HARVARD Kennedy School
BELFER CENTER
for Science and International Affairs

Reducing Transaction Costs at North America's Borders

By Nate Bruggeman and Ben Rohrbaugh

March 20, 2018

The North American market is a significant driver of U.S. economic activity and competitiveness. Mexico and Canada are the United States' two biggest export markets, making up over a third of overall U.S. exports valued at more than $580 billion[i]. Imports from both countries contain far higher proportions of American content than goods that are imported from Asia or Europe.

Nonetheless, and even recognizing the new era of North American trade created by the North American Free Trade Agreement, there are still significant logistical constraints to commercial flows within North America, with the result that the United States, Mexico, and Canada are effectively leaving money on the table in terms of competitiveness and job growth. And many of these constraints are tied to the efficiency of the countries' ports of entry.

Estimates of the economic costs of delays at the border are significant. A 2011 estimate by Canadian academics put the cost of delays on the northern border at up to $30 billion[ii], and regional estimates for Michigan/Ontario and San Diego/Tijuana have put the costs at $6.9 billion[iii] and $7.2 billion[iv], respectively.

These estimates, however, are based on existing trade flows, which are strongly affected by the barriers and disincentives caused by border transaction costs. In the article *National Borders Matter*: *Canada-U.S. Regional Trade Patterns,* John McCallum[v] demonstrated how cross border trade flows between U.S. states and Canadian provinces were dramatically lower than what would be expected based on the size of markets and population. As an example, Quebec and Ontario traded three times as much with British Columbia as they did with California, whereas given the size of the market and the comparable distance trade with California would be expected to be ten times greater. With the shift in flows that could occur absent these distortions, the impact to economic growth caused by cross-border delays could be even higher than the estimates.

These inefficiencies are not because of arbitrary processes or because of any failure of the border management agencies – North America's border management agencies are among the best in the world. Instead, the bottlenecks at the physical borders are due to the combination of stringent post-9/11 security requirements and infrastructure that in many cases is over 40 years old and which was not designed for the current volumes of trade or the current security environment.

Given the clear benefits to economic and job growth, how can transaction costs be reduced at the border? This paper makes two propositions:

1. By applying the lessons of supply chain theory, the United States should be able to substantially improve cargo processing processes to better use our existing infrastructure and vastly sped throughput at the border.

2. American port infrastructure still must be updated and improved, and, given the likely inadequacy of congressionally appropriated funds for the foreseeable future, governments should prioritize supplementing funding with private investment and other alternative sources of financing.

Improving current utilization of port-of-entry infrastructure through the application of supply chain theory

The most immediate way to reduce transaction costs at the border is to more efficiently manage our existing border-crossing infrastructure with the aim of increasing throughput while maintaining security standards. To make the best use out of our existing infrastructure, current processes must be reconsidered comprehensively, rather than port by port. Currently, border crossings tend to operate independently and often in competition with each other for toll revenue and traffic. By treating cross border flows of goods as steps in manufacturing processes and considering the benefits of coordinating operations at multiple crossings to improve overall efficiency, we can apply some of the lessons of supply chain optimization techniques to border crossings.

Cross border flows of goods are dependent processes, meaning that steps have to be taken in a certain order—for instance, a truck cannot cross the border with goods before the goods are loaded. Because of the set sequence of events, a small number of steps with the largest time variations have a disproportionate effect on the overall processing duration. These steps become bottlenecks that cause larger proportions of the overall delays than might be intuitively obvious. This is because negative variations, or delays, can continue to compound without limit, while the impact of positive variations at subsequent steps is limited by capacity. An example of this at the border: if a truck is delayed four times longer than usual at the port of entry because of an unexpected security issue, it cannot just drive four times as fast to the next step in the process once it has crossed. The whole chain of dependent events has been permanently pushed back.

Over time the overall throughput ends up reflecting the accumulated negative deviations; put differently, the negative variations can come to dominate the process. When reviewing operations at a factory, bottlenecks can be identified by the significant backlog of work in progress that builds up before the bottlenecks. At the border, the bottlenecks are the ports of entry and the "work in progress" backups are represented by the long lines of trucks waiting to cross every day.[vi]

Applying this analytical approach to cross border commercial traffic leads to the following conclusions:

1. Improvements in throughput at the ports of entry will disproportionately speed the overall time it takes to transport goods. In other words, speeding processing at the port of entry should be the overriding priority in the transportation process. If a measure can be taken at any step of the transportation process that speeds crossing through the port of entry, that measure should likely be implemented even if the measure itself creates some inefficiency.

2. Any processing that is currently done at the ports of entry that could be moved to different stages in the cross border movement of goods could result in speeding overall supply chains.

The most effective way to speed processing at the ports of entry has been through risk segmentation, which is the process of separating out goods and people crossing the border using advance information so that inspection resources are directed at the highest threats or unknowns. Combining risk segmentation with the conclusions above has significant implications for cross border processing. By expanding the segmentation of traffic, and taking additional steps to speed the actual processing at the border, even if it means additional requirements or delays at other points in the process, the overall throughput could be increased.

Approaches to border processing must recognize legal and operational requirements, the most critical of which is that inspection at the border cannot be eliminated or wholly avoided. The problem that has

stymied many of the previous proposals to speed crossing at the ports of entry has been that they focused on goods being pre-cleared in Mexico or Canada and bypassing entirely any inspection at the border. Given the difficulties with establishing a secure corridor in which to move cleared goods through border towns and the limitations on U.S. Customs and Border Protection (CBP) officers and U.S Immigration and Customs Enforcement (ICE) agents operating in other countries,[1] these proposals have been unsuccessful. A new approach needs to recognize that 1) any goods that are going to move across the border must do so through an existing port of entry and no new ports will be created outside of the current lengthy process and 2) CBP will retain the right to a further inspection of any goods or conveyances that cross the border in its discretion. A blanket guarantee of no inspections at the border is simply unfeasibly given CBP's national security and law enforcement responsibilities.

Important steps have already been taken to establish programs consistent with this new approach. The trusted traveler and trusted trader programs have been the leading efforts to segment traffic, and have inspired customs and immigration services around the world to set up similar programs. The pilot pre-inspection programs at Otay Mesa/Mesa de Otay and Santa Theresa/San Jeronimo move agricultural and primary inspections to locations adjacent to the border on the Mexican side so that they can then move quickly through the port of entry and only be stopped if it is determined that a secondary inspection is required. There are also a number of ports of entry where certain types of traffic that can be processed quickly, such as empty trucks or students crossing at set times daily, are separated out from the larger flows.

To build on these efforts, examples of steps that could be explored include the following:

- Performing non-security inspections away from the physical border—e.g., agricultural or immigration inspections—building on the pre-inspection pilot programs.

- Moving steps in the inspection process to the drayage lots, which consolidate goods for border crossing, or other logistical consolidation points.

- Set designated times to move certain commodities at certain ports and expediting traffic moving those commodities—essentially having certain groups of crossers wait away from the port rather than in line on congested bridges.

- Separating traffic that can be processed more quickly, especially FAST, SENTRI, or RFID-enabled crossers, much earlier—before it arrives at Mexican ports—and keeping it separated throughout the inspection process. This would essentially increase the benefits for known/trusted travelers who can be processed more quickly at the expense of other traffic.

- Designating specific ports of entry for only one kind of traffic that can be processed quickly at certain times. For example, having all southbound empty trucks in a region cross at a certain port at a specific time, while other cargo is funneled into different locations. This further allows for specialization at particular ports, enabling more efficient processing of the cargo.

- Instituting a process through which shippers can make appointments to cross at specified times and receive front of the line privileges in return for advance information.

[1] The carriage of firearms by U.S. law enforcement in Mexico and Canada is one of the most notable examples.

- Allowing trucks with double trailers to cross at every cargo port of entry, reducing the number of immigration inspections that must be done per truck.

- Deploying radio frequency identification readers further ahead in the lines so that officers at the booths and in targeting centers have more time to identify and resolve any concerns or possible watch list matches as early as possible.

- Radiation testing trucks and resolving positive readings before they cross the border (possibly in the Mexican export lot) so that officers at the U.S. ports of entry are not spending time addressing false positives on goods like kitty litter and ceramics.

These ideas are a starting point for reorienting the discussion and would need to be evaluated by industry and CBP, but they demonstrate the types of things that could alleviate some of the congestion at ports of entry. Implementing these and/or similar reforms would need significant, and potentially difficult, coordination between Federal, state, and local government, as well as industry. However, given the costs to industry of current delays and the opportunity that exists to enhance North American competitiveness, some initiatives involving difficult coordination should be on the table.

Financing improvements to our cross-border infrastructure

Improving utilization of current infrastructure may lead to substantial improvements in cargo throughput, but even then, our infrastructure would still be in dire need of modernization and expansion. CBP has identified a $5 billion deficit in improvements to existing infrastructure alone. When combined with the high priority new projects that have been identified through the regional master planning processes, it is clear that the traditional approach to funding border infrastructure—appropriated funds from the national governments—will be inadequate.

Alternatives are in place, however, to fill this gap. There have been a number of recent regulatory and legislative changes that could enable more innovative approaches and increased private investment in infrastructure. CBP's 560 and 559 donation acceptance authorities have allowed outside entities to cover staffing costs and make property and equipment donations that previously would not have been possible.

The U.S. Government has also now established a national prioritization system for infrastructure investments within the United States, which uses whole-of-government analyses and data that includes economic impact estimates and freight flow projections. This U.S. process builds upon the work done to establish binational regional master plans along the southwest border. The southwest border infrastructure planning process brings together all key federal, state, local and private sector stakeholders binationally in five regions, establishes a neutral voting and ranking criteria, and decides on ranked priorities by region.

These have been important steps, but they are only the first parts of what must be done to rationalize, modernize, and enhance our border infrastructure. The steps below should be taken to build on the successes that have occurred thus far:

1. The United States and Canada must establish a formal regional master planning mechanism to mirror the process that now exists on the southwest border. The Beyond the Border Initiative took a first step towards such a process through the Border Infrastructure Investment Plan. However, this effort only included federal stakeholders and did not prioritize projects., A regional master planning mechanism is necessary to create a comprehensive way for stakeholders to provide input into the federal planning processes for infrastructure.

2. Canada and Mexico should develop their own data driven prioritization process, along the lines of what the U.S. Government has done. The data and analyses that inform decisions should be shared bilaterally both to better inform the processes and help each country understand the basis for their counterpart's priorities. As this suggests, the imperative to share applies to the United States as well as its partners.

3. The United States and Mexico, and the United States and Canada, need to establish an annual process to develop joint priorities based on their internal prioritization councils. This could be housed within the existing border management groups 21st Century Border and Beyond the Border.

4. An outward facing entity needs to be created to interface with potential project sponsors and coordinate responses and information across the national governments. This could be established by creating an entity at one of the existing mechanisms, such as the North American Development Bank, the Joint Working Committee, or the Binational Bridges and Border Crossings group, or by establishing a new entity. It is essential that this group include representatives from the key agencies in both countries and be able to elevate policy issues to decision makers as necessary.

5. A governance mechanism should be established for high-level oversight of priority projects that can identify and resolve any policy issues necessary to advance the project. This is a tricky line to walk because there is limited or negative value in executives intervening in purely technical issues. However, as with any important bilateral project, there will be key questions about issues including cost sharing, staffing resources, and financing that need to be identified and resolved quickly at an executive level. This type of mechanism has been recently created between the United States and Mexico through the 21st Century Border Executive Steering Committee's dedicated infrastructure sessions, which are accountable to the secretarial/ministerial level High Level Economic Dialogue.

6. North American Governments should actively work to make additional financial resources available for border crossing projects. In addition to federal financing tools, state and local governments should be asked to find meaningful ways to support infrastructure development. This must include comprehensive efforts to encourage and streamline private investment in these projects. To enable this, senior officials in each country, likely within the respective finance or transportation departments, should be designated. These officials will be responsible for helping apply any alternative financing mechanisms to border crossing infrastructure.

In sum, two critical things must occur to jumpstart a modernization effort for U.S. ports of entry. First, government needs to systemize its processes to identifying, evaluating, and prioritizing projects. This new process needs to be technocratic in nature; that is, it must be data-driven and needs based to ensure the allocation of scarce funding addresses the most urgent needs. Second, the government should focus on facilitating private investment in border infrastructure, a change in approach that will challenge conventional norms and may engender political pushback based on concerns of "privatizing" public works. Although such concerns cannot be ignored, the funding deficits for border infrastructure are too great (and growing) and the likelihood of Congress appropriating sufficient funds is too low to continue relying solely on appropriated funding.

Conclusion

The current politics of North American trade, and the Trump Administration's hostility to NAFTA and the U.S. relationships with Mexico and Canada, pose an additional obstacle to the urgent need to modernize America's land border ports of entry. In the near-term, it is unlikely that the Trump Administration would support significant federal spending on ports. Indeed, President Donald Trump's infrastructure plan did not even include port of entry expansion and modernization.

Similarly, the private sector may be fearful of making substantial—if not multi-billion—investments in port infrastructure if trade with Mexico and Canada is curtailed. Although those fears are understandable, the U.S. economic relationship with its neighbors must be viewed with a broader historical context. The long-term trend has been closer North American cooperation and economic integration, embodied to be sure through NAFTA but also reflected in numerous other bilateral and trilateral initiatives. Further, support for the North American relationship remains strong in Congress and the business community. Unless and until there are far clearer and compelling indications that the Trump Administration and its economic nationalism are anything but an aberration, it should be expected that the trend continues, even recognizing difficulties in the short term, towards a robust and integrated North America with strong economic and trade relationships. Current uncertainty presents an opportunity for border communities and the private sector to reorient and lead the effort to rethink port utilization, expansion, and modernization.

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[i] https://ustr.gov/countries-regions/americas/canada; https://ustr.gov/countries-regions/americas/mexico

[ii] Trien Nguyen and Randall Wigle. University of Waterloo, Department of Economics and Wilfrid Laurier University, Department of Economics. 2011. "Border Delays Re-Emerging Priority: Within-Country Dimensions for Canada".

[iii] Ontario Chamber of Commerce. 2004. "Cost of Border Delays to Ontario."

[iv] "Economic Impacts of Wait Times in the San Diego-Baja California Border Region Fact Sheet." 2007. http://www.sandag.org/uploads/publicationid/publicationid_1181_5101.pdf

[v] John McCallum, "National Borders Matter: Canada-U.S. Regional Trade Patterns." 1995. *The American Economic Review,* Vol. 85, No. 3.

[vi] This section of the paper draws heavily from the book "The Goal", by Eliyahu Goldratt (1984), which popularized the Theory of Constraints. According to the Theory of Constraints, manufacturing processes are constrained by at least one but no more than a few bottlenecks, and that organizations should be focused on reducing these constraints.