

## **Developing a National Strategy for Goods Movement**

By Robert Puentes<sup>1</sup>

The changing nature of the American economy directly impacts the nation's infrastructure needs. This is especially the case when it comes to the movement of goods by freight, be it by truck, train, ship, plane, or intermodally. Metropolitan transportation infrastructure is critical for advancing American prosperity, and for the nation to compete we need to be able to efficiently move goods through our borders and between metropolitan areas.

Our metros are the heart of a new system of international and domestic trade, commerce, and travel. Our top 15 ports alone move over 73 percent of the value of international freight that reaches our stores, businesses, and ultimately our homes. Similarly, our busiest airports that transfer freight are primarily concentrated in the largest metro areas, two-thirds of it through the top 15 airports. Connected to these nodes is an extensive rail network that moves over 2 billion tons of freight every year, most of which is moved along the primary rail corridors that emanate out of our metro areas. Last but not least is our highway network. Three quarters of our nation's total freight value is moved on trucks and half of the nation's total truck travel occurs in just the 50 largest metros.<sup>2</sup>

Yet today the nation has no overarching agenda or strategic plan for coping with current transportation challenges or projected increases in freight movement. Given their importance to international freight movement and trade, metro areas in the Great Lakes region would benefit substantially from such a national strategy. This is a particular true in terms of their connections to Canada, the nation's largest trading partner. In fact, 35 U.S. states count Canada as their largest export market, including every Great Lakes state.<sup>3</sup>

A comprehensive systems-based and multimodal agenda for the nation's freight needs, involving regional coordination, public-private partnerships, and federal funding recognition of the same, is necessary to maintain America's competitiveness and the economic well-being of metropolitan areas in and around the Great Lakes.

### **America's Challenge**

America's changing economic landscape is increasing the primacy of certain ports of entry and key corridors that link major metropolitan areas to each other and the rest of the nation. Demand for freight transportation in America ebbs and flows in concert with its economic activity and, indeed, trade between the U.S. and its neighbors to the north and south declined significantly in the past year. From October 2008 to October 2009, trade with Canada using surface transportation (roads, rails, and ports) fell by 19 percent; trade with Mexico dropped by 10 percent.<sup>4</sup> These two countries are important

in this context because they rank first and third, respectively, in terms of total value of imports and exports annually.<sup>5</sup> However, while volumes fell during the recession, they are expected to continue to increase as the economy recovers, and especially as the nation begins to pursue a policy goal of making the U.S. more “export-oriented.”<sup>6</sup>

The metros of the Great Lakes region are particularly important in this national context given the proximity to the international border to the north, close access to major U.S. metropolitan areas in the Northeast, and seaway access to the Atlantic. In the Great Lakes three modes of freight transportation dominate: rail, truck, and ship. Each of these modes presents a different set of attributes to shippers, consumers, and society in terms of their economic costs, time-of-delivery, environmental impact, reliability, and energy use.

Based on value, the majority of U.S.-Canadian trade that passes through the Great Lakes is due to the automotive industry and its extensive supply chains.<sup>7</sup> Michigan alone exports more goods to Canada than to all other foreign countries combined. These supply chains have grown more complex and also very sensitive to transportation-related disruptions as companies have shifted from standard warehousing of goods to just-in-time manufacturing and delivery—i.e., sending smaller, more frequent shipments.

Yet at the same time there is a greater demand for more precision when it comes to goods movement, confronting the nation—and the Great lakes—with some vexing problems.

One is the delay associated with the border crossing between the U.S. and Canada. Since the Great Lakes border is separated by water there are relatively few crossings and traffic must aggregate at bridges and through tunnels. In the wake of 9/11, enhanced security operations have increased wait times at some crossings even while traffic levels dropped.<sup>8</sup> Crossings such as the Detroit-Windsor Tunnel also force freight to compete with passenger cars, reducing the options for shippers.

A related problem, then, is traffic congestion. The growing volume of trucks carrying goods compounds the problem and further delays freight deliveries. Trucks are also frequently used as shuttling services between ports—air, sea and rail—and large distribution centers, warehouses, and the like. So the major issue with trucks and congestion is not simply their experience on the major roadways but how they intersect intermodally with terminal facilities. In metropolitan Detroit, for example, 64 percent of the truck routes are congested, compared to just 50 percent of the overall highway network.<sup>9</sup>

Meanwhile, the Great Lakes’ water resources are underutilized. While large container ships will continue to call on major coastal ports, there is potential for expanded short sea shipping that some feel is not being maximized in the Great Lakes. The St. Lawrence Seaway, for example, is only operating at 50 percent capacity today at the same time other coastal ports are struggling with capacity problems. Michigan alone is

home to over 40 commercial ports that could be tapped to provide increased short sea shipping services.<sup>10</sup> Overall, the Great Lakes are a large potential market for such shipping, including a proposed ferry across Lake Michigan.<sup>11</sup> The nation's 15 largest inland ports (including Detroit, Toledo, and Indiana Harbor) are all reliant on the Great lakes or Ohio River system routes.<sup>12</sup>

The Great Lakes is also impacted by freight challenges in other parts of the country. Although today most international freight arriving from Asia arrives at West Coast ports such as Los Angeles/Long Beach, the congestion and environmental impacts in and around these hubs could potentially shift goods flows to the Great Lakes. This is especially true given globally significant investments in trade infrastructure such as the expansion of the Panama and Suez Canals, the potential opening of an Arctic shipping passage, and international investments in ports such as the Port of Prince Rupert in Canada.<sup>13</sup> These investments have the potential to alter shipping routes and present an opportunity for the Great Lakes region.

Metros in the Great lakes will also have to think through goods movement in the context of a low carbon economy. Part of this is purely economic. Changes in climate have caused some to predict dryer conditions that may threaten the Great Lakes-St. Lawrence shipping route by diminishing its economic contribution and forcing expensive dredging.<sup>14</sup>

The national economy is increasingly dependent on just-in-time deliveries and the modern logistics systems that can ensure the efficient movement of freight through and between our major metropolitan areas. Given the scale and complexity of the issue, this is clearly an area where the federal government—in partnership with states, metropolitan areas, and the private sector—must lead.

### **Limitations of Existing Federal Policy**

The national economy is increasingly dependent on the just-in-time deliveries and the modern logistics systems that can ensure the efficient operation of supply chains. However, these trends are taxing the nation's current network of airports, seaports, rails and roads which, in turn, undermine the efficient movement of people and goods. Nowhere is this more evident than along the border between the Great Lakes states and Canada, where supply chains have grown more complex, and thus more sensitive to deteriorating road and rail systems, higher border-crossing wait times, increased congestion, and other transportation-related disruptions. Existing federal transportation policy, however, can't adequately address these challenges.

### ***The nation has no comprehensive strategy or plan for the maintenance and development of transportation assets related to international freight movement.***

The country's freight transportation industry is highly decentralized, with private operators owning almost all of the trucks and rails, and the public sector owning the roads, airports, and waterway rights.<sup>15</sup> And unlike our international peers, such as Germany, Canada, and Australia, the United States doesn't have a unified strategy that aligns disparate owners and interests around national economic objectives. Although

the nation's various transportation modes are working with increasing interdependence, this lack of a unified freight strategy severely limits the country's ability to manage and strategically invest funds. As a result, challenges and responses are uneven: Although congestion is troublesome in some metropolitan areas, for example, we have excess capacity in others.

***The current system of transportation investments is uncoordinated at all levels.***

Multi-jurisdictional projects are neglected in the current federal investment process for surface transportation due to the lack of institutional coordination among the private firms, states, and local governments that are the main decisionmakers. A greater problem for some Great Lakes, like Detroit, is that the lack of true cross-border infrastructure planning with Canada is leading to uncertainty about border crossing status and future capacity.<sup>16</sup>

The American Recovery and Reinvestment Act (ARRA) recognized the need for freight-related projects, making passenger and freight rail eligible (along with other standard road and rail projects) for over \$27 billion in transportation funds for the first time. ARRA also includes a \$1.5 billion competitive grant program for projects that "will have a significant impact on the Nation, a metropolitan area, or a region." Indeed, Brookings analysis shows that one-third of those funds were awarded to broadly-defined freight projects. While this is a good step, a long-term, comprehensive strategic solution remains elusive.

Earlier this summer, Senator Lautenberg introduced the *Focusing Resources, Economic Investment, and Guidance to Help Transportation* (FREIGHT) Act to overcome some of these problems. Among other things, the new law would create an Office of Freight Planning and Development within the U.S. Department of Transportation, and a new program for funding freight projects on a competitive, merit-driven basis; it would also establish a comprehensive national freight strategy.<sup>17</sup> While a good first step, the bill is caught up in larger legislative gridlock around the next generation of transportation laws in the U.S.

## **A New Federal Approach**

Although the federal role in overseeing interstate commerce has changed over the years, fostering a productive economy is still a key purpose of national transportation investments. This transcends traditional borders, decisionmaking structures, and industry clusters.

At the national level, strategic corridors have been identified and revised over the years by the federal highway administration as part of overall efforts to define a national highway system. This includes the interstate system as well as other principal roadways—in both rural and urban areas—that provide access to major ports, airports, public transportation facilities, or other intermodal transportation facilities

In 2007, the U.S. Department of Transportation announced a "Corridors of the Future" program intended to develop identify key freight routes and develop national and

regional strategies to improve goods movement. Of the six corridors identified, one is I-70 in Missouri, Illinois, Indiana, and Ohio. For this corridor, the project is mainly focused on determining the feasibility of constructing truck-only toll lanes along the roadway.

But there is much more to do:

**(1) The federal government—in collaboration with states, metropolitan areas, the freight-rail industry, and shippers—should develop a comprehensive National Freight Transportation Plan as a framework for goods movement policy and investment that spans all modes.** Such a plan should identify freight gateways and corridors of national significance. Prime candidates are the ports, corridors, and border crossings between the Great Lakes and Canada. In this way it should build off of existing work from the federal government and prioritize corridors on a benefit/cost basis that would include all modal options.<sup>18</sup> Thus major investments would not necessarily be favored over technological fixes, or minor augmentations. The FREIGHT Act introduced in the Senate this year would be an appropriate conduit for such a plan.

Federal funding should be contingent on proof of collaboration and coordination among public agencies within these corridors and hubs of national significance, and where major multijurisdictional projects are under consideration. Planning in regions that cross state and Metropolitan Planning Organization (MPO) administrative borders should involve all modes of transportation, including highway, transit, airport, rail, and port links.

**(2) The U.S., Canada, and Mexico should establish a North American Joint Infrastructure Planning Commission with leaders from the U.S., Canada, and Mexico.** The commission should study infrastructure needs at the land borders, and along the corridors that link the two borders together. Such a commission could generate engineering studies, preliminary environmental impact assessments, and transportation and infrastructure plans to foster coordination among the many federal, state/provincial, and local governments that need to design, build, and maintain shared (or interconnected) infrastructure vital to the economy and to maintaining competitiveness with Europe and Asia. By studying technical issues at the request of the federal governments, a joint infrastructure planning commission would pave the way for the necessary consensus behind multi-year, multi-billion dollar infrastructure projects critical to economic growth.

**(3) The federal government should create a National Infrastructure Bank (NIB) to guide funding decisions.** Such an entity would have the rate-of-return priorities of a bank but would also be the lens through which the federal government selects and finances projects of national importance. The bank would place emphasis on multi-jurisdictional or multi-modal projects with regional or national impact, and which cut across stove-piped federal infrastructure programs.

As presented in the 2010 budget proposal and the bill introduced in the House, a NIB would be a federal entity capitalized with appropriations amounting to a total of \$25 billion over five years. It is frequently compared to the European Investment Bank (EIB),

which has been functioning successfully for the last 50 years and has played a major role in connecting the European Union across national borders. Starting as a development bank focused on infrastructure, the EIB widened its operations, financing projects on innovation, small and medium businesses, and environment, in line with current European Union economic objectives.<sup>19</sup>

If it were established, a politically-independent and appropriately-designed NIB would supplement the current federal investment programs with a better selection process and project delivery. This would require clear articulation of its goals and sufficient political autonomy to exercise analytical decisionmaking in choosing projects. A competitive selection process for projects of regional and national significance would provide a basis for a performance driven infrastructure process. Augmenting goods movement to rebuild Great Lakes metros for an export-oriented, low carbon economy is a prime example of a nationally significant concern.

## Conclusion

Without doubt, freight transportation is not a simple process. It involves specialized equipment, terminals and infrastructure, information flows, and warehouses and distribution centers. The freight transportation system encompasses the entire logistics supply chain, including all modes of transportation, commodities, and businesses. Also, elements of the system are shared with other users, such as passenger cars on roadways and commuter transit on some rail rights-of-way.

By strategically examining its freight policy, establishing a national infrastructure bank, consolidating and streamlining existing programs, and upgrading U.S.-Canada border infrastructure/security and logistics system, the federal government can begin to address some of the challenges facing the Great Lakes region, and demonstrate how innovative federal policy action can facilitate its economic transformation.

### For more information:

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Or see: [www.brookings.edu/reports/.../06\\_transportation\\_puentes.aspx](http://www.brookings.edu/reports/.../06_transportation_puentes.aspx)

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<sup>2</sup> Robert Puentes, "A Bridge to Somewhere: Rethinking American Transportation for the 21st Century" (Washington: Brookings Institution, 2008).

<sup>3</sup> Government of Canada, "State Trade Fact Sheets 2009," available at [www.canadainternational.gc.ca/washington/commerce\\_can/2009/index.aspx?lang=eng](http://www.canadainternational.gc.ca/washington/commerce_can/2009/index.aspx?lang=eng)

<sup>4</sup> See U.S. Census, "Top Ten Countries with which the U.S. Trades," available at [www.census.gov/foreign-trade/top/dst/current/balance.html](http://www.census.gov/foreign-trade/top/dst/current/balance.html)

<sup>5</sup> China ranks second.

<sup>6</sup> Emilia Estrate, Jonathan Rothwell, and Bruce Katz, "Export Nation: How U.S. Metros Lead National Export Growth and Boost Competitiveness" (Washington: Brookings Institution, 2010).

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- <sup>7</sup> Christopher Sands, "Toward a New Frontier Improving the U.S.-Canadian Border," (Washington: Brookings Institution, 2009).
- <sup>8</sup> Ibid.
- <sup>9</sup> Michael Meyer, "Road Congestion Impacts on Freight Movement," in *The Future of Urban Transportation II*, Eno Transportation Foundation, Washington, DC, 2008
- <sup>10</sup> Daria Karetnikov and others, "Economic Impacts of Climate Change on Michigan," University of Maryland, Center for Integrative Environmental Research, 2008.
- <sup>11</sup> Global Insight, "Four Corridor Case Studies of Short-Sea Shipping Services," U.S. Department of Transportation, Report #DTOS59-04-Q-00069, 2006.
- <sup>12</sup> American Society of Civil Engineers, "2009 Report Card for America's Infrastructure," (2009).
- <sup>13</sup> James J. Winebrake and others, "Intermodal Freight Transport in the Great Lakes: Development and Application of a Great Lakes Geographic Intermodal Freight Transport Model," (Great Lakes Maritime Research Institute, 2008).
- <sup>14</sup> Daria Karetnikov and others, "Economic Impacts of Climate Change on Michigan," (University of Maryland, Center for Integrative Environmental Research, 2008).
- <sup>15</sup> Martin E. Robbins and Anne Strauss-Wieder, "Principles for a U.S. Public Freight Agenda in a Global Economy," Washington: Brookings Institution, 2006).
- <sup>16</sup> Sands, "Toward a New Frontier: Improving the U.S.-Canadian Border."
- <sup>17</sup> S. 3629, "*Focusing Resources, Economic Investment, and Guidance to Help Transportation* (FREIGHT) Act,' Introduced July 22, 2010 and referred to the Senate Committee on Commerce, Science, and Transportation.
- <sup>18</sup> In 2007, the U.S. Department of Transportation announced a "Corridors of the Future" program intended to develop identify key freight routes and develop national and regional strategies to improve goods movement. Of the six corridors identified, one is I-70 in Missouri, Illinois, Indiana, and Ohio. For this corridor, the project is mainly focused on determining the feasibility of constructing truck-only toll lanes along the roadway.
- <sup>19</sup> Emilia Istrate and Robert Puentes, "Investing for Success: Examining a Federal Capital Budget and a National Infrastructure Bank," (Washington: Brookings Institution, 2009).