



APPENDIX A.
ECONOMIC & MARKET
ANALYSIS

MASSENA BOA

Brownfield Opportunity Area Revitalization Plan

Economic and Market Analysis

July 2015 (with additions made March 2017)



Prepared by

E.M. Pemrick and Company

Moran, Stahl & Boyer

E.M.
Pemrick
& Company
Economic Planning &
Development Services

MS&B Moran, Stahl & Boyer
Site Selection and Economic Development Consultants

[blank page inserted to facilitate two-sided printing]

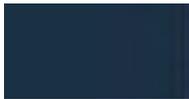
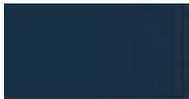


Table of Contents

1. Introduction.....	1
1.1. Location and Regional Setting.....	1
1.2. Methodology and Data Sources.....	2
1.3. Past Planning Efforts	2
2. Demographic Overview	4
2.1. Population Change	4
2.2. Racial Diversity	4
2.3. Median Age	5
2.4. Median Household Income	5
2.5. Housing	6
3. Economic Analysis	8
3.1. Unemployment	8
3.2. Resident Labor Force	8
3.3. Employment by Industry.....	9
3.4. Major Employers.....	11
3.5. Commutation Patterns.....	12
3.6. Regional Target Industries	12
4. Labor and Educational Resources.....	15
4.1. Laborshed Definition.....	15
4.2. Age Cohorts.....	15
4.3. Educational Attainment	16
4.4. Occupation	17
4.5. Labor Costs.....	17
4.6. Education and Training	18
4.7. Research and Development Activity at Clarkson	22
4.8. Start-Up Activity at Clarkson	23
5. Canada and Cross-Border Activity	26
5.1. Employment and Unemployment in Ontario	26
5.2. Southeastern Ontario	28
5.3. Border Crossings	32
6. Real Estate Market Analysis.....	35
6.1. Industry Needs and Requirements	35
6.2. Location and Site Selection Process.....	36
6.3. Available Properties in the Region.....	39
6.4. START-UP NY Program	42
6.5. Competitive Analysis.....	44
7. Manufacturing.....	47
7.1. Manufacturing Overview	47



- 7.2. Manufacturing Employment47
- 7.3. Strategic Opportunities.....53
- 7.4. Industry Trends54
- 7.5. Manufacturing Potential67
- 8. Logistics and Import/Export Activity 68**
 - 8.1. U.S.-Canadian Trade Through Northern New York.....69
 - 8.2. Warehousing/Transportation and Wholesale Employment.....70
 - 8.3. Logistics and Distribution.....71
- 9. Tourism Market Analysis 72**
 - 9.1. The Tourism Economy.....72
 - 9.2. Tourism Attractions73
 - 9.3. Tourism Infrastructure.....76
 - 9.4. Tourism Development Potential.....78
 - 9.5. Lacrosse/Sports Complex Market Assessment79

List of Tables

- Table 1. Market Area Population4
- Table 2. Racial Diversity5
- Table 3. Median Age5
- Table 4. Median Household Income6
- Table 5. Selected Housing Characteristics6
- Table 6. Major Employers in St. Lawrence County and Hogansburg11
- Table 7. Inflow/Outflow Job Counts12
- Table 8. Regional Industry Targets.....12
- Table 9. Population 18 Years and Over15
- Table 10. Median Age and Age Cohort Comparison.....16
- Table 11. Educational Attainment, Population Aged 25 and Over16
- Table 12. Employed Population Age 16 and Over, by Occupation17
- Table 13. Median Annual Wages by Occupational Classification18
- Table 14. Colleges and Universities in St. Lawrence County.....18
- Table 15. Associate’s Degrees Awarded in Selected Fields19
- Table 16. Bachelor’s Degrees Awarded in Selected Fields.....20
- Table 17. Engineering Degrees Awarded by Clarkson University20
- Table 18. Graduates and Completers by Post-High School Plans21
- Table 19. R&D Spending at Selected Engineering Schools.....22
- Table 20. Examples of Start-Up Companies at Clarkson University.....23
- Table 21. Labor Force Estimates for Selected Industry Sectors, Ontario27
- Table 22. Employment by Industry, Southeastern Ontario29



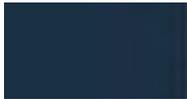
Table 23. Location and Real Estate Requirements by Industry	35
Table 24. Building Requirements for General Manufacturing Operations	37
Table 25. Levels of Site Readiness.....	38
Table 26. Available Industrial Sites in the Region	39
Table 27. Available Industrial Buildings in the Region	40
Table 28. START-UP NY Sites and Buildings in Northern NY	43
Table 29. Manufacturing Employment in New York State.....	49
Table 30. Manufacturing Employment in Northern NY	50
Table 31. Manufacturing Employment Trends in Northern NY	50
Table 32. Selected Manufacturing Employers in Northern NY	51
Table 33. Potential Manufacturing Opportunities for the Massena BOA.....	53
Table 34. Alcoa Production Presence in North America	64
Table 35. U.S.-Canadian Trade By Port of Entry, 2013.....	70
Table 36. Transportation, Warehousing, and Wholesale Employment in Northern NY.....	71
Table 37. Employment in Tourism-Related Industries in Northern NY	72
Table 38. Trends in Tourism-Related Employment in Northern NY	72
Table 39. Tourism Assets Within One Hour of the Massena BOA (U.S. Only)	73
Table 40. Hotels and Motels Within A 1-Hour Drivetime of the Massena BOA	76
Table 41. Arenas and Sports Complexes Within A 2 Hour Drivetime Where Lacrosse Is Played	82

List of Figures

Figure 1. Location of Massena BOA	1
Figure 2. Annual Average Unemployment.....	8
Figure 3. Resident Labor Force.....	9
Figure 4. Employment by Industry	10
Figure 5. Annual Average Unemployment, Ontario.....	26
Figure 6. Resident Labor Force, Ontario	27
Figure 7. Map of Southeastern Ontario	28
Figure 8. Annual Border Crossings, Passenger Vehicles, by Port of Entry	32
Figure 9. Annual Inbound Border Crossings by Truck, by Port of Entry.....	33
Figure 10. Manufacturing Employment in New York State by County	48
Figure 11. Annual U.S. Cheese Consumption Per Capita	55
Figure 12. Annual U.S. Yogurt Consumption Per Capita	56
Figure 13. Top States in U.S. Milk Production, 2014.....	56
Figure 14. Dairy Product Manufacturing Employment	57
Figure 15. Uses of Aluminum in North America	61
Figure 16. Global Aluminum Production.....	62
Figure 17. Aluminum Price Per Metric Ton.....	63
Figure 18. Aluminum Production by Region	63



Figure 19. Ports of Entry Into Northern NY.....68
Figure 20. Trade Between the U.S. and Canada by Port of Entry, 201369



1. Introduction

The purpose of this study is to analyze current demographic, economic, and real estate market conditions as part of a Brownfield Opportunity Area (BOA) Revitalization Plan for the former General Motors (GM) Massena site and adjacent properties in the Town of Massena, NY. It is designed to identify potential opportunities for the development, or redevelopment, of vacant and underutilized parcels in the designated BOA Study Area. Key findings and conclusions will be incorporated into the BOA Revitalization Plan and used to guide the reuse of the Massena site.

1.1. Location and Regional Setting

The BOA Study Area is located in St. Lawrence County in northern New York. It is bordered by the St. Lawrence River to the north, the St. Regis Mohawk Reservation to the east, the Raquette River to the south, and Alcoa to the west. The site is accessible from NY Route 37 and located adjacent to the Seaway International Bridge. The City of Cornwall, Ontario lies on the opposite side of the river; Canada’s capital city of Ottawa is approximately 90 minutes away.

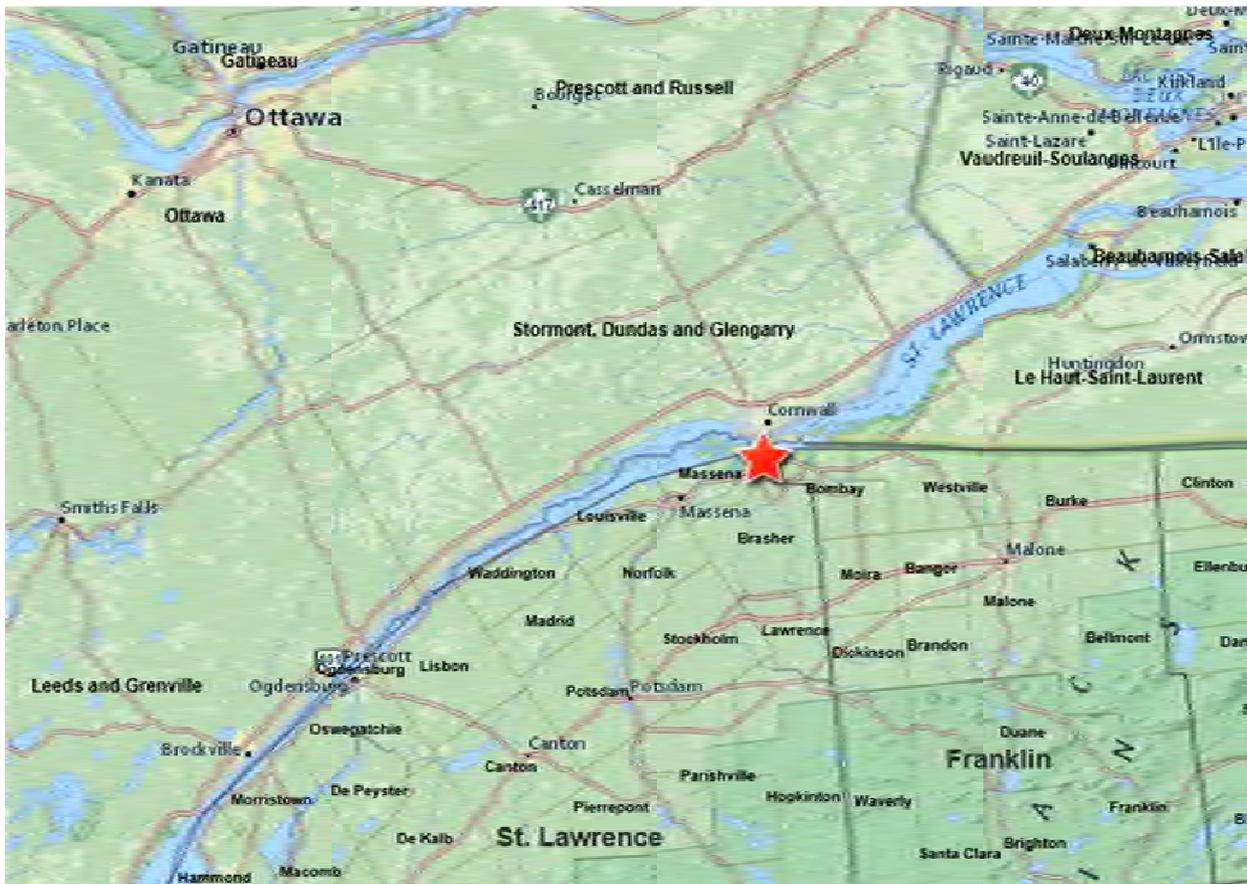


Figure 1. Location of Massena BOA



A town of 13,000 residents, Massena became known as St. Lawrence County's industrial center in the twentieth century. Alcoa, Reynolds Metals, and General Motors each established manufacturing plants that employed thousands of workers. In the past 25 years, however, Massena has experienced a decline in manufacturing and a loss of jobs. GM closed in 2009 and Alcoa idled its East Plant (formerly Reynolds Metals) in 2014. Today, Alcoa's Massena operations have about 750 employees.

Massena is located in the North Country region, an area comprised of Jefferson, Lewis, St. Lawrence, Franklin, Clinton, Essex, and Hamilton Counties. This region is the largest in the state, covering more than 11,000 square miles. It stretches across northern New York from the eastern shore of Lake Ontario to the western edge of Lake Champlain, and from the international border with Canada in the north through the Adirondack Mountains in the south.

Massena also lies at the eastern end of the Thousand Islands region, an international tourism destination encompassing communities on both sides of the U.S. and Canada border along the St. Lawrence River and the eastern shores of Lake Ontario. Named for the more than 1,000 islands that dot these waterways, the region covers parts of Oswego, Jefferson, Lewis, and St. Lawrence Counties in the U.S. and extends from Kingston to Cornwall in Canada.

1.2. Methodology and Data Sources

The methodology for the study involved the compilation and analysis of a broad range of quantitative data on the Town of Massena and St. Lawrence County, as well as the adjacent St. Regis Mohawk Reservation and other counties in the North Country region. Information on census divisions (equivalent to U.S. counties) in southeastern Ontario was also compiled in an effort to understand economic conditions and trends north of the border that may impact the Massena BOA. The data in this study is from a variety of sources, including the U.S. Census Bureau, the U.S. Bureau of Labor Statistics, the NYS Department of Labor, and Statistics Canada. Additional data was purchased from ESRI, a leading provider of market information. ESRI's proprietary methodology employs both federal and private data sources to develop demographic estimates and projections for a wide range of geographies.

The project team also obtained qualitative information on economic and market conditions, industry trends and growth opportunities, economic development initiatives, redevelopment challenges, and potential commercial, industrial, and recreational uses via individual interviews with a variety of stakeholders including economic development and planning officials, municipal leaders, educators, business owners, and real estate professionals.

1.3. Past Planning Efforts

Recognizing the value of local and regional planning documents, economic development strategies, and marketing materials to this assignment, the project team reviewed the following:

- St. Lawrence County Industrial Development Agency Marketing Plan - 2014
- Akwesasne Cultural Tourism Strategic Plan - 2014
- North Country Regional Economic Development Council (REDC) Workforce Survey - 2014
- Competitive Advantages for Location of International Business and Logistics Companies in the Greater Ogdensburg, NY Area (marketing prospectus) - 2013
- Economic Development Marketing and Attraction Strategic Plan for the Ogdensburg Bridge & Port Authority - 2012
- Reuse Assessment Report for the GM Massena Site - 2011
- RACER Trust Marketing Brochure for the GM Massena Site - 2011
- North Country REDC Strategic Plan - 2011
- St. Lawrence River Valley Redevelopment Agency Strategic Plan - 2010
- Akwesasne Cultural Tourism Strategy – 2009
- Akwesasne Comprehensive Community Development Plan - 2009
- St. Lawrence County Comprehensive Economic Development Strategy (CEDS) - 2009
- St. Lawrence County, New York Area Labor Availability Report - 2006

The project team also reviewed miscellaneous reports and marketing materials produced by economic development agencies in other communities in the North Country region and eastern Ontario.

The findings and conclusions presented in this report are solely the opinion of E.M. Pemrick and Company and Moran, Stahl and Boyer based on the analysis and interpretation of the information available during the completion of the study in 2015. The report should be used as an overall guide to market opportunities, but should not substitute for detailed market and financial feasibility analysis on the part of any business enterprise or developer interested in investing in the proposed BOA.



2. Demographic Overview

To provide a context for the market analysis, this section provides an overview of demographic and socioeconomic characteristics in the Town of Massena and St. Lawrence County, with information on Franklin County, the St. Regis Mohawk Reservation¹, and the State of New York presented for comparison purposes.

2.1. Population Change

The Town of Massena has been slowly losing population for the last forty years, with the most rapid decline occurring between 1970 and 1990, when the number of residents decreased by nearly 2,200, or 13.7%. The majority of the Town’s population is in the Village of Massena, which had a 2010 population of 10,936.

Table 1. Market Area Population

Market Area	2000	2010	2014 (est.)	2019 (proj.)	% Change		
					2000-10	2010-14	2014-19
Town of Massena	13,121	12,883	12,902	12,829	-1.8%	0.1%	-0.6%
St. Lawrence County	111,931	111,944	113,774	114,142	0.0%	1.6%	0.3%
Franklin County	51,134	51,599	52,488	52,793	0.9%	1.7%	0.6%
St. Regis Mohawk Reservation	2,699	3,228	3,498	3,697	19.6%	8.4%	5.7%
New York State	18,976,457	19,378,102	19,631,599	20,034,759	2.1%	1.3%	2.1%

Source: ESRI (2014 and 2019), U.S. Census Bureau, and E.M. Pemrick and Company.

Like much of northern New York, St. Lawrence County has also experienced a slight population decline, from a peak of about 114,000 in 1980. Estimates produced by ESRI show a marginal *increase* in the County’s population in the short term; however, projections from the Cornell Program on Applied Demographics indicate that the number of residents in St. Lawrence County will continue to decrease, falling below 100,000 by 2040.

2.2. Racial Diversity

The presence of the Akwesasne in the area is reflected in local population statistics. Although both the Town of Massena and St. Lawrence County are largely white and non-Hispanic, more than 4% of Massena residents (approximately 555 individuals) are Native American. This does not include Native Americans living on the St. Regis Mohawk Reservation.

¹ The Census Bureau treats the St. Regis Mohawk Reservation as a county subdivision, and the reservation is included in the totals for Franklin County.

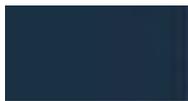


Table 2. Racial Diversity

Market Area	White	African-American	Native American	Asian/Pacific Islander	Hispanic Origin
Town of Massena	91.7%	0.7%	4.3%	0.9%	2.0%
St. Lawrence County	93.1%	2.5%	1.1%	1.1%	2.1%
Franklin County	83.1%	6.5%	7.5%	0.7%	3.1%
St. Regis Mohawk Reservation	3.1%	0.1%	93.6%	0.0%	0.5%
New York State	64.6%	15.8%	0.6%	7.9%	18.6%

Source: ESRI (2014), U.S. Census Bureau, and E.M. Pemrick and Company. Some categories not shown.

2.3. Median Age

The generational mix in the Town of Massena and St. Lawrence County is consistent with state and national trends and reflects an aging population. In 2014, Massena had a median age of 41.9 and St. Lawrence County had a median age of 37.9, compared to 38.5 for New York State. The St. Regis Mohawk Reservation had a substantially lower median age, 30.9, due to a larger percentage of individuals under age 18.

Table 3. Median Age

Market Area	2010	2014 (est.)	2019 (proj.)	% Change	
				2010-14	2014-19
Town of Massena	41.2	41.9	42.7	1.7%	1.9%
St. Lawrence County	37.3	37.8	38.6	1.3%	2.1%
Franklin County	39.1	39.4	39.7	0.8%	0.8%
St. Regis Mohawk Reservation	31.2	30.9	31.3	-1.0%	1.3%
New York State	37.9	38.5	39.0	1.6%	1.3%

Source: ESRI (2014 and 2019), U.S. Census Bureau, and E.M. Pemrick and Company.

2.4. Median Household Income

Household income is one of the most important local economic indicators. Over the last few decades, the median household income in the Town of Massena has been consistently lower than in St. Lawrence County, and income levels in both St. Lawrence and Franklin County have been lower than those statewide. Household income levels are influenced by many factors, including educational attainment, earnings from employment, age, and the presence of dual income households.

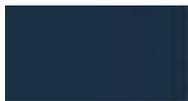


Table 4. Median Household Income

Market Area	2010	2014 (est.)	2019 (proj.)	% Change	
				2010-14	2014-19
Town of Massena	\$31,391	\$39,602	\$44,414	26.2%	12.2%
St. Lawrence County	\$32,256	\$43,025	\$49,772	33.4%	15.7%
Franklin County	\$31,517	\$43,544	\$50,584	38.2%	16.2%
St. Regis Mohawk Reservation	\$32,664	\$38,519	\$44,977	17.9%	16.8%
New York State	\$43,393	\$56,676	\$65,805	30.6%	16.1%

Source: ESRI (2014 and 2019), U.S. Census Bureau, and E.M. Pemrick and Company.

2.5. Housing

The age, variety and condition of the housing stock in a community provide the basis for an attractive living environment. Selected housing characteristics are presented in Table 5.

The housing supply in the Town of Massena is characterized by a large number of older units, limited reinvestment, and low property values. Owner-occupied units represent approximately 56% of the housing stock and have a median value estimated at \$77,500. Census data indicate that Massena has experienced a slight decline in the proportion of housing units that are owner-occupied, from nearly 59% in 2000. More than 70% of the housing units in the Town of Massena (versus about half of the units in St. Lawrence County overall) were constructed before 1960.

Table 5. Selected Housing Characteristics

		Town of Massena	St. Lawrence County	Franklin County
Total Housing Units				
2000 Census		5,880	49,721	51,134
2010 Census		5,894	52,133	51,599
2014 Estimates		5,990	53,471	52,488
Tenure				
2000 Census	Owner-Occupied Units	58.9%	57.5%	52.8%
	Renter-Occupied Units	34.8%	23.9%	22.1%
	Vacant Units	6.3%	18.5%	25.1%
2010 Census	Owner-Occupied Units	57.7%	56.5%	53.8%
	Renter-Occupied Units	35.3%	23.3%	21.5%
	Vacant Units	7.0%	20.2%	24.7%
2014 Estimates	Owner-Occupied Units	56.2%	55.3%	52.8%
	Renter-Occupied Units	36.0%	24.1%	22.5%
	Vacant Units	9.2%	20.6%	24.6%
Median Housing Value				
2000 Census		\$69,700	\$60,200	\$62,600
2009-2013 ACS 5-Year Estimates		\$77,500	\$84,400	\$97,100
Median Gross Rent				

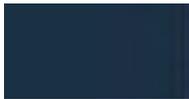


MASSENA BOA

Brownfield Opportunity Area Revitalization Plan

	Town of Massena	St. Lawrence County	Franklin County
2000 Census	\$418	\$428	\$409
2009-2013 ACS 5-Year Estimates	\$639	\$673	\$664

Source: ESRI (2014), U.S. Census Bureau, and E.M. Pemrick and Company. Note: The large share of vacant units reflects the prevalence of seasonal homes in St. Lawrence and Franklin Counties; very few of these seasonal units are in Massena.



3. Economic Analysis

This section reviews the employment trends, industry segments, and major employers that influence overall market conditions in Massena and St. Lawrence County. Data on other northern New York counties is provided for comparison.

3.1. Unemployment

As shown below, unemployment rates in St. Lawrence County – and in much of northern New York – have been consistently higher than statewide figures. The most recent annual averages from the NYS Department of Labor (2014) show unemployment in St. Lawrence County at 7.7%, well above the state level of 6.3%.

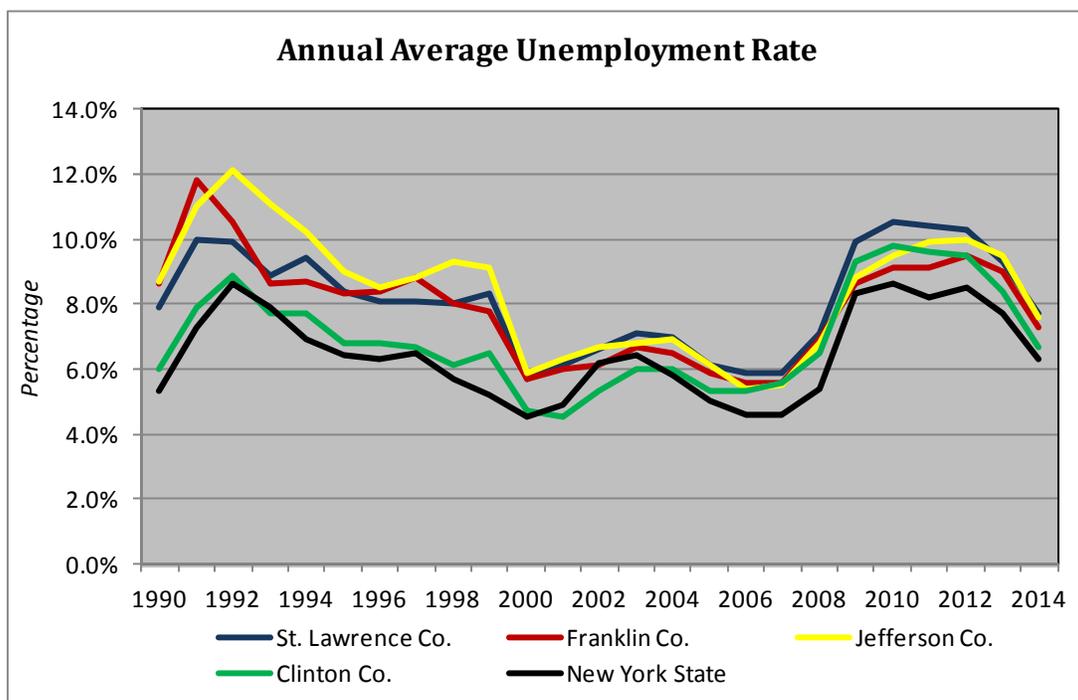
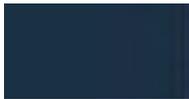


Figure 2. Annual Average Unemployment

Source: NYS Department of Labor, Local Area Employment Statistics.

3.2. Resident Labor Force

The labor force includes the total number of residents age 16 and older who are currently employed or who are unemployed but actively looking for work. An abundant and skilled labor force is essential for economic vitality. An analysis of recent and historical trends shows that labor force levels in St. Lawrence and Franklin Counties have been stagnant or declining for more than two decades.



In 2014, the labor force in St. Lawrence County stood at 47,200, down from a high of 52,000 in 1999. Similarly, the Franklin County labor force count was 20,600 in 2014, compared to 23,000 at its peak in 2008. The size of the labor force has been negatively affected by a combination of factors: the loss of population; demographic shifts, with an increase in older workers who tend to have lower rates of labor force participation; and limited economic growth.

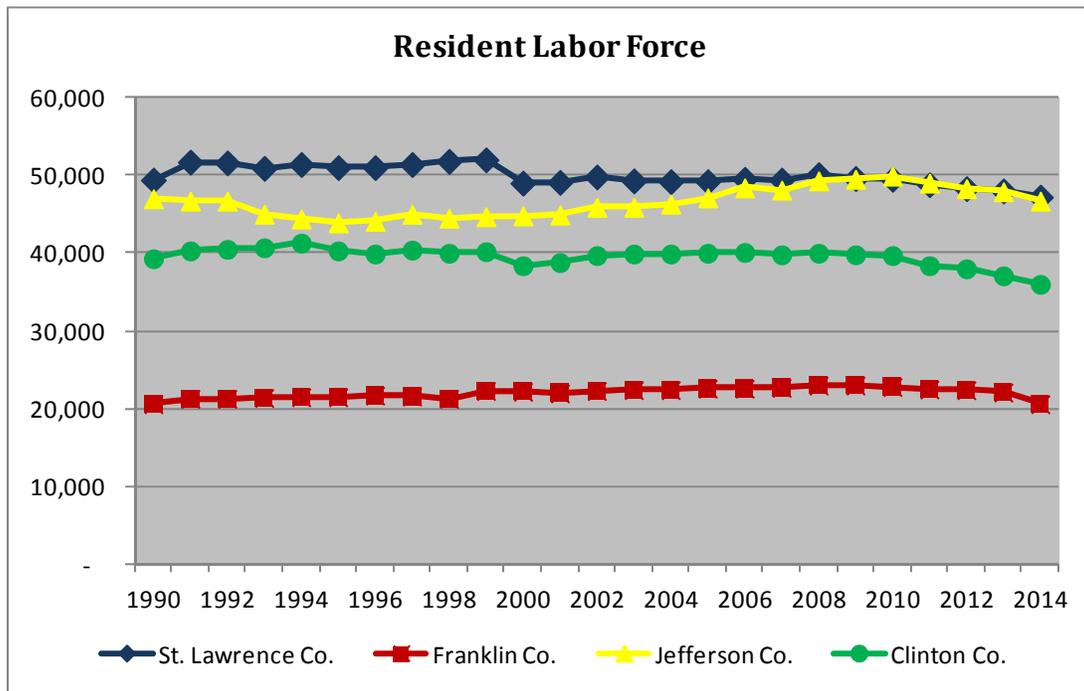


Figure 3. Resident Labor Force
Source: NYS Department of Labor, Local Area Employment Statistics.

3.3. Employment by Industry

Figure 3 shows the leading industries in St. Lawrence, Franklin, Jefferson, and Clinton Counties as measured by employment. Private-sector employment totals 24,932 jobs, accounting for 72% of the jobs in St. Lawrence County. Since 2010, the number of private-sector jobs in the County has hovered between 24,000 and 25,000.

Excluding the local, state, and federal governments, the largest industry sector in St. Lawrence County is health care and social assistance. Retail trade is the next largest sector, followed by leisure and hospitality (made up of food services, accommodations, and arts, recreation, and entertainment) and manufacturing. As in many parts of upstate New York, however, the manufacturing sector in St. Lawrence County has declined significantly over the years: in 2000, it provided more than 5,000 jobs, compared to 2,651 today.

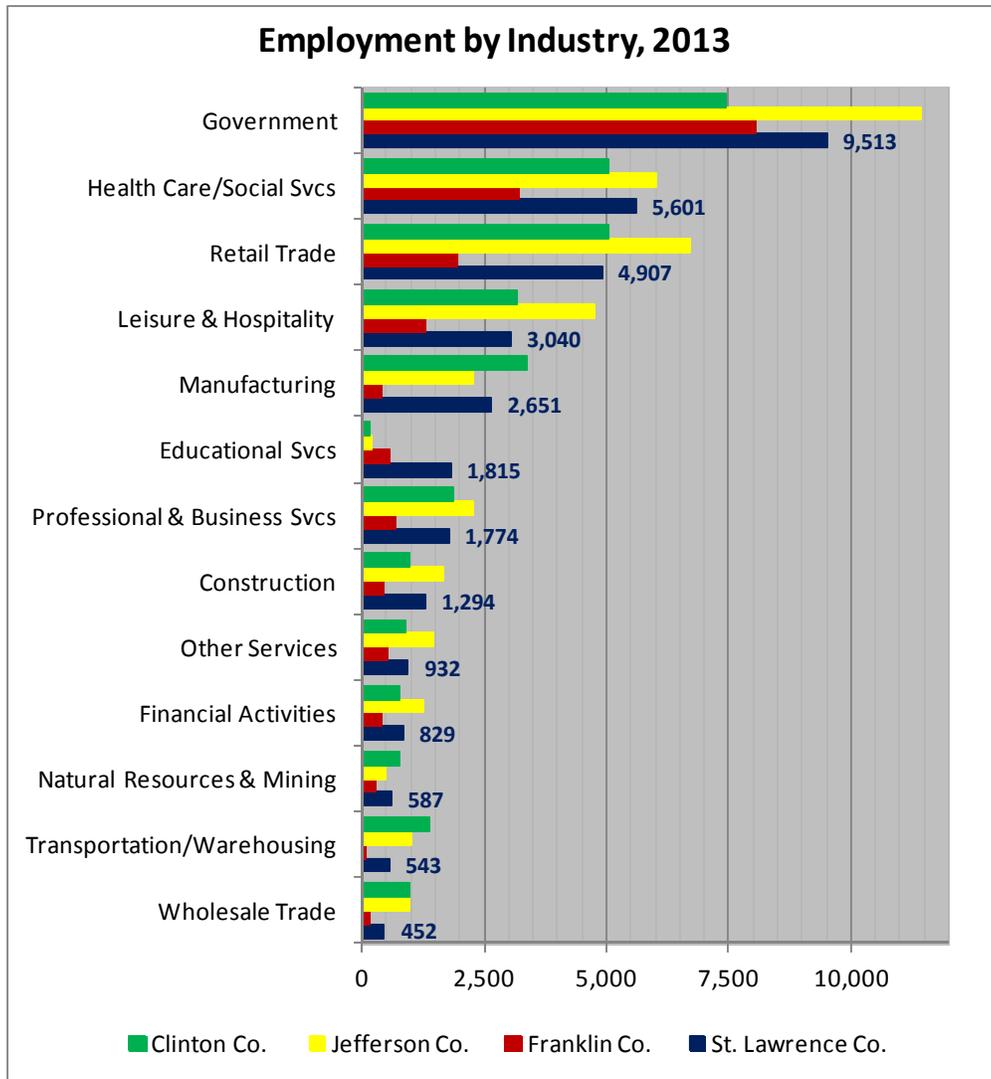
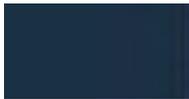


Figure 4. Employment by Industry

Source: U.S. Department of Labor, Quarterly Census of Employment & Wages.



3.4. Major Employers

Major employers in St. Lawrence County and Hogansburg (on the St. Regis Mohawk Reservation) are shown in Table 6 and include four of the County’s five colleges and universities, hospitals and other health care providers, the casino, and several manufacturers. Alcoa and Massena Memorial Hospital are the largest employers in the Town of Massena.

Table 6. Major Employers in St. Lawrence County and Hogansburg

Company	Est. Local Employment Range	Sector	Location
St. Lawrence County	1,000-2,499	Government	Canton
St. Lawrence University	500-999	Education	Canton
SUNY Potsdam	500-999	Education	Potsdam
Clarkson University	500-999	Education	Potsdam
St Lawrence-Lewis BOCES	500-999	Education	Canton
St. Lawrence NYSARC	500-999	Health Care	Canton
United Helpers Organization	500-999	Health Care	Canton
ALCOA Massena Operations	500-999	Manufacturing	Massena
Akwesasne Mohawk Casino LLC	500-999	Gambling	Hogansburg
Claxton-Hepburn Medical Center	500-999	Health Care	Ogdensburg
SUNY Canton	250-499	Education	Canton
Corning Inc.	250-499	Manufacturing	Canton
Canton-Potsdam Hospital	250-499	Health Care	Potsdam
Massena Memorial Hospital	250-499	Health Care	Massena
ACCO Brands	100-249	Manufacturing	Ogdensburg
Ansen Corporation	100-249	Manufacturing	Ogdensburg
Curran Renewable Energy LLC / Seaway Timber Harvesting	100-249	Manufacturing	Massena
Clearwater Paper Corp	100-249	Manufacturing	Gouverneur
St. Regis Nursing Home	100-249	Health Care	Massena
Tarbell Management Group	100-249	Retail Trade	Hogansburg
Frazer Computing, Inc.	50-99	Information	Canton
DeFelsko Corporation	50-99	Manufacturing	Ogdensburg
St Lawrence Gas Company	50-99	Utilities	Massena
Potsdam Specialty Paper	50-99	Manufacturing	Potsdam

Source: E.M. Pemrick and Company research. Note: Does not include local school districts.



3.5. Commutation Patterns

Table 7 below shows the flow of workers into and out of the Town of Massena. Massena has a net worker inflow of 242 – in other words, more individuals commute *into* the Town than leave it for work. Perhaps not surprisingly given employment trends, there are fewer people commuting to Massena, and fewer individuals who live and work in Massena, than there were in 2002.

Table 7. Inflow/Outflow Job Counts

Category	Count	Share
Employed in the Town of Massena	5,477	100.0%
Employed in the Town of Massena, but Living Outside	3,529	64.4%
Employed and Living in the Town of Massena	1,948	35.6%
Living in the Town of Massena	5,185	100.0%
Living in the Town of Massena, but Employed Outside	3,287	62.4%
Living and Employed in the Town of Massena	1,948	37.6%

Source: U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics. Data is as of 2011, the most recent available. Due to differences in methodology, the job counts shown are not comparable to those from other sources.

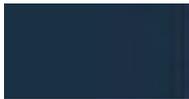
Nearly three-quarters of those working in Massena travel less than 25 miles from home to work. Relatively few workers commute from outside St. Lawrence County.

3.6. Regional Target Industries

The industries and/or industry clusters identified as target industries by local and regional economic development organizations are shown in Table 8. As the information suggests, there is clear overlap in some cases: e.g., wood products and defense. Canadian companies are an important target for St. Lawrence as well as for Clinton and Jefferson Counties. Both St. Lawrence and Clinton Counties have had some success attracting Canadian firms that require a U.S. presence. Clinton County has maintained a strong and productive relationship with Montreal for more than 25 years; in fact, Plattsburgh is often perceived as a “suburb of Montreal.” Regionally, there has been increased interest in agriculture and value-added processing, but this has been less of a focus in St. Lawrence County than in Jefferson County, although both counties are among the leading milk producers in New York State.

Table 8. Regional Industry Targets

St. Lawrence County IDA / RVRA	<ul style="list-style-type: none"> ▪ Biotechnology ▪ Defense and Security ▪ Packaging ▪ Paper Manufacturing ▪ Wood Products ▪ Canadian businesses that can benefit from Clarkson’s research strengths and the intellectual resources of St. Lawrence County colleges and universities ▪ Companies in high-cost power areas of New England and Canada
---------------------------------------	---



Ogdensburg Bridge & Port Authority [1]	<ul style="list-style-type: none"> ▪ Agri-Business Cluster: Beef, pork, and poultry; dairy, honey, and eggs, forest products; farmland acquisition and leasing; garden and farm supply; organic foods ▪ Bio-Mass Renewable Energy Cluster: Wood chips from logging, combustible solid waste, septic system methane, co-generation energy R&D ▪ Cross-Border Consumer Services Cluster: Consumer products retail, “big box” retail, equipment rental, temporary storage, destination retail/lodging ▪ Health & Wellness Cluster: Hospital services, senior nursing and life care, mental health and substance abuse treatment, special medical clinics and centers ▪ International Business and Logistics Cluster: Corporate headquarters, electronics and telecommunications equipment maintenance and repair, commercial transportation equipment leasing, commercial real estate, commercial and office equipment leasing ▪ Preservation and Reuse Cluster: Real estate development, real estate brokerage and appraisal services, building material supply, property management, environmental remediation, historic sites preservation ▪ Transportation Services Cluster: Bus, van, and jitney service; auto repair services; RV and sports equipment repair; passenger car, truck, trailer and RV leasing; marine services
Drum Country Business Regional Marketing Initiative [2]	<ul style="list-style-type: none"> ▪ Defense Contracting ▪ Finance, Insurance, and Real Estate ▪ Food Processing ▪ Other Manufacturing ▪ Renewables
North Country Regional Economic Development Council [3]	<ul style="list-style-type: none"> ▪ Advanced Materials ▪ Aerospace and Transportation Equipment ▪ Agriculture ▪ Arts and Culture ▪ Biotechnology ▪ Defense/Fort Drum ▪ Distribution ▪ Higher Education ▪ Renewable Energy ▪ Tourism ▪ Wood and Paper
Jefferson County	<ul style="list-style-type: none"> ▪ Agriculture ▪ Call Centers and Back Office Support Industries ▪ Health Care and Social Assistance ▪ Information Technology ▪ Manufacturing ▪ Tourism, Accommodation, Food Services, and Retail Trade ▪ Canadian companies
Clinton County	<ul style="list-style-type: none"> ▪ Transportation, Distribution, and Logistics ▪ Aeronautics/Aircraft ▪ Advanced Manufacturing ▪ Canadian companies

[1] From DCG Corplan, *Economic Development Marketing and Attraction Strategic Plan*, June 2012.

[2] Drum Country Business is a regional partnership that markets Jefferson, Lewis, and St. Lawrence Counties, building on their shared connection to Fort Drum and related economic opportunities.

[3] The NCREDC covers Jefferson, Lewis, St. Lawrence, Franklin, Clinton, Essex, and Hamilton Counties.



The 2011 Reuse Assessment Report identified several industries as potential future users of the former GM Massena site. Three regional target industries were included on this list: *defense* (e.g., Canadian companies considering locating in the U.S.), *agriculture processing* (e.g., food and beverage packaging or distribution), and *forest products*.



4. Labor and Educational Resources

The quality, availability, and cost of labor and access to education and training are among the most critical resources for economic development. Educational institutions also play an important role in terms of research and development (R&D) and entrepreneurship. These activities can influence the growth of specific industries and help to generate economic investment and job creation in the region.

4.1. Laborshed Definition

For the purposes of analyzing the potential labor force for the Massena BOA, we have defined the laborshed as areas located within a 30- or 45-minute drivetime. The 30-minute drivetime zone includes the Town of Massena and the St. Regis Mohawk Reservation, along with the Towns of Brasher, Louisville, Bombay, and Fort Covington, among others; it has an estimated population of approximately 23,500. The 45-minute drivetime zone extends beyond this area, encompassing additional communities in northern St. Lawrence and northwestern Franklin counties. This area has about 59,000 residents.

It should be noted that the drivetime zones defined in the tables that follow include U.S. locations only; it is anticipated that few, if any, Canadian residents will pursue employment opportunities in Massena unless they have dual citizenship. This is due to barriers such as U.S. work visa restrictions and border crossing procedures and costs.

Table 9. Population 18 Years and Over

Market Area	2010	2014 (est.)	2019 (proj.)	% Change	
				2010-14	2014-19
Town of Massena	9,946	10,038	10,045	0.9%	0.7%
St. Lawrence County	88,100	90,792	91,428	0.3%	0.7%
Franklin County	40,866	42,253	42,762	3.4%	1.2%
St. Regis Mohawk Reservation	2,195	2,463	2,629	12.2%	6.7%
30-Minute Drivetime Zone	22,733	23,492	23,854	3.3%	1.5%
45-Minute Drivetime Zone	56,812	58,646	59,259	3.2%	1.0%

Source: ESRI (2014 and 2019), U.S. Census Bureau, and E.M. Pemrick and Company. Note: The figures for the drivetime zones are for U.S. locations only.

4.2. Age Cohorts

Although employed individuals age 16 years and over are counted as part of the labor force, the prime working age population is considered to be the 25-54 age cohort. This is when the likelihood of labor force participation is highest.

As shown in Table 10, an estimated 37.7% of Massena residents were between the ages of 25 and 54 in 2014, while 14.1% were ages 55 to 64. Compared to the state, Massena has a higher proportion of



residents age 65 and over. However, St. Lawrence County has a higher proportion of individuals between ages 18 and 24 due to the presence of five colleges and universities.

Table 10. Median Age and Age Cohort Comparison

Market Area	Median Age	<18	18-24	25-54	55-64	65+
Town of Massena	41.9	22.2%	7.8%	37.7%	14.1%	18.2%
St. Lawrence County	37.8	20.2%	15.1%	36.2%	13.3%	15.2%
Franklin County	39.4	19.5%	10.7%	41.8%	13.5%	14.5%
St. Regis Mohawk Reservation	30.9	29.6%	12.0%	36.9%	11.3%	10.2%
New York State	38.5	21.4%	10.2%	40.9%	12.8%	14.7%
30-Minute Drivetime Zone	40.5	23.6%	8.1%	37.9%	14.1%	16.3%
45-Minute Drivetime Zone	38.3	20.5%	12.2%	39.3%	13.1%	14.9%

Source: ESRI (2014), U.S. Census Bureau, and E.M. Pemrick and Company.

4.3. Educational Attainment

As shown in Table 11, 89.0% of Massena residents have at least a high school diploma or GED, 16.1% have a bachelor’s degree or higher, and 7.6% have a graduate or professional degree. Both the Town of Massena and St. Lawrence County are behind the state as a whole in terms of bachelor’s and graduate degree attainment. Educational attainment is similar in the 30- and 45-minute drivetime zones.

Table 11. Educational Attainment, Population Aged 25 and Over

Market Area	% High School Diploma/GED or Higher	% Associate’s Degree or Higher	% Bachelor's Degree or Higher	% Graduate or Professional Degree
Town of Massena	89.0%	28.6%	16.1%	7.6%
St. Lawrence County	87.1%	32.0%	20.3%	10.2%
Franklin County	84.2%	28.5%	17.6%	8.4%
St. Regis Mohawk Reservation	77.3%	36.1%	24.5%	10.5%
New York State	84.7%	41.2%	32.9%	14.2%
30-Minute Drivetime Zone	86.8%	27.4%	15.6%	7.5%
45-Minute Drivetime Zone	86.1%	27.9%	17.6%	8.7%

Source: ESRI (2014), U.S. Census Bureau, and E.M. Pemrick and Company. Note: The figures for the drivetime zones are for U.S. locations only.

From a competitive perspective, Massena has a strong base of high school educated talent but is less likely to attract the types of companies that require a four-year degree.



4.4. Occupation

Table 12 presents information on employed residents by occupation. Generally speaking, about 52% of Massena residents are in traditionally “white-collar” occupations and 22% are in traditionally “blue-collar” occupations; the remaining 26% are employed in service occupations.

Table 12. Employed Population Age 16 and Over, by Occupation

Occupational Category	Town of Massena	St. Lawrence Co.	Franklin Co.	St. Regis Mohawk Reservation	30-Minute Drivetime	45-Minute Drivetime
2014 Employed Population 16+	5,318	44,385	20,718	1,374	12,272	28,099
White Collar	52.4%	53.6%	51.8%	54.4%	48.8%	50.9%
Management/Business	6.7%	9.4%	9.6%	22.4%	9.0%	8.6%
Professional	21.5%	22.2%	22.1%	24.8%	18.9%	21.3%
Sales	13.4%	9.8%	8.6%	5.7%	11.0%	9.9%
Administrative Support	10.8%	12.2%	11.4%	1.5%	9.8%	11.1%
Services	25.9%	24.8%	26.9%	20.5%	25.9%	26.2%
Blue Collar	21.7%	21.6%	21.3%	25.1%	25.4%	22.9%
Farming/Forestry/Fishing	0.6%	1.3%	0.9%	0.0%	1.1%	1.3%
Construction/Extraction	5.2%	5.5%	7.1%	15.9%	6.4%	5.6%
Installation/Maintenance/Repair	3.3%	3.8%	2.6%	0.0%	4.1%	3.6%
Production	6.1%	4.9%	3.8%	0.0%	5.7%	4.9%
Transportation/Material Moving	6.4%	6.1%	7.0%	9.2%	8.1%	7.6%

Source: ESRI (2014), U.S. Census Bureau, and E.M. Pemrick and Company. Note: Drivetime zones include U.S. locations only.

Occupational employment statistics indicate that compared to New York State as a whole, the North Country region² has a higher concentration of its workforce in farming, fishing, and forestry occupations; installation, maintenance, and repair occupations; protective service occupations; and production occupations. Some of these occupations are associated with key sectors of the economy (e.g., state prisons, forestry), while others apply to a broad spectrum of industries.

4.5. Labor Costs

As shown in Table 13, the median annual wages for all occupations in the North Country region are \$32,680, compared to \$40,870 in New York State overall. In most occupations, the median annual wages are lower in the region than the state as a whole. The wages paid to individuals in management and computer occupations in the North Country, for example, are *significantly* lower. The few occupational categories in which regional wages are higher are protective services (the state prison system is a major employer) and farming, fishing, and forestry.

² Defined as Jefferson, Lewis, St. Lawrence, Franklin, Clinton, Essex, and Hamilton Counties.



Table 13. Median Annual Wages by Occupational Classification

Occupational Group	North Country	NYS	Ratio: Region to State
Management	\$81,660	\$118,300	0.69
Business and Financial	\$59,210	\$73,940	0.80
Computer and Mathematical	\$52,030	\$82,000	0.63
Architecture and Engineering	\$65,360	\$74,070	0.88
Life, Physical, and Social Science	\$54,410	\$59,850	0.91
Community and Social Services	\$42,820	\$45,630	0.94
Legal	\$93,560	\$100,730	0.93
Education, Training, and Library	\$45,220	\$54,510	0.83
Arts, Design, Entertainment, Sports, and Media	\$40,890	\$61,060	0.67
Healthcare Practitioners and Technical	\$58,070	\$70,850	0.82
Healthcare Support	\$26,400	\$27,200	0.97
Protective Service	\$62,920	\$45,810	1.37
Food Preparation and Serving Related	\$18,990	\$19,760	0.96
Building and Grounds Cleaning and Maintenance	\$24,480	\$29,510	0.83
Personal Care and Service	\$22,890	\$23,570	0.97
Sales and Related	\$22,350	\$28,860	0.77
Office and Administrative Support	\$30,020	\$35,890	0.84
Farming, Fishing, and Forestry	\$32,080	\$24,610	1.30
Construction and Extraction	\$41,080	\$53,790	0.76
Installation, Maintenance, and Repair	\$40,020	\$46,120	0.87
Production	\$34,030	\$32,520	1.05
Transportation and Material Moving	\$28,310	\$33,720	0.84
Total, All Occupations	\$32,680	\$40,870	0.80

Source: NYS Department of Labor, Occupational Employment Statistics Survey, and E.M. Pemrick and Company.

4.6. Education and Training

Another aspect of the labor supply is college enrollment, and the number of annual graduates from specific programs and fields of study. Five colleges and universities are located in St. Lawrence County, and have a total enrollment of roughly 14,000 students.

Table 14. Colleges and Universities in St. Lawrence County

College/University	Total Enrollment	Associate's Degrees	Bachelor's Degrees	Master's Degrees
SUNY College at Potsdam	4,042	-	742	197
Clarkson University	3,726	-	659	142
SUNY College of Technology at Canton	3,512	452	360	-
St. Lawrence University	2,506	-	542	24



College/University	Total	Associate's	Bachelor's	Master's
The Ranger School*	NA	NA	NA	NA

Source: U.S. Department of Education, National Center for Education Statistics. Enrollment is as of fall 2013; degrees shown are completions 2013-14. *The Ranger School is affiliated with SUNY College of Environmental Science and Forestry (ESF), and its enrollment is included in the total for SUNY ESF.

The cooperative relationship among these institutions is impressive. Through the Associated Colleges of the St. Lawrence Valley, the colleges and universities have expanded educational opportunities for students through cross-registration, share collective resources, and work together on conferences, events, and other initiatives. There is very little rivalry between the colleges and universities in St. Lawrence County, because they are not competing for the same students; each is pursuing different opportunities and industries.

Other higher education institutions in northern New York include Jefferson Community College in Jefferson County; Paul Smith's College of Arts and Sciences in Franklin County; Clinton Community College and SUNY Plattsburgh in Clinton County; and North Country Community College, which has three campuses in Franklin and Essex Counties, located in Saranac Lake, Malone, and Ticonderoga. If all of these North Country institutions are counted, nearly 29,000 students attend colleges in and around St. Lawrence County.

As indicated in Tables 15 and 16, two-year colleges and SUNY Canton awarded approximately 1,707 associate's degrees in the 2013-14 school year, while four-year institutions conferred more than 2,300 bachelor's degrees. Only a few schools offer graduate-level programs. These are mainly in education (SUNY Potsdam), business, and engineering.

Table 15. Associate's Degrees Awarded in Selected Fields

Program	SUNY Canton	Jefferson CC	Clinton CC	North Country CC	TOTAL
Business Administration & Management	48	138	43	38	267
Computer and Information Sciences	13	3	16	7	39
Engineering	10	6	15	0	31
Engineering Technology	34	9	25	0	68
Health Professions*	168	65	33	86	352
All Associate's Degrees Awarded	452	658	372	225	1,707

Source: U.S. Department of Education, National Center for Education Statistics. Completions 2013-14.

* Includes registered nursing, dental hygienist, and veterinary technician programs.

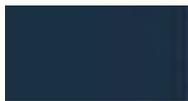


Table 16. Bachelor’s Degrees Awarded in Selected Fields

Program	SUNY Canton	Clarkson University	SUNY Potsdam	St. Lawrence University	TOTAL
Biology/Biomedical Sciences	-	53	46	86	185
Business Administration & Management	96	71	69	-	236
Computer and Information Sciences	26	12	12	11	61
Engineering	-	365	-	-	365
Engineering Technology	18	63	-	-	81
Health Professions*	82	-	29	-	111
Physical Sciences	-	13	26	37	76
All Bachelor’s Degrees Awarded	360	659	742	542	2,303

Source: U.S. Department of Education, National Center for Education Statistics. Completions 2013-14.

* Includes registered nursing, dental hygienist, physical therapy, and veterinary technician programs.

In addition to the selected fields of study listed in Table 16, several educational institutions offer degrees in tourism-related fields. North Country Community College has an associate’s degree in hospitality administration, while Jefferson Community College offers an associate’s in tourism promotion. Paul Smith’s College has both associate’s and bachelor’s degree programs in baking, pastry arts, and culinary arts as well as a bachelor’s degree program in hospitality administration.

Clarkson University’s engineering program is clearly an asset. As shown in Table 17, the university awarded more than 400 engineering degrees in the 2013-14 academic year. The undergraduate engineering program is consistently ranked as one of the top in the nation. The university has a particularly strong focus on mechanical engineering and material science that overlaps with research and development activities (see discussion below).

Table 17. Engineering Degrees Awarded by Clarkson University

Program	Bachelor’s Degrees	Master’s Degrees	Doctorates
Aerospace/Aeronautical Engineering	33	0	0
Chemical Engineering	55	4	5
Civil Engineering	92	9	2
Computer Engineering	20	0	0
Electrical/Electronics	42	14	2
Environmental Engineering	14	10	3
Materials Engineering	0	0	1
Mechanical Engineering	109	11	4
Total Engineering Degrees Awarded	365	48	20

Source: U.S. Department of Education, National Center for Education Statistics. Completions 2013-14.



Access to St. Lawrence County’s colleges and universities has been previously identified as an asset for the Massena BOA, and stakeholder interviews confirm this perception. These institutions draw thousands of students to the area every year, generate economic activity, and add value to the local labor pool. They also serve as resources for business and industry in the region.

It should be noted, however, that Ontario and Quebec also have strong educational institutions, reducing St. Lawrence County’s competitive advantage in attracting Canadian companies. Carleton University and the University of Ottawa, for example, have 23,600 and 35,800 full-time students, respectively. Both have robust business, engineering, and computer science programs; between the two of them, these Ottawa universities awarded twice as many undergraduate engineering degrees and nearly eight times as many graduate degrees in engineering as Clarkson in 2013. Montreal’s McGill University and the Université de Montréal combined have nearly 66,000 full-time students.

Canada also has what it calls “colleges of applied arts and technology,” similar to community colleges, that focus on training individuals for jobs. St. Lawrence College has campuses in Cornwall, Brockville, and Kingston, Ontario, with 7,000 students enrolled. In addition to degree programs in business, accounting, nursing, and other fields of study, the college has certificate programs in logistics and supply chain management, welding and fabrication, and construction/carpentry.

Secondary Schools

Total K-12 student enrollment in the Massena Central School District is about 2,800. The high school graduated 192 students in the 2013-14 school year, according to data from the State Education Department. Adjoining public school districts – Brasher Falls, Norwood-Norfolk, Madrid-Waddington, and Salmon River – are considerably smaller, averaging approximately 1,000 students. The Salmon River Central School District serves a predominantly Native American population.

Table 18. Graduates and Completers by Post-High School Plans

District	Massena CSD	Brasher Falls CSD	Norwood-Norfolk CSD	Madrid-Waddington CSD	Salmon River CSD
Total graduates	192	87	59	57	80
4-year college	46%	30%	37%	33%	34%
2-year college	28%	28%	31%	47%	43%
Other education	1%	0%	2%	2%	1%
Employment	15%	30%	25%	16%	13%
Military	11%	8%	3%	0%	3%
Other/Unknown	0%	4%	2%	2%	8%

Source: NYS Education Department, <http://data.nysed.gov/index.php>.



Career & Technical Education

St. Lawrence-Lewis BOCES serves 18 school districts in St. Lawrence and Lewis Counties, with Career and Technical Education (CTE) Centers in Ogdensburg, Norwood, and Gouverneur. CTE programs include allied health, automotive technology, building trades, cosmetology, criminal justice, culinary arts, early childhood education, electronics, graphic communications, health careers, HVAC, metalworking technology, pharmacy technician, and software development and business design. The Center also has a “multi-occupation” program that exposes students to a variety of career clusters.

4.7. Research and Development Activity at Clarkson

According to statistics published by the National Science Foundation, annual R&D spending at Clarkson University has been in the \$12-\$18 million range over the last five years, ranking the university nationally at #309 in FY 2013. Total R&D spending at Clarkson and other engineering schools in New York and New England is provided in Table 19 for comparison.

Table 19. R&D Spending at Selected Engineering Schools

University	Location	Total Enrollment	Engineering Graduates Bachelor's/Master's/PhDs	R&D Spending (FY 2013)
Clarkson University	Potsdam, NY	3,725	365/48*/20	\$12.1 million
Rensselaer Polytechnic Institute	Troy, NY	6,715	595/103/77	\$92.5 million
Rochester Institute of Technology	Rochester, NY	16,600	436/236/11	\$36.6 million
Lehigh University	Bethlehem, PA	7,100	372/197*/32	\$33.1 million
Worcester Polytechnic Institute	Worcester, MA	6,300	638 /388*/22	\$25.3 million

Source: U.S. Department of Education, National Center for Education Statistics, and National Science Foundation, National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.

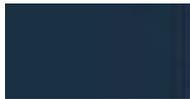
* A portion of the graduates were distance learning students.

R&D expenditures at Clarkson are divided primarily between science and engineering disciplines as follows:

- Sciences (32.5%): math and computer science, life science, chemistry and physics
- Engineering (67.5%): chemical, civil, electrical and mechanical engineering

The primary focus of R&D activities is in five key areas: 1) advanced materials, 2) biotechnology, 3) entrepreneurship, 4) the environment and energy, and 5) global supply chain management. Clarkson University has established several interdisciplinary centers of excellence that include:

- *The Center for Advanced Materials Processing (CAMP)*, whose mandate is to develop innovations in advanced materials processing and to transfer this technology to business and



industry. One of 15 Centers for Advanced Technology in the state, CAMP specializes in colloid and surface science and fine particle technology.

- *The Institute for a Sustainable Environment*, which facilitates environmental research and education and oversees interdisciplinary degree programs at both the undergraduate and graduate level. The Center for Air Resources Engineering and Science and the Great Rivers Center are among the Institute’s major research initiatives.
- *The Center for Rehabilitation Engineering, Science & Technology (CREST)*, which supports collaborative research and educational projects across the fields of biotechnology, physical therapy, science and assistive technology.
- *The Center for Identification Technology Research (CITeR)*, a National Science Foundation Industry/University Cooperative Research Center whose mission to advance identification technology is focused in the areas of biometric systems and credibility assessment.

4.8. Start-Up Activity at Clarkson

Another important resource at Clarkson University is its Shipley Center for Innovation. Established in 1999, the Shipley Center “serves as an engine for economic development in northern New York by engaging in the creation of new enterprises that capitalize on emerging technologies developed at Clarkson... [its mission is] to accelerate the commercialization of discovery-driven Clarkson innovations into the marketplace, to foster and accelerate the exchange of ideas between the various schools on campus and industry and to prepare and educate the faculty and students for the 21st century entrepreneurial workplace.”³

The Shipley Center operates a business accelerator located in Peyton Hall on Main Street in Potsdam. About half of the companies in the accelerator were created by students and faculty. Examples of businesses launched with the assistance of the Shipley Center are listed in Table 20.

Table 20. Examples of Start-Up Companies at Clarkson University

Name	Type	Description
802 Works	Service	3D printing services (product prototyping).
Allergy Finder	Product/Device	Detects allergens in food.
BlueSphere Industries	System	Use of aeroponic technology (growing in air or mist environment without traditional soil) to create an energy-efficient urban farm of the future.
Body Core Cooler	Product/Device	Low cost body cooling device targeted toward the urban poor.
Bowebb	Product	Universal sports helmet for youth.

³ Shipley Center for Innovation website, <http://www.clarkson.edu/shipley>.



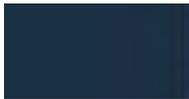
Name	Type	Description
Cosner Co-Piloting	Product/Process	Applications initially to road rallying activity.
Craft Creations	Product	Designs for scrapbooking market.
East Coast Ski	Product	All-purpose snow ski.
eBundle	Product/Information	Digital education materials for college students.
Estack	Software	Programming and coding company.
finishoes	Product	3 in 1 modular shoe design.
Fly Technologies	Product	Electric bicycles.
Frisbee Biotech	Electronic Products	Approach for innovative product design and marketing.
GPS-S Stickers	System	Tracks household items that can get lost through the use of RFID technology.
HealthCheck	Software/Device	Electronic checklist to help reduce surgical-related infections.
Innovative Delivery Systems	Software/System	Platform to reduce waiting times at concessions.
JWL Designs	Service	Design and prototyping company.
Kommunication	Service	Social media platform for commuters to increase use of public transit.
Kubitz	Service	Product design services.
LYsoft	Service	3D imaging applied to innovative retail web applications.
Magic Maid Possible	Service	Cleaning service for corporate travelers.
Modern Dowsing	System	Monitors water well level and available supply.
Monetary Solutions	System	Manage change from retail transactions.
Nanoscience Solutions	Product/Material	Economic absorbent silica materials for gas and water purification.
NexID Biometrics	System (Software/Device)	Improved use of fingerprints for security identification applications.
Ornameta	System	Renewable energy technologies in both solar and water.
palshef	Software	Social and event organization for college students.
pass dotcom	Software	Social media advertising platform.
Pharmacoustics Technologies	Product/Device	Device to acoustically measure (using sound waves) the composition of small items, initial application is drug tablets.
Pink's	Service	Laundry service for college students.
PRE	Software	Smartphone app for education and marketing of renewable energy.
Prometheus	Product	Fire safety equipment for residential and commercial applications.
QuickIt	System	Phone dialing system integrating contact base with digital phones.
Quickwhrist	Product/Device	Identification device for storing/accessing personal identification information in a secure and convenient manner.
RallyTronics	Software	Document and post real-time travel experiences.



Name	Type	Description
Timbre Inc.	System	Acoustically measure the integrity of large structures with imbedded sensors and monitoring software.
Verdant Airtech	System	Energy efficient air cleaning system for clean rooms and large manufacturing applications.
Westbrink Holdings	Service	Holding company developing student innovations and opportunities including retail products and services.

Source: Shipley Center for Innovation, <http://www.clarkson.edu/shipley/startups.html>.

Located in Clarkson’s School of Business, the Reh Center for Entrepreneurship was established in 2009. Its mission is to “provide easily accessible, current, and relevant tools and knowledge to support the growth of small-business entrepreneurs in today’s global economy.” The Center integrates support and training for regional business owners with hands-on learning opportunities for students. Students may participate in internships, launch or work at a student-run business, pursue seed funding, and/or compete in regional, state, and national business plan competitions.



5. Canada and Cross-Border Activity

Economic development organizations in St. Lawrence County have been marketing to Canadian companies for decades, with mixed success. At one time the County had as many as 20-30 active Canadian operations. Some of these local operations closed, however, either because of economic downturns or because the most successful companies were purchased by firms based elsewhere. Still, while Canada seems to be a shrinking target, it does generate more leads for the County than other markets. In examining the potential for attracting operations of Canadian firms, it is important to consider economic conditions in Canada, particularly in Ontario, as well as the level of cross-border travel and trade activity in northern New York.

5.1. Employment and Unemployment in Ontario

As shown below, unemployment rates in Ontario since 2003 have generally been in the 6-8% range, with the exception of the 2009-10 period. Unemployment was higher during the recession, and *markedly* higher, reaching more than 10%, among individuals who had last worked in goods-producing industries (agriculture and forestry, mining, utilities, construction, and manufacturing). It has since dropped to more moderate levels. However, hundreds of thousands of manufacturing jobs in Ontario have been lost (see Table 21).

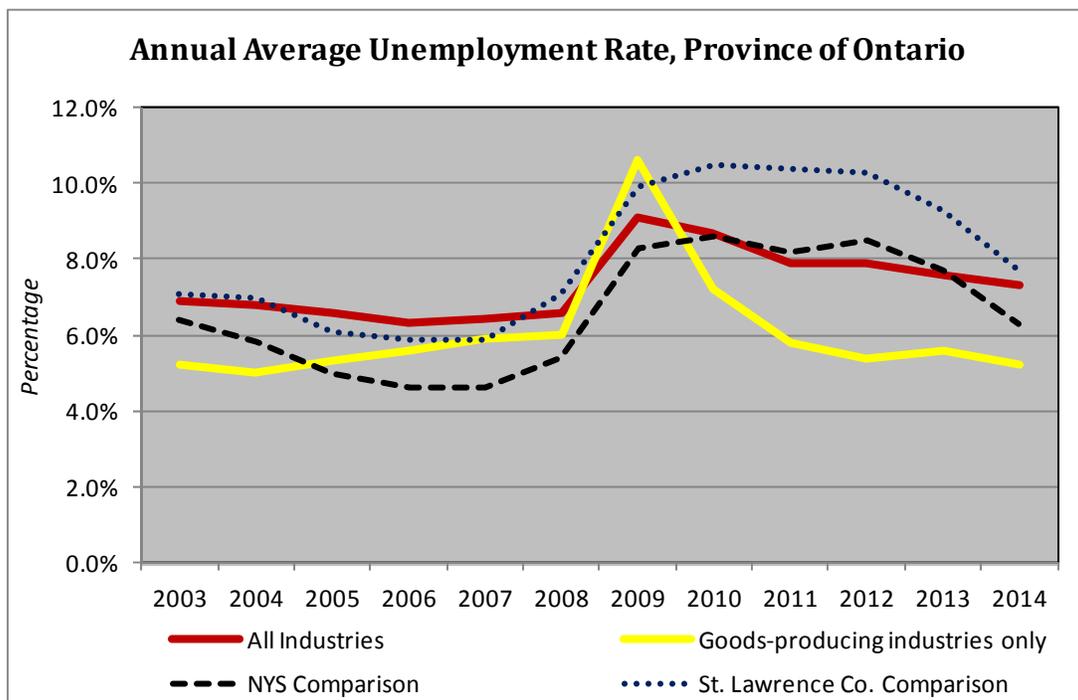


Figure 5. Annual Average Unemployment, Ontario

Source: Statistics Canada, CANSIM; NYS Department of Labor (comparisons)

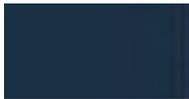


Table 21. Labor Force Estimates for Selected Industry Sectors, Ontario

Industry	2003		2008		2014	
	Number	Percent	Number	Percent	Number	Percent
Goods-Producing Sector (total)*	1,633,900	26.3%	1,502,000	22.7%	1,382,000	20.1%
Manufacturing	1,095,900	17.6%	883,200	13.4%	748,600	10.9%
Service-Producing Sector (total)*	4,579,100	73.7%	5,108,300	77.3%	5,495,900	79.9%
Wholesale Trade	224,700	3.6%	229,300	3.5%	248,900	3.6%
Retail Trade	714,900	11.5%	787,700	11.9%	798,100	11.6%
Transportation/Warehousing	290,300	4.7%	320,800	4.9%	329,000	4.8%
Professional/Technical Svcs	449,300	7.2%	488,800	7.4%	559,900	8.1%
Health Care/Social Svcs	612,600	9.9%	682,900	10.3%	798,200	11.6%
Total, All Industries	6,212,900	100.0%	6,610,300	100.0%	6,877,900	100.0%

Source: Statistics Canada, CANSIM, Table 282-0008. * Goods-Producing Sector combines NAICS codes 11 to 33; Service-Producing Sector combines codes 41 to 91.

In contrast to northern New York, the resident labor force in Ontario is growing, albeit at a slow rate (Figure 6). Nevertheless, some parts of the province are, like St. Lawrence County, facing an aging labor force with low rates of population growth.

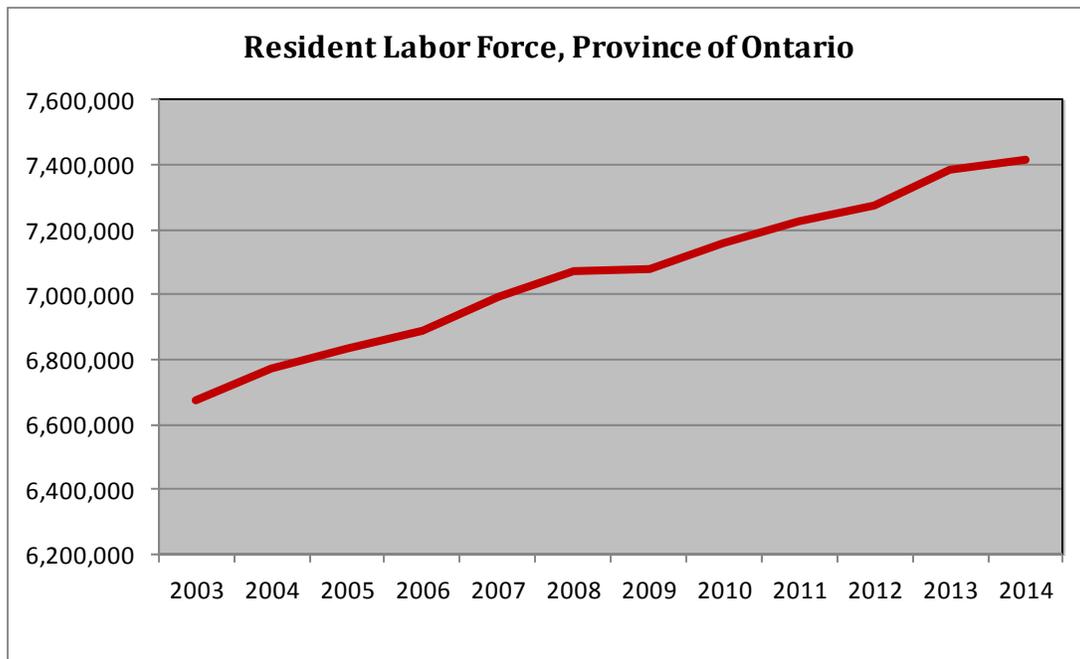


Figure 6. Resident Labor Force, Ontario

Source: Statistics Canada, CANSIM



5.2. Southeastern Ontario

Southeastern Ontario, the area of the province closest to the Massena BOA, is home to an estimated 1.3 million people.⁴ The City of Ottawa accounts for more than 70% of the region’s population (951,407). Stormont, Dundas, and Glengarry United Counties, in which the City of Cornwall is located, has an estimated 2014 population of 117,143; Leeds and Grenville United Counties, directly across the St. Lawrence River from Ogdensburg, has 103,699 residents.

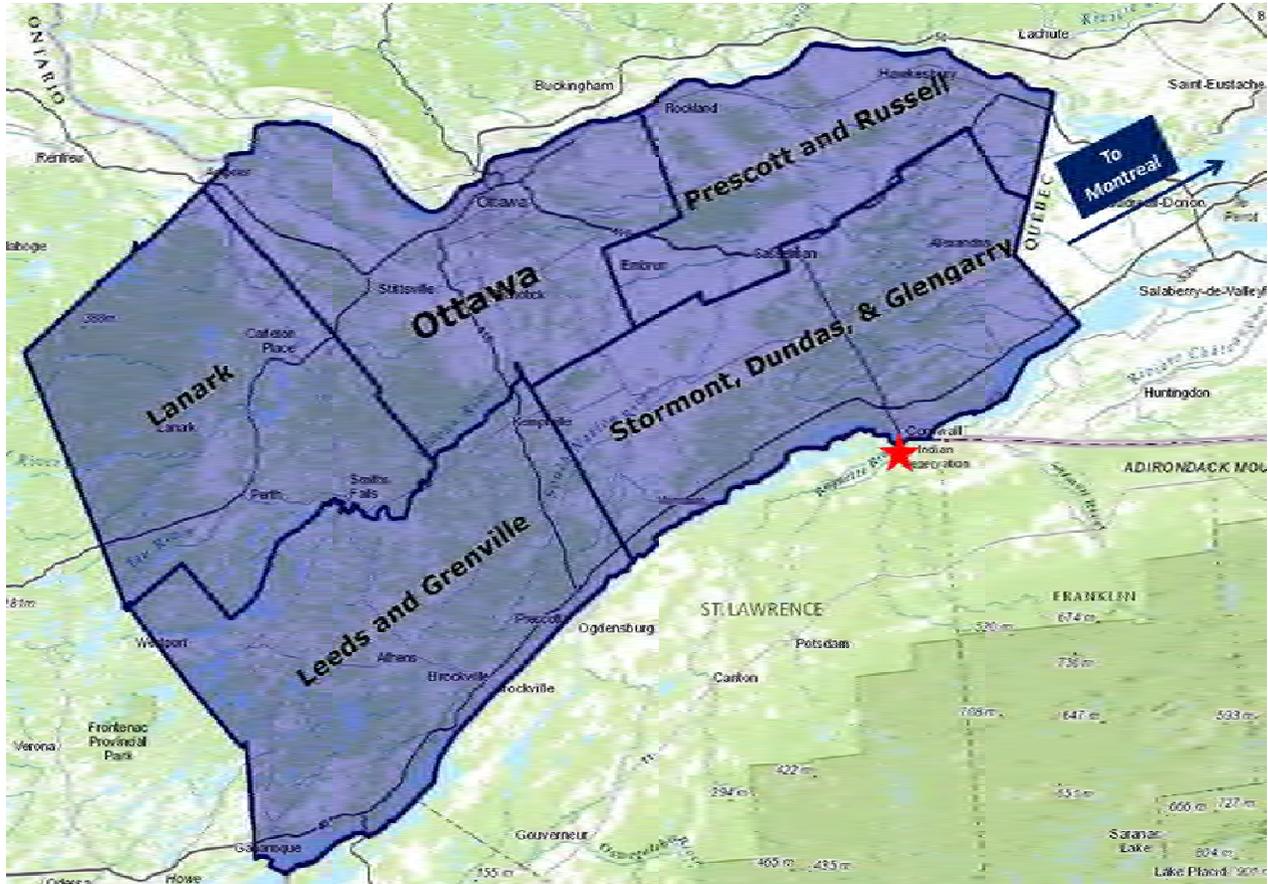
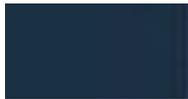


Figure 7. Map of Southeastern Ontario

Generally speaking, there is a stronger connection between Ottawa and Ogdensburg than Ottawa and Massena. Access to Ottawa is much more efficient through the Ogdensburg border crossing via Highway 416, a four-lane highway, than through Massena. From the Seaway International Bridge in Cornwall, travelers must take Highway 138, a two-lane road with posted 80 km/h (50 mph) speed limit, to reach Ottawa via Highway 417.

⁴ For the purposes of this chapter, Southeastern Ontario is comprised of five census divisions: Stormont, Dundas, and Glengarry (united counties); Leeds and Grenville (united counties); Ottawa (city); Lanark (county); and Prescott and Russell (united counties). This area is part of a region known as Ontario East, which also includes ten census divisions to the north and west.



A recent economic development strategy observes that while the region has strong assets, particularly in terms of natural resources and educational institutions, it is experiencing “low population growth over large areas, the steady out-migration of rural youth into urban markets often outside of the region, an aging workforce, and a shift away from manufacturing to a service based economy dominated by public sector employment.”⁵ Between 2006 and 2011, the population of Southeastern Ontario increased by 6.9%, with Ottawa the fastest-growing at 8.8%. Stormont, Dundas, and Glengarry (SD&G) added a mere 350 residents over the five-year period (0.7%), while Leeds and Grenville added fewer than one hundred (0.1%).

Southeastern Ontario is aging faster than the province as a whole. The economic development strategy speculates that the causes are youth out-migration, the increasing age of the baby-boom generation, and in-migration of retirees. The 2014 estimated median age is 45.7 years in SD&G and 46.9 in Leeds and Grenville, but only 38.8 years in Ottawa, which hosts two large universities.

Table 22. Employment by Industry, Southeastern Ontario

Industry	Stormont, Dundas, and Glengarry		Leeds and Grenville		Total, SE Ontario	
	Number	Percent	Number	Percent	Number	Percent
Agriculture and Forestry	2,210	4.3%	1,450	3.0%	8,165	1.3%
Construction	3,815	7.5%	3,605	7.6%	34,935	5.5%
Manufacturing	5,990	11.7%	5,255	11.0%	34,020	5.3%
Wholesale Trade	2,090	4.1%	1,965	4.1%	19,385	3.0%
Retail Trade	6,075	11.9%	6,445	13.5%	66,920	10.5%
Transportation/Warehousing	3,615	7.1%	2,260	4.7%	22,695	3.5%
Finance and Insurance	1,435	2.8%	1,070	2.2%	20,845	3.3%
Professional and Technical Svcs	1,960	3.8%	2,380	5.0%	54,875	8.6%
Administration/Waste Mgmt	2,815	5.5%	2,230	4.7%	24,990	3.9%
Educational Svcs	3,135	6.1%	2,990	6.3%	46,255	7.2%
Health Care/Social Svcs	6,295	12.3%	5,900	12.4%	69,985	10.9%
Arts, Entertainment, Recreation	785	1.5%	1,235	2.6%	11,355	1.8%
Accommodation & Food Svcs	2,610	5.1%	2,740	5.8%	36,320	5.7%
Other Services	2,360	4.6%	2,030	4.3%	29,050	4.5%
Public Administration	3,825	7.5%	4,345	9.1%	129,695	20.3%
Total, All Industries	51,025	100.0%	47,590	100.0%	639,750	100.0%

Source: Statistics Canada - 2011 National Household Survey. Catalogue Number 99-012-X2011052.
Some industry sectors are not listed but are incorporated in the totals.

⁵ Millier Dickinson Blais. *Eastern Ontario's Economic Development Strategy*, February 2014, page 9.



In 2011, the industries that accounted for the largest proportion of total employment in Southeastern Ontario included public administration (20.9%), health care and social assistance (10.9%), and retail trade (10.3%). However, the two census divisions closest to St. Lawrence County were much more dependent on manufacturing jobs, as the data in Table 20 suggests. Combined, SD&G and Leeds and Grenville accounted for 15% of the total employment in Southeastern Ontario, but about a third of the region's manufacturing employment.

As the center of Canadian government and most of Southeastern Ontario's population, the City of Ottawa has a big impact on the regional economy. A recent report on the region's 2015 economic outlook notes that "federal government spending and hiring, and to a lesser extent professional services, information and technology, and tourism are significant drivers of regional economic conditions... [the region] has faced lower growth conditions over the past two years as federal government restraint has limited broader employment growth."⁶ Ottawa is, however, experiencing modest growth in the broad IT sector.

Notably, Ottawa is not pursuing manufacturing as a potential growth segment, in part because of the impact of the last recession on computer and telecommunications equipment manufacturing in the city, which demonstrated the industry's volatility. Instead, economic development organizations are focusing their resources on telecom services, software, life sciences, digital media, clean tech, security and defense, and film, marketing the city's low cost of living relative to Silicon Valley and strong talent base (a loyal, educated workforce with a strong work ethic).

Outside Ottawa, agriculture and agribusiness play an important role in Southeastern Ontario's economy. Efforts have been made to develop value-added opportunities including agritourism and food processing across the region. Stormont, Dundas, and Glengarry in particular has a high concentration of agricultural activity. Farms, food and beverage manufacturers, and related wholesalers and distributors comprise nearly 20% of the businesses in SD&G – more than 1,100 establishments. Major employers in SD&G's food processing industry include Kraft (cheese), Parmalat Canada Ltd. (cheese), and Olymel (meat products).

The City of Cornwall is Massena's nearest Canadian neighbor to the north, accessible via Seaway International Bridge. It is a mid-sized city with about 46,000 residents. Twenty years ago, Cornwall was primarily an industrial community, with a once-prosperous pulp and paper industry that finally collapsed when one of the city's largest employers, Domtar Paper, closed its plant in 2006. Historically, Cornwall had also been home to a thriving cotton industry, but beginning in the 1970s, many large manufacturers relocated their operations to areas of the southern U.S. and overseas with more favorable business climates and lower wages.

⁶ Ontario Chamber of Commerce and the Credit Unions of Ontario, "2015 Regional Economic Outlook: Ottawa Economic Region." Accessed at <http://www.occ.ca/advocacy/ontario-economic-outlook-2015/ottawa>.



After struggling for many years with deindustrialization and high unemployment, Cornwall had to reinvent itself. Since 2000, the city has pursued a policy of economic diversification, marketing to key sectors including business services; transportation, distribution, and logistics; environmental and new energy technologies; food processing; and wood products (e.g., furniture). It has also raised its profile substantially, both within Ontario and across Canada.

Cornwall's biggest success has been its development as a distribution hub. This has been facilitated by the 2,000-acre Cornwall Business Park immediately adjacent to Highway 401.⁷ A Wal-Mart Distribution Center first opened in Cornwall in 2000. The facility has since expanded to over 1.4 million square feet, making it one of the largest distribution centers in Canada. This was followed by the establishment of distribution centers for companies including Shoppers Drug Mart, Benson Autoparts, Pharmetics, and Target. Although Target has exited the Canadian market, Wal-Mart Canada recently announced its intention to purchase the Target facility, generating 1,000 jobs. A new distribution facility is being constructed at Cornwall Business Park for Loblaw's, Canada's largest grocery chain. The distribution centers in Cornwall are supported by a number of large trucking companies and third-party logistics providers.

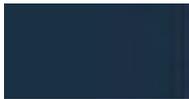
Several articles attribute Cornwall's strong logistics sector not only to the city's reliable, blue-collar workforce and cost advantages – for example, the city does not levy development charges, and fully-serviced land in the business park is offered for \$30,000 (about \$24,000 in U.S. dollars) per acre – but also the perception that Ontario is much more business friendly than Quebec. Quebec's strict language laws, highly unionized labor force, and higher fuel prices are seen as barriers to doing business there.⁸

Another aspect of the Cornwall economy worth noting is tourism and recreation. With the loss of Domtar and other heavy manufacturers, City leaders have recognized the St. Lawrence River as an economic asset on which to capitalize. Cornwall has made significant investments in its waterfront, developing opportunities for both active and passive recreation, including a popular recreational path (part of a waterfront trail that stretches from Niagara-on-the-Lake to the Quebec border), a family aquatic center, and a hockey arena and recreational center that holds a variety of events.

But Cornwall has continued to lose manufacturing jobs. In the last two years alone, several non-Canadian companies with local operations – American Standard, Sensient Flavors, and Canlyte, a division

⁷ Highway 401 is a provincial highway that stretches over 500 miles from Windsor, Ontario to the Quebec border. It is the main connection between Toronto and Montreal, becoming Autoroute 20 at the Quebec line.

⁸ See "Is Cornwall, Ontario Set to Be the Next Big Canadian Distribution Epicentre?" MWPVL International, http://www.mwpvl.com/html/cornwall_ontario_distribution_epicenter.html, and "How Cornwall, Ontario Became Quebec Retail's Shipping Hub," *Canadian Business*, July 10, 2014, <http://www.canadianbusiness.com/companies-and-industries/cornwall-ontario-eastern-canada-logistics-hub>.



of Philips Electronics that produced lighting fixtures in Cornwall for nearly 30 years – closed their doors, affecting hundreds of workers.

5.3. Border Crossings

The Seaway International Bridge in Massena provides direct access to and from the City of Cornwall. According to the Seaway Bridge Corporation, more than 120,000 commercial vehicles and 2.3 million passenger vehicles cross the bridge annually. The NYS Department of Transportation reports annual average daily traffic (AADT) in both directions at about 6,600. The volume of traffic along Route 37 from the bridge east to Hogansburg is approximately 12,000.

As a point of comparison, the Ogdensburg-Prescott International Bridge, which offers the most direct route for U.S. traffic to Ottawa, serves about 410,000 vehicles per year, according to the Ogdensburg Bridge and Port Authority. Annual average daily traffic in both directions is approximately 2,000. To the west, the Thousand Islands Bridge in Alexandria Bay has an AADT of 5,700.

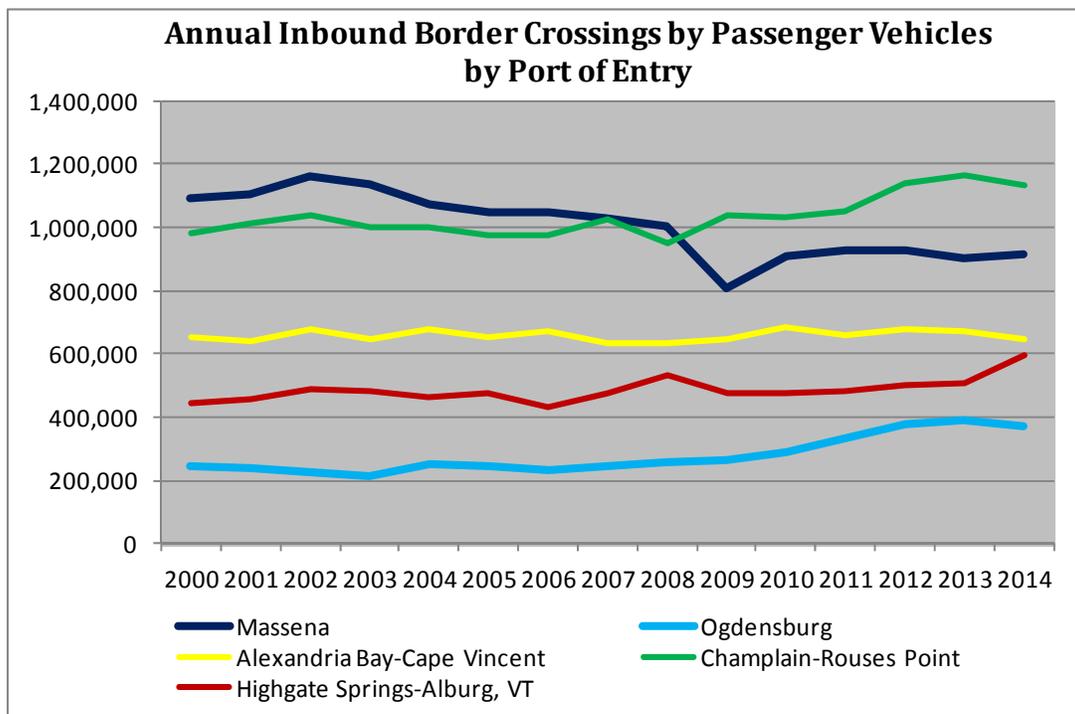
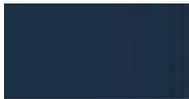


Figure 8. Annual Border Crossings, Passenger Vehicles, by Port of Entry

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations.

Passenger vehicles include private automobiles, pick-up trucks, motorcycles, taxis, ambulances, and other motorized private ground vehicles.



Although the Seaway International Bridge receives a higher volume of traffic than the bridges in Ogdensburg and Alexandria Bay, the latter see higher volumes of *commercial* traffic. Roughly 10% of the vehicles crossing at Ogdensburg, and 17% of those at Alexandria Bay, are trucks, compared to just 3% of the vehicles crossing at Massena. This suggests that the Massena bridge crossing is not being used to its fullest potential as an economic asset. Indeed, it appears that the Seaway International Bridge primarily serves local, as opposed to long-distance, traffic.

Border crossing statistics from the Bureau of the Transportation Statistics at the U.S. Department of Transportation offer another perspective. Figure 8 shows border crossings by passenger vehicle at five key ports (i.e., points) of entry between 2000 to 2014.⁹ Until 2008, more passenger vehicles entered the U.S. at Massena than at any of the other ports of entry. This changed with the recession, however.

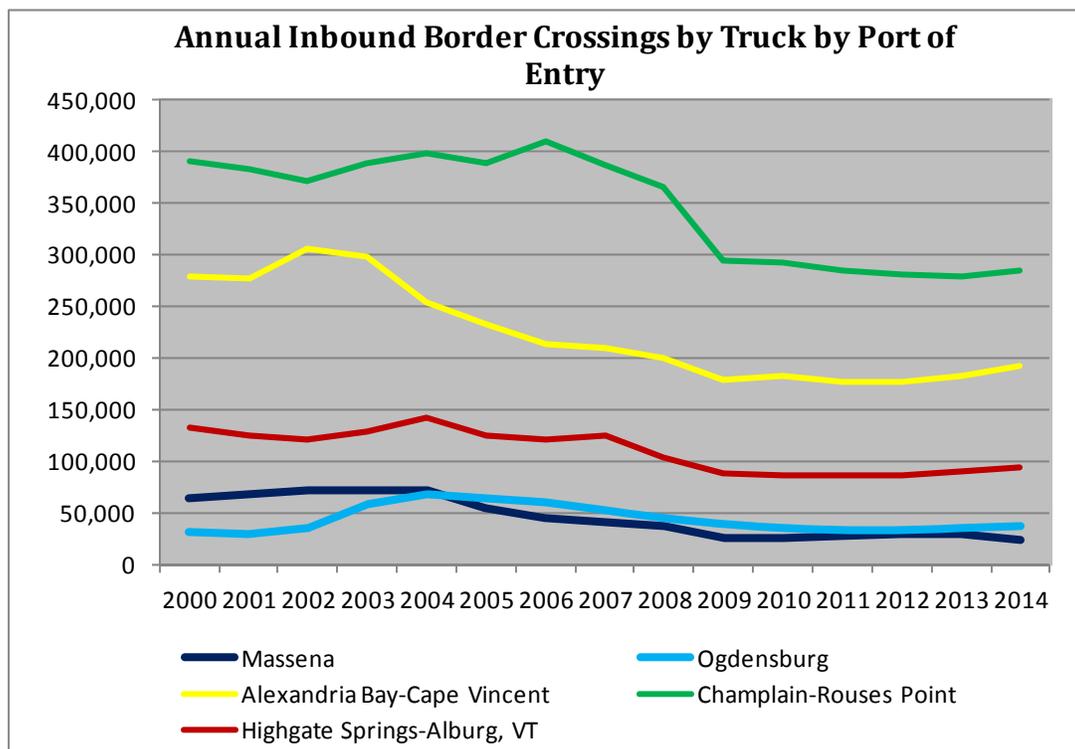


Figure 9. Annual Inbound Border Crossings by Truck, by Port of Entry

Source: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, based on data from the Department of Homeland Security, U.S. Customs and Border Protection, Office of Field Operations.

⁹ Inbound (Canada to U.S.) border crossings only; U.S. Customs and Border Control does not collect data on outbound crossings.



Between 2000 and 2014, annual passenger vehicle border crossings at Massena dropped 16.3%. With the exception of Alexandria Bay, the number of border crossings by passenger vehicles *increased* at the other ports of entry, with growth rates ranging from 15.6% at Champlain-Rouses Point to 49.8% at Ogdensburg.

Figure 9 shows annual inbound border crossings by truck, whether loaded or empty. Inbound truck traffic at Massena has declined substantially, from about 64,000 in 2000 to 23,000 in 2014, a loss of nearly two-thirds. Of the comparison areas, only Ogdensburg has experienced an increase in the number of border crossings by truck. The others have declined by an average of 30%.



6. Real Estate Market Analysis

The availability of real estate (land or buildings) along with access to other critical resources (e.g., qualified labor, utilities, transportation access, R&D, etc.) are important factors in selecting a location for an industrial operation. The purpose of this section is to provide information on the site location requirements of companies and compare the Massena BOA site with other real estate options in northern New York and southeastern Ontario.

6.1. Industry Needs and Requirements

The specific real estate needs and requirements of companies vary according to the company’s size and life cycle stage, the type of operation(s) in which it is engaged, and the industry. An overview of real estate needs by type of industry or operation is provided in Table 23.

Table 23. Location and Real Estate Requirements by Industry

Type of Industry or Operation	Location Requirements	Real Estate Requirements
Small Start-Up Firms (manufacturing and technical services)	Location at the owner’s discretion, typically in his or her “home town.” May also be located near R&D activity or major client/market.	Relatively small, 2,500 to 5,000 square feet, but flexible with the ability to expand rapidly if needed. Many companies will lease their initial space, preferring a lease that reflects their needs rather than a tightly structured lease for a finite amount of space and a defined period.
General Manufacturing (non-process operations)	Within 5-20 miles of an interstate, depending on the size of the operation and number of truck trips per day, with direct access to primary highway. Some operations (e.g., large plastics molders) need rail access.	Lease buildings of 25,000 to 100,000 square feet with expansion potential, depending on the size of operation. Those requiring specialized space will need a shovel-ready site of 5 to 25+ acres.
Food and Beverage Processing	Reasonable access to transportation (truck and sometimes rail). Away from sources of contamination. Most operations also need access to high water and sewer capacity; beverage processing will require high quality water as well.	Purchase or lease existing food-grade building (rarely available) or build/lease on a shovel ready site of 5 to 25+ acres, depending on the size of the operation.
Warehousing (a wide diversity of sizes of companies and types of products)	Within 1-2 miles of an interstate and low traffic area for truck access.	Available building of 50,000 to 100,000+ square feet with expansion potential, or a shovel-ready site of 25 to 100+ acres. Some companies will secure larger parcels for future growth and to act as a buffer. Ceiling heights of 28’+ for larger operations.



Key factors that are incorporated into a real estate decision include:

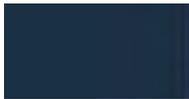
- Cost – purchase or lease rates versus other options
- Functionality – the size and layout of the building and/or site and other details
- Flexibility – the ability to expand rapidly as needed
- Access to utilities – electric power, gas, water, sewer, and telecom/Internet
- Energy costs – for large power users
- Access to transportation – interstate highway, water port, airport, rail... varies by type of industry or operation
- Readiness of a building or site – low readiness means higher cost and risk of delays

6.2. Location and Site Selection Process

When a company is looking for a location in which to establish a manufacturing or distribution operation, it typically develops a formal or informal list of selection criteria and goes through a process that reflects the following steps:

1. Identification of basic location criteria:
 - *Strategic locations* that meet logistical (material and product flow) needs while efficiently and competitively serving the customer base. This includes access to transportation resources. The need for proximity to the customer depends on whether the company is creating a finished product or a “Just-In-Time” component.
 - *Access to a qualified labor force* that can meet the company’s skill and performance requirements at a competitive rate (all-in costs). Some types of companies are very concerned about unionization and will not even consider states that are not Right-to-Work. If the business is in an industry that typically does not unionize, however, the lack of Right-to-Work status is not a major issue.
 - *Overall cost of operations* in a given location including labor, real estate, utilities, taxes and any available incentives to reduce taxes and fees.¹⁰
2. Once the location criteria above have been applied to the process and the top location candidates have been identified, the company then evaluates available real estate options. In most cases, if the company is looking for a common building size and layout, it will first evaluate available buildings (rather than sites) and base a selection decision on the following criteria:

¹⁰ The existence of available properties and utilities is considered a “given” in *larger* markets, and except for a situation where there is a need for an unusually large building or site, or a uniquely high quantity or reliability of utilities, real estate and utilities are considered second-tier location criteria.



- Existing size (overall) and space for manufacturing, storage and office operations.
- Height of ceilings and column spaces (height is important for certain operations).
- The ability/ease of expanding the building in the future (overall size of site and usable space).
- The age and condition of the building (older buildings may have potential sources of contamination, need code upgrades, etc.)
- Cost of purchase or lease.

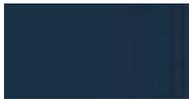
Table 24 presents some general criteria that manufacturing companies use when selecting a site and constructing a building. There may be variations among companies.

Table 24. Building Requirements for General Manufacturing Operations

Criteria	Details
Space Allocation	Manufacturing space with access doors, some storage/warehousing space with drive-in and back-in dock doors, and ~10% of the space for offices, training, break room, etc.
Column Widths	50'+ is desirable but will depend on type of operation.
Ceiling Heights	30'+; some operations will take 25' but the trend is higher for storage and mezzanines.
Crane Capabilities	Having access to installed crane rails as well as an available bridge crane is important for some types of operations.
Utility Services	<ul style="list-style-type: none"> ▪ General manufacturers utilize 1,500+ amps, 480/277-volt, three-phase, four-wire service. ▪ Water and sewer capacity need not be excessive but it should be sized for sprinkler systems and some process capacity. ▪ Some operations require gas for process heating. Gas for space heating is a desire as the cost continues to drop relative to electric power (except where the electric power rates are substantially lower). ▪ Broadband capacity is becoming more important for handling order entry and file transfers.
Building Aspect Ratio	Building layouts for manufacturing operations are typically more “square” than for warehouses.

Manufacturing building aspect ratios may vary from 1.5 to 1 up to 2 to 1 depending on the type of operation. Multi-tenant buildings that are long and narrow will have higher aspect ratios.

Size (SF)	1.5 to 1	2 to 1	2.5 to 1	3 to 1
50,000	183 x 275	158 x 316	140 x 360	130 x 385
100,000	258 x 388	224 x 448	200 x 500	180 x 550
250,000	410 x 610	354 x 708	315 x 795	290 x 865
500,000	577 x 867	500 x 1,000	450 x 1,150	410 x 1,220
750,000	708 x 1,060	612 x 725	550 x 1,365	500 x 1,500
1,000,000	816 x 1225	708 x 1414	630 x 1,585	575 x 1,740



3. If there are no available buildings, the company evaluates appropriate sites of adequate size (effective usable acres) that are available, according to the following site location criteria:
 - Cost per acre.
 - Existing size (overall) and effective usable area after accounting for wetlands, utility rights-of-way, poor soil conditions, and other site restrictions.
 - Configuration of the site (net useable space). How effectively can our building be placed on the site?
 - Access to utilities - capacity, cost and availability of electric power, gas, telecom, water and sewer.
 - Adjacent land uses and types of operations near the site that are either very sensitive (residential, schools, hospitals, public parks, etc.) or could negatively impact the company’s operations.
 - Maximum size of the building and impervious surfaces relative to the overall size of the site.
 - The ability to expand the building in the future.
 - The size of on-site retention required for storm water management purposes.
 - Requirements/restrictions related to outdoor storage, sound buffering and other issues.
 - The readiness of the site – see below.

Overall site readiness can be classified in different ways. Table 25 below is one way to classify various levels of readiness.

Table 25. Levels of Site Readiness

Level	Description
1	Building in place, move-in ready quality
2	Building in place, some renovations required, or a shell building
3	Virtual building designed/approved by local jurisdiction, site is cleared and certified shovel ready
4	Site is cleared and certified shovel ready
5	Site is not cleared but certified shovel ready
6	Site is not cleared, not certified shovel ready but is zoned for industrial or equivalent use
7	Site is not cleared, not certified shovel ready and is currently zoned agricultural or residential

Most companies will start out looking for a Level 1 building and then work down the list as needed. If a site’s readiness is lower than Level 5, many companies will not consider it, especially if there are better site alternatives available.

Small- and mid-sized companies tend to look at existing buildings first, then a certified shovel ready site in a strategic location. Leasing a structure, as opposed to purchasing or constructing a new one, is often preferable because it has lower up-front costs and involves far less risk.



6.3. Available Properties in the Region

In order to identify competing properties in northern New York and southeastern Ontario, currently available industrial sites (10 or more acres in size) and industrial buildings (of at least 10,000 square feet) were identified. The inventory included St. Lawrence County (Massena, Ogdensburg, Potsdam, and Canton), Jefferson County, Clinton County (primarily Plattsburgh and the I-87 corridor), and the City of Cornwall in Ontario. Information on these properties is provided in Tables 26 and 27 below.

Table 26. Available Industrial Sites in the Region

Site & Location	Total Acreage	Potential Uses	Price in \$US (Cost/Acre)	Miles to Interstate	Readiness Level*	Utilities in Place
Former GM Site, Massena	230	Industrial	Undefined	88 to I-87; 90 to I-81	Moderate	Full except water ¹¹
PARC – Lot 1, Plattsburgh	500	Industrial	Undefined	1 to I-87	High	Full
Cornwall Industrial Park multiple sites, Cornwall, ON	300+	Industrial (mfg & distribution), with rail access	\$24,000	<1 to Hwy 401	High	Full
Bradley Street Industrial Park, Watertown	88	Industrial	Undefined	Adjacent to I-81	High	Full
Banker Road Industrial Park, Plattsburgh	85	Industrial	\$25,000	4 to I-87	Moderate	Full
Champlain Industrial Park, Champlain	75	Industrial	\$25,000	1.5 to I-87	Moderate	Full
Wagner Road site, Ogdensburg	70	Industrial; has rail access	Undefined	50 to I-81	High	Full
Goulds Corners Road, LeRay	60	Industrial/ Other	\$3,250	2+ to I-781	Low	Power & Telecom
Heavy Industrial Park site, Ogdensburg	50+	Industrial; has rail access	Undefined	50 to I-81	Moderate	Full
Jefferson Co. Corporate Park, Watertown	50	Industrial	Undefined	Adjacent to I-81	High	Full
Gouverneur Industrial Park, Factory Lane, Gouverneur	26	Industrial	Undefined	35 to I-81	High	Full
City Center Industrial Park, Watertown	25	Industrial	Undefined	2 to I-81	High	Full

¹¹ The Massena BOA site currently lacks access to municipal water. The former GM plant used an on-site water treatment plant which relied on a water pump station and withdrawal from the St. Lawrence River. The pump station remains in place, but water treatment facilities have been demolished.



Site & Location	Total Acreage	Potential Uses	Price in \$US (Cost/Acre)	Miles to Interstate	Readiness Level*	Utilities in Place
Canton Industrial Park, Commerce Lane, Canton	22.5	Industrial	Undefined	60 to I-81	High	Full

Sources: Websites of Empire State Development, county IDAs, chambers of commerce, and individual business parks; LoopNet.com.

*Readiness Levels (Using Simplified Criteria)	
High	Site graded/cleared, zoned industrial, utilities on site or in close proximity
Moderate	Site not fully cleared and/or some utilities are needed
Low	Site is not cleared, requires multiple utilities

In addition to the sites listed in Table 26, the Town of Massena recently received 140 acres from Alcoa in a land swap. Intended for future use as a business park, the property is located at the intersection of Horton Road and County Route 42, not far from Route 37 and the BOA property.

Table 27. Available Industrial Buildings in the Region

Site & Location	Type of Space	Size of Space	Price in \$US (Cost/SF) Sale or Lease	Year Built	Ceiling Height	Acreage
Watertown Center for Business & Industry, Watertown	Industrial (multiple bldgs.)	300,000 SF	Undefined	20+ years	18'	Undefined
Former ACCO Bldg., Ogdensburg	Manufacturing	143,370 SF	S: \$3.49/SF	1903	25'	22
21 Lawrence Paquette Industrial Drive, Champlain (Exit 42)	Warehousing	137,520 SF	S: \$25.45/SF L: \$3.50/SF	1995	22'	13.46
94 Mill Street, Plattsburgh	Mfg./Warehousing (rail spur to bldg.)	115,000 SF in 500,000 SF bldg.	L: Negotiable	20+ years	Low	45.4
805 Boundary Road, Cornwall, ON	Light Industrial	110,000 SF	L: \$2.40	New	18' varies	15
705/725 Boundary Road, Cornwall, ON	Distribution and Light Mfg.	Up to 100,000 SF	L: \$3/SF	<20	22'	22.6
1800 Vincent Massey Drive, Cornwall, ON	Manufacturing	Up to 98,000 SF in 165,000 SF bldg.	L: \$2.40/SF	20+ years	22'	30.3
Vincent Massey Dr. at Warner Dr., Cornwall, ON	Heavy Industrial	67,000 SF in two buildings	S: \$41.80/SF	20+ years	40'	88

Site & Location	Type of Space	Size of Space	Price in \$US (Cost/SF) Sale or Lease	Year Built	Ceiling Height	Acreage
Former Newell Manufacturing site, 100 Patterson Street, Ogdensburg	Manufacturing	63,400 SF w/ 3,600 SF office	Undefined	1912, 1946 and 1992	25' center/ 16' eaves	5.8
Former paper mill, Newton Falls	Warehouse	63,000 SF	S: \$1/SF	Pre-1920	30'	Part of large site
968 Bradley Street, Watertown	Warehouse and Industrial	61,146	Undefined	20+ years	18'	7.35
1020 Montreal Road, Cornwall, ON	Distribution and Light Mfg.	58,000 SF	L: \$2.40	>20	24'	6.68
540 Wallrich Avenue, Cornwall, ON	Food Processing Facility	Mfg: 56,000 SF Whse: 76,000 SF	S: \$24.70/SF	<5 yrs	Varies	200+
Prim Hall, 11 Spellman Road, Plattsburgh	Warehousing/Mfg. w/9,000 SF office	46,215 SF	S: \$27.05/SF	~20 years	20'	8
OBPA Bldg. 7, 830 Proctor Road, Ogdensburg	Mfg./Warehousing	42,000 SF w/3,300 SF office	L: \$3.50/SF	1989	37,000 = 15' 5,000 = 27'	Undefined
Former PAFB, 18 Northern Avenue, Plattsburgh	Warehousing and Light Mfg.	35,607 SF	S: \$30.89/SF	1975	<20'	4.5
30 Bridge Street, Rouses Point	Warehouse	34,310 SF in 51,046 SF bldg.	L: \$4.50 to \$6.50	1985	20'	2.9
OBPA Bldg. 1, Ogdensburg	Mfg./Warehousing	30,000 SF w/ 6,600 SF office	L: Negotiable	1975 and 1979	15'	Undefined
OBPA Bldg. 11, Ogdensburg	Mfg./Warehousing	30,000 SF out of 40,000 SF total	L: Negotiable	1994	20,000 = 15' 10,000 = 27'	Undefined
Massena Industrial Park, 11-13 Trade Road, Massena	Manufacturing	20,000 SF w/ 5,000 SF office	Undefined	Pre-1990	21' center/ 15' eaves	2
Massena Industrial Park, 21 Trade Road, Massena	Manufacturing	20,000 SF w/ 1,200 SF office	Undefined	1990	21' center/ 15' eaves	2
Massena Industrial Park, 31 Trade Road, Massena	Manufacturing	19,600 SF w/ 3,400 SF office	Undefined	1990	15'	2
Potsdam Commerce Center, 6 Pioneer Street, Potsdam	Manufacturing	12,000 SF	Undefined	2005	21'	2.5

Sources: Websites of Empire State Development, county IDAs, chambers of commerce, and individual business parks; LoopNet.com.



The majority of the available industrial sites are located in existing industrial parks with all utilities in place. Services typically include municipal water and sewer, electric power, telecommunications infrastructure, and paved roads; natural gas and rail access may be offered. Many of the industrial parks also have building space available. For example, the Ogdensburg Bridge and Port Authority operates two industrial parks near the Ogdensburg-Prescott International Bridge. There are currently two industrial sites and multiple buildings (or portions of buildings) available.

Within industrial parks, the sizes of individual lots vary. The Canton Industrial Park is located on the west side of the village not far from the campus of SUNY Canton. Available lots range from 3.1 to 7.4 acres, with the largest contiguous property (combining 4 lots) being 13.4 acres. The Cornwall Business Park in Ontario has a total of 300 acres of land immediately available, with the largest lot at 250 acres.

The I-87 corridor in the Plattsburgh area has a number of industrial parks with 75 acres or more. Each is readily accessible to an interstate exit and offers a full utility package. These sites will most likely be utilized to attract business from Montreal or positioned to serve that market from the U.S. side of the border. Plattsburgh also has several buildings with space for manufacturing or distribution.

6.4. START-UP NY Program

Real estate is also available in northern New York through the START-UP NY program. Launched in 2014, START-UP NY allows new or expanding businesses to operate tax-free for ten years on or near eligible college or university campuses in New York State. To participate in START-UP NY, companies must:

- Be a new business in New York State, or an existing New York business relocating to or expanding within the state;
- Align with and/or further the college or university's mission and goals; and
- Create new jobs and contribute to the economic development of the local community.

Retail and wholesale businesses, restaurants, law and accounting firms, retail banks, medical practices, providers of personal services, real estate management companies, and utilities are typically prohibited from the program. Businesses are encouraged to hire college interns, employ graduates, collaborate in research, and participate in program enrichment; in return, they gain access to research facilities, development resources, and other benefits.

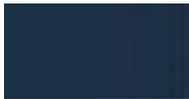
Three academic institutions in St. Lawrence County participate in START-UP NY: SUNY Canton, SUNY Potsdam, and Clarkson University. Each campus is focused on industries that are synergistic with their academic mission. Both SUNY Canton and SUNY Potsdam have partnered with the St. Lawrence County IDA and the Ogdensburg Bridge & Port Authority to provide additional building space suitable for manufacturing activities. This includes space at business and industrial parks in Canton, Potsdam,



Massena, and Ogdensburg. SUNY Plattsburgh and Clinton Community College in Plattsburgh and Jefferson Community College in Watertown also participate in the START-UP NY program.

Table 28. START-UP NY Sites and Buildings in Northern NY

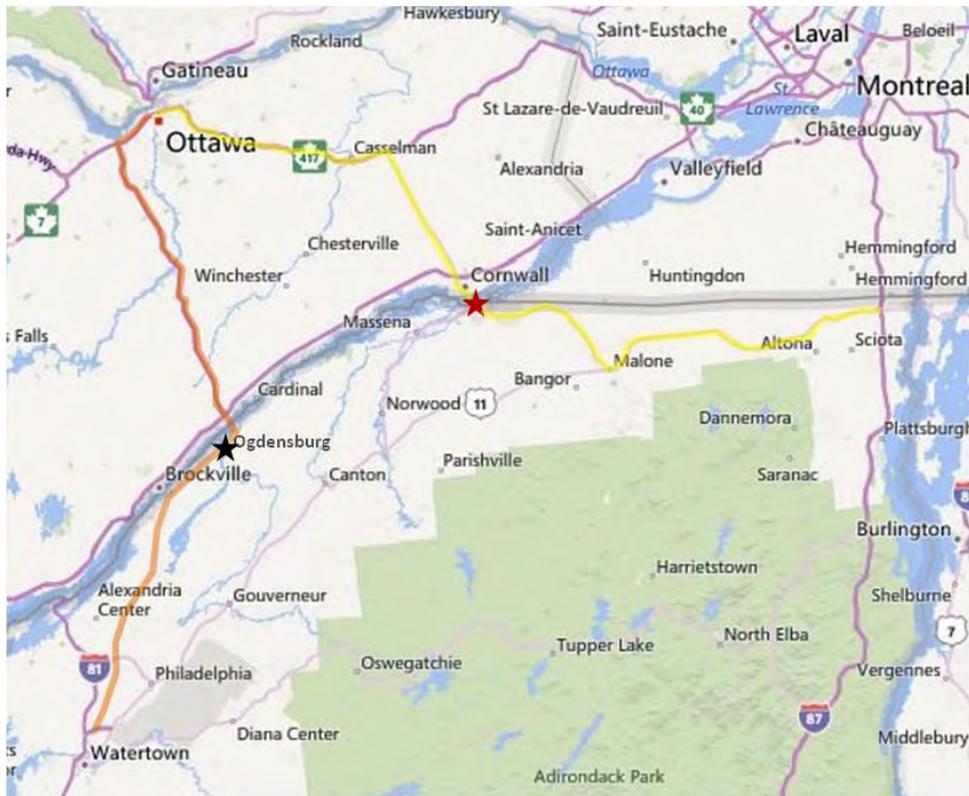
School & Location	Available Property	Industries Targeted
SUNY Canton, Canton	<ul style="list-style-type: none"> ▪ 1,365 SF of building space ▪ 31.08 acres of land ▪ Additional building space available at the Canton Industrial Park, Ogdensburg Commerce Park, and Massena Industrial Park 	<ul style="list-style-type: none"> ▪ Manufacturing of alternative/renewable energy systems ▪ Safety systems for vehicles ▪ Biomedical products ▪ Law enforcement technologies ▪ Sports safety/performance technologies ▪ Construction management technologies ▪ Data storage and analytics ▪ Agricultural processing ▪ Software development
Clarkson University, Potsdam	28,000 SF of space in downtown Potsdam	<ul style="list-style-type: none"> ▪ High technology, including web development, nanoscience, materials and sustainable technologies
SUNY Potsdam, Potsdam	<ul style="list-style-type: none"> ▪ 1,600 SF of building space ▪ 67 acres of land ▪ Additional building space available at the Potsdam Commerce Park 	<ul style="list-style-type: none"> ▪ Computer programming and electronic gaming ▪ Clean energy ▪ Tourism ▪ Music and arts ▪ Import/export
SUNY Plattsburgh, Plattsburgh	<ul style="list-style-type: none"> ▪ 8,301 SF of building space on campus ▪ 45,862 SF of building space at the Northstar Technology Center 	<ul style="list-style-type: none"> ▪ Computer information technology programming ▪ Cyber security ▪ Mobile application development ▪ 3D gaming development ▪ Multimedia, graphic design and digital media production ▪ Supply chain management ▪ Study of Canada ▪ Environmental studies
Clinton Community College, Plattsburgh	<ul style="list-style-type: none"> ▪ 24,086 SF of space ▪ 1.75 acres of land 	<ul style="list-style-type: none"> ▪ Industrial technology ▪ Computer technology ▪ Renewable energy or environmental technology, biotechnology ▪ Aerospace ▪ Advanced manufacturing ▪ Transportation manufacturing ▪ Pharmaceuticals ▪ Medical device manufacturing



School & Location	Available Property	Industries Targeted
Jefferson Community College, Watertown	<ul style="list-style-type: none"> 1,900 SF of building space within the Watertown Center for Business and Industry 	<ul style="list-style-type: none"> Manufacturing Value-added agri-businesses Information and technology Software development Bio-medical (3-D imaging) Agri-biotics Defense

6.5. Competitive Analysis

- Although the Massena BOA is in a good location with direct access to and from the City of Cornwall, Ontario via the Seaway International Bridge, sites that are in close proximity to an interstate highway have a distinct advantage. From a transportation access perspective, industrial sites along I-81 in Jefferson County and along I-87 in Clinton County will be perceived more favorably by prospective businesses than sites that are at least 20 miles away. Within St. Lawrence County, Ogdensburg has a competitive advantage over Massena because it has direct access to Canadian highways to and from Ottawa, as summarized below.



Location	Distance to Ottawa	Distance to Interstate
Massena	70 miles with 40% of the route on a two-lane highway (<i>travel time: 1 hour, 30 minutes</i>)	To I-87: 68 miles over two-lane highways - Route 37 and US 11 (<i>travel time: 1 hour, 25 minutes</i>)
Ogdensburg	62 miles over Highway 416, a four-lane highway (<i>travel time: 1 hour, 10 minutes</i>)	To I-81: 44 miles over a two-lane highway - Route 37 (<i>travel time: 55 minutes</i>)

- A key attribute of the Massena BOA is access to low-cost electric power through the New York Power Authority. Massena has significant advantages over Ontario and Quebec in terms of the cost of electricity. However, economic development officials in Plattsburgh also tout the fact that they offer some of the lowest-cost power in North America. Below is a comparison of rates for industrial users. Massena has a slight edge over the City of Plattsburgh, but it may not be enough to make a substantial difference when all cost factors are included in the analysis.

Location	Energy Charge Per kWh	Demand Charge Per kW	Threshold to Qualify
Massena	\$0.016515	All year: \$6.50	Must have a minimum demand of 25 kW
Plattsburgh (large industrial users)	\$0.0162	Winter: \$3.35 Summer: \$2.71	Must use at least 9,500,000 kWh/year. This would be a minimum of 1,084 kW if run constantly throughout the year.
Plattsburgh (smaller industrial users)	\$0.0237	Winter: \$3.99 Summer: \$3.64	Must have at least 6,000 kWh/month. This would be a minimum of 8 kW if run on a fulltime basis and 37.5 kW if run on a 40-hour week only basis.

- Given the supply of industrial sites in northern New York and Cornwall with all utilities in place, the lack of municipal water and sewer at the Massena BOA could be a serious barrier to its reuse and redevelopment. The site will need a potable water line to support various operations with a minimum capacity of 150,000 gallons per day. For food and beverage operations, water availability and capacity are major considerations in the site selection process. Water is utilized as an ingredient, but it is also used for washing of product (e.g., fruits, vegetables, certain meats, etc.), for cooling, and for process sanitation. Some operations can require up to 1 million gallons per day.
- The Ogdensburg Bridge and Port Authority has 50- and 70-acres sites in industrial parks with rail access and full utilities, as well as up to 60,000 SF of space available in multiple buildings for manufacturing and warehousing. Most of these buildings are relatively new (1990s). Ogdensburg is a direct competitor for business channeled out of Ottawa; the transportation access gives it an advantage.
- Plattsburgh has a 20-year track record of building relationships with and recruiting companies from Montreal to establish U.S. operations, and providing them with the technical support and

training to help them enter the U.S. market. This emerged subsequent to the BRAC closure of the Plattsburgh Air Force Base, which freed up a major military complex for redevelopment. Plattsburgh has developed an aggressive marketing program, supported by investments in infrastructure at PARC and other locations along the I-87 corridor. As noted above, the City of Plattsburgh also offers very competitive electric utility rates. The North Country Chamber of Commerce in Plattsburgh is working with Clarkson University and other partners to develop a transportation equipment “center of excellence” (see Chapter 7).

- The City of Cornwall, Ontario promotes its industrial park as “development ready,” with direct access to Highway 401 and the CN Rail Mainline. The park is served by municipal water and sewer networks with plenty of capacity for growth, fiber optic communications infrastructure, natural gas, and electricity powered by Cornwall Electric, with “rates that range between 5 and 25% less than [what is paid by] other Ontario consumers.” Economic development officials like to point out that Cornwall is “one of only a handful of cities in Ontario that does not levy development charges. This unique fact can provide significant savings of up to \$15 per square foot of new construction.”
- There are a significant number of sites in the Watertown area that are shovel ready, close to I-81, and zoned for industrial use. The available *buildings*, however, tend to be older and have lower ceiling heights (<20), which makes them less attractive. Although the region is focused primarily on business related to Fort Drum, Jefferson County is also pursuing agricultural derivatives (i.e., food processing), call centers, and advanced manufacturing.
- Together, SUNY Potsdam and SUNY Canton have about 100 acres of on-campus land available to businesses through START-UP NY. Building space is more limited, but both colleges have agreements in place with economic development organizations that allow them to offer START-UP NY incentives to businesses locating at various St. Lawrence County business and industrial parks. Clarkson University has designated a significant amount of space in a building it owns in downtown Potsdam for START-UP NY tenants. To date, these properties have hosted very small technology and software companies that have emerged primarily out of college R&D activity. As these companies expand, however, there may be an opportunity for them to relocate to a larger “tech village” environment with flex space at the Massena BOA. This might require a START-UP NY designation to make the Massena site equally attractive.

Essentially, the Massena BOA faces substantial competition from other available sites in the region in attracting businesses. Many of these locations have strategic access to transportation serving Ottawa and Montreal as well as U.S. destinations. In addition, the colleges in the region have designated space and land for START-UP NY business attraction activity.



7. Manufacturing

Manufacturing has long been a critical component of the Massena/St. Lawrence County economy, particularly related to primary metals, wood products, paper, and transportation equipment (the former General Motors plant). This chapter reviews the state of manufacturing at the national, state, and regional levels and identifies opportunities for the Massena BOA within the manufacturing sector.

7.1. Manufacturing Overview

Over the past decade, there has been a continued movement of manufacturing jobs from the U.S. to China and other lower-cost destinations. This is reflected in a 17% decline in U.S. manufacturing employment from 2003 to 2013. However, selected manufacturing operations are returning to the U.S. (reshoring) for the following reasons:

- The total cost of doing business offshore (including labor, energy and inventory carrying costs) has escalated to the point that there is no longer a compelling cost advantage to manufacturing outside the United States.
- Patents on leading-edge technology products are not well-respected in China, and there are many lower-quality “knock-off” versions of products being made.
- Products that are highly specialized or require short production runs are not well-served in a long lead time environment. Reshoring allows companies to be more responsive to customer needs.
- The need for uncompromising quality has been an issue.
- Americans want to buy “Made in America” products.

Over the next decade, Wal-Mart has committed to source an additional \$250 billion in U.S. goods. This is expected to greatly impact domestic manufacturing activity; the Reshoring Initiative, an Illinois-based not-for-profit, estimates that an additional 300,000 U.S. manufacturing jobs could be created by 2022. An early indication is the net gain of about 10,000 manufacturing jobs in the U.S. in 2014. The top industries engaged in reshoring include transportation equipment, electrical equipment and appliances, computers and electronic products, and machinery; food and wood products are also in the top ten in terms of jobs. The most popular destinations for manufacturing operations have been in the southeastern U.S. due to low labor costs and lower taxes.

7.2. Manufacturing Employment

Manufacturing has traditionally been a strong segment of the New York State economy, anchored by large companies such as GE, Corning, IBM, Kodak, GM, Alcoa, International Paper, Carrier, Bausch and Lomb, Birds Eye, and numerous others. The major manufacturing centers are in large metropolitan areas like New York City, Long Island, Syracuse, Rochester and Buffalo.

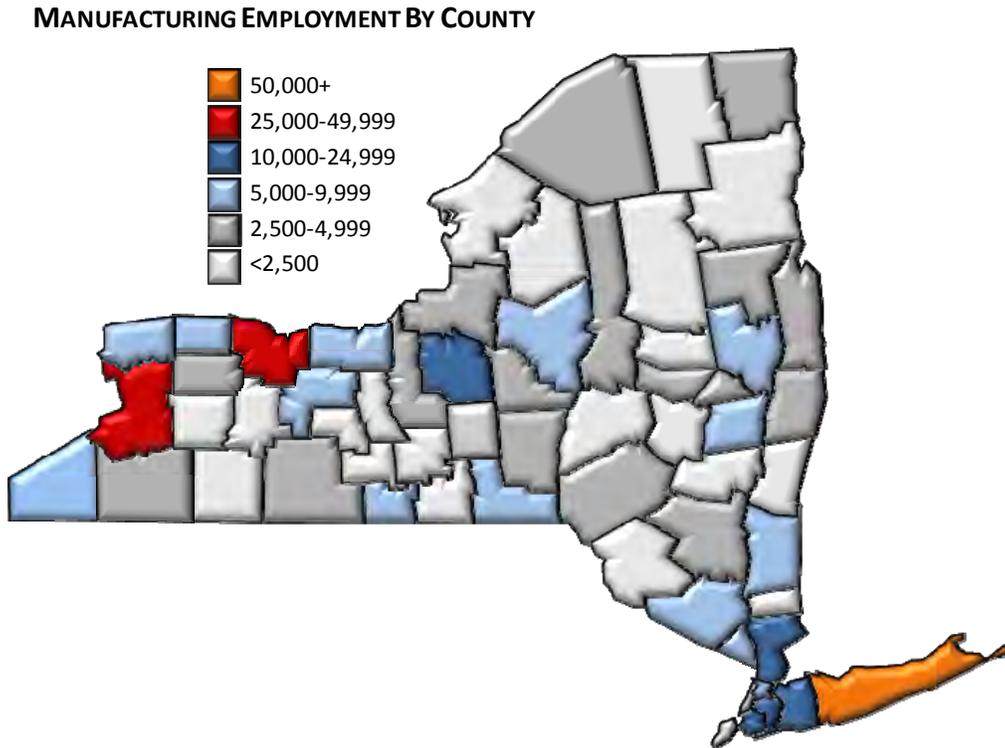


Figure 10. Manufacturing Employment in New York State by County
Source: U.S. Bureau of Labor Statistics, QCEW

In the last ten years alone, the level of manufacturing employment in New York State has declined more than 25%, with trends related to individual industries shown in Table 29 below. The one bright spot has been in food processing, particularly dairy product manufacturing. The rise in demand for Greek yogurt, cheese, and related products has stimulated a resurgence in local dairy processing facilities in areas that have traditionally shipped out bulk milk. According to a report by the NYS Department of Labor, the number of firms in food manufacturing grew by more than 16% between 2003 and 2013, while the number of firms in the state's manufacturing sector overall *fell* by about 15% over the same period.¹²

¹² NYS Department of Labor, *New York State's Food Manufacturing Industry: A Statewide and Regional Analysis*, June 2014. Accessed at <http://www.labor.ny.gov/stats/PDFs/NYS-Food-Manufacturing-Industry.pdf>.



Table 29. Manufacturing Employment in New York State

Industry	Employment Level			Trend	Primary Segments Within Industry
	2003	2008	2013		
Food	53,200	49,900	52,400	Recovering	<ul style="list-style-type: none"> ▪ Bakery products ▪ Dairy products ▪ Packaged fruits and vegetables
Paper	22,000	18,800	16,600	-24.5%	
Printing	37,300	30,900	21,700	-41.8%	<ul style="list-style-type: none"> ▪ Commercial printing
Chemicals	60,000	45,800	39,900	-33.5%	<ul style="list-style-type: none"> ▪ Pharmaceuticals ▪ Basic chemicals
Plastics/Rubber	27,400	23,100	20,600	-24.8%	<ul style="list-style-type: none"> ▪ Plastics products and parts
Nonmetallic Minerals	18,200	17,200	15,000	-17.6%	<ul style="list-style-type: none"> ▪ Cement and concrete ▪ Glass products
Primary Metals	12,800	12,300	10,300	-19.5%	<ul style="list-style-type: none"> ▪ Aluminum production
Fabricated Metals	57,000	55,600	51,200	-10.2%	<ul style="list-style-type: none"> ▪ Machine shops ▪ Architectural/structural steel ▪ Metal parts (production based)
Machinery	53,900	50,200	43,000	-20.2%	<ul style="list-style-type: none"> ▪ Industrial machinery ▪ Metalworking machinery ▪ General purpose machinery ▪ Engine/turbine/transmission
Computer/Electronics	75,800	71,200	58,400	-23.0%	<ul style="list-style-type: none"> ▪ Communications equipment ▪ Semiconductor components ▪ Instruments
Electrical Equipment	17,500	15,400	13,400	-23.4%	
Transportation Equip.	38,300	30,500	20,100	-47.5%	<ul style="list-style-type: none"> ▪ Motor vehicle parts ▪ Aerospace products/parts
Furniture	18,900	16,800	13,300	-29.6%	<ul style="list-style-type: none"> ▪ Household furniture
Miscellaneous	44,600	39,200	33,600	-24.7%	<ul style="list-style-type: none"> ▪ Medical equipment
Total Manufacturing	610,100	531,700	454,000	-25.6%	

Source: NYS Department of Labor, Quarterly Census of Employment and Wages, annual averages. Industries with statewide employment of less than 10,000 are omitted but are incorporated in the totals.

Trends related to manufacturing in northern New York are presented in Tables 30 and 31 below and demonstrate regional strengths in food (especially dairy products), paper, plastics and rubber products, primary metals (e.g., aluminum), fabricated metal products, and transportation equipment. Not all of these manufacturing segments have a significant presence in St. Lawrence County, however. Transportation equipment manufacturing, for example, employs large numbers of workers in Clinton and Jefferson Counties, but none in St. Lawrence County.



Table 30. Manufacturing Employment in Northern NY

Industry Segment	St. Lawrence Co.		Franklin Co.		Jefferson Co.		Clinton Co.	
	2003	2013	2003	2013	2003	2013	2003	2013
Food								
Beverage								
Wood Products								
Paper								
Printing/Related								
Chemicals								
Plastics/Rubber								
Nonmetallic Minerals								
Primary Metals								
Fabricated Metals								
Machinery								
Computer/Electronics								
Electrical Equipment								
Transportation Equip.								
Furniture								
Miscellaneous								
Total Manufacturing	4,085	2,651	700	400	2,985	2,260	5,750	3,390

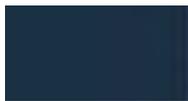
Source: NYS Department of Labor, Quarterly Census of Employment and Wages, annual averages.

Level of Employment	20-99	100-249	250-499	500-999	1,000+
----------------------------	--------------	----------------	----------------	----------------	---------------

As in many parts of the state, manufacturing employment in northern New York has declined significantly. This is due to multiple factors including the off-shoring of production to lower-cost countries; reduced demand, especially during the recession; and investments in productivity. Between 2003 and 2013, the four-county region lost an estimated 5,000 manufacturing jobs. A few industry segments experienced a net increase in employment, but the numbers were relatively small.

Table 31. Manufacturing Employment Trends in Northern NY

Industry Segment	Approx. 2013 Employment	St. Lawrence Co.	Franklin Co.	Jefferson Co.	Clinton Co.
Food	540	▼	-	▼	▶
Beverage	<500	-	▼	-	-
Wood Products	225	▶	▼	▼	▼
Paper	1,070	▼	-	▼	▼
Printing/Related	300	▼	-	-	▼
Chemicals	400	▼	-	-	▼
Plastics/Rubber	750	-	-	-	▶
Nonmetallic Minerals	500	▶	▼	▼	▶



Industry Segment	Approx. 2013 Employment	St. Lawrence Co.	Franklin Co.	Jefferson Co.	Clinton Co.
Primary Metals	975	▼	-	-	-
Fabricated Metals	<500	▼	-	▼	▶
Machinery	<100	-	-	▼	▼
Computer/Electronics	350	▼	-	-	▼
Electrical Equipment	375	-	-	▼	
Transportation Equipment	<1,000	-	-	▼	▼
Furniture	<100	-	▼	-	-
Total Manufacturing	8,700	▼	▼	▼	▼

Major manufacturing employers in St. Lawrence County and other northern New York counties are listed in Table 32. Clinton County has attracted a number of Canadian companies from Montreal in the transportation cluster, including finished vehicles and component suppliers. This has been driven primarily by the need for companies who bid on government contracts for public transit vehicles (buses and trains) to have a certain amount of U.S.-made content. Another transportation equipment company is New York Air Brake in Watertown, which produces railcar braking systems.

Recognizing the importance of transportation equipment manufacturers to the local economy, the North Country Chamber of Commerce in Plattsburgh recently announced the creation of a new North American Center of Excellence to “bolster the manufacture of transportation equipment” in Clinton County. According to a news article, the center will help the industry become more competitive by providing solutions to some of the problems it has faced in the region, such as workforce development and supply-chain gaps. Collaborative partners include SUNY Plattsburgh, Clarkson University, CITEC, and Empire State Development. The center will share space at the Advanced Manufacturing Institute at Clinton Community College; it is expected to be the first step towards establishing a binational transportation equipment cluster in Quebec and New York.¹³

Table 32. Selected Manufacturing Employers in Northern NY

Company	Location	Scope of Business
St. Lawrence County		
ACCO Brands	Ogdensburg	Blank book and loose leaf binders.
ALCOA Massena Operations	Massena	Integrated aluminum smelting and fabricating facility (since 1902, located in Massena for low cost power).
Ansen Corporation	Ogdensburg	Contract manufacturing for circuit boards and other electronic components (~1978).
APC Paper Group	Norfolk	Recycled paper products (1902).
Cives Steel Company	Gouverneur	Steel fabrication for large structures (1952).

¹³ “Center for Transportation Excellence Unveiled in Plattsburgh,” *Plattsburgh Press-Republican*, June 8, 2015.



MASSENA BOA
Brownfield Opportunity Area Revitalization Plan

Company	Location	Scope of Business
Clearwater Paper Corp.	Gouverneur	Tissue and paper packaging manufacturing; being acquired by Dunn Paper Company.
Corning Inc.	Canton	Specialty glass products for defense and aerospace applications.
Curran Renewable Energy LLC / Seaway Timber Harvesting	Massena	Wood pellet fuel (2009) and timber harvesting (1990).
DeFelsko Corporation	Ogdensburg	Coating thickness and other testing instruments (1966).
Numed Inc.	Hopkinton	Catheters for cardiology applications (1984).
Potsdam Specialty Paper	Potsdam	Specialty papers (mill established 1892, current company started 2008).
Franklin County		
Glazier Packing Co.	Malone	Meat packing (1918).
Mc Cadam Cheese Co.	Chateaugay	Multiple types of cheeses.
Jefferson County		
Allied Motion/Stature Electric, Inc.	Watertown	Design/manufacture customized motors and gear motors (1974).
Car-Freshner Corp.	Watertown	"Little Trees" air fresheners (~1955).
Climax Paperboard Inc	Carthage	Art mat and packaging board (1939).
Great Lakes Cheese	Adams	Produce NY Cheddar cheese. Plant acquired in 1984 and completely rebuilt in 2009.
H P Hood Inc.	LaFargeville	Cultured dairy products
Knowlton Technologies, LLC	Watertown	Sheets of composites and media w/ diverse applications in braking, filtration, etc.
Metro Paper Industries of NY	Carthage	Towels, tissue and napkins
New York Air Brake	Watertown	Brakes for rail cars.
Timeless Frames	Watertown	Custom picture framing operation
Clinton County		
A. Schonbek & Co., Inc.	Plattsburgh	Former Canadian firm producing crystal chandeliers; moved to Plattsburgh in 1989.
Battat Inc	Plattsburgh	Toy company (1981).
Belcam Inc	Rouses Point	Bath and beauty products (1954).
Bombardier Mass Transit Corp	Plattsburgh	Canadian firm, assembles rail cars for urban mass transit systems (1995).
Bow Industrial Corporation	Plattsburgh	Plastic plumbing fixtures.
Camoplast Rockland Ltd	Plattsburgh	Plastic parts for transportation and other equipment (1958).
Champlain Valley Industries	Plattsburgh	Contract manufacturing.
Gentec Inc.	Plattsburgh	Electronic capacitors (1959).
Intra Pac Group	Plattsburgh	Plastic/metal containers.
Mold-Rite Plastics	Plattsburgh	Plastic packaging and parts (1987).
Nova Bus	Plattsburgh	Canadian affiliate of Volvo Bus (2009).
Pactiv (formerly PCA)	Plattsburgh	Food service and food packaging papers.
Powertex Inc.	Rouses Point	Plastic liners for bulk shipping containers.



Company	Location	Scope of Business
Print Pad Ltd.	Plattsburgh	Commercial printers.
Salerno Plastics Corp	Plattsburgh	Printed plastic bags and films.
V Fraas	Plattsburgh	German parent of scarf manufacturer.
Vapor Stone Rail Systems	Plattsburgh	Passenger rail vehicle components.
Weber International	Plattsburgh	Plastic packaging.

Source: Moran, Stahl, & Boyer research.

7.3. Strategic Opportunities

The previous sections of this chapter focus on the strengths of the manufacturing sector in New York State and northern New York. In defining potential opportunities for the Massena BOA, the strategic attributes of the BOA site and its location should also be considered. These attributes include:

- Proximity to Canada (Ottawa/Montreal)
- High capacity and low cost of electricity and natural gas
- Rail access
- Availability of local assets: large quantities of timber, agricultural products, aluminum alloys
- Access to qualified skilled labor

Specific manufacturing opportunities are outlined in Table 33 below, with industry trends described in more detail in 7.4.

Table 33. Potential Manufacturing Opportunities for the Massena BOA

Opportunity	Site/Location Requirements	Comments
Food Processing		
Dairy Products (Yogurt and Cheese)	Low cost energy, local milk supply, significant water/sewer supply, clean site	Reasonable proximity to large consumer markets
Large Bakery	Low cost energy, rail access for shipping flour, water/sewer, natural gas for baking ovens, clean site	Reasonable proximity to large consumer markets
Wood Products		
Wood Pellets (Biofuel)	Low cost energy, wood supply, rail access for bulk shipments	Reasonable proximity to target market
Wood Furniture	Low cost energy, access to wood supply	Reasonable access to markets
Wood Flooring/ Moldings	Low cost energy, access to wood supply	Reasonable access to markets
Aluminum Parts		
Automotive	Low cost energy, special aluminum alloys	Typically need to be within 250 miles of assembly plant (depending on product tier)



Opportunity	Site/Location Requirements	Comments
Aircraft/Aerospace	Low cost energy, special aluminum alloys	Typically need to be within 250 miles of assembly plant (depending on product tier)
Off-Road/All-Terrain Vehicles	Low cost energy, special aluminum alloys	Typically need to be within 250 miles of assembly plant (depending on product tier)
Other		
Architectural Metal Fabrication (using extruded aluminum products)	Low cost energy, aluminum alloys for certain applications	Reasonable proximity to target market
Plastics Molding	Low cost energy, rail access for resins	Within 200 miles of customers or market

7.4. Industry Trends

Food Manufacturing

New York is one of the leading states in the U.S. in food manufacturing. While it is ranked #8 with respect to employment, with approximately 52,000 workers, New York is second only to California in terms of the total number of food processing facilities (2,274). Most of the facilities in New York are located in or near large population centers, with roughly half the employment and two-thirds of the establishments concentrated in the New York City metropolitan area.

Trends impacting the food processing industry include the following:

- *Organic foods.* According to the Agricultural Marketing Resource Center, U.S. demand for organic foods has been growing at a rate of 9% per year. This market is expected to continue to expand for the foreseeable future.
- *Ready-to-eat.* The busy lives of American households have driven continued high demand for prepared meals that can go from the oven to the plate in under an hour. Although the growing demand for fresh, healthy products has been a challenge for frozen foods producers, frozen meals identified as organic or natural are selling better than frozen foods in general.
- *Ethnic foods.* Demographic changes have led to sizable growth in the ethnic foods market. Many grocery stores now carry a wide array of products for Hispanic consumers. There is also a growing market for kosher food products.¹⁴

¹⁴ Surprisingly, while many Jewish people purchase kosher foods, they no longer represent the majority of buyers. Most consumers buy kosher foods for their quality, or because of concerns about health and safety.

- *Yogurt and cheese consumption.* Although per capita milk consumption in the U.S. has been declining over the last forty years, the consumption of dairy products like yogurt and cheese has been rising (see Figures 11 and 12 below). Italian cheeses such as parmesan, romano, mozzarella, and provolone, along with other types of cheese used in international dishes, are growing much faster than American cheeses like cheddar. Yogurt has become the key source of milk-based protein and nutrients over traditional milk.
- *Health and wellness.* Responding to an increasingly health-conscious public, companies are developing and marketing food products with ingredients that target certain conditions. An example is Dannon’s Activia, promoted to women to aid digestion.
- *Specialty foods.* The specialty food market continues to be one of the fastest growing segments of the industry. According to the Specialty Food Association, total sales of specialty foods (defined as “products that have limited distribution and a reputation for high quality”) reached \$88.3 billion in 2013.
- *Food safety concerns.* The safety of the nation’s food supply is a major concern for consumers and manufacturers alike. In designing and operating a facility, food companies have to take steps to prevent contamination and product tampering. Food-borne illnesses like salmonella cost the U.S. more than \$15 billion annually, according to the USDA’s Economic Research Service.

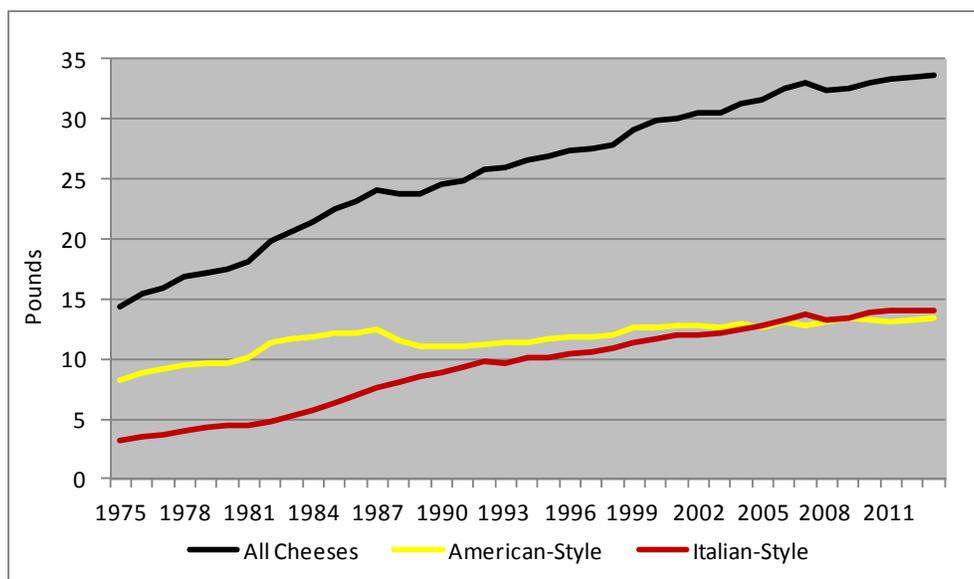


Figure 11. Annual U.S. Cheese Consumption Per Capita

Source: USDA, Economic Research Service

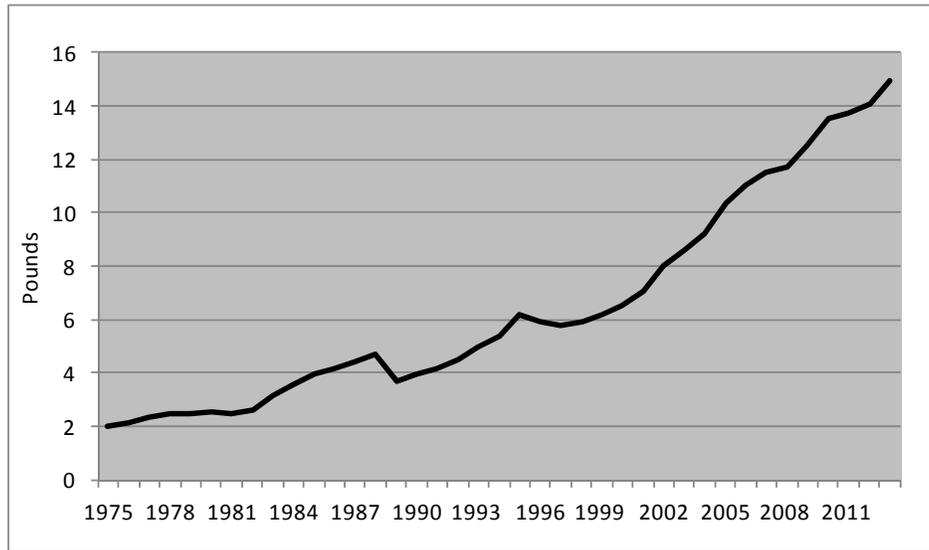
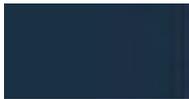


Figure 12. Annual U.S. Yogurt Consumption Per Capita

Source: USDA Economic Research Service

Dairy product manufacturing is especially strong in New York due to the supply of milk and the popularity of Greek yogurt. Nationally, New York is #4 in milk production and #3 in dairy product manufacturing employment. In northern New York, companies like Great Lakes Cheese (a producer of private label NY cheddar) and Crowley (a division of HP Hood) in Jefferson County as well as Kraft Foods (which makes cream cheese) in nearby Lewis County purchase milk supplies from area farmers.

As shown in Figure 14, the largest milk producing states in the U.S. are California and Wisconsin, which are supported by strong national advertising, branded co-ops (e.g., Land O’ Lakes) and access to regional and national distribution. Together, California and Wisconsin account for more than one-third of annual milk production, according to the U.S. Department of Agriculture. A significant portion of dairy product manufacturing is performed either near the milk

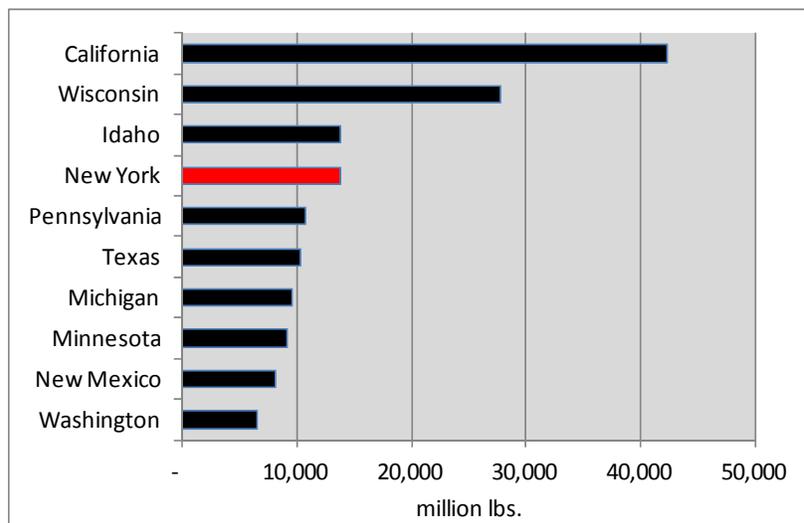
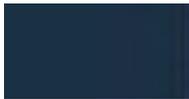


Figure 13. Top States in U.S. Milk Production, 2014

Source: U.S. Department of Agriculture, Economic Research Service.



sources or in locations that are strategic for distribution. The top ten states in dairy manufacturing (see Figure 15) account for nearly two-thirds of the U.S. employment.

St. Lawrence County is one of New York’s leading dairy producers. According to Census of Agriculture, the County had nearly 34,000 dairy cows in 2012. It ranked third in the state (after Wyoming and Cayuga Counties) in milk and dairy product sales, at \$132.3 million, and sixth in the overall value of agricultural products sold. Dairy processing may be a growth opportunity for St. Lawrence County, *if* there is access to adequate water and wastewater capacity.

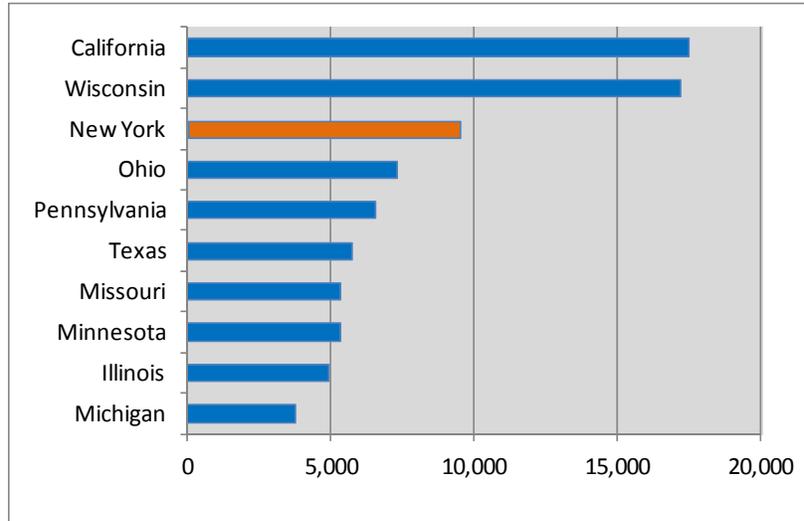
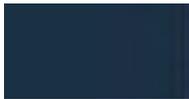


Figure 14. Dairy Product Manufacturing Employment

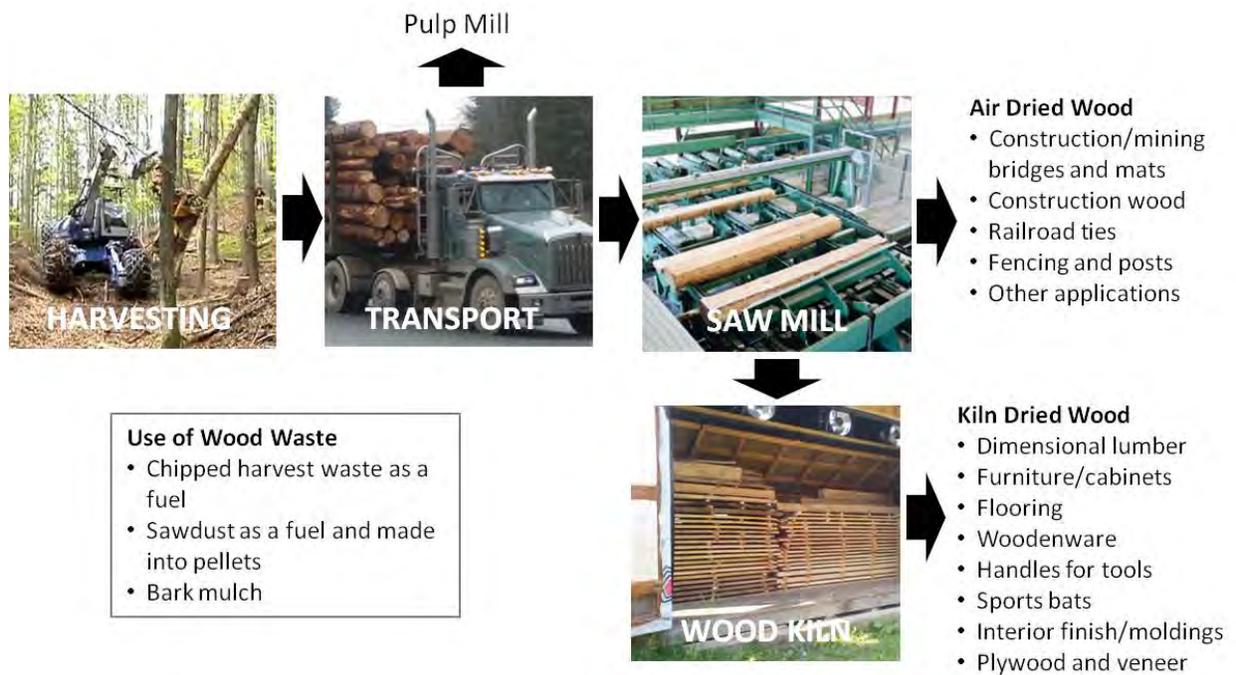
Source: U.S. Bureau of Labor Statistics, QCEW



Wood Products

Although the traditional drivers of the forest economy in northern New York – paper and natural resource extraction – have declined, the wood products industry is experiencing renewed growth through the production of biofuels. Locally, Curran Renewable Energy in Massena is a strong player in this segment of the market, producing wood pellets from compressed sawdust. New England, with its dependence on oil, and European countries that are aiming for a greater reliance on renewable energy sources are key markets.

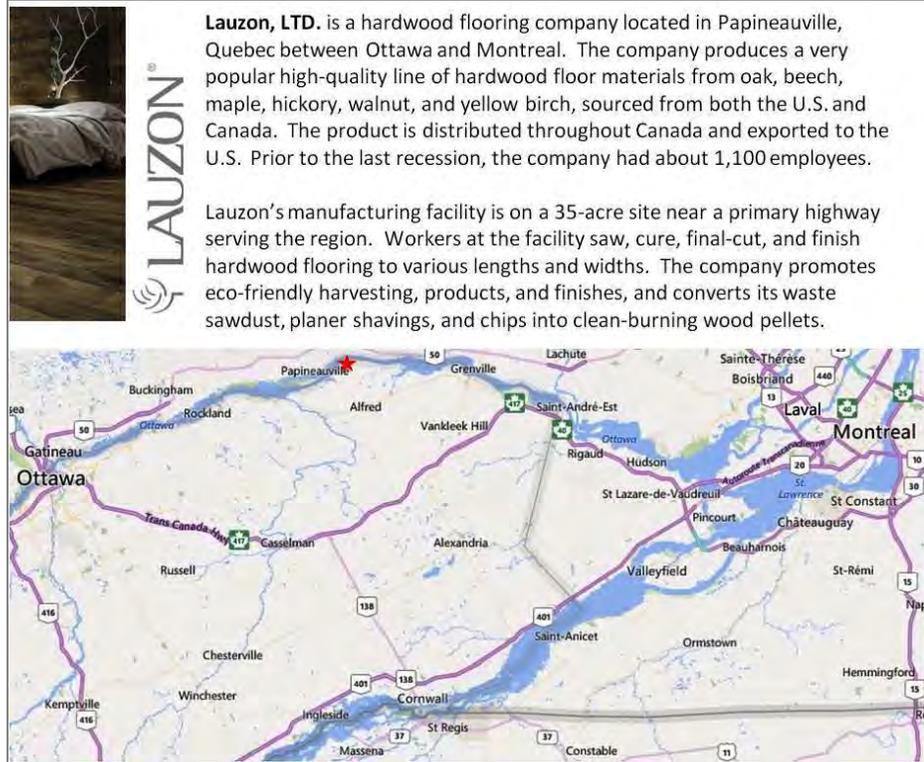
A market for biofuels has also been created within the region. In 2011, ReEnergy Holdings acquired a formerly coal-powered power plant at Fort Drum in Jefferson County and spent \$34 million converting it to use local biomass (wood chips) as its primary fuel. The ReEnergy Black River facility, which has 60 megawatts of generation capacity, went online in 2013 and has created hundreds of new jobs. Under the terms of a 20-year agreement that went into effect last year, ReEnergy Black River supplies 100% of Fort Drum’s electrical load. The remaining electrical output is sold to the region’s power grid.



Under the state’s Cleaner, Greener Communities Program, the New York State Energy Research and Development Authority (NYSERDA) recently announced its support for two wood pellet projects in northern New York. The first involves the installation of a wood pellet biomass heating system at the town garage in Stockholm, saving the town thousands of dollars in fuel oil costs. The second project will allow the Northern Forest Center to work with communities in the region to promote conversions to high-efficiency, low-emission wood pellet biomass. With NYSERDA funding available to both residential

and commercial customers for the installation of wood pellet heating systems, the demand for wood pellets in the state should increase.

The Biofuels Atlas developed by the U.S. Department of Energy National Renewable Energy Lab (NREL) indicates that lands within a 50-mile radius of the former GM site would yield roughly 87,814 tonnes (metric tons) of feedstock per year for bioenergy production. Most of the feedstock would come from forest residues, primary and secondary mill residues, urban wood waste, and corn stover.

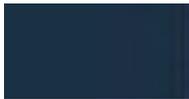


LAUZON[®]

Lauzon, LTD. is a hardwood flooring company located in Papineauville, Quebec between Ottawa and Montreal. The company produces a very popular high-quality line of hardwood floor materials from oak, beech, maple, hickory, walnut, and yellow birch, sourced from both the U.S. and Canada. The product is distributed throughout Canada and exported to the U.S. Prior to the last recession, the company had about 1,100 employees.

Lauzon's manufacturing facility is on a 35-acre site near a primary highway serving the region. Workers at the facility saw, cure, final-cut, and finish hardwood flooring to various lengths and widths. The company promotes eco-friendly harvesting, products, and finishes, and converts its waste sawdust, planer shavings, and chips into clean-burning wood pellets.

Nationally, 2014 was a very good year for the wood products industry, with industrial production up and manufacturers in all segments of the market (e.g., wood pellets, cabinetry, furniture, millwork, flooring) announcing new plants, expansions of existing facilities, and/or reshoring production. There has been a resurgence of products such as moldings, dimension lumber, and sheet goods to serve the construction industries in high-growth areas. In addition, wood furniture companies like Ethan Allen and National Office Furniture have decided to manufacture in North America to maintain the quality of their products and deliver their goods to market more quickly. For certain types of products, the quality of goods made overseas continues to be a concern. Lumber Liquidators recently suspended the sale of all laminate flooring made in China after the TV program "60 Minutes" reported that the flooring contained high levels of the carcinogen formaldehyde. The company says it will purchase flooring products from parts of Europe and North America instead.



Aluminum Production and Parts

Since the primary metals segment is focused around Alcoa, the information provided below offers insights into the aluminum industry and specifically with Alcoa as a major player in the industry.

The Aluminum Production Process: From Mining to Metal

- Step 1: Mining of Bauxite Ore.** Elemental aluminum is the third most abundant element in the earth’s crust behind oxygen and silicon. Aluminum is derived from mining bauxite that contains aluminum oxides as well as various clay minerals, iron oxides and titanium dioxide. It is estimated that there are about 29 billion metric tons of known bauxite deposits throughout the world.



Sample of Bauxite Ore

Bauxite sources are typically located near the equator in the countries shown on the map below. Bauxite is typically surface mined and then initially processed as an ore by crushing and washing to remove the clay materials.



- Step 2: Production of Alumina (Aluminum Oxide).** The bauxite ore goes through both physical and chemical processing to produce a white and dry powder that is aluminum oxide (Al₂O₃). It takes 4-7 tons of ore to make 2 tons of aluminum oxide. Aluminum oxide has multiple uses such as in abrasives, medicines, cosmetics and other products. The majority of it is used to produce aluminum metal.



Aluminum Oxide Powder

- **Step 3: Production of Aluminum Metal.** The alumina (aluminum oxide) is passed through carbon electrodes with high electrical current and the oxygen is converted into carbon dioxide and the residual is aluminum metal. It takes 2 tons of alumina to produce 1 ton of aluminum metal. The metal can be then formed into various shapes or other materials (such as copper, magnesium, manganese, silicon, tin and zinc) added to it to make aluminum alloys to add strength or produce other improved properties to the metal.

The alloys are typically divided into two categories: casting alloys and wrought alloys. Casting alloys are poured into a form to make a part (such as alloy wheels for a car) and wrought alloys are formed (such as foil and structural shapes).



Aluminum Industry Profile

Each year, over 50 million metric tons (or over 110 billion pounds) of new aluminum metal is produced in the world. In North America, more than 25 billion pounds are produced, with about 45% of the total from recycled sources. The primary domestic uses of aluminum and its alloys are shown in Figure 13.

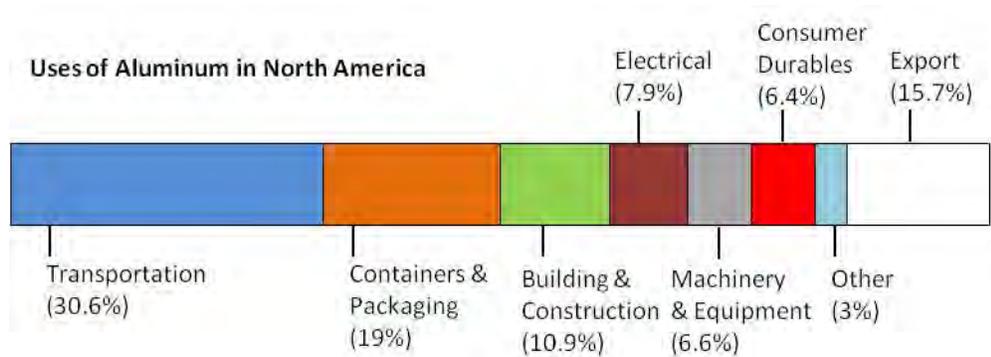
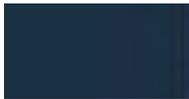


Figure 15. Uses of Aluminum in North America



The top global companies for aluminum production include:

- Alcoa Inc. – U.S. aluminum company headquartered in Pittsburgh, PA
- Aluminum Company of China - Chinese aluminum and copper products company headquartered in Beijing
- BHP Billiton - British resources company with headquarters in London
- Dubai Aluminum Company - Aluminum company headquartered in Dubai, UAE
- Norsk Hydro - Norwegian energy and aluminum company with headquarters in Oslo, Norway
- RioTinto Group - British resources company with headquarters in London
- United Company RUSAL - Russian aluminum products company with headquarters in Moscow
- Vedanta Resources - British resource company with headquarters in London

The world capacity for new aluminum production continues to expand even as the U.S. and portions of Europe shut down older, less productive (energy inefficient) processes. The growth is coming primarily from China, which has expanded capacity ten-fold since 2000, and also production coming on-line in the Middle East.

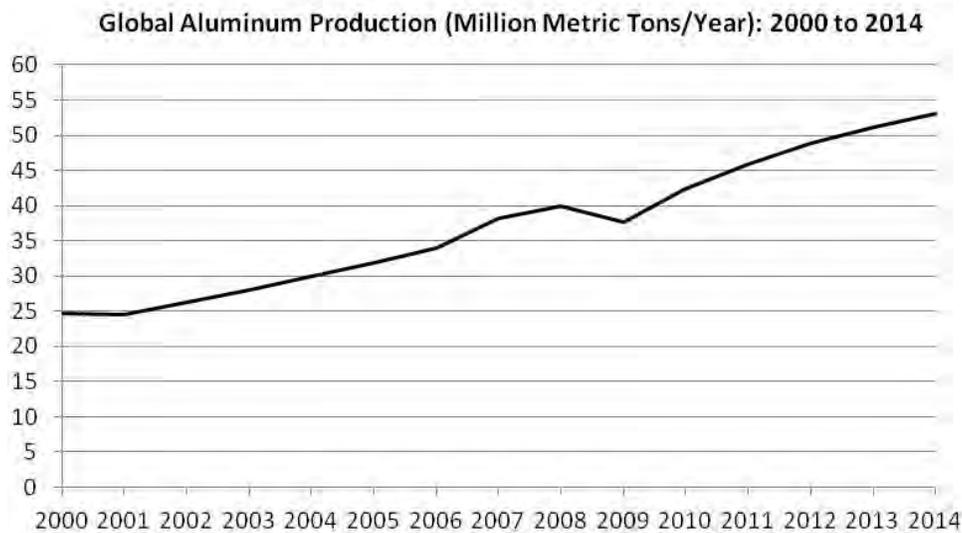


Figure 16. Global Aluminum Production
Source: International Aluminum Institute (IAI)

The market price for aluminum took a dive during the recession as capacity overshot demand, particularly with China ramping up new production, even as profitability sought very low levels.

Price for Aluminum (\$/Metric Ton): 2000 to 2014

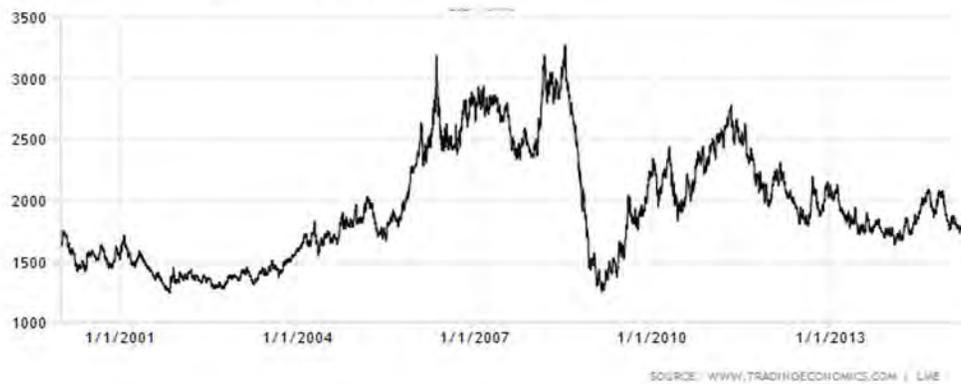


Figure 17. Aluminum Price Per Metric Ton

Aluminum Production (Thousand Metric Tons/Year) by Global Region: 2000 to 2014

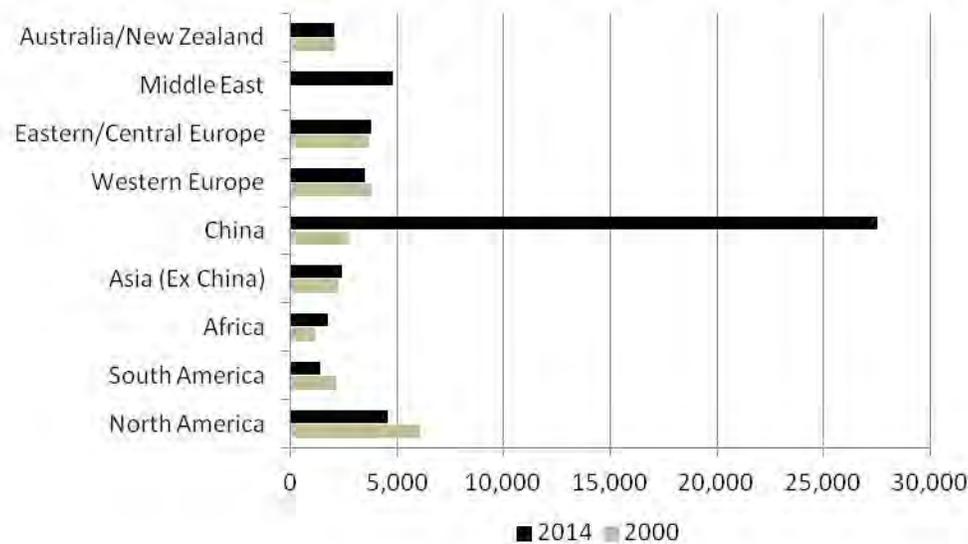


Figure 18. Aluminum Production by Region

Major market growth areas include a broad demand in expanding population centers such as China and India, with the potential of expanding onboard content in the automotive industry with special aluminum alloys to reduce weight (without impacting safety) and improve fuel efficiency.

Alcoa Profile

Alcoa is one of the global leaders in aluminum production, particularly in the areas of new product applications. Company revenues are \$23.9 billion and worldwide employment is at 59,000. Key market



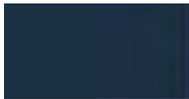
segments include 1) Transportation (particularly aerospace and automotive); 2) construction; and 3) beverage containers and other areas.

Alcoa’s business strategy is to:

- Focus on the higher-value portion of the business to produce strong margins, while managing the cost of upstream operations (refining and smelting).
- Leverage R&D to develop new alloys and new market applications to improve customer product performance.
- Develop new process innovations to reduce cost and production time, such as the new Alcoa Micromill™ that produces rolled (coiled) product in 20 minutes rather than 20 days; the product is stronger and more moldable and the process takes up only a fraction of the current production space.

Table 34. Alcoa Production Presence in North America

Smelting Operations			
Location	Production (000 MTPY)	Energy Source	Comments
Baie Comeau, QC	280	Long-term contract w/Hydro-Quebec	Owned 25% by Rio Tinto Alcan
Becancour, QC	310	Same	
Deschambault, QC	260	Same	
Massena, NY	130	Long-term contract w/NYPA hydro power	
Evansville, IN	269	Local coal reserves	
Rockdale, TX	191	Coal fired power	
Ferndale, WA	279	Hydro power	
Wenatchee, WA	184	Hydro power	
Downstream Operations			
Aerospace and Gas Turbine Related	Architectural Products	Extrusions	Fasteners
<ul style="list-style-type: none"> ▪ Branford, CT ▪ Winsted, CT ▪ LaPorte, IN ▪ Whitehall, MI ▪ Morristown, TN ▪ Wichita Falls, TX ▪ Hampton, VA ▪ Georgetown, ON ▪ Laval, QC 	<ul style="list-style-type: none"> ▪ Springdale, AR ▪ Visalia, CA ▪ Eastman, GA ▪ Bloomsburg, PA ▪ Cranberry, PA ▪ Pointe Claire, QC ▪ Vaughan, ON ▪ Lethbridge, AB 	<ul style="list-style-type: none"> ▪ Chandler, AZ ▪ Lafayette, IN ▪ Baltimore, MD ▪ Massena, NY 	<ul style="list-style-type: none"> ▪ Tucson, AZ ▪ Carson, CA ▪ City of Industry, CA ▪ Newbury Park, CA ▪ Sylmar, CA ▪ Torrance, CA ▪ Kingston, NY ▪ Waco, TX



Forgings	Rings	Ingot Castings	<i>Note: extrusions, fasteners and forgings are applied to multiple markets, including aerospace and automotive.</i>
<ul style="list-style-type: none"> ▪ Savannah, GA ▪ Barberton, OH ▪ Chillicothe, OH ▪ Cleveland, OH ▪ Denton, TX 	<ul style="list-style-type: none"> ▪ Rancho Cucamonga, CA ▪ Fontana, CA ▪ Rochester, NY ▪ Verdi, NV ▪ Denton, TX 	<ul style="list-style-type: none"> ▪ Alcoa Center, PA 	

Alcoa’s Massena Operations incorporate the following products and processes:

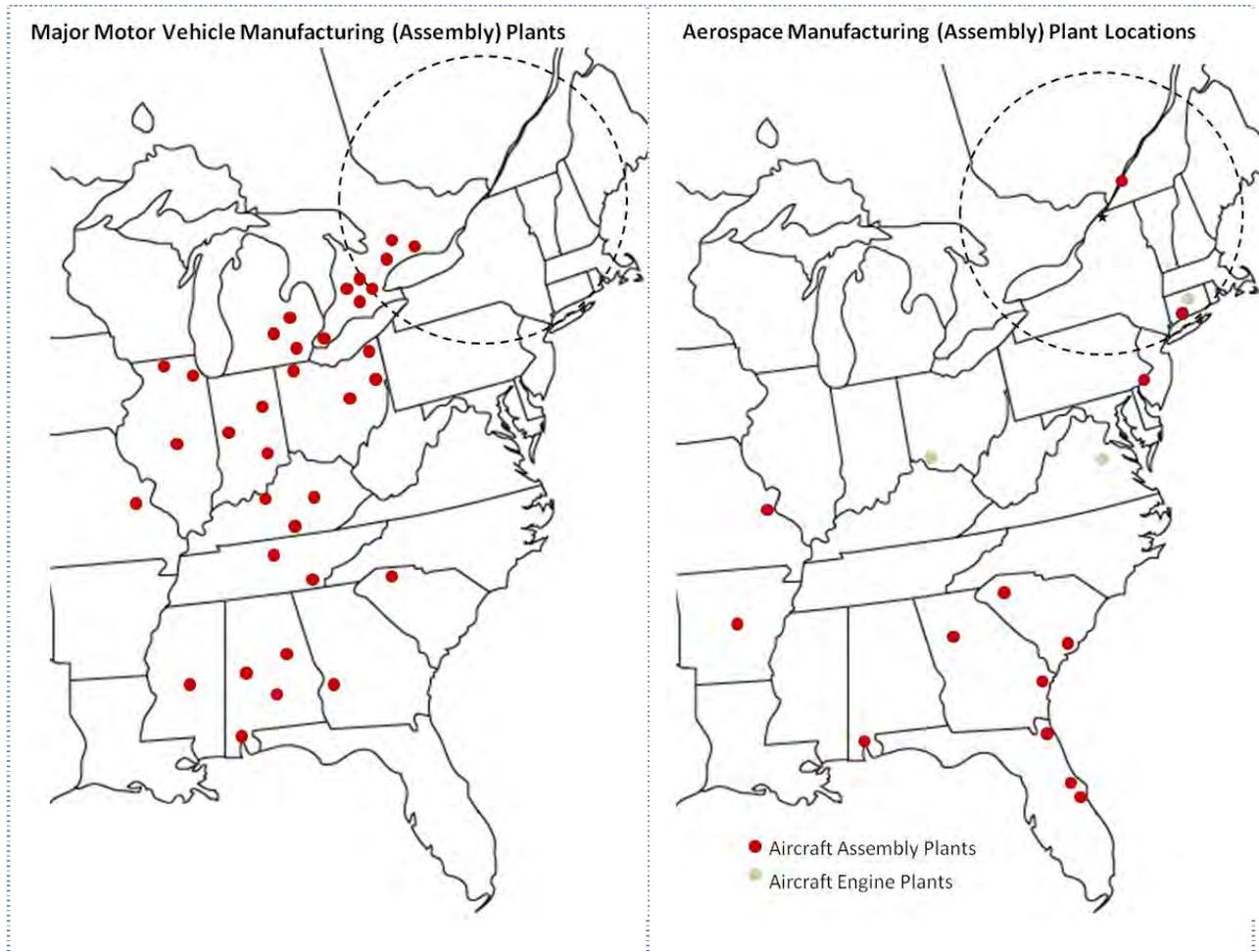
- **Smelting:** In the Massena West plant, 198 pre-bake cells comprise one of the largest and most automated smelting potlines in the industry. Here, 800,000 pounds of molten aluminum are produced daily.
- **Ingot:** Molten aluminum from Massena’s West Smelting Plant is mixed with alloying elements and cast into round ingot in Massena’s Ingot Plant. About 60 different alloys are produced for further fabrication into extruded and cold finished rod and bar, and for forging into car and truck wheels at Alcoa’s Cleveland Works.

The Ingot Plant houses a continuous rod casting and rolling facility. This state-of-the-art production unit takes molten aluminum and, in one continuous process, produces coiled rod ready for customer shipment.

- **Extrusion:** The three extrusion presses force round ingot through dies at elevated temperatures and pressure to produce solid starting stock shapes and sizes for customer shipment or further fabrication into cold finished rod and bar.
- **Fabricating:** Extruded products are further finished through thermo-mechanical processing to obtain smaller diameter cold finished rod and bar, and screw machine stock.

The Extrusion and Fabricating processes are part of Alcoa’s Engineered Products and Solutions Business Unit (Alcoa Forgings and Extrusions). Aluminum from Massena Operations is found in everything from automotive and aerospace applications to zippers. It supplies customers in the construction, electronics, packaging and transportation industries, shipping millions of pounds of starting stock every month. Alcoa Engineered Products in Massena has also earned ISO 9002 and QS-9000 quality certification.

Motor vehicle assembly and aerospace assembly facilities supplied by Alcoa are identified in the maps below. Alcoa has located downstream processing centers closer to the automotive assembly plants to serve this market. With the exception of the plants in southwest Ontario, there are no motor vehicle assembly plants within 250 miles of Massena.



The two aerospace assembly plants nearest Massena are the Bombardier aircraft plant in Montreal and the Sikorski Aircraft plant in southern Connecticut. There is also a Pratt & Whitney Aircraft Engine plant south of Hartford, CT. Alcoa has downstream processing plants already located in Montreal and Connecticut to serve these markets.

The opportunity for a major aluminum alloy user to co-locate with Alcoa would most likely be an automotive or aerospace parts provider. However, these operations are typically within 200 miles of a final assembly plant and are already being served by Alcoa specialty alloy plants. The future of alloy production seem to be focused on smaller specialty operations located near the final assembly operation.



Other Segments

The Architectural Metal Fabrication industry tends to locate relatively close to expanding markets with ongoing residential and commercial construction activity that stimulates the demand for these products. These markets are generally in the southeast and southwest regions of the U.S. rather than in the northeast.

Plastic molders produce either parts for equipment or vehicles or stand-alone final products. There are several plastic molders in the Plattsburgh area that serve the transportation equipment industry. Plattsburgh's access to companies in Montreal as well as markets to the south make it a more viable destination for plastic parts production than Massena.

7.5. Manufacturing Potential

- *Food processing:* The large milk supply in the region would support dairy product manufacturing, but the Massena BOA site will require significant water and wastewater capacity. Similarly, a large bakery operation could take advantage of the low cost energy available and access to natural gas; however, the lack of a major population center nearby may limit the site's potential. In either case, reuse of the site for food processing would need to be approved by the U.S. Environmental Protection Agency.
- *Wood products:* The current wood pellet operation in Massena could expand at the BOA site and take advantage of low cost energy and rail access. A wood product manufacturer could also take advantage of wood resources, the availability of low cost energy, and a blue-collar labor force that would need to be retrained.
- *Aluminum parts:* Massena is not located near any U.S. automotive or aerospace assembly plants and Alcoa has placed downstream alloy plants near strategic industry locations. There are also no off-road vehicle assembly plants within 200 miles in the U.S., although the Ski-Doo snowmobile, Sea-Doo watercraft, and Can-Am roadster are produced in Valcourt, Quebec, east of Montreal; these are currently served by aluminum plants in Quebec.
- *Other:* A metal fabricator could take advantage of the aluminum resources, low energy costs, and available labor force and skills in Massena. Not having a major regional market for the finished product, however, will limit interested companies. Plastics molders could take advantage of low energy costs and rail access, but they would need a defined regional customer base to be successful.

8. Logistics and Import/Export Activity

Trade between the U.S. and Canada that flows through northern New York comes primarily by truck via Ottawa and southeastern Ontario and Quebec. Ottawa was a hub for telecom equipment and computer component production until the recent recession, when it experienced a significant loss of that business. Goods going to and from Ottawa tend to travel through Alexandria Bay and Ogdensburg. Montreal is a diverse manufacturing city as well as a financial center, and most of its goods pass through Champlain-Rouses Point and Highgate Springs in northern Vermont.

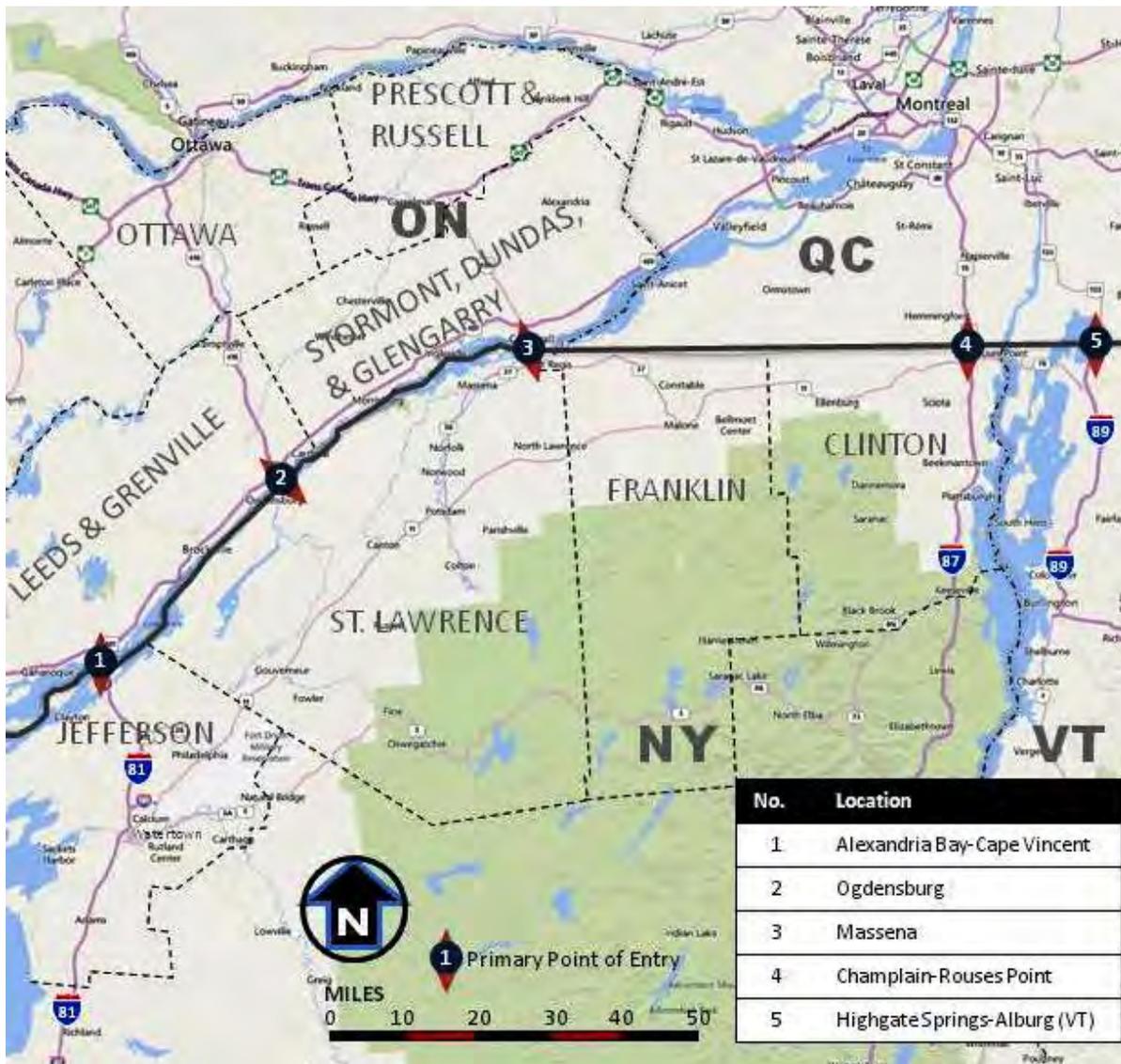


Figure 19. Ports of Entry Into Northern NY

8.1. U.S.-Canadian Trade Through Northern New York

Canada is by far the United States’ top trading partner. According to the U.S. Census Bureau, U.S.-Canadian trade totaled \$658.1 billion in 2014, accounting for 16.6% of U.S. international trade. Although changes in the exchange rate affect the *balance* of trade, the value of trade between the two countries has been increasing annually.

The five major ports (points) of entry into northern New York from Canada are shown in Figure 16. Trade activity in the region, as measured by total trade value, is strongest through Champlain-Rouses Point due to its direct link to I-87, which connects Montreal and other parts of Quebec with the New York State Thruway and points downstate. The second busiest port of entry is Alexandria Bay, which connects Ottawa to I-81. Since 2007, trade over the U.S.-Canadian border at both Alexandria Bay and Highgate Springs has increased, while trade through Rouses Point has remained constant.¹⁵ Both Ogdensburg and Massena have experienced a significant reduction in the flow of goods over the border.

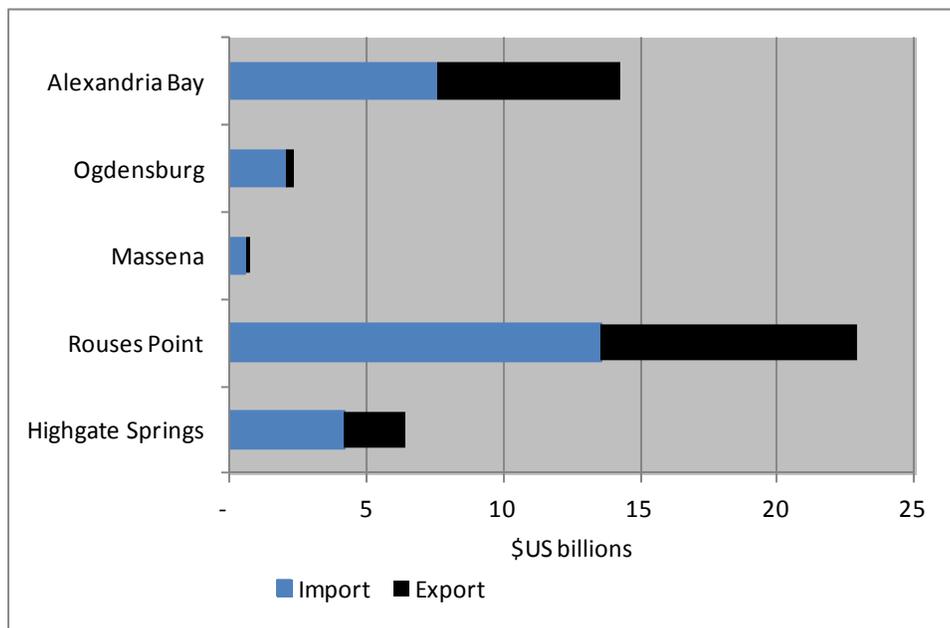


Figure 20. Trade Between the U.S. and Canada by Port of Entry, 2013

Looking more closely at trade through Massena by commodity, the largest component in 2013, comprising 51% of the total, was metals, chiefly copper and aluminum. This was followed by mineral products, chemicals, plastics and rubbers (20%) and food products and agricultural commodities (10%). Interestingly, the food products category was the *only* major commodity group where trade through the

¹⁵ Of the five ports of entry, only Champlain-Rouses Point and Highgate Springs have rail freight crossings. Otherwise all freight is shipped by truck.



port of Massena increased between 2007 and 2013. Most of these goods were imported to the U.S. from Canada rather than the reverse (\$50.3 million vs. \$19.0 million). Food products are one of Canada’s fastest-growing exports.

Table 35. U.S.-Canadian Trade By Port of Entry, 2013

Port of Entry	Alexandria Bay	Ogdensburg	Massena	Champlain-Rouses Point	Highgate Springs, VT
Total Trade (USD)	\$14.3 billion	\$2.4 billion	\$0.71 billion	\$22.9 billion	\$6.4 billion
% Change, 2007-13	+21.9%	-38.6%	-25.8%	+0.5%	+12.1%
Total Import	\$7.6 billion	\$2.1 billion	\$0.57 billion	\$13.5 billion	\$4.2 billion
Total Export	\$6.7 billion	\$0.3 billion	\$0.14 billion	\$9.4 billion	\$2.2 billion
Top Import (IM) and Top Export Products (EX)					
Aluminum	IM/EX	IM	IM	IM	
Animal Products				IM	
Chemical Materials	IM/EX	IM/EX	IM	IM/EX	EX
Copper	IM	IM	IM/EX	IM	IM
Food Stuffs	IM/EX			IM/EX	IM/EX
Fossil Fuels		IM	IM	IM	IM
Games, Toys, & Sports Equipment					IM/EX
Iron & Steel	IM	IM			
Glass/Glassware	EX	EX	EX	EX	
Machinery/Electrical	IM/EX	IM/EX	IM/EX	IM/EX	IM/EX
Optical Devices		IM			
Plastics/Rubber	IM/EX	IM/EX		IM/EX	EX
Precious Metals/Stones	IM/EX		EX	IM	EX
Pulp & Paper	IM		EX	EX	IM
Textiles/Textile Products	IM/EX				
Transportation Equipment/Parts	IM/EX	EX	EX	IM/EX	EX
Wood Products	IM/EX	IM	IM	EX	IM/EX

Source: U.S. Department of Transportation, Bureau of Transportation Statistics, TransBorder Freight Data.

8.2. Warehousing/Transportation and Wholesale Employment

Over the last decade, most of the northern New York region has experienced a decline in warehousing/transportation and wholesale employment, although St. Lawrence County has seen some growth, primarily in Ogdensburg.

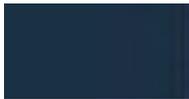


Table 36. Transportation, Warehousing, and Wholesale Employment in Northern NY

Industry	St. Lawrence Co.			Franklin Co.			Jefferson Co.			Clinton Co.		
	2003	2008	2013	2003	2008	2013	2003	2008	2013	2003	2008	2013
Transportation & Warehousing	440	500	545	-	90	90	1,010	1,325	1,000	1,610	1,530	1,380
Wholesale Trade	395	455	450	165	55	175	980	1,000	950	1,410	1,295	970
Trend, 2003-2013												
Transportation & Warehousing	▶			▶			▼			▼		
Wholesale Trade	▶			▶			▼			▼		

Source: NYS Department of Labor, Quarterly Census of Employment and Wages, annual averages.

8.3. Logistics and Distribution

According to an economic development official in the Plattsburgh area, the dynamics of the logistics industry have changed. Instead of transporting goods from Canada across the border to a warehouse and using the services of a freight forwarder, larger companies are shipping full truck loads direct to their destinations, reducing transportation and handling costs. As a result, opportunities for warehousing services at the U.S.-Canadian border will probably be limited.



9. Tourism Market Analysis

The visitor market is also an important segment to be considered in the context of the Massena BOA. While a detailed analysis of the attractions and amenities in St. Lawrence County and the North Country region is outside the scope of this project, the discussion provides an overview of tourism attractions, trends, and resources that could impact the demand for a visitor center or other tourism-related use in the BOA Study Area.

9.1. The Tourism Economy

According to the annual report *Economic Impact of Tourism in New York State*, tourism in the Thousand Islands region (defined as St. Lawrence, Oswego, and Jefferson Counties) is a \$481 million industry, supporting nearly 8,900 jobs. St. Lawrence County represents 24% of the region’s tourism sales, with an estimated \$115 million in traveler spending.¹⁶ The majority of the tourism activity in the Thousand Islands takes place in Jefferson County, in communities like Alexandria Bay and Clayton.

Employment in tourism-related industries in northern New York is shown in Table 37. The data again reflect the considerable economic activity derived from travel and tourism in Jefferson County. Both Jefferson and Clinton Counties are easily accessible via interstate highways. Parts of St. Lawrence, Franklin, and Clinton Counties are in the Adirondack Park and benefit from visitors coming to the area for outdoor recreational opportunities.

Table 37. Employment in Tourism-Related Industries in Northern NY

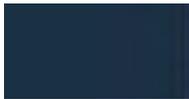
Industry	St. Lawrence Co.			Franklin Co.			Jefferson Co.			Clinton Co.		
	2003	2008	2013	2003	2008	2013	2003	2008	2013	2003	2008	2013
Lodging	385	295	313	157	109	176	568	451	605	369	389	430
Food Services	2,433	2,573	2,583	951	873	940	2,890	3,302	3,713	2,287	2,183	2,457
Arts/Recreation	120	137	144	603	180	185	378	447	427	157	183	265

Source: NYS Department of Labor, Quarterly Census of Employment and Wages, annual averages.

Table 38. Trends in Tourism-Related Employment in Northern NY

Industry	St. Lawrence Co.	Franklin Co.	Jefferson Co.	Clinton Co.
Lodging	▼	▲	▲	▲
Food Services	▲	▼	▲	▲
Arts/Recreation	▲	▼	▲	▲

¹⁶ Tourism Economics. *The Economic Impact of Tourism in New York, 2012 Calendar Year, Thousand Islands Focus.*



9.2. Tourism Attractions

The Massena BOA is well within reach of major markets in both the United States and Canada. There are 348,000 people within an hour’s drive – 116,000 residents on the U.S. side and 232,000 on the Canadian side – and 6.2 million people within a two-hour drive, the majority in the Ottawa, Kingston, and Montreal metropolitan areas of Canada. More than 2.4 million vehicles cross the Seaway International Bridge between Massena and Cornwall every year.

As shown in Table 39, tourism attractions within an hour of the Massena BOA include local and state parks, historic sites, museums, and cultural facilities, as well as the Akwesasne Mohawk Casino. State wildlife management areas, nature centers, and parks in St. Lawrence County support a wide range of outdoor recreational activities, such as boating, fishing, hunting, camping, canoeing, and hiking. Massena and Waddington benefit from their proximity to the St. Lawrence River, parks, and campgrounds and experience a boost in tourism during the summer months.

Table 39. Tourism Assets Within One Hour of the Massena BOA (U.S. Only)

Description	Location	Comments
Akwesasne Cultural Center	Hogansburg	Library and museum with exhibits on the cultural heritage of the Akwesasne Mohawk people.
Akwesasne Mohawk Casino	Hogansburg	Gaming facility; approximately 1 million visits in 2008.
Arts Center – St. Lawrence Arts Council	Potsdam	Gallery and gift shop.
Coles Creek State Park	Waddington	Campsites, swimming beach, playground, marina, boat launch with access to the St. Lawrence River; opportunities for birdwatching, boating, and fishing.
Community Performance Series, SUNY Potsdam	Potsdam	College-community partnership that presents world-class performing arts opportunities to the public.
Eisenhower Lock, St. Lawrence Seaway	Massena	One of two U.S. locks along the St. Lawrence River between Montreal and Lake Ontario. Visitor center open seasonally; 50,000 visitors per year.
Fish Cap	Multiple locations	A tourism initiative that promotes and brings anglers and their families to St. Lawrence County for fishing trips and tournaments.
Great Lakes Seaway Trail	Multiple locations	The St. Lawrence County section of the Seaway Trail follows State Route 37 through Ogdensburg and Massena to its northern terminus at Rooseveltown.
Grasse River Heritage Trail	Canton	Includes interpretive signs detailing the history of the Grasse River.
Hawkins Point Visitors Center & Boat Launch	Massena	NY Power Authority visitor center with exhibits and activities; birdwatching opportunities.



Description	Location	Comments
Indian Creek Nature Center	Canton	Privately operated, publicly owned nature center at Upper & Lower Lakes WMA; observation tower, walkway, trails.
Massena Intake	Massena	Boat launch off Route 131; access to the St. Lawrence River for fishing and boating.
Massena Museum	Massena	Local history museum with exhibits and photos. Relocating to the Seacomm Federal Credit Union building on Main Street, where it will be able to host social events and musical performances.
Massena Town Beach	Louisville	20 acres on the St. Lawrence River with a sandy beach, picnic areas and grills, covered picnic pavilions, fishing access, and recreational amenities. Parking fee charged.
North Country Scenic Byway (formerly Military Trail Scenic Byway)	Multiple locations	84-mile scenic byway that runs from State Route 37 in Massena to US Route 11 in Malone and then east to Rouses Point.
Richard F. Brush Art Gallery – St. Lawrence University	Potsdam	Free and open to the public during the academic year.
Robert Moses State Park	Massena/Barnhart Island	More than 25 miles of trails for hiking and cross-country skiing; wooded campsites and cabins; marina and boat launch; swimming beach; picnic areas; fishing opportunities; tennis courts. Nature center. Park open year-round, though some facilities are seasonal.
Schine Theater	Massena	Historic downtown landmark, closed since 1991. Purchased by the Massena Arts and Theater Association (MATA), which plans to renovate and reopen the theater as a year-round venue for the performing arts and other cultural events.
Silas Wright Museum	Canton	Home to the St. Lawrence County Historical Association. Open year-round
St. Lawrence Wine Trail	Multiple locations	80-mile wine trail designated in 2014. Includes Kaneb Orchards Farm Cidery in Massena, St. Lawrence Brewing Company in Canton, and High Peaks Winery in Winthrop.
Traditional Arts in Upstate New York (TAUNY)	Canton	Promotes folk arts and folklore of the North Country; products for sale, workshops, exhibits.
Upper & Lower Lakes Wildlife Management Area	Canton	Large wetlands complex; bird and wildlife watching, canoeing, hunting.
Waddington Town Beach (Howard Park)	Waddington	Beach with picnic areas and grills, picnic pavilions, concession stand, playground, docking facilities, and other amenities.
Whalen Park	Louisville	
Whittaker Park	Waddington	Recreational facilities on the St. Lawrence River.
Wilson Hill Wildlife Management Area	Massena	Hiking trails, bird and wildlife watching.

Source: E.M. Pemrick and Company research.



Additional tourism product is expected to be developed in the coming years by the St. Regis Mohawk Tribe. Recognizing the Akwesasne community's rich cultural history – as well as the need to focus on visitors *other* than gaming tourists – the tribe produced a cultural tourism strategy in 2009 to “promote and enhance the skills and talents of our craftspeople.” The strategy, known as *Sharing the Spirit*, recommended a number of initiatives, including:

- Establishment of a Welcome Center, possibly on the former GM site adjacent to the western edge of the reservation;
- Beautification and revitalization of Route 37;
- Design and construction of a new Akwesasne museum and archival facility to “preserve and present the history and culture of the Mohawk People”;
- Enhancement of the Ronatahon:ni Cultural Centre, with the establishment of a theater program for youth;
- Construction of an eco-resort;
- Construction of an art park, with art galleries, studios, retail shops, and a café;
- Promotion of artists, artisans, and “cultural entrepreneurs”; and
- Development of promotional materials for cultural tourism.

A follow-up study, the *Akwesasne Cultural Tourism Strategic Plan*, was produced in 2014 to “help the Akwesasne community successfully consider, identify and make decisions about the priorities and possibilities it wants to achieve as the Cultural Tourism sector is developed.” Implementation of the strategic plan is currently ongoing; project working groups have been established to begin planning the initiatives laid out in the 2009 study in collaboration with various stakeholders.

Earlier this year, the Town of Massena hired a consultant, Venue Strategies, to evaluate the feasibility of developing an indoor waterpark with an associated on-site resort hotel and additional amenities as a year-round tourism destination. The consultant concluded that there is “sufficient market demand to support the successful operation of a 120,000 sf indoor waterpark in Massena containing a resort hotel with 475 available rooms.” Total Phase 1 construction costs were estimated at \$191.8 million, not including the cost of land.

Venue Strategies noted that the establishment of a “co-promotion and marketing relationship” with the St. Regis Mohawk Tribe and the Akwesasne Mohawk Casino would be an important factor in the overall success of the project. The co-location of a “multi-purpose events center” with the waterpark complex was suggested to extend the project's revenue-generating capabilities into tournament sports, ticketed entertainment, and meetings and special events. The report identified several potential locations for the waterpark project, including the St. Lawrence Centre mall and the RACER Trust property in the Massena BOA.



9.3. Tourism Infrastructure

In spite of its assets, the tourism infrastructure in and around Massena remains underdeveloped. For example, over the last several years, events and tournaments have been held to promote fishing in the area, but there are no local guides or boat rentals available, and riverfront lodging is limited. Most St. Lawrence River fishing charters on the U.S. side are based in Clayton or Alexandria Bay (Jefferson County). Similarly, Robert Moses State Park and Eisenhower Locks are significant regional attractions, but there are few places close by where visitors can spend their money.

An important question is whether Massena and the surrounding area have the overnight accommodations necessary to support a significant increase in tourism activity. As shown in Table 40, within an hour’s drive of Massena, there are more than 2,500 hotel and motel rooms – 1,178 on the U.S. side and 1,411 on the Canadian side of the border. Within 30 minutes (properties shown in italics), the numbers shrink to 463 rooms in the U.S. and 1,179 in Canada. These totals include rooms in properties of varying age, size, services, and quality. Approximately 63% of rooms on the U.S. side and 30.5% of the rooms on the Canadian side are in branded properties. Although branding is not always an indicator of quality, hotels and motels usually have to meet certain standards in order to maintain their franchise.

Table 40. Hotels and Motels Within A 1-Hour Drivetime of the Massena BOA

Name	City	State/Province	# Rooms
U.S.			
Best Western-University Inn	Canton	New York	90
Comfort Suites	Canton	New York	69
<i>Akwesasne Mohawk Casino Resort</i>	<i>Hogansburg</i>	<i>New York</i>	<i>150</i>
<i>Comfort Inn & Suites</i>	<i>Hogansburg</i>	<i>New York</i>	<i>64</i>
Dreamland Motel	Malone	New York	14
Econo Lodge	Malone	New York	45
Four Seasons Motel	Malone	New York	26
Holiday Inn Express	Malone	New York	81
Red Roof Inn Plus+ & Suites	Malone	New York	44
Sunset Inn Motel	Malone	New York	27
<i>Blue Spruce Motel</i>	<i>Massena</i>	<i>New York</i>	<i>14</i>
<i>Econo Lodge</i>	<i>Massena</i>	<i>New York</i>	<i>45</i>
<i>Quality Inn</i>	<i>Massena</i>	<i>New York</i>	<i>117</i>
<i>Bob's Motel-Red Carpet Inn</i>	<i>Massena</i>	<i>New York</i>	<i>30</i>
<i>Super 8-Massena</i>	<i>Massena</i>	<i>New York</i>	<i>43</i>
Quality Inn Gran-view	Ogdensburg	New York	46
Stone Fence Resort	Ogdensburg	New York	51
Windjammer Lodge	Ogdensburg	New York	20
Wishing Wells Motel	Ogdensburg	New York	7
Clarkson Inn	Potsdam	New York	40

Name	City	State/Province	# Rooms
Hampton Inn-Potsdam	Potsdam	New York	94
Northern Family Motel	Potsdam	New York	15
Potsdam Inn	Potsdam	New York	16
Scottish Inns	Potsdam	New York	18
Riverview-Waddington Motel	Waddington	New York	12
TOTAL ROOMS, U.S. SIDE			1,178
CANADA			
White Rock Motel	Alexandria	Ontario	13
Microtel Inn & Suites Casselman	Casselman	Ontario	61
Restauparc Motel	Casselman	Ontario	16
<i>Best Western Plus Parkway Inn</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>97</i>
<i>Century Motel</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>15</i>
<i>Comfort Inn-Cornwall</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>110</i>
<i>Cornwall Lodge</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>67</i>
<i>Fairview Inn</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>12</i>
<i>First Canada Inns</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>19</i>
<i>Howard Johnson</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>48</i>
<i>Martin's Inn</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>16</i>
<i>Monte Carlo Motel</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>23</i>
<i>The NAV Centre</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>560</i>
<i>Nites Inn</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>12</i>
<i>Ramada-Cornwall</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>112</i>
<i>Super 8</i>	<i>Cornwall</i>	<i>Ontario</i>	<i>50</i>
Iroquois Motel	Iroquois	Ontario	15
Bridgewaters Inn	Johnstown	Ontario	12
Johnstown Motel	Johnstown	Ontario	12
<i>Lion Motel</i>	<i>Long Sault</i>	<i>Ontario</i>	<i>24</i>
<i>Long Sault Motel</i>	<i>Long Sault</i>	<i>Ontario</i>	<i>14</i>
Mc Intosh Country Inn	Morrisburg	Ontario	59
Riverside Motel	Morrisburg	Ontario	10
Hotel Victoria	Coteau-du-lac	Quebec	6
Motel Des Erables	Coteau-du-lac	Quebec	16
Motel Rive Du Lac	Saint-zotique	Quebec	12
TOTAL ROOMS, CANADIAN SIDE			1,411
ALL ROOMS WITHIN ONE HOUR OF THE MASSENA BOA SITE			2,589

Source: E.M. Pemrick and Company research. Note: Properties within a 30-minute drivetime are listed in italics.

Retail to serve both residents and visitors in Massena is struggling. Downtown has few retailers and many vacant buildings. Harte Haven Plaza on Route 31 is full, but the St. Lawrence Centre mall and adjacent Hannaford Plaza on Route 37 have lost tenants. Sears, one of the mall's anchor stores, and Office Max, in the strip mall next to Hannaford, closed in 2014; TJ Maxx, another anchor, relocated to Harte Haven Plaza in 2012. Many smaller retailers at the mall have closed as well, leaving empty



storefronts and reduced foot traffic, although a few vacancies have been filled by service providers, like hair salons, a gym, and a medical office.

Some blame the Canadian exchange rate for the situation at the mall, but there are probably other factors as well, including the condition of Massena's economy. Traditional indoor malls like the St. Lawrence Centre are facing challenges nationwide, as anchors like Sears, J.C. Penney, and even the venerable Macy's are laying off workers and closing stores. Shopping habits are changing; consumers who used to shop at department stores now go to Wal-Mart or Target, or purchase items online. The mall concept is not dead, but it is in transition.

Other issues affecting Massena's tourism development potential also affect the community's overall appeal for prospective residents and businesses as well. These include the need for aesthetic improvements to make the area more visually appealing; readily-available visitor information; attractive and welcoming signage, especially at entryways into the community; and a "tourist-friendly" culture that encourages word-of-mouth marketing and repeat visits.

9.4. Tourism Development Potential

With its access to large Canadian markets, abundant recreational opportunities, and location relative to the Thousand Islands and the Adirondack Park, St. Lawrence County has potential for tourism development. However, this will depend on such factors as product development and effective marketing, as well as improvements to make the area more "tourism-friendly."

The proposed establishment of an Akwesasne Welcome Center on the Massena BOA site south of Route 37 offers opportunities for additional tourism-related recreational, entertainment, and/or commercial uses. As previously noted, approximately 12,000 vehicles a day travel this leg of Route 37, from Seaway International Bridge to Hogansburg. How many of these drivers are from outside the region is not known, but a destination venue in the Massena BOA could capitalize on the level of traffic and proximity to the border crossing.

One possibility for the BOA is the development of a multi-purpose recreational and/or entertainment facility such as the one being evaluated by Venue Strategies. Provided it is determined to be financially feasible, a year-round indoor water park would draw large numbers of people, resulting in substantial economic benefits as visitors spend money at local hotels, motels, and restaurants. A destination venue would also complement, rather than compete with, the St. Lawrence Centre, Harte Haven Plaza, and other stores and restaurants in Massena.¹⁷

¹⁷ Given the supply of vacant retail space at the mall and in the Village of Massena, efforts to attract a major retailer to the Massena BOA are *not* recommended. Retail at this location would only compete with and draw sales away from existing commercial centers.

9.5. Lacrosse/Sports Complex Market Assessment

During the planning process for the BOA Revitalization Plan, a sports complex focused on lacrosse was suggested as a possible land use in the Massena BOA. The complex would showcase traditional lacrosse and its significance to the St. Regis Mohawk Tribe, serving both as a sports destination and a cultural attraction. Information on the market for lacrosse is provided below.



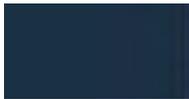
Lacrosse: A Perspective on the Sport

The game of lacrosse involves a specially designed stick, a small hard ball and two nets on a field. To excel in the game requires coordination, stamina, finesse, agility and a lot of teamwork.

The origins of lacrosse go back centuries when Native American tribes competed over long distances with many players. The game was refined in the 19th century and the field of play was reduced to a patch of grass 180 feet (60 yards) wide x 330 feet (110 yards) long. There are 10 players on a men's team and 11 players on a women's team.

More recently, *box lacrosse* has become very popular, particularly in Canada. Box lacrosse is played on a smaller field (90 feet by 200 feet) with only six players. Box lacrosse fields exist in both indoor and outdoor settings. Americans tend to play the traditional game on larger fields.

Although box lacrosse comprises the major part of the Canadian lacrosse scene, there has been a revival of interest and participation in field lacrosse since Canada defeated the U.S. in a major lacrosse championship in 1978.



Another form of the game played in Canada is known as *inter lacrosse*. The Canadian Lacrosse Association describes inter lacrosse as “a non-contact, skill oriented activity. Its main function is to introduce a wide range of young athletes to the skills of Lacrosse and to provide an education tool to help develop conditioning and coordination in young athletes.”

Participation: Rapid Growth in the U.S. and Canada

The popularity of the sport has grown substantially over the last 10 years. Lacrosse is the fastest-growing sport at the youth, high school and collegiate levels, with total participation growing from 254,000 in 2001 to 802,000 in 2015 for organized team membership – an increase of 215%, according to the U.S. Lacrosse Association. This is despite an overall decline in youth sports participation as observed by the Sports and Fitness Industry Association. Lacrosse is one of a few sports that is actually bucking the trend.



In the U.S., the strongest areas of participation are in New York, New England, Pennsylvania, and Maryland. The website Maxpreps.com (“America’s source for high school sports”) indicates that there are 513 high schools in New York State with a boys’ lacrosse team and 498 with a girls’ lacrosse team. The #1 boys’ lacrosse team in national rankings is from Victor, NY, near Rochester; several other NY high schools are in the top 25.

Lacrosse has been known as the official summer game of Canada since 1859. Participation in lacrosse “has had a roller-coastered history,” according to the Canadian Lacrosse Association. “While the game grew in the late 1800s, participation waned in the 1920s until the introduction of Box Lacrosse. And although the game grew tremendously since then, it has had further ups and downs, but leading into and during the 1990s, participation rates grew exponentially in all forms of the game.”

Organizations and Leagues

The game of lacrosse has a fairly mature infrastructure with multiple support organizations in the U.S. and Canada. The U.S. Lacrosse Association, known as US Lacrosse, is the sport’s national governing body in this country. Based in Baltimore, US Lacrosse has more 450,000 members nationwide and 68 chapters in 45 states. There are five chapters in New York outside the NYC metropolitan area: Adirondack (Capital Region), Upstate New York (central New York region), Hudson Valley, Greater Rochester, and Western New York. Some of the chapters are very active with youth lacrosse leagues. Canada also has a national lacrosse organization, with provincial lacrosse associations in both Ontario and Quebec.



Professional lacrosse leagues include Major League Lacrosse (outdoor), which played its first season in 2001, and the National Lacrosse League (indoor), which started in 1987. Both have franchises in Rochester, NY. The National Lacrosse League, which features teams in both the U.S. and Canada, is considering expansion, with Ottawa and Montreal among the possibilities. Ontario also has Major Series Lacrosse, comprised of six teams primarily in the Toronto area.

Professional lacrosse has been absent from Montreal since 2002, though exhibition games held at the Bell Centre have drawn thousands of fans. There are minor lacrosse leagues in both Quebec and Ontario. Oddly, the Quebec Senior Lacrosse League has teams not only from Quebec but also from Ontario, New York, and Vermont.

The Iroquois Nationals is the national lacrosse team of the Iroquois Confederacy. Made up of lacrosse players from all Six Nations (Mohawk, Oneida, Onondaga, Cayuga, Seneca



and Tuscarora), it competes internationally, often ranking in the top five worldwide. Akwesasne players also participate in teams that are part of the Can-Am Lacrosse League and the Three Nations Senior Lacrosse League, including the St. Regis Braves, which plays its home games at the Massena Arena. As with the U.S. and Canada, there is a First Nations Lacrosse Association that serves as the governing body for the sport within Native communities.

Facilities

Lacrosse is played on fields located at schools and colleges, in community athletic fields, at privately-owned sports complexes, and at indoor arenas. Clarkson University, SUNY Potsdam, SUNY Canton, and St. Lawrence University along with Plattsburgh State all have lacrosse teams that use on-campus athletic facilities. On the Canadian side of the border, the University of Ottawa and Carleton University in Ottawa and McGill University and Concordia University in Montreal have lacrosse teams.

Many of the fields are used for multiple team sports (e.g., soccer, football). Some indoor arenas – like the Benson Centre in Cornwall – are multi-sports facilities. Like many sports arenas in Canada, the A'nowara'ko:wa Arena on Cornwall Island is a hockey rink for half of the year. Other arenas, like TD Place Arena in Ottawa, host a diverse array of activities, presenting concerts and exhibitions as well as games.

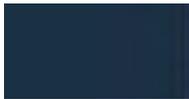
Table 41 lists arenas and sports complexes within two hours of the Massena BOA site where lacrosse games are held (not including athletic facilities on college campuses). Most are concentrated around Ottawa and Montreal.



Table 41. Arenas and Sports Complexes Within A 2 Hour Drivetime Where Lacrosse Is Played

Name	City	State/Province
U.S.		
Village of Massena Arena	Massena	New York
Crete Memorial Civic Center	Plattsburgh	New York
Travis Solomon Memorial Lacrosse Box - Generations Park	Hogansburg	New York
CANADA		
A'nowara'ko:wa Arena	Akwesasne	Ontario
Benson Centre	Cornwall	Ontario
Blackburn Arena	Gloucester	Ontario
Jack Charron Arena	Kanata	Ontario
Mlacak Centres Communautaires	Kanata	Ontario
Long Sault Arena	Long Sault	Ontario
Navan Arena Memorial	Navan	Ontario
Minto Recreation Complex - Barrhaven	Nepean	Ontario
Howard Darwin Arena	Nepean	Ontario
Earl Armstrong Arena	Ottawa	Ontario
Fred G Barrett Arena	Ottawa	Ontario
Manotick Arena	Ottawa	Ontario
Pinecrest Recreation Complex	Ottawa	Ontario
Bell Centennial Arena	Ottawa	Ontario
Brian Kilrea Arena	Ottawa	Ontario
TD Place Arena	Ottawa	Ontario
Richmond Memorial Arena	Richmond	Ontario
Stittsville Arena	Stittsville	Ontario
Chateauguay Multisport Centre	Chateauguay	Quebec
Centre Civique Dollard-des-Ormeaux	Dollard-ormeaux	Quebec
Kahnawake Sports Complex	Kahnawake	Quebec
Arena Kevin Lowe and Pierre Page	Lachute	Quebec
Centre Bell	Montreal	Quebec
Arena Bill-Durnan	Montreal	Quebec
Centre Sportif Rosanne Deflamme	Saint-hubert	Quebec
Centre Sportif Gaetan Boucher	Saint-hubert	Quebec

Source: E.M. Pemrick and Company research.



The Central New York region is the location of many lacrosse facilities due to the presence of professional and minor league lacrosse teams, and the popularity of the sport at both the high school and collegiate levels.

The home turf of the National Lacrosse League’s Rochester Knighthawks, which played its first season in 1995, is the Connor & Ferris Field at the Blue Cross Arena in downtown Rochester. The seating capacity at the Blue Cross Arena is 10,494. In addition to lacrosse games, the arena also hosts major college basketball games, professional and college hockey games, and youth lacrosse and hockey games. The Rochester Rattlers have been part of Major League Lacrosse since 2001. The Rattlers have called several different venues home, but beginning with the 2016 season, the team made its home at the Wegmans Sports Complex on the campus of the Aquinas Institute. This facility has a capacity of 2,000.



The 49,250-seat Carrier Dome is home to Syracuse University’s football, basketball, and lacrosse teams. Both the men’s and women’s teams are regularly among the top-ranked Division I lacrosse teams in the NCAA. The Carrier Dome has hosted the Division I NCAA Men’s Lacrosse Championships multiple times. Le Moyne College in Syracuse is also known for lacrosse. The Le Moyne Dolphins won the Division II Men’s Lacrosse Championship in 2016.

As an indication of the region’s prominence in lacrosse, the Iroquois Nationals hosted the Federation of International Lacrosse (FIL) World Lacrosse Box Championships in fall 2015. Games were held at Tsha’Hon’nonyen’dakhwa’ (also known as the Onondaga Nation Arena, home of the Onondaga Redhawks), which seats 2,000; the War Memorial Arena in downtown Syracuse, with a capacity of about 6,200; and the Carrier Dome at Syracuse University. The Nationals took the silver in the championships, with Team Canada winning the gold.



Tournaments and Camps

Major lacrosse tournaments are typically played where there is access to multiple fields. Among them is the Lake Placid Summit Lacrosse Tournament, a week-long event held in August; 2016 marked its 27th year. Games are currently held at the North Elba Athletic Fields, Lake Placid Horse Show Grounds, and Northwood School. The family-oriented tournament brings nearly 250 teams to the village and generates an estimated \$4.8 million in direct spending, driving business to hotels, restaurants, and shops.



The Iroquois Park Sports Centre in Whitby, outside Toronto, is the main venue for the Ontario Lacrosse Festival, launched in 2004. This ten-day event produced by the Ontario Lacrosse Association hosts more than 500 teams and 11,000 athletes ages 6 to 21, and features competition for national and provincial lacrosse championships. The 2016 event dates were July 29 to August 7. With an estimated attendance of 60,000, the festival is the largest youth lacrosse event in North America.

The popularity of lacrosse has led to the creation of specialized companies like Aloha Tournaments, Lacrosse America, and Bitter Lacrosse, whose purpose is to develop and promote lacrosse tournaments, festivals, camps, and clinics. X10 Lacrosse, GameBreaker Lacrosse Camps, and Rogue Lacrosse are examples of companies that operate lacrosse camps with instruction by collegiate coaches and professional players. These “camps” offer intensive training designed to help young athletes become better lacrosse players. X10 Lacrosse has an Adirondack lacrosse camp near Warrensburg, NY.

Multi-Sport Destinations

Another possible model for a sports complex in Massena is a multi-sport “destination,” a multi-use recreational facility targeted not to spectators, but also to groups and individuals interested in an intensive sports experience.

One example is the Golden Goal Sports Park, a 200-acre sports facility in Fort Ann, New York. Conveniently located outside Lake George, Golden Goal is an “Olympic-inspired residential village for athletes to eat, sleep, relax, bond, and have fun.” The privately-owned sports park has eight state-of-the-art fields for soccer (or lacrosse) clubs, training camps, and tournaments, complete with an athlete village that has cabins, a recreation center, media room, and dining hall.

Another sports “destination” is the Pinnacle Athletic Campus in Victor, outside Rochester. Pinnacle offers a wide variety of programs, classes, camps, and clinics for both youth and adults, with sports including archery, baseball, basketball, lacrosse, martial arts, soccer, and volleyball. Indoor and outdoor facilities accommodate team sports, tournaments, and leagues; there is also a fitness center, running track, tennis courts, and even an on-site café. The campus prides itself on having “something for everyone in the family.”