



NORTHEAST CANAM CONNECTIONS: INTEGRATING THE ECONOMY AND TRANSPORTATION

Executive Summary:

Task 2 Report - Assessing Economic Opportunities in a Global Context

July 2007

Introduction

The Maine Department of Transportation, with the participation and collaboration of the Eastern Canadian Provinces and Northeastern New England States, is leading a study to examine the adequacy of East-West transportation connections connecting points to east such as Port of Halifax to point to the west as far as Ontario via the northern New England states. The goal of the study is to provide a comprehensive assessment of the relationship between the sufficiency of East-West transportation infrastructure and services and economic conditions and opportunities occurring within the North Atlantic region. The components of the study include an assessment of the economic conditions in the region; a transportation market analysis; a regional competitive analysis; assessment of trade and tourism opportunities; and a regional model profile.

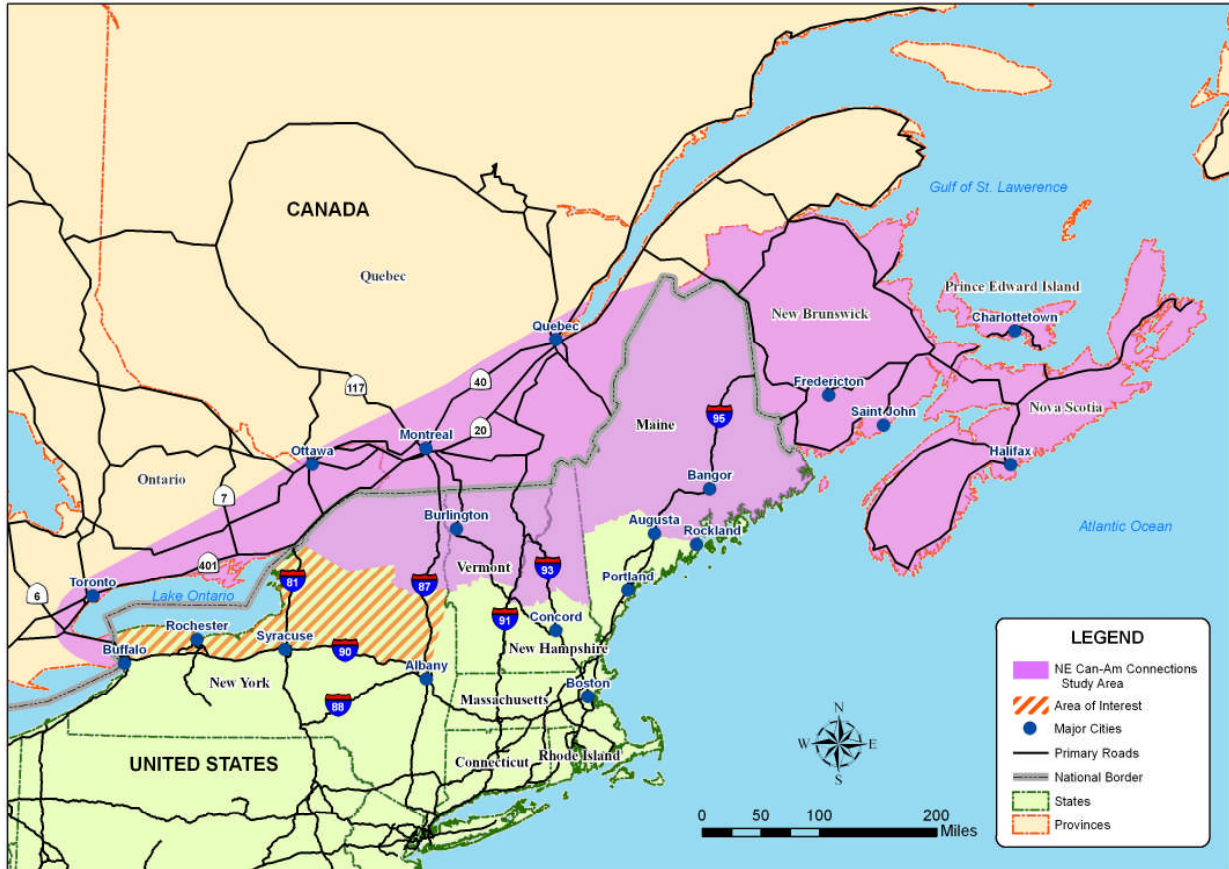
The study area stretches across the region of central Maine and the northern tier of New Hampshire, Vermont and New York State, as well as along the adjacent Canadian provinces of Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario (see map below)

The assessment of the transportation system in the NE CanAm region indicates that the existing system provides inadequate access to markets both internally and externally to the region for some users. This inadequacy can place the region at a competitive disadvantage with other regions, potentially suppressing trade and regional growth. To fully assess and understand the effects of the transportation system on current and future economic performance requires a basic understanding of the system, markets served, and expectations among various users. The purpose of this report is to discuss how the global economy, global trade and patterns, and changes in logistics are impacting the how regions compete; assess the economic performance of the NE CanAm region; identify the region's competitive advantages and disadvantages, especially as it relates to transportation; and an evaluation of the transportation market within the NE CanAm Region Study Area.

This executive summary provides generalizations regarding the region and its economic and transportation conditions. It should be noted that the larger study demonstrates that significant disparity exists in terms of the severity of these conditions or challenges among the various parts of the region



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The Changing World Economy

The world economy is and will increasingly be dominated by regions that intersect and span political boundaries, but which leverage cultural and political ties.

Over the last several decades, economic activity has been shifting from industrialized countries to developing countries such as China, India, Indonesia and countries throughout South America. The growing importance of trade in the U.S. and Canadian economies is a reflection of world economic trends. Between 1960 and 1999, world merchandise trade (exports and

imports) grew at an average annualized rate of over 10 percent (in 2002 dollars).ⁱ This trend toward globalization has also been a significant element of recent growth in the domestic economies. The growth in world trade, its significance in the bi-national economy, and the changing characteristics of trade partnerships can be traced to a number of factors, including:

- Liberalization of world trade policies;
- The growth of multinational trade blocks and multinational corporations; and



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- Accelerated adoption of advanced information technologies.

Canada and the US, following the global trend of increasing trade, have experienced significant increases in the trade of goods and services. Total two-way trade between the United States and NAFTA partners grew a remarkable 111% between 1993 and 2003 and bilateral trade between the United States and Canada totals, on average, \$1.4 billion United States dollars per day in goods, services, and investment income. This represents the most significant bilateral trade volume between any two countries in the entire world.ⁱⁱ

The NE CanAm Region Lags Behind

The NE CanAm region has not enjoyed the same level of robust growth relative to other major trading regions. Despite the impact of NAFTA and the explosion in global trade, the region has grown slower than other regions, both domestic and international, since the turn of the century.

Population growth in the region has been mixed. Newfoundland and Labrador experienced a decline in population in recent history while the populations of Maine, New Brunswick, Nova Scotia and Prince Edward Island all grew by less than 1 percent during the 1990s.

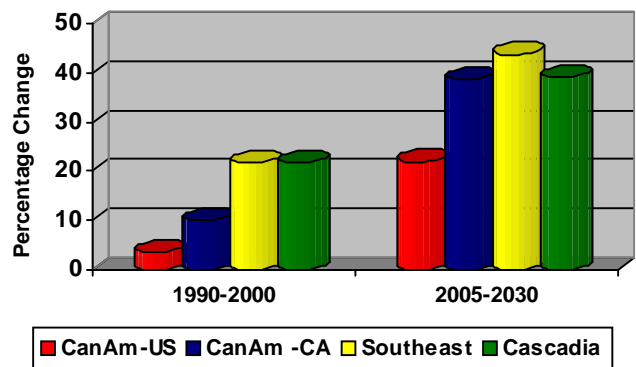
Despite solid growth in urban centers and in some portions of all the other states and provinces in the region, the NE CanAm Region generally fares worse in terms of

both historical and projected population growth in comparison to domestic and international regions. This is due to the fact that all the states and provinces in the study area have significant areas that are not thriving economically and in some cases, even contracting. The result is that even expansion in the growth areas is being weakened by the economically distressed portions of the region.

Population for the US Southeast and US Cascadia Regions grew at a rate of more than six times the population growth rate of the US NE CanAm over the same decade and more than twice the population growth rate of the Canada NE CanAm.

Generally, the NE CanAm Region also lags comparative region in terms of employment growth. Comparison of the US portion of the NE CanAm region to the comparison regions reveals that employment growth in northern New

Comparison of Population Growth, Historical and Projected

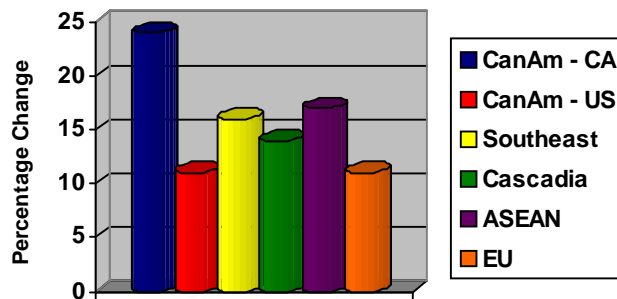




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England lagged behind both domestic and international regions including the Southeast, Cascadia and ASEAN regions.

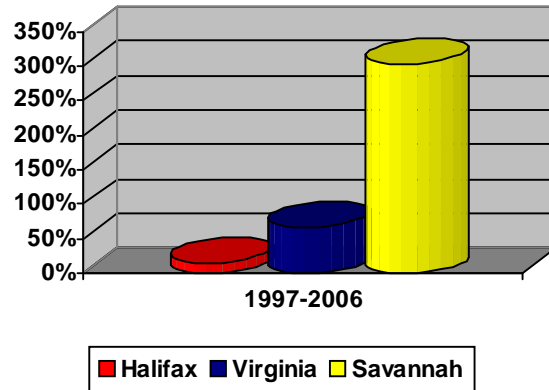
**Employment Growth by Region,
1996-2005**



Global trade is projected to continue its upward trend and congestion and capacity constraints in major urbanized areas and gateway regions are forcing shippers to look for alternatives, providing the region an opportunity to take advantage of its geographic location and access to world trade lanes. However, to date the ports within the region have not only failed to take advantage of these trends but they have also failed to keep up with many of the rest of the east coast in terms growth in TEUs.

As demonstrated above, many of the states and provinces have lagged in terms of economic performance leading to a region characterized primarily as a hollow, economically distressed region bordered by large, growing activity centers including Toronto, New York and Boston.

Growth in TEUs. 2004



Factors Inhibiting the Region's Economic Growth

There are many ways in which a region can compete in the global economy including access to markets, labor costs and skill level, access to capital, tax and regulatory policies, utility costs and general business climate just to name a few. The analysis revealed several areas where the NE CanAm region is not meeting the necessary conditions to compete globally including relatively low capital productivity, high tax burden and energy costs, insufficient transportation networks and a significant truck freight cost disadvantage.

Trade and Transportation in the NE CanAm Region

The transportation system plays an integral role in supporting a region's economy and meeting the transportation needs of businesses and residents is a necessary condition for sustainable economic growth and development. An efficient transportation

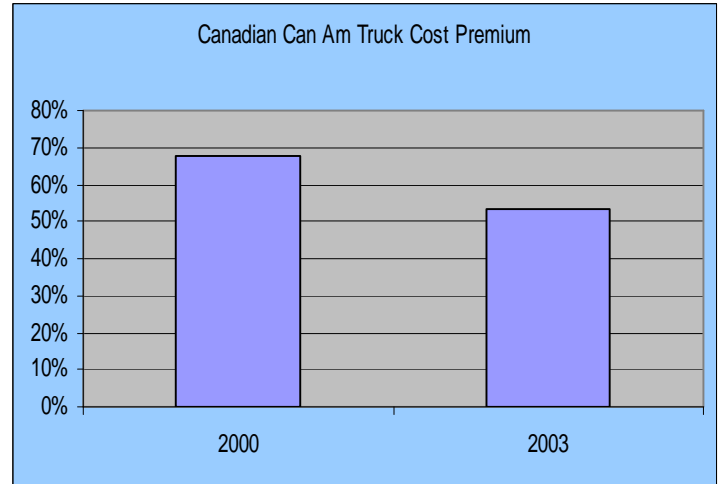


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What's Inhibiting Economic Expansion in the NE CanAm Region?

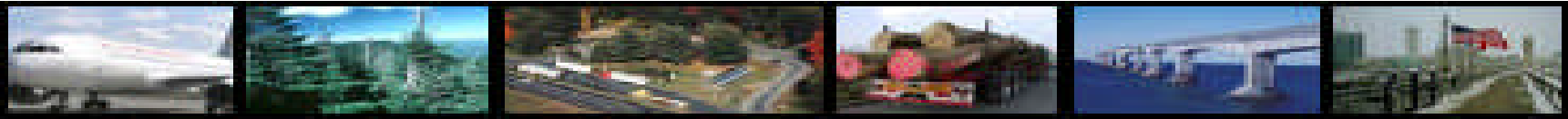
The following factors were identified by stakeholders as being primary barriers to regional economic growth:

- Border crossing inefficiencies
- Institutional barriers
- Insufficient transportation infrastructure and service
- High production costs including energy, taxes and transportation
- Lack of regional perspective



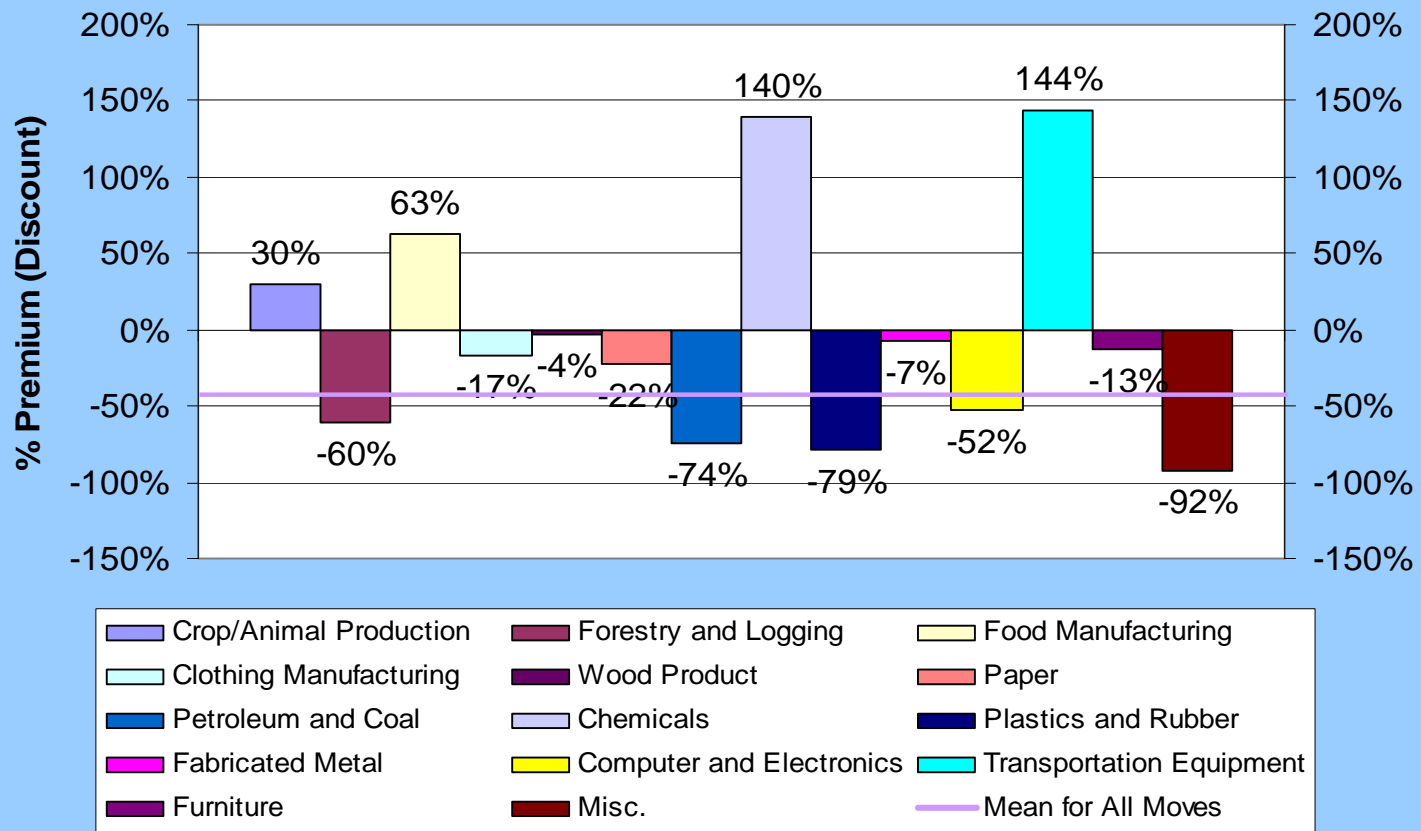
system saves time and money for individuals and business, enhancing productivity and competitiveness and promoting economic growth.

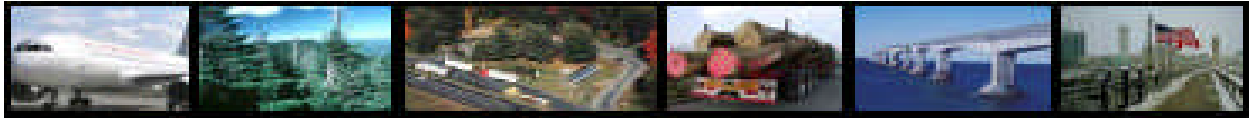
The cost data collected indicate that NE CanAm producers must pay roughly 1.75 times the price paid by competitors in the surveyed industries when shipping by truck when compared to benchmark economies. Producers, who can move inputs and finished goods by rail, in whole or in part, can lessen the transportation disadvantage. For the selected industries, rail shippers face costs approximately 2/3 of those faced by rail shippers in benchmark states.



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US Can Am Truck Shipping Costs Relative to Competitor Economies





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US NE CAN AM FREIGHT RAIL COST ANALYSIS – COST PER TON MILE			
Sector	US		
	NE CanAm (\$US)	Benchmark Region	% NE CanAm Advantage (Disadvantage)
Crop/Animal Production	\$0.01	\$0.02	167.5%
Wood Product	\$0.02	\$0.03	70.5%
Paper	\$0.05	\$0.06	26.8%
Petroleum and Coal	\$0.03	\$0.05	64.8%
Chemicals	\$0.01	\$0.04	565.0%
Plastics and Rubber	\$0.01	\$0.04	304.1%
Non-metallic Minerals	\$0.01	\$0.05	266.8%
Transportation Equipment	\$0.02	\$0.03	88.4%
Misc.	\$0.07	\$0.04	-48.4%
All Moves	\$0.03	\$0.04	50.1%

- Lack of competition in service providers causing higher prices
- Lower than average inter-regional movements, meaning longer hauls on average
- Remoteness of resource extraction sites, in some industries, from processing sites.

The amount of time that a truck is not carrying a load is an important determinant of trucking efficiency. The shorter the distance that a trucker must travel between loads, the greater the revenue generating utilization. Therefore, carriers prefer to serve markets and lanes where the distance between loads is short. Trucking firms expend considerable effort to minimize empty mileage, which is specific to equipment type, through strategic and tactical business and operational planning.

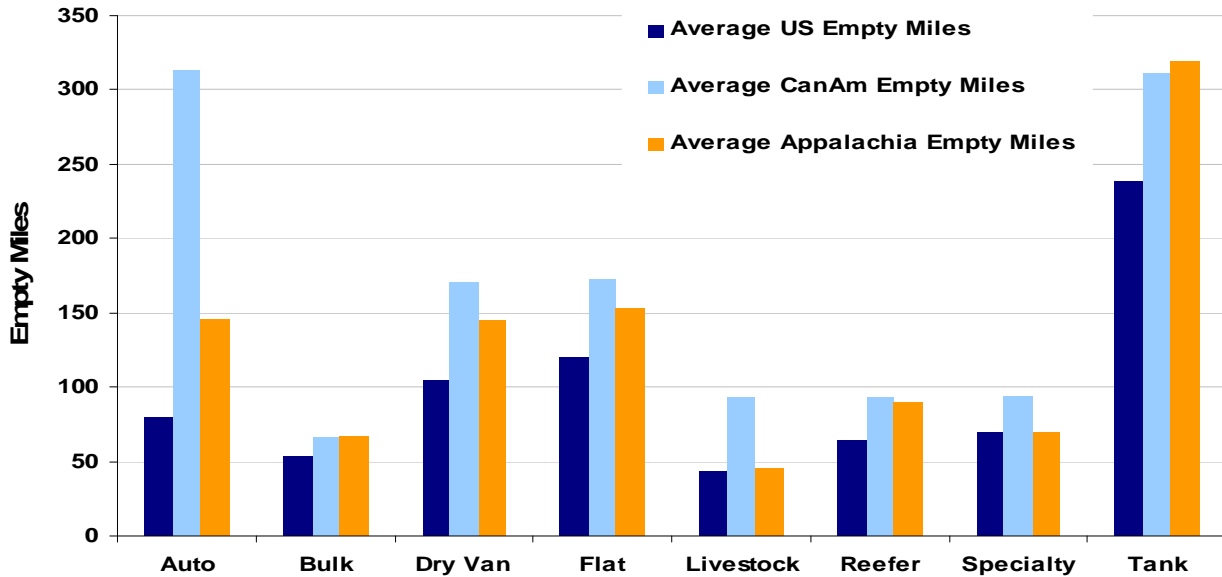
Furthermore, the cost premium associated with trucking is exacerbated and the rail cost advantage is mitigated by the fact the NE CanAm region relies more heavily on truck and less so on rail than the rest of US and Canada as a whole.

The trucking cost difference could be driven by a variety of factors including:

- Fewer backhaul opportunities (thus more empty miles) resulting from lack of system connectivity and lack of shipper density



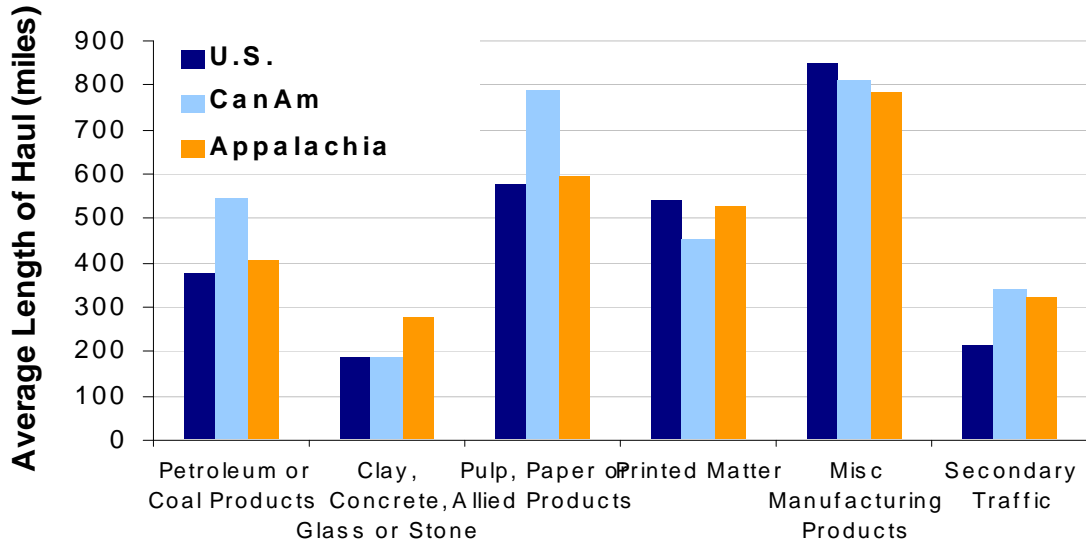
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In 2004, for almost all types of equipment (except for tanks and bulk), average empty miles in the NE CanAm region exceed the U.S. average, and often by differences of 50% or more. Appalachia also has more favorable empty mileage than NE CanAm, although the differences are far less dramatic. The most common equipment types – dry van and refrigerated trailers – had empty mileages that significantly exceed the comparable U.S. average. These are not trivial differences, as they directly affect the availability of service and rates charged in a region. Stakeholder interviews further confirmed the importance of this issue.



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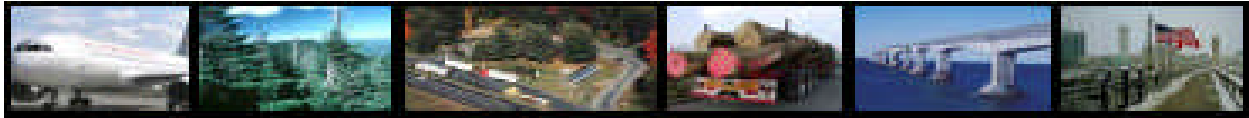
Average length of haul provides an indication of the distance that goods travel to market and, sometimes, modal options. Although other factors will substantially affect rates paid by shippers, in general the longer the distance that goods must be transported to reach their market, the more costly the transport. If geographic competition is present, the producer with a decidedly shorter haul will have an economic advantage over one facing a longer haul.

Data on outbound traffic from the region indicates the length of haul for NE CanAm producers is above the U.S. average and Appalachia in all commodity groups except for Petroleum or Coal Products. Substantial differences are found with Printed Matter, Pulp and Paper, and, Miscellaneous Manufactured Products. This latter group is noteworthy, given that the average length of haul is almost 1,200 miles, more than 300

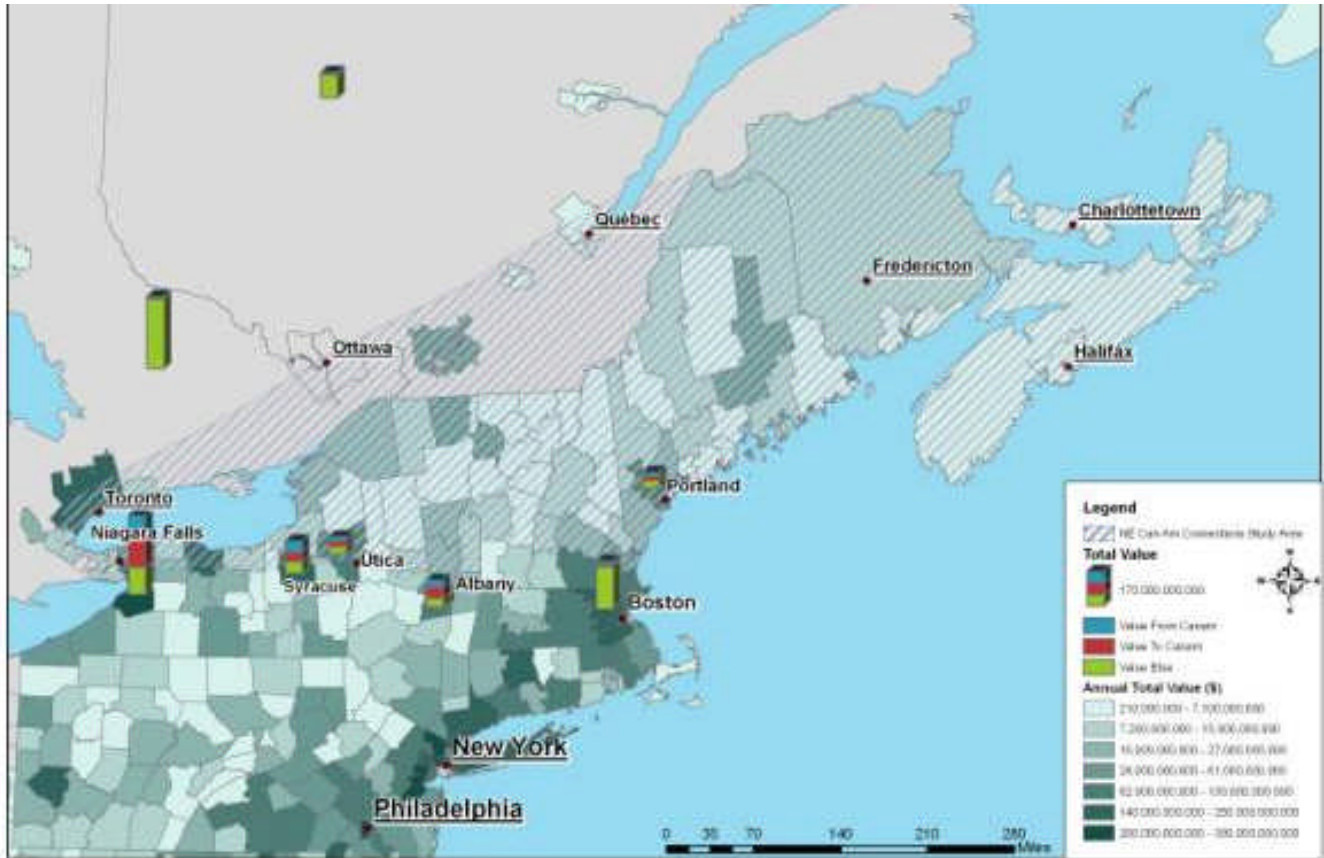
miles higher than the U.S. average, and almost 200 more than for Appalachia.

An insightful perspective from which to examine the economic structure of the Study Area and its relationship to the larger economy is to compare the value of trade within the Study Area and its surrounding environs. All of the counties in the Study Area engage in domestic trade at some level, though at substantially lower volumes than many of the neighboring regions. None of the adjacent metropolitan areas trade predominantly with the NE CanAm region, even among the smaller ones such as Utica and Portland. This suggests a lack of strong economic ties to the NE CanAm region, and also an opportunity for future development.

International trade is an important factor in measuring the utilization of any transportation system and it is especially important for the NE CanAm region.



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Overall, the Study Area is rich in natural resources and has proven its ability to manufacture and produce many products, such as paper, lumber, agricultural products and textiles, at a lower cost than other parts of the world.

Key stakeholder interviews identified large areas of interest in discussions pertaining to international traffic. While some of the region's international traffic is handled by small ports domestic to the Study Area, such as Halifax, Portland, and others located on the Saint Lawrence Seaway, the majority arrives in North America at southern U.S. ports, such as New York and New Jersey, or Western Canadian ports,

such as Vancouver or Prince Rupert. These shipments are then transferred via rail or truck to businesses in the NE CanAm region.

International trading partners for the Study Area are varied, and represent a typical North American trade distribution. The largest trading partner for all displayed regions is Asia-Pacific, which comprises some 43% of the North Atlantic's imports and an estimated 44% of the region's exports. It is from this region of the globe that the North Atlantic relies heavily upon for plastic and metal products, as well as furniture and fixtures, clothing and other manufactured goods. Estimates for Canada



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peg Canadian imports from Asia-Pacific at a larger 52% and exports at 35%. However, these estimations represent Canada as a whole and likely include west coast traffic that would not enter the eastern provinces within the Study Area.

In terms of overall volume, trade with Asia-Pacific is followed by Western Europe in Canada and the North Atlantic. This differs from the U.S. as a whole, most likely because of the proximity of Western Europe to eastern Canada and North Atlantic. Ports located in the Study Area are a day closer than the South Atlantic and two days closer than the congested ports of Southern California, making them an attractive alternative for many shippers.

Transportation and Tourism in the NE CanAm Region

The majority of visitation to the states and provinces of the NE CanAm Study Area is for leisure purposes. The province of Ontario and the state of Maine report that at least nine out of ten of their visitors are traveling for leisure purposes. In general, visitor travel purpose in the NE CanAm Study Area resembles that of the U.S. as a whole - 81% of U.S. domestic travel is for leisure purposes while 19% is for business purposes.

Outdoor recreation is an important attraction in the NE CanAm study area. Prince Edward Island, Newfoundland, Nova Scotia, New Brunswick and Maine have many miles of seacoast, with beaches and scenic rocky

cliffs. In addition, skiing is an important industry in most of the states and provinces in the NE CanAm area, with a significant economic impact on the economy in Vermont, Quebec and New Hampshire. National parks include Acadia Park in Maine, the White Mountain National Forest in New Hampshire and some 16 national parks in the Canadian portion of the NE CanAm Study Area. One of the most significant attractions in the NE CanAm study area is Niagara Falls, which brings 14 million visitors to Ontario and New York each year.

Leisure travel by nature is optional and the tourism professionals interviewed report that leisure travel to their destination needs to be convenient and affordable in order for them to successfully market their state or province as a leisure destination. Tourism professionals consider border crossing issues, currency, gas prices and the price, availability and convenience of air travel the greatest obstacles to growth in visitation to their states or provinces.

Specifically, tourism professionals throughout the region identified roadway infrastructure and more flights at lower costs as critical for increasing tourism.

Both interstate and intrastate roadway improvements are especially needed in the New England states, where tourism in the Study Area is impeded by the lack of quality roads.



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Meeting the Necessary Conditions for Global Competition

The region has some of the necessary elements for becoming a significant economic region and trading block in the global context including:

- Close proximity to major economic markets;
- A well educated and experienced labor force;
- Key multi-modal assets including access to a deep water port capable of handling the post panamax container ships and the St Lawrence Seaway;
- Relatively cost competitive freight rail rates; and
- Numerous commercial border crossings to facilitate bi-national trade.

Geographically, the NE CanAm region is poised to compete for increased trade-based economic activity with its proximity to major economic generators including New York, Boston, Toronto and Quebec and its access to major trade lanes via the Suez Canal, St Lawrence Seaway, Canadian National land bridge and numerous commercial border crossings. However, the lack of sufficient transportation infrastructure and service providing connectivity through the region as a major challenge and contributor to significantly higher transportation costs.

Key Findings and Input for Strategic Directions

Though the NE CanAm Region is poised to potentially become a major gateway, the full potential is unrealized as of yet. A weak east-west connection between the Midwest and Great Lakes economic engines to the less developed eastern states and provinces, in conjunction with slow population growth, mediocre real GDP growth, slow employment growth in the eastern portion of the NE CanAm Region, and institutional and operational issues all hinder and prevent the NE CanAm Region from becoming the great gateway that it could be.

The analysis uncovered numerous key findings supporting the fact that the NE CanAm regional economy is hindered by insufficient transportation linkages and services as well as other competitive factors including institutional and regulatory policies. These key findings provide insights into potential strategies for mitigating the disadvantages and include:

Economic performance and competitiveness:

- The NE CanAm region has not enjoyed the same level of robust growth relative to other major trading regions. Despite the impact of NAFTA and the explosion in global trade, the region has grown slower than other regions, both domestic and international since the turn of the century.



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- Many of the states and provinces have lagged in terms of economic performance when measured in terms of gross output and employment, leading to a region characterized primarily as an economically distressed center bordered by large, growing economic centers. Further more, the economic base analysis reveals that much of the region, specifically the US portion and the Atlantic provinces struggle to transition their natural resource and basic manufacturing based economies to a more service and advanced manufacturing based economy. This lagging transition could lead to further decline in terms of economic performance and sustainable growth.
- The results of the competitive benchmarking for the NE CanAm region are mixed. The analysis demonstrates that the region has some of the necessary elements for sustainable economic growth including close proximity to major economic markets, a competitive labor force that is highly educated and experienced, and important multi-modal assets including access to a deep water port capable of handling the post panamax container ships and the St Lawrence Seaway, relatively cost competitive freight rail rates and numerous border crossings to facilitate bi-national trade.
- The analysis also revealed several areas where the NE CanAm region is not meeting the necessary conditions to compete globally including relatively low capital productivity due to over reliance on labor, high tax burden and energy costs and a significant truck freight cost disadvantage.
- The fact that the region's truck freight costs are an average of 45%-65% higher than national averages has significant implications on the ability of the region to take advantage of the opportunities presented by global trends including increasing global trade, shifting trade lanes via the Suez Canal, CN land bridge and St. Lawrence Seaway; the logistics revolution; and perhaps most important, the increased focus on supply chain management.

Trade and transportation:

- Trucking is the dominant mode in the NE CanAm region. Ninety-three percent of all traffic in terms of tonnage is truck in the U.S., and terms of value, the figure is even higher at 96%. Air, marine, and rail traffic form the rest.
- Cross-border traffic predominates the U.S. portion of the traffic, with two out of three tons moving through the NE CanAm region crossing the border. Furthermore, as with Canadian-U.S. trade in general, the dominant flow of traffic is from Canada to the United States, with the primary commodities being bulk goods such as minerals, energy products, and pulp and paper. For Ontario, with its strong industrial base outside of the study region, the picture is different, with large quantities



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of manufactured goods (transportation equipment, etc.) exported to the U.S.

- Although there is little use of the marine mode in the U.S. (accounting for less than .5% of tonnage), for cross-border and intra-Canadian transport, the marine mode plays an important role. In 2004, on a tonnage basis, the marine trade accounted for 50% of all cross-border traffic. The St. Lawrence Seaway, with its 1,000 mile presence along the entire corridor, plays an important role not just in Canada's trade with the world, but also domestic marine trade.
- Noteworthy is the small portion of rail-handled traffic for both U.S., cross-border and intra-Canadian traffic. While the low rail share may in part be explained by data, primarily it reflects uncompetitive conditions for rail. The primary trading lanes are short at less than 600 miles, a distance at which rail has difficulty competing except where very high densities are available. Furthermore, the geography of the region and the rail network clearly affects its competitive position.

Tourism and transportation:

- The majority of visitation to the states and provinces of the NE CanAm Study Area is for leisure purposes. The province of Ontario and the state of Maine report that at least nine out of ten of their visitors are traveling for leisure purposes. We find that reasons for

travel in the NE CanAm Study Area are similar to those of the U.S. as a whole - 81% of U.S. domestic travel is for leisure purposes while 19% is for business purposes.

- Tourism professionals need more air travel options to their states or provinces at a more affordable price. They would like to see more direct flights and more affordable flights to their destinations in order to successfully attract visitors outside of their drive market. Tourism directors and ministers would like to see more direct flights between Canada and the U.S.
- Roadway infrastructure improvements are considered essential, especially to the tourism professionals interviewed in the U.S. Intrastate roadway improvements are especially needed in the New England states. In addition, better highways in Maine and New Brunswick would facilitate visitation by car between Maine, New Brunswick and Prince Edward Island.

Institutional Barriers

- Giving a new institutional context to the investment recommendations that emerge from the NE CanAm study could mitigate the risk of such recommendations being seen in conventional political terms. With earmarks and even bone-fide project justifications eroding in political strength as modes of competition for scarce national investment resources, a new



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and transferable framework grounded in regional convergence and international trade could make a difference to the consideration given the Study by Congress, Parliament, USDOT and Transport Canada take in the study outcomes.

- While the European institutional model does not necessarily map well to North America, it does suggest the need in North America for greater delegated authority to the cross-border regional level. NE CANAM represents an ideal framework within which to launch a made-in-North America pilot institution for transportation and environmental policy and investment.

ⁱ Merchandise Trade Section, Statistics Division, World Trade Organization

ⁱⁱ US Department of State: Bureau of Western Hemisphere Affairs. February 2007. Background notes: Canada.