

The Bangor–Saint John Trade & Growth Corridor

Economic Assets Map

*Foundation for the "Atlantica"
International Northeast Economic Region*

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1. Introduction

Over the past hundred years or so, the region encompassing Northern New England in the United States and the Maritime Provinces in Canada has known its share of challenges, difficulties and triumphs.

Strong from its trials and successes, the region is set to tackle the new century with renewed vigor. Emerging global trade patterns, growth in the knowledge economy and the emergence of the Atlantica economic zone are but a few indications of what lies ahead for the region.

The fact that the Bangor-Saint John Corridor is part of Atlantica means that it is part of something bigger, on the road to becoming a major player in the vital North American energy exploration, production and distribution sector. Local stakeholders are playing a proactive role in supporting the re-emergence of the region as an economic force in North America.

The Bangor-Saint John Trade & Growth Corridor represents a vital link in the emerging Atlantica economic zone. Investment and trade patterns in North America are shifting as a result of overburdened infrastructure on the West Coast and increasing cost and labor market challenges in the hot spots of the 1990s.

New Brunswick and Maine are uniquely positioned to capitalize on the next wave of increased trade and investment activities in North America.

The Bangor-Saint John Trade & Growth Corridor is well timed and should crystallize the thinking among regional stakeholders of particular opportunities to be exploited and potential threats to be avoided.

The Bangor-Saint John Trade & Growth Corridor is international in scope, innovative in method and appealing for all its communities.

The Bangor-Saint John Trade & Growth Corridor portal provides you with an overview of the region, its key economic assets and major infrastructure that will support the region's growth into the future.

For more information on the initiative contact:

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Saint John, New Brunswick Canada, E2L 1G3
Telephone: (506) 658-2877

Bangor-Saint John Trade & Growth Corridor (Maine)
Eastern Maine Development Corporation
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Bangor, Maine USA 04401
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2. About the Bangor-Saint John Trade & Growth Corridor

The Bangor-Saint John Trade & Growth Corridor is located in the heart of the emerging economic zone known as [Atlantica](#). This international collaboration unites the resources and expertise of more than a dozen communities and a host of local, regional and federal economic development agencies with the common aim of making the region even more economically dynamic.

Home to a population base of more than 400,000, this project involves mapping the key economic assets in the region spanning from Sussex, New Brunswick to Bar Harbor, Maine. The objectives for this report (and the online portal) is to identify, inventory and profile the corridor's:

- Transportation and energy transmission infrastructure
- Business, cultural, knowledge, education, R&D and innovation assets
- Emerging economic opportunities, sectors and clusters
- Economic strengths, weaknesses, opportunities and threats

The Bangor-Saint John Trade & Growth Corridor economic asset map builds on and compliments the wealth of information found in the [Halifax Moncton Growth Corridor](#). With the latter's 600,000 population base, the combination of both corridors results into a market of 1 million individuals, which is extended by its international import and exports activities.

The initiative is managed by:

[Enterprise Saint John](#)
[Eastern Maine Development Corporation](#)

Additional cooperation and active participation is offered by:

[Enterprise Fundy](#)
[Enterprise Charlotte](#)
[Atlantic Canada Opportunities Agency](#)
[Maine International Trade Center](#)

Key partners include:

[Bangor Region Chamber of Commerce](#)
[Saint John Board of Trade](#)
[City of Saint John](#)
[City of Bangor](#)

3. Corridor Defined

For the purposes of this portal, the Bangor-Saint John Trade & Growth Corridor is defined as the region that is bounded by Sussex, New Brunswick and by Bar Harbor, Maine.



For demographic and economic data, the portal uses six counties: Hancock, Penobscot and Washington in Maine and St. John, Charlotte and Kings in New Brunswick.

There is summary data on 18 communities along the Corridor:

- Petitcodiac, NB
- Salisbury, NB
- Sussex, NB
- Hampton, NB
- Rothesay, NB
- Quispamsis, NB
- Saint John, NB
- Grand Bay-Westfield, NB
- St. George, NB
- St. Andrews, NB
- St. Stephen, NB
- Calais, ME
- Machias, ME
- Lincoln, ME
- Bangor, ME
- Bucksport, ME
- Ellsworth, ME
- Bar Harbor, ME

The portal also features the two main metropolitan areas: the Saint John Census Metropolitan Area and the Bangor Metropolitan Statistical Area.

There are different data reporting methodologies and schedules between the United States and Canada. The portal makes note of these changes where they occur.

4. Corridor-based Industries

4.1 Establishments by Major Industry Group

4.1.1 Introduction

The Bangor-Saint John Trade & Growth Corridor contains a diverse mix of industries ranging from energy production to tourism. The urban centers of Saint John and Bangor both act as retail, services and transportation hubs while the smaller towns and rural areas feature strong tourism, forestry, manufacturing and fishing sectors.

There are a number of exciting growth sectors in the Corridor including energy production, aquaculture, life/health sciences and information technologies. The creative economy is taking root in bookend urban areas of Bangor and Saint John and will add to the vibrancy of these economies going forward.

4.1.2 New Brunswick Portion of the Corridor

St. John, Charlotte and Kings Counties exhibit considerable differences in the break down of firms by major NAICS code. This, of course, is only one indicator of the industrial makeup of the region as larger firms are counted the same as smaller ones (see the section below on firm size). However, St. John County has considerably more retail trade firms than Charlotte County and Kings County has considerably more transportation and warehousing firms as a percentage of total firms in the region. Please note that 0% does not mean zero companies in that specific sector. For example, Saint John Energy is a utility located in St. John County and there are two oil and gas extraction companies in Kings County. In the case of Kings County, that translates into 0.3% firms in NAICS 21 but the chart rounds the number to the nearest decimal.

Percentage of Total Firms in Each Two-Digit NAICS Industry (2005)

SECTORS	St. John	Charlotte	Kings	Brunswick New
Total	100%	100%	100%	100%
11 - Agriculture, Forestry, Fishing/Hunting	2%	20%	10%	12%
21 - Mining and Oil and Gas Extraction	0%	0%	0%	0%
22 - Utilities	0%	0%	0%	0%
23 - Construction	11%	9%	14%	11%
31-33 - Manufacturing	4%	7%	4%	4%
41 - Wholesale Trade	5%	4%	4%	5%
44-45 - Retail Trade	13%	9%	11%	12%
48-49 - Transportation and Warehousing	5%	6%	8%	7%
51 - Information and Cultural Industries	1%	1%	1%	1%
52 - Finance and Insurance	6%	3%	4%	3%
53 - Real Estate and Rental and Leasing	8%	4%	5%	6%
54 - Professional, Scientific, Tech. Svcs	9%	4%	9%	8%
55 - Management of Companies	6%	3%	4%	3%
56 - Admin. & Support, Waste Mgmt	5%	4%	5%	4%
61 - Educational Services	1%	1%	1%	1%
62 - Health Care and Social Assistance	7%	5%	6%	6%
71 - Arts, Entertainment and Recreation	2%	2%	2%	2%
72 - Accommodation and Food Services	6%	7%	3%	6%
81 - Other Services (except Public Admin.)	10%	9%	9%	9%
91 - Public Administration	0%	0%	0%	1%

Source: Statistics Canada

4.1.3 Maine Portion of the Corridor

Not all NAICS information is published at the county level. For those sectors where information is available, the two-digit NAICS data is found in the table below. Penobscot County has by far the largest number of retail firms among the three counties but has not exhibited any growth in the past five years. Bangor has however grown its retail offering, with a new retail development adjacent to the Bangor Mall, which includes and Old Navy, Kohls and a new L.L. Bean outlet.

There has been a very strong growth rate in health care organizations in Penobscot, Hancock and Washington counties. The number of firms in the manufacturing sector is up in all three counties – above the state average growth rate.

Total Establishments (2002) & Percentage Change 1997 - 2002

	Hancock	% Change	Penobscot	% Change
NAICS				
Manufacturing	104	11%	173	12%
Wholesale trade	82	12%	178	-9%
Retail trade	397	2%	798	0%
Information	52	n/a	74	n/a
Real estate & rental & leasing	73	16%	153	5%
Professional, scientific, & tech. services	141	27%	318	17%
Administration & support**	80	70%	182	19%
Educational services	15	650%	20	-17%
Health care & social assistance	154	95%	513	65%
Arts, entertainment, & recreation	82	67%	74	64%
Accommodation & food services	318	1%	302	-12%
Other services (except public admin.)	124	65%	279	34%

	Washington	% Change	Maine	% Change
NAICS				
Manufacturing	44	7%	1880	4%
Wholesale trade	51	2%	1669	-3%
Retail trade	190	-7%	7050	0%
Information	23	n/a	739	14%
Real estate & rental & leasing	18	38%	1541	15%
Professional, scientific, & tech. services	41	21%	3275	27%
Administration & support**	28	40%	1783	41%
Educational services	6	n/a	274	21%
Health care & social assistance	125	136%	4403	16%
Arts, entertainment, & recreation	8	33%	826	12%
Accommodation & food services	97	-14%	3726	0%
Other services (except public admin.)	49	20%	2683	8%

*Includes warehousing

**Also includes waste management & remediation service

Source: U.S. Census Bureau

4.2 Size of Establishments

4.2.1 New Brunswick Portion of the Corridor

New Brunswick is highly dependant on the small business sector – particularly the micro-business (less than 10 employees). Across the province some 85.5% of firms have less than 10 employees. This compares to only 78.5% in Maine. However, there are significant variations based on the county involved. Albert County (adjacent to Moncton) has the highest percentage of micro-businesses at 92.5% of firms. However, St. John County only has 77.4% of firms in the micro-business category. Kings County has no firms in the 500+ employee category.

County:	Employment Size:			
	<10	20-99	100-499	500+
Albert	92.5%	7.0%	0.5%	0.0%
Kent	92.1%	6.8%	1.0%	0.0%
Queens	89.9%	9.4%	0.6%	0.0%
Northumberland	89.8%	8.6%	1.5%	0.1%
Kings	89.7%	9.4%	0.9%	0.0%
Gloucester	89.2%	9.1%	1.5%	0.1%
Restigouche	89.2%	8.8%	1.9%	0.1%
Madawaska	88.5%	9.7%	1.6%	0.2%
Victoria	87.9%	10.9%	1.1%	0.1%
Sunbury	87.2%	11.2%	1.6%	0.0%
Charlotte	86.1%	12.2%	1.6%	0.1%
Carleton	85.9%	11.7%	2.3%	0.1%
New Brunswick	85.5%	12.3%	2.0%	0.2%
Westmorland	81.1%	16.3%	2.3%	0.3%
York	79.7%	16.5%	3.1%	0.7%
St. John	77.4%	18.3%	3.7%	0.7%

Source: Statistics Canada. Canadian Business Patterns (July 2005)

4.2.2 Maine Portion of the Corridor

The 2002 U.S. Economic Census did not breakout companies by employment size at the county level. However, from the state data, it is clear the Maine relies heavily on the micro-business sector. 78.5% of all businesses in the state have less than 10 employees. On the opposite end of the scale, smaller states such as Maine tend to have a higher percentage of large employers (500+ employees) than larger states.

Firms By Employment Size

Size of Firm:	<u>Maine</u>	<u>NH</u>	<u>VT</u>	<u>MA</u>	<u>USA</u>
< 10 employees	78.5%	74.4%	76.8%	76.2%	78.5%
10-99 employees	17.2%	20.1%	18.2%	19.6%	19.7%
100-499 employees	1.8%	2.2%	1.9%	2.3%	1.5%
500+	2.5%	3.2%	3.2%	1.9%	0.3%

Source: U.S. Census Bureau (2002)

The 2002 U.S. Economic Census does include information on companies with no employees (self-employed persons) at the county level and this provides a good indication of the relative importance of self-employment in the three counties in the Corridor. Some 13% the total population in Washington County is self-employed compared to the state average of only 11%. There is a considerable urban-rural split on this issue. Penobscot County (predominately Greater Bangor) only has 6% of its population self-employed. Please note that some individuals work both a salaried job and hold status as a self-employed person.

Self-Employment - Maine Counties

	<u># of Self-Employed</u>	<u>% of Population</u>
Hancock	6,688	12%
Penobscot	8,970	6%
Washington	3,867	13%
Maine	99,709	8%

Source: U.S. Census Bureau (2002)

4.3 Saint John Region

Enterprise Saint John has identified four major growth sectors to guide the region's economic growth over the next few years. These are:

- [Energy & Advanced Manufacturing](#)
- [Info & Communication Technology](#)
- [Tourism](#)
- [Health Sciences](#)

4.3.1 Energy & Advanced Manufacturing

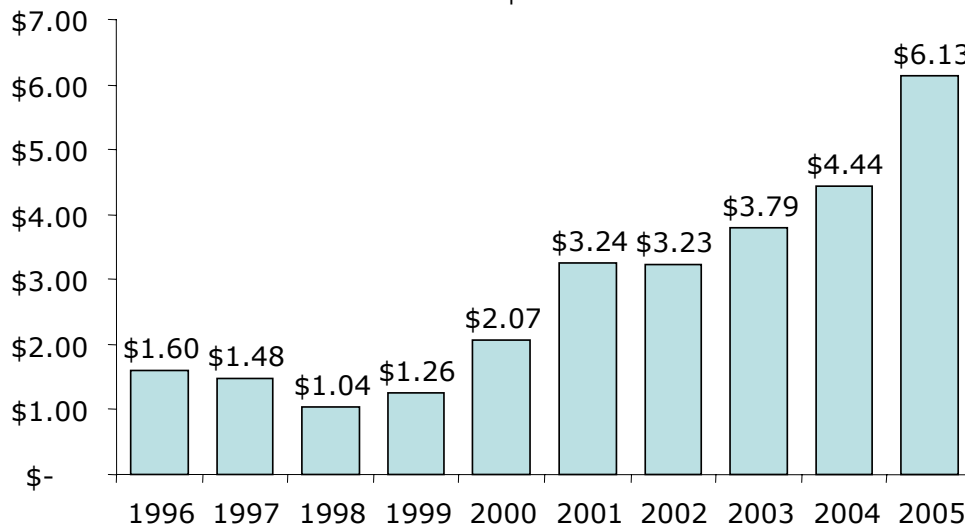
Saint John is a major energy production and distribution hub in Atlantic Canada with 50% of New Brunswick's electrical generation capacity located in the Saint John region. The Saint John region is home to Atlantic Canada's only nuclear power plant, Point Lepreau as well as Canada's largest and most modern oil refinery – Irving Oil - a North American leader in the production of environmentally friendly fuels. Over 3 billion dollars of major energy projects are underway including the Canaport LNG Terminal and refurbishment of the Point Lepreau nuclear power plant.

A few key statistics:

- Petroleum exports from the Irving Refinery have grown from \$1.6B in 1996 to \$6.1B in 2005.
- There are 114 manufacturing firms in St. John County fabricating a diverse mix of products.
- While declining nationally, the number of persons employed in manufacturing has gone up in the greater Saint John region.

Petroleum Exports (10 Year Trend)

Billions \$CDN



Source: Statistics Canada

Manufacturing Firms by Four-Digit NAICS

St. John County

NAICS:

3399 - Other Miscellaneous Manufacturing	14
3371 - Household and Institutional Furniture and Kitchen Cabinets	9
3219 - Other Wood Product Manufacturing	6
3261 - Plastic Product Manufacturing	6
3327 - Machine Shops, Turned Product, and Screw, Nut and Bolts	5
3115 - Dairy Product Manufacturing	4
3121 - Beverage Manufacturing	4
3241 - Petroleum and Coal Products Manufacturing	4
3323 - Architectural and Structural Metals Manufacturing	4
3391 - Medical Equipment and Supplies Manufacturing	4
3152 - Cut and Sew Clothing Manufacturing	3
3222 - Converted Paper Product Manufacturing	3
3251 - Basic Chemical Manufacturing	3
3333 - Commercial and Service Industry Machinery Manufacturing	3
3113 - Sugar and Confectionery Product Manufacturing	2
3118 - Bakeries and Tortilla Manufacturing	2
3212 - Veneer, Plywood and Engineered Wood Products	2
3255 - Paint, Coating and Adhesive Manufacturing	2
3273 - Cement and Concrete Product Manufacturing	2
3329 - Other Fabricated Metal Product Manufacturing	2
3332 - Industrial Machinery Manufacturing	2
3334 - HVAC and Commercial Refrigeration Equipment	2
3339 - Other General-Purpose Machinery Manufacturing	2
3111 - Animal Food Manufacturing	1
3114 - Fruit and Vegetable Preserving and Specialty Foods	1
3159 - Clothing Accessories and Other Clothing Manufacturing	1
3162 - Footwear Manufacturing	1
3253 - Pesticide, Fertilizer and Other Agricultural Chemicals	1
3254 - Pharmaceutical and Medicine Manufacturing	1
3272 - Glass and Glass Product Manufacturing	1
3324 - Boiler, Tank and Shipping Container Manufacturing	1
3325 - Hardware Manufacturing	1
3335 - Metalworking Machinery Manufacturing	1
3345 - Navigational, Measuring, Medical and Controls	1
3346 - Manufacturing Magnetic and Optical Media	1
3352 - Household Appliance Manufacturing	1
3362 - Motor Vehicle Body and Trailer Manufacturing	1
3363 - Motor Vehicle Parts Manufacturing	1
3379 - Other Furniture-Related Product Manufacturing	1
Totals	106

Source: Statistics Canada.

4.3.2 Info & Communication Technology

Saint John, New Brunswick has emerged as a world-class location for customer service, technical support, remote development, shared service and back office information and communication technology (ICT) operations. There is a rapidly growing cluster of over 50 diverse Information Technology (IT) companies specializing in e-commerce, software development, remote network management, technical support, multi-media and state-of-the-art Voice Over Internet Protocol (VOIP) applications. As one of North America's leading high end contact center and back office locations, Saint John employs over 6,000 people in 25 centers supporting clients around the world.

A few key statistics:

- There are 98 firms in NAICS 5415 - Computer Systems Design and Related Services operating in the tri-county (Saint John, Kings & Charlotte) region.
- There are 11 computer training schools.
- There are 25 customer contact centers including Eddie Bauer & Xerox.
- [PropelSJ](#) is gaining a wide reputation as a valuable tool for the support and incubation of new technologies and IT startups.

4.3.3 Tourism

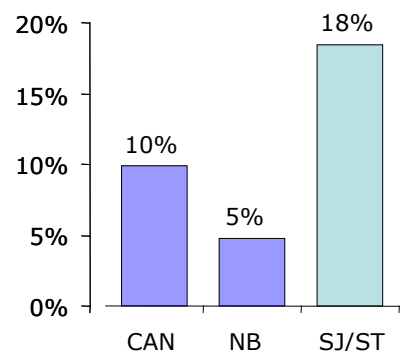
Saint John has a diversified and expanding tourism sector that generates over \$200 million in annual expenditures. As New Brunswick's center for conventions, events and sporting facilities, Saint John has the Province's only full service Trade and Convention facility supported by an all-weather network of uptown climate-controlled indoor Pedways and a nationally-recognized heritage district - Trinity Royal.

Regional communities have made a unified commitment to promote economic development while preserving the region's heritage and investing in arts and culture like the historic Imperial Theatre and Harbour Station, New Brunswick's top multi-purpose, special event and concert facility.

A few key statistics:

- Accommodation and food service employment grew by 18% from 1999 to 2005.
- There are eight museums in the tri-county region.
- There are five historic and heritage sites.
- There are four zoos and botanical gardens.
- Saint John has a rapidly growing cruise ship sector.

Growth in Accommodation & Food Services Jobs 1999-2005



Source: Statistics Canada
SJ/ST: Saint John to St. Stephen

4.3.4 Health Sciences

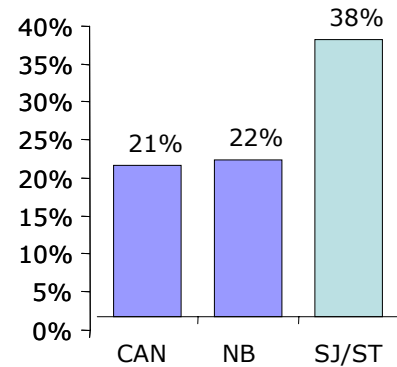
Saint John is the Atlantic Canadian center of excellence for the delivery of health care services. Home to the Saint John Regional Hospital, an accredited medical teaching facility with affiliations to the Dalhousie University and Memorial University Medical Schools, the Saint John health sciences group (Atlantic Health Sciences Corporation, University New Brunswick Saint John and the New Brunswick Community College Saint John) serves as a catalyst for public - private sector health science research, development and technology commercialization projects.

The region is also home to an emerging cluster of e-health research, development and innovation activities, and is a national leader and pioneer in the creation, launch and delivery of new health education programs. The Saint John health sciences cluster also supports a provincial center of excellence for clinical trial activity.

A few key statistics:

- Total health care sector employment is up by 38% from 1999 to 2005 – the fastest increase of any region in New Brunswick.
- The Atlantic Health Sciences Corporation (AHSC) has 4,500 employees - the largest health care facility in New Brunswick.
- Planning is underway for the 2007 launch of a Provincial Anglophone medical training program to be led by AHSC and UNB Saint John.

**Growth in Health Jobs
1999-2005**



Source: Statistics Canada
SJ/ST: Saint John to St. Stephen

4.4 Fundy Region

The Fundy Region, encompassing most of Kings and Albert Counties, has identified three major growth areas for its region:

- [Value-added Manufacturing](#)
- [Tourism](#)
- [Natural gas/energy](#)

For the purposes of data collection, the 'Fundy Region' is defined herein as all of Albert County, Sussex area, Sussex Corner, Waterford, Havelock, and Norton.

4.4.1 Value-added Manufacturing

The Fundy region has a fairly strong manufacturing sector. There are 75 firms in the region that manufacture a range of products with a focus on wood, food and metal fabricated and related products.

Manufacturing in the Fundy Region (2005)

Number of Firms by Category

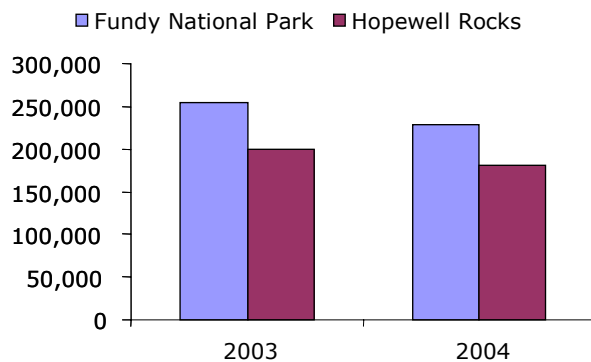
Category:	#
Wood products	15
Food products	10
Metal fabrication & related	19
Clothing & related	5
Concrete, cement, etc.	4
Other	<u>22</u>
Total Manufacturing Firms	75

Source: Statistics Canada

4.4.2 Tourism

Nestled between the urban centers of Saint John and Moncton, the Fundy region includes a number of New Brunswick's top tourism assets including the two most visited Fundy National Park and Hopewell Rocks.

New Brunswick's Top Two Tourism Attractions (Annual Visitors)



Source: NB Dept. of Tourism & Parks.

4.4.3 Natural Gas & Energy

The Fundy region is one of the most promising on-shore exploration and production environments in eastern Canada. The McCully natural gas field just outside of Sussex has several functioning wells and studies have suggests that the whole field contains in excess of one trillion cubic feet of gas.

In addition, Enterprise Fundy, a Community Economic Development Agency, is exploring ways to generate economic benefits to the region from the nature gas through the creation of an energy park. A study is underway to assess the viability of such a project. Beyond the growing reserves of natural gas being discovered through on-going drilling programs, there have been commercial scale deposits of oil also discovered in both Kings and Albert Counties.

Albert County, southeast of Sussex, contains a fairly large deposit of oil shale that could become viable for production in the near future.

4.5 Charlotte Region

The Charlotte region in New Brunswick extends from Saint John southwest to St. Stephen. Enterprise Charlotte has three main growth sectors:

- [Tourism](#)
- [Aquaculture and Fisheries](#)
- [Manufacturing](#)

4.5.1 Tourism

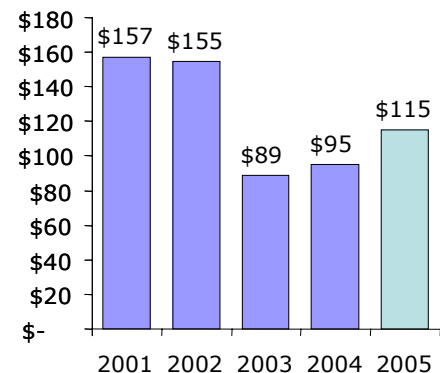
The Charlotte region has a well built tourism infrastructure anchored by pristine small towns and villages. As discussed in the section on tourism activity, the sector has witnessed declines in recent years and that has affected the tourism sector in Charlotte County.

4.5.2 Aquaculture and Fisheries

Aquaculture was one of the economic development success stories of the 1990s in New Brunswick and the vast majority of the industry was centered in the Bay of Fundy of the Charlotte County coast. The industry did go through some trouble in the early 2000s which led to consolidation of the players and now the industry output has turned positive again. Exports of farmed fish from New Brunswick have increased by 29% in the past two years.

Charlotte County is also home to a successful traditional fishery. Some 12% of the workforce is employed in primary industry occupations (mostly fishing). As the table below reveals, there are over two hundred firms active in the sector.

**Aquaculture Exports
(5 Year Trend)**



Source: Statistics Canada

Fishing Sector in Charlotte County (2005)

Firms by Six Digit NAICS

NAICS:	#
114113 - Salt Water Fishing	189
114114 - Inland Fishing	4
413140 - Fish and Seafood Product Wholesalers	16
112510 - Animal Aquaculture	<u>64</u>
Totals	273

Source: Statistics Canada.

4.5.3 Manufacturing

Another key growth sector in Charlotte County is manufacturing. An estimated 15% of the workforce is employed in occupations related to manufacturing. There are over 40 firms active in the sector led by wood-related manufacturing, food and clothing products.

Manufacturing Firms in Charlotte County (2005)

NAICS

311119 - Other Animal Food Manufacturing	4
321999 - All Other Miscellaneous Wood Products	4
337123 - Other Wood Household Furniture	4
339920 - Sporting and Athletic Goods Manufacturing	4
326198 - All Other Plastic Product Manufacturing	3
339990 - All Other Miscellaneous Manufacturing	3
311330 - Confectionery Manufacturing from Chocolate	1
321920 - Wood Container and Pallet Manufacturing	1
325610 - Soap and Cleaning Compound Manufacturing	1
325999 - All Other Miscellaneous Chemical Products	1
327215 - Glass Product Manufacturing	1
327320 - Ready-Mix Concrete Manufacturing	1
327390 - Other Concrete Product Manufacturing	1
327990 - All Other Non-Metallic Mineral Products	1
332420 - Metal Tank (Heavy Gauge) Manufacturing	1
332431 - Metal Can Manufacturing	1
333110 - Agricultural Implement Manufacturing	1
333416 - Heating & Commercial Refrigeration Equipment	1
333519 - Other Metalworking Machinery Manufacturing	1
334512 - Measuring, Medical and Controlling Devices	1
336350 - Motor Vehicle Transmission & Power Train Parts	1
337110 - Wood Kitchen Cabinet and Counter Tops	1
337213 - Wood Office Furniture	1
339110 - Medical Equipment and Supplies Manufacturing	1
339910 - Jewellery and Silverware Manufacturing	1
453930 - Manufactured (Mobile) Home Dealers	1
Total	42

Source: Statistics Canada

4.6 Eastern Maine Region

The Eastern Maine portion of the Bangor-Saint John Trade & Growth Corridor represents a highly diverse mix of industries, which includes:

- [Creative Economy](#)
- [Information Technologies/Call Centers](#)
- [Biotechnology/Life Sciences](#)
- [Tourism](#)
- [Energy](#)
- [Aquaculture](#)
- [Forest Products](#)
- [Manufacturing](#)

4.6.1 Creative Economy

In 2005, Maine's Governor appointed a Creative Economy Council mandated to work on creating strategies to develop this segment of the state's economy. There has been considerable research in recent years to suggest that a region's creative economy can be a catalyst for overall economic growth and enhance a region's ability to attract and retain skilled workers.

At the heart of Eastern Maine's creative economy is the University of Maine. Graduates of the University of Maine's new media and arts programs have, in just the past 7-8 years, started more than 15 new businesses in areas such as design and film production. Maine's current creative workers earn, on average, \$48,557 in annual wages—some 33% higher than Maine's overall average wage of \$32,661. In addition, Maine's creative workforce is also growing faster than the state's overall workforce. From 2000 to 2004, Maine's creative workforce grew by 9%, compared to a 7% growth rate overall, adding some 5,474 jobs to the Maine economy.

The Eastern Maine Development Corporation is working with the university to support the creation of a Creative Economy R&D/Training/Production Facility. The new media program at the University of Maine currently has 228 students enrolled. Even though the program is less than ten years old, it is one of the most popular majors at UMaine. The number of students is currently limited by space and faculty availability, and could easily be doubled if UMaine had the space and faculty to accommodate them.

As the table below reveals, total employment in creative occupations in the Bangor MSA has increased over 100% since 1999 and is now above the state level as a percentage of total employment.

Arts, Design, Entertainment, Sports, and Media Occupations

	<u>Bangor MSA</u>	<u>Maine</u>	<u>USA</u>
Total Employment	870	6,870	1,683,310
Growth 1999-2005	107%	-7%	8%
As a % of Total Employment	1.3%	1.2%	1.3%

Source: US Bureau of Labor Statistics

4.6.2 Information Technologies/Call Centers

The information technology sector is a relatively small but growing part of the Eastern Maine economy – particularly centered in the Bangor MSA. As the table below shows, employment in computer and mathematical occupations has increased by 52% since 1999 – well above the state and national levels. In addition, the number of firms active in this sector has doubled from 1997 to 2002.

Computer and Mathematical Occupations

	<u>Bangor MSA</u>	<u>Maine</u>	<u>USA</u>
Total Employment	700	7,610	2,952,740
Growth 1999-2005	52%	18%	13%
As a % of Total Employment	1.1%	1.3%	2.3%

Source: US Bureau of Labor Statistics

Related to the IT sector is the call center/back office sector. A big part of Maine's economic development strategy over the past 10 years has been attracting call centers. These have been established all over the state, no where more dramatically than the midcoast area with the establishment of MBNA.

Nearly 4,000 jobs were created and the economies of Camden, Rockland, and Belfast changed dramatically, not to mention the lives of nearby residents who commuted to these communities. It should be noted, however, that the MBNA sold these centers to the Bank of America, which in turn closed the Rockland facilities.

The growth of the call center sector is reflected in the growth of office and administrative support occupations in the region. Since 1999, there has been a 31% increase in occupations in this area well above the state and national growth rate.

Office and Administrative Support Occupations

	<u>Bangor MSA</u>	<u>Maine</u>	<u>USA</u>
Total Employment	11,190	103,640	22,784,330
Growth 1999-2005	31%	10%	1%
As a % of Total Employment	17.3%	17.4%	17.5%

Source: US Bureau of Labor Statistics

However, given new technologies and competition from overseas, the future growth and retention of this sector should be given serious consideration. The focus should be on higher value and near shore opportunities.

4.6.3 Biotechnology/Life Sciences

There is a small but growing biotechnology/life sciences sector in the eastern Maine region. A number of efforts have been made to apply the tools and techniques of biotechnology to marine aquaculture in support of that vital industry to the local economy.

There has been strong growth in related employment in this sector. According to Bureau of Labor Statistics data, since 1999 there has been a 225% in the number of persons employed in life, physical, and social science occupations and now the percentage of these occupations in the workforce is higher than both the state and national levels.

Life, Physical, and Social Science Occupations

	<u>Bangor MSA</u>	<u>Maine</u>	<u>USA</u>
Total Employment	650	4,540	1,185,730
Growth 1999-2005	225%	25%	30%
As a % of Total Employment	1.0%	0.8%	0.9%

Source: US Bureau of Labor Statistics

The University of Maine has been a key catalyst in the growth of the fledgling life sciences sector in eastern Maine. The new Graduate School for Biomedical Sciences (GSBS) is a virtual research and education collaboration that draws on the strengths of the state's entire biomedical enterprise, especially the Jackson Laboratory and Eastern Maine Healthcare Systems.

The GSBS will create research and graduate education opportunities in eastern Maine that previously have been impossible. It will be a lure for biomedical and biotechnology companies considering locating in Maine and will be an asset to help recruit professionals to the area. It concentrates on graduate education and recruiting the very best graduate students from around the country to Maine with competitive stipends. The biomedical industry throughout the entire region will grow by conducting more research and providing a very highly trained workforce. High quality jobs in biomedicine will be created and spin-off companies are anticipated.

The Maine Institute for Human Genetics and Health, a subsidiary of Eastern Maine Healthcare Systems, established under a collaborative agreement with the University of Maine and The Jackson Laboratory, is another key driver in this sector. Scientists at those organizations channel promising new discoveries in mouse and model organism genetics to the Institute to evaluate the potential for use in diagnosis and improvement on prevention of disease. The Maine Institute for Human Genetics and Health collaborative also formalizes research and educational relationships with the University of Maine and The Jackson Laboratory, thereby creating a “bench to bedside program” and expanding preclinical medical education, and research opportunities for students enrolled in the University of Maine Graduate School of Biomedical Sciences.

4.6.4 Tourism

Tourism has become increasingly important to the eastern Maine economy. It is being used to help communities, particularly in rural areas, diversify out of their dependence on other sectors. EMDC is championing a nature-based tourism initiative as well as several other projects in the region.

However, many of the rural areas lack an infrastructure to support tourism, along with a support structure to market and service the customer. In Maine, tourism is the second largest industry.

Historically, Maine has relied upon a rustic camp brand for many of its tourism offerings that largely feature Maine’s splendid natural resources – the rugged coast, or inland lakes. However, to compete in the future there is a need for strategic tourism investments that will support the industry. This infrastructure varies from lodging to better roads and signage, to public bathrooms and services.

4.6.5 Energy

Energy will be a key part of eastern Maine’s economic development over the next decade. Bio-mass energy is growing again. Two formerly retired plants are now back on line. Tidal power and bio-fuels are also of interest, as Maine and the world increase efforts to identify stable and safe energy supplies. Maine has high energy costs and is heavily dependent upon oil and natural gas, both imported, so efforts to create more local capacity are needed.

The interest in LNG remains strong, particularly downeast. New England is becoming increasingly dependent upon LNG for its power, and this may reduce the area’s energy dependence.

The EMDC is working on a number of energy-related projects including an Energy Commons industrial park that will create its own energy sources and spur economic development using local natural resources. The EMDC is also working with the University of Maine on a biorefinery project which will allow pulp and paper mills to create new, high-margin revenue streams while maintaining their traditional production.

Of considerable interest is the recent sale of the Georgia-Pacific Mill in Old Town, Maine. The Mill is going to be the site of at least four companies, employing 1,000 workers, in the energy sector. In a move to diversify and strengthen Maine's energy independence, the companies will focus on renewable energy, heating/cooling systems and biomass/energy production.

4.6.6 Aquaculture

Cooke Aquaculture, the one remaining dominant industry player, is growing. There is interest and movement towards establishing an aquaculture park in Gouldsboro. As mentioned in the Charlotte County review, this industry seems to be on the upswing.

The UMaine facility in Franklin is conducting research into new species for aquaculture development and could be an important catalyst for further industry development.

The EMDC is working with its partners on the Downeast Aquaculture Business Park which will help revitalize the Schoodic economy after Naval base closings.

4.6.7 Forest Products

Jobs in the pulp and paper industry are well-paying manufacturing jobs. In addition, innovative new products and processes will create the need for additional technical and engineering positions. If the research is successful in developing lower-cost alternative fuels, the return on investment will be much greater than simply making the mills more competitive, it will permeate throughout the economy.

There is considerable effort undertaken by the EMDC and other organizations to support this sector becoming more efficient and innovative so that it can remain competitive in eastern Maine. An example of this is the University of Maine Biorefinery which will allow pulp and paper mills to create new, high-margin revenue streams while maintaining their traditional production.

Likewise, the Advanced Engineered Wood Composites Center does R&D work for over 150 private companies, employed over 300 UMaine student research assistants, published over 400 articles and reports, awarded 8 patents, received several national awards and has hosted over 1,000 visitors each year.

4.6.8 Manufacturing

During the recent recession no state suffered more than Maine in terms of the percentage of manufacturing jobs lost. Maine, according to the Census Bureau, lost 25.32% of its manufacturing employment between 2001-2004, tops in the Nation.

In Eastern Maine this job loss occurred in paper-making, lumber and wood products, salmon processing and aquaculture, shoes and textiles, and other industries. These job losses are the result of various factors, including foreign competition, lack of capital investment, and changing industry dynamics.

Between 2001 and 2004, according to the Maine Department of Labor, manufacturers in Eastern Maine lost 3123 jobs, or 19.6%. Penobscot County lost 33.5% of its manufacturing jobs. Over this same period manufacturing employment declined from 21.3% of the total employment in Eastern Maine to 20.4%.

The New England Economic Forecast anticipates that manufacturing will continue to decline over the next several years. This should be cause for alarm as many of the region's labor market areas are still heavily dependent upon manufacturing.

Boat building has been a bright spot in the region. Many firms are expanding, and boatbuilding is among the most active industries using Pine Tree Zone incentives.

5. Demographics & Labor Force

5.1 Population Characteristics

5.1.1 General Trends

The population in the Bangor-Saint John Trade & Growth Corridor is approximately 401,000 as of 2005. This represents 19.3% of the total population in New Brunswick and Maine.

Overall, the population in the Corridor grew by 1% from 1990 to 2005, with Hancock and Kings counties leading the way.

Ellsworth, Bar Harbor, St. Andrews, St. George and Sussex saw population gains from 1990-91 to 2000-01 while there were declines for Bangor, St. Stephen, Saint John, Machias and Calais.

There was in little population change in the Saint John CMA from 1991 to 2001, while the Bangor MSA grew slightly.

There is evidence that the population trend has been improving in recent years (see the section on migration).

5.1.2 Population by Age Group

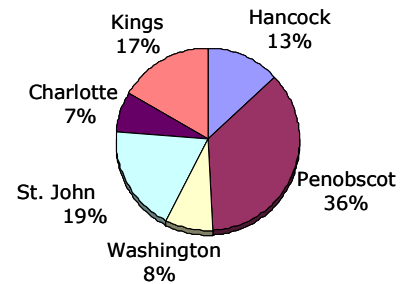
The population in the Bangor-Saint John Trade & Growth Corridor is slightly younger, on average, than the population of Maine and New Brunswick as a whole.

61.2% of the Corridor population is under the age of 44 compared to fewer than 61% at the state/provincial level.

There are variances within the Corridor. Kings County in New Brunswick and Penobscot County in Maine, for example, have over 63% of their population under 44 compared to 57% in Washington and Hancock Counties.

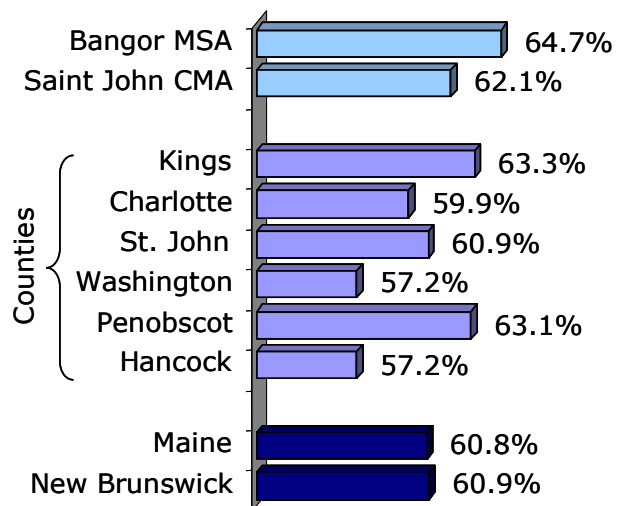
The Bangor MSA has a somewhat younger population than the state average.

Est. Population by County (2005)



Sources:
U.S. Census Bureau
Statistics Canada

Population by Age Cohort
% of Population under 44 yrs old



Sources:
U.S. Census Bureau, Statistics Canada

Bangor-Saint John Trade & Growth Corridor Population by Age Group

By County:

	2000/2001 Pop by Age				Total
	0-19	20-44	45-64	65+	
Hancock	12,808	16,809	13,889	8,285	51,791
Penobscot	38,456	52,990	34,553	18,920	144,919
Washington	8,669	10,739	8,677	5,856	33,941
St. John	18,315	28,210	18,140	11,735	76,400
Charlotte	6,925	9,460	6,695	4,285	27,365
Kings	<u>18,670</u>	<u>21,980</u>	<u>16,500</u>	<u>7,055</u>	<u>64,205</u>
Totals	103,843	140,188	98,454	56,136	398,621

Percentage Distribution:

	2000/2001 Pop by Age			
	0-19	20-44	45-64	65+
Hancock	24.7%	32.5%	26.8%	16.0%
Penobscot	26.5%	36.6%	23.8%	13.1%
Washington	25.5%	31.6%	25.6%	17.3%
St. John	24.0%	36.9%	23.7%	15.4%
Charlotte	25.3%	34.6%	24.5%	15.7%
Kings	29.1%	34.2%	25.7%	11.0%
Totals	26.1%	35.2%	24.7%	14.1%

By Metropolitan Areas:

	2000-1 Pop by Age			
	0-19	20-44	45-64	65+
Saint John CMA	26.0%	36.1%	24.7%	13.2%
Bangor MSA	26.8%	37.9%	23.3%	12.0%

By State/Province:

New Brunswick	24.8%	36.2%	25.5%	13.6%
Maine	26.3%	34.5%	24.8%	14.4%

Sources:

U.S. Census Bureau
Statistics Canada

5.2 Population Forecasts

The official population forecast for the New Brunswick portion of the Corridor reveals a small increase for Charlotte and Kings County with a decline in St. John County. However, these forecasts do not take into account a recent increase in employment activity in St. John County which should lead to a positive turn in the population figures through the latter half of the decade.

Population Forecasts – New Brunswick

Census Divisions /Region/Area	Charlotte County	Kings County	St. John County	New Brunswick
July 1, 2005 Estimate	28,008	68,280	76,933	753,742
% Cdn. Total	0.09	0.21	0.24	2.34
% Change, '01 -'05	-0.41	3.47	-2.03	0.53
Avg. Annual Growth Rate, '01 -'05, %	-0.1	0.86	-0.51	0.13
2007 Projected Population	28,081	69,241	76,417	758,044
2010 Projected Population	28,196	70,687	75,669	764,617
2005 Households Estimate	11,465	24,967	32,768	300,888
2007 Projected Households	11,650	25,773	32,750	306,425
2010 Projected Households	11,918	26,982	32,705	314,728
'01 -'05 Hhld. Change, %	2.25	5.42	-0.29	3.16
2001 Total Census Population (Adjusted)	28,124	65,990	78,528	749,737
Avg. Annual Rate of Hhld. Growth, %	0.56	1.33	-0.07	0.78

Source: FP Markets - Canadian Demographics 2005

On the Maine side of the Corridor, Hancock County is forecasted to grow strongly, Penobscot more slowly and Washington County is expected to see a continued decline in population.

Population Forecasts – Maine

	1990	2000	2010	2020	% Change 2000- 2010	% Change 2000- 2020
Maine	1,231,719	1,277,393	1,363,966	1,415,497	6.8%	10.8%
Androscoggin	105,412	103,869	109,468	111,270	5.4%	7.1%
Aroostook	87,024	73,904	69,082	59,740	-6.5%	-19.2%
Cumberland	243,865	265,988	285,401	299,983	7.3%	12.8%
Franklin	29,135	29,487	29,971	29,686	1.6%	0.7%
Hancock	47,148	51,868	56,243	59,730	8.4%	15.2%
Kennebec	116,293	117,226	123,595	125,966	5.4%	7.5%
Knox	36,451	39,697	42,905	45,291	8.1%	14.1%
Lincoln	30,485	33,708	37,512	40,706	11.3%	20.8%
Oxford	52,748	54,826	58,606	60,792	6.9%	10.9%
Penobscot	147,046	144,880	151,007	152,483	4.2%	5.2%
Piscataquis	18,690	17,266	17,506	17,060	1.4%	-1.2%
Sagadahoc	33,700	35,236	39,207	42,366	11.3%	20.2%
Somerset	49,946	50,925	52,616	53,225	3.3%	4.5%
Waldo	33,154	36,488	41,130	45,065	12.7%	23.5%
Washington	35,397	33,906	32,865	30,849	-3.1%	-9.0%
York	165,225	188,119	216,853	241,286	15.3%	28.3%

Source: Maine State Planning Office.

5.3 Migration

There is no published data on the migration of population between New Brunswick and Maine. As a result, this section evaluates population migration for New Brunswick and Maine separately.

5.3.1 New Brunswick Portion of the Corridor

Migration of people into and from the New Brunswick side of the Bangor-Saint John Trade & Growth Corridor through the 1990s was negative, which follows the pattern of the majority of New Brunswick.

From 1990 to 1999, there was a net out-migration of just fewer than 4,000 people. However, the figures are now on the upswing.

From 2000 to 2004, there was a positive in-migration of population and it is likely that this positive trend will continue to stimulate employment.

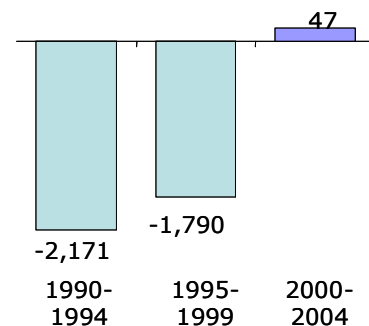
The majority of people moving into the New Brunswick portion of the Corridor are coming from other areas of New Brunswick.

Outside of New Brunswick, the largest sources of migrants into the Corridor from other provinces are Ontario and Nova Scotia. 16,350 people moved into the NB portion of the Corridor from Ontario from 1985 to 2004. However, overall, there was a net out-migration during that timeframe.

On a county basis, there were a few isolated migration patterns that affected specific areas. For example, 146 people moved into Charlotte County from Division No. 8 in northwestern Newfoundland, while 81 moved into that region of Newfoundland & Labrador. The fisheries and aquaculture industry likely influenced this migration.

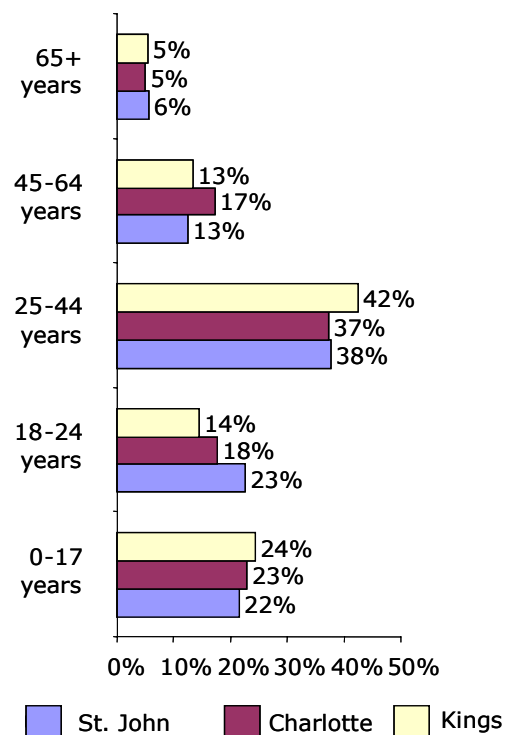
On an age basis, approximately 66% in migrants were between the ages of 18-44 - similar to the provincial average. However, there were some considerable differences between the three counties. Kings County (outside Saint John to Sussex) had the highest percentage of 25-44 year olds and the lowest percentage of 18-24 year olds. There would appear to be a fairly strong migration of youth into the City of Saint John during this time frame.

**Net Migration Trends
St. John, Kings & Charlotte
Counties**
In Five Year Increments



Source: Statistics Canada

**In-Migration by Age Group
By County - 1999 to 2004**



Source: Statistics Canada

In-migrants are slightly higher average income earners than out-migrants.

In 2003, the average taxpaying in-migrant into the Corridor earned 6% more than the average taxpaying out-migrant.

5.3.2 Maine Portion of the Corridor

Unlike Canada, migration trends in the United States are not determined on an annual basis to allow for a meaningful comparison to the Canadian data.

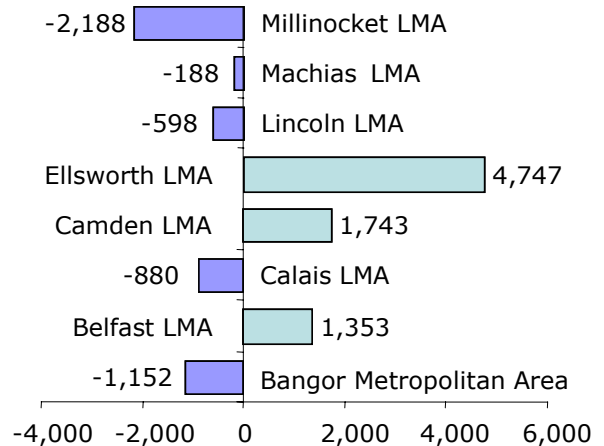
The chart on the right shows the net migration into and out of Eastern Maine by labor market area from 1999 to 2000.

During the ten-year timeframe, the Bangor MSA had a slight net out-migration while the Ellsworth LMA saw a strong in-migration.

Overall, from 1999 to 2000 there was a net in-migration of 3,164 people.

There was a considerable north-south spit in the numbers. Ellsworth, for example, showed strong in-migration while Machias and Millinocket showed net out-migration.

Net Migration of Population Eastern Maine (1990-2000)



Source: US Department of Labor, Bureau of Labor Statistics

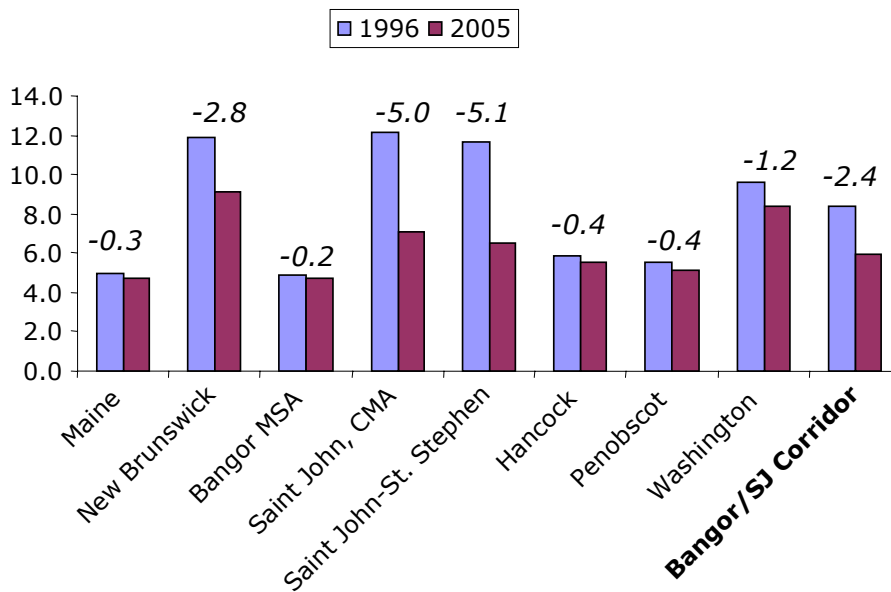
5.4 Labor Force Statistics - General

As the table below shows, there are approximately 214,000 people in the labor force in the Bangor-Saint John Trade & Growth Corridor. This represents an 8.1% increase in the 10 year period from 1996 to 2005. There has been an almost 11% increase in total employment in the Corridor during the 10 year period with the strongest employment growth in the Saint John CMA (+18.1%) and Hancock County (+14.3%).

1996 was a time of high unemployment along the Corridor but since that time there has been a 22% decrease in the number of people unemployed with steep reductions in total unemployment in the Saint John to St. Stephen portion of the Corridor.

There is a considerable level of seasonality in the workforce on both sides of the Corridor – particularly in the rural regions. Washington County, for example, swings from a high unemployment of 11.3% in February 2005 to a low of 6.3% in August 2005 – a five percentage point difference. The nature of industry along the rural portion of the Corridor – aquaculture, agriculture, etc. – drives the seasonality in the workforce.

Bangor-Saint John Trade & Growth Corridor Unemployment Rate Trend (1996 – 2005)



Sources: Statistics Canada & the US Bureau of Labor Statistics.

Labor Force Statistics

	Labor force	Employ- ment	Unemploy- ment	Unemploy- ment rate (%)
2005				
Maine	717,419	683,767	33,652	4.7
New Brunswick	386,200	350,900	35,300	9.1
Bangor MSA	71,431	68,088	3,343	4.7
Saint John, CMA	66,600	61,900	4,700	7.1
Saint John-St. Stephen	88,800	83,100	5,800	6.5
Hancock	30,562	28,893	1,669	5.5
Penobscot	78,884	74,853	4,031	5.1
Washington	15,822	14,491	1,331	8.4
Bangor/SJ Corridor	214,068	201,337	12,831	6.0
1996				
Maine	657,669	624,624	33,045	5.0
New Brunswick	340,800	300,100	40,700	11.9
Bangor MSA	65,286	62,082	3,204	4.9
Saint John, CMA	59,600	52,400	7,200	12.1
Saint John-St. Stephen	79,600	70,400	9,200	11.6
Hancock	26,866	25,274	1,592	5.9
Penobscot	74,973	70,885	4,088	5.5
Washington	16,586	14,993	1,593	9.6
Bangor/SJ Corridor	198,025	181,552	16,473	8.3
% Change				
Maine	9.1%	9.5%	1.8%	-0.3*
New Brunswick	13.3%	16.9%	-13.3%	-2.8
Bangor MSA	9.4%	9.7%	4.3%	-0.2
Saint John, CMA	11.7%	18.1%	-34.7%	-5.0
Saint John-St. Stephen	11.6%	18.0%	-37.0%	-5.1
Hancock	13.8%	14.3%	4.8%	-0.4
Penobscot	5.2%	5.6%	-1.4%	-0.4
Washington	-4.6%	-3.3%	-16.4%	-1.2
Bangor/SJ Corridor	8.1%	10.9%	-22.1%	-2.4
<i>*Change in unemployment rate shown in absolute terms.</i>				
Sources:				
Statistics Canada				
US Bureau of Labor Statistics				

Notes:

- 1.County level data is not available in New Brunswick. The Saint John-St. Stephen region encompasses the entire NB portion of the Corridor up to Sussex, NB but not Petitcodiac or Salisbury.
- 2.It is important to point out that there are methodological differences in unemployment calculations in the US versus Canada. This chart is meant to provide a high level review.

5.5 Labor Force Profile - Educational Attainment

Maine, in general, has a lower percentage of the population with less than high school and a higher percentage with post-secondary education compared to New Brunswick (as of the 2000 and 2001 Censuses). Because the definition of 'college' and 'university' training is different in the US and Canada, these statistics are not completely comparable; however, they do reflect the numbers/percentage of persons with a college diploma or university degree.

Educational Attainment Levels (2000/2001)

	< than High School	High School Graduates (only)*	College & University **	Total
By County:				
Hancock	4,456	19,638	12,322	36,416
Penobscot	13,660	54,980	26,865	95,505
Washington	4,729	14,021	4,738	23,488
St. John	12,175	29,735	15,000	56,910
Charlotte	4,340	11,090	4,655	20,085
Kings	<u>8,280</u>	<u>22,060</u>	<u>14,870</u>	<u>45,210</u>
Bangor/SJ Corridor	47,640	151,524	78,450	277,614
% Distribution:				
Hancock	12%	54%	34%	
Penobscot	14%	58%	28%	
Washington	20%	60%	20%	
St. John	21%	52%	26%	
Charlotte	22%	55%	23%	
Kings	18%	49%	33%	
Bangor/SJ Corridor	17%	55%	28%	
By Metro Area:				
Saint John CMA	20%	50%	30%	
Bangor MSA	13%	56%	31%	
By State/Province:				
New Brunswick	19%	53%	27%	
Maine	15%	55%	30%	

Sources: U.S. Census Bureau, Statistics Canada
 *Could have trades certification or other non-college/university training or non-completed post-secondary training.
 **Includes all those with completed college/university diplomas or degrees.

5.6 Labor Force Profile – Employment by Occupation

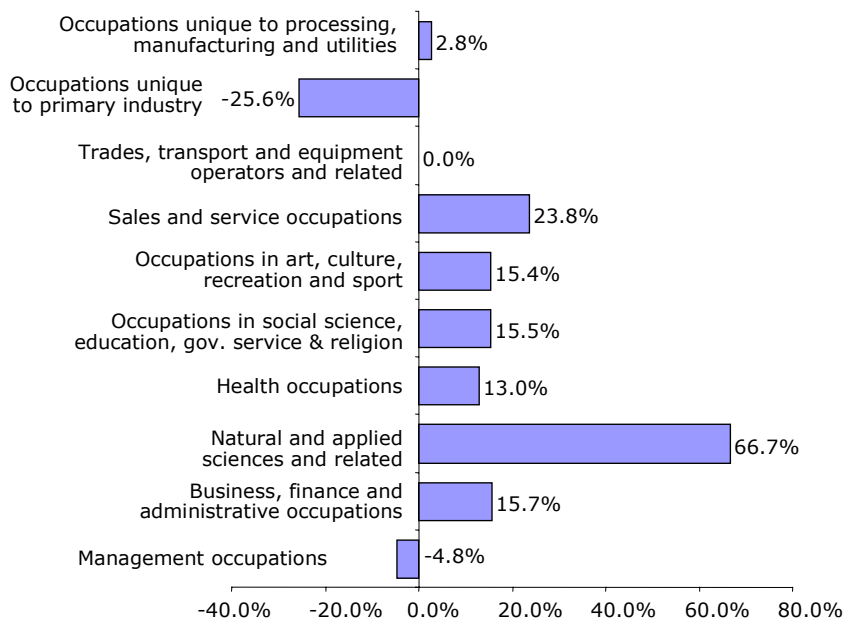
Occupational classifications are not the same in the United States as in Canada. Therefore a direct comparison is not applicable. However, the general occupational makeup of the Corridor can be identified looking at the US and Canadian data separately.

5.6.1 New Brunswick Portion of the Corridor

The Sussex to St. Stephen portion of the Bangor-Saint John Trade & Growth Corridor follows a similar pattern as the US side with the urban and suburban areas having a higher percentage of sales and service occupations as well as business, finance and administration occupations. Kings County, based on the influence of the Saint John urban area, is home to a relatively high percentage of management and professional workers.

Charlotte County, however, exhibits a considerably different occupational make up. In that County (made up of the area outside St. John County to the border of the US – St. Stephen), a full 15% of the workforce is employed in occupations related to manufacturing and 12% in primary industry occupations (mostly fishing). 27% of the workforce is employed in these categories compared to only 5% in St. John County and 10% in Kings County. This occupational makeup becomes important in the context of the changing nature of the workforce and industry in the New Brunswick portion of the Corridor. As the table below shows, primary industry jobs are in decline and manufacturing jobs are stagnant – from the period 1996 to 2005. Because Charlotte County is more reliant on these two sectors, it could pose more of a threat than in the urban center proper.

Employment by Occupation Trend (% Change 1996 – 2005)
Saint John – St. Stephen Economic Region



Source: Statistics Canada

Employment by Occupation - 2001 Census

	St. John	Charlotte	Kings	SJ CMA	NB
Total labor force 15 years and over	37,370	13,725	32,840	61,545	371,805
Percentage Breakdown:					
A Management occupations	8%	8%	10%	9%	8%
B Business, finance and administration	19%	12%	16%	19%	16%
C Natural and applied sciences and related	5%	4%	6%	6%	5%
D Health occupations	6%	4%	6%	6%	5%
E Social science, education, gov. service & religion	5%	5%	7%	6%	7%
F Occupations in art, culture, recreation and sport	2%	1%	2%	2%	2%
G Sales and service occupations	31%	20%	24%	28%	26%
H Trades, transport and equip. operators	16%	17%	18%	16%	16%
I Occupations unique to primary industry	2%	12%	6%	2%	6%
J Processing, manufacturing and utilities	3%	15%	4%	3%	7%
Source: Census 2001					

Employment by Occupation - 10 Year Change

10 Year Percentage Change:	Canada	NB	SJ/ST
A Management occupations	8%	-15%	-5%
B Business, finance and administration	18%	26%	16%
C Natural and applied sciences and related	53%	49%	67%
D Health occupations	31%	32%	13%
E Social science, education, gov. service & religion	29%	25%	16%
F Occupations in art, culture, recreation and sport	35%	10%	15%
G Sales and service occupations	22%	18%	24%
H Trades, transport and equip. operators	16%	3%	0%
I Occupations unique to primary industry	-5%	-11%	-26%
J Processing, manufacturing and utilities	16%	14%	3%

Source: Census 2001
**SJ/ST: Saint John to St. Stephen region.*

5.6.2 Maine Portion of the Corridor

The occupational makeup in the tri-county area follows a fairly typical distribution with the management and professional jobs being more concentrated in urban and suburban areas while forestry and manufacturing jobs are more concentrated in the rural regions. The economy in Washington County is more dependent on farming, fishing and forestry jobs as well as production, transportation and material moving jobs. These blue collar positions make up 25% of the Washington County workforce compared to only 16% in Hancock and Penobscot Counties and only 12% in the Bangor MSA.

Employment by Occupation - 2000 Census

	Hancock	Penobscot	Washington	Bangor, MSA	Maine
Employed civilian population 16 years and over	25,034	69,846	14,042	46,100	
Management, professional, & related occ.	7,688	21,156	3,563	15,983	
Service occupations	4,274	11,641	2,505	7,697	
Sales and office occupations	5,781	18,728	2,888	13,207	
Farming, fishing, and forestry occ.	1,031	901	1,145	256	
Construction, extraction, & maintenance occ.	3,292	6,844	1,533	3,895	
Production, transportation, and material moving occ.	2,968	10,576	2,408	5,062	
% Breakdown:					
Management, professional, & related occ.	31%	30%	25%	35%	32%
Service occupations	17%	17%	18%	17%	15%
Sales and office occupations	23%	27%	21%	29%	26%
Farming, fishing, and forestry occ.	4%	1%	8%	1%	2%
Construction, extraction, & maintenance occ.	13%	10%	11%	8%	10%
Production, transportation, and material moving occ.	12%	15%	17%	11%	15%

Source: U.S. Census Bureau

While there are no recent estimates of the changing occupational makeup in the Maine portion of the Corridor at the county level, the US Bureau of Labor Statistics does publish survey data on occupations in the Bangor MSA. This data does reveal some interesting trends in the Bangor MSA workforce over the past six years. From 1999 to 2005, there has been a 52% rise in the number of persons employed in computer and mathematical occupations, a 107% increase in arts, design, entertainment, sports, and media occupations and a 76% increase in protective service occupations.

5.7 Labor Force Profile - Employment by Industry

Both Canada and the US use the NAICS system for industry classification so a good comparison can be made. As the table below reveals, the two bordering Counties of Washington and Charlotte are highly dependant on primary industries and manufacturing whereas the urban/suburban areas have a higher percentage of employment in professional and technical industries such as education, health care and professional services.

The Bangor MSA has an interestingly high concentration of educational, health and social services employment but that is consistent with Maine as a whole which is more reliant on this sector than New Brunswick as a whole. Another notable difference between the urban centers is Saint John's considerable reliance on professional, scientific, management type employment. This may be driven by the significant number of call centers and the presence of head offices such as Irving and Aliant.

Bangor-Saint John Trade & Growth Corridor Employment by Industry (2000/2001) - Percentage Breakdown

	Hancock	Penobscot	Washington	Bangor, MSA	Maine
Employed civilian population 16 years and over	25,034	69,846	14,042	46,100	
Management, professional, & related occ.	7,688	21,156	3,563	15,983	
Service occupations	4,274	11,641	2,505	7,697	
Sales and office occupations	5,781	18,728	2,888	13,207	
Farming, fishing, and forestry occ.	1,031	901	1,145	256	
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% Breakdown:					
Management, professional, & related occ.	31%	30%	25%	35%	32%
Service occupations	17%	17%	18%	17%	15%
Sales and office occupations	23%	27%	21%	29%	26%
Farming, fishing, and forestry occ.	4%	1%	8%	1%	2%
Construction, extraction, & maintenance occ.	13%	10%	11%	8%	10%
Production, transportation, and material moving occ.	12%	15%	17%	11%	15%

Source: U.S. Census Bureau

5.8 Labor Force Profile - Ethno-cultural and Linguistic Communities

5.8.1 New Brunswick Portion of the Corridor

New Brunswick is an officially bilingual province – French and English – and the Sussex to St. Stephen region, although traditionally an Anglophone region of the province, has a very strong percentage of bilingual residents adding to the cultural diversity of the region. There are approximately 40,000 residents that can speak both English and French living in the region representing 13.3% of the total population. On a community level, many of the communities in the Saint John CMA have upwards of 20% of the population that are fluently bilingual.

Bilingual Population by Community (2001) (English & French)

Community:	%
Hampton	19%
Rochesay	19%
Quispamsis	18%
Saint Andrews	17%
Grand Bay-Westfield	15%
St. George	14%
Saint John (City)	13%
Sussex	13%
St. Stephen	12%
County:	
Kings County	15%
St. John County	13%
Charlotte County	8%

Source: Statistics Canada

Supporting the Francophone Community

The Saint John/Fundy/Charlotte has a thriving Francophone community. Over 22,000 residents in the region are fluently bilingual (French and English) according to the 2001 Census. Saint John has taken steps to nurture and grow its French language community through its support of the Samuel-de-Champlain centre which offers a full range of education, artistic and cultural activities.

Saint John College, located on the University of New Brunswick campus in Saint John, is a leading educational institution in Canada for training international Francophone students who wish to gain competency in using English for academic purposes.

Supporting Immigration

The three Enterprise agencies on the New Brunswick side of the Bangor-Saint John Trade & Growth Corridor are focused on attracting immigrants to their communities to help support population growth and expand economic development.

Recent statistics indicate that the Saint John region had the highest proportional increase in new immigration of any city in Canada in 2005. Further, the number of new immigrants arriving in Saint John in 2005 was up 67% over 2004.

Saint John has a growing Chinese community. As of the 2001 Census, there were some 800 Chinese speaking residents living in Saint John – 66% of the total New Brunswick Chinese population. Since, 2001, there has been considerable Chinese immigration into the community which will enhance this ethnic group in the Saint John area. UNB-SJ has one of the highest percentages of Chinese students of any campus in Canada.

A new Chinese Commerce Centre was recently launched in Saint John. In addition to helping attract more Chinese investors to the city, the center will also act as a hub of information that will make it easier investors integrate into the community.

Enterprise Fundy is promoting itself for Dutch and German immigrants. The organization has developed multilingual brochures and website as it looks to spur population growth from European immigrants.

5.8.2 Maine Portion of the Corridor

There has been limited immigration into the Maine portion of the Corridor in the last few decades. Less than three percent of the region’s population was foreign-born as of the 2000 Census. Of this group, the largest source of immigration has been from Canada with approximately 3,000 settling in the three counties.

County:	Number:	% of Total:
Hancock	1,178	2.3%
Washington	1,386	4.1%
Penobscot	3,646	2.5%

Source: US Census.

Interestingly, 70% of Washington County’s foreign-born population comes from Canada – but the bulk of people moved to the United States before 1980 (71%).

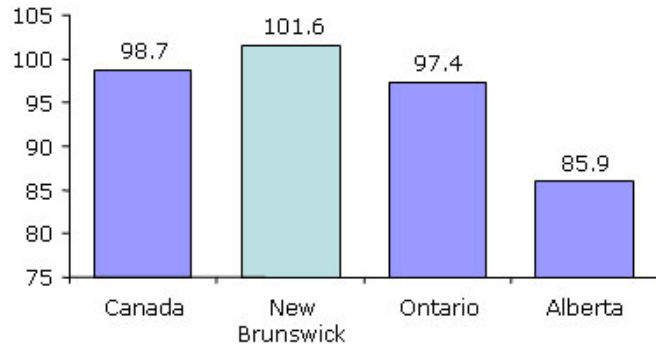
The top three languages spoken in the tri-county region are: English, Spanish and Passamaquoddy – but these only represent a small fraction of the total population.

5.9 Labor Force Profile - Workforce Turnover

5.9.1 New Brunswick Portion of the Corridor

Workforce turnover or the average length of persons staying in their job is not calculated in Canada at the community level. However, the provincial level information gives an indication of comparative turnover rates. For example, the average full time worker in New Brunswick spends 101.6 months on the job with the same firm (that's 8 years and six months) well above other provinces such as Ontario and Alberta.

Average Job Tenure in Months (2005)



*Full time workers only. Source: Statistics Canada

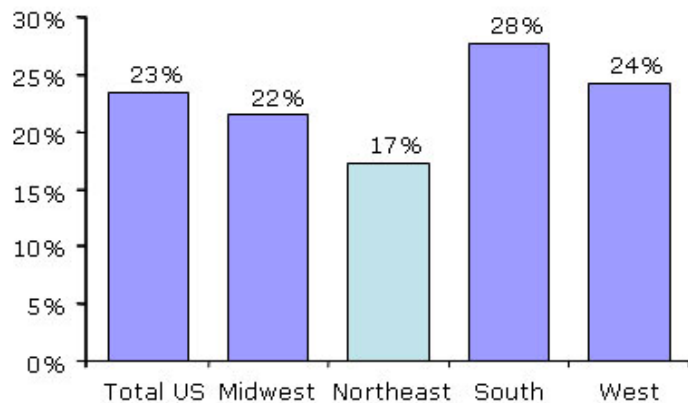
5.9.2 Maine Portion of the Corridor

The U.S. Bureau of Labor tracks annual voluntary turnover rates for the various regions across the country. The Northeastern US region* has the lowest annual turnover of the four main regions. As the chart shows, the turnover rate in 2005 was well below the other three regions and the national average.

**Includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.*

It is important to note that workforce turnover rates do vary considerably by industry.

Annual U.S. Voluntary Turnover Rate (2005)



Source: U.S. Bureau of Labor Statistics

5.10 Labor Force Profile - Workforce Absenteeism

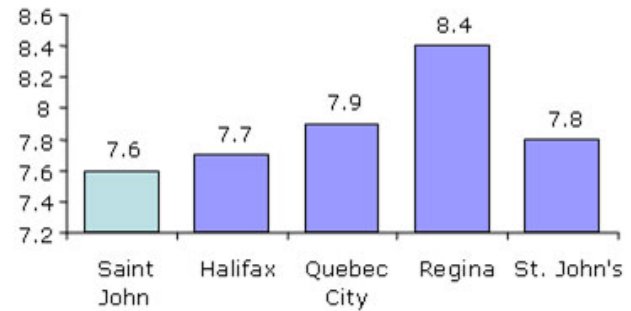
5.10.1 New Brunswick Portion of the Corridor

Workforce absenteeism rates are not published in rural areas but the annual rate of absenteeism in the Saint John Census Metropolitan Area is below the national average and either below or similar to most other peer communities in Canada.

5.10.2 Maine Portion of the Corridor

There was no current data on absenteeism rates in Bangor or the state of Maine. However, promotional literature for the state claims there is low workforce absenteeism compared to other jurisdictions.

Absenteeism Rate (2004)
Percentage of time off work*



*Full time workers only. Source: Statistics Canada

5.11 Income by Source

5.11.1 New Brunswick Portion of the Corridor

The following table provides a summary of the trends in income by category for the New Brunswick portion of the Corridor. The figures are taken from Statistics Canada and are based on annual tax filer information.

Average Household/Family Income

Average household income in the New Brunswick portion of the Corridor ranges from well above the provincial average in Kings county to below in Charlotte and St. John counties. However, it is important to point out that the cost of living can be substantially different as pointed out in the section in the Wealth and Characteristics page.

Average Household & Employment Income (2005 Estimate)

	Charlotte	Kings	St. John	NB	Canada
Avg. Household Income	\$50,438	\$64,799	\$49,254	\$52,882	\$66,231
Avg. Family Income	57,066	69,881	57,337	58,780	74,837
Per Capita Income	20,647	23,694	20,979	21,110	25,964
Male - Avg. Employ. Income	33,326	48,346	35,199	35,903	47,366
Male (FT) -Avg. Employ. Income	44,681	62,281	45,948	47,863	60,719
Female - Avg. Employ. Income	19,991	24,725	22,207	22,984	31,375
Female (FT) - Avg. Employ. Income	31,509	36,202	32,029	32,858	43,333

Source: FP Markets - Canadian Demographics 2005

Per Capita Income Trends

Region/Area	Charlotte	Kings	St. John	NB	Canada
% Above/Below National Average	-20	-9	-19	-19	
2005 Per Capita \$	\$20,647	\$23,694	\$20,979	\$21,110	\$25,964
2007 Projected Per Capita	22,281	25,714	22,379	22,775	28,142
2010 Projected Per Capita	24,783	28,826	24,498	25,350	31,515
Income Rating Index	80	91	81	81	100
% 2005 Hhlds., Income \$100,000+	5.9	17.3	8.1	8.9	18

Source: FP Markets - Canadian Demographics 2005

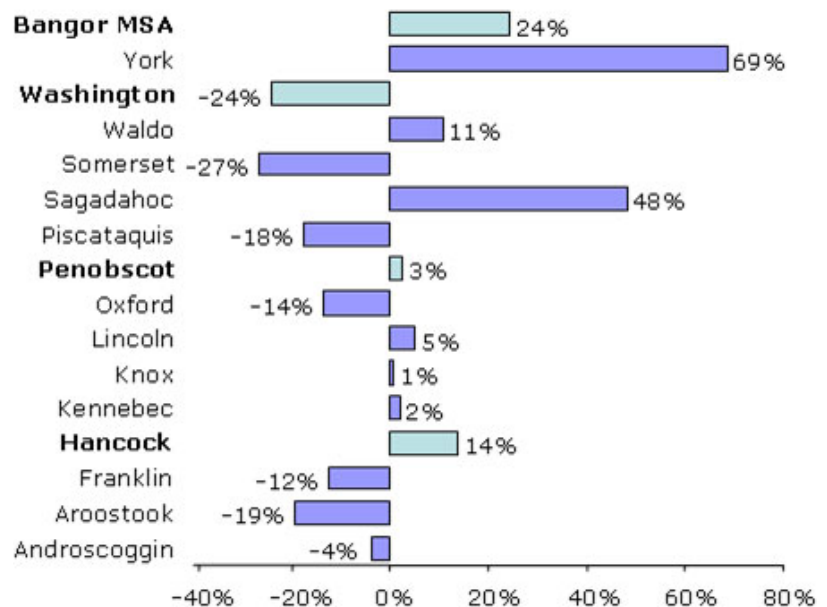
5.11.2 Maine Portion of the Corridor

Median Household/Family Income

Income levels in the Maine portion of the Bangor-Saint John Corridor also vary considerably. Hancock County is in the three top counties in the state for median household income while Washington County has the second lowest level of median household income. Penobscot County has median household income levels in line with the state average.

In Maine, income is reported differently than in New Brunswick. There are basically three broad categories of income: earnings income (wages/salaries), dividends, interest, rent income (investments) and transfer payments (government sources). In addition, the most recent data is for the year 2000.

Median Household Income (2000) Deviation from the State Average



Source: U.S. Census 2000.

The table below provides the 2000 data and a comparison with 1990. Over the ten year period, total personal income increased by between 42% and 51% - similar to the state average. Transfer payments per capita (government sources) are the highest in Washington County and increased the fastest between 1990 and 2000. Hancock County has the highest level of income from investments (dividends, interest, etc.) well above the state average.

Total Personal Income Per Capita (\$)				Net Earnings Per Capita (\$)		
	<u>1990</u>	<u>2000</u>	<u>% Change</u>	<u>1990</u>	<u>2000</u>	<u>% Change</u>
Hancock	18,415	26,207	42%	10,789	15,423	43%
Penobscot	15,872	23,643	49%	11,164	15,733	41%
Washington	13,548	20,514	51%	8,130	11,577	42%
Maine	17,527	25,420	45%	11,675	16,463	41%

Dividends, Interest, Rent Income Per Capita (\$)				Transfer Payments Per Capita (\$)		
	<u>1990</u>	<u>2000</u>	<u>% Change</u>	<u>1990</u>	<u>2000</u>	<u>% Change</u>
Hancock	5,132	6,716	31%	2,494	4,068	63%
Penobscot	2,361	3,556	51%	2,347	4,354	86%
Washington	2,322	3,109	34%	3,095	5,827	88%
Maine	3,424	4,721	38%	2,427	4,237	75%

Source: US Bureau of Economic Analysis

5.12 Income Tax Review

Income tax rates in the Corridor are competitive with other similar jurisdictions that levy personal income and sales taxes. It is important to point out that the US and Canadian data is not directly comparable given the different costs that are included in each tax system. In Canada, for example, the Effective Income/Payroll & Sales Tax Rate listed in the table includes the national health care system whereas in Bangor, a family is required to pay, on average \$1,032/month for HMO costs.

The other notable difference between the US and Canada is that the relative burden of income and other taxes is higher on those with greater incomes. For example, a person earning in the top income bracket in the US (\$72,000+) faces an effective total tax rate of 23.5% while in Canada that person would face a combined 35.9% tax rate on income.

The effective tax rates paid by residents in Saint John and Bangor are comparable to many benchmark communities as shown in the table. However, there can be considerable fluctuations depending on where a person lives in North America. For example, some states do not have a personal income tax and others do not have a sales tax. However, for comparative jurisdictions, Bangor and Saint John are competitive.

Income Tax Analysis – Corridor Urban Centers

Bangor, ME		
<i>Income Level (US dollars)</i>	Total Income Taxes Paid	Effective Income/ Payroll & Sales Tax Rate
\$10,712	\$1,477	13.8%
\$24,000	\$4,586	19.1%
\$48,000	\$10,123	21.1%
\$72,000	\$16,898	23.5%
Saint John, NB		
<i>Income Level (CDN dollars)</i>	Total Income Taxes Paid	Effective Income/Payroll & Sales Tax Rates
\$15,621	\$1,352	8.7%
\$34,784	\$8,002	23.0%
\$71,130	\$24,510	34.5%
\$106,648	\$38,246	35.9%

Source: 2006 Geographic Reference Report

Effective Income/Payroll & Sales Tax Rates			
<u>@ \$71,130/annual income</u>		<u>@ \$48,000/annual income</u>	
	<u>Rate:</u>		<u>Rate:</u>
Halifax	34.4%	Bangor	21.1%
Saint John	34.5%	Portland	21.1%
Toronto	34.9%	Boston	20.2%
Vancouver	34.9%	New York	23.0%

Source: 2006 Geographic Reference Report

5.13 Aboriginal/Native Communities

5.13.1 Passamaquoddy and Penobscot Indians

History

The Passamaquoddy and Penobscot Indians are the descendants of Native American peoples who inhabited Maine and western New Brunswick since before recorded history.

They were among the first Native Americans to have contact with Europeans. The bays along the Maine coast attracted the attention of fishermen and explorers searching for a sea route through the continent.

While the St. Croix River (previously the Passamaquoddy River) may serve as the USA/Canada International boundary, the boundary cuts through the middle of the Passamaquoddy homeland. The Passamaquoddy have occupied this watershed region for at least the past 600+ generations (12,000+ years).

Population and Geography

There are many Passamaquoddy Tribal members living both sides of the St. Croix River. A total of 3,369 tribal members are listed on the tribal census rolls with 2,005 listed on Pleasant Point census and 1,364 on the Indian Township census.

The Passamaquoddies are divided between two principal locations: Pleasant Point on Passamaquoddy Bay, and Indian Township near the St. Croix River.

Governance

The Joint Tribal Council of the Passamaquoddy Tribe, with separate councils at the Pleasant Point and the Indian Township Reservations, represent the Passamaquoddy Tribe in the United States.

The Governing Body for Pleasant Point is the Tribal Council. The Chief Administrator is the Tribal Governor (Sakom) and in his/her absence the Lieutenant Governor. Tribal Government is responsible for the administration of a variety of services and programs for the Passamaquoddy people.

Passamaquoddy Tribal Government consists of multiple parts. Each reservation has its own government, consisting of Tribal Council, a Governor, and a Lieutenant Governor. The two Passamaquoddy Reservations together have Joint Tribal Council.

Tribal government is autonomous, with status similar to a municipality.

5.13.2 Penawahpskewi Indian Nation

History

The Penobscot people are indigenous to Penobscot watershed. They are included in the term Wabanaki, which is used to denote the sovereign nations of Maine and the Maritimes. The early European explorers found a powerful confederacy upon their arrival. One of their first recorded leaders, the powerful Chief Bessabez ruled a nation of over twenty villages, where the confederacy dominated.

Today the Penawahpskewi remain strong in their identity and connection to the river and lands that has given them life for thousands of years.

Governance

The Penobscot Nation's Tribal Administration is comprised of six (6) administrative departments. The primary function of these departments is to provide administrative support for the delivery of program services. The Penobscot Nation's administrative departments are: Finance, Grants & Contracts, Personnel, Maintenance/Public Works, Legal Department and Department of Natural Resources.

Penobscot Indian Nation Enterprises

Penobscot Indian Nation Enterprises (PINE) was incorporated as a Federally Chartered Native American Corporation in December 2005.

The PINE business model encourages buy-outs and partnerships with existing and well established firms that would like to take advantage of the significant tax incentives available to Native owned corporations.

PINE and its subsidiaries are also designated as "8A" firms and have significant bidding advantages on US government contracts.

6. Economic Development Agencies in the Corridor

Agencies (by alphabetical order)

6.1 Bangor Region Development Alliance, ME

The Bangor Region Development Alliance is a resource for locating a business site in the Bangor region. The Alliance provides the following services, at no charge to companies:

- Detailed information about the Bangor area economy
- Permits issuance
- Site location assistance
- Data and site analysis
- Financial and training assistance
- Government and business liaison
- Networking opportunities

Bangor Region Development Alliance
73 Harlow Street
Bangor, ME
04401-5118
USA

6.2 Coastal Acadia Development Corporation

Key projects for CADC include cluster development, creation of a telecommunications infrastructure that will assist in business growth, promotion of Pine Tree Zone benefits for Hancock County firms, promotion of the Bar Harbor Airport as a key transportation resource for the region, and advocacy to promote, educate, and implement on matters of importance to economic development in Hancock County.

CADC
PO Box 554
Ellsworth, ME 04605
Tel: 942-6389

6.3 Community Business Development Bank

Amongst its partners, the CBDC Charlotte-Kings works with the Atlantic Canada Opportunities Agency, the New Brunswick Department of Post-Secondary Education and Business New Brunswick. Programs include:

Financing: Business loan program
Seed capital program
Self-employment benefit program
Entrepreneur program
Technology development fund program

CBDC Charlotte-Kings
123 Milltown Blvd.,
Box 455
St. Stephen, NB E3L 2X3

6.4 Eastern Maine Development Corporation, ME

EMDC is a non-profit organization that aims to help businesses and communities in Eastern Maine develop and grow. For micro start-ups to expanding small businesses, EMDC helps with:

- Marketing
- Manufacturing
- Government contracting
- Finance
- International trade

Site location assistance

For communities in Eastern Maine, EMDC helps with project financing in housing, infrastructure, downtown development, technical advice on ordinances, comprehensive plans and purchasing.

Eastern Maine Development Corporation
40 Harlow Street
Bangor, Maine
04401
USA

6.5 Enterprise Charlotte, NB

Enterprise Charlotte is a community economic development agency in Charlotte County, NB. The agency works with business leaders, industry stakeholders and community organizations to ensure the region continues to grow and prosper. Services include:

- Small business counseling
- Human resource management counseling and development
- Youth entrepreneurship and skills development
- Business management workshops

The agency is charged with the task of community capacity building, helping Charlotte County businesses, organizations and municipal governments work in collaboration. As one of 15 agencies in NB, the agency is part of a network of private and public partnerships with all levels of government.

Enterprise Charlotte
1-49 King Street
St. Andrews, NB
E5B 1X6
Canada

6.6 Enterprise Fundy, NB

Enterprise Fundy is a non-profit corporation that facilitates economic development in the Fundy Region, NB. They provide linkages between the community and all levels of government. Services to businesses and business people include:

- Assist new business starts
- Strengthen and diversify business from outside the region
- Coordinate strategic projects across the region
- Act as an advocate for the business interests of the communities

The agency is charged with the task of community capacity building, helping Fundy Region businesses, organizations and municipal governments work in collaboration. As one of 15 agencies in NB, the agency is part of a network of private and public partnerships with all levels of government.

Enterprise Fundy
29 Milk Board Road
P.O. Box 5064
Sussex, NB
E4E 5L2
Canada

6.7 Enterprise Saint John, NB

Enterprise Saint John provides economic development services for the greater Saint John region. In partnership with all levels of government, educational institution and the business community, Enterprise Saint John cultivates collaborative efforts for a prosperous region.

Services offered include:

- Entrepreneur development
- Youth entrepreneurship
- Small business financing
- Business training and counseling
- Business and investment attraction
- Immigration
- Business support, retention and expansion
- Labor Force Development

Enterprise Saint John focuses on launching new businesses, attracting new companies and investment from outside the region, coordinating strategic projects and creating networks to support workforce and business growth.

Enterprise Saint John
40 King Street
Saint John, NB
E2L 1G3
Canada

6.8 St. Stephen Development Board Inc.

The St. Stephen Development Board promotes the economic development of St. Stephen and surrounding area. The Board is the economic development partner to the Town of St. Stephen. In addition to coordinating and managing business development, the Board manages the St. Stephen Business Park.

St. Stephen Development Board
34 Milltown Blvd.
St. Stephen, NB
E3L 1G3
T: (506) 466-7737

6.9 Sunrise County Economic Council, ME

The Sunrise County Economic Council (SCEC) was formed by area citizens to initiate and facilitate the creation of wealth and jobs in Washington County.

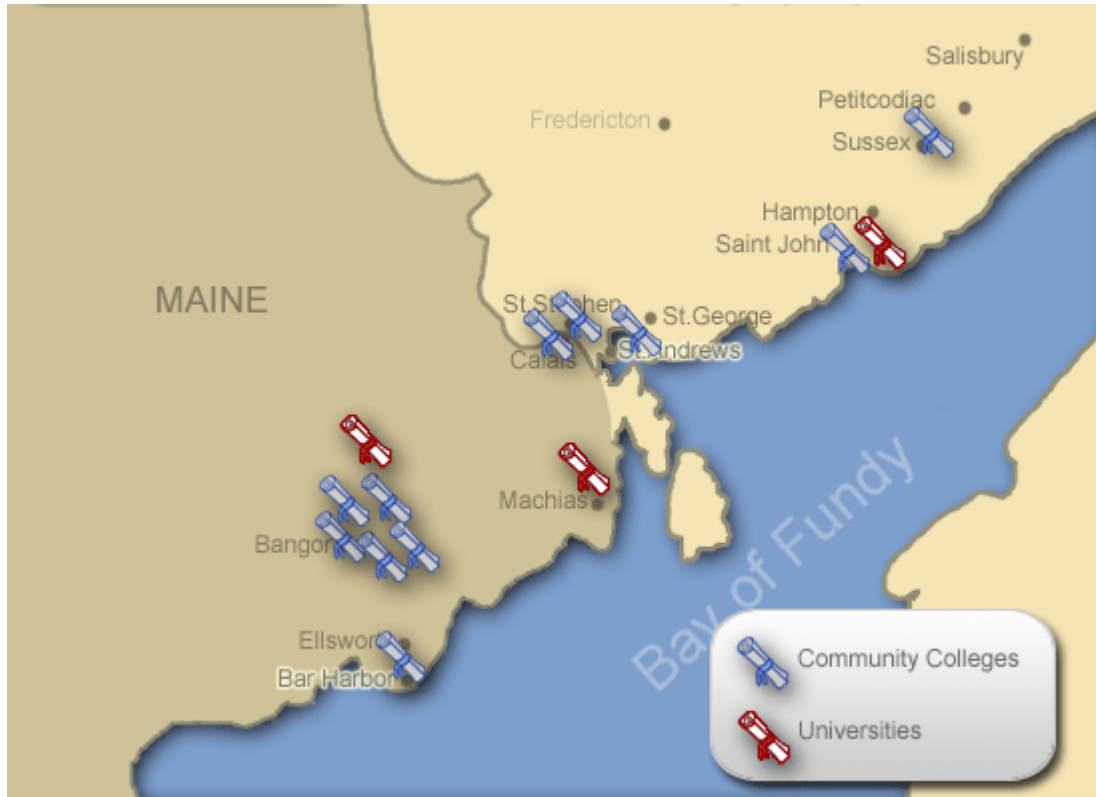
SCEC has four major programs areas:

- Developing enterprises
- Assisting communities
- Investing in people
- Ensuring excellence
- Industries and sectors represented in this council include: education, health care, legislative leadership and municipal, county and tribal government.

Sunrise County Economic Council
PO Box 679
Machias, ME
04654
USA

7. Education & Training

7.1 Universities & Degree Granting Colleges



7.1.1 Universities (by alphabetical order)

University of Maine at Machias

Programs offered at University of Maine at Machias: Behavioral Science & Community Studies, Biology, Business and Entrepreneurial Studies, Education (Elementary and Secondary), English, Environmental Studies, History, Interdisciplinary Fine Arts, Marine Biology and Recreation Management.

Enrolment is approximately 1,150 students: 30% men and 70% women. There is 1 faculty member for every 14 students, and an average of 16 students per class. In the 2005-2006 academic year the University of Maine at Machias graduated 116 students.

University of Maine at Machias
9 O'Brien Avenue
Machias, ME
USA
04654-1397

University of Maine at Orono

There are 88 bachelor's degree programs, 64 master's degree programs, and 25 doctoral programs offered at the University of Maine Orono. University of Maine is known for its forestry and agriculture programs, UMaine's graduate program in Forestry was ranked fifth nationally in the last Gourman report.

Programs at the University of Maine are listed under: Business, Public Policy and Health, Education and Human Development, Engineering, Liberal Arts and Sciences, Natural Sciences and Forestry and Agriculture Graduate School.

UMaine's estimated total student population for 2005-2006 was 11,400. In the 2005-2006 academic year there were 2050 graduates (the largest class in U of Maine's history). UMaine is one of the state's top 10 employers.

University of Maine at Orono
Orono, ME
USA
04469

University of New Brunswick, Saint John

Founded in 1785, the University of New Brunswick is one of the oldest public universities in North America. With more than \$14 million worth of grants and contracts awarded annually, UNB is working to position itself as the Province's center for research and graduate studies, playing a role in advancing the social and economic agenda, strengthening their learning-centered environment and to the advancement of a life-long learning agenda.

At UNB Saint John, there are approximately 3,000 students of which over 500 hail from 55 different countries.

Programs at the University of New Brunswick, Saint John include: Bachelor of Arts, Business Administration, Science, Science in Computer Science, Science in Financial Mathematics, Information Science, Education, Applied Management, Nursing, Health Sciences, Engineering and Other-Students Abroad Programs. Most of these programs also include the opportunity to do graduate studies.

University of New Brunswick, Saint John
100 Tucker Park Road
P.O. Box 5050
Saint John, NB
E2L 4L5

7.1.2 Public Community Colleges (by alphabetical order)

Eastern Maine Community College

Established in 1996, Eastern Maine Community College provides an education focused on problem solving, communications, social understanding, computer applications, etc. Liberal arts courses are required of all programs.

The College offers one-year Certificates, and one and two-year Diplomas, Associate in Applied Science Degrees, and Associate in Arts Degrees in 28 technologies and areas of Study. EMCC prepares technicians and workers for mechanical, engineering and construction industries, allied health professions, and business occupations. Approximate enrolment is 575 full-time and 750 part-time students, with 55 full-time and 119 adjunct faculties. In the 2004-2005 academic year there were 300 graduates.

Eastern Maine Community College
354 Hogan Road
Bangor, ME
04401

New Brunswick Community College, Saint Andrews

The New Brunswick Community College (NBCC), St. Andrews is a campus that combines applied industry-based activities and classroom theory. Their three Academic Departments place value on having the student interact closely with industry. All of the programs offered provide the opportunity to work with an industry partner in work exposures of varying lengths.

Programs offered at this campus include: aquaculture technician, computer network technology, computer systems technician, electrical, hospitality and tourism management, international business, marine diesel mechanics, office administration, etc. At the campus there are about 400 full-time students, some of which stem from the international community.

NBCC, Saint Andrews
99 Augustus Street
St. Andrews, NB
E5B 2E9

New Brunswick Community College, Saint John

Established in 1963, the New Brunswick Community College (NBCC), Saint John is a campus that provides training through full- and part-time offerings, apprenticeship training, continuing education and customized contract training. NBCC Saint John is the largest community college campus in New Brunswick. Their courses combine practical skills and experience with classroom theory to prepare students for success in today's job market.

Programs offered at this campus include: business administration, chemical technology, computer programming technology, early childhood education, electrical, human services, industrial control technology, industrial mechanics, mechanical engineering technology, medical laboratory technology, pharmacy technician, respiratory therapy, etc.

At any given time, there are approximately 4,000 students taking full time, part time, apprenticeship and industry contract training.

NBCC, Saint John
P.O. Box 2270
950 Grandview Avenue
Saint John, NB E2L 3V1

Washington County Community College

Established in 1974, the Washington County Community College (WCCC) serves the State of Maine and the region with post-secondary, transfer and technical education, culminating with the associate degree, diploma, and certificate.

Associate in Arts Degree, Associate Degree in Science, Associate Degree in Applied Science, Diplomas in Boat Building Technology and Residential and Commercial Electrical Technology, Certificate in trades such as Automotive Technology, Culinary and Baking Certificate, Engine Specialist, Early Childhood Education, Heating Technology etc.

Approximate enrolment is 300 students. In the 2004-2005 academic year there were 180 graduates.

WCCC Calais campus
1 College Drive
Calais, ME
04619
USA

WCCC Eastport Campus
16 Deep Cove Road
Eastport, ME
04631

7.1.3 Private Training Schools (by alphabetical order)

Advanced Training & Services Inc.

Advanced Training & Services Inc. is one of New Brunswick's leading computer consulting and training companies. Incorporated in 1994, Advanced Training & Services Inc. specializes in providing computer training, application development and support to clients operating in the Microsoft Windows and UNIX environment. Advanced Training & Services Inc. facilitators have been instructing both federal and provincial government departments, large multinational corporations and small businesses since 1991.

Advanced Training & Services Inc.
1216 Sand Cove Road
P.O. Box 6964
Saint John, NB E2L 4S4
www.atsonline.com

Academy of Learning

The Academy of Learning offers training in widely used software applications, computer repair and troubleshooting, network systems, as well as business and office skills. Academy of Learning has built relationships with local agencies such as the HRSDC and WSIB/WCB to assist in the re-training of individuals.

Academy of Learning
580 Main Street, Ste 228
Hilyard Place, Bldg B
Saint John, NB E2K 1J5
<http://aolnb.com/>

Bangor Theological Seminary

Established in 1814, Bangor Theological Seminary is an ecumenical seminary in the Congregational tradition of the United Church of Christ. It is the only accredited graduate school of religion in Northern New England. With campuses in Bangor and Portland, Maine, the Seminary's primary mission is preparation for Christian ministry.

Programs offered include: Master of divinity, Bangor plan, Master of arts, Doctor of ministry, Advanced professional degree for experienced ministry practitioners, Anglican studies program and continuing education programs.

Bangor Theological Seminary
P.O. Box 411
Bangor, ME
04402-0411

Beal College

Beal College provides education to prepare students for careers in allied health and human services, business studies, computer information technology, criminal justice, hospitality, and professional office technology and support.

Programs offered include: Accounting, business management, criminal justice, early childhood education, medical assisting, office management, social and human services assisting, travel & tourism, general business, medical coding and medical transcription.

Beal College
99 Farm Road
Bangor, ME
04401
USA

Bethany Bible College

In 1965, Bethany Bible College relocated to its present location in Sussex, New Brunswick. The aim of the College is to educate and equip men and women for ministry in the Christian Church in general and The Wesleyan Church in particular.

Programs offered include: Bachelor of Arts - Religion, Bachelor of Arts - Christian Education, and Bachelor of Arts - Christian School Education.

There are approximately 300 enrolled students per year.

Bethany Bible College
26 Western Street
Sussex, NB
E4E 1E6
Canada

College of the Atlantic

Established in 1969, the College of the Atlantic (COA) is a school where all students major in Human Ecology, the study of our relationship with our environment.

Before graduating, all seniors create an original project that represents the culmination of their work. Students are also required to do a 400-hour internship and complete a term-long senior project.

The programs offered are a B.A. and a Masters in Philosophy.

The 280 students come from 36 states and 40 foreign countries.

College of the Atlantic
105 Eden Street
Bar Harbor
ME 04609
USA

CompuCollege School of Business

The CompuCollege Saint John campus located downtown Saint John has been educating students since 1989 and has graduated over 2,400 students. CompuCollege recently announced that ownership of the Saint John campus has changed and is now owned and operated by BGS Training.

CompuCollege School of Business
93 Prince William Street
Saint John, NB E2L 2B2
http://www.compucollegeatlantic.ca/Overview_SaintJohn.asp

The Computer Training Institute

The Computer Training Institute was founded in 1986 in Fredericton, N.B. CTI started out by offering short-term computer training programs and offering computer training to the business sector. In June of 1997 due to an increase in enrolments and the expanding IT job market, CTI moved to its current location in Saint John, N.B. Since its inception CTI has branched out to offer five and ten-month diploma programs to students who required computer training to enter the new high tech work force. Programs at CTI are now twelve months in length and include two months of on the job training. They have evolved and changed in order to keep pace with changing technology.

The Computer Training Institute
120 MacDonald Street
Saint John, NB E2J 1M5
<http://www.cticollege.ca/>

Husson College

Established in the 1890s Husson is a small college in northern New England. It is a private institution seeking to serve students at the undergraduate and graduate levels through a curriculum that integrates liberal arts and sciences, professional and technical studies, and experiential learning outside the classroom.

Programs offered at include: Accounting, biology, business, business administration, business and technology, computer information systems, criminal justice, education, English, nursing, paralegal studies, physical therapy, occupational therapy, psychology, science & humanities, etc.

There are approximately 2,000 enrolled students per year.

Husson College
1 College Circle
Bangor, ME
04401
USA

Maine Maritime Academy

Established in 1941, the Maine Maritime Academy offers programs that are designed and managed by a faculty from diverse academic backgrounds, from industrial positions in engineering, ship operations, marine science, maritime management, and small vessel design and operation.

Programs offered include: engineering & engineering technology, marine engineering operations, marine engineering technology, marine systems engineering, power engineering technology, marine transportation operations, international business & logistics, marine biology, humanities and social sciences, naval architecture, naval science, etc.

At the academy there are over 800 students.

Maine Maritime Academy
66 Pleasant Street
Castine, ME
04420
USA

New England School of Communication

Established in 1981, the New England School of Communication offers a hands-on, technical oriented approach to education. This provides students with the opportunity to become proficient in the in digital technology and to develop professional skills.

The school offers students both the Associate of science and the Bachelor of science degree program in communications with concentrations in: Advertising and public relations, audio engineering, broadcast journalism, digital media, radio, sports broadcasting and television.

There are over 250 enrolled students per year.

New England School Of Communications
1 College Cir
Bangor, ME
04401

St. Stephen's University

Established in 1975, St. Stephen's University (SSU) offers an opportunity to attain an undergraduate or graduate degree within a Christian community and, at the same time, to travel the world.

SSU offers two streams of education: arts and ministry. The ministry program offers training for professional and lay ministry. The SSU offers a master in ministry degree as well as a Bachelor of ministry degree. The liberal arts program offers a foundation year diploma and a four-year Bachelor of Arts degree.

There are close to 100 enrolled students per year.

St. Stephen's University
8 Main Street
Stephen, NB
E3L 3E2
Canada

7.1.4 eLearning Among Post-Secondary Institutions

University of Maine, Orono

The university offers over 120 credit-granting distance education courses, with a total enrollment of 4,352 students as of 2004/2005. The institution first offered credit-granting distance education courses in 1988. The University of Maine—Orono offers 96 credit-granting online-only courses, with a total enrollment of 3,735 students. In addition, UMaine offers four degree-granting distance education programs, with a total enrollment of 127 students as of 2004/2005.

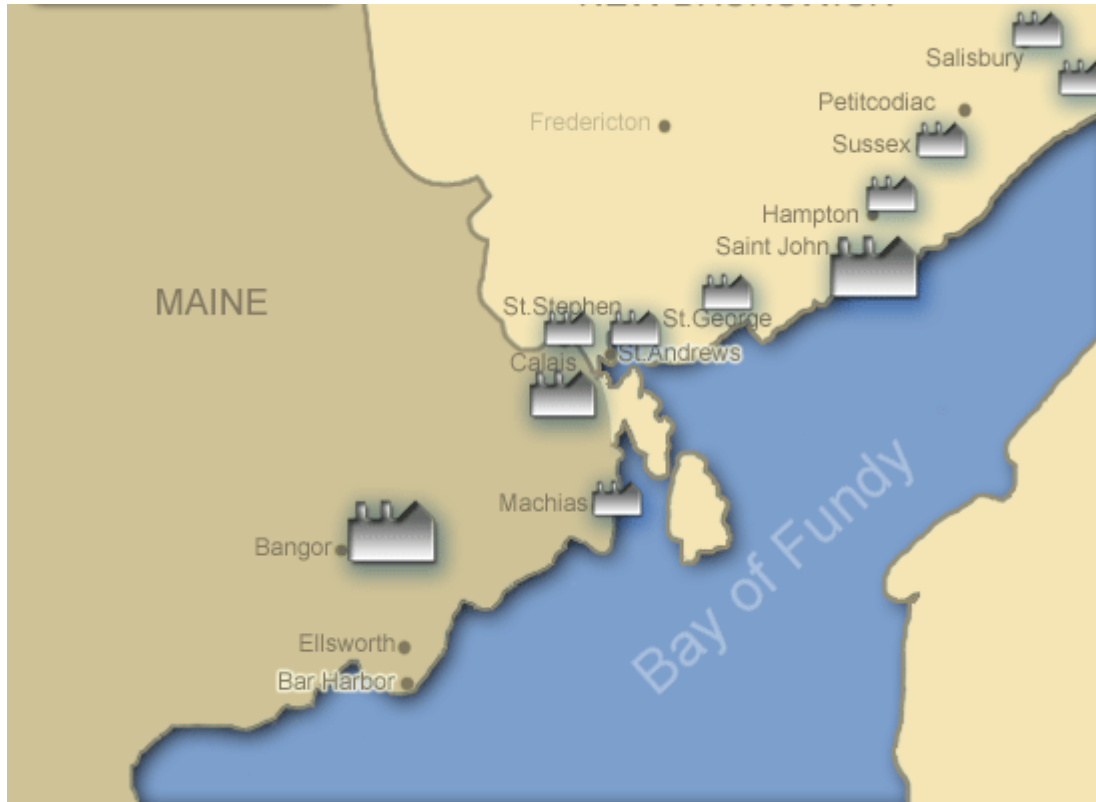
University of New Brunswick, Saint John

UNB's College of Extended Learning offers online courses through the Access Learning Program (OALP). There are over 120 courses available in Arts, English, Civil Engineering, Economics, Political Science, Psychology, Nursing, Technology, Management and Entrepreneurship, Business, Computer Science, Forestry, Family Violence Issues, and Statistics. Additional courses are under development.

Saint John is also home to CertifyOnline.com - a leader in distant education with offices worldwide. We conduct corporate training for many Fortune 500 companies including IBM, Citigroup, Hewlett Packard, Dell Computer, Walt Disney, John Deere and Nintendo. CertifyOnline.com specializes in delivering online education throughout Atlantic Canada.

8. Major Infrastructure

8.1 Industrial and Business Parks



8.1.1 Industrial Parks (by city and alphabetical order)

Bangor, ME

BanAir Industrial Park is located in Bangor, approximately one mile from the I-95 – I-395 interchange. It is adjacent to the airport, four miles from the terminal. The Maine Central Railroad (Springfield terminal spur line) is half of a mile away, and the Bangor & Aroostook line is three miles away. There are 13.26 acres available for sale or to lease each lot measuring 1.25 – 3.04 acres. Phase three power is available, along with several municipal services such as police / fire protection and municipal water and sewer services.

BIA Commercial / Industrial Subdivision has 36 available acres for lease, with lots ranging from 1 to 11 acres. The park is adjacent to the Bangor International Airport and 0.5 miles from the terminal. The highway I-95 is less than 2 miles from the park, within 0.5 miles from the Maine Central Railroad / Springfield spur line and 3 miles from the Bangor & Aroostook Railroad line. Full municipal services are available, which includes police and fire protection, municipal water and sewer services. 3-Phase power, up to 12, 470 volts is included.

Brewer Corporate Center is located on route 46 in Brewer, approximately 3 miles from the I-95, and overlooking the I-395. It is less than 4 miles from the Bangor International Airport. There are 52 acres available for sale or to lease each lot measuring 0.76-3.20 acres. 3 Phase power is available, along with several municipal services such as water and sewer services, and parking.

Brewer Professional Center is located in the same area as the Brewer Corporate Center. Its vocation to establish a pristine, but easy to reach workplace for companies in the service, financial, technology, healthcare and other professional sectors. Several adjacent parcels are being developed, with a total build out projected to be about 600,000 square feet.

Buckstown Heritage Park is located in Bucksport, approximately 0.25 mile to Route 1, and 15 miles to I-395. It is 18 miles to the Bangor International Airport. The Guilford Rail Line is approximately 2 miles away. There are 65 acres available for free to qualified businesses each lot measuring 1.13-35 acres. 3 Phase power is available, along with several municipal services such as police / fire protection and municipal water and sewer services.

East – West Industrial Park is located in the City of Brewer, less than 1 mile from the I-395, and less than 3 miles from the I-95. It is less than 4 miles from the Bangor International Airport. There is direct access to the railway line. There are approximately 8.5 acres available for sale or to lease each lot measuring 1-2.5 acres. Power is available, along with several municipal services such as water and sewer services, and parking.

Maine Business Enterprise Park is located in Bangor, approximately 2 miles from three I-395 interchanges. It is adjacent to the Bangor International Airport. The Maine Central Railroad (Springfield terminal spur line) is within the park, and the Bangor & Aroostook line is 4 miles away. There are 40.7 acres available to lease each lot measuring 1.29-4.65 acres. 3 Phase power is available, along with several municipal services such as police and fire protection.

Calais-Baileyville, ME

Calais-Baileyville Industrial Park is the city of Calais's one developed industrial park. All currently developed lots are sold and an expansion is being planned. Rail, water and sewer services are available in the developed industrial park, while only water and sewer are available in other areas.

Woodland Commercial Park encompasses 130 acres. The park has available lots of 3 to 12+ acres. The park is located at the intersection of US Route 1 and 9, and is a gateway to New England on Interstate 95 and offers a route from Atlantic Canada to Montreal, Ontario and the West. Access to rail service is available through the Calais Industrial Park. The port of Saint John is 1.5 hours from the Park. Bangor International Airport is 1.5 hours, the Princeton Municipal Airport is 10 minutes away and Saint John Airport is 1.5 hours away. The Park features centrally piped water, sewer and storm sewers and is supplied by 12,000 volts, 3 Phase power.

Hampton, NB

Hampton Industrial Park is located in the Town of Hampton, approximately half way between Saint John and Sussex. The park is wedge-shaped and bounded by the four-lane limited access Highway 1 to the east; generally Interchange 145 and Hall Road to the north; William Bell Drive to the east; and private property to the south. The Park is located on a high profile plateau overlooking the Town. Highway visibility is particularly good from Highway 1 from the east.

Hillsborough, NB

Hillsborough Industrial Park is administered by the Village of Hillsborough. The park is located on Highway 114 in Hillsborough. The site is 32 kilometers south of Moncton, NB. To the west, Trans Canada Highway 2 travels southwest to a junction with Highway 1 at Riverglade. Highway 1 travels southwest to Saint John and the US border at St. Stephen, 310 kilometers from Hillsborough.

Machias, ME

Machias Industrial Park spans over 24.1 acres.

St. Andrews, NB

Champlain Industrial Park is located 8 km from St. Andrews, on route 127. Within the Park is the Port of Bayside, a year round, deep water port which offers cold storage terminal, and ships a wide variety of specialty and cold storage cargo. Zoned Heavy and Light industrial, Champlain Industrial Park covers 635 acres of which are available at a cost of \$5,000 per acre. The lots are serviced.

Saint John, NB

Grandview Industrial Park is located in East Saint John. The Park is equipped with water and sewage services.

McAllister Industrial Park is located on the east side of Saint John and adjacent Grandview Industrial Park. Zoned Heavy Industrial (I-4), the park caters to light manufacturing and commercial operations. The park has 375 total acres at 23% occupancy with another 9% as green belt, over 250 acres of potential land serviced with up to 40cm water mains. The park is 4 km from Highway 1 and less than 70 miles east of the Maine and New Brunswick border.

Somerset Technology Park is located in the North end of Saint John in Millidgeville and is expected to be the focus of R & D and office development. Phase 1 includes 65 acres of landscaped commercial building lots and phase 2 includes an additional 225 acres of business park development. The park is in close proximity to the Port of Saint John, Saint John Airport and Canadian National Railway and New Brunswick Southern Railway provide freight service.

Spruce Lake Industrial Park is located just six miles outside of the City of Saint John's center, on Highway 1, and is the New Brunswick's largest industrial park. Zoned Heavy Industrial (I-2), and sitting on a potential capacity of 1,000 Hectares of potential land serviced with up to 90cm water mains. The Park is within 7 miles of the Port of Saint John, and less than 70 miles east of the Maine and New Brunswick border.

Salisbury, NB

Salisbury Business Park is located in the Village of Salisbury, approximately 23 kilometers west of Moncton. The Park is located along the Trans Canada Highway. The western boundary of the Park is formed by Route 112, a provincial collector highway running between Riverview and Coles Island to the west.

St. George, NB

St. George Park is located near aquaculture operations at Lime Kiln Bay and the Bay of Fundy. The park is 40 minutes away from Saint John, providing links to the Port of Saint John and Saint John Airport. Close to St. George is the port of Bayside, which has storage facility and ships a variety of specialty and cold storage cargo. It is 30 minutes drive to the Maine and New Brunswick border.

St. Stephen, NB

St. Stephen Business Park is located in the west end of town. The park is fully serviced with water, sewer, phase three power, natural gas, high speed internet, and a rail siding.

Sussex, NB

Sussex Industrial Park is located in the Town of Sussex. The park is situated approximately 1 kilometer from the central business district. The park is bound to the northeast by Highway 1, and to the northwest by CN Rail's Moncton-Saint John short line. The park is generally level, with surface water run-off to the south and west. There are no physical restrictions to site development in the industrial park.

8.2 Corridor Airports



8.2.1 Bangor International Airport

Approximately 3 miles from downtown Bangor, the airport has three terminals, two domestic, and one international.

Bangor International Airport offers daily non-stop flights to the following 8 regions: Atlanta, Boston, Cincinnati, Detroit, Philadelphia, Minneapolis (seasonal) and Metro New York's LaGuardia and Newark airports.

Airlines serving airport:

- Delta Airlines
- Northwest Airlines
- American Eagle Airlines
- US Airways
- Continental Airlines

Cargo facilities:

Warehouse 16,400m² (176,528sq ft)

Bonded warehouse

Transit zone

Free port/foreign trade zone

Aircraft maintenance

Mechanical handling

Heated storage and refrigerated storage

X-Ray equipment

Dangerous goods

Very large/heavy cargo

Express/courier center

International rail access

Handling Equipment

Passenger facilities:

12 gates
17 airbridges
5 airport hotels

Min. Connection Times Intl-Intl: 5mins, Dom-Intl: 5mins, Dom-Dom: 5mins
Other: restaurants, bars, duty free shop, newsagent/tobacconist, gift shop, and disabled access/facilities

Bangor offers 24-hour access to U.S. Customs, Immigration, Agriculture, Public Health and Animal/Plant quarantine services. The staff claims to be capable of processing 1000 passengers per hour.

Additional services offered include: Scheduled charter flights to Europe (seasonal), full service domestic and international terminals, corporate/private aircraft servicing, cargo services and Corporate and general aviation servicing.

There are five car rental companies offering services within the airport, along with taxi, limousine, bus, and charter services.

8.2.2 Hancock County-Bar Harbor Airport

The Hancock County-Bar Harbor Airport (BHB) is located between the City of Ellsworth and the Town of Bar Harbor. For ground transportation access, the airport is located just off State Route 3.

Full service general aviation facility, they offer regularly scheduled airline flights, automobile rentals and taxi services. The airport is open year round. There are glider rides and sight seeing flights offered for a fee.

Airline services are operated by Colgan Air, a US Airways Express carrier. They provide several daily trips between the Hancock County-Bar Harbor Airport and Logan Airport in Boston.

8.2.3 Machias Municipal Airport

This is a small airport supporting charter and private aircraft only.

8.2.4 Saint John Airport

The Saint John Airport is located just outside the city of Saint John. It has one terminal. The Airport is serviced by Air Canada with flights to Halifax, Toronto, and Montreal on a daily basis.

Seasonal charter service is available to some destinations. For example, vacation package company Sunwing recently announced it will be offering non-stop flights from Saint John to Orlando, Florida; Cancun and the Mayan Riviera in Mexico; and Punta Cana in the Dominican Republic. Packages will be offered from late March through and May in 2007.

The Saint John Airport is also home to Atlantic Flight Center, a fixed base operator and flight training school.

Cargo facilities:

Domestic cargo only
Health officials
Dangerous goods
Handling equipment: Tractors-LTK 9
Heaters, conveyer belts, air start, forklift and de-icing

Passenger facilities:

Passengers: 170,818 (enplaned/deplaned) in 2004 (up 5.3% from 2003)
Annual capacity: 500,000
3 check-in desks and 2 gates
54 short term parking spaces and 225 long term parking spaces

Min. Connection Times Dom-Intl: 45mins, Dom-Dom: 45mins

Other: restaurants, cafeterias, bars, newsagent/tobacconist, gift shop, first aid, disabled access/facilities, business center.

There are four car rental companies offering services within the airport, along with taxi, bus, and charter services.

8.2.5 St. Stephen Municipal Airport

Small airport operated by the Town of St. Stephen. It is located approximately 2 kilometers northeast of St. Stephen, and caters to public air traffic and propeller planes.

8.3 Port of Saint John & Other Commercial Ports



8.3.1 Port of Bangor, ME

The Port of Bangor is located at the upper end of the navigable portion of the Penobscot River. Much of the home heating oil and petroleum distillate products for northern Maine come in through the terminals in the Bangor area. There is a federal navigation channel to Bangor providing -15 feet at MLW. Bangor also attracts pleasure boating to the area during the summers. The Port is also home to unique small-ship cruises that take passengers from Bangor to a number of destinations.

8.3.2 Port of Bar Harbor, ME

Located on Mount Desert Island, the Port of Bar Harbor is the gateway to Acadia National Park, the third most visited Park in the United States. As a Port of Entry, Bar Harbor is serviced by the Bangor Customs Office, with a customs officer who is in Bar Harbor every afternoon for the arrival of the Cat ferry returning from Nova Scotia.

8.3.3 Port of Bayside, NB

The Bayside Port Corporation, located south on the St. Croix River of the Bay of Fundy. The terminal's main source of traffic is in the areas of gypsum and potatoes. There is also a new private non-containerized temperature sensitive foods storage facility. The port has three berths with lengths of 100, 80, and 140 meters and depths of 8.1, 6.5, and 9.75 meters. The approach channel has a depth of 21.3 meters. A ship loader is used for quarried material. The Bayside Marine Terminal is a two-berth facility.

8.3.4 Port of Bucksport, ME

The Port of Bucksport is located mid-way up the Penobscot River between Searsport and Bangor. The harbor serves the needs of ocean going tankers, fuel barges, and recreational boating interests. The approach to Bucksport offers -29 ft at MLW.

The fuel pier at Bucksport is 900 feet long with a berthing capacity of 700 feet. Access is by State Route 15, and rail service is available from Maine Central Railroad/Springfield Terminal.

Vessels transiting to Bucksport and points north must pass beneath the Verona Island Bridge which has an air draft of 135 feet at MHW.

8.3.5 Port of Eastport, ME

The port is within 6 hours of Boston, and 30 minutes of Canada. It is the closest U.S. port to Europe by one day, and Eastport Municipal Airport just minutes away. There is open storage that is available. The Port has 103,000 square feet of warehouse space. The Eastport Breakwater has a berthing for a vessel up to 700 feet. An equipment maintenance shop is on the premises. Estes Head Cargo Terminal can accommodate a ship of 900 feet in Berth A and one up to 550 feet in Berth B.

8.3.6 Port of Saint John, NB

The Port of Saint John, the largest seaport in the Province of New Brunswick and handles an average of 25 million metric tons of cargo annually, which is valued at CAN\$100 billion, and contributes CAN\$20 billion to the Canadian economy each year.

The Port is one of the fastest growing cruise ship destinations on the Northeastern US and Atlantic Canada Cruise Itinerary.

The port houses 8 terminals and 4 private facility terminals. All terminals are connected to Canada and the United States by railways such as CN Rail and NB Southern as well as major highway routes.

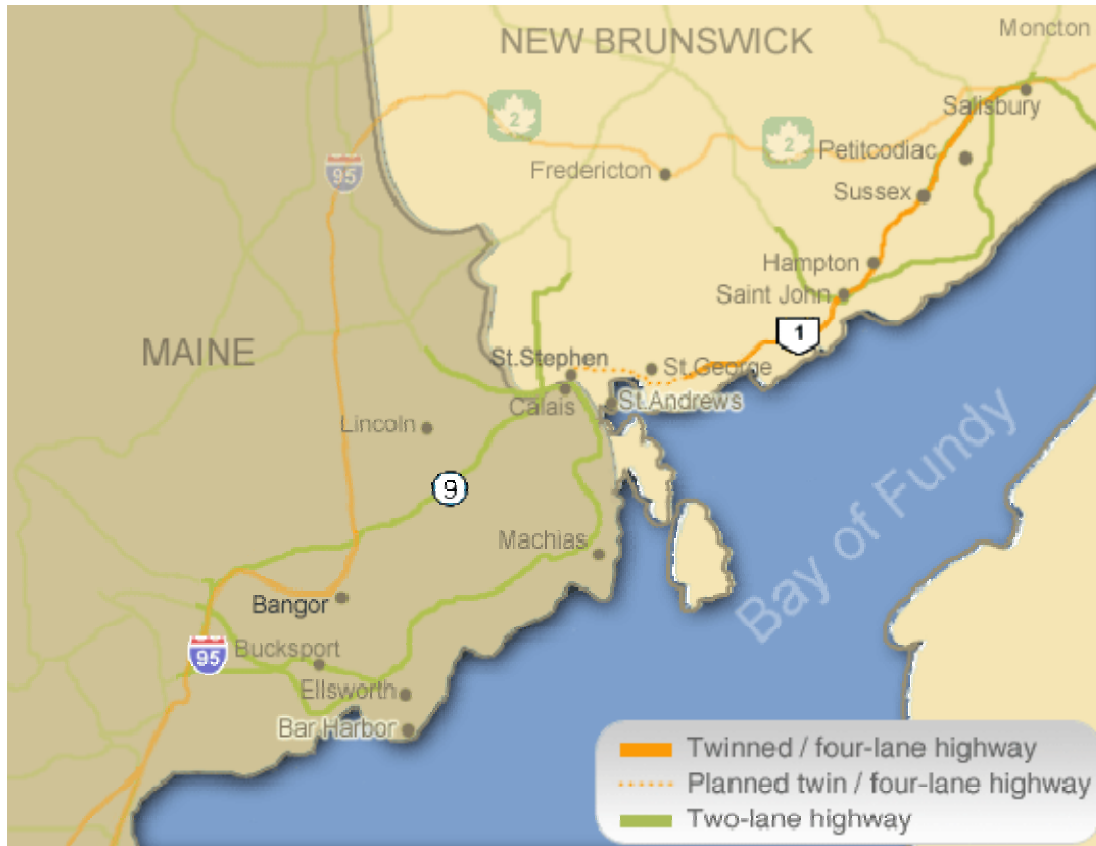
The dry bulk cargo loaded from warehouses on conveyer systems to the loading dock, which is served by a quadrant loader (at a rate of 2,700 tons-per-hour for potash).

The Long Wharf Terminal has highway and rail connections. Access to seven deep-water berths is made possible by the Navy Island Forest Products Terminal.

8.3.7 Port of Searsport, ME

Searsport is located at the heart of Penobscot Bay. The port serves the needs of the Bangor-Saint John Corridor with shippers moving product both into and out of Maine, and through the onsite rail yard of the Montreal, Maine & Atlantic Railway, to provide service to the heartlands of both the US and Canada. The Port is equipped with a dry cargo pier, with 2 berths. The liquid cargo pier is outfitted with a multi-purpose hose platform. Storage areas include 90,000 sq. ft. of warehouse and 5 paved storage pads. Truck and rail access are provided.

8.4 Highway Infrastructure



8.4.1 Highway 2, NB - Trans-Canada Highway

In New Brunswick, the Trans-Canada Highway (or Highway 2) runs 523 km through the province and passes through several cities and two-dozen towns, moving travelers from Nova Scotia and PEI, to eastern Quebec and the rest of the country.

The highway starts at Sackville, on the Nova Scotia border and then passes through Moncton. It then turns southwest before hitting Sussex and detouring northwest around Saint John. The Trans-Canada runs up the length of the St. John River, and crosses the river at Fredericton, the provincial capital.

8.4.2 Interstate 95, ME

Interstate 95 (abbreviated I-95) is an Interstate highway that runs 1,927 miles (3,101 kilometers) north-south along the east coast of the United States. Its portion in the State of Maine is 305 miles. The southern terminus is in the city of Miami, Florida, and the northern terminus is at the Canadian border at Houlton, Maine, where it becomes the short New Brunswick Route 95 and connects to the Trans-Canada Highway.

Interstate 95 is one of the best-known, most important, and most heavily traveled highways in the Interstate Highway System. It serves and connects the major cities along the Northeast corridor, and it is the major north-south highway along the east coast. It is the longest north-south Interstate highway, and it passes through 15 states.

8.4.3 Route 1, NB

In recognition of the importance of the overall trade corridor, the Province of New Brunswick has been upgrading N.B. Route 1 to a 4-lane divided highway between St. Stephen and Saint John and beyond to connect to Route 2, the Trans Canada Highway.

8.4.4 Route 9, ME

The segment of U.S. Route 9 passes through the Moosehorn National Wildlife Refuge and the Town of Baring, and ends within the town boundaries of Baileyville, at the intersection of Route 1 and Route 9.

There are currently five speed zones posted within this 7.6-km segment, which reflects the existence of approximately 60 access points to existing residential, commercial, or public street development.

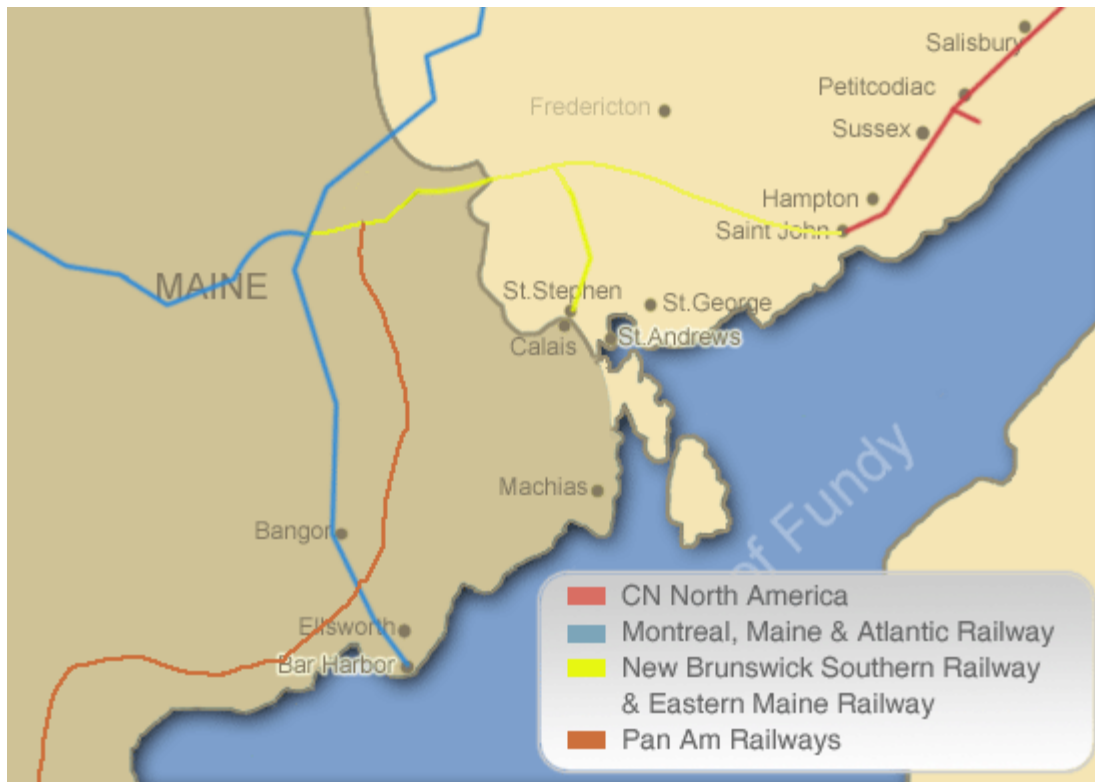
The segment between the international bridge and U.S. Route 1, in the vicinity of the customs complex, will be built to a 4-lane undivided standard.

Planning is also taking place for an extension of 395 to Route 9 which will significantly improve transit times from Bangor to Calais as well as Saint John.

I-395/Rt. 9 Connector Study

<http://www.i395-rt9-study.com/>

8.5 Rail Infrastructure



8.5.1 CN North America

CN is the only railroad, which crosses the continent east-west and north-south, serving ports on the Atlantic, Pacific and Gulf coasts while linking customers to all three NAFTA nations.

CN revenues derive from the movement of a various goods including petroleum and chemicals, grain and fertilizers, coal, metals and minerals, forest products, intermodal and automotive.

CN has a route from the Atlantic coast to the U.S. Midwest through the St. Clair Tunnel between Sarnia, ON, and Port Huron, MI. It connects to the New Brunswick Southern Railway / Eastern Maine Railway in Saint John.

8.5.2 Montreal, Maine & Atlantic Railway

The Montreal, Maine & Atlantic Railway (MM&A), began operation in January of 2003 after having acquired the Bangor and Aroostook Railroad (BAR) assets and its subsidiaries, including Canadian American Railroad Company, and changing its name. The MMA and owns over 745 route miles of track in Maine, Vermont, Quebec and New Brunswick and employs approximately 350 people. The MMA operates approximately 25 trains daily. Main line operations are conducted daily between Madawaska and Searsport, Maine, and from Brownville Junction, Maine to Montreal, Quebec.

Service is also provided between Farnham, Quebec and Newport, Vermont to connect with the Northeastern US. Westbound trains to Montreal are pre blocked for the CPRS D&H route, and for Western Canada destinations.

MMA connects with nine Class I, regional and local railroads and provides direct rail link between Northern Maine, Saint John, NB and Montreal. In addition, MMA offers access to port facilities on the Atlantic at Saint John, NB and Searsport, ME.

8.5.3 New Brunswick Southern Railway & Eastern Maine Railway

The New Brunswick Southern Railway (NBSR) and Eastern Maine Railway (EMR) form a 189-mile railway system operating a mainline between Saint John, New Brunswick and Brownville Junction, Maine as follows:

- Canadian American Railway (CDAC) Brownville Junction, ME: Connections to Canadian Pacific (CP) for access to full Canadian network, as well as points in the U.S. Freight connections five days per week.
- Canadian National Railway (CN) Saint John, NB: Traffic to and from the Maritime Provinces.
- Springfield Terminal Railway (ST) Mattawamkeag, ME: Providing a direct access to Boston and the U.S. Northeast with access to U.S. points west and south through connections with ConRail (CR), CSX Transportation, and Norfolk Southern (NS) freight connections.

8.5.4 Pan Am Railways

Freight carrier Pan Am Railways (formerly Guilford Rail System), operates over a network of about 1,600 miles of track in Connecticut, Maine, Massachusetts, New Hampshire, New York, and Vermont.

The company's system is made up primarily of the former Boston & Maine, Maine Central, and Springfield Terminal railroads. It connects with the New Brunswick Southern Railway & Eastern Maine Railway at Mattawamkeag.

8.6 Energy Infrastructure

8.6.1 Electricity Production

New Brunswick

New Brunswick produces electricity for both the domestic and export markets. The province has considerable hydro, nuclear and coal electricity production capacity and is moving into alternative energy production.

Hydro

NB Power Generation - Hydro

NB Power Generation (a sub-company of [NB Power](#)) generates 884 MW of hydro electricity at six facilities in New Brunswick, one of which is in the Corridor. The Milltown facility generates four MW and has been in operation since 1928.

Thermal

NB Power Generation - Thermal

NB Power Generation (a sub-company of [NB Power](#)) generates 1,922 MW of thermal electricity at five oil and coal facilities in New Brunswick, two of which are in the Corridor. These stations, Coleson Cove and Courtney Bay have an installed capacity of 978 MW and 109 MW respectively.

Coleson Cove Generating Station is the largest in the NB Power system and provides one-third of New Brunswick's energy requirements during the winter months. The recently completed refurbishment of the station meets strict environmental requirements and will produce reliable generation to 2030.

Nuclear Power

NB Power Nuclear

NB Power Nuclear (a sub-company of [NB Power](#)) operates the 635 MW nuclear CANDU 6 unit at Point Lepreau, which supplies up to 30 percent of in-province electricity.

[Point Lepreau Nuclear Generating Station](#) was constructed between 1975-1983 by the provincial Crown Corporation, NB Power. The Point Lepreau station is the only nuclear facility located in eastern Canada and comprises one CANDU nuclear reactor located on the northern shore of the Bay of Fundy. Point Lepreau's CANDU reactor was designed to last 25 years and was scheduled to be decommissioned by 2008. In July 2005 NB Power announced that it was awarding Atomic Energy of Canada Limited a \$1.4 billion (CAD) contract for refurbishing the generating station. This will extend the reactor's lifespan by approximately 20 years.

Combustion Turbine

NB Power Generation - Combustion Turbine

NB Power Generation (a sub-company of [NB Power](#)) generates combustion turbine electricity with four diesel-powered facilities. These stations have an installed capacity of 327 MW. The Grand Manan facility, which is in the Corridor, generates 28 MW.

Maine

Eastern Maine also has considerable electricity production capacity. In Hancock, Penobscot and Washington Counties there are 28 electricity production facilities that report to the Federal Energy Regulatory Commission. At least two of the facilities are combined-cycle plants, fueled by natural gas, and produce at least 98% fewer toxic emissions than traditional power plants:

- The Bucksport Energy Project, a 174-megawatt power plant in Bucksport, Maine, developed by the Bucksport Energy Co.
- The Maine Independence Project, a 520-megawatt plant in Veazie, Maine.

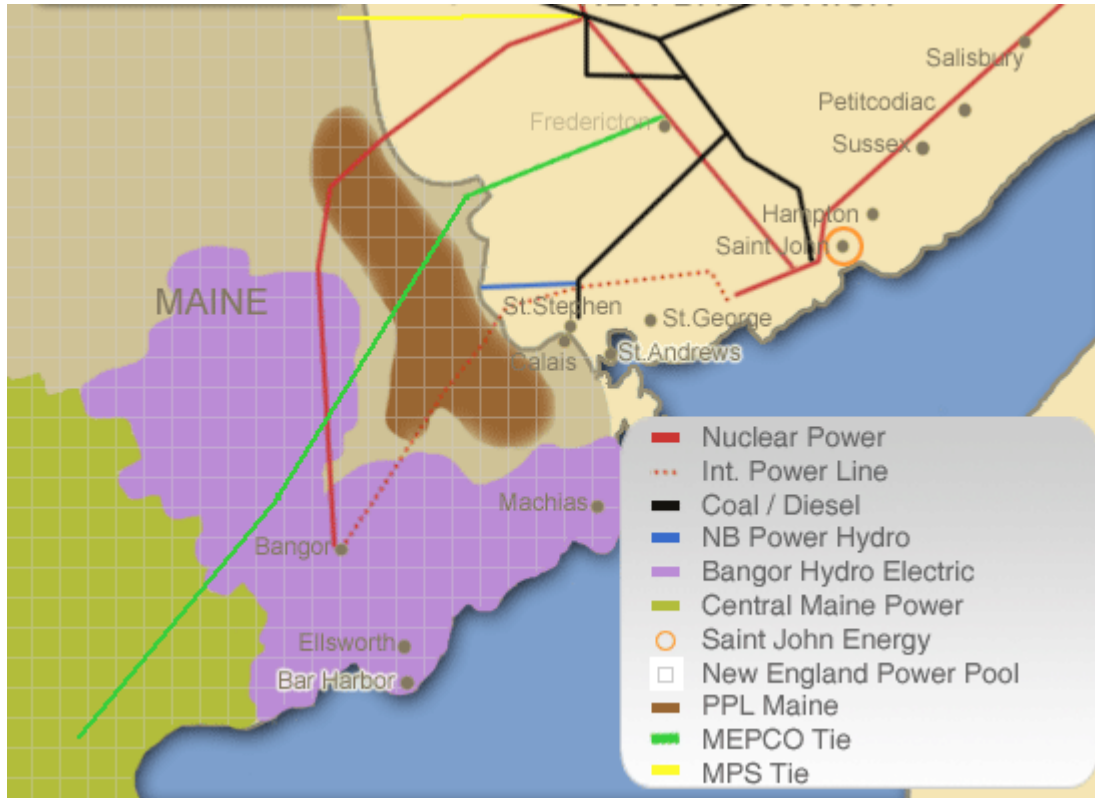
Electricity Production Power Plants (2006)

Penobscot, Hancock & Washington Counties

Plant:	Utility:	Community:
<i>Hancock County</i>		
Bar Harbor	Bangor Hydro-Electric Co	Bar Harbor
Bucksport Mill	International Paper Co.	Bucksport
PPL Ellsworth Hydro Station	PPL Maine LLC	Ellsworth
<i>Penobscot County</i>		
Aroostook & Bangor Resources	Aroostook & Bangor Res.	Mattawamkeag
Basin Mills	Bangor Hydro-Electric Co	Basin Mills
Veazie C	Bangor Hydro-Electric Co	Veazie
Medway	Bangor Hydro-Electric Co	Medway
Bangor Pacific Hydro	Bangor Pacific Operating Co	West Enfield
Beaver Wood Joint Venture	Beaver Wood Joint Venture	Lincoln
Maine Independence Station	Casco Bay Energy Co LLC	Veazie
Penobscot Energy Recovery	ESOCO Orrington Inc	Orrington
Georgia Pacific Old Town Division	Georgia-Pacific Corporation	Old Town
Great Lakes Hydro America - ME	Great Lakes Hydro America	Millinocket
PPL Howland Hydro Station	PPL Maine LLC	Howland
PPL Milford Hydro Station	PPL Maine LLC	Milford
PPL Stillwater Hydro Station	PPL Maine LLC	Stillwater
PPL Veazie Hydro Station	PPL Maine LLC	Veazie
PPL Medway Hydro	PPL Maine LLC	Medway
Great Works Hydro	PPL Maine LLC	Old Town
Sherman Energy Facility	Wheelabrator Env.Systems	Sherman
Indeck West Enfield Energy Center	Ridgewood Power Mgmt. LLC	West Enfield
Millinocket Mill	Katahdin Paper Inc	Millinocket
East Millinocket Mill	Katahdin Paper Inc	Millinocket
Lincoln Paper & Tissue	Lincoln Paper and Tissue	Lincoln
<i>Washington County</i>		
Eastport	Bangor Hydro-Electric Co	Eastport
Domtar - Woodland Mill	Domtar Industries Inc.	Baileyville
Worcester Energy	Morrill Worcester	Deblois
Indeck Jonesboro Energy Center	Ridgewood Power Mgmt. LLC	Jonesboro

Source: Federal Energy Regulatory Commission

8.6.2 Electricity Distribution and Transmission



Bangor Hydro-Electric

Bangor Hydro-Electric (BHE) is a transmission and distribution company, serving 110,000 customers in eastern Maine. In 2001 BHE was acquired by Emera (headquartered in Nova Scotia), which increased the latter's customer base by 25%. The core business of Emera is electricity. Emera Inc. is an energy and services company with 570,000 customers, \$4.0 billion in assets and a \$2.0 billion market capitalization.

The company operates two regulated utility subsidiaries in northeast North America - Nova Scotia Power and Bangor Hydro-Electric - that together account for over 90% of revenues. Bangor Hydro is a member of the New England Power Pool, and is interconnected with the other New England utilities to the south and with New Brunswick Power to the north. Bangor Hydro has 900 km of transmission lines and 7,000 km of distribution lines. In addition, Emera owns a 12.9% equity interest in the [Maritimes & Northeast Pipeline](#), which delivers Nova Scotia's offshore natural gas to markets in Maritime Canada and New England.

Part of Emera's current strategy includes acquiring more knowledge about energy activities from partnering with [Duke Energy](#) and [Exxonmobil](#).

Central Maine Power Company

Central Maine Power Company (CMP) is responsible for operating and maintaining a transmission-and-distribution system. CMP delivers more than 9 billion kilowatt-hours of electricity yearly to 591,000 retail electric customers in central and southern Maine encompassing an 11,000-square-mile service area.

CMP contains about 78 percent of Maine's population and the major commercial, manufacturing, and recreational areas of the State.

CMP's parent company is CMP Group, and it completed a shareholder- and regulator-approved merger with [Energy East](#) in August 2000.

CMP's delivery system is comprised 2,288 miles of overhead transmission lines, 19,754 pole-miles of distribution line, and 155 miles of underground or submarine cable. CMP has high-voltage connections with other electric systems at the New Hampshire and New Brunswick borders.

Eastern Maine Electric Co-op

Eastern Maine Electric Co-op (EMEC) is a non-profit consumer-owned electric utility serving parts of Aroostook, Penobscot, and Washington Counties in Maine. In total EMEC serves 12,000 customers spread over 3,000-square-mile area of rural Maine.

The Co-op operates with 35 employees.

EMEC operates 1,577 miles of distribution line.

International Power Line

NB Power is planning the construction of a 345 kV transmission line and interconnection with New England, which would be utilized for import and export opportunities.

In Canada, the 90 km line will run from Point Lepreau, NB to Woodland, Maine, near the border (opposite to St. Stephen, NB).

A joint development agreement between NB Power and Bangor Hydro, an EMERA Inc. company, allows the IPL to reach the Orrington, Maine destination.

Bangor Hydro will proceed with the acquisition of required state and federal permits for the construction of the United States portion of the line.

MEPCO Tie

The Maine Electric Power Company (MEPCO) transmission system carries bulk electricity at 345 kV between the Maine Yankee station in Wiscasset, Maine, and Keswick substation near Fredericton, New Brunswick. MEPCO owns and operates 182 miles of the 345 kV line from Maine Yankee station to the New Brunswick border, and New Brunswick Power owns and operates the other 49 miles of the 345 kV line from the Maine border to Keswick substation. MEPCO provides the only interconnection between the Maritimes Control Area to the north in Atlantic Canada and Maine and the rest of the NEPOOL Control Area to the south in New England.

345 kV transmission lines are ties to the eastern interconnected North American power grid. Between Keswick and Maine Yankee, MEPCO also interconnects 345 kV substations, specifically, from north to south, Chester, Orrington, and Maxcy's.

There is also high capacity voltage control equipment connected to the MEPCO transmission system, to support large power transfers over long distances

MPS Tie

MPS (Maine Public Service) is a regulated electric transmission and distribution utility serving all of Aroostook County and a portion of Penobscot County in northern Maine. With the exception of stranded cost recovery, MPS's revenues come almost exclusively from regulated transmission and distribution services associated with transporting electric supply. The service area covers a region approximately 120 miles long and 30 miles wide, with a population of approximately 72,000.

Since March 1, 2000, the date retail electric competition in Maine commenced; customers in MPS's service territory have been purchasing energy from suppliers other than MPS.

NB Power Distribution and Customer Service

NB Power Distribution and Customer Service (a sub-company of [NB Power](#)) serves residential, commercial, wholesale and industrial customers in the province. NB Power Distribution and Customer Service delivers electricity via more than 20,000 km of distribution lines and equipment. Regional customer contact centers and operations offices ensure service throughout New Brunswick.

NB Power Nuclear

NB Power Nuclear (a sub-company of [NB Power](#)) operates the 635 MW nuclear CANDU 6 unit at Point Lepreau, which supplies up to 30 percent of in-province electricity. [Point Lepreau Nuclear Generating Station](#) was constructed between 1975-1983 by the provincial Crown Corporation, NB Power.

The Point Lepreau station is the only nuclear facility located in eastern Canada and comprises one CANDU nuclear reactor located on the northern shore of the Bay of Fundy. Point Lepreau's CANDU reactor was designed to last 25 years and was scheduled to be decommissioned by 2008. In July 2005 NB Power announced that it was awarding Atomic Energy of Canada Limited a \$1.4 billion (CAD) contract for refurbishing the generating station. This will extend the reactor's lifespan by approximately 20 years.

NB Power Transmission - Coal/Diesel

NB Power Transmission (a sub-company of [NB Power](#)) owns and operates the transmission system used to carry electricity from generating stations and other supply interfaces over long distances to the consumer distribution network, large industrial customers, and export markets. The system is comprised of terminals and switchyards linked by 6,700 km of transmission lines ranging in voltage from 69 kV to 345 kV. NB Power Generation generates 1,922 MW of thermal electricity at five oil and coal facilities in New Brunswick, 2 of which are in the Corridor. These stations, Coleson Cove and Courtney Bay have an installed capacity of 978 MW and 109 MW respectively.

Coleson Cove Generating Station is the largest in the NB Power system and provides one-third of New Brunswick's energy requirements during the winter months. The current refurbishment of the station will meet stricter environmental requirements and produce reliable generation to 2030.

NB Power Generation also generates combustion turbine electricity through 4 diesel-powered facilities. These stations have an installed capacity of 327 MW. The Grand Manan facility, which is in proximity of the Corridor generates 28 MW.

NB Power Transmission - Hydro

NB Power Transmission (a sub-company of [NB Power](#)) owns and operates the transmission system used to carry electricity from generating stations and other supply interfaces over long distances to the consumer distribution network, large industrial customers, and export markets. The system is comprised of terminals and switchyards linked by 6,700 km of transmission lines ranging in voltage from 69 kV to 345 kV. NB Power Generation generates 884 MW of hydro electricity at 6 facilities in New Brunswick, one of which is in the Corridor. The Milltown facility generates 4 MW and has been in operation since 1928.

NEPOOL

The New England Power Pool (NEPOOL) is a voluntary organization formed in 1971 to assure reliability, and to attain maximum practicable economy with equitable sharing of benefits and costs. Therefore NEPOOL has a dual role: reliability and economy.

Over 99% of the electrical energy supplied in New England is provided by participants in NEPOOL. A series of standing Committees and Task Forces provides representation and peer review for NEPOOL Participants.

NEPOOL participants are currently negotiating to create a Regional Transmission Group (RTG) and an Independent System Operator (ISO) for New England.

PPL Maine

PPL Maine's hydroelectric operation consists of seven operating projects with about 44 megawatts of generating capacity. The first station began commercial operation in 1891 and the last one went on line in 1987.

Six of the projects are located on the Penobscot River Basin from Medway to Veazie, about four miles from Bangor; the seventh project is on the Union River in Ellsworth, about 25 miles east of Bangor.

PPL has access to the New England Power Pool, which includes Connecticut, Massachusetts, Rhode Island, New Hampshire, Vermont and Maine.

Saint John Energy

As a distribution utility, all of Saint John Energy's power requirements are purchased from the provincial utility, New Brunswick Power Corporation. Saint John Energy maintains 13 substations and services more than 35,000 local customers with energy sales of over 950,000,000 kilowatt hours annually. Saint John Energy has a staff of approximately 95, with a fleet of 38 service vehicles.

8.6.3 Natural Gas / LNG Facilities and Pipelines



Natural Gas / LNG Facilities (actual and proposed)

Canaport LNG Project, Saint John, NB

Irving Oil Limited and Repsol YPF, S.A. entered into definitive agreements in June 2005 to develop a liquefaction natural gas import and regassification terminal in Saint John, NB, Canada. The agreements formed a new company, Canaport LNG, which will construct, own and operate the terminal.

Repsol will be responsible for providing all of the liquefied natural gas and will hold the capacity of the terminal.

Irving Oil will market the regassified natural gas in Atlantic Canada, and Repsol will market the regassified natural gas elsewhere in Canada and in the USA. The Partnership is owned 75% by Repsol and 25% by Irving Oil.

Characteristics of Canaport™ LNG Terminal:

Capacity: one billion cubic feet per day.

Storage: Three 160,000 cubic meters liquefied natural gas storage tanks with a throughput capacity of 600,000 cubic meters of gas per hour.

Pier: A 350 meter off-loading jetty with mooring facilities for liquefied natural gas carriers with up to 200,000 cubic meters capacity.

Uploading arm: A jetty platform equipped with four 16-inch liquid off-loading arms and one 16-inch gas loading arm.

In Service: 2008

The markets in the New England, New York and Atlantic Canada consume approximately 5 billion cubic feet per day on a total annual average basis. Incremental growth between now and 2015 is expected to be in the range of 0.75 – 1.0 billion cubic feet per day.

Proposed LNG Sites

Calais LNG (Proposed Site), Calais, ME

Calais LNG (formerly St. Croix Development) announced in 2005 plans to construct a \$500 million terminal and storage tank facility on more than 300 acres in Red Beach, south of Calais. The principal partners in the land deal are tribal state Rep. Fred Moore and Rep. Ian Emery, R-Cutler. Calais LNG will own the land and the tribe will own the facility.

[Cianbro](#) (of Pittsfield, ME) has voiced interest in becoming a partner in the project. LNG Calais would employ approximately 50 people.

The land is located between Devil's Head Conservation Park and St. Croix Island on what was formerly the Fenderson land.

Plans also call for a pier to be built in the St. Croix River, across from the Canadian shipping port at Bayside, New Brunswick.

The gas would be piped along the pier to two storage tanks.

Downeast LNG (Proposed Site), Robbinston, Maine

In 2005, Downeast LNG proposed to build and operate a liquefied natural gas terminal in Robbinston, Maine. The project would involve the construction of a \$400 million facility over three years on an 80-acre parcel of land. The facility would include a pier, up to two LNG storage tanks, re-gasification equipment and a pipeline used to transport the gas to the Maritimes and Northeast Pipeline. The facility would annually process 180 billion cubic feet of natural gas. The project would require the use of 300 individuals over the three years construction period, and keep 78 workers during operations.

Quoddy Bay LNG (Proposed Site), Pleasant Point, ME

Quoddy Bay LLC in partnership with the Sipayik Tribal Government on Pleasant Point proposed in 2004 to construct an import terminal in the area of Passamaquoddy Bay. The terminal would transport up to 500 million cubic feet per day into the Maritimes & Northeast Pipeline. The LNG Import and Regasification Facility is to include a pier, two vessel berths, and a regasification process platform. The Split Rock Support Facility is to include a control building, office and warehouse. The LNG transfer pipelines and vapor return line is to be 35 miles and connect to the Maritimes & Northeast Pipeline.

The Onshore Storage and Regasification Facility is to include three storage tanks, electric generation equipment, and a regasification facility.

Searsport (Proposed Site), Sears Island, ME

State owned parcel of land that has gained the attention of LNG developers. The land was purchased by the Maine Department of Transportation for the potential economic benefits possible from this parcel.

Sears Island offers deep-water access with close proximity to highway, rail, port, and pipeline infrastructure. Searsport also has an existing shipping channel. On account of community opposition, proposals for a LNG facility on Sears Island are currently not going forward.

8.6.4 Natural Gas / LNG Pipelines (by alphabetical order)

Brunswick Pipeline

The Brunswick Pipeline is a 30-inch diameter, 145-km pipeline, proposed to connect the Canaport™ LNG terminal in Saint John, to the existing Maritimes & Northeast Pipeline (M&NP) near St. Stephen, NB. It is estimated that the project will generate 1000 temporary construction jobs and cost \$320 million (CDN\$).

In addition to establishing a long-term source of natural gas from supplier nations along the entire Atlantic Basin, the overall project brings substantial employment opportunities and millions of investment dollars to the region.

The Brunswick Pipeline is owned by [Emera Inc.](#), an energy company based in the Maritimes. Emera has contracted with [Duke Energy](#) to carry out the permitting, design, construction and operation of the Brunswick Pipeline.

Maritimes and Northeast Pipeline

Maritimes & Northeast Pipeline (M&NP) is a 1,300-kilometre transmission pipeline system built in 1999 to transport natural gas from developments offshore Nova Scotia to markets in Atlantic Canada and the northeastern United States. It is a joint venture of [Duke Energy](#) (77.5%), [Emera Inc.](#) (12.9%), and [ExxonMobil Canada](#) (9.5%). M&NP is headquartered in Halifax, Nova Scotia. M&NP system capacity is approximately 650 million cubic feet per day.

The M&NP system consists of a mainline that runs from the Sable Offshore Energy Inc. ([SOEI](#)) gas plant at landfall in Goldboro, through Nova Scotia, New Brunswick, Maine, New Hampshire, and Massachusetts.

The mainline interconnects with [Portland Natural Gas Transmission System](#), [Tennessee Gas Transmission](#), and [Algonquin Gas Transmission](#) (subsidiary of Duke Energy). Customers include: natural gas producers, large industrial users such as pulp and paper manufacturers, refineries, power generators, and local distribution companies.

McCully Lateral, NB

Based on the activity of the McCully Field, which has been active within a limited market, the McCully Lateral is a 30-mile (45 km) pipeline that will connect with the Maritimes & Northeast Pipeline. Construction began in 2006 and is expected to last one year.

8.6.5 Alternative Energy



New Brunswick

Tidal Energy Development

Tidal energy is a largely untapped, renewable energy source based on lunar gravitation. There are relatively few coastal locations in the world where the tidal range is large enough to exploit for energy. The Bay of Fundy is considered a site for tidal power exploration. The tidal power site in Cumberland Basin through which the NB-NS border passes, has been projected as potentially generating 1400 MW. The favored NB site is Head Harbour Passage, between Deer Island and Campobello. It is believed to have the potential to generate enough electricity to power between 4,500 and 12,000 homes. Cape Enrage is estimated to be NB's most productive tidal site at 30 MW.

Eastern Wind Power (Western Wind Energy), NB

In 2004, Eastern Wind Power (one of [Western Wind Energy](#)'s subsidiaries) was awarded the contract to develop a project on Grand Manan Island, located in the Bay of Fundy, southwest of Saint John, NB. Western Wind leases 4,500 acres under a 30-year lease agreement with a private landowner. The project is to generate 20 MW. Federal and provincial environmental permits and construction permits have already been issued.

Western Wind Energy has selected a turbine manufacturer for this project and has submitted all of the details of the turbine manufacturer and the balance of plant details to New Brunswick Power, for approval.

Eastern Wind Power is a New Brunswick based company that develops wind energy in Atlantic Canada.

Vector Wind Energy

Vector has 17 wind energy projects in 6 provinces and Nunavut - in various stages of development. These projects comprise more than 30,000 acres and have the potential to support more than 1000 MW of development. The Province of NB awarded them a tender call for 20MW of wind power in 2004. Vector has a site under development south of Moncton, NB, in the vicinity of the Village of Dorchester. Additional sites are being considered in the province, such as around the northern part of the Bay of Fundy.

Maine

Maine has one of the highest percentages of clean electricity generation in the nation. The in-state renewable generators may use any of these renewable, clean, indigenous resources:

- **Solar:** The sun's radiant energy can generate electricity in several ways. Photovoltaic arrays use semiconductors to convert light to electricity. Maine has over 300 homes and businesses using solar energy many of which are located in the Corridor.
- **Wind:** The kinetic energy of wind can generate electricity using turbines of many sizes. As of April 2006, construction has begun on the 42mw Mars Hill Project.
- **Water:** Flowing water can be directed through hydropower turbines to generate electricity. Maine has significant hydro resources. Over 60 dams – both small and large— provide over 350 MW of clean electricity.
- **Biomass:** Biomass energy facilities burn waste wood to create steam, which turns turbines to generate electricity. Maine has six biomass facilities in operation, representing over 170 MW of renewable electricity.
- **Landfill Gas (LFG):** Landfills produce methane, a potent greenhouse gas with many times the global warming potential of CO₂. Capturing the methane and using it to generate steam and electricity can reduce GHG emissions. Maine's first LFG is expected to begin operation in mid-2006 in Fort Fairfield (northern Maine) and more are being considered.

Evergreen Wind Power LLC, ME

Evergreen Wind Power, LLC, with offices in Bangor, was formed by the principals of UPC Wind Management, LLC to pursue projects in Maine. Their most recent project is located in Mars Hill, Maine.

UPC Wind Management is the developer, financial advisor and owner of the farm. Construction management, operations and maintenance asset management are also assumed by UPC Wind Management.

The project is to generate 40-45 MW and operations are scheduled to begin at the end of 2006.

Endless Energy Corporation, ME

Endless Energy Corporation (EEC) is a Maine wind energy development company incorporated in 1987. It presently operates the Orland Turbine (about 15 miles south of Bangor, Maine). The Orland Turbine is the largest operating turbine in Maine. The 50kW machine is partially funded by the Department of Environment. The Orland turbine also sells green tags. In 1998, the company acquired Redington Mountain in Maine and signed a long-term lease for land on Equinox Mountain in Manchester, Vermont.

The Redington Wind Farm project will produce electric power from 30 turbines, which is enough power for 40,000 Maine homes.

The Equinox wind farm will produce electricity from 5 turbines. The project will generate enough power to run 4,000 Vermont homes.

8.6.6 Exploration



Albert County Oil Shale, NB

The Albert County Oil Shale is located southeast of Sussex in Albert County, NB. The mineral found in this Oil Shale, Albertite is a solid hydrocarbon. While there is currently no commercial production of Albert County oil shale, given the price of crude, this may become an option in the future.

McCully Field, NB

This is an exploratory Natural Gas site located near Sussex in south central NB. The site contains in excess of one trillion cubic feet of gas. 2 wells have been on production for two years supplying natural gas at an average rate of 2 million cubic feet per day to a limited local market. Production performance has demonstrated the potential for future wells in the McCully field to supply to larger markets in NB and New England.

8.6.7 Oil Refining

Irving Refinery

Established in 1960, the Irving refinery in Saint John is Canada's largest, producing over 300,000 barrels of finished energy products per day. Irving Oil now represents 64% of Canada's petroleum product exports to the US, 19% of all US gasoline imports, and 55% of New Brunswick's foreign exports. The refinery employs over 1,500 people. Each year approximately 2,000 people are hired to work on-site at the refinery on major projects and maintenance turnarounds.

In 2003, Irving invested \$100-million to produce ultra-low sulphur diesel by June of 2006, which would amount to a 97 per cent reduction from today's industry standard for on-road diesel.

A second refinery?

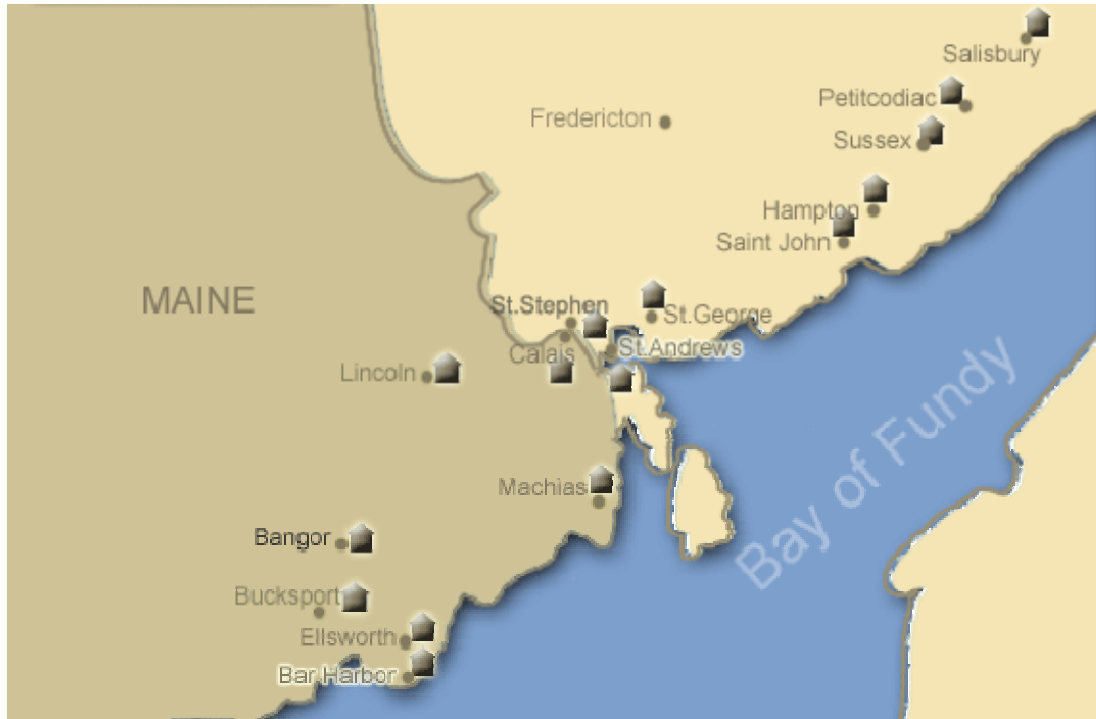
Irving Oil confirmed recently that it is exploring the possibility of building a second refinery in Saint John, New Brunswick, including attracting investors to work with them.

The project would be the first major refinery built in North America in almost a quarter century and would be the largest private-sector investment in Atlantic Canada. It would respond to a clear market opportunity in the U.S. Northeast where 1.7 million barrels per day of transportation fuels are consumed, of which over one million barrels have to be brought in from outside the region.

A new refinery could supply up to 300,000 barrels per day of refined product to the U.S. northeast and would cost approximately \$5-7 billion to build. It would employ approximately 5,000 people during the construction phase and create 1,000 permanent jobs. A project of this magnitude would result in significant additional employment and business opportunities during construction and operation, including billions of dollars in spin-off activity and the creation of thousands of additional permanent jobs.

9. Municipalities

The following is a list of some of the municipalities located within the Bangor-Saint John Trade & Growth Corridor. It does not represent all communities, only a sample throughout the Corridor.



9.1 Bangor, ME

Type: City
Sq. Km.: 89.87/Sq. Miles: 34.69
Population (2000): 31,473
Population growth rate (2000-2004): 0.5%
Unemployment rate (2001): 3.6%
Participation rate (2001): 64.2%
Distance from Saint John: 266 km/165 miles

Bangor is located on I-95, the major north-south corridor on the East Coast. I-395 provides a quick access to State Route 1-A, which connects to the Maine Coast. Canada is 90 minutes away on State Route 9. Augusta, the state capital, is about an hour away. Portland can be reached in two hours, Saint John New Brunswick in three, and Boston and Montreal in four to five hours. Bangor is the commercial and social center of northern, central, and eastern Maine. It is the region's largest center of retail and service businesses, a center for government, education and health care.

9.2 Bar Harbor, ME

Type: Town

Sq. Km.: 182.8/Sq. Miles: 70.6

Population (2000): 4,820

Population growth rate (2000-2004): 5.0%

Unemployment rate (2001): 5.6%

Participation rate (2001): 66.9%

Distance to Saint John: 314 km/195 miles

Distance to Bangor: 73.3 km/45.5 miles

Bar Harbor is a town located in Hancock County. A port of entry for Bay Ferries from Yarmouth, Nova Scotia, Bar Harbor is a famous upper-class summer colony in the Down East region of Maine. Situated between Frenchman's Bay and Acadia National Park, Bar Harbor is home to the College of the Atlantic and Jackson Laboratory, in addition to Mount Desert Island Biological Laboratory at the village of Salisbury Cove. At the end of each May, the community hosts The Warblers & Wildflowers Festival, a celebration of Bar Harbor nature and scenery.

9.3 Bucksport, ME

Type: Town

Sq. Km.: 29.5/Sq. Miles: 11.4

Population (2000): 4,908

Population growth rate (2000-2004): 1.1%

Unemployment rate (2001): 5.3%

Participation rate (2001): 65.2%

Distance to Saint John: 280 km/174 miles

Distance to Bangor: 31 km/19 miles

Bucksport was settled as Buckstown in 1764. Bucksport Harbor at the end of Penobscot Bay is used year-round for both industry and tourism. On the business side, large oil tankers offload petroleum products for northern and eastern Maine, and coated paper from International Paper is shipped out for a wide range of magazines and catalogs. With its new mile-long waterfront walkway and public marina overlooking Fort Knox, Bucksport is one of the most picturesque, easily navigated ports of coastal Maine.

9.4 Calais, ME

Type: City

Sq. Km.: 102/Sq. Miles: 39.4

Population (2000): 3,447

Population growth rate (2000-2004): -3.2%

Unemployment rate (2001): 4.3%

Participation rate (2001): 56.5%

Distance to Saint John: 116 km/72 miles

Distance to Bangor: 152.5 km/95 miles

The City of Calais, Maine is located in eastern Washington County situated on the Canadian border and the St. Croix River two hours from Bangor, and an hour and a half from Saint John. Calais has historically been a city of commerce and is recognized as the primary shopping center of eastern Washington County and Charlotte County, New Brunswick. Retail, service, and construction businesses are the primary components of the Calais economy. Calais is also home to a regional hospital and a community college.

9.5 Ellsworth, ME

Type: City
Sq. Km.: 243.7/Sq. Miles: 94
Population (2000): 6,456
Population growth rate (2000-2004): 6.9%
Unemployment rate (2001): 2.5%
Participation rate (2001): 64.2%
Distance to Saint John: 285 km/177 miles
Distance to Bangor: 44 km/27 miles

Ellsworth is situated at the head of navigation on the Union River and is a major crossing point for highways in Maine. The City is approximately 29 miles southeast of the City of Bangor, 105 miles east of Augusta, and 170 miles northeast of Portland. As the shire town of Hancock County, Ellsworth is the administrative and commercial hub of Downeast Maine. The economy of Ellsworth is service-based and is the region's trading, banking and dining center with retail and professional businesses serving Hancock County and western Washington County. The City's economy is also enhanced by the estimated 4 million visitors who pass through the City each year on their way to Acadia National Park.

9.6 Grand Bay-Westfield, NB

Type: Town
Sq. Km.: 58/Sq. Miles: 22.4
Population (2001): 4,949
Population growth rate (1996-2001): -1.2%
Unemployment rate (2001): 6.8%
Participation rate (2001): 65%
Distance Saint John: 23.7 km/14.7 miles
Distance to Bangor: 270 km/168 miles

The Town of Grand Bay-Westfield is a rural community outside of Saint John bordering on the St. John River. The town offers an excellent rural quality of life in close proximity to the urban center. The town has a strong focus on its waterfront and becoming a growing service centre for the Lower St. John River Valley. There are over 8,000 residents in the area that use the town as their service center.

9.7 Hampton, NB

Type: Town
Sq. Km.: 21/Sq. Miles: 8.1
Population (2001): 3,997
Population growth rate (1996-2001): -2.1%
Unemployment rate (2001): 4.1%
Participation rate (2001): 68.6%
Distance Saint John: 43.5 km/27 miles
Distance to Bangor: 304 km/189 miles

The town of Hampton (the shire town of Kings County) is located on the Lower St. John River System, northeast of the City of Saint John. Hampton is a small community with many points of interest and beautiful natural scenery. The Hampton marsh is recognized as one of the most fertile and productive wetland systems in New Brunswick. These wetlands, covering approximately 2000 hectares (5000 acres), are located along the Kennebecasis River within and around the communities of Hampton, Quispamsis and Nauwigewauk. Agriculture, particularly dairy farming, is the largest industry in the community.

9.8 Lincoln, ME

Type: Town
Sq. Km.: 19 /Sq. Miles: 7.4
Population (2000): 5,221
Population growth rate (2000-2004): 0.8%
Unemployment rate (2001): 4%
Participation rate (2001): 53.1%
Distance Saint John: 236 km/147 miles
Distance to Bangor: 80 km/50 miles

On January 30, 1829, Lincoln was incorporated as the 284th town in Maine. The town is a regional service center for a population of over 22,000. More than 12,000 vehicles drive through Main Street each day. The largest employer, Lincoln Paper and Tissue has just completed a major expansion.

9.9 Machias, ME

Type: Town
Sq. Km.: 6.45/Sq. Miles: 2.5
Population (2000): 2,353
Population growth rate (2000-2004): -0.8%
Unemployment rate (2001): 5.3%
Participation rate (2001): 54.9%
Distance Saint John: 203 km/126 miles
Distance to Bangor: 145.5 km/90 miles

Machias means "bad little falls," an appropriate name for the river, which runs through the town. The town, and Bad Little Falls Park, is located between US Highway 1 and Maine Route 92 along the coastal route of Maine. Convenient day trips can be made to Bar Harbor, Acadia National Park, Campobello Island and Lubec.

Retail trade is the predominant industry in Machias. Historically, the area was a leader in the lumber and shipbuilding industries, as well as fishing and other trade. Currently it is popular for its blueberries (yearly blueberry festival in August). Machias is also home to the University of Maine at Machias.

9.10 Petitcodiac, NB

Type: Village
Sq. Km.: 17.2/Sq. Miles: 6.6
Population (2001): 1,444
Population growth rate (1996-2001): 1.3%
Unemployment rate (2001): 8.1%
Participation rate (2001): 55.1%
Distance Saint John: 116 km/72 miles
Distance to Bangor: 454 km/282 miles

Petitcodiac is a village named after the Petitcodiac River, which flows through the municipality. The village feature a regional school, an outdoor swimming pool, several family-owned shops and several churches servicing the area. The location of Petitcodiac on the corridor between the cities of Moncton and Saint John places it in an ideal location for continued growth.

9.11 Quispamsis, NB

Type: Town

Sq. Km.: 57/Sq. Miles: 22

Population (2001): 13,757

Population growth rate (1996-2001): 1.3%

Unemployment rate (2001): 8.1%

Participation rate (2001): 65.1%

Distance Saint John: 22 km/13.7 miles

Distance to Bangor: 286 km/177.79 miles

Quispamsis is located along the Kennebecasis River and Hammond River waterways in close proximity to the urban center of Saint John. The town is one of the fastest growing in the region emerging as a popular bedroom community. The town has constructed a new town hall and is building a new Arts and Culture Park. The downtown is a home to a number of professional offices and service centers.

9.12 Rothesay, NB

Type: Town

Sq. Km.: 34.13 /Sq. Miles: 13.2

Population (2001): 11,505

Population growth rate (1996-2001): 0.3%

Unemployment rate (2001): 5.6%

Participation rate (2001): 67.9%

Distance Saint John: 18 km/11.2 miles

Distance to Bangor: 283 km/176 miles

The Town of Rothesay is situated on the outskirts of the City of Saint John. Rothesay has experienced over 14,864 square metres (160,000 square feet) of commercial growth within the last two years, including small and large scale development. Current proposed developments have the potential to add an additional 10,458 square metres (112,580 square feet) of commercial development. The area has a highly educated, rapidly growing workforce.

9.13 Saint John, NB

Type: City

Sq. Km.: 316/Sq. Miles: 122

Population (2001): 69,661

Population growth rate (1996-2001): -3.9%

Unemployment rate (2001): 10.3%

Participation rate (2001): 60.29%

Distance to Bangor: 266 km/165 miles

Saint John is located on Atlantic Canada's Bay of Fundy at the mouth of the St. John River. Saint John is a 90-minute drive from the US border at Calais, Maine; a 3-hour drive from Bangor, Maine; a 6-hour drive from Portland, Maine; and an 8-hour drive from Boston. Nova Scotia is accessible by a 3-hour ferry crossing from Saint John, and Halifax is about 4 hours' direct driving from Saint John. Saint John is a regional energy hub with large scale oil refining and LNG facilities. It also has a growing information and communications technology (ICT) sector. It is home to the University of New Brunswick – Saint John campus, a regional airport, specialized health care facilities as well as maritime ports used by cruise ships and ferry service with daily trips to Nova Scotia.

9.14 Salisbury, NB

Type: Village

Sq. Km.: 13.7/Sq. Miles: 5.3

Population (2001): 1,954

Population growth rate (1996-2001): 3.8%

Unemployment rate (2001): 8.5%

Participation rate (2001): 64.4%

Distance Saint John: 128 km/79.5 miles

Distance to Bangor: 460 km/285 miles

The Village of Salisbury is nestled along the Petitcodiac River in southeast New Brunswick. With the Trans-Canada Highway and CN Railway running through the village, Salisbury is a central location in New Brunswick.

It is 25 km from Moncton, approximately 40 km from the Moncton International Airport, 85 km from Fundy Park, 85 km from Nova Scotia, 120 km from the Confederation Bridge (PEI), and 245 km from the US border. The Village of Salisbury provides rural living with a central location and close proximity to most destinations.

9.15 St. Andrews, NB

Type: Town

Sq. Km.: 8.4/Sq. Miles: 3.3

Population (2001): 1,869

Population growth rate (1996-2001): 6.3%

Unemployment rate (2001): 13.4%

Participation rate (2001): 61.9%

Distance Saint John: 102 km/63 miles

Distance to Bangor: 185 km/115 miles

St. Andrews, also known as St. Andrews by-the-sea, is a small coastal town situated at the end of the peninsula jutting out into the Passamoquoddy Bay, off the Bay of Fundy. St. Andrews was founded in 1783 by United Empire Loyalists and named in honour of St. Andrews, Scotland. The town is well preserved, with many original buildings still in place (some of which were floated to the town on barges from Castine, Maine at the end of the Revolutionary War). The main industry within the town is tourism, with major attractions including: The Fairmount Algonquin Hotel, Kingsbrae Horticultural Garden, The Ross Memorial Museum, the St. Andrews Biological Station, and the Hunstman Aquarium (just to name a few).

9.16 St. George, NB

Type: Town

Sq. Km.: 8.4/Sq. Miles: 3.3

Population (2001): 1,869

Population growth rate (1996-2001): 6.3%

Unemployment rate (2001): 13.4%

Participation rate (2001): 61.9%

Distance Saint John: 102 km/63 miles

Distance to Bangor: 185 km/115 miles

St. George is situated in Charlotte County located 40 km from Canada's Chocolate Town - St. Stephen and the Maine border, minutes from the port of Bayside. 100 km east is New Brunswick's largest city Saint John and Fredericton is about 200 km to the north. St. George, Granite Town, First Falls is a loyalist town, historic in culture, diverse in architecture; featuring Canada's oldest Presbyterian Kirk. St. George is referred to as the granite town, because of its past as a center of the granite industry, the town also looks forward to a future as a service hub for the aquaculture and tourism industries.

9.17 St. Stephen, NB

Type: Town

Sq. Km.: 104/Sq. Miles: 40

Population (2001): 1,856

Population growth rate (1996-2001): -1.8%

Unemployment rate (2001): 10.2%

Participation rate (2001): 64.0%

Distance to Saint John: 113 km/70 miles

Distance to Bangor: 153 km/95 miles

St. Stephen – Canada’s Chocolate Town is located on the border of the State of Maine at the center of the Bangor-Saint John Trade & Growth Corridor. It has a long history of international co-operation and friendship with its "across the bridge" border neighbour, Calais, Maine, U.S.A. The largest employers in the community are Ganong Bros. Ltd. and Flakeboard Co. Ltd. The border at St. Stephen is the fifth most busy in Canada (based on vehicle traffic).

9.18 Sussex, NB

Type: Town (T)

Sq. Km.: 9.03/Sq. Miles: 3.5

Population (2001): 4,182

Population growth rate (1996-2001): -2.6%

Unemployment rate (2001): 10.2%

Participation rate (2001): 60.0%

Distance to Saint John: 71 km/44 miles

Distance to Bangor: 337 km/209 miles

The town of Sussex is located at the northern beginning of the Bangor-Saint John Trade & Growth Corridor on Highway #1, #10 and #114 at the junction of the Fundy Coastal Drive and the River Valley Scenic Drive. It is a town known for its farming and dairy industries with Dairyland being the top Sussex employer, and is marketed as the “Gateway to the Fundy experience”.

Sussex is the central location between Fredericton, Moncton and Saint John – about a half an hour drive away from each. It is a known tourist destination especially for the NB Antique Auto Giant Flea Market in August, the Atlantic Balloon Fiesta in September and the many covered bridges within the community.

10. Operating Cost Environment

10.1 Cost of Land

Land availability and cost along the Corridor is highly competitive with other jurisdictions in North America. The cost for serviced industrial lots can range from as low as a few thousand dollars an acre to \$50,000 an acre for high visibility lots in the urban centers.

For example, land in the Spruce Lake Industrial Park in Saint John starts at \$25,000 CDN\$ per acre.

10.2 Cost of Construction

KPMG publishes a bi-annual report entitled Competitive Alternatives which compares the operating costs in over 100 jurisdictions in nine countries for 18 industrial sectors. The 2004 version of this report provided good insight into the operating cost dynamics of Saint John compared to its peer group of communities. Unfortunately, Bangor was not included in this study but the city of Lewiston was and will be included in the tables as a benchmark as operating costs between Lewiston and Bangor would not vary in any significant fashion.

Construction Costs 50,000 sq. ft Manufacturing Facility (All costs in \$US 000s)

Urban Area:		Land	Buildings	Total Land & Buildings
New York	NY	\$6,277	\$7,000	\$13,277
Seattle	WA	1,951	4,800	\$6,751
Detroit	MI	1,757	4,500	\$6,257
Vancouver	BC	2,218	3,977	\$6,195
Minneapolis	MN	1,049	4,900	\$5,949
Boston	MA	1,607	4,000	\$5,607
Toronto	ON	2,284	3,151	\$5,435
Burlington	VT	851	4,500	\$5,351
Montreal	QC	1,193	3,752	\$4,945
Lewiston	ME	241	4,700	\$4,941
Calgary	AB	1,171	3,583	\$4,754
Houston	TX	714	4,000	\$4,714
Dallas-Fort Worth	TX	958	3,200	\$4,158
Saint John	NB	120	3,451	\$3,571

Source: 2004 KPMG Competitive Alternatives Report*

10.3 Property Taxes

10.3.1 New Brunswick portion of the Corridor

Property-based taxes in the Corridor are also competitive with peer communities. In the 2006 Competitive Alternatives study published by KPMG, property-based taxes in Saint John were well below average. The total property-based taxes per square foot for a sample manufacturing facility were \$1.73/sq. ft. compared to rates as high as \$7/sq. ft in some other communities.

10.3.2 Maine portion of the Corridor

For companies located in Pine Tree Development Zones, there is a Property Tax Reimbursement program of up to 100% of the amount and up to 30 years: the tax reimbursement benefit derives from local incremental taxes on new real and personal property investments that may be returned to a business as Municipal Tax Increment Financing if approved by the host municipality.

10.4 Office Lease Rates

10.4.1 New Brunswick Portion of the Corridor

According to Royal LePage Commercial Eastern, net rents for Class A space are approximately \$16-\$17 per square foot (NNN) and Class B \$10 per square foot (NNN). Industrial rents range from \$5.50 to \$6.50 per sq. ft. (NNN) depending on the terms and conditions of the lease.

In the KPMG Competitive Alternatives report, Saint John had one of the lowest cost environments for office space in North America.

Lease rates in the smaller towns and rural regions can be even lower but there is much less availability.

10.4.2 Maine Portion of the Corridor

A current review of Maine Association of Commercial Realtors real estate database for the Greater Bangor area lists 50 current office and industrial facilities available for rent. Office space is currently renting for between \$9 and \$14 per square foot (gross) and industrial real estate rates range from \$4.00 to \$7.00 per square foot (NNN).

These rates are highly competitive with other urban centers in New England where office space costs can rise as high as \$25-\$30 per square foot or more in larger areas such as Boston and Hartford.

10.5 Wage and Salary Rates

Wage and salary levels in the Corridor are highly competitive with other regions in North America. In general, wage rates in smaller rural communities are lower than in the urban centers due primarily to a lower cost of living. The table below is based on the 2006 Geographic Reference Report which estimates median base salaries for several hundred occupations. The Canadian and US wage rates are shown in their respective currencies as of the publication of the report in late 2005.

Median Base Salaries \$ US Dollars				
	Bangor, ME	Portland, ME	Boston, MA	Portsmouth, NH
Computer Programmer	\$57,676	\$59,744	\$70,358	\$61,173
Data Entry Operator	23,175	24,506	28,911	24,877
Electrical Engineer	63,909	66,119	77,534	67,600
Graphic Designer	43,942	45,830	54,536	47,025
Machine Tool Operator	30,897	32,434	38,439	33,126
Medical Lab Technician	31,571	33,126	39,271	33,844
Production Supervisor	50,560	52,530	62,155	53,837
Warehouse Worker	<u>23,759</u>	<u>25,105</u>	<u>29,631</u>	<u>25,521</u>
<i>Group Average</i>	<i>\$40,686</i>	<i>\$42,424</i>	<i>\$50,104</i>	<i>\$43,375</i>
<i>Differential</i>		4%	23%	7%
Median Base Salaries \$ CDN Dollars				
	Saint John, NB	Montreal, QC	Toronto, ON	Calgary, AB
Computer Programmer	\$62,660	\$67,114	\$70,151	\$67,684
Data Entry Operator	28,424	31,050	33,149	30,769
Electrical Engineer	69,963	74,774	78,082	75,370
Graphic Designer	48,184	51,931	54,428	54,450
Machine Tool Operator	35,880	38,938	41,183	38,957
Medical Lab Technician	36,765	39,784	42,137	39,928
Production Supervisor	58,329	62,572	65,447	63,127
Warehouse Worker	31,470	34,272	36,431	34,144
<i>Group Average</i>	<i>\$46,459</i>	<i>\$50,054</i>	<i>\$52,626</i>	<i>\$50,554</i>
<i>Differential</i>		8%	13%	9%
Source: The Geographic Reference Report (2006)				

10.6 Fringe Benefits Costs

Fringe benefit costs include both statutory (government mandated) and corporate-sponsored costs. As the table shows, the impact of fringe benefit costs can be considerably lower in Saint John and Lewiston (which is used as a benchmark for the city of Bangor) than in some of the larger urban areas in the study.

Fringe Benefit Costs (\$000 USD) 100 Person Metal Machining Facility

Urban Area:		Statutory Plans	Other Benefits	Total Benefits
Houston	TX	\$430	\$1,074	\$1,504
Dallas-Fort Worth	TX	417	1,042	1,459
Detroit	MI	464	931	1,395
Seattle	WA	420	895	1,315
Minneapolis	MN	387	890	1,277
New York	NY	463	742	1,205
Boston	MA	373	755	1,128
Montreal	QC	431	695	1,126
Vancouver	BC	351	729	1,080
Toronto	ON	331	733	1,064
Burlington	VT	360	652	1,012
Lewiston	ME	367	622	989
Calgary	AB	293	675	968
Saint John	NB	256	631	887

Source: 2004 KPMG Competitive Alternatives Report

10.6.1 Health Care Costs

One of the largest fringe benefit costs in the United State is health care premiums paid by the employer. The table below shows the monthly cost of health care premiums in Bangor and several benchmark cities.

Monthly Health Care Costs

	Family Rates	
	HMO	Indemnity
Bangor	\$1,032	\$ 1,164
Portland, ME	\$938	\$ 1,170
Boston	1,160	1,649
Hartford	1,005	1,155
Portsmouth, NH	981	1,135

Source: ERI's Geographic Reference Report (2006)

10.7 Corporate Taxation

10.7.1 New Brunswick Portion of the Corridor

New Brunswick has one of the lowest small business corporate tax rates in North America and its large business corporate tax rate is highly competitive in Canada. The government recently reduced the general corporate tax rate to 12.5%.

In addition, corporations are able to recover sales taxes paid for purchases and expenses related to commercial activities. Essentially, the 14% Harmonized Sales Tax (HST) is a value-added tax borne by the end purchaser of goods and services.

Corporate Income Tax Rates in New Brunswick (2006)

	Small Business	Large Business
Provincial Tax Rates (%)	2%	12.5%
Federal Tax Rates (%)	12%	21-23%

Source: Government of New Brunswick

10.7.2 Maine Portion of the Corridor

According to the Tax Policy Center’s State Corporate Marginal Income Tax Rates, 2006 table prepared by Tax Policy Center, Maine’s marginal corporate income tax rates are as outlined in the following table. Federal corporate income taxes are much higher in the US than most industrialized countries at 35% of income.

Corporate Income Tax Rates in Maine (2006)

Taxable Income:	Marginal Rate (%):
\$0-\$25,000	3.50
\$25,001-\$75,000	7.93
\$75,001-\$250,000	8.33
\$250,001+	8.93

Source: Government of Maine

In addition, firms locating in designated [Pine Tree Zones](#) (PTDZ) have the chance to greatly reduce, or in some cases, virtually eliminate state taxes for a period of time that may be up to ten years.

Depending on the level of new qualified business activity conducted in a PTDZ, starting with the statutory requirement for hiring a minimum of one net new qualified employee, the tax burden of qualified businesses may be reduced through the following exemptions, reimbursements, and credits:

- Corporate Income Tax Credit (100%, Years 1-5; 50%, Years 6-10): the tax credit benefit derives from net new PTDZ payroll and property as a percentage of all Maine payroll and property;
- Insurance Premiums Tax Credit (100%, Years 1-5; 50%, Years 6-10): the tax credit benefit derives from net new PTDZ payroll and property as a percentage of all Maine payroll and property;
- Income Tax Reimbursement (80%, Years 1-10): the tax reimbursement benefit derives from income taxes withheld for net new jobs created, i.e. those qualified employees hired above the "old" employment baseline that existed in Maine prior to the expansion may be eligible for Employment Tax Increment Financing;
- Sales and Use Tax (100% Personal Property Exemption, Years 1-10): the tax exemption benefit, effective the later of July 1, 2005 or date of certification, derives from the qualified business paying no tax on all new tangible personal property purchases for its qualified business activity;
- Sales and Use Tax (100% Real Property Reimbursement, Years 1-10): the tax reimbursement benefit, effective the later of July 1, 2005 or date of certification, derives from paying no tax on all new tangible property purchases that are to be physically incorporated in, and become a permanent part of, real property of a qualified business and used in its qualified business activity;
- Property Tax Reimbursement (up to 100% and 30 years): the tax reimbursement benefit derives from local incremental taxes on new real and personal property investments that may be returned to a business as Municipal Tax Increment Financing if approved by the host municipality.

10.8 Shipping Costs

The KPMG Competitive Alternatives report looked at the cost of shipping product from each of the communities. The model assumed that 50% of product would be shipped via truck and 50% by sea. It also assumed a fairly even distribution to the top North American urban centers.

As the table reveals, for the shipping of fabricated metal products, Saint John was about average in total shipping costs while the Maine benchmark city, Lewiston, was above average for shipping costs. However; total shipping costs only represent 10% of total operating costs (or less).

Total Annual Shipping Costs (in \$US 000s)

Urban Area:		Road Freight	Sea Freight	Total Freight
Minneapolis	MN	\$1,337	\$228	\$1,565
Lewiston	ME	1,183	188	1,371
Burlington	VT	1,051	210	1,261
Boston	MA	1,052	201	1,253
Houston	TX	1,024	192	1,216
Vancouver	BC	959	125	1,084
Dallas-Fort Worth	TX	847	208	1,055
New York	NY	870	178	1,048
Calgary	AB	789	170	959
Saint John	NB	736	207	943
Detroit	MI	558	198	756
Montreal	QC	385	97	482
Toronto	ON	374	100	474

Source: 2004 KPMG Competitive Alternatives Report

10.9 Utilities Costs

Depending on the type of facility, utilities costs can represent a considerable portion of overall costs. In the sample manufacturing facility outlined in the KPMG Competitive Alternatives report, utilities costs were less than 10% of the overall cost structure. However, there were considerable differences in costs depending on the region. The Maine benchmark location, Lewiston, had considerably higher electricity and gas costs compared to many of the other jurisdictions in the study.

Utilities Costs (in \$US 000s) 50,000 sq. ft. Metal Machining Facility

Urban Area:		Electricity	Gas	Telecom
New York	NY	\$597	\$158	\$25
Boston	MA	479	191	25
Lewiston	ME	457	185	27
Burlington	VT	441	133	27
Detroit	MI	343	113	25
Calgary	AB	355	81	30
Toronto	ON	294	109	29
Montreal	QC	221	177	29
Minneapolis	MN	245	132	25
Saint John	NB	207	131	31
Houston	TX	210	131	25
Dallas-Fort Worth	TX	210	131	25
Vancouver	BC	156	128	30

Source: 2004 KPMG Competitive Alternatives Report*

10.10 Business Incentives

10.10.1 New Brunswick Portion of the Corridor

Industry expansion incentive programs are offered primarily through the New Brunswick government and coordinated by Business New Brunswick. Provincial incentives fall into three broad categories: Strategic Assistance, Tax Credits, and Training Assistance.

Strategic Assistance

Business New Brunswick Strategic Assistance Program offers provisionally forgivable loans to qualifying projects. The specific per-job funding level is based on return on investment (ROI) and pay back to government models. Tailor-made to individual needs/requirements, the per-job wage levels, benefits, geographic location (i.e., urban or non-urban area), and capital costs of the project in New Brunswick are other determinants of the per-job funding level. Approvals range from four to eight weeks from completed application by the company. Integration with other government programs is permissible however; overall government assistance to a project depends upon the above criteria.

Tax Credits

Federal Investment Tax Credit: Deducted from federal tax payable, this credit is 10 percent of net investment in equipment and buildings in manufacturing, processing, mining, oil and gas, logging, farming, and fishing.

Federal Research & Development Incentives: The Scientific Research and Experimental Development (SR&ED) program provides a refundable investment tax credit (ITC) of 35% up to the first \$2 million of qualified expenditures for SR&ED carried out in Canada, and 20% on any excess amount.

Provincial R&D Tax Credits: The New Brunswick R&D tax credit is 15% and fully refundable meaning that the credit benefits New Brunswick corporations even if the corporation does not have provincial taxes owing.

Training Assistance

Workforce Expansion Program: The Workforce Expansion program provides financial assistance to eligible employers in order to stimulate the creation of long-term employment opportunities for unemployed individuals. The Program also aims at encouraging the hiring of the province's post-secondary graduates. Funding will be on the basis of a wage subsidy. The percentage of wage reimbursement will vary from 50 percent to 70 percent of the hourly wage to a maximum reimbursement of \$8.00 per hour depending on the target group.

Work Ability Program: The Work Ability Program provides unemployed individuals workplace opportunities in support of their career plans to assist them to make the transition to employment. The Program provides wage reimbursement to eligible employers who are willing and able to provide a job experience as defined in individuals' career plans. Training and Employment Development will reimburse the employer 100 percent of the hourly wage up to a maximum of \$6.30 (to a maximum of 40 hours per week), plus the employer's share of benefits. The employer is responsible to pay the Workplace, Health, Safety and Compensation Commission premiums.

Tax Increment Financing (TIF)

TIF is a local financing tool that permits a municipality to use some or all of the new property taxes that result from an investment project within a designated district to assist in that project's expenses. The municipality may disburse the tax increment directly to the investing business to help pay project costs, use it to retire bonds it issues as part of the project, or retain it for allowable economic development purposes.

Technology Tax Credits

Maine has several tax credit programs specifically designed to encourage the growth of technology companies in the state including the Research Expense Tax Credit, R&D Super Credit, High-Technology Investment Tax Credit, and Sales Tax exemptions for technology companies.

R&D Support

Research Expense Tax Credit
Super R&D Tax Credit
High Technology Investment Tax Credit

Sales tax exemptions

Custom computer programming is exempt from sales tax

Jobs & Investment Tax Credit (JITC)

Employers can save as much as \$500,000 per year for seven years by investing \$5 million in personal property and creating at least 100 new jobs. Tax credits apply toward Maine income tax.

Sales Tax Exemptions

Maine state sales tax exemptions are available for manufacturing, R&D, custom computer programming, fuel & electricity, biotechnology and clean fuel vehicle sales.

Manufacturing

Sales of machinery and equipment used by the purchaser directly and primarily in the production of tangible personal property for later sale or use is eligible for a sales tax exemption.

Training Programs

Maine provides 100% state-financed training for new employees designed to employer specifications through the Maine Quality Centers and offers employers partial reimbursement of training costs for upgrading the skills of new or existing employees through the Governor's Training Initiative (GTI). Maine also offers apprenticeship programs.

Financing Assistance

Maine has a number of community bond and financing programs available for eligible projects.

11. Other Economic Assets

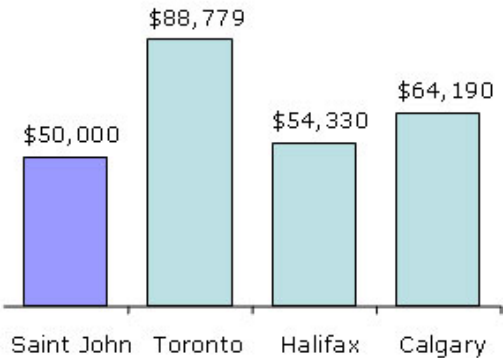
11.1 Quality of Life

The Bangor-Saint John Trade & Growth Corridor offers a very attractive environment to live, work, raise a family and eventually retire. The two urban centers, Bangor and Saint John, offer residents vibrant urban living with a small town feel while the smaller communities that surround Bangor and Saint John provide rural living in close proximity to urban amenities.

11.1.1 New Brunswick Portion of the Corridor

The cost of living in the New Brunswick portion of the Bangor-Saint John Corridor is well below peer communities. Even the relatively affluent Kings County still offers a cost of living below other medium and large urban centers in Canada.

Comparative Salary Analysis
\$50,000/yr in Saint John is equivalent to:



Source: Homefair.com

Homefair.com has a tool that allows users to assess what comparable salaries would be in other markets. Using this tool, a \$50,000/year salary in Saint John is equivalent to \$54,330 in Halifax, Nova Scotia and \$88,779 in Toronto, Ontario.

Average Household Expenditures (2005 Estimate)

Expenditure:	Charlotte	Kings	St. John	Halifax	Toronto	Calgary
Food	\$6,605	\$7,450	\$6,143	\$7,342	\$8,406	\$9,012
Shelter	8,336	10,189	8,996	10,930	13,563	13,902
Clothing	1,989	2,552	2,033	2,638	3,150	3,483
Transportation	6,854	8,298	5,946	7,300	8,350	9,458
Health & Personal Care	2,112	2,408	1,901	2,299	2,560	2,796
Recr'n, Read'g & Education	3,347	4,540	3,482	4,560	4,828	5,851
Taxes & Securities	11,936	16,180	11,754	16,825	19,513	23,584
Other	<u>8,873</u>	<u>10,256</u>	<u>8,816</u>	<u>10,089</u>	<u>11,129</u>	<u>12,510</u>
Total Expenditures	50,052	61,874	49,070	61,983	71,499	80,595
As a % of Charlotte County				24%	43%	61%
As a % of Kings County				0.20%	16%	30%
As a % of St. John County				26%	46%	64%

Source: FP Markets - Canadian Demographics 2005.

Crime rates are also relatively low in the Saint John and surrounding areas. Using 2004 data from the ERI Geographic Reference Report, Saint John has crime data per 100,000 population in line with most similarly sized cities and lower than many larger urban centers.

Crime Rates (2004) (per 100,000 population)

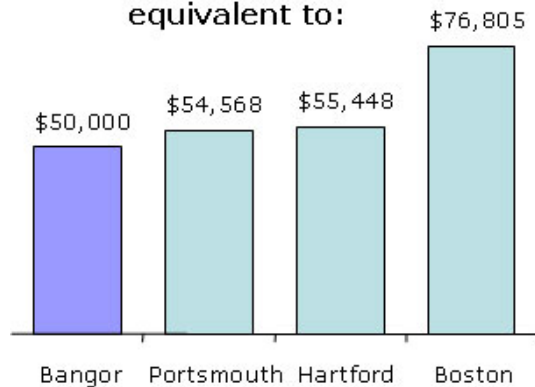
	<u>Saint John</u>	<u>Halifax</u>	<u>Vancouver</u>	<u>Winnipeg</u>
Robberies	65	160	150	230
Sexual Assaults	75	90	55	100
Homicides	1	2	3	5
Assaults*	1080	1140	1200	1090

**Note: Sexual assault and general assault data is not comparable between the US and Canada.*
 Source: ERI Geographic Reference Report (2006)

11.1.2 Maine Portion of the Corridor

Bangor has again been selected as a "5-Star Quality of Life Metro" by Expansion Management in their 8th Annual "Quality of Life Quotient". To come up with their final rankings, Expansion Management grouped its findings into nine major categories: affordable housing, good public schools, peace of mind, a balanced standard of living, broad opportunities for adult education, reasonable traffic and commuting, good commercial air access, a high adult education level and, from an employer’s perspective, a young, reasonably priced work force from which to find good employees.

Comparative Salary Analysis
 \$50,000/yr in Bangor is equivalent to:



Source: Homefair.com

The cost of living in Bangor is slightly higher than the national average but still well below most larger urban centers such as Boston, Hartford, Portsmouth, New Hampshire, etc. Homefair.com has a tool that allows users to assess what comparable salaries would be in other markets. Using this tool, a \$50,000/year salary in Bangor is equivalent to \$54,568 in Portsmouth, New Hampshire and \$76,805 in Boston, Massachusetts.

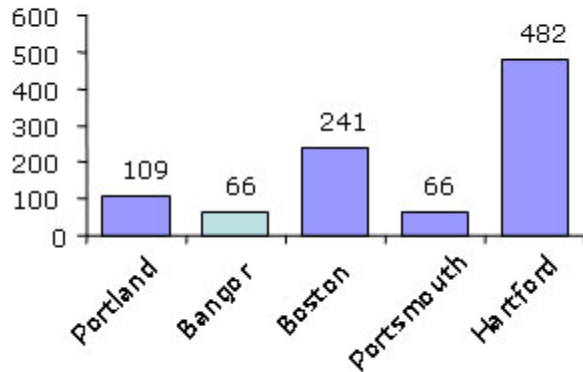
Crime Rates

Crime rates in are similar to other mid-sized cities in America. Homefair.com ranks communities based on a general crime index (includes a broad range of elements). This index ranks Bangor at 66 well below the national level while many other similarly sized and larger communities scored much higher.

The ERI Geographic Reference Report publishes crime data per 100,000 population. Again, Bangor ranks well below many of its peer communities for major crime activity.

Crime Index (2005)

100 = National Average



Source: Homefair.com

Crime Rates (2004)

(per 100,000 population)

	Bangor	Portland	Portsmouth	Boston
Robberies	59.7	156.7	70.6	467.8
Rapes	12.6	79.1	47	44.4
Homicides	6.3	1.6	0	6.6
Assaults*	56.6	138.1	178.8	697.4

*Note: Sexual assault and general assault data is not comparable between the US and Canada.

Source: ERI Geographic Reference Report (2006)

11.2 Convention Centers

11.2.1 Bangor Civic Center, ME

The Bangor Civic Center is a multi-purpose convention, tradeshow, meeting and entertainment facility that serves Maine and Atlantic Canada. The civic center has 22,000 square feet of usable space and is capable of hosting nine concurrent meetings. This space is often used for trade shows, conference meetings, banquets, and wedding receptions. Banquet seating for up to 800, or Main Hall seating for 1200. The Bangor City Council is currently working to gain support to replace the 47-year-old Auditorium, adjacent to the Civic Center, with a new facility. The cost of this project is estimated at \$30 million.

11.2.2 Greater Bangor Convention & Visitors Bureau, ME

The Greater Bangor Convention & Visitors Bureau is another significant tourism asset. This non-profit membership organization provides:

- Destination marketing and visitors services for the Greater Bangor Region, including the Bar Harbor Coastal area.
- Information and marketing efforts for conferences and tourism.
- An up to date directory of the Center's [member businesses](#).

11.2.3 Saint John Trade and Convention Centre, NB

Saint John has the only trade and convention center in New Brunswick. It is operated by Hilton Canada. The center seats 2300 delegates (theatre-style), and 1450 for banquets in the Great Hall with 17,000 square feet of unobstructed space.

- The space has another 6464 square feet of meeting space in 6 rooms.
- The convention center features a total of nine separate meeting rooms, state of the art audiovisual and high speed internet.
- It is wheelchair accessible, with parking for 700.

The convention center is connected by an enclosed pedway to two shopping malls, the NB Museum, Canada Games Aquatic Centre, Hilton Saint John, and Delta Brunswick Hotels, the Old City Market, office complexes, and Harbour Station.

12. R&D and Innovation Capacity

12.1 Federal / State / Provincial R&D Organizations

12.1.1 Atlantic Innovation Fund, NB

The Atlantic Innovation Fund is a \$300-million (CAN) initiative through which the Government of Canada is investing in order to increasing Atlantic Canada's innovation capacity. Sectors of interest include:

- Aquaculture
- Environmental technologies
- Information technologies
- Health and medical technologies
- Ocean technologies
- Biotechnology

The Fund also encourages the development of technologies that allow resource sectors, such as oil and gas, agriculture and agri-food, fisheries, forestry and mining, to increase their competitiveness.

12.1.2 Department of Maine Resources - Environmental Research and Monitoring, ME

The Department, in conjunction with the Department of Environmental Protection, administers the Finfish Aquaculture Monitoring Program (FAMP). The FAMP is a comprehensive monitoring program for all finfish farms in the State.

The FAMP collects data routinely from farms in order to ensure they are operating within acceptable environmental limits.

The FAMP includes a twice-yearly video survey of all active farms.

As well, dissolved oxygen readings are collected at farms in late summer. Every other year, a benthic survey of organisms is conducted under farms to determine the abundance and diversity of animals.

The Department also participates in research on the impacts of aquaculture. Past research has included assessments of fallowing, organic enrichment, nutrient modeling of embayments, antibiotic residues, and nutrient enrichment.

12.1.3 Maine Cooperative Fish and Wildlife Research Unit, ME

The Maine Cooperative Fish and Wildlife Research Unit (CFWRU) is part of the Department of Interior's (DOI) U.S. Geological Survey ([USGS](#)) and located on the Orono campus of the University of Maine. The CFWRU conducts research on fish and wildlife and they provide graduate-level training. Areas of research include quantifying the functional relationships between selected wildlife species and assessing the status of selected waterbirds. This federal unit annually receives over \$200,000 in federal R&D funds.

12.1.4 Maine Technology Institute, ME

As a state funded, private non-profit organization, the Maine Technology Institute offers early-stage, patient capital and commercialization assistance for the research and development of innovative, technology based projects that create new products and services, generating jobs in the state of Maine. Their goals are to:

- Offer robust, effective programs that fund innovative, technology based projects that lead to commercialization and job creation.
- Continue to fill gaps for Maine businesses seeking early stage capital.
- Build on networks and partnerships to enhance clusters of industrial activity.
- Help ensure that Maine's strong support of research and development is linked to commercial outcomes that result in economic benefit.
- Ensure adequate funding is available to fully support MTI's ability to help stimulate economic growth creating jobs for Maine people.

12.1.5 Migratory Birds Field Station, ME

This is a unit of the Patuxent Environmental Science Center inside DOI's [USGS](#), in Orono, Maine. It conducts research:

- On the effect of mercury in fish and on bald eagles.
- On identifying habitat and food-chain impacts.
- Evaluation of mercury uptake by tree swallows at Acadia National Park.
- Use of DNA to evaluate geographic population structure and mating system of American woodcock.

This federal unit annually receives over \$225,000 in federal R&D funds and mentoring graduate students at the University of Maine through technical, financial, and teaching support.

12.1.6 Nation Cold Water Marine Aquaculture Center, ME

The Nation Cold Water Marine Aquaculture Center has a mandate as of 2005 to set up operations in Orono and Franklin, Maine. The research facility is to conduct a research to address the cold-water marine aquaculture industry's priority research needs and opportunities. Research program areas address:

- Genetic Improvement
- Growth and Development
- Health
- Sustainable Production Systems for Atlantic Salmon

Research programs complement those of the University of Maine Aquaculture Research Center in Orono and the University's Center for Cooperative Aquaculture Research, as well as other programs. It is anticipated that the NCWMAC will have 14 scientists and 45 support personnel.

12.1.7 New Brunswick Innovation Foundation, NB

The New Brunswick Innovation Foundation (NBIF), is an independent corporation focused on stimulating innovation, with \$35 million (CAN) in seed capital from the province of NB. The NBIF contributes to the development of the innovation by:

- Establishing collaborative partnerships and information networks among private sector, academia, research organizations and government.
- Increasing the number of innovation projects that progress along the innovation continuum from an idea to a business project.
- Fostering an innovative culture in New Brunswick.

The Research Innovation Fund (RIF) focuses on applied R&D and innovation activities as identified by the NBIF, which includes advanced manufacturing, knowledge industry and life sciences.

12.1.8 Orono Field Station, ME

This is a unit of the [Leetown Science Center](#) inside DOI's [USGS](#). It conducts research on developing ways to restore the Atlantic salmon, in Maine. Specific research activities include studying habitat needs and migratory routes and examining populations of wild Atlantic salmon. This federal unit annually receives over \$140,000 in federal R&D funds.

12.2 University - Based Research Centers

The University of Maine provides a powerful stimulus for economic development in the State of Maine, but particularly Eastern Maine. The flagship campus engaged in nearly \$50 million in R&D annually. Facilities include: the Advanced Wood Engineering facility, Advanced Manufacturing Center, Target Technology Center. Recent development include the soon to be opened center for tourism research and a growing partnership with regional institutions such as Eastern Maine Healthcare and The Jackson Laboratory.

Likewise, the University of New Brunswick in Saint John is a catalyst for considerable research activity.

12.2.1 Advanced Manufacturing Center, ME

UMaine's Advanced Manufacturing Center (AMC) is an engineering support and service center that is a one-stop shop from concept to something that can be manufactured. Construction is underway on a new building that will house the AMC. The new facility will be approximately 30,000 square feet, with 20,000 square feet dedicated to machining and materials testing space.

12.2.2 Centre for Coastal Studies and Aquaculture, NB

The Centre for Coastal Studies and Aquaculture, established in 1995, is located on the Saint John Campus of the University of New Brunswick. It includes a multi-disciplinary team of faculty, graduate students and research associates. Most of their research is carried out in the Bay of Fundy region. Members are also involved in work in the Caribbean, the UK, the eastern Atlantic, the Mediterranean Sea, South America, Australia and Antarctica. The Centre has modern laboratories and library facilities and its research vessel Mary-O is equipped for offshore work in the Bay of Fundy.

12.2.3 University of Maine Graduate School of Biomedical Sciences, ME

The new Graduate School for Biomedical Sciences (GSBS) is a virtual research and education collaboration that draws on the strengths of the state's entire biomedical enterprise, especially the Jackson Laboratory and Eastern Maine Healthcare Systems in the region. The GSBS will have approximately 80 faculty members which will rival the largest programs of this kind in the country. Its centerpiece, at its core, is the university's unique graduate education program. The GSBS will create research and graduate education opportunities right here in Maine that previously have been impossible. It will be a lure for biomedical and biotechnology companies considering locating in Maine and will be an asset to help recruit professionals. It concentrates on graduate education and recruiting the very best graduate students from around the country to Maine with competitive stipends.

The biomedical industry throughout the entire region will grow by conducting more research and providing a very highly trained workforce. High quality jobs in biomedicine will be created and spin-off companies are anticipated.

12.3 Energy Related Research Activity

12.3.1 Atlantica Centre for Energy, NB

The Atlantica Centre for Energy was created in June 2005 as an independent voice that supports and promotes opportunities in the energy sector. Its facilities are located in Saint John, NB. Acting as a bridge between corporations and communities, the Centre provides a unified voice on energy issues within the four Atlantic Canadian provinces, southeastern Quebec and northern New England (the region commonly referred to as Atlantica).

The goals of the Centre are to:

- Drive energy-related economic development in the region
- Promote broad community understanding and engagement in energy-related issues and policy development
- Act as a community-based resource for expertise, knowledge and assistance to help make energy opportunities a reality
- Advance research and development of innovative energy solutions
- Promote efficient and responsible use of energy resources

12.3.2 Petroleum Research Atlantic Canada, NB

The Petroleum Research Atlantic Canada (PRAC) is a federally incorporated, not for profit, public-private partnership that began operations in 1999. PRAC has 39 members drawn from academia, federal and provincial governments and industry. PRAC operates out of Halifax, (NS) St. John's (NF); and Fredericton (NB). Since 2001, 29 open call projects have been funded with a total commitment of \$2.1 million.

In 2003, PRAC helped to fund a \$1.2 million industry project involving acoustic monitoring and marine mammal surveys in the Gully and outer Scotian Shelf.

PRAC's recent memoranda of understanding are signed with Petroleum Technology Alliance Canada ([PTAC](#)), National Sciences and Engineering Research Council ([NSERC](#)), University of New Brunswick ([UNB](#)), Institut Francais du Petrole ([IFP](#)), and EniTechnologie in Milan, Italy.

12.3.3 Tidal Energy Research, NB

Tidal energy is a largely untapped, renewable energy source based on lunar gravitation. There are relatively few coastal locations in the world where the tidal range is large enough to exploit for energy.

The Bay of Fundy is considered a site for tidal power exploration.

The tidal power site in Cumberland Basin through which the NB-NS border passes, has been projected as potentially generating 1400 MW.

The favored NB site is Head Harbour Passage, between Deer Island and Campobello. It is believed to have the potential to generate enough electricity to power between 4,500 and 12,000 homes.

Cape Enrage is estimated to be NB's most productive tidal site at 30 MW.

12.4 Manufacturing-Related Research

12.4.1 Advanced Manufacturing Center, ME

UMaine's Advanced Manufacturing Center (AMC) is an engineering support and service center that is a one-stop shop from concept to something that can be manufactured. Construction is underway on a new building that will house the AMC. The new facility will be approximately 30,000 square feet, with 20,000 square feet dedicated to machining and materials testing space.

12.4.2 Advanced Engineered Wood Composites Center - The Advanced Structures and Composites Laboratory, ME

Since 2001, the Center has received over \$17 million in research funding from government agencies including the Federal Highway Administration, the National Science Foundation and the Maine Technology Institute.

The Center has done R&D work for over 150 private companies, employed over 300 UMaine student research assistants, published over 400 articles and reports, awarded 8 patents, received several national awards and has hosted over 1,000 visitors each year.

The Center's goals are:

- To develop the underlying science and engineering principles needed to produce low-cost, high-performance structural composites.
- To support current and emerging industries as well as government agencies that produce/use these products by providing testing, engineering and consulting services.
- To actively pursue commercialization, entrepreneurship, and job creation in Maine and beyond.

12.4.3 Technology Adoption and Commercialization Program, NB

Business New Brunswick's provincial Technology Adoption and Commercialization Program (TAC) program is financial assistance for manufacturers, processors and selected services firms in support of technological innovation and pre-commercial product development. The Program is intended to encourage the adoption of improved technologies and processes by offsetting some of the direct costs associated with identifying and securing such technologies and processes.

12.4.4 Value to Wood Program, NB

The five-year Value to Wood national program initiated by Natural Resources Canada in May 2002 has a strong Research component which brings together specialists from five leading wood research organizations across Canada.

The goal of this partnership is to enhance the development of new knowledge and technology in support of Canadian value-added wood product manufacturers.

12.4.5 Composite Technology Centers of the University of Maine, ME

The Composite Technology Centers provide technical and business assistance to emerging composite and advanced materials firms through three locations: a well-equipped industrial facility in Sanford, a multi-purpose facility under development in Greenville, and an operation at the University of Maine's Advanced Engineered Wood Composites Center in Orono.

The Office of Research and Economic Development manages these centers in conjunction with the Sanford-Springvale Chamber of Commerce and the Piscataquis County Economic Development Corporation.

12.5 ICT / e-business Research

12.5.1 Electronic Commerce Centre, NB

In an alliance of public and private sectors, the University of New Brunswick Saint John established the Electronic Commerce Centre (ECC) in 1997 to foster the growth of eCommerce and eBusiness practices. The founding partners of ECC were Aliant, Sun Microsystems, Nortel Networks, Scotiabank, Province of New Brunswick, DMR Consulting. The initial thrusts of the ECC focused on developing the eCommerce and eBusiness degree programs within the Faculty of Business at [UNBSJ](#).

12.5.2 NRC Institute for Information Technology, NB

The province-wide cluster is headquartered at the NRC Institute for Information Technology-e-Business (NRC-IIT – e-Business) on the campus of the University of New Brunswick ([UNB](#)) in Fredericton. The cluster is funded with a total of \$37.5 million over five years. Collaboration exists with universities, local businesses, the government of NB, and the Atlantic Canada Opportunities Agency ([ACOA](#)). The research mission encompasses Human Web, Internet Logic, e-Government/e-Citizen, and Privacy, Security and Trust solutions. NRC-IIT-e-Business has labs at UNB in Saint John, and the Université de Moncton.

12.5.3 PropelSJ

[PropelSJ](#) is a catalyst for growth in the Saint John ICT sector. It has been actively involved in creating an environment where new ICT companies can grow and foster.

PropelSJ's latest initiative, catalict, is an innovative business accelerator project designed to foster the growth of new companies in the Information, Communications and Technology (ICT) sector. Targeting early stage and startup companies, Catalict will provide mentorship and professional services to new ICT companies and entrepreneurs throughout New Brunswick.



12.5.4 University of New Brunswick, NB

The University of New Brunswick in Saint John is an active player in research related to ICT and e-business. The university is home to the Electronic Commerce Centre (mentioned above) and also graduates a considerable amount of talent into the local ICT workforce. The university offers degree courses in:

- Bachelor of Business Administration with a major in e-commerce
- Bachelor of Applied Management
- Certificate in e-commerce
- Electronic Commerce MBA

12.5.5 The Maine Technology Institute, ME

The Maine Technology Institute encourage, promotes, stimulates and supports R&D activity leading to the commercialization of new products and services in the Maine's technology-intensive industrial sectors. Their goals are to:

- Offer robust, effective programs that fund innovative, technology based projects that lead to commercialization and job creation.
- Continue to fill gaps for Maine businesses seeking early stage capital.
- Build on networks and partnerships to enhance clusters of industrial activity.
- Help ensure that Maine's strong support of research and development is linked to commercial outcomes that result in economic benefit.
- Ensure adequate funding is available to fully support MTI's ability to help stimulate economic growth creating jobs for Maine people.

12.5.6 Target Technology Incubator of the University of Maine, ME

Maine's efforts to develop a knowledge-based economy have spawned a network of seven state-coordinated Applied Technology Development Centers. These business incubators assist the early-stage development of technology-based companies.

The Target Technology Incubator provides information technology firms with the resources necessary to attain long-term success in technology development, commercialization, and business.

12.6 Environmental Research

12.6.1 Northeastern Research Station, ME

The Northeastern Research Station is one of six regional field units that make up the Research and Development Division of the [USDA Forest Service](#), a forestry research and conservation organization. Its activities in Maine are located in:

- Penobscot, where they conduct research at the Penobscot Experimental Forest to enhance forestry education and to demonstrate how the timber needs of society are met from a working forest.
- Massabesic, where they are in the process of revitalization of the Massabesic Experimental Forest. Ravaged and underutilized, it is now a location for forest ecology and management research and demonstration.

The Northeastern Research Station is headquartered in the Philadelphia and serves 13 northeastern states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont and West Virginia.

12.6.2 Senator George J. Mitchell Center for Environmental and Watershed Research, ME

The Senator George J. Mitchell Center for Environmental and Watershed Research focuses on environmental research, graduate education and outreach. The Center works to provide Maine's citizens and policy-makers with information, which takes in consideration ecosystems, communities, and economic development.

Particular activities include:

- Promotion of research among Maine faculty and external scientists.
- Facilitation in obtaining funding.
- Training of future water resource professionals.
- Doing state-wide research as a Congressionally-authorized Water Center.

12.6.3 Canadian Rivers Institute (CRI), NB

The CRI was established in 2000 as a collaboration of researchers at the University of New Brunswick Saint John and Fredericton campuses. A new facility, completed in 2006, contains both wet and dry labs as well as office space for researchers, technicians and graduate students.

The mandate of the CRI is to carry out multi-disciplinary basic and applied research focusing on river ecosystems, including their land-water linkages for the purposes of conservation and habitat restoration. Initially founded with two Canada Research Chairs (CRCs) and two additional professors, the CRI has grown to include 13 Fellows, 31 Associates, 15 staff, and 58 graduate students with linkages to scientists and researchers across Canada.

12.7 Life Sciences / Biotechnology Research

12.7.1 Atlantic Health Sciences Corporation, NB

Atlantic Health Sciences Corporation (AHSC) focuses on research in medical education, and patient care. The Corporation is comprised of 12 hospitals and health centers in communities in Southwestern New Brunswick including Sussex, Saint John, St. Stephen and the Fundy Isles.

Research conducted includes the fields of:

- Anaesthesiology - Cardiovascular Disease
- Dermatology - Emergency / Trauma
- Endocrinology - Environmental Health
- Family Medicine - GI Disease
- Geriatric Medicine - Infectious Disease
- Neurology Nephrology - Obstetrics/Gynaecology

AHSC has affiliations with the National Cancer Institute of Canada ([NCIC](#)) Clinical Trials Group ([CTG](#)), the Radiation Therapy Oncology Group ([RTOG](#)), and other agencies, reflecting the credibility and quality of research undertaken.

12.7.2 Jackson Labs, ME

The Jackson Laboratory, located in Bar Harbor, Maine, is designated by the National Cancer Institute ([NCI](#)) as a Cancer Centers to conduct basic cancer research.

Research Programs: 35 investigators leading research groups in six major areas:

- Bioinformatics
- Cancers
- Development and Aging-Related
- Immune System and Blood Disorders
- Metabolic Diseases
- Neurological and Sensory Disorders

Operating Revenue in 2005 were \$137.2 million and the total staff size for the Maine lab is 1,172 full-time, 47 part-time or temporary. The Jackson Laboratory works with centers of biomedical research across Maine to create "virtual" research institutions to compete for funding.

12.7.3 Institute for Molecular Biophysics, ME

The Institute for Molecular Biophysics (IMB), located in Bar Harbor, Maine, is an interdisciplinary research center formed in partnership with the University of Maine ([UMaine](#)), the Maine Medical Center Research Institute ([MMCRI](#)), and Jackson Laboratory.

The IMB is designed to form working partnerships between biologists and physical scientists in order to apply biophysical approaches to basic biological problems.

- Nanotechnology and nanoparticle synthesis
- New in vivo techniques
- Optical physics
- New imaging techniques and microscopy

The fruits of the IMB's labor will range from advances in basic scientific research to promoting competitive industry in Maine.

12.8 Aquaculture - Related Research

The aquaculture industry in Maine is comprised of finfish, shellfish and sea vegetable farms. The finfish farms produce Atlantic salmon and steelhead trout, and for the most part are vertically-integrated corporations. The shellfish farms produce Eastern oysters, clams (hard and soft-shell), bay scallops, surf clams, and mussels. Most shellfish farms are family-owned and operated companies. Maine has one aquaculture company that grows seaweed.

New Brunswick's Bay of Fundy region is home to over 90 salmon farms. Over three quarters of its production is exported to the United States. The last few years has brought consolidation to the aquaculture industry but it continues to be a key industry in the Corridor region. The aquaculture industry is also becoming more diversified with the farming of other finfish as well as shellfish.

12.8.1 Centre for Coastal Studies and Aquaculture, NB

The Centre for Coastal Studies and Aquaculture, established in 1995, is located on the Saint John Campus of the University of New Brunswick. It includes a multi-disciplinary team of faculty, graduate students and research associates. Most of their research is carried out in the Bay of Fundy region. Members are also involved in work in the Caribbean, the UK, the eastern Atlantic, the Mediterranean Sea, South America, Australia and Antarctica. The Centre has modern laboratories and library facilities and its research vessel Mary-O is equipped for offshore work in the Bay of Fundy.

12.8.2 Center for Cooperative Aquaculture Research, ME

The Center for Cooperative Aquaculture Research located in Franklin, Maine is facility now run by the University of Maine. The facilities comprise both seawater and freshwater systems for finfish rearing and holding.

The purposes and functions of the center are:

- To assist the aquaculture industry in developing new technologies
- Business incubation
- To develop techniques for sustainable aquaculture
- To develop integrated aquaculture techniques
- Production of marine finfish juveniles for commercial on-growing
- To develop and transfer hatchery technology
- To train staff and students in aquaculture techniques

12.8.3 Cooke Aquaculture Inc, NB

Cooke Aquaculture Inc. is a Holding Corporation for a group of vertically integrated salmon farming companies based in St. George, NB. The company has been active in the salmon aquaculture industry since 1985.

Annual sales are of \$100 million (CAN), operations include a saltwater and freshwater division, a sales and processing division, an manufacturing and service division, a feed division and a transportation division.

Other operations include:

- Hatcheries
- Marine cage sites
- Vaccination services
- Net repair
- Cod farming (to yield over 10,000 cod this year).

12.8.4 Huntsman Marine Science Centre, NB

The Huntsman Marine Science Centre (HMSC) is a registered not-for-profit charitable institution. Through research and education, the HMSC enhances knowledge to achieve sustainable development and effective management of the coastal environment by:

- Developing and transferring science and technology to the private sector.
- Contributing to the training and education of scientists and technologists.
- Pioneering marine education for students, teachers and the public.
- Identification and classification of marine organisms.

The Centre's members include: Acadia University, Fisheries and Oceans Canada, McGill University, Mount Allison University, New Brunswick Department of Education, New Brunswick Department of Agriculture, Fisheries and Aquaculture, Marine Harvest Canada Inc., etc.

12.8.5 Maine Aquaculture Innovation Center, ME

An independent, not-for-profit corporation, the Maine Aquaculture Innovation Center (MAIC) was established in 1988. The organization has a 13 person board of directors comprised of industry, government, and university representatives.

The MAIC:

- Promotes applied aquaculture research
- Assists in the formulation of policies favorable to industry growth
- Serves as a clearing house for aquaculture information
- Liaises with government organizations, aquafarms and general public

MAIC's grants for research have ranged from \$5,000 to as much as \$25,000, and have required that applicants match MAIC resources on, at least, a 1:1 basis.

12.8.6 Penobscot East Resource Center - Zone C Lobster Hatchery

The Penobscot East Resource Center project focuses on the construction and operation of production-scale lobster hatchery for stock enhancement. The hatchery seeks to solve the problem of poor juvenile lobster settlement and insure against any problems that could arise from the economy's dependence on the lobster fishery, should disease or environmental conditions cause lobster stocks to decline.

At the same time, the project will create new jobs and unprecedented collaborative research opportunities. There will need to be community effort along with volunteer help, particularly in the release phase. The hatchery grows algae, brine shrimp, and lobsters to State IV.

12.8.7 Penobscot East Resource Center, ME

The Penobscot East Resource Center's (PERC) approach is to use marine research and the creative economy to support and retain traditional fishing jobs while creating new opportunities in value added and marine research.

12.8.8 The Maine Technology Institute, ME

The Maine Technology Institute encourage, promotes, stimulates and supports R&D activity leading to the commercialization of new products and services in the Maine's technology-intensive industrial sectors. Their goals are to:

- Offer robust, effective programs that fund innovative, technology based projects that lead to commercialization and job creation.
- Continue to fill gaps for Maine businesses seeking early stage capital.
- Build on networks and partnerships to enhance clusters of industrial activity.
- Help ensure that Maine's strong support of research and development is linked to commercial outcomes that result in economic benefit.
- Ensure adequate funding is available to fully support MTI's ability to help stimulate economic growth creating jobs for Maine people.

12.9 Selected Research and Development Examples

12.9.1 Atlantic Cod Genomics and Broodstock Development Project (St. Andrews)

The Huntsman Marine Science Centre (St. Andrews, New Brunswick) and the Genome Atlantic's DNA Sequencing Centre (Halifax, Nova Scotia) are collaborating on a \$13 million research project to develop a success model for Cod breeding.

This project is applying genomics technologies combined with family-based selective breeding methodologies to identify cod with traits of commercial importance, such as improved growth, delayed age of sexual maturation and resistance to disease and stress. The project will sequence genes in order to identify molecular markers that are associated with superior performance under farming conditions.

12.9.2 University of Maine Wood-Related R&D

The Advanced Engineered Wood Composites Center and the Advanced Structures and Composites Laboratory are involved in a number of research and development projects leveraging the state's strengths in wood products development. Sample of the AEWC research include:

COMPRIS Processing for Composites

- Improves dimensional stability
- Protects against environmental degradation
- Provides fire protection
- Patent application filed

Composite Skateboard

- Lighter, stronger skateboard utilizing low-cost wood species
- Commercial partner in Maine developing a business plan

Long Strand Lumber

- Uses pulpwood-grade "sticks"
- Two-three times stronger than solid wood
- Lumber for structural framing
- Patent application filed
- Commercial partner identified; pilot scale production planned
- MTI Development Award proposal submitted to fund product code certification

FRP Deck Panels

- Weight 66% less than concrete allowing for accelerated construction at reduced cost
- Versatile; may be used with or without girders
- Competitive alternative for construction and rehabilitation of bridges and piers

12.9.3 Center for Cooperative Aquaculture Research (Franklin, ME)

The CCAR exists to assist the aquaculture industry in developing new technologies for existing species and to diversify into new species. Services include: business incubation, demonstration of marine aquaculture, developing techniques for sustainable aquaculture, developing integrated aquaculture techniques, and production of marine finfish juveniles for commercial on-growing. Current research areas include:

- Demonstration of Halibut Aquaculture
- Demonstration of Sustainable Cod Farming from Egg to Grow-out in Maine
- Demonstration of Seaworm Farming
- Sea Urchin Aquaculture in Maine
- Nori Production Trials
- Halibut Broodstock Nutrition

13. Tourism

13.1 Municipality Summaries

The following is a list of some of the municipalities located within the Bangor-Saint John Trade & Growth Corridor and a brief tourism summary. It does not represent all communities, only a sample throughout the Corridor.



13.1.1 Bangor, ME

There is an important array of tourism assets in Bangor. Restaurants, museums, sightseeing opportunities, shopping centers, proximity to Acadia National Park, these are but a few of the offerings of the "Lumber Capital of the World." The [Maine Forest and Logging Museum](#) preserves the region's lumbering heritage thanks to a reconstruction of a logging and milling community. 19th century buildings of the West Market Square Historic District encompass the downtown shopping district, and the lovely Mount Hope Cemetery is the nation's second oldest garden cemetery.

A quick glance at the following list of activities and amenities shows that the city has much to offer: Apple Festival, Bangor Arts Council, Bangor Diversity, Bangor, Ireland, Wales & Michigan, Cinco de Mayo, Civil War Canon History, Ed Cable and the Cable House, Lighted Christmas Parade, Memorial Day Parade 2006 and the 4th of July in Bangor.

The [Greater Bangor Convention & Visitors Bureau](#) is another significant tourism asset. This non-profit membership organization provides:

- Destination marketing and visitors services for the Greater Bangor Region, including the Bar Harbor Coastal area.
- Information and marketing efforts for conferences and tourism.

13.1.2 Bar Harbor, ME

Bar Harbor offers two music festivals offering everything from string orchestras, through chamber music, to jazz. Movies are enjoyable in their art-deco theater, and the scope of Bar Harbor's museums belie the small size of the town. It is also worth noting that Bar Harbor is home to the USA's eighth oldest golf course which wraps itself between the mountains and the shore.

13.1.3 Bucksport, ME

The Waldo-Hancock County suspension bridge that takes Coastal Routes 1 and 3 across the Penobscot River to Verona Island and Bucksport is the portal to the DownEast & Acadia Region. Rising above the water across Bucksport Harbor is Fort Knox, built from 1844 to 1846 to protect the region from attacks by the British. Today Fort Knox is a state park and is Maine's most-visited historic site.

13.1.4 Calais, ME

Residents and visitors appreciate the possibilities offered by the St. Croix River, the Moosehorn National Wildlife Refuge, and the surrounding wilderness. Washington County offers a wealth of nature preserves, quaint towns, and opportunities for outdoor recreation, abundant wildlife and historic rarities.

13.1.5 Ellsworth, ME

Hotels, inns, and a variety of restaurants are present in Ellsworth. As the crossroads of the DownEast & Acadia Region, it is but a short drive to many of the interesting and picturesque places along the DownEast coast. Several shopping centers, museums and a historic downtown area attract visitors.

13.1.6 Hampton, NB

The Town of Hampton, as Shiretown of Kings County, has a rich heritage and culture. It boasts such historical buildings as the Court House, Kings County Gaol, Saint Paul's Church and Loyalist Burial Ground and many Heritage Homes.

13.1.7 Lincoln, ME

Lincoln is the shopping hub for the general area, so people from outlying smaller towns come often to the town. In addition there are many outdoor activities that make Lincoln a place to visit. An area for hunting and fishing, a network of well-groomed trails that make great places for a walk in the woods in the spring, summer and fall, or perfect for a snowmobile in the winter. One can play 18 holes at the golf course, and take in a concert at the gazebo downtown on Friday nights.

13.1.8 Machias, ME

Machias Bay is a former lumber center between the sea and the flat open country of wild blueberry fields to the north. The river was the region's first highway providing a steady conduit for the running of sawlogs and pulp from its jewel-like headwater lakes to mills and waiting schooners along the coast. This provides the perfect setting for the Machias Wild Blueberry Festival, held annually since 1975.

13.1.9 Petitcodiac, NB

From the quietness of a rest in the downtown park gazebo to the packed attendance at the Westmorland County Fair, to the screams of laughter in the outdoor pool, and the rivalry of hockey teams at the arena, the town offers a variety of attractions.

Moving away from the downtown core one will see many architectural styles from the Queen Ann Revival Church to the many examples of Victorian homes to the sprawling country estates along the river from which Petitcodiac takes its name.

13.1.10 Saint John, NB

As the oldest incorporated city in Canada, the city of Saint John has exquisite dining, occasions for shopping, fine accommodations, art galleries and more.

In order to coordinate all that is offered, Saint John has defined key sectors that are represented by business leaders and organizations. Hospitality Saint John, Venue Saint John, Uptown Saint John and Cruise Saint John, to name a few come together to build the city's tourism industry.

[Harbour Station](#) located in downtown Saint John is New Brunswick's centerpiece for sporting and entertainment events. The performing arts occupy center stage at the [Imperial](#), which presents any live performance from concerts to drama, from dance to comedy.

A change of pace is offered at the [Canada Games Aquatic Centre](#), which has been a leading provider of aquatics and fitness experiences for 20 years.

The city's attractions are indeed too numerous to list. However, the main attractions include: Reversing Falls, [Saint John City Market](#), Rockwood Park, Loyalist House, Irving Nature park and the Cherry Brook Zoo. Communities of sculptors, painters, actors, craftspeople, musicians, etc. call Saint John home.

Tourism Saint John is:

- The City's official tourism promotion organization. Along with operating three municipal visitor information Centres, and Barbour's General Store Museum, department staff sell the city and area as a tourism destination to various target markets.
- The organization that supports the marketing efforts of the Saint John Port Authority in the cruise ship market, and works to identify and develop new visitor markets.

13.1.11 Salisbury, NB

The main tourism asset of Salisbury is its "Community Days." Started as a community picnic, the event grew to festival size and is still going strong. This event caters to everyone with exhibitions, music concerts, dances, shows, contests, games and much more. Another key attraction is the covered bridge. Built in 1943, the bridge is 30.5m (100') in length and in pristine condition.

13.1.12 St. Andrews, NB

St. Andrews is one of the oldest towns in the Maritimes and known for its architecture, scenery and rich marine life. Andrews is now a seaside resort town. Saint Andrews has status as a National Historic District, one of the oldest in the Maritimes.

This area offers activities such as seaside signature golf, whale-watching, kayaking, boat tours, and scuba diving. One of the most popular attractions is the Kingsbrae Garden, ranked as one of Canada's top 10.

13.1.13 St. George, NB

St. George has much to offer: spectacular scenery, an abundance of marine and wildlife, clean cool air and water, open spaces, the friendly maritime way of life and accommodations where visitors can relax. The New Brunswick trail passes through the Day Adventure Centre, offering the opportunity of a hike through the woods to Lake Utopia. For those who enjoy a day at the beach, Canal beach is only a short distance away from the Day Adventure Centre.

13.1.14 St. Stephen, NB

St. Stephen is called Canada's chocolate town. Home to two covered bridges, the scenic parks and walking trails offer opportunity to watch the river reverse its flow as the tides rise and fall twice per day. There is an abundant population of ospreys and eagles feeding along the river. The St. Croix River separates the sister communities of Calais, ME and St. Stephen, NB. Local festivals are highlighted by the largest parade in North America that crosses an international border.

13.1.15 Sussex, NB

Sussex is the Covered Bridge Capital of Atlantic Canada. It is also known for its nationally designated historic Sussex Train Station. The New Brunswick Agricultural Museum chronicles the town's close connection to the land, a tradition which is celebrated each year at the Kings County Agricultural Fair in August and which, at 109 years, is one of the oldest Agricultural Fairs in North America.

13.1.16 Grand Manan Island, NB

Grand Manan Island, in the Bay of Fundy, is an island for birdwatchers, naturalists, writers and whale-watchers and is accessible via ferry. Accommodations include historic country inns and lodges, seaside cottages, B&B's, sea side/cliff side camping, and a motel. Small museums, craft and art shops, hiking trails, sea kayaking, bicycling, beaches, are some of the activities that one can do during a visit.

13.1.17 Mount Desert Island, ME

Mount Desert Island with its 108 square miles is the third largest island on the United States' eastern seaboard. On the island is a thick covering of both deciduous and coniferous trees, many freshwater streams, ponds, and lakes, and the only fjord, Somes Sound, on the east coast of North America. There are 17 mountain peaks on the island including Cadillac Mountain.

13.1.18 Schoodic & DownEast, ME

The eastern end of Hancock County and the western end of Washington County are rural areas, where the major attractions here are the vistas and natural resources. One of the most attractive parts is Schoodic Point, near Winter Harbor. Schoodic Point is a lesser-traveled part of Acadia National Park. It boasts spectacular scenery and splendid surf crashing into rocks to be seen on stormy days.

13.1.19 Way DownEast, ME

This part of Washington County is the first place in the nation to be lit by daylight and is the site of the first European settlement in the New World north of Florida. The people who reside here still wrest their living primarily from the fields, forests, and sea. Except for fishing, farming and some lumbering, the area's economy is dominated by small businesses.

13.2 Festivals and Events

13.2.1 Eastern Maine

American Folk Festival (Bangor) is a celebration of multi-cultural traditional arts - music, dance, crafts, food and storytelling. The Festival showcases and markets the Bangor Waterfront and the greater Bangor area by attracting thousands of festival-goers each year. Organizers strive to present the event free of charge to the largest possible audience and offer festival-goers the opportunity to purchase authentic, traditionally-made crafts from Maine artisans.

Annual Down East Spring Birding Festival (Cobscook Bay) provides a unique experience in Maine where birders can get out on their own and observe a great variety of birds in diverse natural environments. The festival offers birders various self-guided explorations as well as guided hikes, boat tours, and presentations led by area experts.

Art on the Bay (Eastport) is a celebration to promote Eastport through its art and natural beauty. Activities include: sidewalk sales, skills-crafts-traditions – demonstrations and Presentations, live music, artsy dog parade, island rides – antique car rides, Eastport Art Gallery reception, and much more.

Blue Hill Historic House Tour (Blue Hill) have begun for the 1st time in 35 years. 11 notable houses will be opened for the public to see. The tour tells a story about the early days of a charming coastal village in downeast Maine.

Bucksport Bay Area Festival (Bucksport) is a family celebration for the head of Penobscot Bay including boats, bands, food, antique cars, crafts, fireworks and more. The 20th Maine re-enacts civil war soldier life at historic Fort Knox. There are also MACKRO canoe and kayak races, a foot race, pie baking contest, youth talent contest and downtown parade.

Deer Isle-Stonington Lupine Festival (Deer Isle-Stonington) is an island-wide event, including "Lupine by Sea" boat rides, flight-seeing aerial tours, "Lupine Loop" driving tour, private and public garden tours, lupine-themed art, craft and quilt shows and much more.

Gallery on the Green (Southwest Harbor) is a juried art shows featuring paintings and drawings by 35 artists in an outdoor gallery setting.

Native American Festival and Maine Indian Basketmakers Market (Bucksport) is where Wabanaki basketmakers and many other Native artists demonstrate and sell their work at this annual event. Activities also will include storytelling, music and dancing.

Orland River Day (Orland) is a Downeast celebration of town history, culture and cuisine in the Narramissic Watershed. Festivities begin with a paddling eco tour from the Craig Brook Fish Hatchery. A parade through the village, homemade raft race, canoe and kayak demo paddles on the Narramissic and live music all day long are all features of the festival.

Quietside Flamingo Festival (Harbor House) is four day celebration that includes concerts, a craft fair, an antique appraisal, kid's carnival, and the Pink Flamingo Parade.

Lobster Boat Racing (Maine) takes place in seven locations. Each have signed-on to present a race card of uniform sanctioned classes, allowing racers to earn and accumulate points throughout the season all along the circuit. The seven sanctioned events include: Boothbay Harbor; Moosabec; Stonington; Harpswell; Friendship; Winter Harbor; and Searsport.

Waponahki Student Art Show (Bar Harbor) is a collaboration of the Abbe and Maine Indian Education, this cross-section of current artwork represents pre-school and elementary school students on the Penobscot and Passamaquoddy reservations and Native students at nearby high schools. Annual exhibitions are one of the museum's most popular, showcasing young artists.

Warblers & Wildflowers Festival (Bar Harbor) takes place in Acadia National Park and Mt. Desert Island. Island-wide morning birding walks, garden tours, art, lectures, social events, kayak and nature cruises are all part of this festival.

13.2.2 New Brunswick

Artists-by-the-Sea (St. Andrews) is an occasion for 50 Maritime artists gathered in St. Andrews to work, display and sell original art pieces.

Atlantic Balloon Fiesta (Sussex) is over 20 years old. The festival is home to 180 balloon flights over the lush valleys of Kings County, NB. In parallel on finds a craft fair with over 70 crafters and artisans, children's games, helicopter rides, live music, an antique car show & shine, vendors & concessions, a horse show and much more.

Blacks Harbour Labour Day Festival (Black Harbour) offers midway rides, indoor and outdoor meals, a sardine packing contest, fireworks, little people's parades and pageants, concerts and a large parade.

Chocolate Fest (St. Stephen) is a festival to celebrate St. Stephen's chocolate history over seven days of celebration for everyone in the family.

Continental Drift International Short Film Festival (Saint John) invites the public to make a short movie with a digital still camera or camera phone, submit the movie to the festival and bring friends to watch all the movies at the free screening.

Country Music Week (Saint John) provides an opportunity for the artists' professional development and a chance to heighten public awareness and appreciation of country music by showcasing the best in Canadian country talent. Since 1994, more than 200 artists have performed during Country Music Week.

[SaltyJam](#), (Saint John), formerly known as the Saint John Jazz and Blues Festival, is emerging as one of the province's top musical festivals. The 2006 event featured Colin James, 39 Toes, Grand Theft Bus, Ross Neilsen, The Joel Plaskett Emergency, the Chucky Danger Band and more.

International Homecoming Festival (St. Stephen) is an occasion for two towns - two countries - to celebrate a friendship. People may travel back and forth over the St. Croix River separating St. Stephen, NB and Calais, ME. Outdoor concerts, pageants, rock skipping contest, international road race, raft race, cow patti bingo, tough man competition, a parade and fireworks over the St. Croix River are all part of the offerings.

Kings County Agricultural Fair (Sussex) is an annual event where horses and cattle on display. Visitors can browse the craft booths and spend some time checking out the flowers and vegetables brought in for judging.

Kings County Covered Bridge Festival (Sussex) celebrates the 16 covered bridges that make Kings County the Covered Bridge Capital of Atlantic Canada. There is gourmet dining in an actual covered bridge. During this event one can take tours of local bridges, bump along on a wagon ride, and watch a covered bridge bicycle race.

Saint John Buskers on the Boardwalk Festival (Saint John) is an event where buskers from around the world are invited to sing, dance, play and they act - both indoors and out. This is the only buskers festival in the province and every year it garners bigger crowds. Along with hundreds of performances, there are amusement rides, games and face painting.

Saint John Comedy Festival (Saint John) is a 3-day festival, which presents 13 comedy shows.

13.3 Parks and Scenic Drives



13.3.1 Parks (by alphabetical order)

Acadia National Park, ME

Acadia National Park is comprised of thousands of acres with the majority of the park located on Mount Desert Island. Other park lands are located at Schoodic Point on the mainland and on the islands of Isle au Haut and Baker Island.

Anchoage Provincial Park, NB

Grand Manan Island, in the Bay of Fundy is home to the Anchoage Provincial Park. The geology of the island and the wildlife that resides there is explained on interpretive displays. Grand Mananesque-Long Pond, Great Pond and Bagley's trails are equipped with birdwatching blinds, salmon cages and views of breaching whales. These can also be discovered on Red Point Trail, accessible to wheelchairs.

Fort Knox State Historic Site, ME

The Fort Knox State Historic Site represents one of the best-preserved Civil War era forts in the country. This massive granite fortification overlooks the Penobscot River and is rich with interpretive displays. Guided and self-guided tours are available at the site. During the summer season each weekend features a special event ranging from Civil War encampments to black smith demonstrations.

Fundy National Park of Canada, NB

This was New Brunswick's first national park, created in 1948. The park maintains 120 km (75 mi.) of walking and hiking trails. Within these trails are mountains, valleys, waterfalls and streams. Guided tours and nightly events provide information about the Acadian Forest and the Bay of Fundy's tides. There are hundreds of different plant species, including the rare bird's-eye primrose, found only in Fundy.

Fundy Trail, NB

The Fundy Trail is a multi-use corridor hugging the cliff-tops of the Bay of Fundy coast, with foot-paths, pedestrian/bicycle trails and an auto parkway to take visitors as far as the Interpretive Centre at Big Salmon River and, one day, all the way to Fundy National Park at Alma, with a connecting linkage directly to Sussex. Carved out of the Fundy Escarpment, this first 11-kilometer phase of the Fundy Trail begins just outside St. Martins, less than an hour's drive east of Saint John.

Herring Cove Provincial Park, NB

Located on the Eastern side of Campobello Island, Herring Cove Provincial Park, borders on a spectacular mile long, pebble and sandy beach. In addition to a 9-hole golf course and hiking trails, Herring Cove's features 76 campsites, including 40 with electrical hook-ups, playgrounds, pro shop, and a restaurant.

Hopewell Rocks, NB

Hopewell Rocks is a unique attraction conceived around the highest tides in the world. From the flower pot rocks sculpted by the tide to the caves along the beach, the Rocks is also an excellent area for bird watching, kayaking, wildlife viewing, learning about Mi'kmaq legends, the ecosystem and the sea. The Rocks are the recipient of the British Airways Tourism for Tomorrow awards, the Travel Writers Phoenix Awards and two Attractions Canada commendations in the last 4 years.

New River Beach Provincial Park, NB

The beaches and coastal trails at New River Beach demonstrate the natural formation of the Bay of Fundy. Offshore islands, fishing boats and wildlife, surround the beaches. Tidal pools harbor crab, periwinkles, whelks and starfish. One may hike the cliffs on Barnaby Head or explore a variety of marine environments in a kayak. New River Beach has a playground, picnic area, volleyball courts, and nature trails.

Quoddy Head State Park, ME

Quoddy Head State Park is located four miles off Maine Route 189 in Lubec on the easternmost point of land in the United States. On its 532 acres, the park features 4.5 miles of hiking trails, extensive forests, two bogs, diverse habitat for rare plants, and the striking, red-and-white striped lighthouse tower of West Quoddy Head Light.

Reversing Falls, NB

Set within the Saint John boundary, the phenomenon of the Reversing Falls is caused by the tremendous rise and fall of the tides of the Bay of Fundy. A twelve-minute film presentation explains the phenomenon of the Reversing Falls, and highlights the various attractions in the Saint John area. There are also jet boat tours and the possibility to kayak in the area.

Rogue Bluffs State Park, ME

Rogue Bluff State Park is in the town of Rogue Bluff about six miles off US Route 1. This is a unique day use area, with its pebble beach on the ocean and freshwater pond it provides both fresh and saltwater swimming. Dramatic cliffs along Maine's Bold Coast provide for spectacular views and for early-risers, dramatic sunrises. Facilities include tables and a children's playground.

Roosevelt Campobello International Park, ME-NB

Franklin D. Roosevelt spent many enjoyable vacations at his summer home on Campobello Island, in the Bay of Fundy. In addition to the historical element, the Park also offers scenic trails, whale-watching tours of the Bay of Fundy, and bird watching. Canada and the U.S operate the Roosevelt Campobello International Park jointly. It stands as a symbol of the close neighborly relations between the two countries.

Saint Croix Island International Historic Site, ME-NB

The National Park Service preserves Saint Croix Island International Historic site as a monument to the beginning of the United States and Canada. The site is focused on establishing a quiet atmosphere of respect meant to promote contemplation of the heroism and suffering of the French colonists in 1604-05. A short walk to the interpretive shelter looking onto the estuary and St. Croix Island is recommended.

Scenic Drives (by alphabetical order)

Acadia Byway, ME

Acadia Byway travels through Acadia National Park and the historic villages of Bar Harbor and Northeast Harbor on Mount Desert Island. Along this route, the Maine coast and old-growth forests remain much as they were when the island was first discovered by Samuel de Champlain in 1604. Fine accommodations and many dining opportunities complement the natural amenities along this route.

Fundy Coastal Drive, NB

The entire Fundy Coastal Drive is one of New Brunswick's most traveled routes. It winds its way from the Maine border to the eastern end of the Bay of Fundy, following that majestic body of water through countless coastal marvels. The Passamaquoddy Bay area in the west encompasses fishing villages, harbors and resort towns like St. Andrews. In the Fall, the Eastern leg of the trip, through bountiful Fundy National Park is a true eye-ful.

River Valley Scenic Drive, NB

Starting at Edmundston, in the northwest NB, the River Valley Scenic Drive clings to the path of the St. John River, all the way to Saint John, before heading north again and ending in Sussex. Breathtaking scenery, fertile farmland, a dramatic gorge, covered bridges and New Brunswick's capital city, Fredericton are but a few attractions one will find along the picturesque St. John River.

Schoodic National Scenic Byway, ME

This route passes through the only mainland section of Acadia National Park and Schoodic Point. The cold North Atlantic waters of Downeast Maine are filled with lobster boats and the coast is lined with wooden piers, lighthouses and wildlife. The region is known for its views of Cadillac Mountain and Mount Desert Island along this drive. This area also is famous for rolling hills with wild blueberries.

13.4 Museums

13.4.1 In Eastern Maine (by alphabetical order)

Abbe Museum (Bar Harbor) exhibitions and programs on Maine's Native American heritage. In recent years, the Abbe has grown from a small trailside museum, privately operated within Acadia National Park, to an exciting contemporary museum in the heart of downtown Bar Harbor.

Bar Harbor Historical Society Museum (Bar Harbor) is listed on the National Register of Historic places. The Bar Harbor Historical Society originated in the summer of 1945. The Museum exhibits old photographs and pamphlets showing the town's past in memory of George B. Dorr, the father of Acadia National Park.

Brooksville Historical Society Museum (Brooksville) offers displays of area memorabilia, genealogical records, period clothing, farm tools, household items.

Bucksport Historical Society Museum (Bucksport) is a museum located in the old railroad depot, Main St. Bucksport. Exhibits include artifacts of local history, Buck and Peary exhibits, photos, newspapers.

Burnham Tavern Museum (Machias) was built in the early 1770's. This is perhaps the oldest building in eastern Maine. The museum displays artifacts and memorabilia from the Revolutionary War and the Civil War. The building is listed on the National Register of Historic Places.

George B. Dorr Museum of Natural History (Bar Harbor) investigates, interprets and displays the natural world of Maine. All exhibits are designed and produced by students at College of the Atlantic. The Museum is housed in the original headquarters of Acadia National Park.

Downeast Heritage Center (Calais) is a multi-million dollar nonprofit project to unlock, interpret, and preserve the natural and cultural heritage of Downeast Maine. The Museum unlocks the culture of the region and can serve as the starting point of a weeklong, two-nation vacation in which every day is filled with a completely different activity

Ellsworth Historical Society (Ellsworth) is a brick and granite structure that served as the county jail, sheriff's home and office. The angular gables and asymmetrical elevations bespeak a style once common throughout New England.

Fort O'Brien State Historic Site (Machiasport) was built in 1775 and destroyed by the British in the same year. It was refortified in 1777 and destroyed once again by the British in 1814. The first naval engagement of the Revolution was fought off-shore in 1775, five days before the Battle of Bunker Hill.

Great Harbor Maritime Museum (Northeast Harbor) is housed in the old fire station in Northeast Harbor, the museum is exhibiting copies of photographs depicting specific aspects of maritime history surrounding the Mount Desert Island area with a focus on boat design, boat building and the resulting impact on the community.

Maine Discovery Museum (Bangor) is the largest children's museum north of Boston, with seven major interactive exhibit areas on three floors. Located in the historic Freese's building in downtown Bangor, MDM is just an hour's drive from Acadia National Park.

Maine Lighthouse Museum (Rockland) is housed in the new Maine Discovery Center, which has numerous exhibits from the Island Institute, the Farnsworth Art Museum, the Owls Head Transportation Museum, the Rockland Historical Society, the Maine Lobster Festival, the Penobscot Marine Museum, and the General Henry Knox Museum. The Maine Lighthouse Museum, which is home to the largest collection of lighthouse lenses, and one of the most important landmark collections of lighthouse artifacts and Coast Guard memorabilia in the United States.

Milbridge Historical Society Museum (Milbridge) preserves the record of this shipbuilding era and other historic artifacts related to the town's proud heritage.

Mount Desert Oceanarium/The Lobster Hatchery (Bar Harbor) is a lobster hatchery, where visitors can see mother lobsters, newborn lobsters, and then see them set free into their natural ocean habitat.

Raye's Mustard Mill Museum (Eastport) is where the Raye family has been grinding mustard in the same location since 1903. The mustard mill is a working museum and visitors are always welcome. The Pantry Store is open all year and features a broad range of regional arts, crafts, and foods. In Eastport the products of local residents' hands keep the culture alive for the next generation.

Rier's Old Sardine Museum (Lubec) offers the possibility to view the process of sardine canning in the 1800s & 1900s, with 25 reconstructed shops that include blacksmith's shop, sheet metal shop, general store, carpenter's shop, mustard mill, & print shop.

Roosevelt Campobello International Park Commission (Lubec) Franklin D. Roosevelt spent many enjoyable vacations at his summer home on Campobello Island, in the Bay of Fundy. In addition to the historical element, the Park also offers scenic trails, whale-watching tours of the Bay of Fundy, and bird watching. Canada and the U.S operate the Roosevelt Campobello International Park jointly. It stands as a symbol of the close neighborly relations between the two countries.

Ruggles House (Columbia Falls) is an 1818 Federal style house with intricately hand carved interiors and a flying staircase. On display in the house are many of the original furnishings.

Stanwood Wildlife Sanctuary & Homestead (Ellsworth) is the home and birthplace of Cordelia J. Stanwood, a pioneer Ornithologist Photographer, set within a 185-acre Sanctuary. Cordie's 19th century home, fit with original furnishings tells the rare tale of a brilliant and successful woman in the early 20th century.

The Telephone Museum (Ellsworth) represents the history of the telephone network from Alexander Graham Bell's patent in 1876, through the era of switchboard operators and early dial telephones, to the more complex electro-mechanical switching systems that preceded digital technology.

Tides Institute & Museum of Art (Eastport) builds and exhibits cultural collections, creates new cultural works, and strengthens cultural ties within the greater Passamaquoddy region, between New England and the Atlantic Provinces, and to the wider world.

Waponahki Museum and Resource Center (Pleasant Point Passamaquoddy Reservation) is the Tribe's repository of historic artifacts and culture. Here, there are displays of tribal history, as well as ongoing work on the Passamaquoddy language dictionary.

Wendell Gilley Museum (Southwest Harbor) was Founded in 1981. The Museum of Bird Carving is the major showcase for the work of bird carver Wendell Gilley, a Southwest Harbor native who was one of the two or three recognized pioneers of this indigenous American art form.

West Quoddy Head Light Keepers Association (Lubec) has the self-appointed mission to enhance the experience and knowledge of community members and visitors to the Lighthouse and Visitor Center, through education and displays, linking the lighthouse, community of Lubec, and the maritime world.

Wilson Museum, John Perkins House (Castine) offers a series of exhibits from Europe and Africa: illustrating the growth of man's ability to fashion tools - from the early Paleolithic, through the Neolithic, Bronze and Iron Ages. There are also six dioramas constructed (1926) by Ned J. Burns, of the American Museum of Natural History. The house itself was built about 1763 as a one-story structure.

Woodlawn Museum (Ellsworth) sits on the crest of a hill overlooking the city of Ellsworth and surrounded by pine, spruce, and hemlock trees. Visitors may tour the museum, stroll through formal gardens, picnic on lush lawns, explore trails where the Blacks' horses once cantered, browse the gift shop or investigate the carriage and sleigh collections.

13.4.2 In New Brunswick (by alphabetical order)

Barbour's General Store Museum (Saint John) is an authentic country store. It is named for the donor, G.E. Barbour Inc. spice merchants in the area since 1867. The store is filled with merchandise from the Victorian era and houses a combination barbershop and dental office.

New Brunswick Museum (Saint John) is Canada's oldest continuing museum. It is a principal repository and steward of material that documents or represents the natural and human history of New Brunswick and other related regions. In partnership with institutions and communities they collect, preserve, research and interpret material to foster a greater understanding and appreciation of New Brunswick provincially and globally.

Cape Enrage Lightstation (Cape Enrage) was built in 1848 atop 46-m (150-ft.) cliffs. It is still in use today, sounding the foghorn and beaming its light into the Bay of Fundy. The former keeper's house has become The Keepers Restaurant. There is also a gift shop featuring local fine crafts, and many exciting Great Day Experiences.

Carleton Martello Tower National Historic Site (Saint John) was built for the War of 1812, as one of 11-Martello towers erected across Canada. This fortification saw military service from 1815 to the Second World War as a strategic defense site for the city of Saint John and its prestigious harbors. The tower has a restored powder magazine (ca. 1845), restored barracks (ca. 1866) and other exhibits.

Charlotte County Archives, the Old Gaol and the Charlotte County Courthouse (St. Andrews) was built in 1839-40. Thomas Berry designed this historic building in classical-revival style. It combines the plain practicality of a one-story clapboard structure with a remarkable temple facade, complete with a roof pediment supported by Tuscan columns. Still in use today, it is the oldest courthouse in continuous use in Canada.

Charlotte County Museum (St. Stephen) exhibits portray the history, home and social life, and the industrial development of the area from its Loyalist beginnings are located on three floors of the 1864 home of James Murchie, prominent lumberman.

Chocolate Museum (St. Stephen) is located in a former chocolate and candy-making factory, the museum tells the story of candy making in St. Stephen. Hands-on exhibits, award-winning interactive computer programs, informative videos and games tell the story of the Ganong family and their family owned and operated chocolate company.

Grand Manan Museum (Grand Manan) preserves local Island history and is permanent home to the three hundred birds in the Allan Moses Bird Collection. This Collection was given to the children of Grand Manan in 1951.

Grand Manan Whale and Seabird Research Station (Grand Manan) was founded in 1981 by the late Dr. David Gaskin, pioneer of harbor porpoise research. Since 1981, the research station has conducted research on harbor porpoises, right whales, seals and seabirds in the Grand Manan Archipelago. The station offers interpretative displays, scientific and popular reports, lectures and slide presentations.

Kingsbrae Garden (St. Andrews) has been created on the grounds of several grand old estates, incorporating mature cedar hedges, flowerbeds and an old-growth Acadian forest. One may follow walking paths through a collections of over 50,000 flowers, shrubs and trees, or eat at the Garden Café, overlooking the superb grounds with a view to Passamaquoddy Bay. There are exhibits of the works of local artists in the Kingsbrae Art Gallery and a Garden Gift Shop.

Long Eddy Point (Grand Manan) is an active, square concrete building and tower dates back to 1874, with alterations in 1966 and reconstructed in 1971. This is a concrete block structure elevated on a cliff with a scenic view of Campobello Island. From here one can spot whales out in the bay and other marine life. The coastal walking trail passes by this scenic area.

Ministers Island Historic Site (St. Andrews) was named for an Anglican minister whose stone house circa 1790 still stands, but was made famous railroad builder Sir William Van Horne. There are guided tours during the summer season.

No. 2 Engine House/Saint John Firefighters Museum (Saint John) is a neo-classical fire hall, built in 1840-41 for the city of Saint John. Attributed to the architect John Cunningham, it is a local landmark. A museum and exhibit hall tracing the history of firefighting in Saint John, including a special exhibit on the Great Fire of 1877.

Saint John Police Museum (Saint John) features a collection of uniforms, equipment, photos and badges, relating how officers worked in the surrounding communities from the mid-19th century, to the present day.

Ross Memorial Museum (St. Andrews) is housed in a red brick Georgian mansion built in 1824. The Museum is furnished with the furniture and decorative arts collection of Henry Phipps and Sarah Juliette Ross.

Saint Croix Island International Historic Site (Saint Croix Island) is a monument to the beginning of the United States and Canada. The site is focused on establishing a quiet atmosphere of respect meant to promote contemplation of the heroism and suffering of the French colonists in 1604–05. A short walk to the interpretive shelter looking onto the estuary and St. Croix Island is recommended.

St. Andrews Blockhouse National Historic Site of Canada (St. Andrews) is a blockhouse that the townspeople built for fear of an American invasion, during the War of 1812. Interpreters offer visitors of all ages opportunities to experience the site from new perspectives.

St. Andrews Historic District (St. Andrews) displays and interprets Aboriginal, Loyalist and immigrant history. Many of the more than 250 homes have been marked with descriptive plaques.

Saint John Arts Centre (Saint John) is a community arts facility dedicated to promoting arts and culture through exhibitions of fine arts and fine crafts as well as live musical performances, lectures, workshops, and literary and cultural events.

Saint John Jewish Historical Museum was founded in 1986 to preserve the history of the Saint John Jewish Community. The museum encompasses three floors with several galleries, a library and an extensive archival collection.

The Loyalist House (Saint John) is one of the few surviving buildings of the Great Fire of 1877. The Loyalist House serves as a reminder of Saint John's British Loyalist heritage. Built in 1817, the Georgian features of this National Historic Site have remained structurally unaltered. Tea with the Mayor is possible every Wednesday in July and August.

13.5 Waterways & Waterfront Development

Water has always played a key role in the economic development of the communities along the Bangor-Saint John Trade & Growth Corridor. In addition to the Bay of Fundy and the Maine coast, the Penobscot, St. Croix and St. John Rivers have also played a pivotal role in the regional economy for the transportation of goods, the generation of electrical power and the tourism industry. Today, the communities along the Bangor-Saint John Trade & Growth Corridor have been making considerable investments in their waterways and waterfronts to better leverage this key asset for economic development.



13.5.1 Saint John Waterfront Development

The Inner Harbour Land Use Plan, a master plan for development of the Saint John Inner Harbour and Waterfront, was introduced in 2003. The document, produced by the Saint John Waterfront Development Partnership and Urban Strategies, was the culmination of over two years worth of work and includes feedback from over 500 stakeholders – local individuals, organizations and committees. The plan defines a strong system of fully connected, high-quality public spaces that will form a framework for high quality private development. This comprehensive tool is serving to propel Saint John in new directions.

The plan was developed around a set of guiding principals including significant, sustainable, balanced economic and environmental development, and community involvement and appeal. Benefits of the implementation strategy include dramatically improved public access, provision of new open spaces, improved quality of life, strengthened city and image and community pride. Stakeholders are committed to continued development in a vibrant Waterfront and Uptown. Approximately \$125 million of waterfront investments are currently underway or pending. In the next 15 years, it is estimated that over \$265 million will be invested in the Uptown and Waterfront areas.

13.5.2 Bangor Waterfront Redevelopment

The City of Bangor has been working for over twenty years toward the redevelopment of the Bangor Waterfront. Stretching from the Kenduskeag Stream near the Joshua Chamberlain bridge, the waterfront extends almost one-mile down the Penobscot to the Veterans Remembrance Bridge and I-395. This area provides a natural connection between downtown Bangor and the City's Bass Park Complex, and has been planned to include both public amenities and private development. Bangor's Riverfront is emerging as a major entertainment venue and Bangor Landing, the City's harbor on the Penobscot, provides seasonal docks and moorings for the boating public.



13.5.3 Brewer Waterfront Redevelopment

The City of Brewer is undertaking a major waterfront redevelopment. Penobscot Landing is projected to include a number of elements including a riverside walking, biking and hiking trail stretching from the former Eastern Fine Paper Co. mill in South Brewer to Felts Creek near Treat's Falls, located north of the Indian Head Trail Park. A visitor's center at the historic mill site is planned.

Other stops along the trail include Eastern Park, the fishermen's pull-off park just south of Interstate 395, the Monoliths located under the bridge, the Children's Garden, in front of the Muddy Rudder Restaurant, Veteran's Park, Chamberlain Park, Indian Trail Park, the Salmon Club and Treat's Falls.

Old Town has also been active in revitalizing its downtown waterfront. A major brownfield redevelopment in the 1990s has led to a new retail building, "Marsh Island Carry", a restaurant and a community park.

There are also a number of initiatives in Charlotte and Washington Counties to leverage their waterfront areas into successful tourism and quality of life projects. For example, in St. Stephen, New Brunswick the Town Council is investing in its downtown waterfront park along the St. Croix River and extending the park upriver as far as possible to provide an excellent corridor for walking, hiking, cycling, horseback riding and cross country skiing.

13.5.4 The St. John River Trails Network

The River Trails Network initiative is a multi-community partnership focused on increasing tourism in communities along the lower St. John River. Through the development of river trails, multi-use river centers, boat landings and interpretive signage, the initiative is designed to attract visitors to experience the lower St. John River and surrounding region's diverse riverscapes, wildlife, history, communities and culture.

13.5.5 Fundy Trail

The Fundy Trail is a key tourism asset in the southern region of New Brunswick. All levels of government have committed to a major new development at the Fundy Trail which will establish a spectacular, scenic coastal link between Saint John, Sussex and Moncton. Three of New Brunswick's top tourism icons will be linked together with the extension: Hopewell Rocks, Fundy National Park and the Fundy Trail. The Fundy Trail recently received a total of \$7.8 million from the federal and provincial governments towards Phase II of the trail project. The completion of the Fundy Trail Parkway has an estimated capital cost of \$40 million over a five year timeline.

14. Trade & Commerce

14.1 Trade Patterns

Much of the research associated with the Atlantica initiative has confirmed that over several generations the natural and historical trade routes between Atlantic Canada and New England have been considerably eroded over a long period of time.

The introduction of the Free Trade Agreement and subsequent North American Free Trade Agreement (NAFTA) was meant to enhance trade within North America but recent research indicates that Atlantic Canada has not benefited as much from these agreements as has central Canada – particularly Ontario.

A new report from Statistics Canada entitled *How are Canadian Regions Adjusting to a Larger and More Integrated North American Market?* reached these conclusions: Deepening trade integration with the United States was associated with higher multifactor productivity (MFP) growth of 1.2% per year for manufacturing in Ontario over the 1988 to 1999 period. In other regions, the impact is rather small—higher manufacturing multifactor productivity of 0.4% per year for Quebec, 0.3% for Western Canada and 0.2% for Atlantic Canada.

Over the 1988 to 1999 period, increased trade integration was associated with real wage gains for manufacturing workers of 12.0% for Ontario, but only 1.0% for Quebec, 0.8% for Western Canada, and 0.4% in Atlantic Canada.

Increased trade in manufactures with the United States was associated with annual increases in Ontario's real value added in manufacturing that totaled 11.1% over the 1988 to 1999 period. For other regions, the impact was considerably less—measuring 3.5% for Quebec, 2.9% for the Prairies, 2.8% for British Columbia, and only 1.8% for Atlantic Canada.

While the study did not look at the impact on the U.S. side of the border, it is reasonable to assume similar impacts in New England versus Michigan.

The key issue for the stakeholders of both the Bangor-Saint John Trade & Growth Corridor and the broader Atlantica initiative is simple. Will fostering better business linkages between the region lead to better outcomes for the economy as a whole - as has been the case in Ontario/Michigan?

Current Trade Environment

For a series of presentations from the 2006 Maine International Trade Day, visit the Bangor-Saint John Trade & Growth Corridor (www.shiftportal.com/bangor-saintjohn).

14.2 Wholesale and Retail Trade Activity

14.2.1 New Brunswick Portion of the Corridor

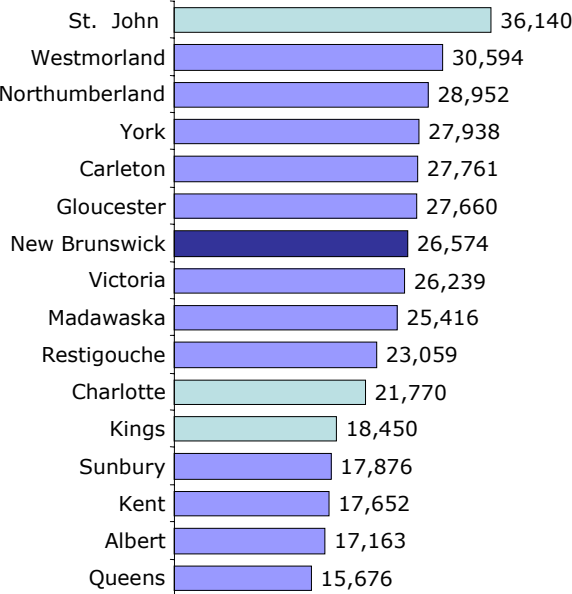
Saint John is a major hub for retail sales activity. The average retail sales per household amount is the highest in New Brunswick and well above the national average.

Charlotte and Kings County have retail sales levels well below the provincial average as the bulk of the retail trade infrastructure is located in St. John County.

In recent years, there have been a number of new retail centers developed in the Saint John area and there are others in the planning stages. In addition to being a regional center for retail trade activity, Saint John is growing its cruise ship traffic through the Port of Saint John which brings an additional retail market to the region.

As is shown in the table, retail sales per capita are forecast to grow strongly over the next few years.

Retail Sales Per Household (2005) By County



Source: Canadian Markets 2006.

Retail Sales (Current & Projected)

	Charlotte	Kings	St. John	NB	Canada
% Above/Below National Average	-18	-38	42	-2	
2005 Retail Sales Estimate \$	\$249M	\$461M	\$1.184B	\$8B	\$350B
2005 per Household \$	21,770	18,450	36,140	26,574	27,735
2005 per Capita \$	8,911	6,746	15,393	10,608	10,873
2005 No. of Establishments	232	338	702	6080	247476
2007 Projected Retail Sales \$	\$264M	\$508M	\$1.2B	\$8.6B	\$384B
2010 Projected Retail Sales \$	\$289B	\$585B	\$1.24B	\$9.6B	\$442B
2007 Projected per Capita \$	9,432	7,336	15,842	11,351	11,729
2010 Projected per Capita \$	10,246	8,281	16,429	12,554	13,152

Source: FP Markets - Canadian Demographics 2005

14.2.2 Maine Portion of the Corridor

Retail sales information is calculated differently in the US compared to Canada and as a result are not directly comparable. The Maine State Planning Office publishes detailed data on retail sales in the State of Maine to the county level.

As the table reveals, Penobscot County has the highest level of per capita retail sales and the fastest growth rate among the three counties and compared to the state average. Washington county has very limited retail sales infrastructure compared to the other two counties in the Maine portion of the Corridor.

Retail Sales by Major Category (2005) And Percentage Change 2000-2005

Location:	Hancock		Penobscot	
	\$000s	%	\$000s	%
Business Operating	\$34,586	21%	\$224,198	14%
Building Supplies	119,321	53%	272,632	31%
Food Stores	70,768	1%	153,152	0%
General Merchandise	95,563	10%	438,953	25%
Other Retail	70,690	19%	180,719	38%
Auto Transportation	132,506	15%	571,907	19%
Restaurants & Lodging	171,891	14%	240,652	19%
Total	695,325	18%	2,082,213	21%
Personal Consumption	660,739	18%	1,858,015	22%
Restaurants	96,576	14%	203,243	18%
Lodging	75,315	13%	37,409	23%
<i>Per Capita Retail Sales</i>	\$13,426		\$14,368	

Location:	Washington		Maine	
	\$000s	%	\$M	%
Business Operating	\$16,960	24%	\$2,441	13%
Building Supplies	32,778	46%	2,465	48%
Food Stores	33,463	-2%	1,343	1%
General Merchandise	55,284	9%	2,988	16%
Other Retail	13,324	24%	1,825	27%
Auto Transportation	29,211	6%	3,231	15%
Restaurants & Lodging	26,613	14%	2,319	19%
Total	207,632	14%	16,611	19%
Personal Consumption	190,673	13%	14,170	20%
Restaurants	20,821	9%	1,762	19%
Lodging	5,792	35%	557	17%
<i>Per Capita Retail Sales</i>	\$6,117		\$13,029	

Source: Maine State Planning Office

14.3 Air Passenger Traffic

14.3.1 New Brunswick portion of the Corridor

The Saint John Airport has seen a decline in aircraft movements from 2001 to 2006. The table below shows the itinerant and local aircraft movement in May 2006 compared to May of 2001. However, the downward trend is also evident in the Fredericton Airport which has dropped from a rank of 20th in 2001 to 25th among Canada’s airports. Another regional Tier II airport, Charlottetown, has see growth in its aircraft movement over the five year period.

Monthly Airport Traffic Statistics

May 2006						
	Total		Itinerant		Local	
	Rank	Move-ments	Rank	Move-ments	Rank	Move-ments
Saint John	35	1,457	27	1,347	38	110
Fredericton	25	1,933	21	1,599	22	334
Charlottetown	32	1,521	38	1,113	20	408

May 2001						
	Total		Itinerant		Local	
	Rank	Move-ments	Rank	Move-ments	Rank	Move-ments
Saint John	26	1,920	22	1,704	32	216
Fredericton	20	2,392	16	2,104	27	288
Charlottetown	37	1,468	40	1,084	25	384

Source: Transport Canada

14.3.2 Maine portion of the Corridor

Bangor International Airport

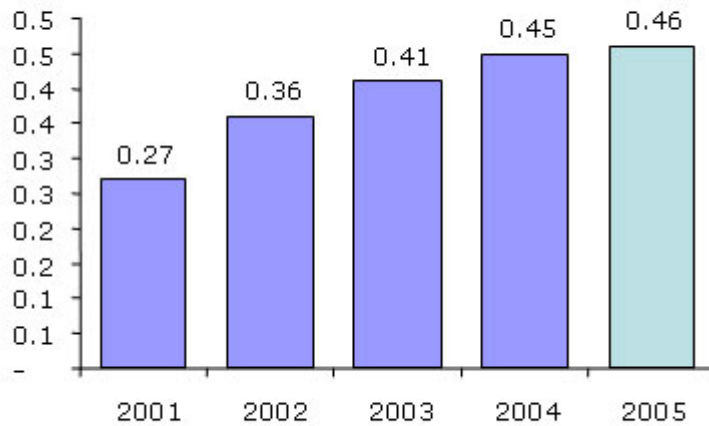
There is a wider variety of data published for the Bangor International Airport compared to the Saint John Airport. From 2003 to 2006 (there was a strong 10.7% increase in passengers using the Bangor International Airport. At the same time, however; there was a decrease in the number of scheduled flights. As the chart below reveals, the Bangor International Airport is a regional one feeding into major hub airports such as Boston, Cincinnati and Philadelphia.

Airport Traffic Statistics

	2003	2006*	%Chg	Rank**
Passengers (000)	411	455	10.7%	159
Scheduled Flights Departures	8,446	7,427	-12%	167
Carriers - Scheduled	19	18	-5%	

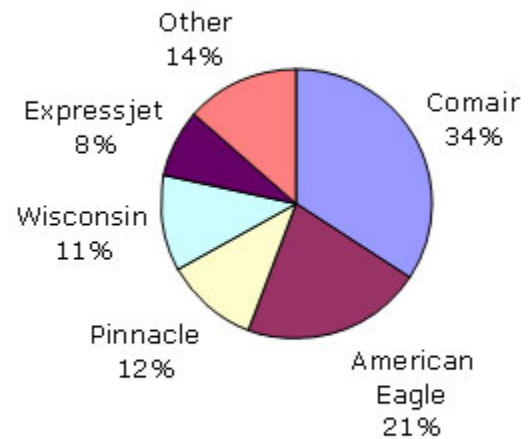
* 2006 represents June 2005 - May 2006 data
 ** Among all U.S. airports, 12 months ending May 2006
 Source: Bureau of Transportation Statistics

Total Passengers (U.S. Flights, in millions)



Source: Bureau of Transportation Statistics.

Carrier Shares for June 2005 - May 2006



Source: Bureau of Transportation Statistics.
Based on enplaned passengers (000).

Top Destinations Total Enplaned Passengers (000s)



Source: Bureau of Transportation Statistics.

14.4 Air Cargo

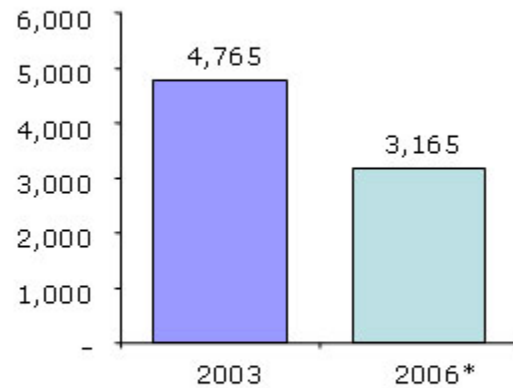
14.4.1 Saint John Airport

There is no recent data published on air cargo statistics for the Saint John Airport. The airport does have cargo handling capacity as outlined in the section covering Corridor airport infrastructure.

14.4.2 Bangor International Airport

The Bangor International Airport does not handle a large volume of air cargo and the volume has declined 34% since 2003.

Air Cargo Trend – Bangor Intl. Airport - Total Freight (000 lb)



Source: Bureau of Transportation Statistics.

*2006 represents data for June 2005 - May 2006.

14.5 Road Traffic

The Calais border crossing is the second busiest crossing for truck traffic of any northern crossing both for northbound and southbound cargo. The Jackman port of entry (Route 6 from Maine into Quebec) generates some volume but not to the level of either Calais or Houlton. In 2005, \$659 million (USD) worth of goods was shipped northbound through Calais and \$1.6 billion was shipped southbound.

While the volume of cargo shipped through Calais rose steadily through the 1990s, the growth rate moderated dramatically after 2000. At the same time, both Houlton and Jackman have witnessed relatively strong growth in both northbound and southbound traffic. Broader trends such as border security, the rise in the Canadian dollar and other economic factors would affect all border crossings. The relative growth in the Houlton crossing relative to Calais might be explained by the introduction of the four lane highway from Moncton to Fredericton and the ongoing twinning of the highway through to Woodstock and beyond.

In fact, until 2001, Calais handled more volume southbound than Houlton and only in 2004 did Houlton overtake Calais for northbound volumes.

**Change in the Volume of Truck Shipping
 \$\$ Value - By US Port of Entry**

	<i>Central/Northern Maine Ports</i>			
	Calais	Madawaska	Houlton	Jackman
<i>Northbound Cargo</i>				
% Change '97-'05	32%	-24%	64%	69%
% Change '00-'05	1%	-66%	27%	38%
<i>Southbound Cargo</i>				
% Change '97-'05	68%	-8%	80%	41%
% Change '00-'05	1%	13%	27%	34%

Source: U.S Department of Transportation

There is more cargo going southbound through the Calais border than northbound. From 1997 to 2006 (year to date), there was \$12.3 billion worth of goods shipped southbound and \$5.5 billion northbound.

However, all New Brunswick/Maine two-way truck cargo shipments combined are well below the levels of Quebec and Ontario trade with the US. By way of comparison, the Detroit, Michigan border crossing handled over \$108 billion in two-way truck cargo in 2005 compared to \$2.2 billion in Calais, Maine – 50 times more volume.

Truck Transportation Volume (by US Port of Entry)

Northbound Cargo (in US \$millions)

Central/Northern Maine Ports

Year	Calais	Madawaska	Houlton	Jackman
1997	\$499.2	\$15.5	\$411.6	\$142.4
1998	483.4	24.3	474.1	144.5
1999	599.4	29.2	535.6	165.5
2000	651.5	34.8	531.0	173.9
2001	555.1	41.7	448.5	173.4
2002	563.0	30.9	499.2	195.6
2003	614.5	31.4	496.9	192.5
2004	611.0	12.7	636.0	226.4
2005	658.7	11.8	674.0	240.4
2006 ytd	231.9	9.1	278.0	111.7
% Change '97-'05	32%	-24%	64%	69%
% Change '00-'05	1%	-66%	27%	38%

Southbound Cargo (in US \$millions)

Central/Northern Maine Ports

Year	Calais	Madawaska	Houlton	Jackman
1997	\$968.1	\$54.1	\$930.7	\$231.3
1998	1,093.1	34.2	1,108.2	204.7
1999	1,345.4	37.0	1,284.2	218.2
2000	1,610.5	43.9	1,317.5	243.0
2001	1,572.3	50.2	1,317.4	226.9
2002	1,430.4	40.1	1,586.1	204.3
2003	1,477.9	34.4	1,553.1	218.1
2004	1,530.7	65.7	1,772.9	260.0
2005	1,622.1	49.5	1,678.8	326.3
2006 ytd	663.1	29.0	670.4	110.2
% Change '97-'05	68%	-8%	80%	41%
% Change '00-'05	1%	13%	27%	34%

Source: U.S Department of Transportation

14.6 Port of Saint John Traffic

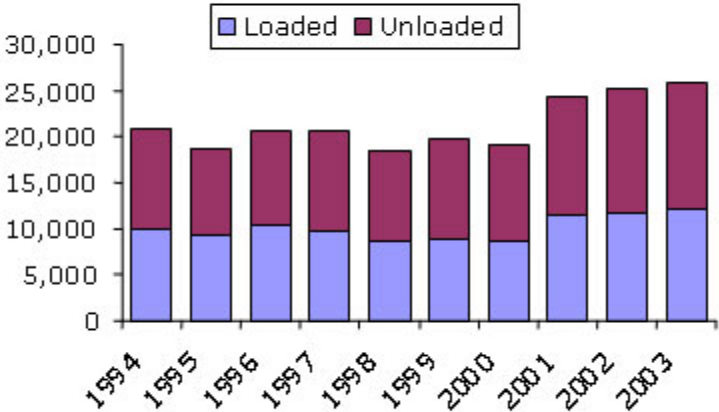
According to Statistics Canada, in 2003 the tonnage handled at the port of Saint John, New Brunswick was 25.9 Mt.

Shipping at the port is dominated by activity in several commodities, crude petroleum, gasoline and aviation turbine fuels, fuel oils and potash which together account for over 90% of the shipments. By far the largest commodity is crude petroleum at 12.3 Mt. While the majority of the crude inbound to the port is still received from overseas ports (10.0 Mt in each of 2002 and 2003) the proportion derived from the domestic market, specifically the Atlantic Region, continues to grow, rising from 2.0 Mt in 2002 to 2.2 Mt in 2003. Total shipments of fuel oils rose 0.2 Mt (to 5.3 Mt) and potash grew 0.1 Mt (to 0.9 Mt), while gasoline and aviation turbine fuels remained unchanged at 5.3 Mt.

While the ten-year trend has shown an upward trend in cargo activity, outside of crude petroleum, the port has been mostly in decline.

There are several other smaller commercial ports – principally Bayside – in the Corridor. Bayside is the 40th largest port in Canada based on volume of cargo tonnage shipped.

Cargo Volumes Shipped through the Port of Saint John (10 Year Trend)



*Source: Transport Canada

14.7 Rail Traffic

According to the US Bureau of Transportation Statistics, the main rail line connecting New Brunswick to Maine through the Corridor does a very limited volume of activity. The table below shows the dollar value of the cargo volume shipped by rail and registered in the US port of entry. Van Buren, the heaviest volume port, crosses at St. Leonard near Edmundston, New Brunswick. Jackman connects Maine with Quebec.

Based on this data, it would seem that the Vanceboro crossing has witnessed a steady drop in cargo volume by rail since the late 1990s.

Rail Transportation Volume (by US Port of Entry)

Northbound Cargo (in US \$millions)

Year	<i>Bangor/SJ Corridor</i>		<i>Central/Northern Maine Ports</i>		
	Calais	Vanceboro	Van Buren	Houlton	Jackman
1997	\$2.3	\$7.7	\$7.7	\$1.3	\$0.9
1998	3.1	4.2	6.8	1.1	1.1
1999	1.4	1.7	5.5	1.4	2.4
2000	1.5	1.8	5.1	1.2	2.5
2001	1.4	1.8	16.0	3.9	2.9
2002	3.5	1.8	4.4	0.9	5.3
2003	3.0	1.2	1.3	0.9	3.8
2004	4.1	2.1	3.0	2.9	5.8
2005	3.0	1.8	1.8	28.2	6.1
2006 ytd	1.7	0.5	1.3	1.2	2.7

Southbound Cargo (in US \$millions)

Year	<i>Bangor/SJ Corridor</i>		<i>Central/Northern Maine Ports</i>		
	Calais	Vanceboro	Van Buren	Houlton	Jackman
1997	\$27.7	\$167.9	\$55.5	\$32.6	\$61.3
1998	8.9	43.6	204.0	8.5	71.3
1999	0.2	42.6	214.6	0.1	49.9
2000	0.5	185.0	66.9	0.2	43.2
2001	3.5	18.3	175.4	1.1	26.7
2002	0.6	22.1	137.5	0.6	17.2
2003	0.5	3.3	135.9	0.7	13.7
2004	0.0	7.1	145.3	0.2	29.7
2005	0.2	6.6	159.8	0.1	43.2
2006 ytd	0.1	1.9	104.3	0.1	21.7

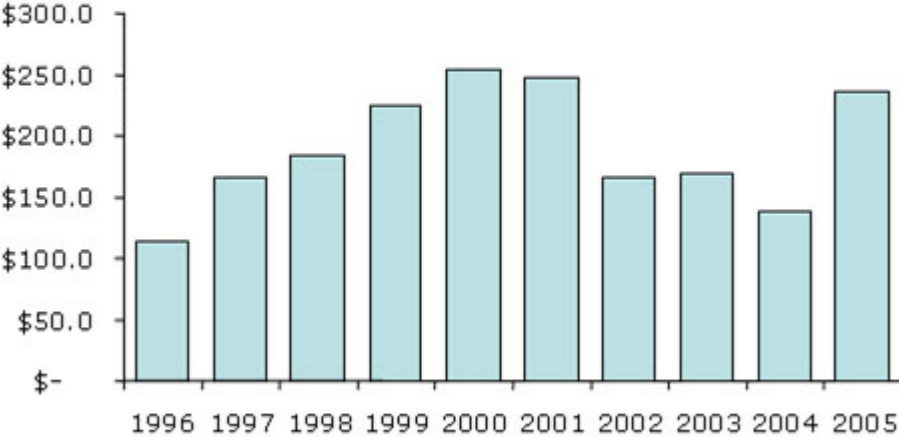
Source: U.S Department of Transportation

14.8 Electricity/Natural Gas

14.8.1 Electricity

NB Power has several interconnection points with the US for electricity distribution and it is not published how much of that power gets transmitted through the Corridor. The new International Power Line project (detailed in the energy infrastructure section) will provide the transmission infrastructure for future power transmission from the Maritime Provinces to the United States. Electricity exports from New Brunswick had been trending downward in the last few years but spiked back up to over \$236 million.

**Electricity Exports (in \$CDN Millions)
New Brunswick to the US Market**



Source: Statistics Canada.

14.8.2 Natural Gas

Pipeline shipment of natural gas to the United States began in 2001. As the table below reveals, the value of natural gas shipments has been steadily rising from \$393 million in 2001 to \$919 million 2005. 2006 is on a record setting pace after the first five months of shipment.

Date	U.S. to Canada	Canada to U.S.
2001	\$-	\$392,744,304
2002	\$2,877	\$594,484,617
2003	\$-	\$723,229,159
2004	\$-	\$801,265,248
2005	\$-	\$918,883,008
2006 ytd	\$-	\$537,885,449

Source: U.S Department of Transportation

14.9 Tourism

14.9.1 New Brunswick Portion of the Corridor

Two of the top ten tourism attractions in New Brunswick are located in the New Brunswick portion of the Corridor (the Kingsbrae Garden and the Fundy Trail Parkway). The two top tourism attractions in New Brunswick, Hopewell Rocks and Fundy National Park are soon to be connected with the Fundy Trail Parkway after the federal and provincial governments have committed significant funds to integrate these tourism attractions.

Tourism activity has been declining in New Brunswick for several years as a result of variety of factors including international terrorism, the rising Canadian dollar and the cost of gasoline. This trend is evidenced by the number of US visitors to Canada via road border crossings. From 2000 to 2005 alone, there has been a 16% drop in the number of US visitors to Canada via road border crossings and the longer term trend reveals a decline of 22% since 1990.

Corridor crossings have been particularly hard hit with St. Stephen down 29% since 2000 and Campobello down 20%. Border crossings in the northwest of New Brunswick are also down but not to the extent of the southern crossings.

US Visitors to Canada by Road New Brunswick Border Crossings (% Change)

Border Crossing:	<u>1990-</u> <u>2005</u>	<u>2000-</u> <u>2005</u>
All New Brunswick	-22%	-16%
Andover	-15%	-10%
Bloom field	-11%	19%
Campobello	-25%	-20%
Centreville	-20%	-25%
Clair	-54%	-26%
Edmundston	-13%	-10%
Forest City	7%	10%
Fosterville	6%	-5%
Gillespie	-7%	30%
Grand Falls/Grand-Sault	-5%	-31%
Milltown	0%	-12%
River de Chute	-21%	19%
St. Andrews	-13%	-17%
St. Croix	-15%	-9%
St. Leonard	-24%	-6%
St. Stephen	-26%	-29%
Woodstock Road	-17%	-23%

Source: Statistics Canada

St. Stephen continues to be the second most dominant border for U.S. visitors to New Brunswick. In 2005, almost 16% of all US visitors to New Brunswick came via St. Stephen and the four main crossings in the Corridor generated 31% of all US visitors to New Brunswick in 2005.

US Visitors to Canada by Road
Top New Brunswick Border Crossings 2005 and 1990
 (% of Total Crossings)

	<u>2005</u>	<u>1990</u>
Edmundston	27.4%	24.7%
St. Stephen	15.7%	16.5%
St. Leonard	9.6%	9.8%
Woodstock Road	9.1%	8.5%
Clair	8.2%	13.7%
Milltown	7.8%	6.1%
Andover	5.6%	5.1%
Campobello	5.3%	5.6%
Gillespie	4.3%	3.6%
St. Croix	2.2%	2.1%
Grand Falls/Grand-Sault	2.2%	1.8%
Centreville	1.6%	1.5%
Fosterville	0.5%	0.3%
Forest City	0.2%	0.2%
River de Chute	0.2%	0.2%
St. Andrews	0.1%	0.1%
Bloom field	0.1%	0.1%

Source: Statistics Canada

Another traditional method that is used to track tourism activity in the province is the use of 'roofed' accommodations. Since 1998, there has been a slow decline in occupancy rates and as of July 2006, the occupancy rates in Corridor communities are down by between 14 and 30 percentage points off their 1998 levels.

Roofed Accommodations Monthly Occupancy Rates (%)

	New Brunswick	Saint John	St. Andrews (Town) to Saint John	Campobello, Deer Island & Grand Manan	Harvey, McAdam, St. Stephen to St. Andrews
2006	%	%	%	%	%
June	55	59	58	32	37
July	68	64	60	58	66
August	n/a	n/a	n/a	n/a	n/a
2005					
June	55	53	57	45	33
July	72	68	70	62	48
August	71	66	65	70	56
2004					
June	54	58	49	39	35
July	70	62	60	64	48
August	72	70	63	71	60
1998					
June	64	70	65	31	71
July	83	78	83	74	96
August	81	82	88	87	90
<i>Percentage Point Drop '98-'06</i>					
June	-9	-11	-7	1	-34
July	-15	-14	-23	-16	-30

Source: New Brunswick Department of Tourism & Parks

14.9.2 Maine Portion of the Corridor

The importance of the St. Stephen-Calais border was highlighted in a recent report by the US Bureau of Transportation Statistics. In 2005, the Calais gateway was the fifth most important for personal vehicle traffic into the United States.

Also underscoring the connectedness between Calais and St. Stephen, the border is the second most used in Canada for pedestrian traffic.

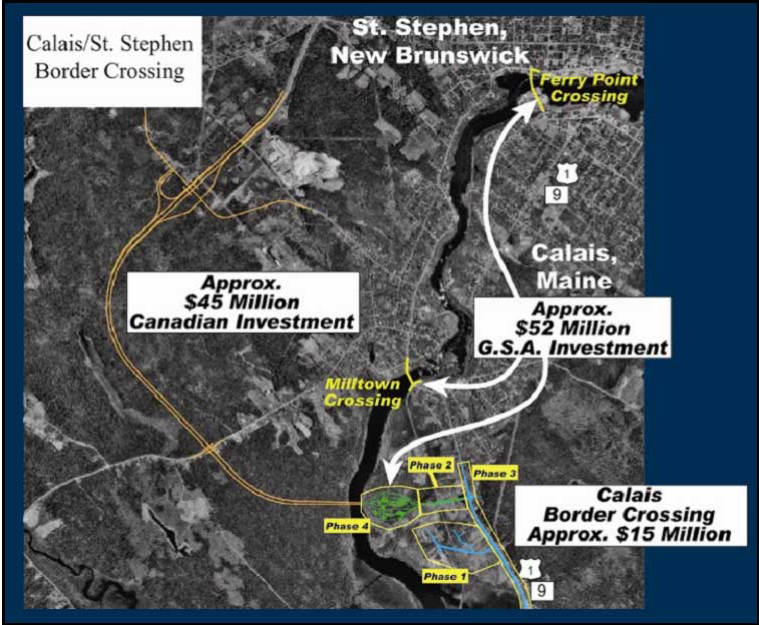
Top Five Gateways from Canada to US

Personal vehicles (2005)	Annual
Detroit, MI	6,035,004
Buffalo-Niagra Falls, NY	6,034,398
Blaine, WA	2,482,065
Port Huron, MI	1,953,413
Calais, ME	1,174,011

Pedestrians (2005)	
Buffalo-Niagara Falls, NY	370,295
Calais, ME	44,238
Sumas, WA	33,769
International Falls, MN	24,497
Point Roberts, WA	22,440

Source: Bureau of Transportation Statistics

14.10 Border Crossing Infrastructure Review



14.10.1 St. Stephen – Calais Border Crossing Profile

The border crossing that is located between St. Stephen and Calais near the Calais industrial park, consists of new highway segments in both New Brunswick and Maine, coupled with the use of existing segments of U.S. Route 9 and U.S. Route 1/9.

The highway segments that involve new highway construction in both N.B. and Maine have been constructed as a controlled access highway, with grade separations at public highway and rail crossings and access to development permitted only at the grade-separated interchange at Church Street at the end of the St. Stephen truck route. When traffic warrants have been met, the highway has been upgraded to a 4-lane divided standard. Technology, services and security implementations (on Calais side):

- Radiation Portal Monitor's - These are passive systems that are placed in advance of the primary inspection booths for both non-commercial and commercial traffic. Their purpose is to detect radiation that may be used to deploy a weapon of mass destruction.
- Non-Intrusive X-ray inspection - This is an active system that utilizes gamma rays to scan cargo contained in a commercial vehicle. This type of inspection can be done utilizing a mobile truck unit or a permanent building. This type of technology aides the inspector in detecting contraband without having to unload the entire cargo. The permanent non intrusive X-ray facility that will be used at the new Calais border station utilizes two tracks with a moving source and detector that move along parallel tracks on each side of a stationary vehicle, generating video screen images.
- License Plate Readers - A passive system used to read information contained on license plates of non-commercial vehicles.

- US-VISIT Technology - This is technology that will be used to document travelers leaving the United States. At this time, it is anticipated that this will be accomplished via some form of bio-metric technology, (perhaps some type of frequency reader on a gantry) rather than having a manned outbound traffic lane dedicated to performing this type of service. This is not to imply that there will not be a separate outbound inspection capability for general traffic.

Quarantine Services:

- A day kennel will be provided that will include an enclosed heated space for holding dog for short periods of time.
- A quarantine storage room will be provided for the storage of supplies and feed.
- A bird quarantine area will be provided for the detainment of exotic pet birds.

On the Canadian Side:

Canadian services implemented into the new border crossing are still being decided. Requests for Proposals have been sent out as of the fall of 2006. In general, services offered by the Canadian Border Services Agency (CBSA) include:

- Designated Commercial Office (DCO)
- Designated Export Office (EXPORT)
- Duty-Free Shop (SHOP)
- Electronic Data Interchange (EDI)
- Free and Secure Trade (FAST)
- Highway - Land Border Office (HWY/B)
- HUB- Central Office (HUB)
- Immigration (IMM)
- Telephone Reporting Site - Marine (TRS/M)

15. Utilities in the Corridor

15.1 Electricity

The Major Infrastructure section above includes profiles of the energy infrastructure in the Corridor.

15.1.1 Bangor Hydro-Electric, ME

Bangor Hydro-Electric (BHE) is a transmission and distribution company, serving 110,000 customers in eastern Maine. The 2001 acquisition of BHE increased Nova Scotia-based Emera's customer base by 25% after its recent takeover.

15.1.2 Central Maine Power Company, ME

Central Maine Power Company (CMP) is responsible for operating and maintaining a transmission-and-distribution system. CMP delivers more than 9 billion kilowatt-hours of electricity yearly to 570,000 retail electric customers in central and southern Maine encompassing an 11,000-square-mile service area.

15.1.3 Eastern Maine Electric Co-op, ME

Eastern Maine Electric Co-op (EMEC) is a non-profit consumer-owned electric utility serving parts of Aroostook, Penobscot, and Washington Counties in Maine. In total EMEC serves 12,000 customers spread over 3,000-square-mile area of rural Maine.

15.1.4 NB Power, NB

The New Brunswick Power Distribution Company provides electric power utility services to customers on the New Brunswick side of the Corridor outside of the Saint John region (which is covered by Saint John Energy).

15.1.5 Saint John Energy, NB

As a distribution utility, all of Saint John Energy's power requirements are purchased from the provincial utility, New Brunswick Power Corporation. Saint John Energy maintains 13 substations and services more than 35,000 local customers with energy sales of over 950,000,000 kilowatt hours annually.

15.2 Natural Gas

15.2.1 Bangor Gas Company, L.L.C., ME

Bangor Gas Company, L.L.C. serves customers in Bangor, Brewer, Veazie, Orono, and Old Town. Bangor Gas is a wholly-owned subsidiary of Sempra. Bangor Gas obtains its gas supply via the Maritimes and Northeast interstate pipeline. Bangor Gas offers sales service to all classes of customers and transportation-only service to all Commercial and Industrial customers. Bangor Gas has a monthly cost of gas rate, a budget payment plan, and a fixed price option.

15.2.2 Enbridge Gas New Brunswick, NB

Enbridge Gas New Brunswick is the company that distributes natural gas to communities across New Brunswick serving institutional, commercial, industrial and residential customers. Enbridge owns and operates Enbridge Gas Distribution.

Enbridge is also involved in gas distribution in Quebec and the northeastern U.S. through its 32% interest in Noverco Inc.

15.3 Telecommunications

15.3.1 Bell Aliant, NB

Bell Aliant through its operating entities, serves its customers throughout six Canadian provinces with innovative information and communications technology (ICT) solutions, including telephony, wireless, Internet, data, video, IT professional services and value-added solutions. Bell Aliant also provides IT professional services through xwave's offices in Canada, the US and Ireland. Bell Aliant's approximately 10,500 employees build on its 100-plus year history. In Atlantic Canada, Aliant provides access to exclusive content and account management tools.

15.3.2 DownEast Communications, NB

DownEast Communications offers communications solutions including cellular phones, two-way radios, pagers, satellite communications, and corded and cordless phones.

Communications products are offered through 50 retail locations in Nova Scotia, Newfoundland and New Brunswick, and their business-to-business and consumer websites.

15.3.3 Eastlink, NB

EastLink, a Maritime owned and operated company, offers a range of telecommunications and entertainment services to residential and business customers.

Operating from its headquarters in Halifax, Nova Scotia, EastLink employs over 700 individuals. With over 30 years in business, the company now operates with a hybrid fiber/coax broadband network.

15.3.4 Lincolnville Telephone Company, US

Lincolnville Telephone Company offers services from basic residential telephone service to Centrex packages for business, which includes Internet access through their subsidiary [Coastal Telco Services](#). Other services include Cable television service to Lincolnville and Hope Communities, point of presence services to a major interstate carrier in Lincolnville Beach, Maine, networking services (fiber optic technology) connecting Midcoast Maine through Bangor & Portland.

15.3.5 Mid-Maine Communications, US

Mid-Maine Communications was formed in 1994. The company offers a full array of telecommunication services that include business and residential local telephone service as well as Internet service platforms supporting DSL and traditional dial-up Internet access. Via their fiber optic network, they offer large capacity lit-fiber services, as well as dark fiber. Mid Maine Communications was acquired by [Otelco Inc.](#) in 2006.

15.3.6 Otelco Inc., US (top)

Otelco Inc., headquartered in Oneonta, Alabama, provides wireline telephone services in several rural communities in Alabama, Missouri and Maine. The Company's services include local telephone, network access, long distance, high-speed and dial-up Internet access, cable television, etc. With more than 61,000 access lines equivalents, which are defined as access lines, cable modems and digital subscriber lines, Otelco is among the top 50 largest local exchange carriers in the United States. Otelco operates six incumbent telephone companies serving rural markets, or rural local exchange carriers.

15.3.7 Rogers Communication Inc., NB

Rogers Wireless is Canada's largest wireless voice and data communications services provider and the country's only carrier operating on GSM technology platform. Rogers Cable and Telecom is Canada's largest cable television provider offering cable television, high-speed Internet access, residential telephony services, etc., while Rogers Business Solutions provides voice communications services, data networking, and broadband Internet connectivity to small, medium and large businesses. Rogers Media is a category of media assets with businesses in radio and television broadcasting, televised shopping, publishing and sports entertainment.

15.3.8 TDS Telecom, US

TDS is a Chicago-based telecommunications corporation founded in 1969 with established wireless and local wireline businesses. Through its business units, U. S. Cellular and TDS Telecom, TDS provides wireless, local telephone and broadband service to customers in rural and suburban markets around the country. The company employs approximately 11,500 people and serves more than 6 million wireless and local telephone customers in 36 states. TDS's business development strategy is to expand its existing operations through internal growth and acquisitions. TDS has operations in over 60 communities in Maine.

15.3.9 TELUS Mobility, NB

TELUS Mobility is a Canadian wireless telecommunications provider offering wireless voice, data and Internet services to business and consumer clients via two wireless networks: PCS and Mike. The company covers more than 93% of the Canadian population. TELUS Mobility is the wireless business unit of TELUS Corporation. TELUS Mobility provides its more than 4 million clients across Canada with wireless services. TELUS Mobility supports its clients with call centers in BC, Alberta, Ontario and Quebec and 6,000 team members from coast to coast.

15.3.10 Union River Telephone Company, US

The Union River Telephone company is located in Aurora, Maine. The company is a telecommunications reseller for the region and employs 11 individuals. TAKE OUT TEL

15.3.11 Verizon Maine

Verizon is active in eastern Maine providing wireline, wireless and broadband DSL services to business and residential customers.