

**DEFINING THE SOFT INFRASTRUCTURE OF BORDER CROSSINGS:  
A CASE STUDY AT THE US/CANADA BORDER**

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## **DEFINING THE SOFT INFRASTRUCTURE OF BORDER CROSSINGS: A CASE STUDY AT THE US/CANADA BORDER**

North American trade has been described as a deeply integrated continental system of supply chains that depends on an efficient and secure physical transportation infrastructure and a coherent system of regulations that affect cross-border trade. This trade region is unique in that the goods that flow across borders are not primarily finished products. Instead, they are parts and components that supply complex, cross-border production systems. For example, an automobile produced by a U.S. automaker crosses the border seven times, on average, during its assembly (Sands 2009). In the energy industry, heavy equipment manufactured in Mexico traverses Midwestern states in the U.S. to the Alberta oil sands, where oil is extracted and sent by pipeline to U.S. refineries. Hence, the key to understanding North American trade is recognizing that it is not so much that we *sell* things to each other; rather, we *build* things together (Blank 2008). While this high level of economic integration provides a strong foundation for trade, it also introduces a fundamental vulnerability to North American supply chains: Performance depends on efficient, consistent logistics operations at country borders. Speed and reliability are vital to international production networks. Delays and uncertainty at the border have the potential to disrupt complex supply chains that impact not only the economic prosperity of hundreds of communities in North America, but also the economic growth of the United States, Canada, and Mexico.

Investments to facilitate cross-border trade traditionally focus on the “hard” resources of the physical infrastructure such as roads, bridges, railways, pipelines, port facilities, and information and communication technology for customs clearance. However, studies of global logistics performance suggest that expanding the focus to include “soft” infrastructure resources will be critical for future gains (Arvis et al. 2010). Indeed, there is a higher correlation between the

quality of the soft infrastructure and performance than is the case for the hard infrastructure (Fung et al. 2006). While border management is increasingly important to North American trade facilitation, little is known about what constitutes the soft infrastructure of border crossings or how to design and manage this infrastructure for improved performance.

The purpose of this study is to investigate the *soft infrastructure of border crossings*, defined here as *the capabilities embedded in human resources, social structures, and business and regulatory environments of border crossings that facilitate international trade*. The research relies on a grounded-theory analysis of primary data collected in an exploratory case study of two border crossings between Montana, U.S. and Alberta, Canada. The following section sets the backdrop for the study by reviewing prior border management research, with a focus on the U.S./Canadian border. Then, the research method is described and results are presented. The paper concludes with a discussion of implications of findings for border management policy and practice.

## **BORDER MANAGEMENT**

There is no doubt that border management is a complex task. Effective border management requires extending the scope of coordination beyond customs to other agencies such as health, agriculture, quarantine, and police procedures across multiple countries (McLinden 2011). Hence, border management officials work in environments where the charters of various agencies and differences in national agendas often dictate contradictory objectives. Fundamentally, border crossings serve dual purposes. They are simultaneously *barriers* to ensure enforcement of regulations and *gateways* to facilitate international trade. While the traditional

enforcement role has broadened over time to include facilitation of legitimate trade, concerns for trade facilitation are typically secondary to the duty of control at the border (Phillips 2005).

International trade has experienced tremendous change in the past two decades due to three significant changes in the business environment. First, enhanced information visibility afforded by greater connectivity via the Internet in the mid-1990s allowed firms to re-engineer their supply chains to drive down costs by outsourcing processes, reducing inventories, achieving transportation efficiencies, and adopting just-in-time deliveries. These economic gains depend on a reliable transportation infrastructure (Korinek and Sourdin 2011). Increasingly, planning agencies at local, state/province, and federal levels recognize the importance to economic prosperity of robust multi-modal transportation networks connected by efficient gateways (Hodge et al. 2010; Sands 2009).

Second, the attack on the World Trade Center in 2001 precipitated a heightened vigilance at U.S. borders with accompanying increases in regulations that cascaded across the globe. Multiple layers of bureaucracy at country borders increase costs, lengthen delays, and increase uncertainty for clearance of imports and exports and are now seen as posing greater barriers to trade than tariffs (McLinden 2011). Such inefficiencies make a trading region less competitive by imposing costs that effectively levy hidden taxes on imports and raise the price of exports. Governments and agencies are responding to the problem of inefficient border management by investing in border management reform, with measures designed to make countries more competitive by removing unnecessary barriers to legitimate trade.

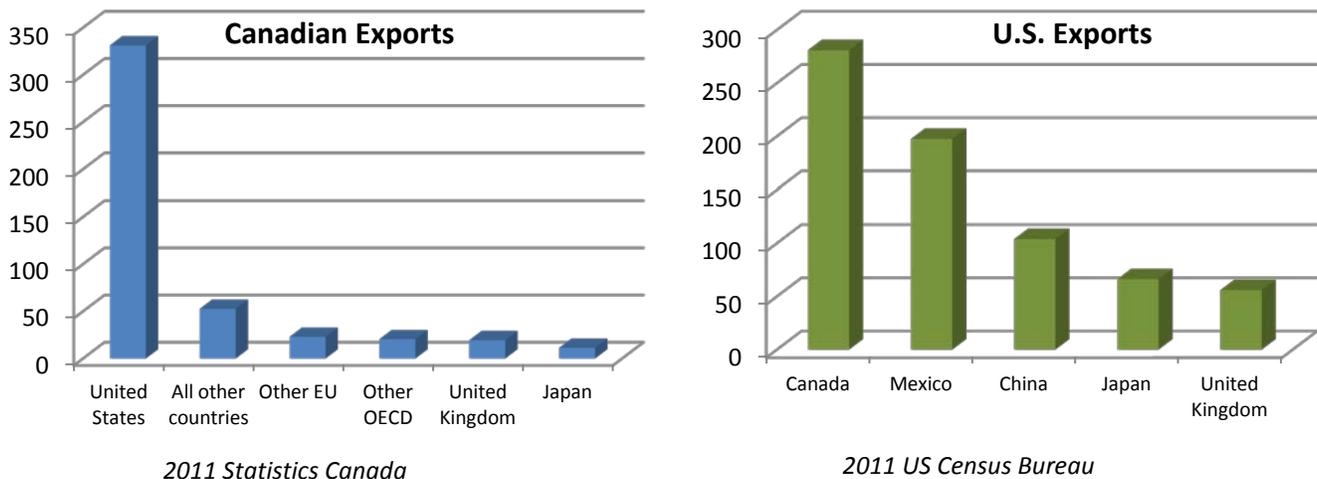
Third, the global economic recession that began in 2008, triggered by the collapse of financial institutions and subsequent downturn in global stock markets, resulted in the sharpest contraction of global economic activity in the modern era (McKibben and Stoeckel 2009). The

sharp rise in unemployment was accompanied by political action aimed at protecting domestic markets by increasing subsidies and border protection. The underlying causes of the recession and the accompanying government responses continue to “reshape the level and pattern of global trade” (McKibben and Stoeckel 2009, p. 2). One outcome of the shifting patterns of trade is a declining reliance on outsourcing to geographically distant trading partners in favor of returning jobs to local markets through inshoring or to nearby destinations through nearshoring.

### Canadian/U.S. Trade

The imperative for effective border management between the U.S. and Canada is evident in the volume of trade between the two countries. On average, \$1.7 billion a day in trade – more than \$1 million per minute – crosses the Canadian/U.S. border (Den Tandt 2011). The U.S. is Canada’s largest export market, and Canada is the U.S.’s largest export market (see Figure 1).

**Figure 1. 2011 Canadian and U.S. Exports (US\$ billion)**



The 5,525 mile Canada/U.S. border is often described as the largest open border in the world (Sands 2009). There are four distinct gateways on the border (Figure 2): (1) the Cascadian Gateway in the Pacific Northwest; (2) the Rural Gateway through the Plains region and Alaska/Yukon; (3) the Great Lakes Gateway, and (4) the continent-spanning Perimeter gateway

(Sands 2009). Commercial traffic is greatest through the Great Lakes corridor (75%), followed by the Rural Gateway (13%) and Cascadian Gateway (12%) (Bureau of Transportation Statistics 2011). Each gateway is comprised of multiple border crossings, which serve vital cross-border transportation corridors that connect businesses in the U.S. and Canada to suppliers and customers on both sides of the border.

**Figure 2. US/Canadian Gateways**



Canadian/U.S. trade has a long and occasionally fractious history, from ranchers grazing cattle across the boundary in the plains region, to cross-boundary production of armaments in World War II and automobiles in the post-war era, to the recent focus on developing North American energy resources. Governments in both countries recognize the interdependent nature of their security and economic prosperity as demonstrated in multiple free trade agreements, including the Canada-United States Free Trade Agreement implemented in 1989 and the North American Free Trade Agreement and Customs Modernization Act of the mid-1990s.

However, the events of 9/11 marked a pivotal shift in border management for the U.S. and Canada. The border closed for several days, with immediate economic impact on international supply chains. When the border reopened, firms were faced with tighter, more time-consuming

and costly security procedures. In response, Canada's Foreign Minister, John Manley, assembled a list of recommendations for improving border security management that provided the content of the U.S.-Canada Smart Border Declaration and Action Plan, adopted by Canada and the U.S. in 2001. By 2004, the Smart Border Action Plan was largely complete, yet there was still a concern that U.S. border management policies were a drag on economic growth.

Heightened security concerns in the post-9/11 era of global trade resulted in an emphasis on uniformity in U.S. border management policies, with "one-size-fits-all rules," that resulted in poor performance (Sands 2009, p. 2). To address this concern, the U.S., Canada, and Mexico joined in the Security and Prosperity Partnership (SPP) in 2005 to advance North American trade and economic growth while managing attendant security risks. While the mission of the SPP explicitly acknowledges the interdependency of security and economic prosperity, its working groups are segregated in two categories – security and prosperity – reinforcing the divide in border management between regulatory control and trade facilitation.

However, there appears to be a growing recognition at the national level that the dual goals of control and facilitation are not competing aims: "We've come to the realization that we don't have to make a choice between security in North America on the one hand and trade and efficiency at the border on the other hand," said the U.S. Ambassador to Canada, David Jacobson, in a recent speech in Ottawa (Kennedy 2011). Indeed, a landmark agreement between the U.S. and Canada, "Beyond the Border," sets forth a shared vision for perimeter security and economic competitiveness. The agreement focuses on coordinating border management processes to achieve more efficient clearance for trade and, thereby, free up resources for targeting high-risk traffic that poses a security threat at the U.S./Canadian border (U.S. Office of the Press Secretary 2011). At the grass-roots level, informants in this study report their

knowledge about how improvements in the soft infrastructure can provide a way forward in facilitating legitimate trade while ensuring regulatory control.

## METHOD

Two Canada/U.S border crossings from the Rural Gateway region were selected for this case study: Coutts/ Sweetgrass and Wildhorse. These crossings are located approximately 100 miles apart on the eastern section of the border between Alberta and Montana (Figure 3). These crossing were chosen because they are located on the Ports-to-Plains multi-modal transportation corridor that links Canadian, U.S., and Mexican markets. In addition, the two ports have significantly different characteristics, as described subsequently.

**Figure 3. Ports-to-Plains Multi-Modal Transportation Corridor**



## Sample

Interviews with key informants, observation of border traffic and operations, and examination of relevant documents provided the data for the study. Perceptions of border management were collected in interviews with 34 key informants, including government

officials, economic development officers, business owners, and border crossing employees (see Table 1). Theoretical sampling was used to identify informants. The aim of theoretical sampling is to “maximize opportunities to compare events, incidents, or happenings to determine how a category varies in terms of its properties and dimensions” (Strauss and Corbin 1998, p. 202). The researcher samples the properties and dimensions of the conceptual categories under varying conditions looking for similarities and differences in order to densify categories, to differentiate among categories, and to specify their range of variability (Strauss and Corbin 1998). Sample size is determined as the study progresses. The goal is to reach theoretical saturation, that is, the point where reports of the phenomenon are redundant and analysis of additional data would offer no new theoretical insights.

**Table 1. Key Informant Profile**

<b>Number</b>	<b>Description</b>
3	Border Crossing Employees
16	Business Owners, Ranchers, Farmers
2	Chamber of Commerce Officials
10	Economic Development Officers
3	Elected Officials

### **Data Collection**

A semi-structured interview protocol was used to guide interviews (Table 2). Interviews were conducted in a mixture of one-on-one and small group settings and ranged from 45 minutes to over 3 hours in length. Initial interview questions were purposefully broad and were not always asked in the same sequence. As data collection progressed, questions with a higher degree of focus were added as theoretical sampling adapted to emergent findings (Strauss and Corbin 1998). Some consistency in the interview questions was required as data collection progressed in order to facilitate systematic comparisons of categories; however, it was also

important to maintain flexibility in the interview format in order to allow informants the opportunity to offer information unconstrained by interview questions.

All interviews were conducted on-site by the principal investigator. Site visits are the preferred method for this type of research because face-to-face interviews in a natural setting provide more information in the way of visual cues and observations of the setting.

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**Table 2. Interview Protocol**

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1. When you think about commercial shipments across the border, what are some things that are working well? What are some difficulties?
  2. How efficient is the clearance process (i.e. speed, simplicity and predictability of formalities) by border control agencies?
  3. What is the overall level of quality of services at the border?
  4. What is the overall level of competence of border personnel?
  5. Is it getting easier or more complicated to comply with requirements (i.e. screening, advance information) when arranging shipments?
  6. How often do you experience delays? Why?
  7. How many government agencies, including customs, do you typically deal with for imports? For exports?
  8. Regarding interactions with these agencies, are you and your peers invited for dialogue about resolving issues or making improvements through formal or informal processes?
  9. Are things getting better or worse with regard to moving goods across the border?
  10. What would you like to change?
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### **Data Analysis**

Interview transcripts, researcher memos, photographs, and documents were loaded into a software tool that facilitates systematic coding and analysis of qualitative data (QSR International 2011). The data were analyzed using a grounded theory approach. Grounded theory is a research methodology by which theory is derived from data that are systematically gathered and analyzed throughout the research process (Glaser and Strauss 1967; Strauss and Corbin 1998). The analysis is a comparative process whereby the researcher jointly collects, codes, and analyzes data, allowing theory to emerge from the data. Comparative analysis for

theory generation involves an iterative process of generating conceptual categories based on the evidence, comparing those categories to concepts from prior research, and circling back to refine the conceptual categories based on comparisons. The objective of grounded theory methodology is not to provide a perfect description of a phenomenon, but to develop a theory that accounts for much of the relevant behavior.

## **RESULTS**

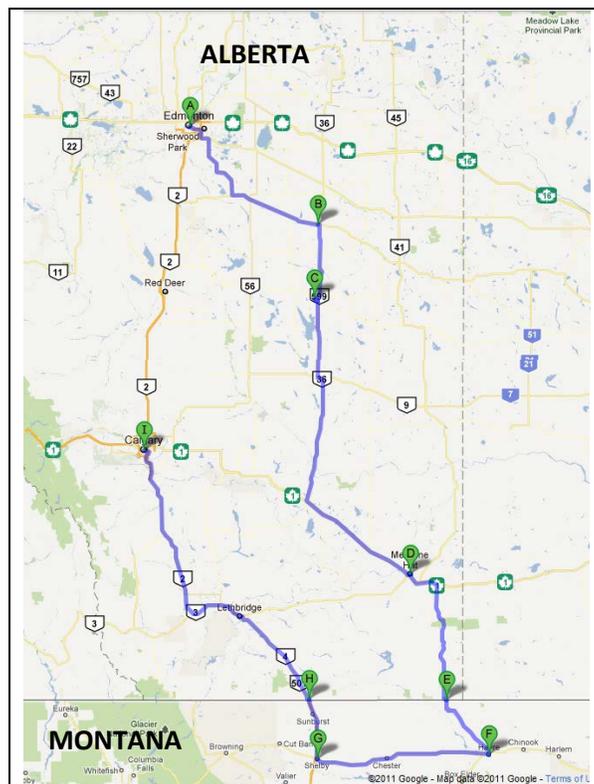
### **The Research Context**

A 2010 study conducted on behalf of the Montana Department of Transportation describes the nature of commercial traffic at the Alberta/Montana border (Hodge et al. 2010). Canada is Montana's largest foreign export market with the value of 2010 exports at \$5 billion (U.S. Census Bureau 2011). At the same time, the U.S. is Alberta's largest market, accounting for 87% of Alberta's exports, or about \$64 billion in trade (Government of Alberta 2011). Energy-related products comprise the vast majority of trade (about 75%), with the remainder in forest products, metals, and chemicals. Of this total, 33% was carried via truck, while 62% was transported by pipeline. The vast majority of truck imports from Canada originate in Alberta (77%). Southbound traffic is slightly higher than northbound traffic (Bureau of Transportation Statistics 2011).

The field study began in Edmonton, Alberta for a broad view of Canadian/U.S. trade provided by trade commissioners and economic development officers. The next stops were in Killam and Castor, two small towns along Highway 36, to talk with business owners and elected officials. I followed Highway 36 – also known as Veteran's Memorial Highway – through farmland and ranches from Castor to Medicine Hat. From Medicine Hat, I crossed the border at

Wild Horse on a weekday morning and travelled to Havre, Montana, then went on to the border at Coutts/Sweetgrass in the afternoon of the same day. I returned to Shelby, MT for evening meetings. I crossed the Coutts/Sweetgrass border again the following morning and journeyed on to Calgary (Figure 4).

**Figure 4. Field Trip Route**



### **Crossing the Border**

The two border crossings were markedly different in their facilities, traffic patterns, and staffing. At Wildhorse, traffic was very light with no wait times. One of the two U.S. Customs and Border Protection (CBP) officers on duty conducted a tour of the facilities. At Coutts/Sweetgrass, personal and commercial traffic was moderate and steady with wait times of only a few minutes in both directions. The CBP personnel conducted the tour of the facility.

### **Wildhorse Border Crossing**

Wildhorse (Figure 5), one of the lowest volume ports between the U.S. and Canada (Bureau of Transportation Statistics 2011), opened a new facility in 2011 on the U.S. side of the port. The two-lane port connects Alberta Highway 41 and U.S. Highway 232. Port hours vary by season, given the low traffic volume and heavy winter snowfall. During summer hours, observed from April through October, the port is open every day from 8:00 am to 9:00 pm. From November to March, the port opens at 8:00 am and closes at 5:00 pm. U.S. commercial services are offered until 9:00 pm during summer hours, while Canadian services are available only until 5:00 pm. There is an ongoing effort by business and community groups on both sides of the border to make Wildhorse a 24-hour port.

**Figure 5. Wildhorse Border Crossing**



### **Coutts/Sweetgrass Border Crossing**

In contrast to Wildhorse, Coutts/Sweetgrass is a state-of-the-art joint facility opened in 2004 that houses both U.S. and Canadian border operations (Figure 6). The Coutts/Sweetgrass border crossing is by far the most heavily travelled port between Montana and Alberta and the only 24-hour commercial crossing (Bureau of Transportation Statistics 2011). Secure traveler

identification provided by NEXUS for individual travelers and *FAST* for commercial drivers are accepted in all five lanes into the U.S. and in specific lanes into Canada during key hours. The crossing connects U.S. Interstate 15 with Canadian Route 4, a high quality two-lane roadway that connects the border crossing to major Canadian cities such as Lethbridge, Calgary, and Edmonton.

**Figure 6. Coutts/Sweetgrass Border Crossing**



### **THE SOFT INFRASTRUCTURE OF BORDER CROSSINGS**

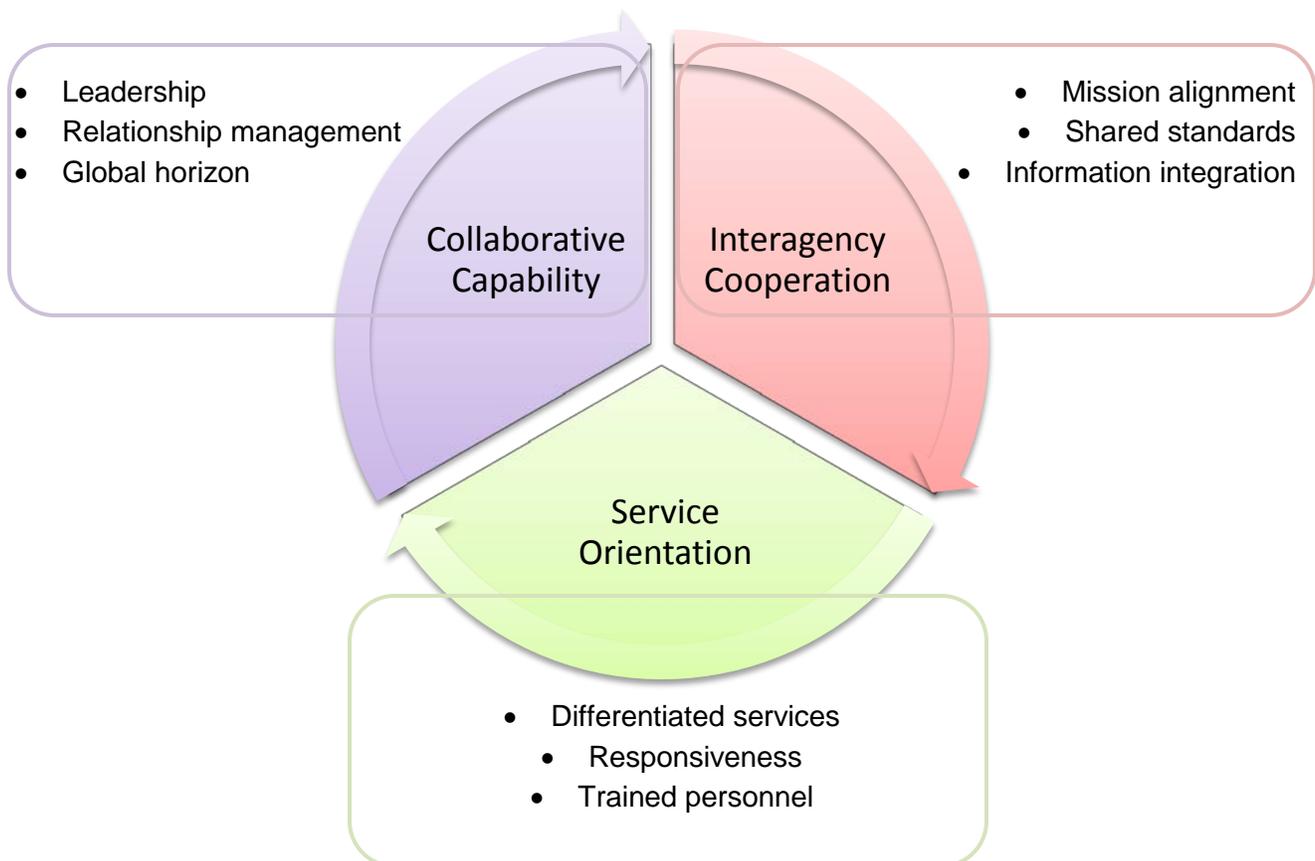
Conversations with informants about cross-border trade inevitably came around to discussions about the fundamental nature of borders and border management: “So ... what is a border? It is a semi-permeable membrane that allows, by osmosis, things to go back and forth,” said one informant. Other informants described the border as a “boundary” or, more pessimistically, as a “wall.” Informants were keenly aware of the relationship between the efficiency of border management and the economic health of their communities, province/state, and nation:

You know, this country [Canada] was built on transportation. We’re too big not to have transportation involved in everything that we do. Our products need to be transported.

We're landlocked; we need to get it to port so we can sell it. ... We need to get our politicians onboard with that.

Data analysis identified three key themes that describe the dimensions of the soft infrastructure of border crossings: (1) collaborative capability; (2) interagency cooperation, and; (3) service orientation (Figure 7).

**Figure 7. Dimensions of the Soft Infrastructure of Border Crossings**



### **Collaborative Capability**

The most prominent theme in the interview data is the importance of collaboration between government agencies responsible for border management and the business community.

Collaborative capability is defined as the set of competencies embodied in people and embedded

in processes that support working together to achieve common aims. Informants were aware that collaboration requires concerted effort not only on the part of government, but also by the business community. Indeed, the business community played a large role in initiating the joint facility at Coutts/Sweetgrass: “So, we pitched the new border station at Sweetgrass, and it’s the first one in the United States built on the border...and why not put it on the border and save [money for] both countries?” Collaborative capability requires competent leadership, skilled relationship management, and a global horizon.

There is a keen recognition that the capability to collaborate requires *competent leadership* on the part of government officials: “So, leadership makes a difference, which this is about. Leadership makes a difference.” Leadership from top officials is seen as “the only way it’s [improved border management] going to happen, is if the politicians make it happen; the bureaucrats certainly aren’t going to.” Competent leaders were described as those who actively listen and respond to the needs of business:

That’s probably been our hardest blockage - the political will to listen to what the grass roots people know. It’s like me this morning going out to the next door neighbor. His road is running over [with water] and he knows exactly why it is, because it’s blocked back there in the ditch they dug 20 or 25 years ago. I don’t know that, but he can tell me. So, we listen to him, and we can fix that problem. Whereas, these guys [government officials] go in there, and they go, “We’ll look at this,” and the rest of us get left in the dirt.

In addition to government leadership, competent business leadership is also critical to collaborative capability. Competent business leaders are described as clear communicators who can motivate others to action:

The leader really has to sprinkle that “dragon’s dust” on it, to make sure that people understand and we get past the frustration and pain, and people start to generate respect, and they do it [take action].

Collaborative capability also requires *skilled relationship management*: “[An economic development officer] was an exceptional leader because – she’s really smart, and I have a lot of respect for her – she worked on the relationship, the relationship, the relationship.” Informants emphasized the importance of face-to-face interactions for developing and maintaining trusting relationships. For example, business owners are reluctant to extend trusted partner status without face-to-face interactions: “You don’t bet your mortgage and the payroll of your 75 staff in Alberta on just a bunch of conference calls or Skype.” Communication technology is important, but is an inadequate substitute for “sitting across the table and feeling the energy” of potential partners. The recent “thickening” of the border for personal travel makes it more difficult for engaging in face-to-face interactions. Thus, some firms are locked out of business opportunities because they lack the means for developing relationships: “So, here I’m a viable supplier or vendor, but I don’t have enough interpersonal relationships to cross the trust area.”

Finally, an unexpected dimension of collaborative capability emerged in repeated discussions of the need for a *global horizon*, described the ability to see beyond local interests to identify the community’s role in international trade: “Some are like, ‘I want a little chunk of the profits here; I want to run him [a trucker] through my town.’ No, no, get beyond that.” This broader horizon is evidenced in multiple, grass-roots initiatives on both sides of the Alberta/Montana border that are working to improve border management in order to ensure the prosperity of their communities. North of the border, organizations such as BRAED (Battle River Alliance for Economic Development), the Veterans Memorial Highway Association, and Alberta Hub bring community leaders together to plan for regional economic development by leveraging access to the cross-border transportation infrastructure. South of the border, the Highway 2 Association advocates for expanding this east-west corridor from 2 lanes to 4 lanes to

accommodate the high and wide loads that support the agriculture and energy industries of the region.

Reasons for the lack of a global horizon included concerns for loss of status. Informants reported that some “people are afraid of having diminished authority” if they combine forces to work for changes that would benefit the larger community: “I think that people fear losing that one nut that they have. You know, ‘the bird in the hand is worth two in the bush?’” Another challenge is the very real concern for loss of jobs due to international trade:

Why the heck would I want to trade, when I do what I’m told, what I’m supposed to be doing, for the good of the company, the good of the nation, or whatever, and my reward is downsizing?

The significance of collaboration is clearly articulated in the concept of collaborative border management described by Doyle (2011). Collaborative border management aims to increase voluntary compliance with regulations through engagement between regulatory authorities and the business community. Doyle distinguishes collaboration from the more intrusive concept of integration, which threatens notions of national sovereignty, and the less effective notion of coordination, which leaves in place ineffective and/or duplicative processes. The concept of collaborative border management arises from the desire for agencies and the international community to maintain their own organizational mandates and integrity as they work toward the common goal of assuring border security while providing more efficient service. A key component of collaborative border management is intelligence-driven risk management, which requires a high level of information integration and visibility across agencies. Collaboration requires improved interagency and intergovernmental working arrangements, described in the following section as “interagency cooperation,” the second dimension of the soft infrastructure of border crossings.

## Interagency Cooperation

Interagency cooperation refers to the extent to which agencies within a country and across country borders work together to improve border management. *Mission alignment* is critical to interagency cooperation. Herein lies a significant challenge and opportunity for improving U.S./Canada border management. Consider the rather lengthy mission statement of the U.S. Customs and Border Protection retrieved from the CBP Web site (U.S. Customs and Border Protection 2011):

We are the guardians of our Nation's borders.  
We are America's frontline.  
We safeguard the American homeland at and beyond our borders.  
We protect the American public against terrorists and the instruments of terror.  
We steadfastly enforce the laws of the United States while fostering our Nation's economic security through lawful international trade and travel.  
We serve the American public with vigilance, integrity and professionalism.

Written in 2009, the CBP mission strongly emphasizes security over trade facilitation, using words such as “safeguard,” “protect,” and “enforce.” International trade is given only a brief mention in relationship to “fostering our Nation's economic security.” In contrast, the Canada Border Service Agency's (CBSA) mission statement is one sentence: “The Canada Border Services Agency works to ensure Canada's security and prosperity by managing the access of people and goods to and from Canada” (Canada Border Services Agency 2011). The focus on security and prosperity are intertwined in this statement, and the goal is to “manage access” for people and goods. Unfortunately, the CBP and CBSA mission statements are poorly aligned in their underlying assumptions about the relative importance and nature of trade facilitation.

Informants reported a lack of mission alignment as a key issue for border management, not only between countries, but across agencies within countries: “The [Canadian] government

ministries are not that cohesive. They are really quite independent. And they are not really on the same page. They are looking east-west [across Canada] instead of north-south [Canada to U.S.].” The result of the lack of interagency mission alignment was evident at Coutts/Sweetgrass where trucks queued in the pre-dawn hours in order to clear veterinarian or food inspection when inspectors arrived at 8:00 am. While the aim is to provide a 24/7 border crossing, the staffing plan effectively limits the hours for most commercial traffic at this port to the hours observed by inspectors.

Developing *shared standards* between the U.S. and Canada is raised as an important issue for increasing interagency cooperation. However, the goal of harmonizing standards is questioned by informants:

There’s an issue around standards ... Canada would have to harmonize with the US. It’s not going to work. It’s cooperation – recognizing differences and then cooperating by respecting the way they do things.

The ambitious goal of adopting identical standards and procedures overlooks the deep-felt need by agencies on both sides of the border to maintain their own identities and protect the sovereignty of their governments (Barry and Bratt 2008; Hale 2007). Doyle (2011) suggests that agencies should first identify commonly held desired outcomes, such as increased regulatory compliance or reduced counterfeiting, and then map existing processes to those outcomes in ways that satisfy the different needs of various stakeholders. Thus, measuring progress toward shared outcomes, rather than using process or output measures (e.g., time spent at the border, number of transactions), shows greater promise for identifying opportunities to improve trade facilitation at the border.

Tracking progress toward shared standards requires *information integration*. Progress in this area is seen with the adoption of the *FAST* program. Both border crossings in the present

study are equipped to receive pre-clearance information provided by the *FAST* program, which is reported to be working well in terms of decreasing the time spent at the border crossings.

Intelligence-driven risk management allows border agencies to carry out pre-arrival and pre-departure identity assurance for trusted traders, thereby allowing more time and attention for intervention with higher risk shippers (Doyle 2011). A robust, integrated information system is a pre-requisite for achieving the level of interagency cooperation that will support the move away from clearance at physical borders toward clearance at the virtual border.

### **Service Orientation**

The final theme is the importance of a service orientation to effective border management. Service orientation is described as a commitment to understanding the needs of various user groups and customizing services to match their needs. Service orientation is rooted in the understanding that different users have different needs. Therefore, having uniform procedures for all users is less effective compared to an approach that allows *differentiated service* based on user profiles. In practice, border personnel acknowledge that most of the travel and trade across the border is legitimate: “Most of the people coming through here are on legitimate business and are not a problem.” Yet border policies constrain border personnel from providing different levels of service based on the known level of risk: “There are a lot of people in certain political appointments that don’t understand what’s going on here.” Border agencies continue to use a transactional approach, where each shipment is assessed individually, rather than a relationship management approach that distinguishes known, trusted users from those who are unknown and/or present a higher level of risk.

The key to adopting a responsive service orientation is to partially decentralize border policy management and thereby enable problems to be identified and resolved with greater precision and sensitivity to regional concerns (Sands 2009). Grouping users by profile enables border agencies to tailor information and services to the needs of customer groups, such as dedicated information portals, account managers for large business customers, or specialized industry clearance processes. Trusted users would earn streamlined border clearance and could be allowed to discharge regulatory obligations in a differentiated way, such as pre-arrival clearance processing, post-clearance periodic self-assessment, or direct connection with trader information systems (Doyle 2011).

Implementing differentiated services that are responsive to the needs of various types of users requires well-trained front-line *personnel* who embody the service orientation of a border crossing. In the eyes of users, border management is only as competent and reliable as the person who represents it:

The ones [CBP personnel] that are forced up here are ... the ones that they're having the most trouble with....It makes a difference if it's somebody that wants to live in this part of the country, rather than someone who is forced to live in this part of the country. That guy at Wild Horse is probably one of the nicest ones in the country.

This assessment of the Wildhorse officer was observed first-hand in the tour of the Wildhorse port. He was well-versed in the type of commercial traffic through the port and recognized the needs of various types of users. For example, he produced a sheet of information for truckers about overnight accommodations and restaurants in the towns across the border. Skilled, experienced border management officials are the driving force in implementing a service orientation at border crossings.

## CONCLUSIONS

Results from this study suggest the soft infrastructure of border crossings can be conceptualized as a three-legged stool, supported by collaborative capability, interagency cooperation, and service orientation. All three legs are necessary for a sturdy infrastructure. Collaborative capability is comprised of competent leadership, skilled relationship management, and a global horizon. Collaboration calls for shifting the focus of border management from administering transactions toward managing relationships with trusted partners. Collaborative border management lowers the overall cost of border management by encouraging voluntary compliance while enhancing security. At the same time, collaboration benefits business by reducing delays and uncertainty.

Interagency cooperation is defined as the extent to which agencies within a country and across country borders work together to improve border management. Cooperation requires mission alignment, shared outcomes, and information integration. The first step in attaining interagency cooperation requires getting border management agencies on the same page in terms of their missions as they relate to trade facilitation. The next step is to develop a common understanding of shared outcomes that serve as organizing principles for rationalizing procedures. The final step to enabling cooperation is to link multiple agency databases in an information portal that provides a single view of the trade customer.

Service orientation is a commitment to understanding the needs of various user groups and customizing services to meet their needs. Service orientation requires providing differentiated services by competent, reliable front-line personnel. Adopting a service orientation may require partial decentralization of border management to allow solutions that are responsive to local conditions.

Considering the soft infrastructure of border crossings as a way forward requires a shift in thinking about how we define good border management. To make it work, performance measurement of port officials and government representatives should include assessments of their efforts to improve the soft infrastructure by developing collaborative capabilities, strengthening cooperative interagency relationships, and adopting a service orientation. Cultivating the soft infrastructure holds promise for improving trade facilitation while increasing voluntary regulatory compliance, thereby achieving the dual goals of controlling and facilitating movement of goods and people across the border.

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