a cross-border truck trip to be considered a “FAST” truck trip, the following components must be in place:

1. **The truck driver must be a FAST-approved driver and have his or her FAST card.** The FAST driver program is a true, binationally administered program (like NEXUS for travelers). One common application is submitted, reviewed by both CBSA and CBP, and one card is issued.
2. **The carrier (trucking company) must be “FAST.”** For U.S. – bound trucks this means the carrier must be enrolled in the U.S. Customs-Trade Partnership Against Terrorism (C-TPAT) program. For Canada-bound trucks, the carrier must be enrolled in the Canadian Customs Self Assessment (CSA) program, and the Partners In Protection (PIP) program. While efforts have been made to synchronize national programs, they are not, like the driver component, unified or binationally administered.
3. **The shipper (owner of freight) must be “FAST.”** For U.S. – bound trucks this means the shipper must be enrolled in the C-TPAT shipper program. For Canada-bound trucks the shipper must be enrolled in the CSA and PIP programs. Like the carrier enrollments, national programs are separately administered.
4. **The commercial port-of-entry must be able to process FAST trucks.** Typically, this means the port must have one or more lanes dedicated for FAST trucks. The basic incentive for enrollment is the avoidance of long queues. However ports without a dedicated lane can still offer expedited inspection for FAST drivers, carriers, and FAST shipments. There are currently nineteen FAST ports on the U.S. – Canada border, although only four of these have a dedicated FAST lane in the northbound direction (*this information pertains to northbound only – southbound information not available*).¹

¹ <http://www.cbsa-asfc.gc.ca/prog/fast-expres/sites-eng.html>

The array of individual programs operating under the FAST title is shown in the following table:

	U.S. Customs & Border Protection	Canada Border Services Agency
Driver	FAST Driver card – binational	
Carrier	C-TPAT carrier	CSA carrier/PIP
Shipper	C-TPAT shipper	CSA importer/PIP

Operational conclusions from this arrangement are:

- A loaded truck seeking FAST lane access in *one direction* must be associated with three program enrollments.
- A loaded truck seeking FAST lane access in *both directions* must be associated with five program enrollments.
- Empty trucks can use the lane with two enrollments (driver and carrier, since no shipper is involved in an empty movement).
- Trucks carrying shipments from more than one shipper (often called Less-than-truckload or LTL) cannot use the FAST lane unless *all* shippers with goods on board are registered with the directionally appropriate shipper program.

FAST driver enrollment

FAST driver enrollment is similar to NEXUS driver enrollment. Both processes require applicants to fill out a binational application form, submit proof of citizenship, and pay a processing fee (which is a one-time cost for five years of card use). The application is reviewed by both U.S. and Canadian government agencies. Upon successful review an applicant is then invited to an interview at one of the NEXUS/FAST enrollment centers in the region. At the conclusion of a successful interview, the driver is given a biometrically-enhanced identification card with radio frequency identification (RFID) technology included. This card is good for five years and can also be used at the individual’s proof of citizenship upon entering the United States through a land port-of-entry under the guidelines established with the Western Hemisphere Travel Initiative.

This process is streamlined and generally takes between two and four weeks from the submittal of the application to the interview and issuance of the card.

In a 2008 data collection effort ², interviewed companies reported that, on average, 75 percent of their drivers were FAST enrolled. Many companies made it mandatory to apply.

² In 2008 the Whatcom Council of Governments (WCOG) interviewed 33 trucking companies that were recorded as being the most frequent border crossers in the 2006 research effort. The objective of the calls were to collect basic fleet and travel pattern information from carriers; learn about their enrollment

FAST carrier enrollment

Carrier companies that desire access to the FAST lane at participating land ports-of-entry must be enrolled in the U.S. C-TPAT program southbound and the CSA program northbound.

C-TPAT carrier program

The C-TPAT carrier process is open to eligible land, sea, rail, and air carriers. Participants complete an online electronic application that includes the submission of corporate information, a supply chain security profile, and an acknowledgement of an agreement to voluntarily participate. A self-assessment of their security procedures must be performed based on the CBP guidelines.³

There is an online application for the C-TPAT program which can be used for both carriers and importers, and focuses on the company's agreement to conduct a comprehensive assessment of the global supply chain based on established C-TPAT security criteria.

CSA carrier program

According to the CBSA website, there are many benefits to carriers enrolled in the Customs Self Assessment program:

- It ends the transactional transmission of data elements
- It increases the certainty of expedited customs processing
- It makes it easier for carriers to meet their obligations
- It streamlines the process of legitimate trade.⁴

Eligible carrier companies are bonded, have been transporting goods to or from Canada for at least three months, and have a clean record without major commercial infractions. In addition, the company must maintain control of all shipments until the goods are released, and be willing to provide senior management authorization that proper business processing and audits will support CSA program requirements.

status/knowledge of both U.S. and Canadian FAST programs; inform them of the new northbound FAST lane at Pacific Highway and find out if they are interested in joining the program; and gather general feedback about the FAST program.

The questionnaire consisted of several general demographic questions about the company, as well as questions directly focused on enrollment and feedback about the FAST programs, C-TPAT and CSA. The companies represented a wide range of fleet sizes, from small companies with fewer than ten trucks to companies with fleets of over 2,500 vehicles. Most of the respondents were based in Canada, and most of those had offices in Surrey, BC.

³ http://www.cbp.gov/xp/cgov/trade/cargo_security/ctpat/

⁴ <http://www.cbsa-asfc.gc.ca/prog/csa-pad/carrier-transport-eng.html>

Participation in the CSA program requires a dispatch system. Applications from carriers who have a third party or service provider manage their dispatch system may be refused participation in the program. The requirements of this system are extensive, and include tracking all shipment details and generating sequential trip/pro/control numbers to a shipment the moment the order is booked.

The first part of the application process involves both a risk assessment, where carriers submit an application detailing their corporate structure, details about their business, security measures, terminal and warehouse locations, and the location of their facilities.

The second part is an application illustrating their books, records, and dispatch systems, including how they assign internal control numbers for every order, a detailed dispatch procedure, and how CSA-approved importers, drivers, and eligible shipments will be identified and reported. CSA-approved carriers are required to have the records, systems, audit tracking, and links in place for every CSA shipment.

Once enrolled, CSA-approved carriers are eligible to report to CBSA electronically through data interchange (similar to the U.S. e-manifest system). They are also not required to seal the conveyance when moving goods inland.

More information about the CSA program for carriers is available online in Memorandum D3-1-7 at: <http://www.cbsa-asfc.gc.ca/publications/dm-md/d3/d3-1-7-eng.pdf>

It is important to note that before a carrier can become CSA-approved they must sign a memorandum of understanding with CBSA as part of the Partners In Protection (PIP) program. Work continues to align PIP with C-TPAT in the U.S. Similar security requirements for PIP and C-TPAT make it easier to be eligible for both programs although a separate application must still be made to both programs.

PIP applicants must fill out a security profile and have the profile reviewed and assessed by a CBSA security officer.⁵

FAST shipper enrollment

C-TPAT importer program

The C-TPAT application process is the same for carriers and for shippers (importers). A security profile must be submitted and reviewed by CBP and validated for a shipper to be declared C-TPAT approved.⁶

⁵ <http://www.cbsa-asfc.gc.ca/security-securite/pip-pep/app-demande-eng.html>

⁶ http://www.cbp.gov/xp/cgov/trade/cargo_security/ctpat/

CSA importer program

Importers must be a CSA-approved importer to transport their goods in the FAST lane. They must also have a signed PIP memorandum of understanding. There is no separate application for importers. Like carriers, they must register for CSA and PIP separately.

For importers, the application has two parts, a risk assessment outlining the company policies and structure, and a description of their bookkeeping. Importers must demonstrate that their financial systems have the required controls and audit trails. Requirements include account security numbers, business monthly cut-off dates, triggers for customs accounting, ways to distinguish commercial importations from domestic purchases, and other specifications.

Importers are required to submit monthly revenue summary forms to the CBSA.⁷

The PIP requirements are the same as those for carrier companies.

Integration of U.S. and Canadian application processes

There are current efforts to align application processes for companies looking for bi-directional eligibility in the FAST program.

Expected benefits and costs

Based on CBP and CBSA documentation, the following benefits for joining FAST have been identified:

- Access to dedicated lanes (where available) for faster border clearance
- FAST driver cards can be used as proof of identity and a document that denotes citizenship while entering Canada or the U.S. as per U.S. Western Hemisphere Travel Initiative (WHTI) requirements.
- Reduces the need for transmitting transactional data for every transaction to CBSA
- Streamlines accounting filing with CBSA
- Minimizes documentation required to clear the border
- Provides shorter window of advance notice to CBP for filing e-manifest documents (thirty minutes instead of one hour)
- Stratified exam benefits to importers who have only one of multiple containers identified for holding – their other containers can move on, saving storage costs and delays.
- Front of the line privileges are granted to C-TPAT containers that are selected for an examination.

⁷ <http://www.cbsa-asfc.gc.ca/publications/dm-md/d17/d17-1-7-eng.html>

- Marketability of companies that are C-TPAT approved to other shippers, showing that they meet stringent security requirements.

The benefits over the cost of the effort involved in enrolling and maintaining a company's FAST status differ by region and direction. A cost/benefit survey completed in 2007 by the University of Virginia's Center for Survey Research on behalf of CBP identified several tangible and intangible benefits associated with the program, but also listed a variety of implementation and maintenance costs for companies.⁸

Carriers interviewed as part of a regional outreach in 2009 reported the level of effort involved in joining one or both programs outweighed the benefits of the dedicated lane, especially northbound. Many stated that the queues northbound are not bad enough to justify the effort of applying to the CBSA program.

3. Demand for FAST Programs

FAST truck volume

According to CBP, when the FAST lane is truly open to FAST trucks only (it is opened to all trucks from time-to-time to help relieve very long queues) the share of trucks that enter as FAST trucks from BC Hwy 15 is between 15 and 20 percent. It is acknowledged by CBP that most of these trucks are empty.

Northbound, CBSA reports that the percentage of trucks entering as FAST from State Route 543 is under 5 percent. Regional program enrollment in the CSA/PIP programs is substantially lower. There is no protocol for ongoing availability of this measure.

Information from CBP headquarters on the percentage of shipments entering from Canada under the FAST program by port location (table below) shows relative market penetration by region:

⁸ Customs-Trade Partnership Against Terrorism Cost/Benefit Survey Report of Results, 2007 (University of Virginia Center for Survey Research):
http://www.cbp.gov/linkhandler/cgov/trade/cargo_security/ctpat/what_ctpat/ctpat_cost_survey.ctt/ctpat_cost_survey.pdf

FAST shipments as a percent of all shipments at U.S.-Canada land ports

	Port	# of Lanes	FAST Dedicated Lanes	Estimate FAST as % of all shipments
1	Detroit	14	5	44%
2	Port Huron	3	2	31%
3	Buffalo/Peace Bridge	7	0	23%
4	Buffalo/Lewiston Bridge	4	1	23%
5	Pembina	3	0	21%
6	Alexandria Bay	3	0	20%
7	Champlain	5	1	17%
8	Ogdensburg	3	0	16%
9	Sault Ste. Marie	2	0	15%
10	Derby Line	2	0	13%
11	Houlton	2	0	12%
12	Highgate Springs	1	0	9%
13	Oroville	2	0	8%
14	Blaine	3	1	8%
15	Massena	1	0	5%
16	Sweet Grass	2	0	3%

While Blaine (Pacific Highway) has the fifth highest truck-volume on the U.S.-Canada border, it ranks 13th (tied with Oroville, WA) in percentage of FAST shipments. The top ports by this measure (Detroit, Port Huron, etc.) are also among the top volume ports. These data validate a harder look for causes of this different experience.

FAST relative to specific trade lanes

To evaluate whether distinct regional trade lanes are better matched with FAST lane use, origin-destination data has been analyzed from the 2009 IMTC Commercial Vehicle Operations Survey.

Given the low numbers of observed northbound FAST trucks, only southbound numbers are examined for origin-destination patterns.

The origin-destination patterns are similar to those in the standard lanes. In the southbound standard lanes, Surrey, Delta, Richmond, and Vancouver are listed as the top origins.

Similarly, the southbound destinations for the standard and FAST lanes are also similar, with the top cities listed being Blaine, Seattle, Tacoma, Ferndale, and Kent. This suggests that FAST trips are not originating or heading to unique destinations.

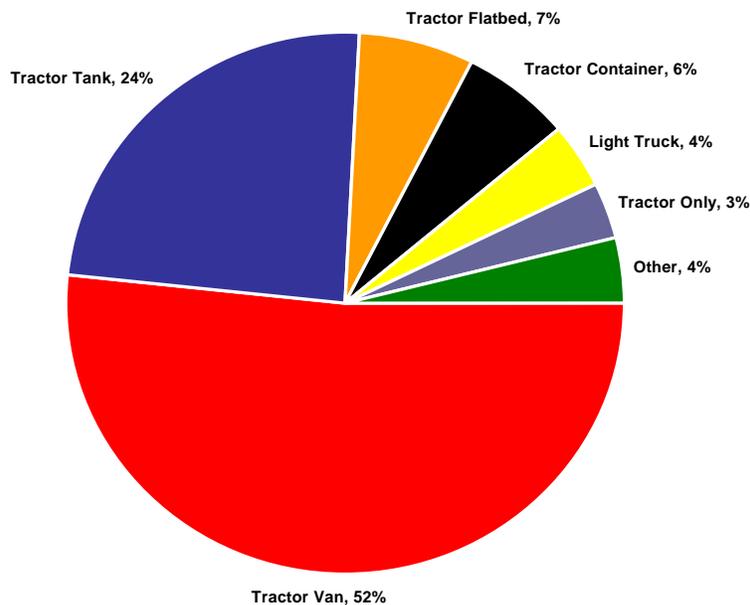
Southbound FAST lane origins and destinations ⁹

PACIFIC HIGHWAY FAST LANE SOUTHBOUND					
ORIGINS	#	%	DESTINATIONS	#	%
VANCOUVER	79	25.2%	BLAINE	49	15.9%
DELTA	69	22.0%	SEATTLE	41	13.3%
SURREY	58	18.5%	FERNDALDE	34	11.0%
RICHMOND	35	11.2%	CHERRY POINT	22	7.1%
LANGLEY	21	6.7%	TACOMA	18	5.8%
BURNABY	20	6.4%	KENT	13	4.2%
NEW WESTMINSTER	5	1.6%	BELLINGHAM	13	4.2%
VAN. AIRPORT	5	1.6%	MT VERNON	12	3.9%
COQUITLAM	4	1.3%	BURLINGTON	9	2.9%
ANNACIS ISLAND	3	1.0%	ARLINGTON	7	2.3%
PITT MEADOWS	3	1.0%	EVERETT	7	2.3%
MAPLE RIDGE	2	0.6%	REDMOND	7	2.3%
PT ROBERTS	2	0.6%	SUMNER	6	1.9%
OTHER	7	2.2%	OTHER	71	23.0%
TOTAL	313		TOTAL	309	

FAST vehicle types

Most southbound FAST lane trucks are tractor-van combinations, reflective of the overall trend (58 percent of all southbound trucks were tractor vans). Only 8 percent of standard lane trucks were tractor-tank combinations as compared to the FAST lane (24 percent) which may be the prevalence of the Jet Star carrier line using the lane when returning to the U.S. with empty fuel tanks.

Southbound FAST lane vehicle types ¹⁰



⁹ 2009 IMTC Commercial Vehicle Operations Evaluation Survey.

FAST commodities

A large percentage of loaded trucks crossing the border at Pacific Highway are less-than-truckload (LTL) which are essentially unable to use the FAST lane, given the number of individual shippers (all of which would have to be C-TPAT or CSA approved to use the FAST lane).

The majority of trucks in both directions using the FAST lane are empty (41 percent northbound, 73 percent southbound). Of those that are loaded, most tend to carry low-risk bulk commodities from high-volume shippers.

Southbound FAST lane commodities compared to standard lane commodities¹¹

PACIFIC HIGHWAY SOUTHBOUND

STANDARD			FAST		
Commodity	#	%	Commodity	#	%
Empty/Mail	448	40.4%	Empty/Mail	236	72.8%
Wood Products	99	8.9%	Wood Products	19	5.9%
Agriculture	54	4.9%	Newsprint/Paper	15	4.6%
Waste/Scrap	48	4.3%	Waste/Scrap	12	3.7%
Newsprint/Paper	48	4.3%	Other Food	6	1.9%
Meat	41	3.7%	Mineral Products	5	1.5%
Base Metal	37	3.3%	Paper Products	4	1.2%
Motor Vehicles	37	3.3%	Motor Vehicles	4	1.2%
Plastic/Rubber	31	2.8%	Other	23	7.1%
Manufactured Goods	29	2.6%	TOTAL	324	
Other Food	27	2.4%			
Paper Products	18	1.6%			
Metal Products	18	1.6%			
Electronics	17	1.5%			
Bakery	17	1.5%			
Mineral Products	15	1.4%			
Printed Materials	14	1.3%			
Mixed Freight	13	1.2%			
Machinery	12	1.1%			
Chemical Products	11	1.0%			
Furniture	11	1.0%			
Other	64	5.8%			
TOTAL	1,109				

Although observations were made northbound at Pacific Highway, only 22 trucks were observed using the FAST lane – not a statistically valid sample.

The predominant commodity groups southbound, wood products and newsprint/paper, make up over ten percent of the FAST truckloads.

¹⁰ 2009 IMTC Commercial Vehicle Operations Evaluation Survey.

¹¹ 2009 IMTC Commercial Vehicle Operations Evaluation Survey.

FAST carrier enrollments

Data from the 2009 IMTC Commercial Vehicle Operations Evaluation Survey show that 73 of the 613 carrier companies observed at Pacific Highway southbound made trips through both the standard and FAST lanes. These carriers (assumed to be C-TPAT approved) made a total of 335 trips through the standard lanes, representing 31 percent of southbound booth arrivals.

Of the carriers who made trips in both standard and FAST lanes, 59 percent of their trips used the standard lanes, and 41 percent used the FAST lanes.

Carrier companies using FAST and Standard Lanes ¹²

	Carriers	% of All Carriers	Trip Counts	% of Trips
STD Lane	493	72%	1076	77%
FAST Lane	122	18%	326	23%
Both	73	11%	NA	
Total	688		1402	

The issue of empties

During the June 2009 study, over 45 percent of southbound trucks crossing the border were empty. ¹³ 73 percent of trucks using the FAST lane southbound were empty (as are 41 percent of the northbound FAST trucks). Carrier interviews in 2008 confirmed that too few of their shipper clients are enrolled in C-TPAT to allow trucks to use the lane when loaded. They repeated regularly that shippers have no real incentive to join. For almost all carrier companies interviewed, less than 10 percent of their clients were enrolled in C-TPAT (See **Appendix A: Summary of 2008 FAST Carrier Interviews**). The conclusion here is that, regionally, the FAST lane has functioned largely as an empty truck lane.

4. Supply

FAST booth processing rates

Three data-intensive studies provide the Cascade Gateway region a unique opportunity to gauge the impact of FAST implementation on cross-border travel time. The first was conducted by the U.S. Department of Transportation in 2002. This effort included two weeks of multi-point, time-stamped observations of trucks from end-of-queue, through primary inspection.

With the FAST program up and running for about two years, a comparable set of observations was collected in June 2006 – an IMTC initiative funded by Transport Canada, WCOG, and Western Washington University’s Border Policy Research

¹² 2009 IMTC Commercial Vehicle Operations Evaluation Survey.

¹³ 2009 IMTC Commercial Vehicle Operations Evaluation Survey

Institute. As part of this effort WCOG also collected origin-destination and commodity data from truck manifests.

In 2009 a third analysis was completed, also collecting processing times for trucks in primary and FAST lanes, and also included origin-destination and commodity data for each truck.

A comparison of data from all three years enables the following time series of FAST and standard inspection times:

Pacific Highway Processing Rates

PACIFIC HIGHWAY SOUTHBOUND				
8AM - 5PM weekday				
Year	Lane	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
2002	Empty/Precleared	32	NA	
	General	49	57	50
2006	FAST	20	87	21
	General	78	120	80
2009	FAST	7	68	8
	General	34	98	36
PACIFIC HIGHWAY NORTHBOUND				
8AM-5PM weekday				
Year	Lane	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
2002	General	25	49	26
2006	General		64	
2009	FAST	3	71	4
	General	16	74	17

It is important to note that commercial vehicle traffic volume in 2009 is down substantially, which impacts overall queue length. FAST processing at the booth is longer than processing rates in 2002, but is still noticeably shorter (in the southbound direction) than processing in the general lanes.

Optimizing performance

For both the security objectives and the cross-border transportation efficiency objectives, the FAST programs need to have a critical mass of users. Sufficient uptake is also needed to justify added capacity at ports-of-entry dedicated to the program as well as to spread system benefits to general port traffic as well.

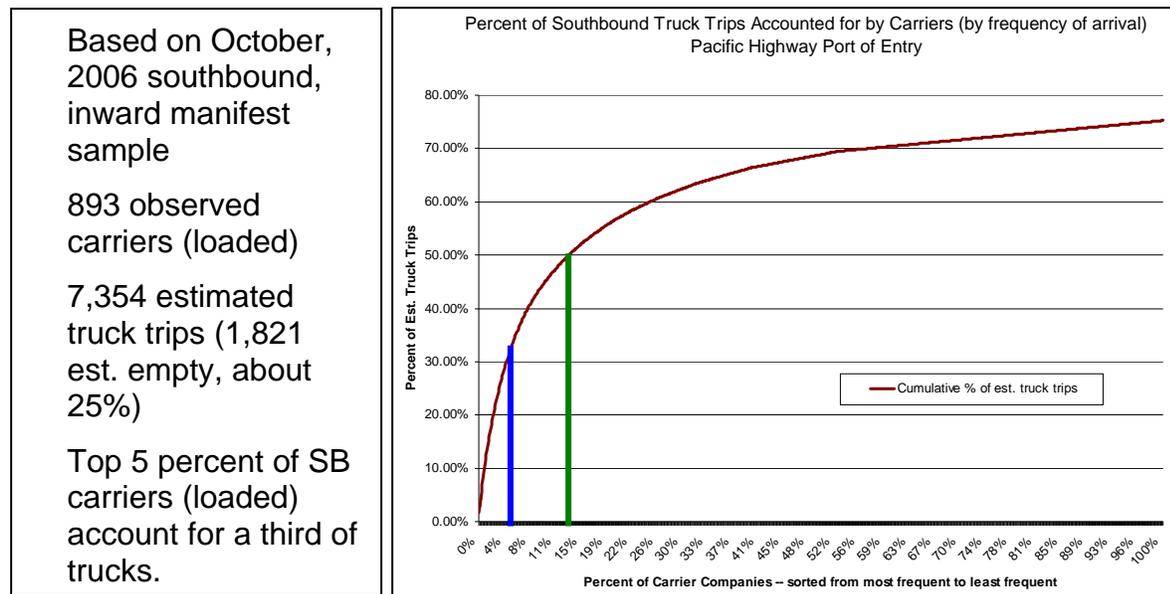
In 2003 WCOG received funds from the U.S Federal Highway Administration and the BC Ministry of Transportation to pursue FAST outreach and marketing in cooperation with IMTC agencies including CBP and CBSA.

Because of difficulties in identifying the cross-border shipper market, efforts focused primarily on carriers. WCOG identified the top fifty carrier companies crossing the border (southbound at Pacific Highway), with the intention that if these carrier, whose

cross-border trips make up over 50 percent of all cross-border traffic, were enrolled in FAST, cross-border commercial wait times for all traffic would improve substantially.

In 2006 WCOG worked with CBP to collect carrier names from manifests – the document that carriers submit for each shipment entered into the United States. Data confirmed that a minority of carriers make the majority of trips. WCOG bundled carrier names and addresses and both CBP and WCOG conducted follow-on outreach with these firms.

Summary of October 2006 Manifest Sample at Pacific Highway (southbound)



Marketing efforts to these target carriers included outreach, education, promotional materials, and application question sessions with CBP and CBSA representatives. The 2008 phone survey work was also part of this marketing effort.

The 2006 and 2009 Commercial Vehicle Operations Evaluation Surveys also collected data on FAST lane performance and that information has been used to identify key carriers whose participation in the FAST program would optimize all border throughput, given those carrier volumes at the crossing.

Considering alternatives to FAST

As part of an analysis under the U.S. Federal Highway Administration’s Transportation Border Congestion Relief (TBCR) program, WSDOT, WCOG, and other IMTC agencies are identifying alternatives for optimizing the capacity at the Pacific Highway port-of-entry. Specifically, the northbound FAST lane, which has seen very minimal levels of usage, represents a significant investment by Washington State, which also must address issues of frequent lengthy commercial queues which back up onto Interstate 5.

Several alternatives have been discussed in the context of both the northbound and southbound FAST lanes:

1. **Keep the current FAST configuration** -- Maintain the existing operation at the port, which includes two standard lanes and one FAST lane in each direction. Better utilization of the lane would therefore come from increased enrollment in the existing FAST programs.
2. **Revert FAST booths to standard booths** -- To maximize capacity in both northbound and southbound directions, the under-used FAST lanes could be reverted back to standard lanes. However this reduces any time savings benefits to FAST enrolled trucks until they reach the processing booths.
3. **Allow non-FAST trucks in the FAST lane** -- CBP currently allows port directors to use wait-time mitigation strategies. When commercial vehicle wait times are long at Pacific Highway, CBP uses a changeable message sign to pull non-FAST trucks from the front of the queue into the FAST booth. This makes use of spare capacity with minimal loss to time savings for FAST trucks. A similar situation could be advanced northbound, although CBSA currently does not offer the same range of regional flexibility for FAST lane and booth management.
4. **Future program alignments for increased enrollment** -- Discussions between CBSA and CBP on aligning the enrollment processes between component FAST program application forms is underway. If programs become more aligned, more carriers and shippers may find increased value and use from the program.
5. **Modified program requirements** -- Research suggests that, although shippers at midwest ports-of-entry use the C-TPAT and CSA program in larger numbers, it has been difficult to motivate shippers in this region to enroll. If the requirement for a C-TPAT (or CSA) importer/shipper could be relaxed in regions where this has proven difficult, perhaps more vehicles would use the FAST lanes.

By looking at carrier data from the 2009 survey, if the 73 carriers that were observed using both southbound FAST and standard lanes during the 2009 survey were allowed to always use the FAST lane and booth regardless of the shipper/importer status, the FAST lane share of total trips would increase from 23 percent to 47 percent. Despite the fact that booth processing times might be slightly faster since these truck carrier companies and drivers are C-TPAT approved, the increased volume shift would potentially deteriorate the intended wait-time reduction benefits of the program.

6. **Replacing FAST lanes with congestion-priced lanes** -- This strategy would “sell off” excess FAST lane capacity by charging carriers a dynamic price linked to current wait times and volumes. This program could work in place of the FAST lane or in conjunction with current FAST operations.

Evaluating alternative strategies

A simulation model completed by the Border Policy Research Institute (BPRI) at Western Washington University compares different configurations of the FAST lane

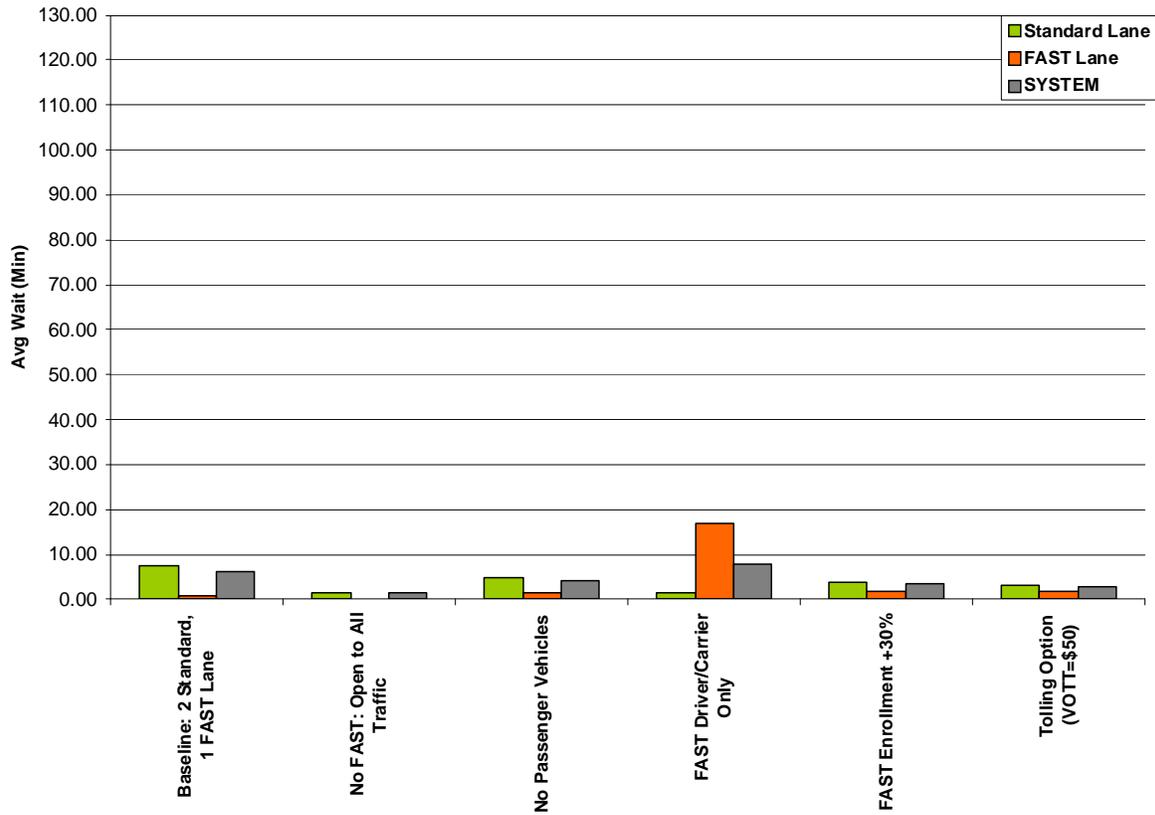
and estimates processing wait times by lane type as well as total system time. Model runs used southbound data and compared:

- The current southbound FAST configuration
- Making a third general lane (no FAST)
- Removing passenger vehicles from truck lanes (passenger vehicles processed in the commercial lanes take substantially longer to process than regular commercial trucks)
- FAST without a shipper component (carriers and drivers must be FAST approved)
- Increases in FAST enrollment to 30 percent of overall traffic (currently at 22.5%)
- Congestion pricing strategy ¹⁴

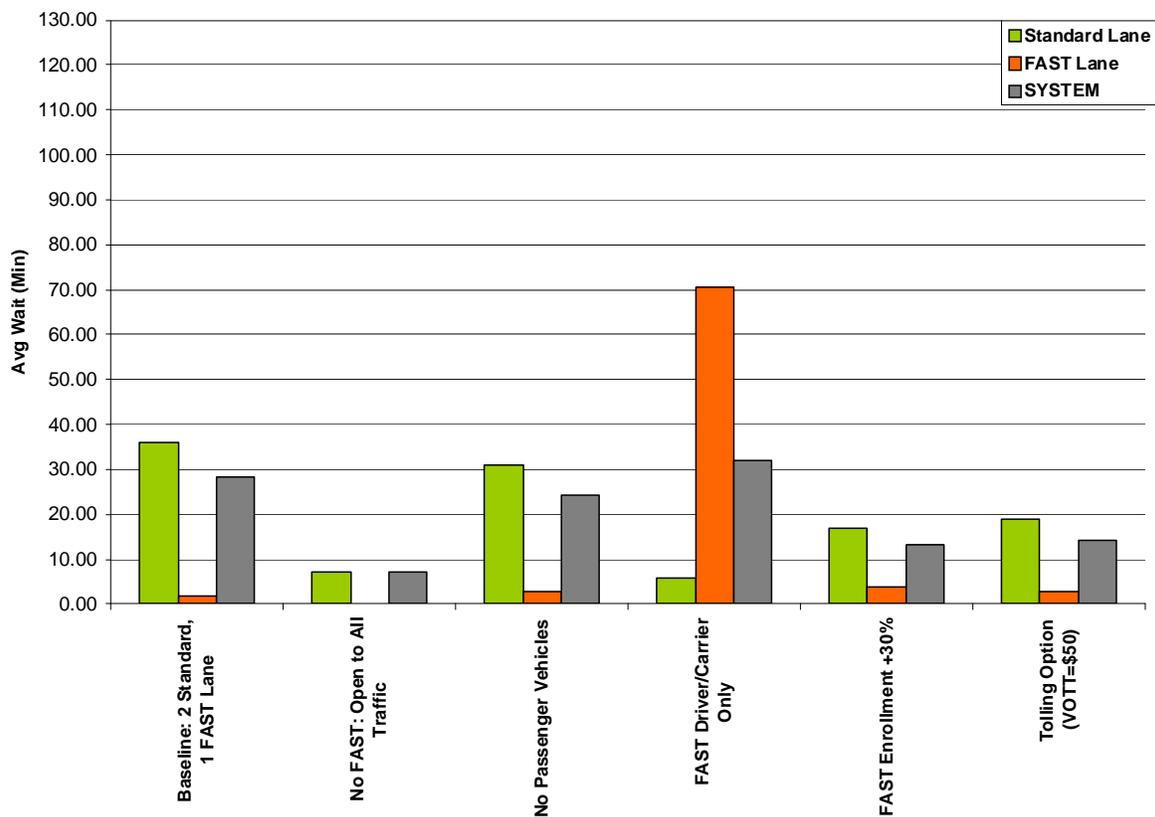
At the current traffic volumes, the optimal border configuration is to open the FAST lane to all traffic. However the total system benefit of a dedicated FAST booth would be restored if traffic volumes returned to 2002 levels. With higher volumes the FAST lane offers more benefits to both enrollees. That said, there is a point of diminishing returns.

¹⁴ Details can be found in [An Update on Congestion Pricing Options for Southbound Freight at the Pacific Highway Crossing](#) by Mark Springer, funded by the Border Policy Research Institute, Western Washington University.

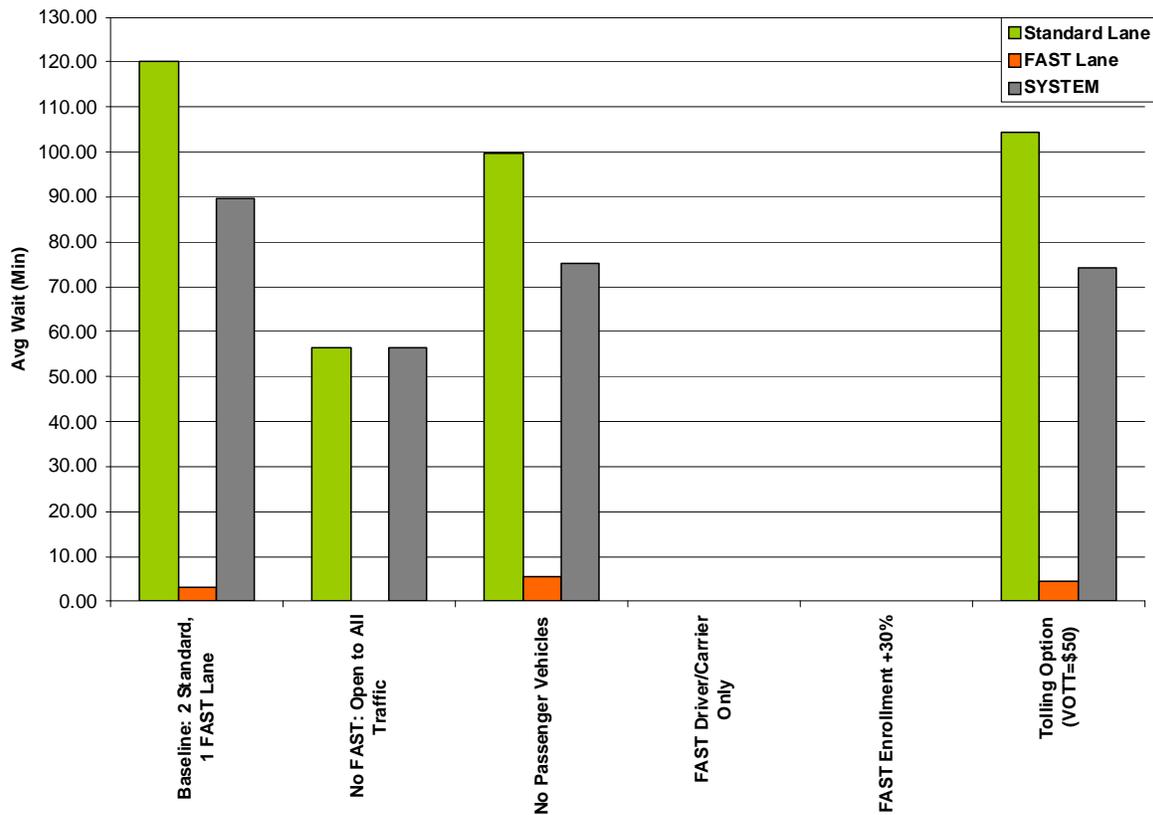
Comparing alternatives with current volume levels (2009 volumes)



Alternatives with 20 percent volume increase



Alternatives with 50 percent volume increase (2002 levels)



5. Near-term and longer-term operational implications

In the current environment of relatively lower truck traffic volumes, FAST booth (and dedicated lane) utilization and relative wait time avoidance benefits are less than optimal southbound and very low northbound.

Continue and broaden the existing mitigation strategy

Similar to reverting the FAST booth to standard traffic, CBP can continue its mitigation strategy, using the variable message sign above the FAST booth to pull in non-FAST trucks from the front of the standard truck queue. The CBP mitigation strategy could be used more often without meaningful impact to the wait times of FAST-compliant movements. Additionally, regional CBSA management is evaluating adoption of similar ongoing flexibility for the FAST booth while maintaining most of the queue bypass benefits for full FAST movements.

Volume increase scenario: 50 percent more truck traffic

If commercial vehicle volumes at Pacific Highway return to higher volumes like those of 2002 (a 50 percent increase over 2009 volumes), then, as estimated by the simulation model reviewed above, the current FAST traffic share (23 percent) would likely result in high utilization of the FAST booth (and lane).

For northbound truck traffic at Pacific Highway, unless carrier and shipper enrollment rates increase for the Canadian FAST program components, a flexible FAST lane or a 3-standard lane operation would still outperform a fully-dedicated FAST booth and lane.

U.S.-Canada FAST program alignment

As announced from bilateral meetings over the last year, the U.S. and Canada are pursuing ways to better align the C-TPAT and CSA/PIP programs. As details emerge, it is possible that such changes could motivate increased enrollment. Movement toward a single application for both programs or reciprocal enrollment recognition could shift expectations about regional program performance and operational scenarios.

Many carrier firms who responded to WCOG's 2008 carrier survey indicated that joining the multiple FAST programs was expensive and difficult. Additionally, for the Canadian programs, the typically shorter wait times further reduced the relative benefit of compliance. Increased harmonization, such as with the binational FAST driver card, would likely increase enrollment and allow for greater use of the northbound FAST lane.

Addressing the lack of enrolled shippers

Unlike in the East, *shippers* in the Cascade Gateway region continue to show little interest in FAST programs. Many shippers are not directly involved in transporting their products. In addition, the portion of commodities moving on a just-in-time manufacturing schedule is small. Unless the market for carriers changes so that they are able to charge higher rates to non-FAST shippers, shippers are insulated from the costs of border delay and thus have no financial incentive to enroll in FAST. As long as the current regime around shipper enrollments remains, expectations for increasing FAST lane use by loaded trucks will be very low.

Next steps

In the near term, aggressive mitigation strategies that allow metered use of FAST booths by all trucks appear to be the most efficient use of infrastructure.

Regional CBSA management is discussing with their headquarters the possibility of adopting more flexible policies for FAST-lane management.

Conversations with inspection agencies and within forums like the Transportation Border Working Group (TBWG) will maintain attention to any emerging national-level policy changes on program alignments.

Longer term, the feasibility of more structural changes will depend on changes in traffic volumes, program eligibility, or enrollment and compliance costs.

Appendix A: Summary of 2008 FAST Carrier Interviews

In the summer of 2008 the Whatcom Council of Governments (WCOG) interviewed 33 trucking companies that were recorded as being the most frequent border crossers. The objective of the calls included:

- Collecting basic fleet and travel pattern information from carriers
- Find out more about their enrollment status/knowledge of both U.S. and Canadian FAST programs
- Inform them of the new northbound FAST lane at Pacific Highway and find out if they are interested in joining the program
- Gather general feedback about the FAST program

The questionnaire consisted of several general demographic questions about the company, as well as some questions directly focused on enrollment and feedback about the FAST programs, C-TPAT and CSA. The companies represented a wide range of fleet sizes, from small companies with fewer than ten trucks to companies with fleets of over 2,500 vehicles. Most of the respondents were based in Canada, and most of those had offices in Surrey, BC.

One of the goals of this survey is to make sure the companies were aware of the FAST programs (including C-TPAT for the U.S. and CSA for Canada) and were aware that a new FAST lane had recently opened for northbound trucks at Pacific Highway.

Many of the companies already knew about the northbound FAST lane but were not motivated to make use of it.

Survey Questionnaire

- Company Name:
- Interviewee Name:
- Interviewee Title:
- Interview Date:
- Fleet Size
 - % of fleet used in cross-border trade
- Primary commodities and freight-types carried cross-border
- Base of operations (city)
- Primarily carry goods northbound/southbound/both?
- Vehicle-types used (what kind of trucks cross the border)
- Approximate number of cross-border shipper clients

- Is your company enrolled in any of the FAST programs? If so, which ones?
- **C-TPAT only**
 - What percentage of your cross-border shipper clients are C-TPAT/PIP?
 - What percentage of your drivers are FAST enrolled?
 - When your company's trucks use the FAST lane to enter the U.S., are they usually loaded or usually empty?
 - Have you considered enrolling in CSA to make empty returns easier? Why/Why not?
- **FAST/CSA only**
 - What percentage of your cross-border shipper clients are C-TPAT/PIP?
 - What percentage of your drivers are FAST enrolled?
 - When your company's trucks use the FAST lane to enter Canada, are they usually loaded or usually empty?
 - Have you considered enrolling in C=TPAT to make empty returns easier? Why/Why not?
- **Both**
 - What percentage of your cross-border shipper clients are C-TPAT/PIP?
 - What percentage of your drivers are FAST enrolled?
 - When your company's trucks use the FAST lane to enter Canada, are they usually loaded or usually empty?
 - When your company's trucks use the FAST lane to enter the U.S., are they usually loaded or usually empty?
 - Which program was easier for you to understand/apply to?
- **Application In Process**
 - Where is your application for each program at present?
 - If you are only considering applying for one direction, why have you made that decision/why are you not interested in joining the other program?
- **None**
 - Has your company considered C-TPAT or CSA? Which? Why or why not?
 - Do you have other feedback on ways to make either the northbound or southbound program more attractive?

Summary of Responses

Of the 62 companies contacted, 33 of the most frequent southbound loaded cross-border carriers were interviewed. Of those 33, 28 fully completed the survey. 9 companies refused to participate and the rest were either unreachable or did not return messages. Of those that responded:

- 90 percent were Canadian based and 40% of those were based in Surrey.
- Fleet sizes ranged from 10 – 2,500 trucks.
- 75 percent of drivers in these companies are FAST enrolled. Many companies made it mandatory to apply.
- Roughly 50 percent of the companies carried assorted goods and were LTLs.
- 80 percent of the companies carry goods in both directions. Of the small number of companies that shipped predominantly in one direction, there was an even number shipping exclusively northbound or southbound.
- Most of the companies use standard tractor-trailer trucks.
- 25 percent of the companies were unsure of the exact number of cross-border shipper clients they had because there were too many to count. The average number of clients was approximately 100. Bigger companies had a significantly lower percentage of clients enrolled in the programs.
- For almost all carrier companies, less than 10 percent of their clients were enrolled in the C-TPAT/CSA programs.
- 40 percent of the companies reported they rarely used the FAST lane despite being FAST and C-TPAT/CSA enrolled because of the lack of shipper involvement.
- The CSA program was favored three to one over C-TPAT in terms of ease to understand/ apply for (*note: most of the companies interviewed were Canadian based.*) Despite this, slightly more companies are enrolled in C-TPAT than are in CSA/PIP. (80 percent were in C-TPAT while 60 percent were enrolled in CSA).
- All companies enrolled in CSA are enrolled in PIP, and only one company is enrolled in PIP while not being enrolled in CSA.

Common Feedback

The feedback from most companies was the same and could be sorted into these categories:

Too few clients enrolled

This was the by far the biggest complaint from companies because their benefit for enrollment relies on the participation of their shippers who have no real incentive to join.

Not worth the time and effort

As a result of the previous problem, many companies feel that enrollment in the FAST programs is not worth the considerable time and effort it takes to apply.

Difficult to comply

For some companies, complying with the various requirements for enrollment in both programs is unreasonable when considering the costs of upgrading accounting programs, adhering to specific safety requirements, and the cost in staff time to re-train and update protocols. This is especially true for smaller companies.

The process is also difficult because it must be done twice since the Canadian and U.S. programs have different requirements.

FAST Lane backups

Some companies have reported that either the FAST lane isn't any quicker than regular lanes, or that lane backups block access to the FAST lane.

Backups not a problem

Some companies explained their lack of interest in the northbound FAST program because they felt the lineups were currently not bad enough to justify the time and expense of joining the Canadian program.

Had no complaints

Although many companies had either complaints or suggestions to improve the programs, some were content with the program as it is. It should also be stated that most of the companies thought that the C-TPAT/CSA/FAST programs were a good idea in principle; however they believed all programs could be improved to better benefit regional carriers.

Average Responses

Fleet Size	Average = 270, but highly variable.
Percentage or fleet used in cross-border Trade	63%
Primary Commodities and Freight types Carried Cross-border:	50% Assorted/LTL
Base of operations:	93% in CAN, 33% of those are in Surrey, BC
Primary Direction of goods:	80% both, 10% southbound, 10% northbound
Vehicle-types used:	Standard Tractor-Trailer combo
Approximate number of Cross-border Shipper clients:	28% of companies had too many to count. Of those who knew, the average was 103 cross-border shipper clients
Enrollment in programs:	C-TPAT= 79%, CSA=62%, PIP=66%
Percentage of Cross-border clients enrolled in programs:	~9%
Percentage of Drivers FAST enrolled:	72%
When using the FAST lane are you Loaded or empty? Northbound:	Loaded = 38%, Empty = 7%, Can't Use = 45%
When using the FAST lane are you Loaded or empty? Southbound:	Loaded = 45%, Empty = 21%, Can't Use = 34%
Which programs was easier to Understand/ Apply for:	C-TPAT = 25%, CSA = 75%

Conclusions

Because of the small percentage of shipper clients enrolled, LTL shipments with multiple clients, and the effort involved in applying to both U.S. and Canadian FAST programs, many companies underutilize the FAST lanes, and do not show a great deal of interest in joining the northbound program.

Appendix B: FAST Program Status at the US and Canada Border: Synthesis

Requested by

Todd Carlson

Planning and Engineering Services Manager

Northwest Region/Mount Baker Area

WSDOT

Prepared by

Jeff Pilcher, WSU Synthesis Editor

Kathy Lindquist, WSDOT Research Office

Michael Wendt, WSDOT Library

December 2009

Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WSDOT staff. Online and print sources may include newspaper and periodical articles, NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs and related academic and industry research. Internet hyperlinks in the TSRs are active at the time of publication, but host server changes can make them obsolete.

Request for Synthesis:

Todd Carlson, Planning, and Engineering Services Manager, Washington State Department of Transportation, Northwest Region/Mount Baker Area, requested a Synthesis on current status (nationwide) of the Free and Secure Trade (FAST) border program at the U.S. - Canada border.

FAST is a "one size fits all" program that appears to work better or worse depending on the region of the country. The FAST lanes northbound and southbound at Pacific Highway port-of-entry do not have the same level of use in this region as the FAST program lanes along other parts of the U.S. - Canada border. While recent capital improvements reduced the largest delays for northbound trucks (along with the downturn in the economy), and FAST program enrollees using the dedicated lane experience significant time savings, delay still occurs in the general-purpose truck lanes while the FAST lane is under-used. Many times the FAST lane is empty during open

hours of operation and the Canadian Border Services Agency (CBSA) must still staff a FAST lane inspection booth.

This synthesis includes relevant sources on the issues or policy variables that influence security and transportation benefits--specifically in the context of congestion, air quality (green house gas emissions) and inefficient use of limited customs resources. Some topic areas to include: reciprocal recognition of FAST program participants (US-Canada), harmonization of FAST with other security programs, changes to FAST program such as removing shipper component, and relevant others.

Databases Searched:

- TRIS Online
- Research in Progress
- Previous Synthesis Reports
- Google
- Wisconsin DOT Transportation Synthesis Reports
- FTA website
- FHWA website

Synthesis Summary:

Categories of publications and resources:

- FAST program participants (US-Canada) reciprocal recognition
- FAST relationship to other security programs
- FAST program components related to shippers

News Articles:

BPRI, WWU students conducting truck-crossing research at the border

Contact: David Davison, associate director of the WWU Border Policy Research Institute, (360) 650-2642, WWU Communications, Bellingham, WA, July 21, 2009

Western Washington University's Border Policy Research Institute (BPRI) conducted a research survey this summer on the truck usage of the FAST lanes at Whatcom County's border crossings to find out crossing data and usage numbers regarding the local FAST trusted-shipper program and to learn why the percentage of trucks using these lanes is dramatically lower here than at border crossings at Detroit, Mich., and Buffalo, N.Y.

Article: <http://www.piersystem.com/go/doc/1538/292571/>

Results: <http://resources.wcog.org/border/9-24-09cgpres.pdf>

Published Sources:

Issues with Efficacy of FAST at the Cascade Gateway

Border Policy Research Institute, WWU

Author: David Davison, associate director WWU Border Policy Research Institute, Fall 2009

Summary: This article uses recently collected data to examine issues related to the efficacy of the FAST program at the Cascade Gateway. The data was collected by the Border Policy Research Institute (BPRI) in collaboration with the Whatcom Council of Governments (WCOG), a planning entity located in Bellingham, WA. WCOG facilitates the International Mobility and Trade Corridor (IMTC) project, which is a bi-national forum that seeks to improve mobility through the Cascade Gateway (i.e., the four ports-of-entry that collectively serve the I-5 corridor). The IMTC periodically seeks to acquire data describing commercial vehicle operations (CVO) at the regional ports. To provide such data, BPRI and WCOG undertook an extensive CVO field project in the summer of 2009, complementing similar projects that were completed in 2002 and 2006.

http://www.wwu.edu/bpri/files/2009_Fall_Border_Brief.pdf

Facilitating, Promoting, and Monitoring the FAST Program in the Cascade Gateway

Author: Hugh Conroy - Project Manager Whatcom Council of Governments

Summary: This presentation reviews various data sources and data-collection efforts used to inform analysis and decision making related to the Free and Secure Trade (FAST) program in the Cascade Gateway. Data sources will be related to bi-national, multi-agency operational objectives and specific information needs. In addition to sharing information about some regional data-collection practices and applications, this overview is expected to stimulate discussion of ways to improve data collection, storage, and distribution as well as illustrate how improved, data-driven information can foster policy discussions and consideration of operational alternatives.

Check WSDOT Library for availability of paper at <http://www.wsdot.wa.gov/Library/>

Toward a New Frontier: Improving the U. S. – Canadian Border

Author(s): Christopher Sands, The Brookings Institution, July 2009

Since 9/11, security concerns have trumped economic ones at the Canada-U.S. border, leading to delays and higher costs for the cross-border movement of people and goods.

Several initiatives have attempted to address these problems, most notably the U.S.-Canada Smart Border Action Plan and the Security and Prosperity Partnership. They have achieved some success, but the unfortunate reality is that the border today remains a source of considerable user frustration and economic drag. This report focuses on the policy process itself and on the conditions that shape its outcomes. In particular, it argues that progress requires taking greater account of the variety of uses the border has by different categories of users in different places. It also contends that the northern border stakeholders must work effectively with Canadian officials to make the system work, something the Canadians have resisted in the past. This is made more difficult since the creation of the Department of Homeland Security had the unfortunate result of reducing the ability of U.S. Customs port directors to manage operations in a manner adapted to local needs.

http://www.thetbwg.org/downloads/Toward_New_Frontier_Improving_US_Canadian_Border.pdf

Finding the Balance: Finding the Balance: Shared Border of the Future

Author(s): The Canadian and U.S. Chambers of Commerce, July 2009

Prepared in consultation with 43 business associations in both countries, the focus of the paper is to identify areas to reduce border costs in the short term and to increase the competitiveness of Canada-U.S. industries. This report puts forth short-term, practical recommendations to make the border more secure and friendly to low-risk goods and people. It recommends three major political goals. First, make both countries more secure by increasing participation in trusted shipper and trusted traveler programs. Second, improve business predictability as it pertains to the border. Third, make our integrated economies stronger by facilitating the movement of low-risk goods and people across the border.

http://www.thetbwg.org/downloads/Finding_Balance_Shared_Border_of_the_Future.pdf

The Effects of 9/11 on Canadian-U.S. Trade: An Update through 2008

Author(s): Steven Globerman and Paul Storer, July 2009

Summary: The study updates the authors' (2008) statistical examination of changes in the behavior of Canada-U.S. trade following the tightening of security at the Canada-U.S. border in the wake of the terrorist attacks of September 11, 2001. The intensity, direction, and duration of border security-related trade impacts varied across ports. Trade disruption effects seemed to be of shorter duration in the Great Lakes Gateway than in the Blaine/Cascadian Gateway. This difference could be due to the greater utilization of programs such as FAST in the Great Lakes Gateway. In addition, the differential regional impacts on trade identified in this study suggest that

implementation of programs such as FAST should reflect regional realities. In regions where trade is dominated by smaller firms that find the large fixed cost of FAST participation financially daunting, FAST lanes might be used to offer a service that guarantees a cap on service times in return for a real-time user fee, thereby allowing smaller firms to substitute variable costs for fixed costs.

The results of the study indicate that increases in border costs may have had significant impacts on trade. An inference of this observation is the adverse affect to the long-run real living standards of both Canadians and Americans by post-9/11 border security developments. This creates a public policy imperative to reduce costs of bilateral trade without making undue sacrifices in the safety of Canadians and Americans from terrorist attacks.

http://www.thetbwg.org/downloads/Effects_of_911_on_Canada_US_Trade.pdf

In Search of Effective Border Management

Canadian International Council

Author(s): Geoffrey Hale, January 2009

Executive Summary: Effective border security is compatible with the efficient management of border processes to allow the free flow of low-risk people and goods for purposes of mutual benefit between countries. Recent economic shocks have demonstrated that neither Americans nor Canadians can take their prosperity and economic security for granted.

The risks of external and domestic terror attacks increasingly resemble long-term challenges to effective security and border management such as organized criminal activity and unregulated migration, rather than the crisis atmosphere which marked initial responses to 9/11. Failure to consider border security and facilitation issues in this context is likely to result in sub-optimal security and economic outcomes.

The election of a new President and the formation of a new US administration provide opportunities to examine these challenges from fresh perspectives that acknowledge both past successes and areas for improvement. Effective responses can manage security challenges in ways that foster economic prosperity and societal support while providing attractive examples of free, prosperous, and well-functioning societies to a watching world.

Recent years have demonstrated close cooperation in cross border police and intelligence cooperation, both in targeting external threats and increasing operational effectiveness along the border. The Canadian and American governments have created and expanded trusted shipper and traveler programs. Business groups on both sides of the border commented on existing policies on four broad grounds:

strategic limitations of security policies that fail to consider the potential economic effects of a major catastrophe, whether natural or man-made, on cross border trade and the economic wellbeing of citizens and businesses dependent on related supply chains; design flaws in existing border security policies that undermine their avowed intention of combining effective “layered security” measures based on risk management principles with effective border facilitation for low risk trade and travel so that the two broad policy goals do not work at cross purposes;

significant omissions in infrastructure, staffing, technology and related budget commitments that are practical conditions of reconciling effective security and border facilitation and related operational failures of policy implementation.

Key policy responses suggested include:

strong political leadership and inter-agency coordination to build on the extensive administrative cooperation that has developed between Canada and the United States on a wide range of border, security and law enforcement issues – possibly through a joint border management agency to serve as a vehicle for joint policy coordination and oversight;

increased cross border cooperation in the planning and implementation of infrastructure improvements, including border facilities and access roads, to reduce avoidable delays and increase the efficient handling of growing volumes of people and products at the border;

significant increases in the number of border agency staff available for duty along the US-Canada border, with more flexible staffing practices to align staffing more effectively with levels of traffic;

improved coordination of trusted shipper programs to reduce duplication, harmonize entry requirements, implement proposed land preclearance pilot projects and other measures conducive to “pushing back the border”;

the development and timely publication of performance benchmarks and related reports which demonstrate the relative effectiveness of specific policies and programs in meeting security and effective border management objectives and aiding in the efficient allocation of resources by government agencies, and

Improved consultation and engagement of sub-national governments and societal stakeholders, including economic interest groups, first responders, landowners and environmental interest groups in planning and policy development processes on both sides of the border.

<http://www.canadianinternationalcouncil.org/research/canadianfo/insearchof>

Constitutional and Legislative Authority for Intergovernmental Agreements Between U. S. States and Canadian Provinces

Author(s): Steven de Eyre, Case Western Reserve University School of Law, Senior Research Fellow, Canada-United States Law Institute (research conducted through an internship agreement between the Canada-United States Law Institute (CUSLI) and the Whatcom Council of Governments), January 2009

Summary: Beyond the traditional treaties negotiated between the federal governments of the United States and Canada, hundreds of arrangements, agreements, or memorandums of understanding exist directly between American states and Canadian provinces, without federal participation, and outside of any formal diplomatic channels. These subnational arrangements – known as “microdiplomacy” – are becoming increasingly prevalent and important in the bilateral relationship. While the actual agreements are well-documented, the legislative and constitutional authority which allows the agreements to exist is rather ambiguous and can differ greatly from state-to-state or province-to-province. This paper first discusses the legality of these agreements, in light of the constitutional limitations on state or provincial treaty making. Second, this paper analyzes what legislative authority authorizes the executive branches of state or provincial governments to enter into agreements with their cross-border counterparts, specifically those agreements related to border issues and transportation.

<http://www.thetbwg.org/downloads/tbwgAgreementsReport.pdf>

A New Bridge for Old Allies

Author(s): Michael Kergin and Birgit Matthiesen, Canadian International Council, November 2008

Summary: Regional economic integration is the dominant trend in Europe, Asia, and Africa; however, Canada and the U.S. appear to be moving in the opposite direction, says a new report from the Canadian International Council (CIC). The CIC study, entitled "A New Bridge for Old Allies," confronts the question: how can the U.S. and Canada protect each other from harm while maintaining their competitive edge and quality of life? It examines how to reverse the disturbing tendency for border security to pull the economies of the two countries apart rather than enabling them to be closer together. One of the recommendations suggested is to work towards a green transportation supply chain – one supported by cross border infrastructure and approaches designed to accommodate FAST authorized transit well before reaching the border entry point, thereby reducing waiting times, energy costs and attendant emissions.

<http://www.thetbwg.org/downloads/A%20New%20Bridge%20for%20Old%20Allies.pdf>

Governing through Risk at the Canada/US Border

Author(s): Benjamin Muller, September 2008

Summary: This working paper begins to unpack what is at the root of contemporary Canada/US border security: risk management. Specifically, the analysis highlights the characteristics of risk management itself and its link to quantification, the ramifications of what has come to be a ubiquitous reliance on technology in current border security, and the correlating trend towards centralizing the management of border security leading to the disempowerment of robust stakeholders from the borderlands. The author does not go into great detail about the FAST program, only to say that the experience with the commercial registered traveler program, FAST, has shown, due in large part to the desire to securitize the entire supply chain, registration and pre-assessing risk can force almost crippling administrative burdens on to the users, making such measures relatively ineffective, due to the complexity of the pre-assessment and the ensuing cost and inconvenience.

http://www.thetbwg.org/downloads/No_2_Governing_thru_Risk_Liberty_Security_Technology.pdf

IMTC 2008 Passenger Intercept Survey Final Report

Author(s): Melissa Miller, Hugh Conroy, and David Davidson, September 2008

Summary: The 2008 International Mobility & Trade Corridor Project (IMTC) Passenger Intercept Survey assessed characteristics of cross-border travel in the Cascade Gateway and provided that information to regional and federal public and private agencies. Information included who crosses the border, for what purposes, origins and destinations, trip frequency, and other details of cross-border travel. These data compared to matching information collected by IMTC in the year 2000 to see how cross-border travel demand changed over the last seven years.

http://www.thetbwg.org/downloads/pis_2008finalreport.pdf

Canadian Issues Study

Author(s): U.S. Department of Transportation, August 2008

Summary: FMCSA undertook this study to address various issues related to U.S.-Canada cooperative efforts involving commercial vehicle safety. This included a comparative regulatory analysis and the identification of significant issues that may affect US-Canada reciprocity work. It also included the development of a US-Canada web page designed to assist motor carriers and enforcement officials understanding of the various jurisdictional regulations. The web page will be included on the FMCSA web page (www.fmcsa.dot.gov) released on December 31, 2008.

<http://www.fmcsa.dot.gov/documents/intl-programs/canada/Final-Canadian-Issues-Executive-Summary-Final-Report-8-11-08-508.pdf>

Cross-Border Transportation Patterns at the Cascade Gateway: Implications for Mitigating the Impact of Delay on Regional Supply Chains

Author(s): Anne Goodchild, Susan Albrecht and Li Leung, June 2008

Summary: This report presents a commercial vehicle profile of transportation patterns and a commodity profile of the primary border crossing along the Western Cascade border region of southwest British Columbia, Canada, and northwest Washington, United States, in particular the corridor between the urban areas of Vancouver, British Columbia, and Seattle, Washington. This research includes both a description of regional trade and a description of current delay patterns, consequences of delay, and causes of delay. The authors see that the FAST program is very effective and does improve travel times for most carriers who become approved. They feel that in order to create more incentive for higher enrollments in the FAST program, they strongly suggest the FAST lane not be opened to all traffic during times of high congestion. Opening up the FAST lane during these times reduces the incentive for other types of carriers to enroll in the program, as well as reducing its efficiency and purpose. Anecdotal data support their conclusion that FAST is especially troublesome for food and agriculture carriers, which has consequences for supply chain logistics in agriculture and other industries. To better serve the profile of Cascadia freight, they suggest a modified version of the FAST program for those food and agricultural carriers who need additional flexibility for pick-up times, especially those carrying perishable goods. This is especially needed for carriers who have less control over the supply chain, LTL carriers, and food/agricultural carriers. This version, or perhaps a different level of FAST approval and C-TPAT certification, would be more appropriate. However, this level would not approach the same trust and security relationship that these measures currently ensure between CBP and the transporter of goods.
http://www.thetbwg.org/downloads/No_206_Trade_Patterns_at_Cascade_Gateway_and_Impacts_of_Bor.pdf

Inventory of Current Programs for Measuring Wait Times at Land Border Crossings

Author(s): Jonathan Sabeau and Crystal Jones, May 2008

Summary: This report was prepared for Canadian and U.S. customs agencies to identify the programs that are currently in place to measure border wait times. It includes a list of the users of archived and real-time information, and provides a definition of border wait time. The paper outlines the various technologies available for measuring border, along with the advantages and disadvantages of each. The paper describes all the current and planned border wait time systems at the Canada-U.S. and U.S.-Mexico border crossings.

http://www.thetbwg.org/downloads/Inventory%20of%20Current%20Wait%20Time%20Programs_May%202021%202008.pdf

The Vital Connection: Reclaiming Great Lakes Economic Leadership in the Bi-National U.S.-Canadian Region

Author(s): John C. Austin, Britany Affolter-Caine, The Brookings Institution, March 2008

Summary: The bi-national Great Lakes region can continue to model what economic regions will look like in the global economy – and also how they can thrive. To realize this vision will require leadership and purposeful actions that acknowledge the unique opportunities provided by the Great Lakes economy. Only the U.S. president and Congress, along with the Canadian prime minister and Parliament, can promote understanding of the economic opportunities. Working together and working with federal leadership, the opportunity is real for the Great Lakes region to forge a new economic leadership position, and serve anew as a model for world economic and social innovation. This opportunity is imperiled, however, by measures that add to the cost or time to cross borders between the United States and Canada, and negatively impact enterprise, investment, and job growth across the region. The largest challenge to further economic integration is posed by homeland security concerns and measures that have slowed border and bi-national economic exchange since 2001. The economic impact on the Great Lakes region of Homeland Security regimes has been disproportionate. New layers of security and more complex rules and regulations between 2000 and 2004 have tripled the processing time to enter the United States from Canada by truck. Anecdotes and reports from the border suggest this is in part due to a more involved U.S. border screening process. Traffic is down at three of the four international bridges in the Niagara area, yet wait times are up; processing time at the Peace Bridge, for example, increased 32 percent in August 2007 versus a year ago. Bridge travelers say inspectors are taking more time to clear travelers and asking veteran border crossers new questions. New requirements for proof of citizenship to enter the United States pose new uncertainties. These conditions threaten to crimp trade and commerce, at a time when the region and both nations have tremendous shared stake in enhanced economic integration.

http://www.thetbwg.org/downloads/Brooking%20greatlakes_canada%5b1%5d.pdf

The Border Story - A North American Steel Industry Perspective

Author(s): North American Steel Trade Committee, February 2008

Summary: This report summarizes priority issues at the Canada/U.S. and U.S./Mexico borders for the North American Steel Industry. Presentation of the issues is under three headings related to border policies including regulatory issues, infrastructure and personnel, documentation requirements, security compliance and other more general issues. This synthesis of common border-related impediments follows assessments and/or recommendations for each of the issues cited.

<http://www.thetbwg.org/downloads/The%20Border%20Story%20-%20NA%20Steel%20Industry.pdf>

Finding the Balance: Reducing Border Costs While Strengthening Border Security

Author(s): U.S. Chamber of Commerce and the Canadian Chamber of Commerce, February 2008

Summary: A coalition, co-chaired by the U.S. Chamber of Commerce and the Canadian Chamber of Commerce, in close collaboration with members and partnering associations, released a report that includes recommendations to both the U.S. and Canadian governments to reduce the costs of border crossings and to strengthen national security. The Report included calls for short-term measures to eliminate duplicative and burdensome border requirements and facilitate the movement of legitimate passenger and cargo traffic. Examples include requiring carriers that want to take advantage of FAST into the United States and CSA-FAST into Canada are required to belong to both the C-TPAT and PIP programs. Also, FAST requires a specific transponder to be assigned to a specific Vehicle Identification Number (VIN). This poses unique challenges for carriers without a dedicated cross-border fleet. The inability of a carrier to transfer its transponders to multiple vehicles results in increased operating expenses, late deliveries, and the potential loss of revenue.

<http://www.thetbwg.org/downloads/Feb%202008%20-%20US%20CoC%20&%20CCC%20-%20FindingTheBalance%5b1%5d.pdf>

Guide for Planning and Constructing Border Crossing Projects

Author(s): Eastern Border Transportation Coalition, January 2008

Summary: The Eastern Border Transportation Coalition observed that, often, planners of new border projects are not completely familiar with all of the aspects relating to a “border” as opposed to an intra-jurisdictional project. Border projects require significant inter-agency consultation and a number of approvals from various governmental agencies, at the federal, state/provincial, and local levels. The EBTC created this guide as a reference document and initial primer to facilitate the planning process and provide a roadmap to the issues involved with the necessary interagency cooperation and approval processes. It briefly outlines the responsibilities of the various agencies and provides a “link” to more complete information.

[http://www.thetbwg.org/downloads/EBTC Consultation & Approval Guide \(final\) January 08.doc](http://www.thetbwg.org/downloads/EBTC%20Consultation%20&%20Approval%20Guide%20(final)%20January%2008.doc)

Economic Analysis of Security Measures Affecting Transportation Stakeholders in Canada

Author(s): InterVISTAS Consulting Inc., November 2007

Summary: In September 2005, Transport Canada commissioned an empirical investigation into the direct operating and capital costs, as well as indirect impacts, imposed by the Canadian and U.S. security measures introduced after September 11, 2001, and in place before April 2005. This study examines the impact on Canadian air carriers, airports, rail carriers, marine port authorities and facilities, marine shipping lines, and freight forwarders. The report incorporates an earlier study examining the impact of security measures on the Canadian trucking industry for completeness. Over 50 in-depth interviews were conducted and an additional 136 survey responses were received from the above key stakeholder groups. In most cases, the interview and survey respondents represented a fairly high proportion of the traffic carried by their respective modes. For most modes, the results from the respondents scaled up to estimate the impact on the entire Canadian transportation industry. Cross border trucking impacts of U.S. security measures on the Canadian trucking industry were examined in a separate study. The surveyed trucking companies reported increased border delays of 1 to 1.5 hours per trip due to increased queuing times related to the electronic pre-filing of shipment information to the U.S. CBP. Increased administrative staff costs related to the electronic pre-filing of shipment information was also reported. Major capital costs included obtaining FAST cards and security upgrades to facilities and computer systems.

<http://www.thetbwg.org/downloads/Economic%20Analysis%20of%20Security%20Measures%20Affecting%20Transportation%20Stakeholders%20in%20Canada%20.pdf>

Easing the Chokepoints - A Plan for an Efficient Canada-U.S. Border

Author(s): Ontario Chamber of Commerce, August 2007

Summary: Ontario's transportation and border system is a growing concern for the business community. Government regulations and deteriorating infrastructure have made shipping goods across the province and to the US a significant challenge to businesses. All of this in turn affects Ontario's productivity and economic growth. The transportation challenges are not sectoral, as all industries are affected. While border delays are a significant drain on the economy, other challenges have arisen which threaten the success and profitability of businesses and the province of Ontario. This report, the latest in a series of border and transportation-related infrastructure publications by the Ontario Chamber of Commerce (OCC) released in August 2007, contains recommendations designed to help alleviate border-related difficulties by streamlining overlap and/or duplication in transportation, trade, and security regulations, and by providing sufficient resources to support and/or expand trusted traveler and trade-security programs.

This report states cross-border programs such as FAST and NEXUS could better meet their potential if they were allocated sufficient resources to fund both staff and dedicated infrastructure.

It goes on to say participation rates in these programs are low in part because for some, the requirements and approval processes are viewed as elaborate and burdensome. This is particularly a concern for new and small businesses that have a lack of resources to properly obtain and send the required information. FAST requires the shipper, driver, and all in the supply chain to be approved. Difficulty particularly arises for those carriers that transport goods from several different owners in one shipment, and, if they do not have regularly occurring shipments. Both of these scenarios result in increased costs of compliance. The requirements for importer certification can be onerous as well, as the integrity and security of all of their facilities and transportation partners must be ensured.

<http://www.thetbwg.org/downloads/ON%20CoC%20Easing%20the%20Chokepoints%20-%20August%202007.pdf>

Strategic responses by Canadian and U.S. exporters to increased U.S. border security measures: a firm- level analysis

Canada-United States Trade Centre Occasional Paper No. 36 State University of New York, Buffalo, Economic Development Quarterly, Vol. 22, No. 3, 239-251 (2008),
Author(s): Anneliese Vance , July 2007

After September 11, 2001, the U.S. and Canadian federal governments increased restrictions on materials and people crossing the border. Antiterrorism regulations have introduced costly compliance requirements, clearance delays, and unpredictable border wait times for companies conducting business across the international border. A recent study suggests that many Canadian and U.S.-based exporters intend to counteract these costs by implementing strategies including geographic supply chain reconfiguration. Strategic adjustments of this nature could have profound effects on the geography of North American supply chains, the structure, and volume of bilateral trade, and the management of just-in-time delivery systems. This project follows up on the previous study via personal interviews with 35 businesses that had indicated an interest in geographic strategies. Preliminary findings suggest that firms are quickly adjusting to new security requirements and are improving communication channels throughout their cross-border supply chains to stay abreast of new developments.

<http://edq.sagepub.com/cgi/content/abstract/22/3/239>

Reaching the Tipping Point: Effects of Post-9/11 Border Security on Canada's Trade and Investment

Author(s): Danielle Goldfarb, The Conference Board of Canada, June 2007

Summary: This report presents an extensive analysis of the cumulative effects of post-9/11 border security policies on Canada-U.S. trade volumes, costs, and benefits.

Maintaining and enhancing secure, predictable access to the United States economy has

been a long-standing objective of Canadian leaders. Drawing on almost 60 interviews and extensive statistical analysis, the Board finds that the cumulative effects of post-9/11 border policies have neither reduced Canadian export volumes to the U.S. nor increased border delays. However, this new border environment has resulted in important costs for many companies. This may make it less attractive to locate plants in Canada in the long term. The new border environment can represent opportunities; however, some companies have gained a competitive edge by investing in new border security programs to fast-track cargo. The report offers recommendations to maximize these benefits and minimize the costs of the post-9/11 border reality. The report also finds that Post-9/11, risk-based border security programs are not yet fully realizing their efficiency benefits. This is due to infrastructure constraints and a lack of alignment between Canadian and U.S. programs. In the interviews, some companies reported that complying with FAST requirements has led to improved internal systems, including significant savings on back-office processing costs. And others told the Conference Board that requirements to pre-notify border officials of their arrival have made the border process more efficient. Some companies also told the Conference Board that in areas where FAST works; it works well, like the Blue Water Bridge at Sarnia, Ontario. Border officials also treat FAST drivers as trusted security partners, companies reported. But, many other companies reported that the FAST program has failed to consistently meet its stated aims of getting pre-approved cargo quickly across the border because it lacks consistency at some border crossings and at peak hours. Many reported that truckers often use non-FAST lines even if they are FAST-certified. Because FAST lanes are not available at all border crossings or are sometimes not any faster than non-FAST lanes. They cited that lack of infrastructure on the Canadian side of the border and not enough Canadian customs officials as weak links in the process. Another reason FAST may not yet be meeting its intended objectives is that the U.S. and Canadian programs that are requirements to get into FAST are not actually harmonized. This means that companies that want to ship their goods through FAST in both directions must meet two different sets of requirements.

<http://www.thetbwg.org/downloads/Conference%20Board%20of%20Canada%20-%20Reaching%20a%20Tipping%20Point.pdf>

Tighter Border Security and its Effect on Canadian Exports

Author(s): Michael Burt, The Conference Board of Canada, June 2007

Summary: This report uses statistical methods to assess the impact that tighter border security in a post-9/11 world has had on Canada's exports to the United States. The 9/11 terrorist attacks led to increased security at the Canada-U.S. border. This change has raised concerns about significant disruptions in international trade between the two countries, in the form of delays and increased compliance costs. After accounting for economic growth in the United States and relative prices between the two countries, the study finds little evidence that tighter border security has reduced export volumes.

Industry-specific factors, such as the tech bust, were more important in explaining reduced trade flows.

http://www.internationaltransportforum.org/2009/pdf/CDN_TighterBorder.pdf

2006 Border Policies

Author(s): Ontario Chamber of Commerce, October 2006

Summary: The Ontario Chamber of Commerce and its members are greatly concerned about the efficient movement of goods and people across the Ontario-U.S. border. The facilitation of trade and travel of commercial and passenger traffic is of the utmost importance. Annually, \$1.2 trillion transport on Ontario highways, and one in four jobs depends on the export industry. As such, the Ontario-US border is of critical importance to the provincial - and national - economy. Delays at Canada's most important border crossings cost the Canadian and US economies more than \$13 billion annually. This report outlines the issues and provides key OCC recommendations on how to address the challenges at our borders.

<http://www.thetbwg.org/downloads/2006%20Border%20Policies%20-%20October%2010%202006.pdf>

The Impacts of 9/11 on Canada

Author(s): Steven Globerman and Paul Storer, July 2006

Summary: One consequence of the 9/11 terrorist attacks is heightened security concerns surrounding the movement of goods and people across international borders that, in turn, have raised the prospects of substantial disruptions of international trade. Within the Canada-U.S. context, numerous observers have identified increased regulations and intensified inspection procedures at the Canada-U.S. border as contributing to significantly higher shipping costs and shipment delays. The higher costs and associated disruptions to commercial shipments may suggest discouraged growth of trade between the two countries. It is now widely accepted that economic integration between the Canadian and U.S. economies is, on balance, an important contributor to the economic health of both economies, especially Canada's. Developments that might attenuate the growth and "deepening" of North American economic integration therefore threaten the economic welfare of Canadians and Americans, and their nature and magnitude are worthy of careful analysis.

http://www.thetbwg.org/downloads/No_1_Impacts_of_911_on_CanadaUS_Trade.pdf

The Emergence of Cross-Border Regions Between Canada and the United States:
Roundtable Synthesis Report

Author(s): Government of Canada May 2006

Summary: This work was part of the Policy Research Initiative's (PRI) research on the growing extent of various links between Canada and the United States, creating cross-border regional relationships, and the sub-national dimensions of North American economic integration. PRI partnered with Atlantic Canada Opportunities Agency, Western Economic Diversification Canada, and Canada Economic Development for Quebec Regions to conduct a series of regional roundtables between November 2005 and March 2006.

http://www.thetbwg.org/downloads/The_Emergence_of_CrossBorder_Regions.pdf

CBP's Trusted Traveler Systems Using RFID Technology Require Enhanced Security

Author(s): U.S. Department of Homeland Security, May 2006

Summary: This report assesses the strengths and weaknesses of controls over systems using Radio Frequency Identification (RFID) at U.S. Customs and Border Protection (CBP). The research basis is interviews with employees and officials of relevant agencies and institutions, direct observations, technical scans, and a review of applicable documents. The CBP uses the RFID technology to expedite the processing for FAST program users.

http://www.thetbwg.org/downloads/CBPS_Trusted_Traveler_System.pdf

Explaining the Decline in Border Crossings Since 1990

Author(s): Border Policy Research Institute, Western Washington University, February 2006

Summary: This report presents an econometric model developed by Hodges with the goal of determining what factors can explain the pattern of Canadian same-day border crossings that occurred in Whatcom County from 1990 onward. His research indicates that 9/11 significantly changed the behaviour of Canadian travelers, such that certain factors prominent prior to 9/11, including the exchange rate and the prices of clothing and milk, are no longer as significant. Other factors, including gasoline prices and the wages of Canadians, have greater explanatory power in the period since 9/11.

http://www.thetbwg.org/downloads/No_2_%20Explaining_the_Decline_in_Border_Crossings.pdf

The Cumulative Impact of U.S. Import Compliance Programs at the Canada-U.S. Land Border on the Canadian Trucking Industry

Author(s): DAMF Consultants in association with L.P Tardif and Associates, May 2005

Summary: Transport Canada, the Ontario Ministry of Transport and the Federation of Québec Chambers of Commerce, in collaboration with the Ministry of Transport of Québec, jointly commissioned a study to provide the federal government, as well as provincial and industry partners, with a better understanding of the cumulative impact of U.S. import compliance programs at the Canada/U.S. land border. The New Brunswick and Manitoba departments of Transportation, as well as two industry associations - the Canadian Trucking Alliance and the Owner-Operators' Business Association of Canada, also participated in this study. The objective of this study was to assess the cumulative impact of U.S. land border customs and security measures on Canadian motor carriers operating into the United States. The study attempted to be as representative as possible across the broad spectrum of the various Canadian trucking industry segments (i.e., for-hire carriers, private carriers and owner-operators) as well as to reflect a representative sample of carriers making border crossings across Canada's major regions, namely, Atlantic Canada, Quebec, Ontario and Western Canada. There is an extensive description of the FAST program in this report.

http://www.thetbwg.org/downloads/The_Cumulative_Impact_of_US%20.pdf

Building a North American Community

Author(s): Council on Foreign Relations, May 2005

Summary: In this report, a distinguished group of Canadian, Mexican, and American experts explore key issues that require more cooperation on the continent-including economics, regulatory policy, security, the developing gap, and tri-national institutions-and offers a vision for the relationship among the three countries for the next ten years. The report recommends a single economic space that expands economic opportunity for all people in the region, and the establishment of a security zone that protects the region from external threats while facilitating the legitimate passage of goods, people, and capital.

http://www.thetbwg.org/downloads/2005%20NorthAmerica_TF_final%5b1%5d.pdf

Border Security and Canada-US Integration: Toward a Research Policy Agenda: A Symposium at Western Washington University

Summary of Proceedings, A Symposium at Western Washington University, Sponsored by Border Policy Research Institute, Center for Canadian-American Studies, and the Center for International Business, April 2005

Summary: The goal of this one-day symposium was to examine the impacts of new security measures on border functions, management, and economic integration in the Canada-US context. The symposium brought together practitioners from government and business to exchange ideas with academic experts on critical issues affecting the Canada-US border. An important objective of the symposium was the identification of

critical research topics relevant to border public policy. The topic list follows the summaries of each conference presentation.

<http://borderpolicyresearchinstitute.org/files/Summary%20Proceedings%20for%20Border%20Security%20conference%20june%2008.doc>

Cost of Border Delays to the United States Economy

Author(s): The Ontario Chamber of Commerce Border and Trade Development Committee, April 2005

Summary: This report is a follow-up to the OCC's 2004 study. The 2005 report examines the cost effects of border delays to the U.S. economy. The report estimates that the U.S. absorbs up to 40 percent of the current cost of border delays.

<http://www.thetbwg.org/downloads/Cost%20of%20Border%20Delays%20to%20the%20United%20States%20Economy%20-%20April%202005.pdf>

The Jobs Tunnel: The Economic Impact of Adequate Border Crossing Infrastructure

Author(s): Michael Belzer, November 2004

Summary: This study, commissioned by the Detroit River Tunnel Partnership, is specific to the Windsor- Detroit corridor. It is a detailed and highly technical economic analysis that probes the risk of having only one major border crossing point in the Detroit-Windsor region. It focuses on essential economic issues and concludes that the regional economic vitality is at risk. It documents the economic cost of doing nothing to international crossing capacity within the corridor, and focuses on economic issues, particularly in the area of automotive production.

<http://www.thetbwg.org/downloads/JobstunnelEconomicImpactReport%5b1%5d.pdf>

Fixing the Potholes in North American Transportation Systems

Choices, Vol. 10, no. 8, Institute for Research on Public Policy, Author(s), Norman Bonsor, August 2004

Summary: This report argues that significant delays at major border crossings have pushed transportation costs above an efficient level. There are two major reasons for the delays at border crossings: the lack of investment in physical infrastructure, and the cumbersome customs and immigration procedures in the US and Canada. The report suggests addressing three areas with some urgency to stem costly delays experienced by truck traffic at the border: infrastructure, processing systems, and staffing levels. The introduction of FAST procedures, while a step in the right direction, will not provide its

full benefits until there are dedicated lanes at major crossing points and serious consideration is given to preclearing trucks at joint US-Canada inland facilities

http://www.thetbwg.org/downloads/Fixing_the_Potholes_in_NorthAmerica.pdf

Cost of Border Delays to Ontario

Author(s): The Ontario Chamber of Commerce Border and Trade Development Committee, May 2004

Summary: This report quantifies the costs of border delays on the Ontario economy, and considers the impact of delays on production, revenue, investment, tourism and on the province's automotive industry as well as the social costs associated with the effects of greenhouse gas emissions on our environment.

<http://www.thetbwg.org/downloads/Cost%20of%20Border%20Delays%20to%20Ontario%20-%20May%202004%5b2%5d.pdf>

The U.S.-Canada Border: Cost Impacts, Causes, and Short to Long Term Management Options

Author(s): John C. Taylor and Douglas Robideaux, May 2003

Summary: This report summarizes the results of a research project aimed at estimating the costs of border crossing transit time and uncertainty, and other border related costs, and their impact on the U.S. and Canadian economies. Secondary objectives related to developing an understanding of changes in traffic levels over time, understanding immediate post 9/11 impacts, and understanding the causes of extended border crossing times, and possible short term and long term solutions to the problem of extended transit times and uncertainty over those times.

<http://www.thetbwg.org/downloads/CanadaUSBorderCostsReport.pdf>

Evaluation of Travel Time Methods to Support Mobility Performance Monitoring: FY 2001 Synthesis Report

Author(s): Texas Transportation Institute, April 2002

Summary: At the request of the U.S. Federal Highway Administration, the Texas Transportation Institute undertook a project in 2001 that focused on measuring the time it takes freight trucks to cross the border. The project sought to discover which parts of the crossing process that local and state transportation agencies could improve, and determined a benchmark border crossing delay measure for commercial vehicles at seven separate international crossings, four of which are located on the Canada-U.S. border. Toward that end, average delay times were calculated for each port of entry. The delay time represents the difference between the average crossing time and the free-flow crossing time.

http://ops.fhwa.dot.gov/freight/freight_analysis/brdr_synthesis/

2000 IMTC Cross-Border Trade and Travel Study Final Report- Slide Presentation

International Mobility and Trade Corridor Project

Author(s): Cambridge Systematics Inc., September 2001

Summary: The International Mobility and Trade Corridor Project (IMTC) is a U.S.-Canadian coalition of government and business entities that identifies and promotes improvements to mobility and security for the four border crossings between Whatcom County, Washington State, and the Lower Mainland of British Columbia. Together, we call these four crossings the Cascade Gateway. The IMTC's Cross-Border Trade and Travel Study was completed in 2001 as a response to the need identified by IMTC participants for better data on the Cascade Gateway.

http://www.thetbwg.org/downloads/2000_IMTC_report.pdf

21st Century Truck Partnership: Roadmap and Technical Whitepapers

Safely and effectively move large volumes of freight and larger numbers of people,
December 21st Century Truck Partners, 2006

“Unprecedented Collaboration for Unparalleled Results”

An Agreement between the Federal Government and the Heavy Duty Vehicle Industry

Vision: Our nation's trucks and buses will safely and cost-effectively move larger volumes of freight and greater numbers of passengers while emitting little or no pollution and dramatically reducing the dependency on foreign oil.

Message: Accelerate the introduction of advanced truck and bus technologies that use less fuel, have greater fuel diversity, operate more safely, are more reliable, meet future emissions standards and are cost-effective. The ultimate goal is safe, secure, and environmentally friendly trucks and buses, using sustainable and self-sufficient energy sources that enhance America's global competitiveness.

National Imperatives:

1. Transportation in America supports the growth of our nation's economy both nationally and globally.
2. Our nation's transportation system supports the country's goal of energy security.
3. Transportation in our country is clean, safe, secure, and sustainable.
4. America's military has an agile, well-equipped, efficient force capable of rapid deployment and sustainment anywhere in the world.
5. Our nation's transportation system is compatible with a dedicated concern for the environment.

Strategic Approach:

Develop and implement an integrated vehicle systems R&D approach that validates and deploys advanced technology necessary for both commercial and military trucks and buses to meet the aforementioned national imperatives.

Promote research for engine, combustion, exhaust aftertreatment, fuels, and advanced materials to achieve both significantly higher efficiency and lower emissions.

Promote research focused on advanced heavy-duty hybrid propulsion systems that will reduce energy consumption and pollutant emissions.

Promote research to reduce parasitic losses to achieve significantly reduced energy consumption.

Promote the development of technologies to improve truck safety, resulting in the reduction of fatalities and injuries in truck-involved crashes.

Promote the development and deployment of technologies that substantially reduce energy consumption and exhaust emissions during idling.

Promote the validation, demonstration, and deployment of advanced truck and bus technologies, and grow their reliability sufficient for adoption in the commercial marketplace. This is an “agreement to agree” between Government and Industry.

Through this initiative, the members of this Partnership will conceive, develop and deploy future transportation technologies that will keep America rolling efficiently, safely and securely while respecting our environment.

http://www1.eere.energy.gov/vehiclesandfuels/pdfs/program/21ctp_roadmap_2007.pdf

Examining the business case for shipper participation in Canada–USA trade security programs

International Journal of Logistics: Research and Applications

Author: M. A. Haughton, School of Business and Economics, Wilfrid Laurier University, Dec. 2007

Summary – This study addresses the uncertainty of costs and benefits that have been cited as a possible explanation for the relatively small number of Canadian shippers involved in Canada–USA trade seeking approval to participate in Free and Secure Trade (FAST) program. It does so with quantitative analysis to examine the business case for an *individual* Canadian shipper’s participation in FAST.

The study shows how a shipper’s operating parameters influence the strength of the business case. A key study finding is that unless the needless costs that carriers incur from serving non-participating shippers are passed back to those shippers, the business case is significantly weakened. The study also finds that, like cost transfers from

carriers, the rate of FAST approval of competing shippers is a very powerful economic incentive for an individual shipper to subscribe to the FAST program

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<http://www.wsdot.wa.gov/Library/>

Securing and Facilitating Trade Through U.S. Land Borders – A Critical Analysis of C-TPAT and FAST Programs

The International Trade and Transportation Committee – Author: Mark Ojah

Summary - Since 9/11, there has been a paradigm shift in U.S. policy about inbound commercial shipments with U.S. Customs' priority mission becoming the prevention of terrorism against the United States instead of trade compliance. Two volunteer programs, the Customs Trade Partnership Against Terrorism (C-TPAT) and the Free and Secure Trade (FAST) initiative were created to reconcile supply chain security and trade facilitation goals. Customs has successfully engaged thousands of companies in trade security by offering benefits such as fewer inspections and expedited border processing.

However, this approach is viable only if resources and mechanisms exist to ensure that the shipments being facilitated are indeed more secure. The security practices of current C-TPAT enrollees may not be validated for months or years because of funding and staffing constraints. These limitations also prevent Customs from integrating stakeholders with crucial roles in U.S. trade into C-TPAT and FAST.

To improve the ability of these initiatives to safeguard U.S. supply chains, the federal government must increase program funding levels. This will allow more prompt verification of the security of enrollees and expansion of the process to key stakeholders not currently covered under the programs. As technology improves and the number of FAST movements grows, Customs should consider mandating the use of tamper-evident technology as a prerequisite for participation in C-TPAT and FAST. Finally, additional applications for FAST transponders should be pursued to improve security, safety, and efficiency in the border-crossing process.

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