

Proceedings:
Seminar on Canada – US Border
Management Policy Issues
April 12, 2010

Woodrow Wilson International Center for Scholars
One Woodrow Wilson Plaza
1300 Pennsylvania Avenue, N.W.
Washington, D.C.

*Prominent scholars focused upon
the issue of Canada – US trade
convened in Washington, DC, to
present practical policy
recommendations.*

*This event provided a unique
opportunity for federal policy-
makers to have a dialogue with
academia and to help steer the
course of future academic
research.*

Border Policy Research Institute
Western Washington University
Bellingham, Washington
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About the Border Policy Research Institute

The BPRI focuses on research that informs policy-makers on matters related to the Canada – U.S. border. Policy areas of importance include transportation and mobility, security, immigration, energy, environment, economics, and trade.

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Seminar Agenda

April 12, 2010

8:30 **Welcome** David Biette, Canada Institute, Woodrow Wilson Center
Don Alper, Border Policy Research Institute

8:40 **Panel 1: Incremental Changes to Freight Processes**

Looking for Efficiency Gains at the Pacific Highway Commercial Crossing

Hugh Conroy, Whatcom Council of Governments and Border Policy Research Institute

Strategies for Increasing the Use of the FAST Program at Canada-US Border Crossings

William Anderson, University of Windsor

Near Border Operations and Logistical Efficiency: Implications for Policy Makers

Anne Goodchild, University of Washington

Discussant: Geoffrey Hale, University of Lethbridge

10:30 **Panel 2: Addressing Trade Facilitation via Organizational Change**

Recommendations for US Policy Makers on Northern Border Governance

Kathryn Bryk Friedman, University at Buffalo Regional Institute

Tackling a Neglected Mission: Facilitation of Legitimate Trade and Travel

David Davidson, Border Policy Research Institute

Implementing CPI and TQM within CBP at the US-Canada Border

Chris Sands, Hudson Institute

Discussant: Don Alper and Jason Ackleson, New Mexico State University

12:30 **Panel 3: Simplifying Compliance with NAFTA Tariffs**

Benefits of Eliminating Rule-of-Origin Compliance for Certain HTS Subheadings

Paul Storer, Western Washington University

North American Trade Compliance Costs: Smallish Progress, Big Constraints

Greg Anderson, University of Alberta

Discussant: Jason Ackleson, Kent Shigetomi, NAFTA Office, USTR

1:30 **Wrap up** Don Alper, David Biette

Introduction

Much has been said and written in recent years about the need to develop effective border policies that integrate trade and security. Though the problem of expediting cross border commerce and travel pre-dates 9/11, it has taken on a new urgency because of concerns that a more robust North American security paradigm increases the costs of trade and therefore imperils North American competitiveness. These concerns have become especially prominent in the aftermath of the 2008 recession.

Pronouncements and official documents from both Canadian and US federal governments make it clear that facilitating trade is a core commitment in the development and implementation of border policy. An important challenge is translating that commitment into workable ideas and effective policy actions.

It is this challenge that prompted the Border Policy Research Institute (BPRI) at Western Washington University to assemble a group of prominent scholars to make practical recommendations for facilitating the flow of goods and people while ensuring border security. In contrast to typical academic conferences, the idea was to forgo the usual formal trappings of keynote speakers and luncheons and focus on “rubber meets the road” policy suggestions that could be implemented quickly and without changes in law or formal regulations. We also wanted to convene a seminar that would be a two-way dialogue between academics and agency officials. In our view, there is considerable value in policy practitioners learning from academics, but also in academics learning from practitioners. This kind of dialogue is important in making effective operational policy and in helping steer the course of future academic research. The seminar we envisaged would be built around highly focused, short papers that would be circulated to key agency officials in DHS, State, Transportation and other relevant agencies well before the seminar date. Our goal was to enlist agency officials as well as academics as discussants for the papers. Following the seminar, revised papers and discussion commentaries would be published as proceedings and made available on the BPRI website.

The seminar was divided into three panels. The first panel contained three papers focused on changes in freight processes at and near the border that could increase efficiency for trucks. The three papers in the second panel suggested specific organizational changes in governance at the port level and in the Department of Homeland Security that could improve trade facilitation. The final panel focused on reducing the transaction costs of cross border business by simplifying compliance with NAFTA rules of origin.

This seminar was tailored to meet the needs of policy officials based in Washington, D.C. Future seminars of this kind could be held in Ottawa and state and provincial capitals in recognition that the Canada-US border is highly diverse with different regions sharing many commonalities but also facing significant differences.

*Don Alper, Director, Border Policy Research Institute
May 11, 2010*

Affiliations of Authors and Discussants

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Paul Storer is a Professor of Economics at Western Washington University.

Looking for Efficiency Gains at the Pacific Highway Commercial Border Crossing

Hugh Conroy

Abstract

Using time stamped event logs of commercial vehicle border-arrival, processing, and departure patterns at the Pacific Highway border crossing, this paper presents analyses that identify two potential strategies for increasing efficiency of the port-of-entry. The analysis also illustrates a best practice in binational and government-academia collaboration.

Introduction

This paper summarizes select analyses of commercial-vehicle operations (CVO) data collected during the 2009 IMTC CVO Survey¹. While the survey covered all three commercial ports-of-entry (POEs) in the Cascade Gateway both entering the U.S. and entering Canada, this paper focuses on U.S. inbound commercial traffic at the Pacific Highway, the primary commercial land-border crossing serving the U.S. Interstate 5 and BC Highway 99 trade lane.

At Pacific Highway, surveyors observed operations on four separate weekdays in each direction collecting data on over 3,000 commercial trips. Data include arrival time at queue-end, arrival time at the primary inspection booth, departure time from the primary booth, vehicle-type, commodity/empty, inspection-lane type (FAST or standard), carrier name & base city, trip origin, and trip destination. While these data can be used to examine countless aspects of CVO, this paper focuses on two facets of operations at Pacific Highway which may offer opportunities for increasing system efficiency.

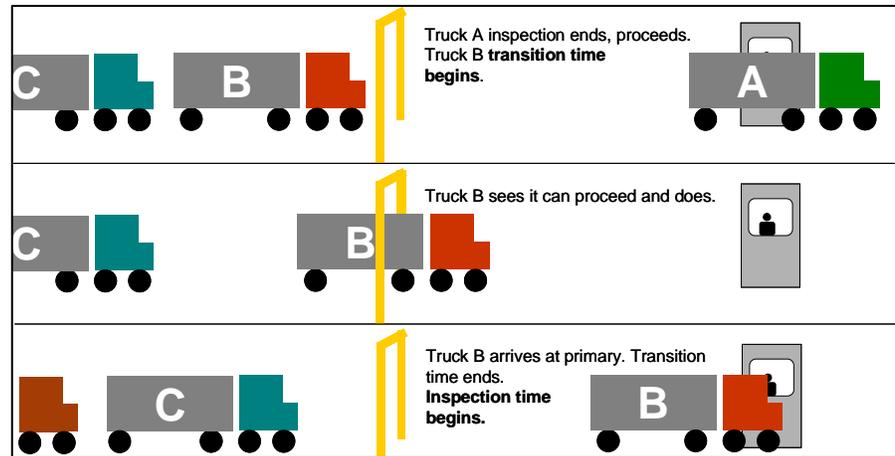
More broadly, the collection and application of these data represent the successful collaboration of U.S. and Canadian inspection agencies; federal, state and provincial transportation agencies; academia; and many others working through the International Mobility and Trade Corridor Project (IMTC).

Photo 1. WWU students record commercial vehicle booth-arrival and departure times as well as vehicle classification at one of several observation locations along the border approach at Pacific Highway.



¹ The International Mobility & Trade Corridor Project (IMTC) Commercial Vehicle Operations Survey: A project of the IMTC funded by WWU-BPRI and conducted by BPRI & the Whatcom Council of Governments in partnership with CBP and CBSA.

Figure 1. Illustration of transition time. Yellow arch indicates relative location of radiation portal monitors.



1. Transition time is important

The key determinants of lineups and wait-times at an inspection booth are **arrival rate** and **service rate**. Service rate is typically associated with the time it takes to inspect a truck—average inspection time. While inspection time is typically the bulk of “service-time” allocable to each truck, a truck-specific, primary inspection **service time** is the total time between a truck’s arrival at primary inspection and the next truck’s arrival at that primary booth. CBP has made ongoing efforts to speed inspection time such as the ACE environment and e-manifest specifically. The remaining portion of a truck’s service time gets less attention. I am calling this portion **transition time**-- the time between a truck booth *departure* and the next truck’s booth arrival. Unlike a truck’s incremental movements through the queue, the time associated with this final segment of the approach is a significant component of the service rate.

Using the CVO data, transition times were calculated by subtracting the time values of trucks’ booth-departures from the booth-arrival time of the next truck. This calculation is specific to each booth for all the hours the survey was underway.

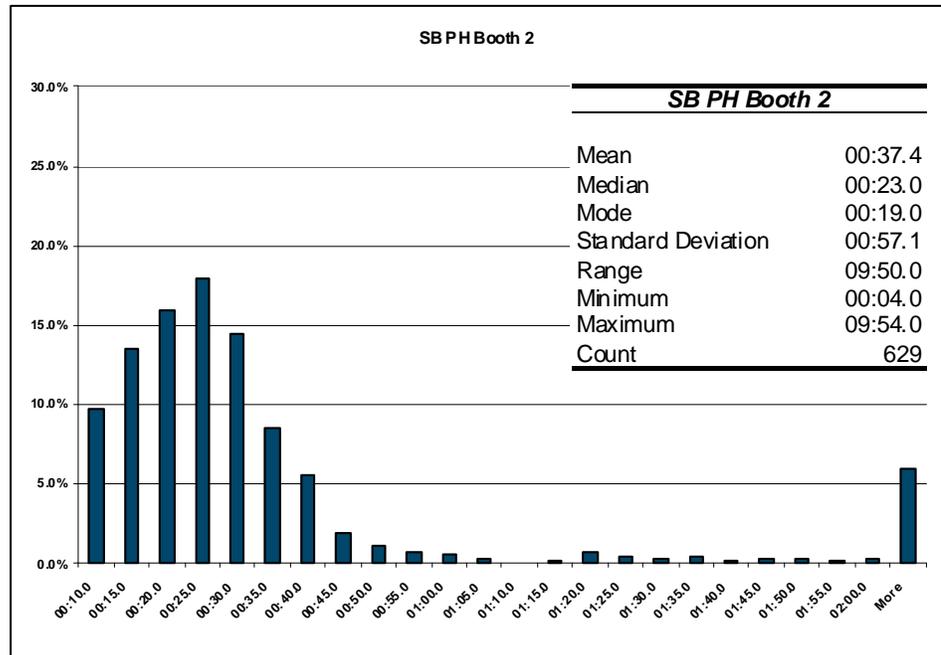
Summarized observations of U.S.-bound commercial vehicles at Pacific Highway indicate that the average transition time is about 25 seconds which, on average, comprises between 20 and 25 percent of per-truck service time.

Observation 1-1. Transition times are a large share of service time.

Table 1. Summary statistics on **transition times** observed at the non-FAST CBP booths and the non-FAST CBSA booths.

Summary Statistics	Southbound (CBP)		Northbound (CBSA)	
	<i>Booth 2</i>	<i>Booth 3</i>	<i>Booth 2</i>	<i>Booth 3</i>
Mean	00:25.0	00:29.6	00:27.1	00:27.6
Median	00:22.0	00:27.0	00:23.0	00:24.0
Mode	00:19.0	00:27.0	00:21.0	00:19.0
Standard Deviation	00:16.8	00:17.8	00:16.2	00:16.9
Minimum	00:04.0	00:03.0	00:04.0	00:04.0
Maximum	01:56.0	02:00.0	01:59.0	01:59.0
Count	591	485	733	619

Figure 2. Sample frequency distribution of commercial vehicle transition times at Pacific Highway port-of-entry.



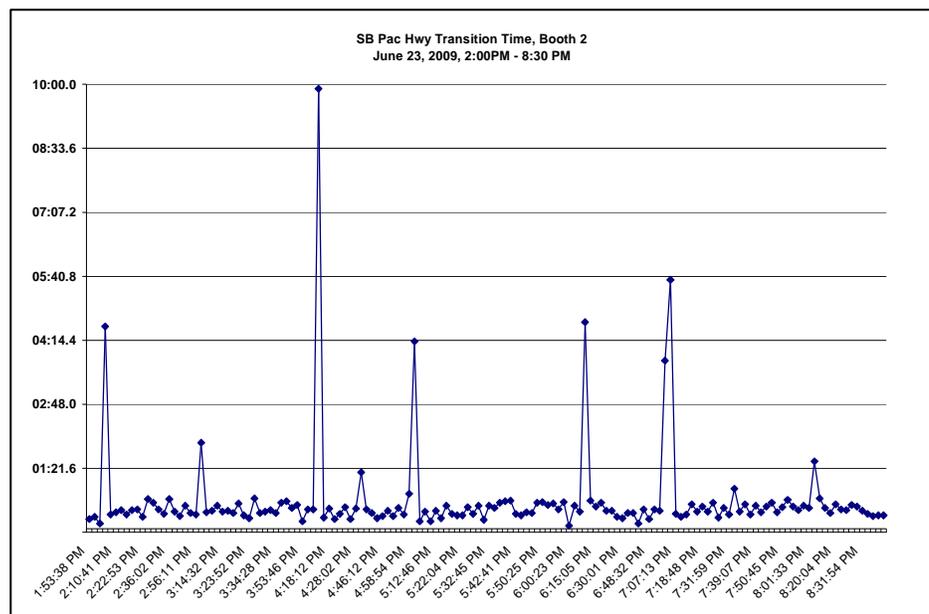
Transition time variability

A frequency distribution of transition times for the full survey period at the U.S. POE at Pacific Highway is shown above. Most of the times are distributed within a range between 10 and 40 seconds. But, there are many much longer transition times.

Looking more closely at transition times, Figure 3 is a time series illustrating that 1) long transition times are much longer than the average, and 2) they seem, in this sample chart, to be periodic.

Observation 1-2: Queuing theory holds that line-ups generally worsen the higher the variability of either arrival rate or service rate. Given the periodic occurrence of long transition times, the benefits of actions to reduce them should be assessed with a more precise micro simulation.

Figure 3. A sequence of transitions times at southbound Pacific Highway.



Observation 1-3: Experience in the field during the survey sheds some light on likely causes of long transition times. Many of the long transitions occur on the hour when inspectors' shifts change. Computer log-off and log-on as well as cash-register reconciliations require a pause in vehicle processing.

Observation 1-4. Since radiation portal monitors (RPMs) were installed by CBP, it has been assumed by many that the associated requirement that trucks wait behind the RPMs until the booth clears (about a 100-foot or 2 truck-length setback) added a significant number of seconds to transition-time. However, preliminary comparisons of truck booth transition times between the CBP and CBSA (CBSA does not have RPMs) show very similar summary-statistics. RPMs don't appear to be a meaningful factor. This finding warrants a detailed follow up on the dynamics of final booth approach at CBSA.

2. Imports in cars

When commercial goods are driven across the border in a personal vehicle or a pickup truck (or when the car *is* the import), they must use the same commercial inspection lanes and booths as the large trucks carrying much larger quantities of goods. This section examines the inspection times and commodities associated with these vehicles in order to evaluate whether operational alternatives might be worth considering.

Inspection times

As shown in the table below, passenger cars and pickup trucks have the highest average inspection time of the vehicle types observed during the 2009 CVO survey.

Observation 2-1. While passenger vehicles and pickup trucks comprised eight percent of all vehicles using the commercial lanes they account for eleven percent of the cumulative inspection time (as observed during the survey period). These are the only vehicle types whose percentage of the vehicle population is less than their share of associated inspection time.

Passenger vehicles' average inspection time (157 seconds) is 36 seconds higher than the average inspection time for tractor vans (121 seconds)—a 30 percent difference and a 38 percent increase over the overall average inspection time of 114 seconds.

Table 2. Average inspection times by vehicle type with distribution of vehicle type and relative share of total inspection time. Southbound Pacific Highway Standard lanes only. Does not include FAST

VehicleType	Count of Vehicle Type	Percent of vehicles	Average Inspection Time (Sec.)	Total Inspection Time During Survey (Sec.)	Percent of time
PassengerVehicle	61	5%	157	9,583	7%
PickupTruck	34	3%	155	5,281	4%
Other	18	2%	140	2,522	2%
TractorVan	696	59%	121	84,217	60%
LightTruck	106	9%	117	12,394	9%
TractorOther	19	2%	108	2,043	1%
TruckTrailer	12	1%	102	1,224	1%
TractorContainer	43	4%	99	4,252	3%
Truck	4	0%	97	388	0%
TractorFlatbed	137	12%	93	12,786	9%
TractorTank	40	3%	89	3,558	3%
TractorOnly	14	1%	85	1,187	1%
	1,184	100%		139,435	100%

Car borne commodities at Pacific Highway

The table below lists the commodity description given by the cars or pickup truck that entered the U.S. at Pacific Highway during the June 2009 survey. While the survey did not collect any information on shipment value or on the type of customs entry (formal or informal), a review of the table below would seem to indicate a preponderance of low value shipments.

Observation 2-2: Given that cars and pickup trucks consistently take more time to complete a primary inspection and given that the typical commodity is low value and likely an informal entry, should CBP (and CBSA) evaluate alternatives that would process these vehicles differently? Any alternative would seem to indicate primary arrival at the passenger booths. A proposal for how import entry and inspection could proceed from this point is beyond the scope of this paper.

Table 3.
Commodities carried
by passenger vehicles
and pickup trucks.
**Standard lanes
only. Does not
include FAST**

Pacific Highway Southbound Passenger Vehicle & Pickup Trucks -- Commodities		
Passenger Vehicles		
MUSICAL DRUMS	SOAP	CONTACT LENSES
WATER SAVER KITS	FLOWERS	BOOKS
WOOD CARVINGS AND JEWELRY	MAGAZINES AND BROCHURES	CIRCUIT BOARDS
EMPTY [PICKING UP HOT SAUCE]	ART WORK, OWNER OF CARS	HAIR PRODUCTS
MODEL TOY TRAINS	BUTTERFLY EGGS	CIRCUIT BOARDS
HUMAN SKULLS	HEADLIGHTS	PRINTED MATERIAL
MAIL	LEMONADE	EMPTY
DENTAL APPLIANCES	BREAD, GROCERIES	CABINET PARTS
BOOKS	CHOCOLATE	POKER CHIPS
BOOKS	EMPTY	HAIR CARE PRODUCTS
EMPTY CAGES	EMPTY	MOLDINGS FOR CABINETS
WHEELCHAIRS	AUTO PARTS	EMPTY
BREAD	GARDEN SCULPTURES	MARINE ACCESSORIES
GOLF BALL LAUNCH MONITOR	MOTORCYCLE PARTS	CAR
BOOKS	MAIL TO AMS	HUMAN SPECIMENS
EMPTY	LAPTOP BATTERIES	PHARMACEUTICALS
WIRE LEAF STRAINERS	WAFFLE CONES	MOTORCYCLE PARTS
DENTAL IMPRESSIONS	VINYL STICKERS	BONSAI PLANTS, LIVE
TOOLS	SERVICE TEAM DOING WORK IN CANADA--NO COMMODITIES	
KAYAKS AND PARTS		
Pickup Trucks		
MAINTNENCE VEHICLE	ENGINE PARTS	SNAKE GRASS
TRANSPORTING PICKUP TRUCK	GALLERY SUPPLIES, MAILERS	EMPTY
EMPTY	EMPTY	EMPTY
CONTROL PANEL	EMPTY	EMPTY
SCAFFOLD DECKS	ALUMINUM RAILING	EMPTY
EMPTY	TRUCK	HIDES
CAR PART	EMPTY	IMPORTING TRUCK
EMPTY	WIRE	EMPTY
CONSTRUCTION TRASH	IMPORTING TRUCK	
COMPUTER EQUIPMENT	IMPORTING TRUCK	
FLOORING	IMPORTING TRUCK	

Conclusions

The preceding data-based observations are intended to illustrate the merits of giving further consideration to operational alternatives that would:

1. Diminish periodic spikes in transition time and lower transition times in general.
2. Redirect passenger-vehicles engaged in trade from the predominantly large-truck arrival stream at the commercial inspection lanes.

Details of possible alternative procedures are managed by the inspection agencies and are beyond the scope of this paper. But, if alternatives were generally considered to be available, this paper gives two examples of scenarios that merit a more detailed benefit-cost analysis of adopting changes.

Range of applicability

The types of data gathered in the 2009 IMTC CVO Survey allow system managers to evaluate operations in greater detail and identify and rationalize changes that may appear small but have meaningful effect—fine tuning. The way in which improved insight into freight-flow characteristics can improve efforts to optimize border operations will be different over time and geography. As we see now, traffic volumes change. Vehicle-type mix and commodity mix change. The configurations of approach roads and associated hardware change. These realities, while fairly obvious, lead to **two closing points**.

1) Conclusions reached above are based on data and observations collected at one region's ports-of-entry and are not intended as ideas for standardized border policy.

2) Periodic collection of detailed operational data and evaluation of resulting information with institutional partners is a valuable component of ongoing system management.

Acknowledgments

The following people and institutions have done a lot of good work and offered help and advice that makes this kind of investigation possible. US CBP, Blaine; CBSA Pacific Region; David Davidson, WWU Border Policy Research Institute; Melissa Miller, Whatcom Council of Governments; Mark Springer, WWU Decision Sciences; Chris Hoff, Transport Canada, and many others. Thank you

Strategies for Increasing the Use of the FAST Program at Canada-US Border Crossings

William P. Anderson

Abstract

The Free and Secure Trade (FAST) program allows prequalified shipments to cross the US-Canada border more quickly and with fewer referrals to secondary inspection. A number of factors limit this program's potential to improve border performance. Because the cost of qualifying for FAST exceeds the benefits for many shipments, a mix of qualified and unqualified shipments shares a common queue at many crossings. This limits the time savings for qualified shipments. Also, since the decision to become qualified confers both external and internal benefits, the proportion of qualified shipments is inefficiently low from a system-wide perspective. Policy suggestions include coordination of crossing infrastructure to eliminate the common queue problem and targeted subsidies to offset the cost of becoming prequalified.

Introduction

The Free and Secure Trade (FAST) Program provides accelerated commercial clearance lanes at US land borders. Trucks that qualify to use the FAST lanes are released more quickly and have less frequent referrals to secondary inspection. While there are bilateral FAST programs with both Canada and Mexico, the focus of this paper is on US-Canada FAST.

For a shipment to qualify for FAST clearance, its driver must be pre-screened and its importer, carrier and other supply chain partners must be members of the Customs Trade Partnership Against Terrorism (C-TPAT) for shipments entering the US or Partners in Protection (PIP) for shipments entering Canada. Each of these programs requires certification of a high level of security procedures at all points in the supply chain, which implies significant incremental cost. In deciding whether to become members, firms have to weigh these costs against the benefits of having access to the FAST program.¹ (In what follows I will refer to the decisions of firms "to qualify," meaning the decision to incur the costs necessary to become a member of C-TPAT, PIP or both. Note that this decision also entails the requirement to hire only FAST certified drivers and engage only other qualified firms as supply chain partners.)

The FAST, C-TPAT and PIP have made significant gains in recent years. However, a large proportion of shipments at major Canada-US border crossings still do not qualify for the FAST lane. In what follows, I will make an argument that the proportion of FAST qualified shipments may be inefficiently low from a system-wide perspective. This situation arises for two reasons. The first is that both the cost and benefits of qualifying varies across firms depending upon their size and the nature of the transportation services they provide, so some will choose to qualify while others will not. The second is that the decisions to qualify confers benefits not only on the firm itself, but also on other firms making shipments through the same border crossing. In other words, the firm bears the full cost of qualifying but it does not reap the full benefit. Understanding the roots of this inefficiency provides insights into possible policy strategies.

Variation in cost

The cost of qualifying on a *per shipment* basis will tend to be higher for small firms than for large firms. To illustrate, consider the case of a road carrier. In order to become a member of C-TPAT or PIP it may need to upgrade fencing and lighting at its main facility, install surveillance equipment,

hire and train security staff, etc. These are not fixed costs *per se*, but there are significant scale economies. For example, the main gate will require the same level of staffing and surveillance equipment whether 30 trucks or 300 trucks pass through it on a typical day.

The existence of scale economies is borne out by information in a survey of C-TPAT members (Diop and Hartman, 2007.) Data in table V-22 of that report indicate that for the largest category of implementation cost – “improving physical security” – the average for firms with sales under 10 million was \$16,739, while the average for firms with sales above 10 billion was \$98,673. Revenue for firms in the latter category was at least 1000 times revenue for firms in the former category, but their implementation costs were only 6 times as high! This suggests that membership is more cost-effective for larger firms.

Variation in benefit

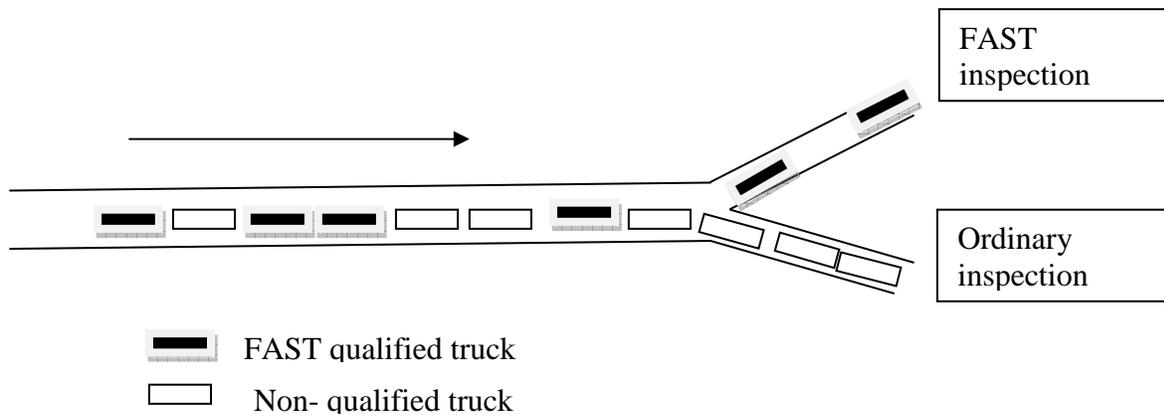
According to the same survey, member firms rate “reducing the time and cost of getting cargo released by CBP” and “reduced time and cost in CBP secondary cargo inspection lines” as the main benefits of C-TPAT membership. Thus, the decision to qualify is largely driven by comparing the value of these benefits against the costs. These benefits vary significantly across firms, depending upon the goods they are moving. We can define three categories of goods for which these benefits would be especially high. The first is perishable goods, including fresh produce and live animals. The second is components in just-in-time supply chains, where late delivery of goods can result in disruptions in production. (This is especially relevant in the automotive industry, where many supply chains straddle the Canada-US border – see Andrea and Smith, 2002.) The third category is all high value goods. A common strategy for insuring against supply disruptions due to border delays is to hold buffer inventories on both sides of the border. This cost of holding inventories increases with the value of the goods in question. (The three categories are not mutually exclusive; many shipments will fall under both the second and third categories.)

In all cases, it is not only the average crossing time but also the variability in crossing times that matters. In supply chains it is often less important to get goods to their destination quickly than to get them to their destination within narrowly defined time windows.ⁱⁱ In the current environment, when average crossing times are relatively low, variability may be a greater concern than average time.

Given that there is significant variation across firms in both costs and benefits, it is not possible to make a blanket statement as to whether qualification for the FAST program is a cost-effective business strategy. For small firms that typically handle goods that are not highly time sensitive it may not be, while for large firms that handle goods in any of the three categories mentioned above it almost certainly will be. For example, shipments in automotive supply chains have a very high rate of FAST qualification. These supply chains involve relatively large firms moving high value goods through very demanding just-in-time systems. Because of these variations, we can expect to see a combination of qualified and non-qualified trucksⁱⁱⁱ in cross-border trade for the foreseeable future.

Common queues and external benefits.

Since not all shipments are FAST-qualified, a mix of qualified and non-qualified trucks may share a common queue at a border crossing. The simple figure below illustrates a situation where there is a single lane for trucks leading up to an inspection plaza with separate lanes for FAST and non-FAST commercial clearance. Trucks are released more quickly from the FAST clearance lane. In the other inspection lane, clearance is slower and at times the queue for that lane may become long enough to



create a queue in the single lane leading up to the plaza. Because all trucks are delayed in that queue, FAST qualified trucks reap smaller benefits than would be possible if they had a dedicated lane leading to the plaza. At some bridges (such as the Blue Water) a dedicated lane exists, while at other (such as the Ambassador) the situation is something like the figure. Even where there is a dedicated lane on the bridge, the non-Fast queue may be long enough to affect access roads, so FAST qualified trucks are not completely immune from delays. In general, the existence of a common queue reduces the benefits of becoming FAST qualified and thereby reduces the proportion of qualified shipments.

There is another, more subtle aspect to this situation. Because it is generally the ordinary inspection line, rather than the FAST inspection line, that backs up to cause queuing in the common lane, the higher the proportion of FAST qualified trucks crossing the bridge, the smaller the delays experienced by all trucks – FAST and non-FAST – in the common queue. So by choosing to become FAST qualified, a firm achieves time savings not only for its own shipments but also for the shipments of other firms. This is what economists call an *external benefit*: a benefit that one person's actions confer on another person, for which the first person is not compensated. External benefits generally do not figure in the decision making of firms. There may be firms for whom the cost of becoming qualified is greater than the private benefit, but less than the sum of the private and external benefits. Such firms will probably not become qualified, which implies that from a system-wide perspective, the rate of qualification is inefficiently low.^{iv}

Policy implications

The common queue problem described above almost certainly has a negative effect on the rate at which importers and supply chain firms choose to become members of C-TPAT / PIP and to qualify for the FAST program, although to my knowledge there is no information on the magnitude of this effect. From a policy perspective there are two general strategies for addressing the problem. The first is to eliminate common queues, or at least to extend dedicated FAST lanes as far as possible upstream from the FAST point of clearance. The second is to provide incentives to firms who might not otherwise become qualified. If this yields a significant increase in the proportion of qualified shipments, common queues will be less likely to form and will be shorter when they do form.

As to the first strategy, it would be easy but not very helpful to recommend that the problem of common queues could be solved by adding dedicated FAST lanes across all bridges and extending those lanes a mile or so up the access roads. But there may be ways to make more efficient use of existing or planned infrastructure. Imagine a situation where there are two bridges across the same boundary river, each with two lanes in each direction. No single bridge would be able to offer a

dedicated FAST lane because it would need one lane for trucks and one for cars. If the two bridges cooperate in the use of their aggregate of four lanes in each direction, however, they could designate one lane for FAST trucks, one for non-FAST trucks, and perhaps divide the remaining two lanes between NEXUS and non-NEXUS cars. This approach requires two things: more than one crossing facility in close enough proximity to be reasonable substitutes and institutional arrangements to make coordination of lane assignments possible.

We can see an application of this general strategy in practice. The Niagara Falls Bridge Commission, which controls three bridges, has assigned a dedicated FAST lane on the Lewiston-Queenston Bridge that extends a mile up the access road on the Canadian side. It has also designated the smaller capacity Whirlpool Bridge exclusively for NEXUS subscribers.

Eliminating the common queue is not currently possible at the Ambassador Bridge (the largest truck crossing) because it has only two lanes in each direction. If the plans developed under the Detroit River International Crossing study come to fruition, the number of lanes in each direction in the Windsor-Detroit corridor will increase from 2 to 5,^v making a long, dedicated FAST lane possible. However, that would require cooperation between the new bridge, which is planned as a Public Private Partnership, and the existing bridge, which is privately owned. Despite the well-known poor relations between the Ambassador Bridge and the DRIC initiative, policy makers should not lose sight of the significant benefits that eventual cooperation between the two bridges could have for the FAST program.

The second strategy seeks to tackle the problem created by the external benefits of qualification. Economic efficiency is best served if the costs of qualification are incurred up to the point where they equal the benefits. Since some benefits are external, and therefore not counted in the decision of individual firms, system wide efficiency would be served if a subsidy were provided to those firms who might decide to qualify if they were able to recoup the value of the external benefits.^{vi} One might go a step further and say that the subsidies should be funded by a tax on those that reap the benefits, in particular firms that make non-qualified shipments.

Such a program of subsidy could increase the rate of qualification even among firms that do not receive subsidies. Since the common queue problem would be reduced, the internal benefits of qualification would increase for all firms, so the policy-induced increase in qualifications would trigger further decisions to qualify via normal market forces. The idea is to kick off a virtuous cycle of increased qualification.

This is fine in theory but there are problems in the implementation. For one thing it will be difficult to identify those marginal firms that might be induced to qualify by a small subsidy. Also, it is unlikely that the subsidy could be funded in the theoretically preferred manner. Since qualification is not economically efficient for many firms, it would be perceived as unfair to label them as “free riders” and charge them a penalty for not qualifying. Thus it would probably be necessary to justify an expenditure of public money. (One might find, however, that this expenditure would provide time savings at a rate that is cheap when compared to time savings from infrastructure projects.)

There are some concrete steps that can be taken in the direction of such a policy. The first is an assessment of the external benefits of FAST qualification, which might be undertaken in conjunction with ongoing efforts to monitor border crossing times. If these external benefits are found to be very small, then the policy is probably not worth pursuing. Another step is a broader

assessment of the costs and benefits of qualification in the full population of importers, carriers and other supply chain firms involved in cross-border commerce. The 2007 survey on C-TPAT members is useful in this regard, but it is also necessary to analyze responses from firms that choose *not* to become members. The goal of such a study would be to identify the profile of firms that would have the greatest potential to respond to modest incentives for qualification.

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Endnotes

- ⁱ There are other benefits to consider as well. Membership in C-TPAT or PIP will yield private benefits in terms of cargo security and reduced insurance premiums. Members can use program logos, which convey a positive image from a marketing perspective. Firms may also wish to become members for the altruistic reason of contributing to national security in both countries.
- ⁱⁱ This theme is explored in greater detail, with data on recent crossing times, in Anderson and Coates, 2009.
- ⁱⁱⁱ A non-qualified truck is one that cannot use the FAST lane with its current load. A truck belonging to a qualified carrier would still be non-qualified if its load is goods imported by a firm that is not a C-TPAT member. So the same truck may be qualified on one crossing and non-qualified on another.
- ^{iv} This idea is explored more formally and in greater depth in Anderson, 2009.
- ^v If the plans for the new bridge and replacement of the Ambassador Bridge both come to fruition, the number of lanes will increase to 6 in each direction.
- ^{vi} The governments of Canada and Quebec currently provide subsidies to help Canadian importers and carriers meet the requirements of C-TPAT. The Canada subsidies are in the form of loans while the Quebec subsidies are grants.

Near Border Operations and Logistical Efficiency: Implications for Policy Makers

Anne Goodchild and Matthew Klein

Introduction

Anecdotal evidence suggests that logistical inefficiencies are created by the border, increasing truck miles travelled, empty truck travel, and air emissions. While these dynamics are poorly understood, we recognize that these logistics are not improved by the border. By near border logistics we refer not to delays due to queuing at the border itself, but the routing changes, schedule impacts, and added stops and transfers that would not exist without the border. This paper describes logistics practices near the US-Canada border at Blaine, Washington, discovered through a recent survey of border crossers, identifies the greatest source of logistical inefficiency, and suggests a policy change that would improve border operations, reducing truck miles travelled, emissions, and delay.

Background

This research was enabled by a data collection effort regarding near border operations for commercial vehicles at the Pacific Highway Border Crossing between British Columbia, Canada, and Washington, United States (see Figure 1). The data collection and analysis effort was supported by a consortium of agencies and organizations concerned about border delay and inefficient border operations. This consortium includes researchers at the University of Washington, the Border Policy Research Institute at Western Washington University, and the International Mobility and Trade Corridor (IMTC) Project which is convened by the Whatcom Council of Governments. IMTC members include US Customs and Border Protection, the Canadian Border Services Agency, Washington State DOT, British Columbia Ministry of Transport, and other regional and local organizations concerned about cross-border trade and transportation.

Current near border operations practice is not well understood by policy makers, but anecdotal evidence suggests that due to differences in size and weight restrictions, corporate structures, driver work rules, business models, international trade regulations, and communication mechanisms, significant logistical inefficiencies exist near the border. For example, through interviews with regional carriers we are aware that significant numbers of drivers are unwilling or legally unable to cross the border, that carriers must dedicate specific vehicles in their fleet to cross-border operations to meet both region's standards, and/or choose to meet the more restrictive standard for weight and combination when crossing and travelling in the other region. The recent survey and data analysis enables 1) an evaluation of the logistical inefficiencies created by the border, 2) identification of obstacles to reducing empty truck miles, and 3) suggestions for changes to border policy that will improve near border logistics by reducing empty truck miles, border delay, and their associated air emissions.

The Cascade Gateway

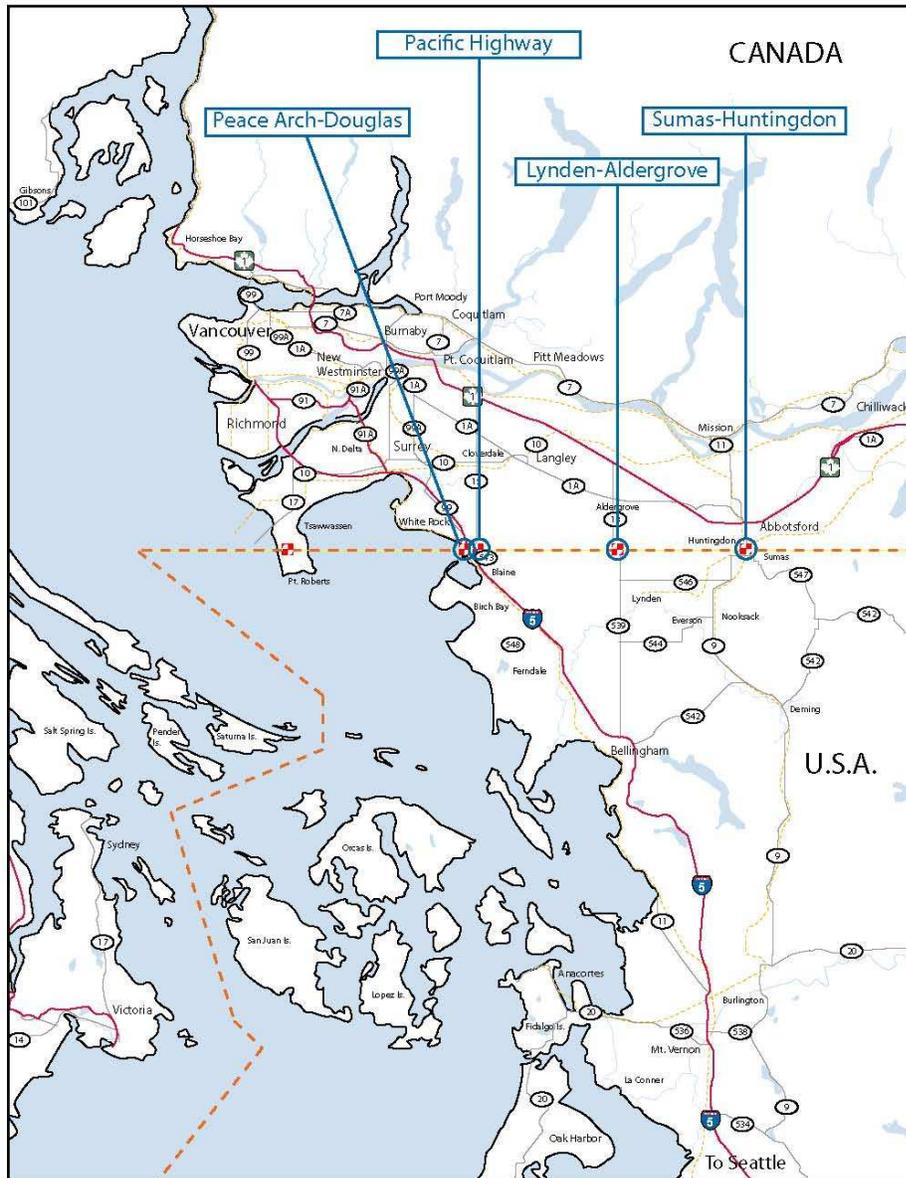


Figure 1. Regional Map identifying the study location at Pacific Highway.

Trip Patterns: Backhauls and Empty Trips

The US and Canada have shared a strong trade relationship for decades. In 2009, US imports from Canada were valued at almost \$225 billion dollars, and US exports to Canada were valued at just over \$200 billion. While there is some seasonal variation, values for June 2009 demonstrate this same relationship, with just over \$18 billion in southbound trade and almost \$17 billion in northbound trade. For goods moving only by truck, the US exports more to Canada (almost \$12 billion in June 2009) than is imported from Canada (just over \$8 billion), due to significant US

imports of energy products which do not move by truck. For trade only between Washington and British Columbia (BC), the relationship is more imbalanced, with Washington exporting to BC more than twice as much as it imports from BC. This ratio is maintained if we consider imports and exports not just from Washington, but also Oregon and California, and if we consider not only BC, but also Alberta (all data from the Bureau of Transportation Statistics).

Figure 2 demonstrates that the majority of trips crossing at Blaine originate from or are destined to, a short distance within Canada, while destinations and origins in the United States are much more widely distributed. This influences the incentives for Canadian and US carriers to seek backhaul opportunities, or to fill their trucks on return trips. It also affects the possibility of finding such opportunities, which should be easier when logistical activities are concentrated in one geographic region.

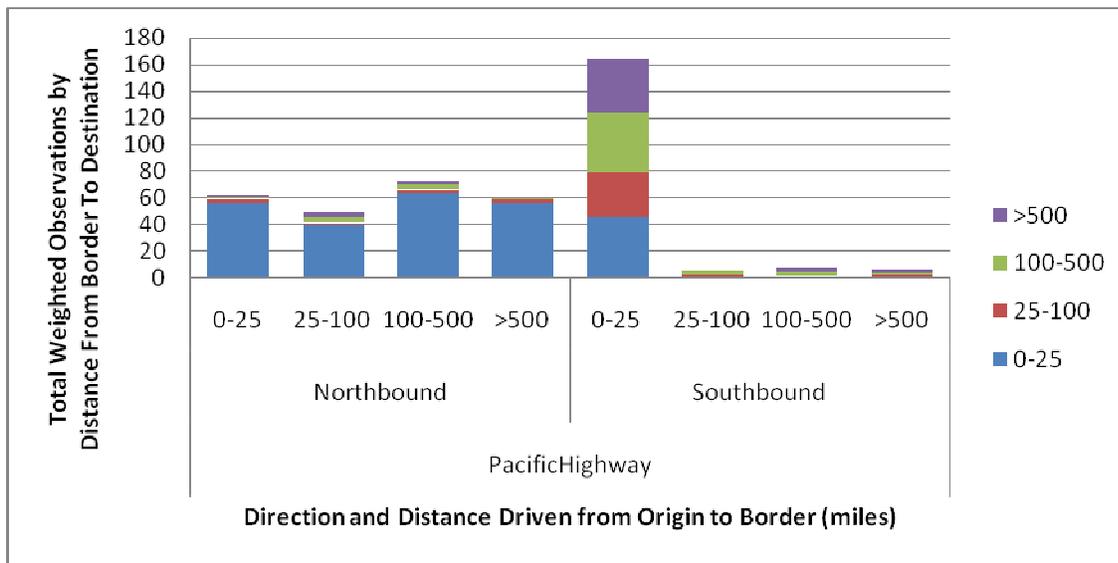


Figure 2. Distances driven to and from the border.

From Figure 3 we can observe that southbound loads are significantly more successful at obtaining backhaul loads than northbound loads. This is certainly influenced by the fact that trips originating in Canada and entering the US have much longer backhaul distances and therefore a much stronger incentive to find revenue for their return trip. In addition, given the imbalance of trade in the region, we expect that there are a larger number of northbound loads. However this creates a situation where significant numbers of empty trucks cross the border, creating congestion and delay.

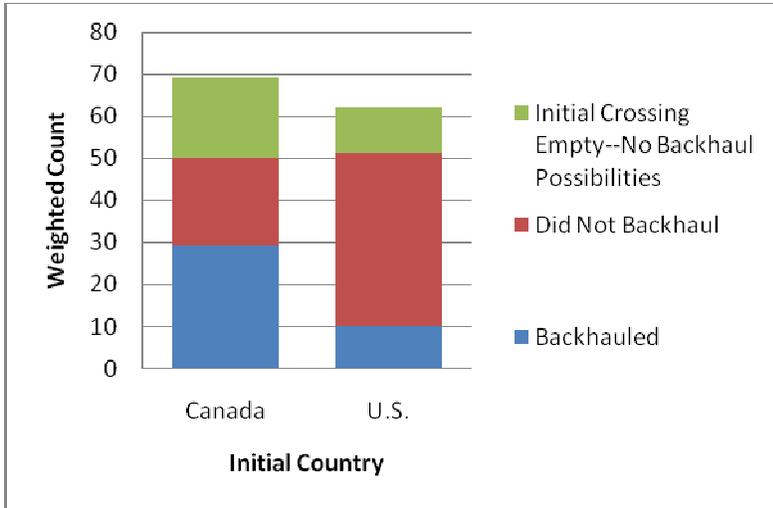


Figure 3. Backhaul status by initial country.

The blue sections in Figure 4 represent efficient trips that backhauled. The red sections reflect trips that were empty for half of their journey. This clearly shows the magnitude of the empty truck problem. We can also observe which industries are more effective at finding backhauls, for example the wood products and manufacturing sectors, but some industries are unsuccessful at obtaining backhaul opportunities, for example farm and energy products. Figure 5 shows that typically carriers travel less than 25 miles to pick-up a backhaul trip. However, some are willing to travel very long distances to pick-up backhauled cargo.

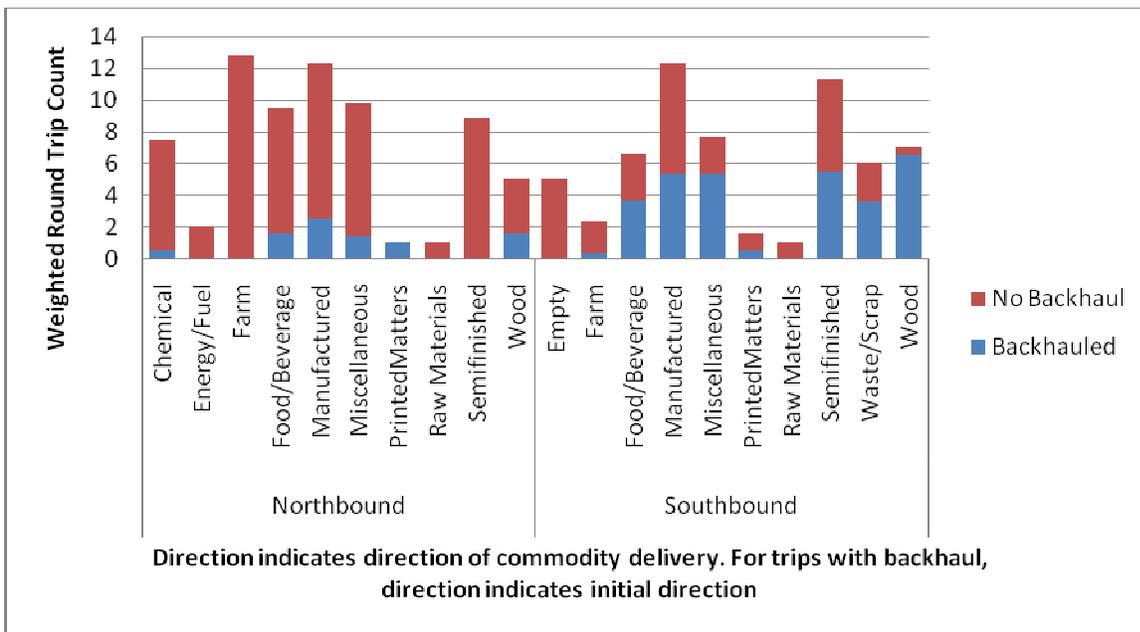


Figure 4. Efficient trips by commodity and initial delivery direction.

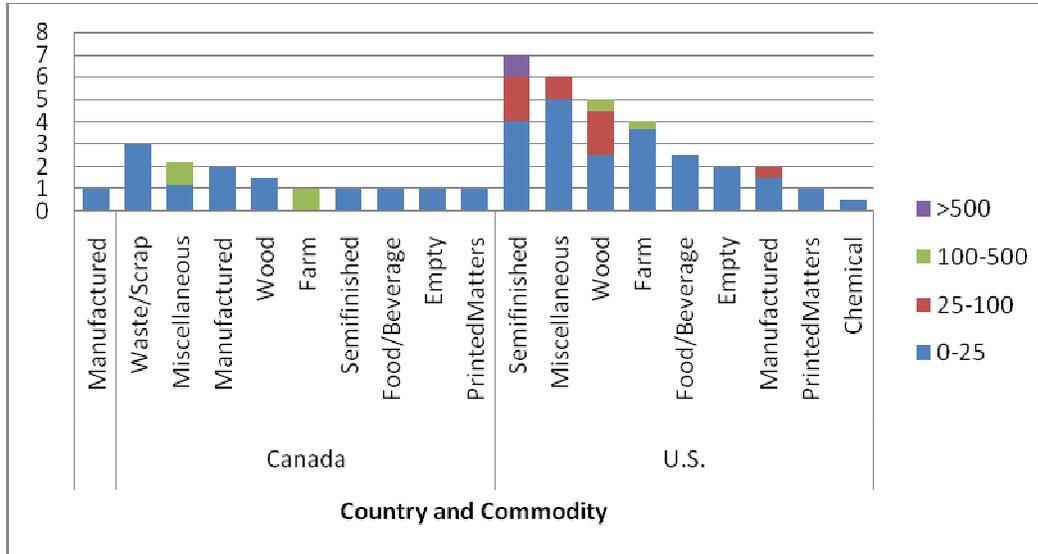


Figure 5. Repositioning distance to pickup a backhaul load by commodity and country.

Anecdotal evidence suggests goods may be staged near the border, so that equipment or drivers can be exchanged prior to the crossing. To some extent the concentration of origins and destinations within 25 miles of the border presents evidence of staging, but this also reflects the geography of the Vancouver region and its role as an importing port for Canada and Surrey, the location with concentrated logistics activity, as a logical location for this activity relative to Vancouver.

The imbalance of trade and concentration of activity near the border in Canada imply limited impacts from Canadian cabotage laws. However in the US, cabotage rules create greater inefficiencies.

Size and Weight Restrictions:

Gross vehicle weight in British Columbia can be up to 140,000 pounds, whereas in Washington the limit is 105,500 pounds. The province and the state have similar restrictions on long combination vehicles. Given that the travel distances into Canada are not typically long distance, most vehicles opt to meet the Washington standard and travel lighter than they could within British Columbia. While this has some impact on operational efficiency, the impacts are not large.

Free and Secure Trade

Figures 6 and 7 show that a minority of trucks use the Free and Secure Trade Lane (FAST). We can also see that southbound deliverers were more successful at finding backhaul opportunities, *especially* those using the FAST lane. The population least successful at obtaining backhaul are those using the general purpose lane to make a northbound delivery.

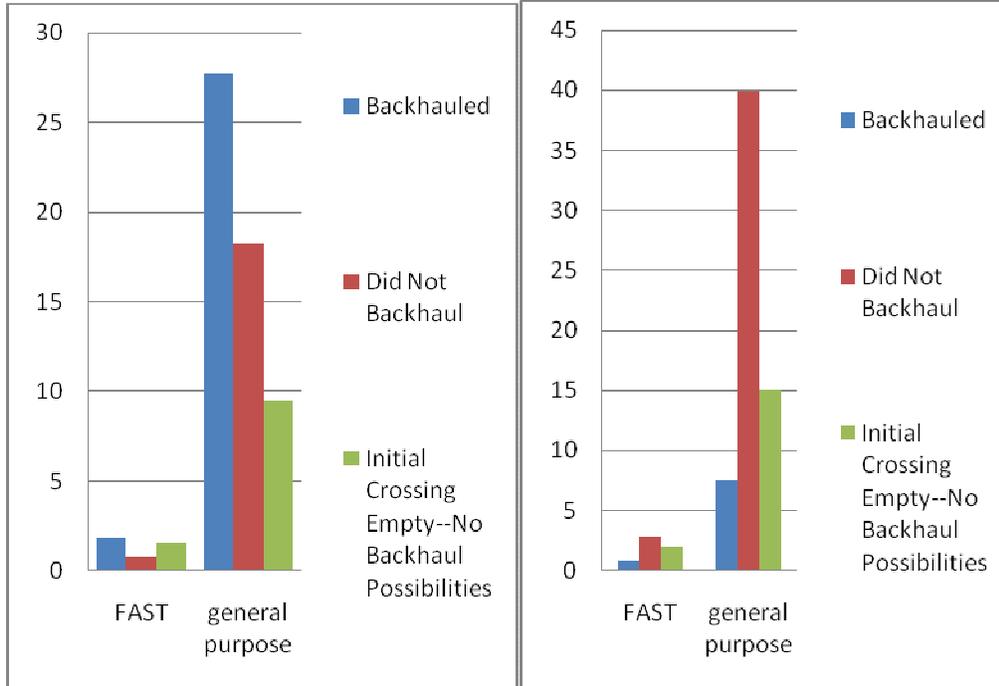


Figure 6. Southbound delivery

Figure 7. Northbound delivery

Figure 8 shows the proportion of empty trucks in the FAST lane and in the general purpose lanes. The larger blue bars in the two left columns indicate more empty trucks in the FAST lane than the general purpose lane. If we include the unknowns as empties southbound, then a majority of trucks in this lane carry no cargo. The trusted traveler program that can save time crossing the border is supporting significant empty truck travel, which increases vehicle miles travelled, emissions, and border congestion.

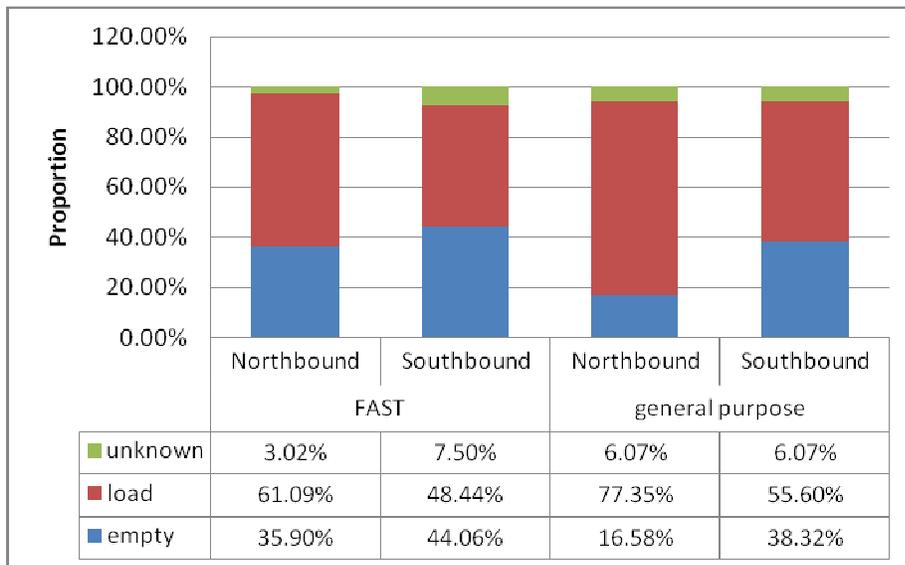


Figure 8. Full or empty status for FAST and all-purpose lanes.

Figure 9 indicates that northbound FAST infrastructure is used fairly equally by US and Canadian carriers (although the population is small), but southbound FAST is used predominately by U.S. Carriers.

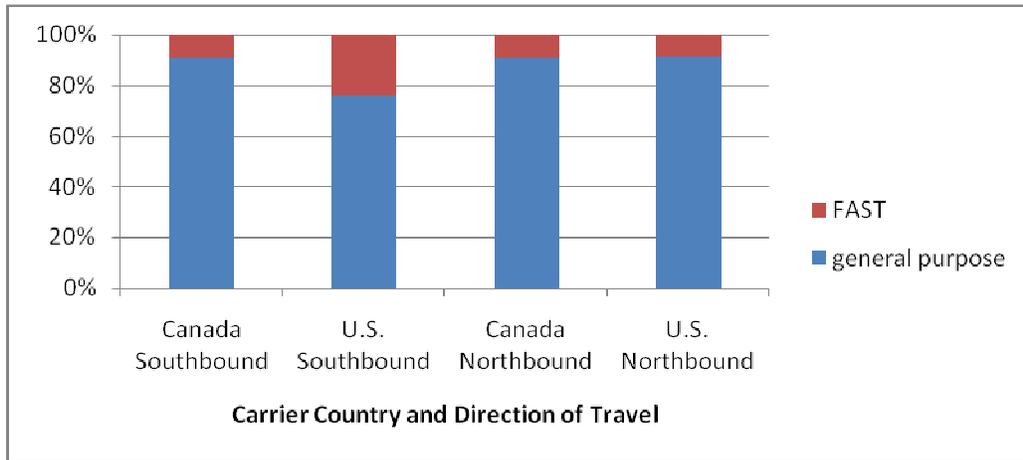


Figure 9. FAST use by carrier country and direction of travel

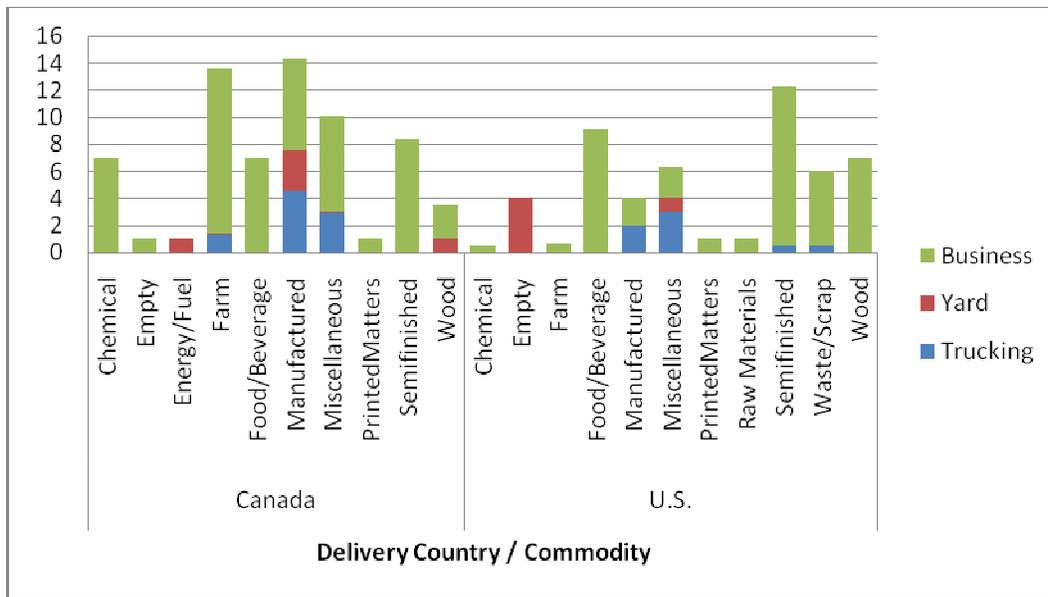


Figure 10. Deliveries by location and commodity type (for first delivery).

Un-necessary Stops

To what extent does the border create un-necessary stops at regional logistics facilities?

Each trip must originate at the cargo’s source, and ultimately arrive at the receiver’s business location. While some intermediate stops are made at warehousing and distribution center locations for cost and inventory efficiencies, these trips increase vehicle miles travelled and the associated social costs (emissions, fuel consumption, noise pollution, safety concerns). Assuming trips made to receiver’s business locations, intermodal facilities, farms or raw materials locations, or distribution

centers are classified as necessary stops, and would occur whether the border existed or not, we can identify the percentage of trips made to trucking company facilities. Trips to a trucking company facility may demonstrate unnecessary trips generated by the border, but may also be made for sorting or repackage activities which reduce logistics costs. Figures 10 (for delivery) and 11 (for pickup) show that stops at trucking company facilities are in the minority, and general only present for manufactured and miscellaneous goods, which would often be sorted or repackaged, so it does not appear that the border is generating a large number of un-necessary stops at near border facilities.

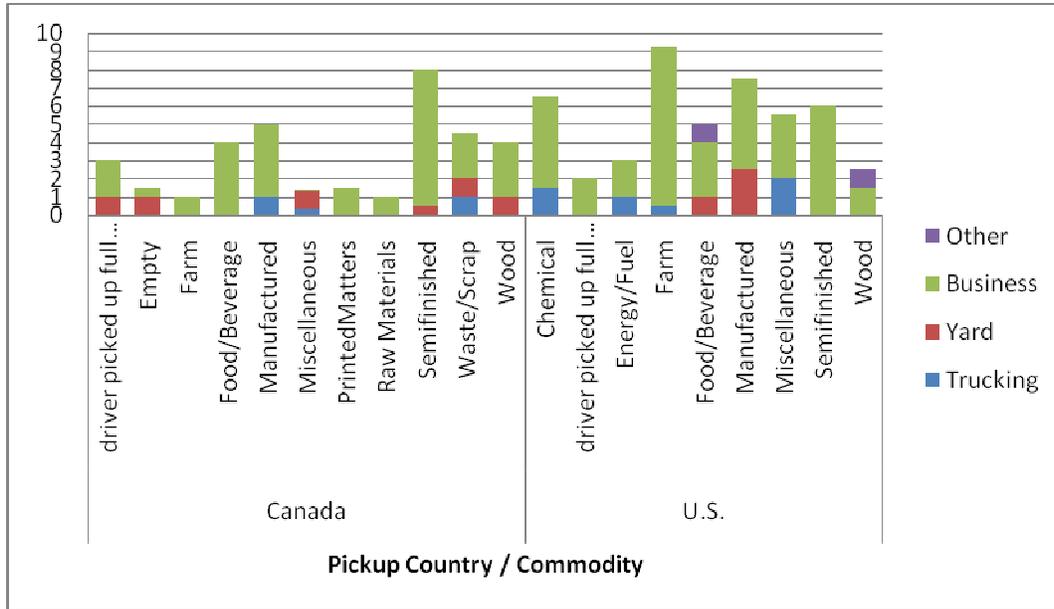


Figure 11. Pickups by location and commodity type (for last pickup).

Recommendations

Upon completing the near border operations analysis, it appears the greatest source of inefficiency comes from the prevalence of empty trucks in the region and crossing the border. If empty trip rates could be reduced, the region would see reduced vehicle miles travelled, reduced border congestion, and reduced emissions.

Inadvertently, the FAST program encourages empty truck travel, and the short distances into Canada reduce incentives for firms to find backhaul opportunities given the cost of coordination. Policies that increase the cost of empty truck trips at the border would provide additional incentive to reduce empty truck trips and encourage carriers to find backhaul opportunities. For example, not allowing empty trucks to use the FAST lane, increased fuel prices, or increased mileage taxes.

Digest of Audience Discussion:

- Empties and backhaul in the I-5 corridor. The specialization of individual rigs complicates the procurement of backhaul – e.g., not much can be done with a truck that hauls swine. The IMTC 2009 CVO data implies that flatbeds are best able to arrange backhaul. The data also indicates that backhaul is most prevalent within the wood products sector. There have been numerous attempts to establish systems that allow scheduling of backhaul, and all have failed. Another factor is that load and trip characteristics in the corridor (i.e., the fact that the Vancouver metro area, which is all within 30 miles of the border, is the origin of most southbound trips and the destination of most northbound ones) are not conducive to procurement of backhaul. The relative costs of an empty trip (fuel, etc.) are not so high that carriers are motivated to find backhaul. Cabotage is probably less of a factor than these cost-related factors. Should costs escalate, the situation might change.
- Notion of commercial-only ports. This was attempted once in the I-5 region, and the duty-free operators immediately exercised political pressure that shut off all discussion. And, generally, the reduced truck volumes today mean that autos are “in the driver’s seat.” Should autos experience greater delay because of the removal of a previously available crossing point, the political pressure would likewise be severe.
- Insufficient FAST benefits. There is dissatisfaction among the FAST community about the extent to which their loads continue to be taken to secondary. However, organized crime views a trusted-shipper as an attractive target. Verification of compliance of FAST loads must still be achieved in some manner.
- Space at a premium at POEs. The availability of space at Fort Erie was the impetus for the failed pre-clearance initiative. At Blaine and Sumas, the best chunks of vacant space also are found in Canada adjacent to the border, constituting parking lots used by truckers for visits to brokers in the era prior to e-manifest. Can those parking lots be repurposed? The successful deployment of CBP’s rail VACIS within Canada at the Detroit crossing is significant. Could VACIS and RPMs be deployed in Canada at other locations, with enforcement activity occurring only after a truck crossed the border?

Governing the 49th Parallel: Recommendations for US Policymakers on Northern Border Governance

Kathryn Bryk Friedman

Abstract

Recent strides have been made between Canada and the United States on collaboratively governing the border. However, border governance also involves establishing or fine tuning mechanisms, institutions and processes internal to the United States. This briefing paper argues that, as the main driver of northern border policy, the United States, and the Department of Homeland Security in particular, must continue to get its own house in order when it comes to northern border governance, in addition to acting collaboratively with Canada. The focus of this briefing is on practical ways to establish governance mechanisms within the United States to better address the interplay between security and economic interests – establishing a Northern Border Advisory Task Force within the Department of Homeland Security.

Introduction

Over the past year or so, the northern border has taken a back seat in Washington, D.C. politics and policymaking. With final implementation of the Western Hemisphere Travel Initiative completed in 2009 and attention focused on seemingly more pressing domestic and international priorities, a sense of resignation about the border exists among certain policymakers and stakeholders in the United States. This is particularly true when it comes to thinking about ways to facilitate and enhance commercial flows of people, goods and services across the border. There is a sense that emphasis on security at the expense of legitimate flows is taking a devastating toll on U.S. economic competitiveness, especially given the highly integrated nature of the Canadian and U.S. economies (we “make stuff together”), and the fact that \$1.5 billion in goods flow daily across the border.

From an economic perspective, what does the border look like today?¹ On the one hand, the post 9-11 border reflects problems in the trenches, including increased costs and delays for passenger and commercial flows due to intensified inspection procedures; regulations like APHIS and 10+2 that increase transaction costs to producers and shippers; misallocation of resources; and lack of investment in aging infrastructure. Border policy recommendations are couched in terms of risk management and, for the most part, directed toward discrete challenges of the day such as implementing new processes and technologies and harmonizing credentials to reduce out-of-pocket costs for the trucking industry. On the other hand, when longer-term thinking is considered, researchers recommend a smorgasbord of institutional structures, ranging from creating a Joint Border Commission to establishing mechanisms that engage regional and state-provincial actors.

Current thinking on border policy, although useful, is limited. First, it represents a “finger in the dike” approach – recommendations and actions address current challenges and short-term solutions

¹ Kathryn Bryk Friedman, “The Border After 9/11” in 31 *Policy Options* 2 (Feb. 2010).

but are insufficient for crafting a long-term, comprehensive approach to border policy. Second, each of the longer-term institutional recommendations is plausible, however, whether one is pursued over another will depend upon how Canada and the United States resolve fundamental border governance questions in the post-September 11th world. That is:

- How do these actors organize and act to establish a vision on border policy?
- How are resources allocated?
- How are goals achieved?
- Most pertinently, how do the actors negotiate the interplay between security and economic interests?

Border governance, as suggested above, is inherently a collective enterprise, to be addressed by the United States and Canada collaboratively. Recognizing this reality, the Obama Administration has taken steps in this regard, for example, by formalizing twice yearly dialogue between the Department of Homeland Security Secretary and Public Safety Canada Minister on border issues.

Governing the border, however, also involves establishing or fine tuning mechanisms, institutions and processes internal to the United States. This briefing paper argues that, as the main driver of northern border policy, the United States, and the Department of Homeland Security in particular, must continue to get its own house in order when it comes to northern border governance, in addition to acting collaboratively with Canada. The focus of this briefing is on practical ways to establish governance mechanisms within the United States to better address the interplay between security and economic interests. Border policy historically has contended with these two interests, however, twenty-first century forces of globalization – both the beneficial and the dark – exacerbate this tension and put a point on inherent tradeoffs between the desire to maximize prosperity yet minimize risks posed by terrorism and other transnational threats.

Border Governance Within the United States: Current Landscape

Although most inside and outside of Washington, D.C. are familiar with the origins of the Department of Homeland Security, it is important to underscore the history, vision and mission of DHS, as these frame current expectations and options when it comes to governing the northern border. On the US side of the border, efforts in the immediate post-September 11th environment focused on centralizing border governance into the bureaucratic driver of northern border policy – the Department of Homeland Security.² Eleven days after the terrorist attacks, President George W. Bush announced that he would create an Office of Homeland Security in the White House and appoint Pennsylvania Governor Tom Ridge as the director. The office would oversee and coordinate a comprehensive national strategy to safeguard the country against terrorism and respond

² The following history of the organization of the Department of Homeland Security is taken from Department of Homeland Security History Office, *Brief Documentary History of the Department of Homeland Security, 2001-2008* (http://www.dhs.gov/xlibrary/assets/brief_documentary_history_of_dhs_2001_2008.pdf).

to any future attacks. In an address to the nation in June 2002, President Bush outlined the contours of a permanent Cabinet-level Department of Homeland Security to protect the United States. He set forth four essential missions that corresponded to the four proposed divisions in the department, one of which was border security. The mission of this division was to control the borders and prevent terrorists and explosives from entering the country.

Myriad executive orders were subsequently promulgated and legislation proposed, all of which resulted in President Bush signing the Homeland Security Act of 2002 into law on November 25, 2002. The Department of Homeland Security became operational on January 24, 2003, sixty days after the Homeland Security Act was passed. Organizational changes ensued over the next two years, with border and transportation security all the while remaining at the top of the helm.

A September 2008 strategic plan sets forth the vision, core values and goals of DHS.³ The vision of DHS is “[a] secure America, a confident public, and a strong and resilient society and economy.”⁴ Reinforcing this vision but, also recognizing implicitly and explicitly economic interest in border policy, the mission of DHS is to “lead the unified national effort to secure America ... prevent and deter terrorist attacks ... protect against and respond to threats and hazards to the Nation [and] secure our national borders *while welcoming lawful immigrants, visitors, and trade*” (emphasis supplied).⁵ In further recognition of the need to negotiate security and economic interests, one objective of the strategic plan states that the department will make border security stronger while “*facilitating legitimate travel, migration, and continued expansion of commerce*” (emphasis supplied). The February 2010 Quadrennial Homeland Security Review Report not only reinforces recognition by DHS of its trade facilitation objective (“We view security along with customs and exchange as mutually reinforcing and inextricably intertwined through actions such as screening, authenticating, and maintaining awareness of the flow of people, goods, and information around the world and across our borders”⁶), but takes this responsibility one step further, stating that this objective, among the others, is “enterprise wide,” i.e., state, local, tribal, territorial governments, as well as the private sector and NGOs, are responsible for executing mission (in addition to the federal government).⁷ There is, according to DHS, now “a greater emphasis on and need for joint actions and efforts across previously discrete elements of government and society.”⁸

Thus, when it comes to border governance, expectations should take into account that DHS is doing what it was established to do – secure borders. However, the door is now open for better negotiating and accommodating economic interests.

³ U.S. Department of Homeland Security, *Strategic Plan: One Team, One Mission, Securing Our Homeland* (hereinafter “*Strategic Plan*”) (<http://www.dhs.gov/xabout/strategicplan>).

⁴ *Strategic Plan*, at 3.

⁵ *Strategic Plan*, at 6.

⁶ U.S. Department of Homeland Security, *Quadrennial Homeland Security Review Report: A Strategic Framework for a Secure Homeland* (hereinafter “*Quadrennial Review*”) (http://www.dhs.gov/xlibrary/assets/qhsr_report.pdf at 16).

⁷ U. S. Department of Homeland Security, *Quadrennial Review*, at iii, iv, v, viii, 3, 12.

⁸ U.S. Department of Homeland Security, *Quadrennial Review*, at 11.

Border Governance Within the United States: Proposed Changes

As briefly described above, the centralization that occurred in the United States in the aftermath of September 11th was monumental, yet it left out of the mix different interests reflecting legitimate travel and commerce. To date, private sector and binational regional voices do not have a seat at the table when it comes to northern border policymaking – voices that are critical to making border policy that successfully and artfully negotiates the tradeoff between trade and security. As noted in the Decennial Review, engagement and collaboration are critical to DHS successfully fulfilling its mission.

The contours of a border governance framework that better negotiates the tradeoff between security and economy can take place between the bureaucracy and other interests. Following is a modest governance recommendation for consideration that does not involve legislation, rather, it suggests establishing a mechanism to better negotiate the interplay between security and economic interests when it comes to northern border governance:

Establish a Northern Border Advisory Task Force within the Department of Homeland Security. Currently, the Department of Homeland Security has several advisory panels and committees established to help formulate policy: 1) the Homeland Security Advisory Council; 2) National Infrastructure Advisory Council; 3) Homeland Security Science and Technology Advisory Committee; 4) Critical Infrastructure Partnership Advisory Council; 5) Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities and 6) Task Force on New Americans. It, however, does not have a mechanism focused primarily on northern border economic interests. Falling under the Homeland Security Advisory Council and complementing the already-established Southwest Border Task Force, Northern Border Advisory Task Force membership would include private sector, academic and binational regional interests. It would meet periodically to offer recommendations to DHS on better negotiating the interplay between security and economic interests as they relate to the northern border, clarifying tradeoffs, mining alternative perspectives and debating positions and policy options. How can efficiencies at the border be best achieved? What are the choices and impacts of different border governance scenarios? What are the tradeoffs between economy and security? What would be an effective northern border governance strategy that incorporates economic interests? Serving as a public-private forum to ensure that private sector and binational regional interests have a voice in formulating border policy of the United States, this mechanism would further legitimize and strengthen economic interests in the northern border.

At the end of the day, policymakers must come up with a way to govern the 49th parallel that better negotiates security and economic interests. Finding the right balance will be tricky, but it is necessary to our economic recovery and prosperity. Unlike September 11th, which was a shock to the nation and world, the inability to accommodate economic interests into the border governance equation is akin to a slow burn. Although insidious, it can – and potentially will be – just as devastating.

Tackling a Neglected Mission: Facilitation of Legitimate Trade and Travel

David Davidson

In the post-9/11 era there has been a constant refrain from those engaged in cross-border commerce that “security has trumped trade” to an extent that is damaging to our integrated North American economy. This refrain has grown louder in the aftermath of the deep economic recession that began two years ago. Recent reports from academia, think-tanks, and the private sector have urgently called for new efforts to facilitate cross-border trade in order to preserve our competitiveness within the global economy, and thus preserve our way of life.¹

Kathryn Friedman has noted that the primacy of security is by intention. Reviewing the birth of the Department of Homeland Security (DHS) and the evolution of its mission, she concludes that DHS is “doing what it was established to do.”² She reviewed documents up through and including DHS’s September 2008 strategic plan.

Last month, though, DHS published the inaugural edition of the Quadrennial Homeland Security Review Report (QHRSR). The QHSR purports to be the document that identifies DHS’s vision of what constitutes homeland security and of how that vision is pursued through implementation of various missions and goals. The QHSR is a notable document in that it makes prominent reference to the notion of economic security as being a vital component of homeland security. The very first paragraph of the executive summary notes:

A safe and secure homeland must mean more than preventing terrorist attacks from being carried out. It must also ensure that the liberties of all Americans are assured, privacy is protected, and the means by which we interchange with the world—through travel, lawful immigration, trade, commerce, and exchange—are secured.

Within the section related to securing and managing our borders, the QHSR advocates working with international partners and the private sector to “reduce unnecessary encumbrances to lawful travel and trade that may impair economic vitality.” These statements show that DHS understands the pitfalls of a security paradigm that throttles trade. They also show a willingness to launch new efforts to expedite lawful commerce. How, then, should DHS proceed, given that at heart it is a vast para-military organization that has thus far focused essentially upon security?

In this paper I advocate two practical steps that can be quickly taken: (1) funding of extramurally facilitated regional stakeholder forums, and (2) establishment of a Center of Excellence for Trade and Travel Facilitation. Both of these suggestions are consistent with DHS’s objective of working with partners to reduce unnecessary encumbrances to commerce.

¹ Examples include: *Toward a New Frontier: Improving the U.S. – Canadian Border*, published in 2009 by the Brookings Institution; *Finding the Balance: Shared Border of the Future*, published in 2009 by the Canadian and U.S. Chambers of Commerce; *A New Bridge for Old Allies*, published in 2008 by the Canadian International Council; and *In Search of Effective Border Management*, published in 2009 by the Canadian International Council.

² Kathryn Bryk Friedman. “The Border After 9/11—Security Trumps All,” *Policy Options*, February 2010, p. 53

Stakeholder Forums

In the 2009 Brookings report titled *Toward a New Frontier*, Chris Sands reviews the manner in which the important trade facilitation initiatives rolled out in the Shared Border Action Plan were actually developed through an extensive stakeholder consultation process that took place in the late 1990s. He also writes at length about the regional variations along the Canada – U.S. border and the concomitant need to craft solutions that are appropriate to the dynamics of a given region. He concludes by advocating that DHS charge its local port directors to convene port-specific stakeholder committees, leading to mini-action-plans. I offer a different opinion about *where* such committees should be established, and *how* they should be organized.

The most successful existing port-specific stakeholder forum is the International Mobility and Trade Corridor (IMTC) project, which for 13 years has sought to foster mobility through the Cascade Gateway ports (Blaine, Lynden, Sumas) that serve the I-5 corridor linking B.C. and Washington State. The forum is facilitated by the Whatcom Council of Governments (WCOG), a regional transportation planning entity based in Bellingham, 25 miles south of the border. Within the IMTC framework, municipal and private-sector stakeholders regularly meet with *transportation* agencies and *security* agencies from all levels of government (i.e., state, provincial, federal).³ The IMTC succeeds because of the following factors:

- *Motivation.* People must be motivated to participate in such forums. Unfortunately, the best motivation is impediments to mobility as evidenced by problems such as congestion and delays. It was problems at the Cascade Gateway that motivated people to sit down and talk. The proposed forums make sense only at the crossings that receive heavy use and that are straining to meet the load. Forums are unnecessary along much of the border's breadth.
- *Proximity.* It must be convenient for people to attend meetings. At the Cascade Gateway, all of the necessary stakeholders can reach a meeting after a drive of no more than two hours, given the proximity of Seattle and Vancouver to the border. If a bureaucrat is forced to drive several hours each way (or attend via an airplane ride), the burden of attendance will eventually defeat the forum. Forums make sense only where the necessary stakeholders are capable of easily attending the meetings.
- *Facilitation.* The stakeholders must find participation to be simple, with little or no preparation required of them. This implies that tasks are going on in the background—tasks such as arranging venues, establishing agendas, communicating with participants (via email and website), memorializing progress, and facilitating the actual meeting. The quality of the facilitation is crucial. Stakeholders must perceive the forum as neutral, with all viewpoints welcome. For the reasons mentioned in this paragraph, the use of CBP employees as facilitators will not work. At the IMTC, a key to success has been the subject-area expertise, longevity, and neutrality of the facilitation offered by the WCOG.
- *Mindset of participants.* The participants must have a common vision of what they are trying to accomplish—greater cross-border mobility *in combination with* security that CBP finds to be appropriate to its mission. Mindful that security personnel sometimes view “civilian” stakeholders with a degree of disdain, Chris Sands recommends that the performance evaluations of CBP port directors be based in part upon the relationship between a director and

³ U.S. Customs and Border Protection, Canada Border Services Agency, B.C. Ministry of Transportation, WA State Department of Transportation, Transport Canada, U.S. Federal Highway Administration

the local stakeholders. It is true that in the IMTC's early days customs officials were skeptical of the forum's value, but they are willing participants at this time, having seen the forum produce benefits that help them in their security mission.

- *Funding.* The WCOG operates the forum with two FTE staff, which obviously represents a cost burden. The WCOG has twice been successful in securing long-term funding from the U.S. Dep't. of Transportation via contracts tied to six-year highway appropriations programs. The forum would have died years ago if the WCOG had had to scramble each year to secure funding. A loss of funding for even a short period would have killed the forum.

DHS, in consultation with each relevant state, should identify regional agencies that are appropriate facilitators of new forums. Initial six-year contracts should be executed, so that each forum has a good chance to achieve success. The following groups of ports are likely candidates for forums: Cascade Gateway (WA-BC), Port Huron/Detroit (MI-ON), Buffalo-Niagara (NY-ON), Ogdensburg/Massena/Alexandria Bay (NY-ON), Champlain (NY-QC), Highgate Springs/Derby Line (VT-QC), Calais/Milltown/Houlton (ME-NB). These groupings incorporate busy crossings, are reachable by bureaucrats, and don't place an undue burden upon any one state/province (each of which likely has a small cohort of staff capable of participating). The annual cost of this initiative would be \$1.7 million, including a DHS liaison officer.

Center of Excellence

The research capability provided by our universities has long been a vital component of America's defense-related efforts, and DHS has recognized the value of enlisting academic expertise. It has launched and funded twelve Centers of Excellence as a means of commissioning research into specific topics of concern:

- Risk and Economic Analysis of Terrorism Events
- Foreign Animal and Zoonotic Disease Defense
- Food Protection and Defense
- Terrorism and Responses to Terrorism
- Advancing Microbial Risk Assessment
- Study of Preparedness and Catastrophic Event Response
- Awareness and Location of Explosives-Related Threats
- Border Security and Immigration
- Maritime, Island and Remote and Extreme Environment Security
- Natural Disasters, Coastal Infrastructure and Emergency Management
- Transportation Security
- Command, Control and Interoperability

This list is convincing evidence of DHS's focus to date upon a mission of interdiction and counter-terrorism, implemented within a para-military paradigm. Nowhere is there an emphasis upon the idea that facilitation of legitimate commerce is crucial to the nation's economic vitality.

A new Center of Excellence for Trade and Travel Facilitation should be formed. As with other Centers, this one should include partner universities positioned to address the key trade corridors, including the auto-belt corridor (the crossings from Ontario to Michigan and New York), the Cascade Gateway, and the New England gateways. These regional partners are vital in that they possess existing knowledge of the dynamics of regional economies and trade flows, and they offer efficient access to crossing points for the purpose of field research.

An advantage associated with DHS sponsorship of the Center is the ability to negotiate access to facilities and to government data. In the normal course of operations, CBP collects data that would be of great use in the design of trade facilitation programs (e.g., ACE manifest data, data gathered by license plate readers). That data is unavailable to an independent institute such as my own. But, just as classified defense-related research is conducted at many universities today, partners in this Center could procure necessary security clearances and gain appropriate access to useful data.

The cost of a new Center would be on the order of \$3 million per year, and DHS would obviously need to identify (or establish) an internal capability to coordinate the research agenda, liaise between the Center and DHS's myriad branches in order to accomplish research tasks, and digest research products.

Conclusion

The above two suggestions offer a way that DHS could rapidly begin working with regional stakeholders and academia to reduce unnecessary encumbrances to lawful trade and travel across the Canada – U.S. border. The Stakeholder Forums would help address the port-specific issues associated with infrastructure development (lanes, booths, signage, ITS, etc.) and operations (snow removal, emergency notification, etc.) at the busiest crossings. The Center of Excellence would allow a means to analyze broader systemic issues (e.g., FAST program eligibility) and develop process innovations of wide applicability. The combined cost would be on the order of \$5 million per year—less than one hundredth of one percent of DHS's annual \$56 billion budget. Dedicating this proportion of funding expressly to the pursuit of a mission of trade facilitation would surely be a useful counterbalance to the various initiatives undertaken to harden our borders. As implied above, implementation of these suggestions would be for naught unless some office within DHS were tasked with the mission of eliminating undue encumbrances, and it is that office that should manage these two initiatives.

Learning from the Front Lines: Implementing CPI and TQM within CBP at the U.S.-Canada Border

Christopher Sands

One of the best sources for new ideas that would improve the operations of an organization is within the organization itself: the personnel charged with responsibility for day-to-day implementation of the organization's mission.

American scholar W. Edwards Deming observed this early in the twentieth century, sharing his approach to management by listening with Japanese firms as an advisor to General Douglas MacArthur during the postwar U.S. occupation of Japan. Only a few decades later, U.S. manufacturers spent the 1980s struggling to learn the process of *kaizen* – incremental improvements suggested by workers on the line to improve quality and efficiency and reduce costs – from Japanese companies.¹

Across the U.S. federal government, agencies have been tasked with improving the management of Federal Enterprises by adapting private sector management techniques including Continuous Process Improvement (CPI) and Total Quality Management (TQM, the American term for *kaizen*).

In response to the Government Performance and Results Act of 1993 the U.S. Office of Management and Budget (OMB) sought to promote CPI to improve use of quantitative metrics to improve the performance and reduce the cost of implementing government functions and instilling greater customer focus. The Department of Defense established Deputy Under Secretaries for Business Transformation for each of the armed services, giving them the resources to implement training and disseminate information so that soldiers, sailors, airmen and Marines could study and improve their operations.

The legacy agencies that were combined to form the Department of Homeland Security (DHS) had a more limited experience in implementing CPI and TQM as a single organization in part because of the challenges of incorporating so many different organizations into a single department capable of working effectively to protect U.S. citizens from day 1 of the new department's existence. In order to begin to continually improve a process, the process has to be studied and settled for at least a time.

Today, CBP has the potential to adopt TQM and CPI at the U.S. northern border with Canada in order to mitigate some of the obstacles to commercial facilitation and individual border crossing that have become a drag on U.S. competitiveness while wasting CBP resources through unnecessarily prolonged inspection times. Doing so will involve the launching of two processes simultaneously.

Total Quality Management. DHS should empower local federal officials, from CBP port directors to individual inspectors and members of the Border Patrol and US Coast Guard to communicate concerns and ideas for the improvement of operations. There must be a channel established for communication between front line officers and DHS senior management, and sufficient flexibility

¹ James P. Womack, Daniel T. Jones and Daniel Roos. *The Machine that Changed the World: The Story of Lean Production* (Rawson Associates, 1990)

for local federal officials to make adjustments and shift resources to implement incremental improvements.

For example, CBP inspectors seeing a routine problem of access to booths due to the existing configuration of infrastructure or flow of traffic might provide insights into simple changes that reduce delays. An officer who must repeatedly correct travelers on the necessary documentation might recommend greater efforts at public education and outreach. Even something as simple as a change in the layout of equipment in an inspection booth or the placement of equipment on a customs plaza could improve operations and reduce the strain on a particular location.

Resources must be flexible enough to permit experimentation, and if TQM within CBP is designed to resemble the private sector model, there should be recognition and even a monetary reward for ideas that result in cost savings or significant, measurable improvements. In addition, DHS will need to establish the means to share best practices throughout the organization including all land border crossings and patrol areas.

Six Sigma (6σ) Analysis. In 1981, Motorola engineers pioneered Six Sigma analysis, an approach to TQM that could provide a model for its implementation within DHS units.² The Six Sigma method begins with an executive-level commitment to quality and improvement. Top executives – in DHS terms, the Secretary – then name “champions” within senior management ranks for the quality and improvement initiative. The champions identify “agents” of change to form process improvement teams known as “black belt teams” because they are comprised of the top internal experts in the processes being analyzed. These teams follow a five-step assessment-correction path known by the acronym DMAIC: Define a process problem; Measure key aspects of the problem; Analyze the measured data to tease out causal relationships; Improve the process through pilot projects and experimental changes; Control future process implementation to correct for future defects immediately.

Motorola Six Sigma Method

Define Problem – precision required

Measure – quantify to identify

Analyze – causes and linkages

Improve/Optimize – experiment and apply best practice as proven

Control – build-in mechanisms for adjustments to correct for defects quickly and efficiently

² Thomas McCarthy, Michael Bremer, Praveen Gupta and Lorraine Daniels. *The Six Sigma Black Belt Handbook* (McGraw-Hill, 2004)

One of the main benefits of Six Sigma is that it provides a rigorous and inclusive model of engaging personnel across an organization in making improvements to the operational processes that implement the organization's mission. Staff at all levels play a role in problem definition (often suggesting areas that need improvement that are invisible to those not immersed in a business process), measurement, design and implementation of pilot projects and experimental improvements, and finally in applying process controls to catch problems faster and generate corrections.

Thanks to a push from the U.S. Office of Management and Budget, a number of the agencies of the federal government have adopted and adapted Six Sigma in the public sector. The U.S. military, Federal Bureau of Investigation, and other national security agencies have experience with Six Sigma that DHS could draw upon. In addition, universities such as Villanova University market online degree programs in Six Sigma for public sector managers, enabling DHS to outsource training in the concepts of Six Sigma quickly and reliably

Lean Management and Continuous Process Improvement. TQM (setting goals for the organization and prioritizing them in the way that the organization is managed) and Six Sigma (instituting internal mechanisms to refine business processes on an ongoing basis) taken together lead to a culture of continuous process improvement within an organization. CPI can be implemented in a variety of ways, but the simple four-step process developed by Deming is a logical starting point for DHS and its agencies. Known as the PDCA cycle, it involves four iterative steps: Plan, Do, Check (or Study), and Act.³ These steps are detailed in the box below.

W. Edwards Deming's PDCA Model for Business Process Improvement

PLAN

Establish the objectives and processes necessary to deliver results in accordance with the expected output. By making the expected output the focus, it differs from other techniques in that the completeness and accuracy of the specification is also part of the improvement.

DO

Implement the new processes. Often on a small scale if possible.

CHECK

Measure the new processes and compare the results against the expected results to ascertain any differences.

ACT

Analyze the differences to determine their cause. Each will be part of either one or more of the P-D-C-A steps. Determine where to apply changes that will include improvement. When a pass through these four steps does not result in the need to improve, refine the scope to which PDCA is applied until there is a plan that involves improvement.

³ W. Edwards Deming. *Out of the Crisis* (MIT Press, 1989)

To engage in a review of the business processes of a federal enterprise such as CBP, it is important to include not only DHS personnel (as in TQM implementation) but also to incorporate a process for stakeholder input in describing and assessing the processes being considered. Stakeholders such as regular local shippers, local Chambers of Commerce and business representatives such as tourism promoters, local political figures who can represent to CBP constituent concerns, as well as Canadian counterparts to CBP officials and these stakeholder groups. Although in some cases it will take time to overcome tensions with such groups, their engagement in a process of study to improve operations at a local level will build trust and greater respect over time.

Prior to the establishment of DHS as a separate agency, interaction between US Customs port directors and local stakeholders was more common and relationships at the local level were allowed to foster pilot projects and incremental improvements without recourse to Washington, DC for prior authorization (except where significant resources were required, though in such cases a partnership with a private sector firm or group of firms willing to finance the experiment was often permitted – this was the case with the early development of what would become the Automated Customs Environment, which began as a pilot project sponsored by Detroit automakers working with the Detroit Customs Port).

This illustrates the challenge of Lean Enterprise Management, a contextualizing concept for TQM and Six Sigma. The idea of a Lean Enterprise is that it seeks to complete essential tasks with the minimum number of steps or decisions, and the minimum resource commitment whether measured in terms of staff or equipment or budget dollars. The long-term neglect of infrastructure at the U.S.-Canadian border prior to the establishment of DHS gave the organization a mandate to expand capacity and devote increased resources to U.S. land border security and inspection.⁴

Inevitably, public sector resources encounter limits, and the fiscal situation of the U.S. federal government suggests that DHS cannot expect to “do more with more” inevitably. In the private sector, this has been the impetus for organizations to adopt Lean Enterprise Management practices and they provide a means by which DHS can pivot from a period of expanded capabilities to more resource-efficient mission effectiveness. James Womack founded the Lean Enterprise Institute (www.lean.org) as a nonprofit repository of information on the application of lean enterprise ideas first developed in the auto industry – by Ford and Toyota, principally. LEI and other research organizations could provide DHS managers with ideas and practical advice on how to implement Lean management and extend the application of CPI in a more resource constrained future.

DHS as a Learning Organization. The challenge for DHS is to tap into the knowledge of its front line officials not once, in a major push to improve, but to create a learning culture with the department and its constituent agencies that fosters experimentation and ongoing improvement on an incremental basis. In a sense, this is not a recommendation that DHS do anything more than to listen to its personnel and to local stakeholders, and to engage them in the process of improving the performance of its mission.

The desired result is an improvement in the relationship between the organization and its people, and this in turn will improve the relationship between the organization and its customers. To be an organization that can *learn*, DHS must also be an organization that proves that it can *listen*. This

⁴ For more on this topic, see Christopher Sands. *Toward a New Frontier: Improving the U.S.-Canadian Border* (Brookings Institution, 2009)

matters because in combating threats such as terrorism, smuggling, and human trafficking, actionable intelligence is the critical component of success. The best source of intelligence will be the observant DHS inspector and law-abiding stakeholders who operate in the border space. Building trust and solid relationships among these two groups will improve the flow of intelligence in support of the DHS mission even as it improves the performance of the mission from the perspective of efficiency.

The next step for DHS will be to show that as an organization capable of learning and listening, DHS is also an organization that can *change*. Managing change throughout a large organization is always a challenge, especially in a national security organization like DHS that must put security at the forefront at all times. The consequences of a failure by DHS to protect Americans is catastrophic, and this is a powerful incentive for everyone at DHS to play it safe, resist change and defend a rigid status quo. Overcoming this risk-averse inertia starts with managed, monitored and controlled experimentation. Knowledge gathered through experimentation makes it possible to reduce the risk of unknown consequences of a change.

It bears repeating that frequent local experimentation will result in a patchwork quilt of procedures and practices that will ultimately fragment the management of DHS border operations and result in confusion and the appearance of arbitrariness by stakeholders *unless* accompanied by a procedure for the assessment of ideas generated by TQM and CPI and the transmission of best practices across the organization. While the adjustment of traffic flow at a particular crossing may be a change without broader application to other crossings, other ideas will have to become part of the standard operating procedure for DHS border security elsewhere.

The U.S.-Canadian border has frequently been praised for its ability to securely facilitate the flow of goods and people in the largest bilateral trading relationship in the world. At a time when President Obama has set a goal of increasing U.S. exports by 100 percent, the high-volume U.S. northern border will provide benchmarks and best practice models that should ideally help to improve the U.S.-Mexican border over time, as well as other inspection points throughout the United States and overseas.

Digest of Audience Discussion:

- Generating a focus on the northern border. It is the dramatic problems at the southern border that led to the creation of DHS's Southwest Border Task force. The lack of similar problems on the northern border makes it difficult to generate political and popular interest. The issues of carbon footprint and of jobs-creation are possible means of attracting the attention of the administration. DHS is involved in the creation of a northern border vision, but the process is on the back-burner at this point.
- Security vs. facilitation. DHS will always be primarily a defensive organization, with "openness" taking a back seat. Thus, the notion of DHS forming and facilitating advisory groups is not workable, as there will be a lack of buy-in from other stakeholders. Effective advisory groups must have facilitation independent of DHS, as is the case with the IMTC.
- The "rural" border. The region from the Great Lakes to the Cascades is problematic. There are many small crossings, with low volumes of trade and traffic, and with ageing POEs. "Work-alone" prohibitions mean that the POEs must nevertheless be adequately staffed (at disproportionate cost relative to the traffic volumes). This region is suited to initiatives aimed at cross-training of CBSA/CBP personnel, and at construction of joint facilities. There is also the need for realistic thought about whether all POEs can be retained.

Benefits of Waiving Rule-of-Origin Compliance for Certain HTS Subheadings

Aaron Hayman and Paul Storer

1. Introduction This report quantifies the potential benefits of a proposal to waive NAFTA rules of origin for goods classified within a certain set of Harmonized Tariff Schedule (HTS) 6-digit “subheadings”. Like all free trade areas, the NAFTA uses rules of origin to specify which goods can benefit from the reduced tariffs available under the NAFTA. These rules prevent non-NAFTA countries from seeking to enter the NAFTA area by routing exports through the NAFTA country with the lowest Normal Trade Relations (NTR) tariff for the product.¹

Complying with rules of origin can be costly for exporters who do qualify for the NAFTA preferences. A business exporting goods within NAFTA typically must provide a Certificate of Origin to the importer and this certificate will indicate the justification for claiming a NAFTA tariff preference rate. These justifications are based on Annex 401 of the NAFTA and can involve either potentially restrictive tariff classification transformations or complex regional-value-content calculations. Moreover, the ever-evolving nature of some business might require a new calculation for every shipment. For example, in some businesses the mix of originating and non-originating components used to make a product changes continuously over time. Previous research has provided evidence that these compliance costs are sufficiently high that some traders forego the benefits they are entitled to under NAFTA.

The costs of complying with NAFTA rules of origin were recognized within the 2005 Security and Prosperity Partnership (SPP) process and the SPP has produced some limited reduction of rules of origin costs. More ambitious proposals to completely eliminate NAFTA rules of origin have been advanced by proponents of a common external tariff but such a policy is unlikely to be feasible in the current political environment. This paper provides dollar-value estimates of the benefits of an intermediate approach to rules of origin liberalization which is more sweeping than the SPP approach but which requires no additional harmonization of Normal Trade Relations tariffs.

2. Study Methodology A promising proposal for reducing the burden of rules of origin was recently proposed by Ballantyne, Hoffman, and Mirus (2004), who described their approach as a “streamlining” of NAFTA tariffs. The full Ballantyne et al proposal identified three cases in which Canadian and U.S. third-country tariffs could be streamlined:

- (i) Canada and the U.S. already apply 0 percent tariffs for non-NAFTA countries,
- (ii) Either Canada and/or the U.S. applies a tariff of no more than 5 percent for non-NAFTA countries,
- (iii) Situation (ii) does not apply but the Canadian and U.S. NTR tariff rates are within 2 percentage points of each other.

This paper measures the benefits of applying the first of the three Ballantyne et al proposals to the case of U.S. trade with Canada. When both countries charge a zero tariff to non-NAFTA countries,

¹ We will use term “Normal Trade Relations tariff” to refer to the general tariffs paid by countries that do not benefit from the NAFTA tariff preference. While Canada still uses the term “Most Favored Nation tariff” to describe this situation, the United States recently adopted the terms “general tariff” that applies to countries having “normal trade relations” with the United States.

there is no incentive to enter the United States via a NAFTA partner that charges a lower NTR tariff and hence rules of origin can be eliminated without negative consequences.

To measure the potential benefits of the first Ballantyne et al proposal, we obtain data at the 6-digit harmonized tariff schedule (HTS) “subheading” level for all NTR tariff rates applied by the United States and Canada². This tariff data is used to identify all cases where rules of origin could be eliminated because both Canada and the U.S. already allow the HTS-6 category to enter duty free. We then use trade-volume data from the United States International Trade Commission to measure the volume of trade between Canada and the United States in these Canada/U.S. “0/0-tariff” HTS subheadings. Existing estimates of the resource costs of rules of origin compliance as a fraction of trade volumes³ are then used to determine the transactions-costs reducing benefits of the tariff streamlining.

3. Potential Savings for Total U.S.-Canada Trade The volume of domestic exports from the United States to Canada was \$172.7 billion in 2009⁴. We used 2006 tariff schedules for Canada and the U.S. and identified 1,464 6-digit HTS codes with tariffs of zero for all of the tariff lines within these subheading codes⁵. Mexico is not included in the analysis of this paper because the number of HTS-6 codes where all three NAFTA partners have a zero external tariff is relatively small.

The properties of the 1,464 6-digit HTS codes with zero tariffs in both countries are examined in Table 1. These 0/0-tariff HTS codes are grouped into six broad categories based on the industrial sector. For example, we found that electrical equipment accounts for just 5 percent of the Canada-U.S. 0/0-tariff HTS-6 codes, while commodities other than agricultural and energy commodities

Table 1: Sectoral Description of 0/0-Tariff 6-digit HTS Categories

Category	HTS Chapters	% of all lines	% 0/0-Tariffs
Agriculture	1-24	13%	26%
Energy Products	25-39	20%	27%
Other Commodities	40-83	38%	27%
Machinery & Equipment	84	15%	42%
Electrical Equipment	85	5%	27%
Other Manufactured Products	86-97	9%	24%

² We obtain the tariff schedule data from the World Trade Organization.

³ Compliance cost figures are cited by Ballantyne et al and also available from Kunimoto and Sawchuk (2005).

⁴ Domestic exports were less than 2009 “total exports” of \$204.7 Billion. The difference between the two figures represents foreign exports that are re-exported via the United States and are in “substantially the same condition as when imported”.

⁵ Canada and the U.S. frequently use 8-digit and 10-digit categories within a 6-digit category so that each 6-digit subheading may contain multiple distinct tariff lines. As a result, third-country tariffs might be zero for just a portion of a 6-digit HTS code. We usually can’t compare 8-digit and 10-digit tariffs because of inconsistent tariff classifications at this level of detail.

were 38 percent of the 1,464 HTS codes identified as candidates for streamlining. The fraction of the total HTS codes that are free for Canada and the U.S. is constant for most of these industrial sectors with the exception of Chapter 84, where the percentage of free HTS-6 codes is much higher because of the NAFTA “mini-customs union” in computers and computer parts.

To measure the potential benefits of streamlining rules of origin for trade between the United States and Canada we determined the amount of domestic exports from the United States to Canada for each of the 1,464 0/0-tariff HTS-6 codes and then summed these commodity-level amounts. These 1,464 HTS codes themselves account for almost 25 percent of the total amount of exports from the United States to Canada and have a dollar value of \$42.5 billion. This magnitude of these 0/0-tariff trade flows suggests that significant benefits could be obtained even if the scope of tariff streamlining is limited to just the set of 6-digit tariff categories where both the United States and Canada impose zero tariffs on non-NAFTA countries.

To estimate the benefits of tariff streamlining for Alberta, Ballantyne calculated the dollar value of exports from Alberta to the United States that were candidates for tariff streamlining and multiplied this value by an estimated percentage transactions cost due to rules of origin compliance. The Alberta study used estimates of rule-of-origin transaction costs based on earlier research for free trade areas such as the EFTA where these trade-cost percentages ranged in value from 0.25 percent to 2 percent of the value of trade flows.

For this study of United States exports to Canada, we applied Ballantyne et al’s 0.25 percent and 2 percent figures as lower and upper bounds on transactions/compliance costs due to rules of origin. This procedure yielded estimated annual savings in 2009 of between \$106.1 million and \$849.0 million. With the 4 percent discount rate used by Ballantyne et al, this constant stream of annual savings translates into a total savings of between \$2.65 billion and \$21.23 billion when measured in present-value terms. It is worth noting that these benefits are derived from 6-digit HTS subheadings where neither Canada nor the U.S. applies NTR duties so that no tariff revenue would be lost from the proposal to waive these rules of origin. Additional transactions-costs savings could be obtained by implementing the two other components of the Ballantyne et al tariff streamlining proposals.

4. Benefits Related to Individual States’ Exports to Canada In addition to analyzing overall benefits of tariff streamlining for U.S. exports to Canada, we also calculated some state-specific measures similar to the value that Ballantyne et al provided for Alberta. The seven states used in our analysis are a mix of states in the Pacific region and states with large trading relationships with Canada. The specific states are: Washington, Idaho, Oregon, California, Texas, Michigan, and Ohio. To analyze the cost-reducing benefits specific to these states we began with our list of 6-digit HTS codes that are free in Canada and the U.S. and looked at exports from the individual states to Canada.

We used origin-of-movement state export data and found the 50 largest HTS codes for each state’s exports to Canada. We then summed the trade flows within these top-50 HTS-6 categories for which both Canada and the United States had zero tariffs. We used the top 50 HTS-6 codes because of the difficulty of searching through every possible code for each of the seven states. The fact that the trade total was restricted to the top 50 codes means that our total estimate of trade under-estimates the true total trade volume for the state.

The results of this state-level analysis are presented in Table 2. For each state we present the total dollar value for the top-50 HTS codes with NTR tariffs of zero for both countries. The next

Table 2: State-Level Transactions Costs Savings from Tariff Streamlining

State	0/0-Tariff Top-50 Exports	% of Total Exports	Cost Savings: Lower Bound	Cost Savings: Upper Bound
Washington	\$1,529 Million	24.6%	\$3.8 Million	\$30.6 Million
Idaho	\$ 167 Million	29.7%	\$0.4 Million	\$3.3 Million
Oregon	\$498 Million	18.5%	\$1.3 Million	\$10.0 Million
California	\$3,874 Million	27.3%	\$9.7 Million	\$77.5 Million
Texas	\$3,349 Million	21.4%	\$8.4 Million	\$67.0 Million
Michigan	\$2,229 Million	9.4%	\$5.6 Million	\$44.6 Million
Ohio	\$1,272 Million	7.0%	\$3.2 Million	\$25.4 Million

column shows the share of this total as a fraction of the state's total exports to Canada and the final two columns show the upper and lower bounds on the estimates of the transactions costs savings using the 0.25 percent and 2 percent figures. In future work we will expand the number of states and will include all HTS-6 subheadings rather than just the 50 largest. Even these partial results show significant benefits accruing to states from tariff streamlining.

5. Suggestions for Increasing the Benefits of Tariff Streamlining The benefits of liberalizing rules of origin and streamlining tariffs could be increased if a larger set of tariff categories had a value of zero in both countries. The cost of increasing the number of free/free HTS subheadings is the tariff revenue lost in cases where either country has non-zero NTR tariffs. This lost revenue might be minimal because, even when tariffs are not zero, many HTS chapters provide very little tariff revenue because of tariff rates close to zero. Indeed, USITC data show that in 2009 four HTS chapters generated no tariff revenue at all. Calculated tariffs were under one million dollars for 13 additional 13 HTS chapters and over 85 percent of total tariff revenue is generated by just 16 HTS chapters. Chapters generating minimal tariff revenue are certainly candidates for elimination of rules of origin. When tariff revenues and Normal Trade Relations tariff rates are so low, there is little or no concern about entry of U.S. imports through Canada. The potential for cost savings could also be increased if the NAFTA partners adopted a harmonized tariff classification system through to the 10-digit level rather than just the current 6-digit level.

6. Conclusions This study has identified several promising cases where simple changes to administrative rules would result in significant savings of transactions costs for the United States and for Canada. These cost savings have the potential to increase the competitiveness of North American businesses. Waiving rules of origin requirements for a number of products would also allow some border personnel to shift some of their time from rules of origin verification to a focus on interdicting undesirable goods or individuals seeking entry to the United States.

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North American Trade Compliance Costs: Smallish Progress, Big Constraints

Greg Anderson

Summary Points/Proposals

- Harmonize NAFTA Compliance Paperwork
- Move to Electronic Submission of NAFTA Documentation
- Further Simplify Rules of Origin
- Harmonize NAFTA Tariff Schedules (digitize them)
- Begin work toward harmonizing small differences in MFN tariffs
- Accumulation

1) Harmonize Rules of Origin Paperwork

At present, each NAFTA country maintains its own rules of origin paperwork. Each is similar in terms of layout and required content, but administered and tracked differently. The Canadian Border Services Agency (CBSA), for example, lists 14 separate NAFTA-related forms, including rules of origin, only some of which are in fillable PDF format. The US Customs and Border Protection (CBP) form 434 is fillable and can be saved electronically. CBSA form B232 is fillable, but cannot be saved electronically. Rules of origin forms for export to Mexico are available through Aduanas Mexico, but not easily accessible online, even for those familiar with Spanish. Interestingly, I discovered information on rules of origin requirements for la Asociación Latinoamericana de Integración (ALADI), but not the NAFTA.

<http://www.cbsa-asfc.gc.ca/publications/forms-formulaires/b232-eng.pdf>

http://forms.cbp.gov/pdf/CBP_Form_434.pdf

A single (fillable and savable) trilateral form, recognized by all three countries would simplify rules of origin compliance for SMEs as well as large multinationals engaged in significant intra-industry trade in which inputs and products cross borders several times before final assembly (particularly true in auto sector).

Lastly, a single “NAFTA Compliance” box on existing cargo manifests used in North America would greatly streamline such procedures. Such a simplification would compliment existing cargo shipping procedures as they have evolved in North America over the past couple of years.

2) Electronic Submission

An obvious extension of harmonizing rules of origin paperwork would be to make it possible to submit paperwork electronically. Moreover, moving more fully toward online compliance would streamline rules of origin procedures even further. All three countries have moved heavily toward e-filing in areas of tax collection and compliance as a money saving measure. However, such procedures have also enhanced the oversight process by allowing the least problematic tax filers to do so simply and easily.

Electronic submission of NAFTA compliance paperwork should be relatively easy to integrate into some existing programs established by US legislation in the past several years governing the movement people and goods for which advance electronic submission is now a requirement. Particularly noteworthy are the advance reporting provisions of both the U.S. Trade Act of 2002 and the U.S. Public Health and Bioterrorism Preparedness and Response Act of 2002 (Public Law 107-210 and 107-188 respectively). Under both laws, shippers of goods to the United States are now subject to a range of advance reporting requirements depending on the mode of transportation being used to ship them. Specifically, as of January 2005, shipping of any kind to the United States required that electronic manifests be shared with the U.S. Customs and Border Protection Service and with advance times of as much as 24 hours in the case of ocean-going vessels, 4 hours if shipments are made via air, 2 hours by rail, down to as little as 30 minutes for trucks participating in the FAST program.¹

However, the Bioterrorism Act of 2002 goes even further in mandating that foreign shippers have a designated agent or representative in the United States, register with the U.S. Food and Drug Administration (FDA), and provide advance notification of food shipments of 2 hours by road, 4 by rail or air, and 8 if arriving via water.² Moreover, there are now several frequent shipper and trusted traveler programs such as CT-PAT, FAST, and CSI, NEXUS, SENTRI, the US-VISIT program, or the new Secure Flight program that have necessitated cross-border cooperation (some might say unilaterally so) and information sharing among private and public sector stakeholders in all three countries. Integrating NAFTA compliance paperwork/procedures into existing changes to supply-chain management by private firms that U.S. legislation has already necessitated should be relatively straightforward. Moreover, it is an initiative that private sector interests could easily embrace since it would streamline currently disparate procedures.

Lastly, doing so would go some distance toward pushing more of the processing of persons and cargo away from border crossings, relieving some of the pressure on inspections procedures at the busiest of them. Moreover, initiating work on how to integrate electronic submission of NAFTA paperwork along with other reporting requirements in place for security purposes may also re-stimulate thinking about larger projects such as customs pre-clearance for cargo.³

3) Further Rules of Origin Work

Rules of origin arbitrate the discriminatory impact and trade-creating potential of FTAs. On the one hand, rules of origin are a necessary evil within FTAs since they prevent the transshipment of non-member goods through the member state with the lowest external tariffs, thereby undermining the benefits membership in the FTA. At the same time, rules of origin have increasingly been vilified as inefficient, possibly protectionist, measures at odds with the objectives of trade liberalization. This has been especially true within the NAFTA area where the original rules of origin, as designed, were

¹ U.S. Customs and Border Protection Service, "Frequently Asked Questions," Trade Act of 2002 Final Rule, August 3, 2004; see also Trade Act of 2002, Title III, Section 343, Mandatory Advanced Electronic Information for Cargo and Other Improved Customs Reporting Procedures.

² (See PL 107-188, Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Section 307; and FDA, Guidance for Industry, Prior Notice of Imported Food, Questions and Answers, May 2004 at <http://www.cfsan.fda.gov/~pn/pnqagui2.html#require>).

³ See Government Accountability Office, "Various Issues Led to the Termination of the United States-Canada Shared Border Management Pilot Project," GAO-08-1038R, September 4, 2008.

among the most complex and highly restrictive in the Western Hemisphere.⁴ However, in the past several years, NAFTA countries have been engaged in successive revisions (4) of rules of origin to simplify the process in areas such as alcoholic beverages, petroleum, some auto parts, copiers, chemicals, pharmaceuticals, footwear, and copper, among others.

The major advantage with continuing this work is that it falls under the NAFTA's built-in agenda and requires no new legislation in any of the three countries for new changes. Moreover, progress on rules of origin in the NAFTA will deepen the integration among NAFTA Parties while also reducing levels of discrimination faced by non-members, possibly laying the foundation for broader liberalization efforts in the future. An important challenge confronting rules of origin work will be the differing tariff structures maintained by NAFTA partners vis-à-vis non-NAFTA countries; a consequence of the relatively shallow stage of integration represented by FTAs and the reason for rules of origin in the first place.

4) Harmonize Tariff Schedule (digitize it, too)

The idea of the NAFTA members harmonizing their tariffs with the rest of the world has arisen on several occasions, but big differences in the size of each country's tariff schedule prevents much progress. Harmonization would require US legislation to make changes, but might be possible, particularly where tariff lines and rates were especially close together. While all three countries follow the Harmonized System, which harmonizes tariff lines at the six-digit level, the quantity of more detailed break-outs at the eight-digit level varies. Canada has 6,821 industrial tariff lines; the United States has 8,445; and Mexico has 10,326.

This is part of the explanation for why there is no single tariff schedule for NAFTA countries; each maintains their own. Short of harmonization of tariff schedules into a single "NAFTA Document," a searchable electronic data base of tariff schedules of all three countries in a single location, perhaps managed by the NAFTA Secretariate, would greatly simplify NAFTA compliance paperwork processes. This would not require legislation, but might entail some expenditure of funds to establish and operate.

There has been some work in this direction. Under NAFTA Article 311, the three countries did harmonize tariff rates for computers/computer parts, local area network equipment and semiconductors (and therefore NAFTA rules of origin are no longer relevant). However, because so many US and Canadian tariff rates are already at zero, and WTO obligations would prevent harmonization upward toward Mexican levels, new obligations would necessarily come from Mexico and involve numerous complications with Mexico's non-NAFTA FTA partners.

Moreover, NAFTA rules of origin could not be dispensed with if, say, only the U.S. and Canada harmonized for certain products. Nonetheless, such a bilateral "limited customs union" tariff arrangement would require some maneuvering around and through NAFTA, but it might be achievable--whereby the two countries would simply deem certain products as "originating" for purposes of a tariff preference when shipped across our mutual border, regardless of their actual origin (because the tariffs--to the extent that there were still some applicable--would presumably

⁴ Antoni Estevadeordal, Matthew Shearer, Kati Suominen, "Multilateralizing RTAs in the Americas: State of Play and Ways Forward" Paper presented at the Conference on Multilateralising Regionalism Sponsored and Organized by WTO – HEI Co-organized by the Centre for Economic Policy Research (CEPR) 10-12 September 2007, Geneva, Switzerland.

already have been collected at each country's border). But it wouldn't do anything for trade flows on the southern border unless Mexico decided to participate.

In addition to the legislative hurdle, the most significant issue in making progress here may be that the United States will want some significant "payoff" in return for the political effort. In practical terms, this means such tariff harmonization might only be possible in the context of the WTO where the gains for the United States would be greatest.

4) Begin Harmonizing MFN Tariffs in NAFTA Area

This is admittedly a larger political project, mainly because of the uncertainty of winning Mexico's acquiescence; Mexico maintains a significantly higher tariff structure toward non-NAFTA partners giving it some bargaining power with other potential FTA partners. Moreover, reducing remaining US tariff rates would also require legislation.

However, there are roughly 24 HTS lines in which NAFTA country MFN rates are zero and another 400 where MFN rates are within a few percentage points. For Canada and the United States, there is far more commonality in MFN rates; more than 3000 are at zero. This large number of common MFN tariffs between Canada and the United States is largely the result of sectoral commitments the two countries undertook during Uruguay Round negotiations, including participation in the Agreement on trade in Civil Aircraft (other sectors included Ag equipment, medical equipment, construction equipment, paper, steel, chemicals, etc). Mexico was not a participant in these sector discussions and maintains MFN rates on many items 25-30 percentage points higher.

It is questionable whether Mexico can be convinced to sign on to the initiatives cited above, since all such changes would need to be submitted to the Mexican Senate for approval. Reducing its MFN tariff rates by such a degree would eliminate its bargaining power in multilateral negotiations and dilute the value of future FTAs.

5) Accumulation

Conceptually, accumulation would allow the gradual knitting together of overlapping FTAs (the spaghetti bowl) such as those that have been concluded by NAFTA countries with third parties. In short, inputs from one FTA (such as the US-Chile FTA) could be deemed as originating under the NAFTA's rules of origin and qualify for duty free treatment in Canada and Mexico as well. Progress on this could probably only be made on a sector-by-sector basis and would, in the United States, require legislation to change the terms of existing US FTA obligations. It is possible that such an effort could be challenged under WTO rules as violating MFN principles, but might also be permissible under the vague language of Article XXIV of the GATT that permits FTAs and other preferences schemes provided they "substantially liberalize all trade." In addition, various US preferences schemes, such as the Generalized System of Preferences, the Caribbean Basin Initiative, or the African Growth and Opportunity Act, have used WTO waivers requests to permit preferences schemes as long as they were generalized. Since many of the FTA's concluded by NAFTA countries with third parties are with developing countries, it may be possible to proceed initially in a fashion similar to that pursued under the GSP, CBI, or AGOA. Pursuit of accumulation would be inherently discriminatory within the multilateral system, but would be generally liberalizing at the same time.

Background

The late 1980s and early 1990s were a period of rapid change in North American economic relations. Two major trade agreements, the U.S.-Canada Free Trade Agreement (CUFTA) in 1989 and the North American Free Trade Agreement (NAFTA) in 1994, seemed to herald a new period of economic and political integration in a direction similar to that which had evolved in Europe during the postwar period. However, shortly after the NAFTA was concluded, three major constraints effectively ended progress on issues left over from the NAFTA debate and stifled those designed to build upon what had begun; first, the absence of new money for new initiatives, secondly, the need to avoid generating new disputes, and third, and most importantly, the imperative that new initiatives not require new legislation. In other words, think small.

These three constraints, which I will refer to as the “three noes,” as defining characteristics of post-NAFTA North America are, in part, a pragmatic response to the poisonous politics of trade liberalization that emerged out of the NAFTA debate in 1994; the NAFTA ratification fight in the US had been exhausting and no new political project to deepen integration was possible. Hence, the North American agenda has both suffered under the three constraints and been advanced within them. While the North American trade liberalization agenda stalled through the balance of the 1990s, North America has, since 9/11 been the subject of significant policy attention, all of it, unfortunately, restricted by the “three noes.”

Since the conclusion of the North American Free Trade Agreement (NAFTA) in 1994, policy-makers, academics, and policy wonks of all stripes have been engaged in the search for “next steps” in North American governance. That search is littered with the policy recommendation wreckage of numerous blue ribbon panels, “eminent person’s groups,” and government reports, the majority of which have recommended picking up where the NAFTA left off and moving towards deeper stages of economic integration and political coordination in North America. Throughout the 1990s, initiatives were launched, shelved, and sometimes launched again, in an effort to deal with the NAFTA’s perceived shortcomings, nearly all of which came to naught, in part because of the restrictions of the three major constraints noted above.

Not until the terrorist attacks of September 11, 2001 on the United States did any of this activity generate movement toward more coordinated North American governance, nearly all of which was devoted to mitigating the negative trade effects of enhanced security. In the process, economic policy was wedded to security in North America, but remained subject to, and ultimately limited by the “three noes” The 2005 Security and Prosperity Partnership (SPP) was designed to manage the new nexus but was, in effect, an imperfect byproduct of the many previously unsuccessful initiatives to deal with the lingering imperfections of the NAFTA.

One of the main challenges confronting North America in the management of borders actually concerns the SPP and its US implementation by the Department of Homeland Security (Security Agenda) and the Department of Commerce (Prosperity Agenda). Since the creation of the Department of Homeland Security in 2003, management of policies concerning America’s two borders has converged around security and law enforcement. Ineffectual mechanisms for border management, such as the SPP, have actually served to burry large parts of the North American agenda within each country’s bureaucracies, making them more difficult to deal with.

In addition, the NAFTA is now nearly 20 years old (2014) with the longest phase-ins having come into effect in January 2008. The NAFTA’s built-in agenda, comprised of some 20 working groups created by the Agreement, was never seriously built upon, nor has it been advanced by the SPP.

Hence, as a result of the “mature” status of the trilateral trading relationship and the imperatives of security, it has been security that has largely driven the entire North American agenda.

For a short period, all of this stimulated new rounds of initiatives and policy proposals designed to garner the attention of new leadership in Washington, Ottawa, and Mexico City. Proposals and approaches have ranged from sweeping new integration projects, such as a customs union or the creation of a binding joint commission to manage border issues, to the devolution of responsibility for border management to local and regional interests such as states and provinces or public-private partnerships.

However, to the “three noes,” one might add a fourth; no vision by the political leadership about what North America could be. Worse, that lack of vision is itself constrained by the “three noes,” further limiting the policy space in which to remedy the negative economic spillovers from enhanced security. In sum, according to some analysts, the combination of paralysis over the NAFTA’s unfinished business coupled with the plethora of new security measures imposed at North America’s borders have served to completely reverse all of the gains from trade liberalization won in 1994 after the NAFTA’s implementation.⁵

In short, the paradigm regarding the border has been settled. No major new integration projects are on the horizon. The SPP, useful as an agenda setting exercise, was only that. No legislation, no money, no disputes, and no vision to overcome the other three means that any and all changes to border management, particularly as they related to economic policy, must be made administratively; that is, they cannot entail new expenditures or require new legislative action.

Think Small, ...For Now

Legislative Hurdles

As of January 2008, the final phase-ins of the NAFTA were implemented. Trilateral work continues, but only so much can be achieved within the confines of the NAFTA’s built-in agenda and, more importantly, within the limitations imposed by the need to go back to national legislatures to move beyond it. This would necessitate the launch of a significant political project in North America that the “Background” section below argues is impractical.

Moreover, each NAFTA country has its own legislative hurdles to overcome depending on the ambition of the work undertaken. In the United States, for example, tariffs can usually be changed only through legislation, while the rules of origin in FTAs can be modified through administrative procedures. In Mexico, tariffs can be modified through administrative means. Non-substantive changes to the NAFTA rules of origin can be implemented administratively, while the Mexican Senate must approve substantive changes.

The U.S. legislation used to implement the various free trade agreements are similarly constructed. Each grants the President the authority to accelerate the elimination of tariffs and modify the non-textile rules of origin following a consultation process (federal register). The NAFTA partners have completed four rounds of tariff acceleration and three sets of changes to the rules of origin using these procedures.

⁵ Robert Pastor, “Should Canada, Mexico, and the United States Replace Two Dysfunctional Bilateral Relationships With a North American Community?” 14th Annual Distinguished Lecture Department of Political Science University of Alberta Edmonton, Alberta March 15, 2010.

Apart from legislation modifying aspects of the NADBank Charter (PL108-215), the United States has never passed legislation modifying its NAFTA commitments.⁶ The NAFTA implementing legislation is actually silent on whether other types of changes to the Agreement would require legislation, but the practical assumption has been that most changes outside what the NAFTA contemplates inside the built-in agenda would require legislation in the US.

Hence, absent a new political project leading to legislative changes, any initiatives must be conducted within the confines of existing legislative authority.

Cost of Compliance

No systematic study on the costs of complying with NAFTA rules of origin to obtain duty -free tariff treatment has been done. However, some work has been done on possibly harmonizing MFN tariff rates applied by each NAFTA country to all non-NAFTA members as a means of eliminating rules of origin requirements within the NAFTA area. For instance, there are a large number of MFN tariffs that vary by 5% or less among the three countries. This would serve to eliminate the need for rules of origin paperwork on all of those tariff lines since all three countries would be levying the same MFN rates on non-NAFTA inputs. This would simplify rules of origin compliance costs, particularly for small businesses without the economies of scale necessary to make NAFTA compliance worthwhile.

The benefits of such changes would be broadly felt, but possibly stimulate export activity by small and medium sized enterprises (SME) or 100 employees or less. According to Industry Canada (2006), approximately 95% of Canada's businesses are classified as small and yet only 1.4 percent of these businesses engage in exporting products. Moreover, a 2008 survey of SMEs in Western Canada revealed that obtaining adequate customs information as well as "problems" with US Customs authorities were significant barriers to Canadian exporters.

While MFN tariff rates differ among NAFTA countries, they are low enough, and paperwork and compliance costs within the NAFTA significant enough, that SMEs are in some cases merely incurring the extra MNF rate costs instead of the significant drain on time and resources to qualify for duty free treatment under the NAFTA.

⁶ In March 2004, the Congress approved HR 254 (later PL 108-215), which allowed the administration to agree to a change to the charter of the NADBank, which allowed the bank to extend its zone of operations from 100 to 300 kilometers into Mexico.

Digest of Audience Discussion:

- Applicability of the term “waive”. While it is possible to use administrative changes to liberalize rules of origin, in practice the rules can’t be waived because the term “waive” suggests that the Executive Branch could have the discretion to direct CBP (or another agency) to apply or not apply the rules of origin for certain groups of goods. An exception to this general rule is found in Annex 308.1 of the NAFTA which does effectively waive application of the rules of origin for a wide range of items. While the Annex 308.1 approach might provide a possible example for how to waive the rules for other goods, it doesn’t seem to be possible to “shoehorn” a comprehensive set of commodities into Annex 308.1 through administrative changes because Annex 308.1 only applies to data processing equipment. The possibility of finding other creative methods to broaden the Annex 308.1 approach was mentioned.
- Benefits associated with zero-tariff situation. For finished goods traded between NAFTA partners, there wouldn’t be much saving in terms of compliance costs for items with a zero NTR/MFN tariff because someone importing such a good would have no incentive to claim the NAFTA tariff. For an intermediate input to an item that will cross the border again in the future, however, there might still be an incentive to complete the rules of origin paperwork in order to establish the North American origin of the higher-level good made from the intermediate input. The low (or zero) cost of rules of origin compliance for final goods with zero MFN/NTR tariffs means that the lower-end of the range of compliance cost estimates is probably the most applicable for these commodity codes. It would also be worthwhile to go back and look at goods with MFN/NTR tariffs of up to 2 percent. The necessity of including Mexico in changes to rules of origin was discussed.
- Benefits to small businesses. A University of Alberta study showed significant NAFTA rules of origin compliance costs for small businesses. This was consistent with anecdotal evidence of challenges facing fragrance manufacturers forced to deal with constantly-changing mixes of originating and non-originating chemicals in vats. These problems for small businesses contrast with a fairly successful NAFTA process in which businesses can petition for liberalization of rules of origin for products not produced in North America but used as part of the production process. An example of the petitioning process was diluents used to ensure smooth flow of oil-sands related products in pipelines. USTR could benefit from information about liberalization that would benefit small businesses, in part because small businesses are less likely to submit a petition.
- Inconsistent HTS codes. There seemed to be no quick administrative solution to inconsistent HTS codes at the 8 and 10-digit levels. Costs of divergent regulatory regimes might now be more of a problem than tariffs given the success of past tariff reduction rounds. Regulations of chemicals and pesticides was mentioned.

Discussant Remarks:

Geoffrey Hale, re: panels 1 and 2

Locating Micro-Policy Initiatives within Macro and Regional Governance Frameworks

A common theme of papers presented in this seminar is the challenge of integrating the effective management of flows in a variety of distinctive border crossing and “near-border” environments within the Department of Homeland Security’s broader mandate to secure borders, supply chains and broader systems. These systems structure flows of hundreds of millions of people, millions of trucks, and hundreds of billions of dollars worth of goods across America’s borders every year. This challenge has been formally recognized in the Quadrennial Homeland Security Review of February 2010, as noted by Kathryn Friedman and David Davidson. Gatherings such as this one provide opportunities to translate these commitments into practical ideas and then effective action by engaging and mobilizing the cooperation of stakeholders, initially in state and local governments and academia – and ultimately of other non-governmental organizations and the private sector. They demonstrate the vital linkage between effective policy and operational research and effective governance structures.

The papers presented in the first panel illustrate three different dimensions of the environment for effective border management. Hugh Conroy’s analysis of transition times for trucks and cars at the Blaine, WA border crossing – by far the busiest crossing between the Great Lakes and the Pacific Coast – focuses on two discrete operational dynamics of border crossings affecting both DHS front-line staff and border crossing staff.

Conroy’s “micro”-analysis provides two useful findings that complement published observations by front-line officers. First, there are significant variations in transition times in truck processing lanes that occur at fairly regular intervals – suggesting the possibility of staffing changes or other scheduled interruptions in the processing of travelers. (One union official advised a Congressional hearing in June 2008 that shift changes often resulted in a break of up to five minutes when officers rebooted their computers.) Secondly, there are significant variations in the processing times for truck transports of various kinds – most of which are subject to advance notice requirements for shipments they may be carrying – and for light cars and pickup trucks. Many drivers in the latter group have been characterized by Christopher Sands as “amateur” travelers: people crossing the border whose “risk” of criminal behaviour is undetermined and who may be less familiar with border procedures, thereby contributing to slower processing times.

These findings highlight the value of David Davidson’s proposal for the formation of regional Centers of Excellence that can serve as venues for commissioning and circulating research on effective border operations, and of Chris Sands’ call for DHS / CBP to cultivate a culture of Continuous Process Improvement in both local/regional and national contexts. As noted by Sands, providing front-line staff with both encouragement and incentives to suggest process improvements that meet broader organizational objectives is an important part of the process of quality management in all public service organizations.

Conroy’s findings complement William Anderson’s argument that “the proportion of FAST-qualified shipments may be inefficiently low from a system-wide perspective”. Professor Anderson notes several measures that have been taken to address the problem of the “common queue” for FAST and non-FAST registered shippers and trucking firms. His analysis overlaps with that of Anne Goodchild and Matthew Klein – noting the importance of the *near-border* environment, including

firm sizes, product mixes and the presence of non-border related bottlenecks that may reduce the marginal benefits provided by investing in FAST membership.

If Anderson's findings are based on his research on crossings in the Detroit-Port Huron corridor and the Niagara frontier, with their disproportionate number of shippers dependent on the automotive industry and other "just-in-time" applications, they apply even more strongly to crossings in the Cascade corridor – where Goodchild and Klein's study (and other research) notes that less than 10 percent of trucks use FAST rather than 'general purpose' lanes at the border. Differences between the Cascade corridor on one hand, and the New York and Michigan frontiers on the other are reinforced by the much lower prevalence of 'just-in-time' supply chains on the Pacific Coast, and the presence of major transportation bottlenecks at the Ports of Seattle-Tacoma and Vancouver (BC).

Anderson's suggestion that FAST-enabled traffic be funneled along specific corridors – based on the NEXUS-only restriction that has been implemented at Niagara Falls' Whirlpool Bridge – could be a viable option for addressing the problem of the common queue described in his paper, especially in areas of high population concentration in which bridge crossings create natural border bottlenecks. It could also provide a positive incentive, if at the margins, for encouraging more shippers to qualify for the FAST program. However, given the large number of small trucking firms whose business models do not make FAST a viable alternative, the suggestion of subsidizing their costs of coming into compliance is likely to face significant challenges based on equity unless combined with a series of complementary measures to address border facilitation.

This message is clearly conveyed by Goodchild and Klein's analysis of cross-border traffic flows and their interaction with market and regulatory incentives for the trucking industry. Some of these questions – such as the issues of vehicle weight limits and truck configurations – could be addressed through cross-border cooperation by neighboring jurisdictions, although allowing longer, heavier trucks and truck-trailer combinations on roads usually invites public controversy, especially in congested metropolitan areas. More vexing is the challenge of cabotage regulations, which must overcome deeply entrenched lobbies in both countries, and which is highlighted by their finding that more than 40 percent of southbound trucks at Blaine cross the border empty.

Professor Goodchild's research regularly highlights features of regional transportation markets which the relevance of regional particularities to understanding the border. In this case, it is the major disparity in the distribution of distances travelled by northbound and southbound truckers before crossing the border. However, her suggestion that empty trucks be banned from FAST lanes appears to work at cross-purposes with concerns related to the problem of the 'common queue'. If regulatory factors, over which individual trucking firms have little or no control, and industry-specific differences between cross-border shipping patterns, are the primary causes of the high proportion of "empties", a border-related tax large enough to "correct" the problem is likely to create other market distortions and unintended consequences which will need to be corrected by other policy measures. Thus, any changes in border-specific regulations should be integrated with a broader package of regulatory measures which address the (dis)incentive effects of regulatory measures in promoting greater productivity, environmental sustainability, and other relevant policy goals.

Taken together, these papers highlight the importance of understanding the U.S.-Canada border as clusters of different systems, which share some commonalities, especially with respect to security rules and internal operational considerations of DHS and CBP, but also significant differences in the

physical and broader market environments which structure patterns and incentives for cross-border flows of people and goods.

The interaction of these systems raises significant questions of governance: whether internal, as suggested by Christopher Sands' paper on Total Quality Management and Continuous Process Improvement, regional – as suggested by David Davidson's proposals for creating regional stakeholder forums, or national – as with Kathryn Friedman's proposal for a Northern Border Advisory Task Force.

They also point to the reality that there are no magic bullets in enhancing security or the facilitation of low-risk trade and travel on the border. Rather, we are assembling tool-kits that allow the adaptation of common principles of effective risk management and more cost-effective facilitation to widely varying operational environments. We owe no less to the men and women on the front lines, or to the millions of law-abiding citizens whose cooperation is necessary to make the border work for all of us.

Jason Ackleson, re: panel 2

Each of these papers addresses a key but relatively underemphasized mission of the Department of Homeland Security: trade facilitation. Until recently, DHS's overriding focus at U.S. borders was rooted in a national security paradigm that, many critics have argued, placed trade in a secondary position. There are signs this is changing under DHS Secretary Janet Napolitano and Customs and Border Protection Commissioner Alan Bersin. Perhaps the best articulation of this change is found in language in the recently released *Quadrennial Homeland Security Review* (QHSR) which emphasizes the compatibility of both trade and security. If this is a new trend, the papers are well-timed in their offering of policy-relevant solutions to advance reform.

Kathryn Friedman's paper takes a governance-oriented approach to address the security/trade tension at the U.S.-Canada border. This framework is emerging as a promising approach to both studying and implementing border security policy. Scholars increasingly suggest that border governance, often in play at multiple levels (such as state, regional, national, and international) and among multiple actors (law enforcement, private sector stakeholders, and others), is a more useful method of achieving security and trade goals. In its new focus on resilience, layered security, and collaboration, I detect recognition of this idea within DHS, both within and without the QHSR. On the ground, governance has been advanced in issue areas such as emergency response where planning and coordination between federal and state/local officials is much improved.

More, however, can and should be done. Governance measures that can be developed in a *cross-border* (US/Canada) fashion, in my view, are particularly important. This, I believe, is the only really substantive way forward to improving the way the northern border works; surely to address both trade facilitation and security, organizational change needs not only be focused inward, but *outward*—engaging our Canadian partners in more substantive ways on solutions such as shared border management. While all three papers focus largely on border governance *within* the US, their scope could be expanded to address practical cross-border governance measures that can be undertaken.

Those of us who live on U.S. borders and study them have long argued for a more coordinated, long-term vision for border policy. Friedman's call for this is thus appreciated. And, there are some good initiatives to do this underway—the Border Governors Conference, for instance, has recently issued comprehensive guidelines for the competitive and sustainable development of the U.S.-Mexico trans-border region. The non-binding guidelines identify concrete policy goals, such as logistical efficiency and coordinated infrastructure planning. Similar work for the US-Canada frontier would be welcome.

Friedman asserts that “to date, private sector voices do not have a seat at the table when it comes to northern border policymaking.” However, DHS has an Office of International Trade (within CBP) which seeks to integrate and balance the goals of trade facilitation and trade compliance. And actors such as the Canadian – American Border Trade Alliance have been actively involved in advancing commercial interests in border policy. While these and other organizations may not be as effective as they could be, they are at least part of the discussion.

Friedman's main suggestion—establishing a Northern Border Advisory Task Force—is a solid idea; I would only suggest the need for a wider, politically-backed effort to support such work, and this can be partly advanced by strengthening outside institutions and equipping them to advocate for better governance measures. On southern border issues, the Congressional border caucus, led by Solomon Ortiz and others, for instance, has been influential in a number of policy areas. The

northern border caucus or groups like the border legislative conference could be similarly strengthened in order to build political support for task force ideas.

David Davidson offers some very interesting commentary on DHS's Centers of Excellence (COE) program. This initiative, run from DHS' Science and Technology Directorate, seeks to develop science and technology solutions to homeland security problems through research-oriented university partnerships. Davidson is correct in his assertion that trade facilitation receives only cursory treatment in the existing COE program. Having worked with several COEs for a number of years, I would make a larger and more general point that they tend to over-prioritize technology over policy work in their research portfolios. This fact may explain part of why trade is neglected. Rather than a new Center—difficult at a time when this portion of DHS's budget is being cut—I would suggest integrating and refocusing existing COE priorities in this direction. While doing so, we need to make COEs work better, in terms of access to data, collaborations, and in integration with the wider DHS enterprise.

A refocused COE program could easily assist DHS, for instance, on the issue of trade facilitation. Addressing lengthy wait times at ports of entry is a longstanding problem that could be partly addressed through better data collection and analysis. CBP's current methods to estimate wait times—methods such as polling travelers—do not accurately track this problem. In addition, CBP does not currently calculate the economic impact of entry delays at POEs on trade or commerce nor can it adequately analyze how new developments and infrastructure improvements in Mexico or Canada will impact future traffic flows at U.S. POEs. This kind of analysis, which could be done with university partners in a COE, would be extremely helpful in enabling CBP to take steps to improve port infrastructure and allocate sufficient staff and resources in a *proactive* rather than reactive manner.

Finally, Chris Sands' call for DHS to implement Continuous Process Improvement (CPI) and Total Quality Management (TQM) is a welcome way to address organizational behavior at DHS. I do caution about the strict applicability of the CPI and TQM models to an enterprise like DHS which operates in a political environment unlike those contexts in the business world where these models have taken root. However, I agree with Sands that decentralizing decision-making and operations is probably one of most feasible ways this could be done. Other reforms, such as enabling front line officers to offer feedback to upper management on their immediate supervisors, also offer possible ways to improve performance. For these sorts of changes to happen, however, DHS needs to be flexible and willing to *learn*. This task is made simultaneously easier because the agency does not have a long history to undo but also harder in simply the scope of the agency: it has over 225,000 employees and deals with a range of tasks as diverse as oil spill cleanups and screening agricultural imports.

How can DHS change? Research on organizational learning suggests there are three main ways organizations behave and thus three main ways they can learn and change. First, since behavior is mainly based on routine, organizations match procedures to situations rather than calculate choices. Therefore, to learn, the routine of how DHS operates on the border needs to change. Second, organization actions are often history-dependent. Organizations tend to act based mostly on the past rather than the future. Therefore, to learn, organizations need to put aside history to do things differently. DHS's relatively short history makes this easier. Finally, organizations are oriented to targets. Behavior depends on aspirations for successful outcomes, e.g., meeting a target. To learn and change, the right targets must be set and resources dedicated to meeting them. Current leadership at agency suggests at least an openness to setting such targets and thus adjusting the orientation of its work. If this proves to be the case, the concrete policy steps outlined in these papers may find their policy audience.

Don Alper, re: panel 2

These three papers make suggestions on how to improve border governance. Each contains workable ideas for expediting the flows of commercial goods and services across the border. Governance at different levels is discussed. Katie Friedman points out how at the macro level DHS lacks an effective way to negotiate the interplay between security and economic interests. She proposes a border task force within DHS to focus on economic interests. Such a task force would presumably act to *insert greater economic considerations* into the design and formulation of policy that is predominantly influenced by security concerns—the heart of DHS’s mandate.

At the micro level, Chris Sands looks to Total Quality Management and CPI as organizational tools that could be used to increase efficiency and quality at the port level. By relying more on advice from line-workers and supervisors, port-level governance would be more pragmatic (in terms of adopting new methods proven to be workable), more adaptable to changing needs in both the security and commercial arenas, and more responsive to variable conditions extant in different regional settings.

David Davidson highlights a successful port-specific stakeholder forum, the International Mobility and Trade Corridor Project (IMTC), as a model of what should be created in the busiest crossings. He discusses a number of factors that contribute to IMTC success. The IMTC forum has been successful in facilitating projects which have improved mobility through the Cascade Gateway ports.

Katie’s proposed new northern border advisory task force is in concept an extension of other DHS advisory panels. But there is an important difference. All the others are keyed to security issues and problems. DHS’s mandate is to keep people safe. Keeping people safe has little or nothing to do with expediting commerce or improving the cross border trade environment. The mandate of DHS, as mentioned in the 2010 Quadrennial Homeland Security Review Report, does touch on commerce to the extent that DHS is to take care to “reduce unnecessary encumbrances to lawful travel and trade” and “prevent the exploitation of the interconnected trading system...” In this regard, DHS is mandated to consider the *effects* of the agency’s actions on commerce. Although important, considering the effects of commerce is quite different than having a voice in formulating border policy. The central question is how do you insert commercial values in a governance system where rewards and incentives pertain to success in keeping bad things out, not letting good things in?

Both Chris and David propose strengthening governance at the port-level through greater involvement of stakeholders. The solutions they recommend are quite different. Chris would strengthen port-level organization capacity by having CBP adopt TQM and CPI. Although adoption of these managerial practices could result in greater efficiencies in inspections and processing, it is not clear how these practices would be informed by commercial stakeholders. Specifically, how would local stakeholders such as local shippers, local chambers of commerce and business representatives such as tourism promoters, local political figures represent constituent concerns to CBP? What kind of outreach is needed to do this? Currently, there is very little outreach undertaken by enforcement officials to stakeholders.*

David’s solution—clone the IMTC forum at key ports—would boost regional capacity at these crossings. As he notes, such forums need focused problems to get traction. The IMTC forum got traction because of a long term stream of funding, competent leadership and most importantly its laser beam focus on cross border transportation planning which attracted interest from a binational policy community. Although not mentioned in David’s discussion, I suspect another factor in IMTC success is that benefits of actions go to many jurisdictions and interests on both sides of the

border. Its work results in non-zero sum outcomes and its benefits can appeal to both economic and environmental sectors.

While successful, the IMTC model has limitations. Its transportation focus may be too narrow for many stakeholders concerned about trade facilitation. Specifically, professional service providers—accountants, planners, consultants, etc—are likely to be more interested in the rules of crossing than the border operations or infrastructure that facilitate commerce. Another problem is size and efficacy. How large and diverse can a forum be before it loses its efficacy? A third issue pertains to both port-specific local stakeholder committees (Sands) and IMTC-type forums: How can a local, port-specific organization most effectively engage in “bottom-up” diplomacy to influence (or, in Sands’ words, to transmit best practices across the organization) the policy making process at the national level?

Finally, a federally funded COE focused on trade facilitation would support and augment efforts at both the micro and macro levels. Situating the COE in vital cross border regions would further elevate regional innovation in the overall governance equation.

*reported in D. Alper and B. Hammond, *Stakeholder Views on Improving Border Management*, Research Report Number 8, Border Policy Research Institute, December 2009.