# A North American Transportation Infrastructure Strategy

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In the 1980s, deep changes were under way in corporate structure in North America. Many major US companies responded to tougher international competition and falling profit margins by rationalizing their operations and reducing excess capacity tied up in Canadian (and Mexican) branch plant "miniature replica" operations. They built integrated North American production, marketing, and sourcing networks.[1]

Changes in North American markets also drove this process. By the mid-1980s, because of the reduction of trade barriers in the GATT and deregulation distinct national markets in many sectors had begun to blur. Subsidiaries were becoming operations in Canada or Mexico rather than operations producing for Canada and Mexico, and branches that once owned national markets found themselves competing in new continental markets with other divisions in their own firms.

NAFTA, we suggest, was in large measure a response by governments to these developments already underway. NAFTA sought to bring the regulatory environment in line with which was already taking place in the North American economy. In many sectors – not all, of course – NAFTA encouraged freer market forces.

In the 1990s, after NAFTA was signed, flows of goods and capital across North America's internal borders increased dramatically. More and more of the movement of goods was intra-company, reflecting the deepening of cross-border production, distribution and supply systems. With modest government involvement,

companies worked out their own strategies for building new continental systems and solved problems themselves as they arose.

The North American economy can best be visualized as a deeply integrated continental system, a system that is structured by networks linking production centers and distribution hubs across the continent. These linkages rest on ties to business, communities and local and state-provincial governments. These linkages are dependent upon an efficient and secure physical infrastructure of rails, roads and bridges, pipelines and wires, ports and border crossings.

Today, however, our transportation and border infrastructure barely suffices to support an expanding North American economy. We have relied too long on aging infrastructures and traffic management systems in all transportation modes, and there are still too many public policy and regulatory barriers to effective adaptation of the transportation system. Indeed, national regulatory systems affecting transportation systems often work at cross purposes. What this means is that the ability of North American firms to extend and even maintain cross-border supply chains may be at risk

**"Internal Improvements": History and Circumstance**

Both history and circumstance make creating a North American transportation infrastructure adequate for the needs of the 21st century extremely difficult. In US history, efforts to create a national transportation infrastructure typically went aground. Senator John Calhoun called elegantly for the federal government to launch a program of "internal improvements" "Let us, then, bind the republic together", Calhoun said, "with a perfect system of roads and canals. Let us conquer space" [2]. But when it came time to vote on Calhoun's proposal, the House of Representatives "did not reveal nearly as much scruple as it did self-interest. New England was opposed because her roads were relatively good, because she feared a western migration of her people, and because she considered that the measure would promote the commerce of New York,

Philadelphia, and Baltimore. The South was largely opposed…presumably because she thought that other sections would benefit more than herself."[3] Political fragmentation and the domination of regional interests undermined a national policy.

Moreover, by the 1840s-50s, transportation – first steamship and then railroads – was dominated by private interests. Railroad companies proved highly efficient at gaining public funds but avoiding any sort of public regulation or control. Weak government proved no match for emerging giant companies.[4]

And, not least important, was the continuing fear of an interventionist federal government: The Cumberland Road legislation of 1822 (again, in Dangerfield's words) "opened, to thoughtful minds, alarming vistas of future federal invasions of the states, invasions armed with contracts and subsidies and penalties and all the panoply of consolidation."[5]

Transportation infrastructure in the US was thus typically a local responsibility, of state and urban governments and, much more, of private interests, and a hard sell at the national level. The key exceptions – the transcontinental railroad and the interstate highway system – were responses to a wide-spread consensus on national security requirements.

The events of 9-11 have made a difficult situation much worse. We will discuss below the impact of NAFTA on transportation liberalization. But clearly whatever progress had been made was set back greatly by the attack on the World Trade Towers and Washington. "Security trumps trade" became the new watchword and we live with this still. A recent Reuters article on the Ontario border observes that "Lines have long been a problem at Ontario crossings, particularly as trade has ballooned in the wake of the 1988 Canada-US free trade agreement. But since the September 11, 2001, attacks on New York and Washington, traffic has slowed even more, as US officials have toughened screening, pressuring a relationship that relies heavily on just-in-time deliveries to manufacturers. "That border now has become more of a choke point, rather than a conduit for trade," said Len

Crispino, chief executive of the Ontario Chamber of Commerce, which estimates Canada loses as much as C$8 billion every year to border delays.[6]

Efforts have been made to improve the physical infrastructure at border crossings, particularly since 9/11. The "Smart Border" agreements have improved border management. But the pyramiding of requirements and programs each of which inhibit quick border processing and which together require high degrees of inter-agency coordination as well as new levels of cooperation with business and border communities has created tumult in some instances and threatens what Stephen Flynn calls a potential train wreck.[7] The key problem is the tendency to follow traditional border management practices and concentrate all of these activities – achieving the highest possible levels of security, controlling immigration, and enforcing a widening array of licensing, health and safety standards, all carried out by different agencies with different rules and work practices – at the border itself.

**NAFTA and Transportation**

NAFTA made specific promises in the transport sector. Some were realized – for example, in terms reduced non-tariff barriers to market access – but it did not create a generally liberalized environment for trade in transport services. Gaps included immigration restrictions affecting drivers and crews, the harmonization of vehicle weights and dimensions and other standards for transport equipment; cabotage provisions, and full liberalization of investment restrictions on NAFTA-based investors in transportation operations.[8]

NAFTA created some 30 Working Groups and committees to facilitate trade and investment and ensure its effective implementation and administration. Of these, several focused on transportation. The mandate of the Land Transportation Standards Sub-Committee was to make more compatible the Parties' relevant standards-related measures on bus, truck and rail operations and transportation of dangerous goods. The LTSS created working groups on Driver and Vehicles Standards,

Vehicle Weights & Dimensions, Traffic Control Devices, Rail Safety and Dangerous Goods/Hazardous Materials Transportation. And an "Initial Five-Year Plan for Increased Cooperation in the Field of North American Transportation Technologies" was developed by Consultative Group 4.[9]

Much more might be written on all of this, but two points emerge clearly. First is that the various transportation groups tended to focus more on regulatory issues – and harmonization in particular – than on physical infrastructure issues. And second, as Stephen Clarkson, observes, the Working Group process had only a very modest impact.[10] Clarkson concludes that NAFTA's committees and working groups have been under utilized and generally have not been effective mechanisms for dealing with issues that arise among the NAFTA partners. Clarkson feels this failure is related to "the incongruity between the working groups' trilateral nature and the continuation of a strong dual-bilateralism in North America" and this led to committees and working groups being circumvented and under-utilized.

**Focus on Infrastructure**

Still, the continued increase in the volume of North-South freight traffic did prompt interest in physical infrastructure.

First, in terms of new "trade corridors": For dozens of cities and municipalities and firms, money is to be made in the increased volumes of goods moving north and south. Being on the north-south channel means not only the opportunity to create new businesses that facilitate the flow, but also access to a whole new realm of opportunities for services, for cooperative ventures, for trade expansion. If one assumes, not unreasonably, that intra-North American trade will continue to grow, the question is how can we offer alternative routes less heavily traveled, more direct, newer? Can we package intermodal opportunities? How can we link up with businesses in other cities and towns to build a new channel that will capture some of this vast flow of goods?

Entrepreneurial enthusiasm encouraged the formation of an array of trade corridor organizations that might capture some of the new

north-south flow. The key players are entrepreneurs – often from smaller and medium sized firms – and officials from municipal governments. They build partnerships to support new business and political alliances to attract funds from local and state governments and even from federal agencies. People join these alliances because they believe this is where the new business is.

Proposing new trade corridor was closely related to and stimulated by US highway legislation in the 1990s. There had been talk about "NAFTA Superhighways" for a decade. It was clear then that increased north-south flows of goods would require new approaches to transportation infrastructure. The US Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 was aimed at alleviating bottlenecks along highways and at border crossings. The Act identified 21 "high priority corridors", and included funding for studies of border congestion as well as highway feasibility studies. The National Highway System Designation Act of 1995 (NHS) added 8 more high priority corridors. ISTEA evolved into the 1998 Transportation Equity Act for the 21st Century (TEA-21) which created an additional 14 high priority corridors. This Act contained specific directives on trade corridor planning and border facility improvements. Two more bills followed.

What has come about is not at all clear. Certainly, the vision of a system of North American Superhighways embodied in the US Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 has not been realized. Congress rapidly increased the number of designated high priority corridors in subsequent legislation, and the highway funds quickly became a pot into which Congressional etiquette encouraged everyone to earmark funds for his own corridors. Any sense of a coherent continental or even national plan evaporated in rush of demands by states, local communities and business associations for funds to build particular interests.

The result is that the latest map of high priority corridors looks like a plate of spaghetti. To be sure, there has been significant improvement in pieces of highways, at some border crossings and in other related areas, but cooperation in resolving transportation

issues has been slow, and no movement is visible toward developing a true North American highway system. Certainly nothing like the bruited about plans for super multimodal corridors, wired with fiber-optics and the latest digital frills, has come about. If anything, the general state of major highways in the US has declined over the past decade.

What this reveals, no surprise, is how difficult it is to build a continental highway system from the bottom up. Organizing this process as a competition among Congressional districts for highway funds is not going to produce any kind of rational blueprint for a continental system.

At the same time, the railroad industry was characterized by mergers and widespread efforts to increase efficiency, some of which involved reducing capacity. But that is another story.

**Security and Prosperity Partnership (SPP)**

The SPP was an effort to restore momentum to the North American "project" – in the context of a 2005 meeting among President Bush, then President Fox and then Prime Minister Martin. Stephanie Golob observes that "The basic architecture for the SPP is taken from the NAFTA Committees and Working Groups, which were established as trilateral intergovernmental teams designed to facilitate trade and investment under NAFTA, and to facilitate the interchange of information and technical know-how among bureaucratic experts in narrow fields with a minimum of political interference."[11] "What stands out." Golob continues," is the very consistent, 'North American. quality of the SPP, in the continuation of incrementalism and intergovernmentalism without the construction of anything new."[12]

The SPP called for efforts to improve the safety and efficiency of North America's transportation system by expanding market access, facilitating multimodal corridors, reducing congestion, and alleviating bottlenecks at the border that inhibit growth and threaten our quality of life. But it provided few concrete recommendations.[13]

**A "perfect storm"?**

So, where are we now? Some say a "perfect storm" is beginning to build that puts North America's transportation infrastructure system at serious risk and endangers our competitiveness. The infrastructure upon which all of this depends is becoming growth limiting.

Even before 9/11 it was becoming clear that the increase in volumes of goods flowing across North America's internal borders was outrunning the capacity of our highways, bridges, railroads, marine and air transport infrastructure and border crossings. Today, North America's transportation and border infrastructure provides little margin for future expansion. UPS CEO Mike Eskew states, *"What's shocking, quite frankly, is the inability of our transportation infrastructure to keep up with the normal day--to-day stresses imposed upon it… Our highways, waterways, railroads and aviation network are simply not keeping up with ordinary demands."* [14]

A 2006 report from the Brookings Institute sums up the situation: *"Because the ability to compete and thrive in the emerging global economy now depends on the strengths of a nation's freight system, this dynamic situation generates one crucial question: Can U.S. infrastructure handle the volumes and adequately extract economic value from goods movement? ….. The congestion and delays in the U.S. freight system in 2004 would indicate that U.S. freight infrastructure is in crisis despite massive investment in certain elements"*[15]

Observers point to three forces that are working together to erode the quality of the system and with it the competitive advantage the transportation system provides.

**1. Over-reliance on aging infrastructures and traffic management systems in all modes**

The three NAFTA nations have all failed to maintain existing transportation infrastructure. A 2004 report from The University of Denver's Intermodal Transportation Institute finds *"America's long and successful ride to prosperity is threatened by a transportation infrastructure incapable of meeting future requirements. The interdependent network of roads, bridges, and terminals is growing increasingly antiquated, congested and disconnected, and, therefore, incapable of providing the productivity and prosperity support upon which the nation has depended for the last century an a half."*[16]

In its latest "report card" on transportation infrastructure, the American Society of Civil Engineers awarded our roads a "D" (and our aviation system a D+; navigable waterways a D-; and rails a C-).[17] A paper issued by the National Chamber Foundation of the U.S. Chamber of Commerce estimated that by 2015, it would cost $295 billion to "maintain" our "pavements, bridges, and transit infrastructure" and $356 billion to "improve" these systems. The report concludes that total cost to improve the system for the period from 2005 to 2015 will be $3.4 trillion but that total revenue will be only $2.4 trillion, leaving a cumulative gap of approximately $1.0 trillion.[18] Canada and Mexico have done no better.

Even before 9/11, border infrastructure had fallen behind the rapid increase in volume of goods that move among the NAFTA nations. The Task Force Report on "Building a North American Community" sponsored by leading business organizations in the three nations stated: *"While trade has nearly tripled across both borders since the Canadian-U.S. Free Trade Agreement (FTA) and NAFTA were implemented, border customs facilities and crossing infrastructure have not kept pace with this increased demand. Even if 9/11 had not occurred, trade would be choked at the border. There have been significant new investments to speed processing along both the Canadian-U.S .and Mexican-U.S. borders, but not enough to keep up with burgeoning demand and additional security requirements."*[19]

**2. The weakness of local, national and North American governance processes for investment in transportation system upgrades**

There is no process in place capable of managing the rapid adaptation of the North American transportation system. No agency or institution is charged with responsibility for reviewing North America's transportation infrastructure or for estimating what transportation infrastructure requirements might be under different economic growth scenarios. Even within the three countries, transportation infrastructure is almost always viewed in single mode silos. The challenge: to generate improvements which add economic value. Yet large increases in public spending, especially in a climate of rising interest rates, global financial imbalances and high national debt, must be evaluated with the utmost care and attention to economic benefits.

The record so far is not promising. In the 1990s, Washington budgeted vast sums in a series of highway funding bills to identify and improve "high priority corridors" that would facilitate north-south trade. In fact, most of the money was spent on thousands of local projects. While many of these projects were undoubtedly useful, they do not add up to anything like a true North American highway system. Nothing like the super multimodal corridors wired with fiber-optics and the latest digital enablers – all of which were discussed in the early highway legislation – has appeared or is even planned.

The rail situation is no better. While trucks carry some three-quarters of North America's freight traffic, the volume carried by rail has grown greatly. Mergers and alliances in the railroad industry in the mid-1990s seemed to be building networks that would provide seamless rail service from Canada to Mexico. But no discussion has taken place on expanding the North American rail system, nor is there any sense of where, how or with whom such discussions might begin. CP President and CEO Rob Ritchie observed, *"Our railroads are struggling to keep pace with current demand. Shippers want to move more product in many important corridors in North America than infrastructure*

*capacity can handle – an issue the rail industry has not faced for decades." He stated, "The North American economy can no longer afford to have its rail network improve only incrementally. Railroads will become a constraint on economic growth unless we can increase capacity faster."*[20]

**3. Public policy and regulatory barriers to effective adaptation of the transportation system**

As the scale of integration increased and as easier gains from bottom up integration ran their course, the impact of dysfunctional regulations – of the "tyranny of small differences" – have become more important. The Security and Prosperity Partnership for North America focuses on regulatory cooperation. But it is not clear yet how this process will proceed or its priority in the three national capitals.

The ability of North American firms to build complex, cross-border supply chains may be at risk Professor Mary Brooks, a transportation specialist at Dalhousie University, warns of danger that the deepening integration of the North American manufacturing sector will stall. Rising security concerns, increased border delay and a wide array of infrastructure problems have *"damaged the credibility of the just-in-time system. The result has been to boost buffer stocks, and force just-in-time supply chain managers to re-examine their sourcing options…"*[21]

Inadequate transportation infrastructure also limits development in poorer North American regions and intensifies regional differences in standards of living. The problems of Mexico's physical infrastructure, particularly in the south, and how this hinders economic progress is well known. A recent report issued by the American Chamber Mexico's International Trade Committee notes that *"Mexico stands at a crossroads. It can either take full advantage of its strategic geographic location to become an advanced manufacturing platform or it can continue down the road of a low wage, low value added assembly economy. An efficient and secure transportation system will act as a catalyst to help Mexico shift towards an advanced*

*manufacturing platform. The result will be greater prosperity for Mexican citizens and an increased competitiveness for the entire NAFTA region."*[22] Similar problems affect Canadian and US regions as well – in particular, Canada's Atlantic Provinces which along with northern New England are in danger of being left as a "geographic backwater" in the new North American economic system.[23]

There is still time to head off this storm. There are some encouraging signs that governments are listening. The Security and Prosperity Partnership of North America and the North American Competitiveness Council – that underline the need to improve transportation efficiency. Yet few concrete steps have been taken to meet this goal. No vehicle exists to support an on-going dialogue with transportation stakeholders. There is no suggestion of the need to create an integrated and coherent North American transportation strategy or of how the intellectual resources found in transportation institutes, university transportation/supply chain management/logistics departments, and other think tanks might be mobilized to participate in this process. Uncoordinated or stand-alone initiatives pursued by individual stakeholders can have limited effectiveness at best in this environment. We need to think now about a transportation strategy for North America.

**Elements of a North American Transportation Strategy**

Many transportation leaders and researchers agree on the need to create an integrated and coherent North American transportation strategy that contains these key elements:

A transportation strategy must rest on a clear vision of a continental, multi-modal transportation system that will meet North America's transportation, logistics and supply chain requirements over the next decades. It will result from a dialogue between a transportation-supply chain stakeholders group composed of high-level representatives drawn from transportation service providers, shippers, key transportation service enablers and academic/research institutions and government agencies in the three NAFTA nations.

Transportation systems can no longer be thought of primarily in national terms. East-west transportation structures have shifted in the past two decades to meet the demands of an increasingly north-south continental economy. A North American transportation strategy must build on this reality. The dramatic increase in trade with Asia illustrates this need to think in continental terms. Port development must be seen in context of continental trade flows with Asia and in context of a continental transport system.

Transportation systems cannot be viewed as separate modal silos. Instead, a transportation strategy must be conceptualized in terms of trade-offs in multi-modal terms — at, for example, the balance between improved rail or improved road service, at the impact of enhanced short sea shipping on road and rail traffic and at how to increase and better coordinate more air cargo as a critical element of a North American transportation system.

Implementation is a critical element of a transportation strategy. A North American superhighway system cannot be constructed from the bottom up, locality by locality. The Security and Prosperity Partnership of North America has underlined the need for regulatory cooperation. A North American transportation strategy must focus as well of creating arrangements for collaboration on planning, constructing and maintaining physical infrastructure.

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[1] See Stephen Blank and Jerry Haar, Making NAFTA Work: U.S. Firms and the New North American Business Environment (North-South Press, University of Miami, 1998)
[2] Quoted in George Dangerfield, The Awakening of American Nationalism (Harper, 1965), p.18
[3] Dangerfield, op. cit. p. 19
[4] see Charles Perrow, Organizing America: Wealth, Power and the Origins of Corporate Capitalism (Princeton University Press, 2002) Chapter 5
[5] Dangerfield, op. cit., p. 199

[6] Reuters, "US-Canada trade feels heat of security curbs" Published: 10/03/2007 12:00 AM (UAE)
[7] Stephen Flynn, "The False Conundrum: Continental Integration Versus Homeland Security," in Peter Andreas and Thomas J. Biersteker, eds, The

Rebordering of North America: Integration and Exclusion in a New Security Context" (Routledge, New York & London, 2003)

[8] Mary R. Brooks, "NAFTA and Transportation: A Canadian Scorecard" (Transportation Research Board, 80th Annual Meeting, January 7-11, 2001, Washington, D.C.)

[9] "Initial Five-Year Plan for Increased Cooperation in the Field of North American Transportation Technologies" signed by Canada, Mexico and the US on June 12, 1998. http://www.tc.gc.ca/pol/nafta-alena/en/plenaries/plenary_1998/TCG4.htm

[10] Stephen Clarkson, Sarah Davidson Ladly, and Carlton Thorne, "De-Institutionalizing North America: NAFTA's Committees and Working Groups" (Third EnviReform Conference, November 8, 2002)

[11] Joseph McKinney, "NAFTA-Related Institutions in the Context of Theory," in *Created From NAFTA: The Structure, Function and Significance of the Treaty's Related Institutions* (Armonk, NY: M.E. Sharpe, 2000): 14; quoted in Stephen Clarkson, Sarah Davidson Ladly, and Carlton Thorn, op. cit., p. 3

[12] Stephanie R. Golob, "Both More and Less Than Meets the Eye: Regional Integration, "Spill-Over" Effects, and The Security and Prosperity Partnership (SPP) of North America" (draft paper, February 15, 2007)

[13] These included expand air services agreements, increase airspace capacity, initiate an Aviation Safety Agreement process, pursue smart border information technology initiatives, ensure compatibility of regulations and standards in areas such as statistics, motor carrier and rail safety, and working with responsible jurisdictions, develop mechanisms for enhanced road infrastructure planning, including an inventory of border transportation infrastructure in major corridors and public-private financing instruments for border projects.

[14] UPS Pressroom: Current Press Releases, "Transportation Infrastructure Failing the Nation, Says UPS CEO" (March 30, 2006)

[15] Martin E. Robins and Anne Strauss-Wieder, "Principles for a U.S. Public Freight Agenda in a Global Economy," The Brookings Institution Series on Transportation Reform (January 2006)

[16] "Investing in America's Future; The Need for an Enlightened Transportation Policy," Intermodal Transportation Institute, University of Denver (September 2004)

[17] American Society of Civil Engineers (http://www.asce.org/reportcard/index.cfm?reaction=full&page=6#roads)

[18] *Future Highway and Public Transportation Finance Phase I: Current Outlook and Short-Term Solutions* prepared by Cambridge Systematics, Inc. under contract to the National Chamber Foundation® of the U.S. Chamber of Commerce (2005)

[19] Report of an Independent Task Force (May 2005) *Building a North American Community*, supported by the Council on Foreign Relations with the Canadian Council of Chief Executives and the Consejo Mexicano de Asuntos Internacionales, p 9

[20] Remarks by Rob Ritchie, then President and Chief Executive Officer, Canadian Pacific Railway at the Conference on Railroad Industry Structure, Competition and Investment at Northwestern University, Evanston, Illinois

[21] Mary Brooks, "Mapping the New North American Reality: The Road Sector," Study Group on Mapping the New North American Reality, IRPP.

[22] American Chamber Mexico (Monterrey Division), "Trade and Logistics in Mexico: issues and recommendations for a more competitive transportation sector" (January 2004)
[23] See the various materials prepared by the Atlantic Institute for Market Studies.