

NIAGARA'S TRANSPORTATION AND LOGISTICS SECTOR: Becoming a Global Economic Lynchpin

By Charles Conteh



INTRODUCTION

The transportation and logistics (T&L) sector is a strategic economic sector in Niagara given the region's role as one of the key arteries in Canada's interprovincial and international trade flows. Over the past few decades, amidst all the turbulences of global recessions, financial meltdowns and most recently the COVID-19 pandemic, Niagara's T&L sector has exhibited considerable strengths and resilience. This comes as no surprise given the region's strategic locational advantages of being sandwiched inside an agricultural and manufacturing industrial heartland that stretches across the vast region of Canada's Golden Horseshoe and on to large metropolises like Buffalo and Greater Rochester in the United States. In addition to (or because of) the natural endowments of its geographic position, Niagara boasts a world class multimodal network of highway, rail, water and air transport infrastructure, making it an invaluable node for quick and easy access to global markets. For instance, companies involved in the transport of goods across the border between Canada and the US Northeast can reach cities in two provinces, nine states and half of the North American population within a one-day trip. In addition to its intermodal terminals, the region has built an asset of border-related support services and border-related logistics activities. Niagara boasts four major highways, two commercial vehicle border crossings, one million truck crossings each year, two Class I railways, one shortline railway, one international rail crossing and seven airports within 10 to 100km.¹

This cursory overview of Niagara's T&L sector paints the picture of a region well endowed with natural and built assets to maintain its niche in a rapidly changing global economic landscape. However, as the North American and global economy undergoes earthshaking transformations across several fronts – including technological, financial, demographic, and regulatory changes – the fundamental question that Niagara must address is whether it is fully leveraging its assets to not only weather the storms of change but also exploit new and emerging opportunities. The purpose of this policy brief is to examine this question by first providing a nuanced analysis of recent trends in the region's T&L sector with a focus on highlighting its underlying currents and strengths as well as weaknesses and challenges. The discussion also explores the challenges and opportunities presented by trends like industrial digitalization, infrastructure modernization, demographic and labour force shifts and cross-border trade dynamics. In doing so, the discussion juxtaposes Niagara with neighbouring regions to shed a comparative light on how the region's T&L sector is faring compared to other regions in Ontario. In this regard, particular attention will be paid to Windsor, another mid-sized border-region with roughly the population size and economic parameters of Niagara. References will also be made to Hamilton, Niagara's most immediate Canadian neighbour and a critical part of any meaningful longer-term T&L cluster strategy that seeks to consolidate and expand Niagara's position within a rapidly changing global economy.

¹ Niagara Region. <https://niagaracanada.com/niagara-advantage/strategic-location/>

The rest of the discussion is structured as follows: First, we provide a brief description of the research method. Second, we highlight key industry-specific trends in Niagara's T&L sector. Third, we draw policy inferences from these trends and then conclude the discussion by

exploring the key attributes of the T&L sector, including its strengths, weaknesses, and challenges within the context of North America's integrated economy and the general currents of global economic change.

RESEARCH METHOD

The analysis in this report is the result of the integration of statistical data and in-depth interviews. The T&L sector for the purpose of this brief is "an agglomeration of diverse logistics-related companies, third-party logistics (3PL) providers, transporters, carriers, distributors, warehousing, truck and rail terminals, ports and airports, logistics-related institutions, allied manufacturing, specialized IT, high- and low-skilled workforce, and other support services" (Sheffi 2013, p. 25). As this definition indicated, the sector consists of a broad range of industries directly involved in the movement of goods by road, rail, water and air, and the management of freights covering a wide spectrum such as storage, handling, packaging, and inventory located within a geographically delimited region (Rivera et al 2016).

For purposes of data analysis, we focus on a set of industries (see Table 1) listed under the four-digit NAICS codes as well as relevant NOC codes. We look at jobs by industry, jobs by occupation, and median wages sourced from EMSI's Labor Market Analytics; as well as business counts by employment size sourced from Statistics Canada, Canadian Business Counts. Industry

data cover the period 2011 to 2019 and occupational data from 2011 to 2018. Location quotients (LQ) are also reviewed as they indicate an area's level of specialization in industries that have a location quotient above 1.5. Nevertheless, an LQ score of 1.0 or more is generally considered respectable because it reveals sufficient industry-level density that points to considerable local competencies in that area. LQs in this report indicate a region's job concentration in the sector relative to total job concentration in that sector across Ontario. As noted in the introduction, we compare St. Catharines-Niagara with a select number of CMAs within southern Ontario².

Statistical data is backed up by in-depth interviews with key actors across Niagara's transportation and logistics sector. A total of nine interviews were conducted over a three-month period (January 2020 to March 2020). Interviewees were asked to identify the trends, prospects, and challenges facing the T&L sector in Niagara and Ontario as well as possible policy initiatives that might fully leverage the potentials and address the existing weaknesses in the sector.

DATA ANALYSIS

Table 1 provides a portrait of Niagara T&L sector jobs by industry for the year 2019. Trucking stands out as the most potent sector by a wide margin with 3,012 jobs (jobs total for industries in the first three rows of the table). This figure is particularly critical given the centrality of this industry to the general vitality of the T&L sector in terms of core competencies and requisite capacities that feed into other industries in the sector. Niagara also boasts five other industries that have more than 500 jobs each. However, Niagara's relatively modest job numbers in industries such as inland water transportation and support activities for rail transportation comes as a surprise given the presence of highly developed industry infrastructure like the canal and railway systems.



² We use the St. Catharines-Niagara CMA for comparative purposes with other CMAs in Ontario, although it does not include Grimsby or West Lincoln.

TABLE 1: NIAGARA TRANSPORTATION AND LOGISTICS SECTOR 2019 JOBS BY INDUSTRY

NAICS	TRANSPORTATION & LOGISTICS INDUSTRIES	2019 JOBS
4841	General freight trucking	1294
4885	Freight transportation arrangement	870
4842	Specialized freight trucking	848
4911	Postal service	628
4854	School and employee bus transportation	614
4853	Taxi and limousine service	561
4851	Urban transit systems	376
4931	Warehousing and storage	356
4922	Local messengers and local delivery	343
4921	Couriers	329
4884	Support activities for road transportation	282
4831	Deep sea, coastal and Great Lakes water transportation	277
4859	Other transit and ground passenger transportation	254
4872	Scenic and sightseeing transportation, water	203
4883	Support activities for water transportation	196
4871	Scenic and sightseeing transportation, land	149
4821	Rail transportation	137
4855	Charter bus industry	92
4812	Non-scheduled air transportation	74
4881	Support activities for air transportation	63
4889	Other support activities for transportation	26
4852	Interurban and rural bus transportation	19
4811	Scheduled air transportation	6
4832	Inland water transportation	6
4882	Support activities for rail transportation	6
Total Transportation and Logistics		8009

Nevertheless, we get a clearer context of Niagara’s performance in the T&L sector when we take a look at Table 2, which provides a longitudinal portrait of percentage changes over time (2011 to 2019) in jobs by industry. We see a percentage increase in jobs across more than half the sector, including continued growth of the top employers in general freight trucking

(26 per cent) and freight transportation arrangement (23 per cent); as well as less noteworthy growth in specialized freight trucking (five per cent). There was huge percentage growth in areas such as scenic and sightseeing transportation, land; and local messengers and local delivery, though the total job numbers are more modest.

TABLE 2: PERCENTAGE CHANGE (2011 – 2019) IN NIAGARA T&L SECTOR JOBS BY INDUSTRY

NAICS	TRANSPORTATION & LOGISTICS INDUSTRIES	2011 JOBS	2019 JOBS	% CHANGE
4871	Scenic and sightseeing transportation, land	11	149	1286%
4922	Local messengers and local delivery	70	343	390%
4859	Other transit and ground passenger transportation	98	254	160%
4883	Support activities for water transportation	77	196	155%
4931	Warehousing and storage	210	356	70%
4855	Charter bus industry	58	92	59%
4854	School and employee bus transportation	408	614	50%
4853	Taxi and limousine service	407	561	38%
4872	Scenic and sightseeing transportation, water	149	203	36%
4851	Urban transit systems	291	376	29%
4841	General freight trucking	1024	1294	26%
4885	Freight transportation arrangement	710	870	23%
4831	Deep sea, coastal and Great Lakes water transportation	241	277	15%
4852	Interurban and rural bus transportation	18	19	7%
4842	Specialized freight trucking	805	848	5%
4811	Scheduled air transportation	0	6	0%
4889	Other support activities for transportation	0	26	0%
4884	Support activities for road transportation	300	282	-6%
4911	Postal service	694	628	-10%
4921	Couriers	366	329	-10%
4821	Rail transportation	159	137	-14%
4812	Non-scheduled air transportation	94	74	-21%
4882	Support activities for rail transportation	8	6	-25%
4881	Support activities for air transportation	101	63	-38%
4832	Inland water transportation	45	6	-87%
Total Transportation and Logistics		6345	8009	26%

The biggest concern from this longitudinal trend in Table 2, however, was the massive drop by 87 per cent in inland water transportation. Once again, this downward slide raises questions about underlying forces shaping an industry that commands a robust and world-class infrastructure like the Welland Canal system. As if to compound the enigma, even rail transportation, an economic staple of Niagara’s core competencies as a border-region, dropped by 14 per cent within this 2011-2019 period. There should be some concern

about “support activities for rail transportation”. Here is an industry that has reported a consistently weak showing between 2011 and 2019, even though it is such a critical source of potential spin-off activities from rail transportation. Why Niagara has not been able to capitalize on its border location to mount up a more viable industry in rail transportation is a question that deserves considerable policy attention as the region explores further economic diversification.³ We will return to this question in the concluding discussion.

³ A recent development worth noting is that Trillium Rail, which operated the short-line railroad around the Welland Canal and throughout Niagara has been bought by a company called GIO Rail. There are indications that this new company is investing to update the short-line rail infrastructure, which will improve rail access to Niagara businesses.

A comparative analysis of the total percentage changes in Niagara's and Ontario's T&L sector jobs by industry would give us a wider context to shed a greater light on Niagara's relative industry strengths. As Table 3 indicates, Niagara registers the same total growth of 26 per cent in T&L sector jobs as the province. This is noteworthy because despite the relatively high density transportation and logistics network systems along the Highway 401 corridor, Niagara seems to be holding its own in terms of growth trends.

However, for a region that has long prided itself as Ontario's scenic and sightseeing hotspot and the tourism heartland of the province and country, Niagara's lower showing in the growth trend of the scenic and sightseeing transportation, land industry relative to the rest of the province may perturb readers who might wonder if other regions are slicing off pieces from Niagara's tourism "cake". It should be noted, however, that regions like

Niagara with a mature and well developed industry (as Table 4 will confirm) may experience slower growth in that industry compared to other regions' growth numbers. Therefore, Niagara's 1286-per-cent growth compared to the province's overall 1466 per cent could simply be a function of other Ontario regions' greater room for growth as they leverage their assets and improve on things like place branding and tourism marketing. Thus, while Niagara remains Ontario and Canada's tourism heartland, it would seem like other regions of Ontario are waking up to the economic benefits of tapping into the tourism market. On a more positive note, however, Niagara leads the provincial percentage growth rate in industries such as other transit and ground passenger transportation; support activities for water transportation; charter bus industry; scenic and sightseeing transportation – water; and freight transportation arrangement.

TABLE 3: NIAGARA AND ONTARIO: 2011 – 2019 PERCENTAGE CHANGE IN T&L SECTOR JOBS BY INDUSTRY

NAICS	TRANSPORTATION & LOGISTICS INDUSTRIES	NIAGARA % CHANGE	ONTARIO % CHANGE
4871	Scenic and sightseeing transportation, land	1286%	1466%
4922	Local messengers and local delivery	390%	44%
4859	Other transit and ground passenger transportation	160%	112%
4883	Support activities for water transportation	155%	71%
4931	Warehousing and storage	70%	79%
4855	Charter bus industry	59%	25%
4854	School and employee bus transportation	50%	11%
4853	Taxi and limousine service	38%	67%
4872	Scenic and sightseeing transportation, water	36%	32%
4851	Urban transit systems	29%	23%
4841	General freight trucking	26%	29%
4885	Freight transportation arrangement	23%	10%
4831	Deep sea, coastal and Great Lakes water transportation	15%	27%
4852	Interurban and rural bus transportation	7%	-33%
4842	Specialized freight trucking	5%	11%
4811	Scheduled air transportation	0%	36%
4889	Other support activities for transportation	0%	-16%
4884	Support activities for road transportation	-6%	68%
4921	Couriers	-10%	5%
4911	Postal service	-10%	1%
4821	Rail transportation	-14%	-16%
4812	Non-scheduled air transportation	-21%	1%
4882	Support activities for rail transportation	-25%	56%
4881	Support activities for air transportation	-38%	38%
4832	Inland water transportation	-87%	-18%
	Total Transportation and Logistics	26%	26%

As noted earlier, location quotients provide another lens through which we can understand the current state of the T&L sector in Niagara. As Table 4 indicates, relative to other Ontario CMAs, Niagara boasts a comparative strength in: deep sea, coastal and Great Lakes water transportation; scenic and sightseeing transportation, land; and scenic and sightseeing transportation, water. In each of these industries, Niagara has little or no competition with surrounding regions except for Hamilton which shows a respectable LQ score in the deep sea, coastal and Great Lakes water transportation industry. Niagara also registers a strong specialization in six other industries, including support activities for water transportation, and charter bus industry. These LQ scores have policy implications for any potential mega-cluster strategy the region might wish to pursue in the T&L sector. Niagara's natural partner in this regard is Hamilton.

For instance, how could Niagara's emerging competencies in the nine industries in which it registers LQ scores above 1.5 be more closely aligned with those in which Hamilton demonstrates similar or greater strengths? In what ways might the pooled competencies of the two neighbouring regions along the QEW corridor of Toronto raise the profile of this wider T&L sector corridor as a viable cluster within the North American supply chain? As a further example, the Hamilton Port Authority is an integral part of Niagara's T&L sector assets given that the latter does not have a port of entry for goods to come on or off ships very easily.⁴ In similar vein, the Hamilton Airport is a significant cargo airport into which Niagara could more closely link its T&L cluster strategy as cargo is increasingly being shifted from the Toronto Airport down to Hamilton to ease congestion.⁵

TABLE 4: LOCATION QUOTIENTS OF FIVE ONTARIO CMAS: T&L SECTOR JOBS BY INDUSTRY

NAICS	TRANSPORTATION & LOGISTICS INDUSTRIES	NIAGARA	WINDSOR	HAMILTON	TORONTO	LONDON
4831	Deep sea, coastal and Great Lakes water transportation	13.2	0.0	2.4	0.7	0.0
4871	Scenic and sightseeing transportation, land	12.4	0.0	0.0	1.0	0.0
4872	Scenic and sightseeing transportation, water	11.8	0.0	0.0	0.5	0.0
4883	Support activities for water transportation	5.0	1.8	1.8	0.5	0.2
4832	Inland water transportation	2.7	0.0	0.5	0.1	0.0
4922	Local messengers and local delivery	2.5	2.0	0.7	1.1	0.6
4859	Other transit and ground passenger transportation	2.2	0.5	2.8	0.8	2.9
4885	Freight transportation arrangement	1.7	1.9	0.5	1.5	0.6
4855	Charter bus industry	1.5	0.9	0.2	0.6	1.1
4854	School and employee bus transportation	1.3	0.5	1.2	0.6	1.4
4842	Specialized freight trucking	1.3	1.6	1.1	0.8	1.1
4852	Interurban and rural bus transportation	1.2	0.0	1.3	0.7	3.1
4884	Support activities for road transportation	1.0	1.4	1.2	0.9	0.8
4812	Non-scheduled air transportation	0.9	0.3	2.1	0.9	0.3
4911	Postal service	0.8	0.6	1.0	0.9	1.2
4853	Taxi and limousine service	0.7	0.5	0.7	1.4	0.7
4821	Rail transportation	0.6	0.7	0.6	1.2	0.7
4841	General freight trucking	0.6	1.5	0.7	1.2	0.7
4921	Couriers	0.5	1.1	1.5	1.2	1.1
4851	Urban transit systems	0.5	0.5	0.3	1.7	0.8
4931	Warehousing and storage	0.5	0.4	0.5	1.4	0.7
4889	Other support activities for transportation	0.4	1.9	1.4	1.1	0.8
4881	Support activities for air transportation	0.2	0.4	0.6	1.2	0.7
4882	Support activities for rail transportation	0.2	0.4	1.1	1.1	0.6

⁴ Interviews with Niagara's T&L sector businesses

⁵ *Ibid*

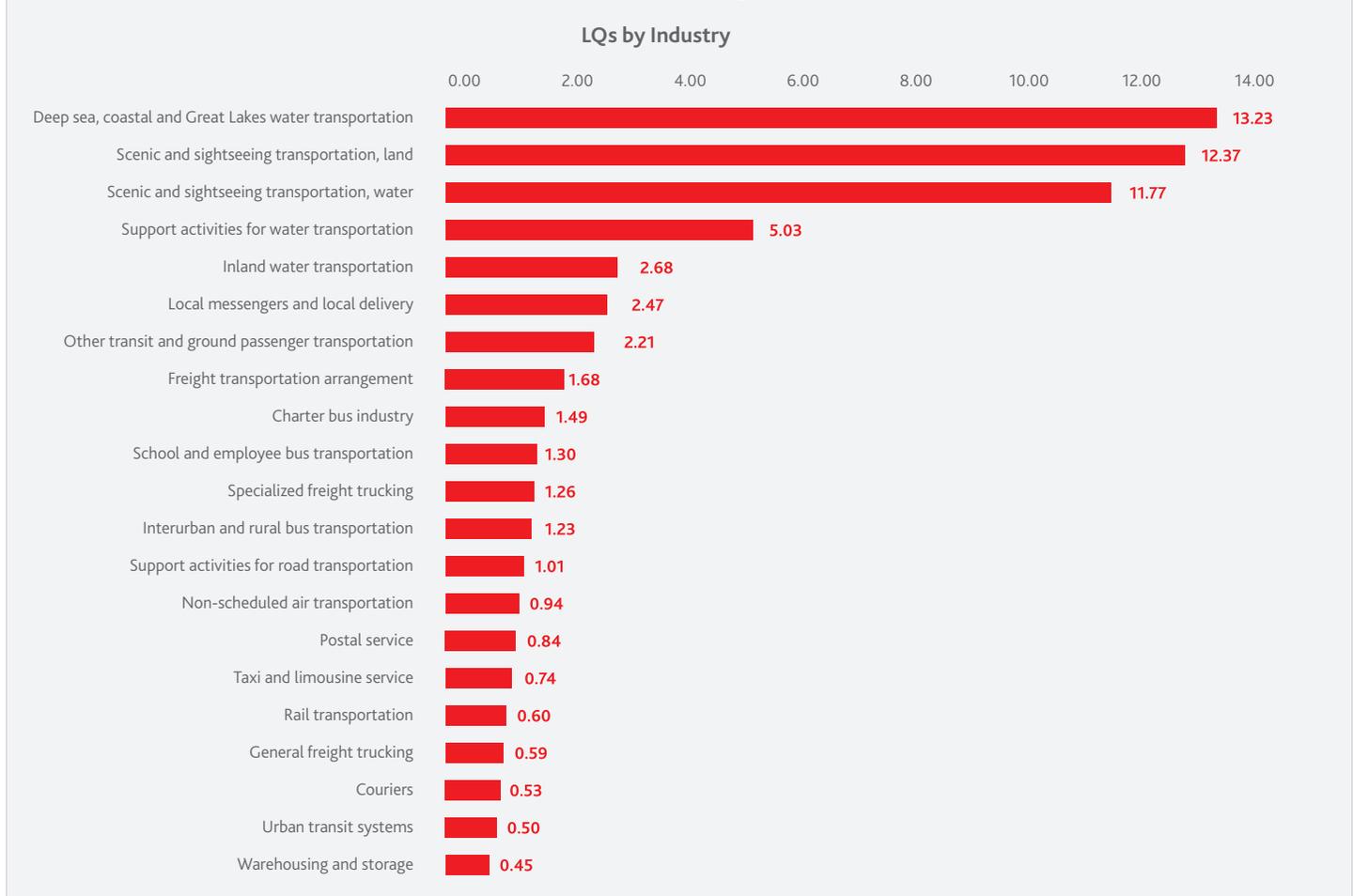
Table 4 thus offers policy stakeholders a panoramic portrait of potential opportunities to explore collaborations across regions sharing similar transportation and logistics sector strengths but with variation in industry-specific specialization as southern Ontario continues to navigate its way through a highly competitive and integrated international economic landscape under the recently negotiated US-Mexico-Canada (USMCA) trade pact.

In similar vein, a closer attention to Windsor’s LQ scores in Table 4 is in order because like Niagara, it is a border-region with roughly similar population size and the economic parameters of a mid-sized region recovering from the historic decimation of a once thriving auto sector. Windsor’s stronger industry strengths in freight transportation arrangement, specialized freight trucking, support activities for road transportation, and other support activities for transportation should come as

no surprise given its “gateway” strategic locational advantage in servicing the highly dense Highway 401 industrial corridor from Montreal to Detroit.

As illustrated in Figure 1, Niagara’s relatively stronger showing in industries like deep sea, coastal and Great Lakes water transportation; scenic and sightseeing transportation, land; and scenic and sightseeing transportation, water, not only points to its comparative advantage in the tourism industry but also its success in leveraging some of its natural endowments of water transportation systems. These LQ scores should provide a lens for policy discussions about a smart specialization strategy in which the region focuses on strengthening its core competencies and building the requisite support systems that cater to its existing strengths. It should be noted that neither Windsor nor Hamilton boasts anything close to Niagara on these scores.

FIGURE 1: PROVINCIAL LOCATION QUOTIENT FOR NIAGARA T&L JOBS IN 2019 BY INDUSTRY



Another lens through which we can view T&L trends is the distribution of jobs by occupation. The importance of this perspective is that it sheds light on the human dimensions and talent pool of a sector. This information allows us to make inferences about the sector's labour force dynamics and its implications for sustainability, innovation, adaptability and resilience of the sector. As the jobs by occupation data in Table 5 reveals, Niagara

has seen its largest growth between 2011 and 2018 in ground and water transport ticket agents, cargo service representatives and related clerks; and in production logistics co-ordinators, with each set of occupations reporting more than 50-per-cent growth. However, a majority of the occupations in the T&L sector have seen negative trends.

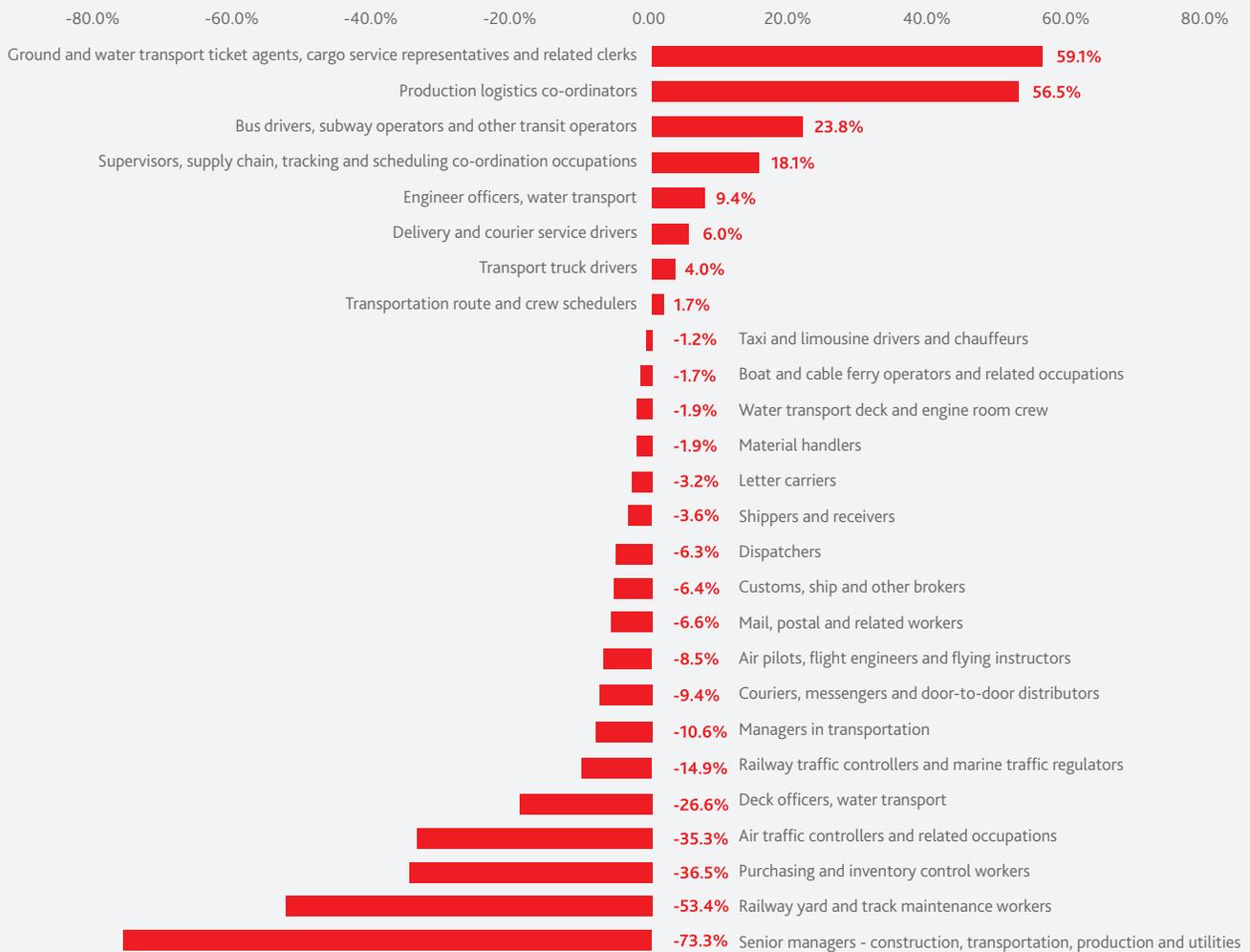
TABLE 5: NIAGARA'S PERCENTAGE CHANGE (2011 – 2019) IN T&L SECTOR JOBS BY OCCUPATION

NOC	DESCRIPTION	2011 JOBS	2019 JOBS	% CHANGE
6524	Ground and water transport ticket agents, cargo service representatives and related clerks	38	61	59.1%
1523	Production logistics co-ordinators	203	318	56.5%
7512	Bus drivers, subway operators and other transit operators	912	1,129	23.8%
1215	Supervisors, supply chain, tracking and scheduling co-ordination occupations	730	863	18.1%
2274	Engineer officers, water transport	29	31	9.4%
7514	Delivery and courier service drivers	760	806	6.0%
7511	Transport truck drivers	2,952	3,071	4.0%
1526	Transportation route and crew schedulers	55	56	1.7%
7513	Taxi and limousine drivers and chauffeurs	527	520	-1.2%
7533	Boat and cable ferry operators and related occupations	26	26	-1.7%
7452	Material handlers	1,797	1,762	-1.9%
7532	Water transport deck and engine room crew	38	38	-1.9%
1512	Letter carriers	354	343	-3.2%
1521	Shippers and receivers	1,472	1,418	-3.6%
1525	Dispatchers	420	393	-6.3%
1315	Customs, ship and other brokers	150	141	-6.4%
1511	Mail, postal and related workers	267	249	-6.6%
2271	Air pilots, flight engineers and flying instructors	116	106	-8.5%
1513	Couriers, messengers and door-to-door distributors	320	290	-9.4%
0731	Managers in transportation	269	240	-10.6%
2275	Railway traffic controllers and marine traffic regulators	11	9	-14.9%
2273	Deck officers, water transport	58	43	-26.6%
2272	Air traffic controllers and related occupations	21	14	-35.3%
1524	Purchasing and inventory control workers	388	246	-36.5%
7531	Railway yard and track maintenance workers	90	42	-53.4%
0016	Senior managers - construction, transportation, production and utilities	110	29	-73.3%
	Total Transportation and Logistics	12,114	12,245	1.1%

Notwithstanding this rather depressing trajectory of percentage distributions of changes in jobs by occupation, the T&L sector as a whole has seen a modest general job increase of about one per cent. This rather paradoxical trend is a function of the fact that while most occupations have seen a downward percentage change, as illustrated in Figure 2, in absolute terms, there has been a slight

overall increase in the T&L sector to 12,245 jobs in 2019 from 12,114 jobs in 2011. Notwithstanding the lethargy of this overall growth, it still indicates the total actual job gains being reported in some occupations outweigh the total job losses in declining occupations.

FIGURE 2: NIAGARA'S PERCENTAGE CHANGE (2011 - 2019) IN T&L SECTOR JOB BY OCCUPATIONS



A further lens for determining the vitality of Niagara's T&L sector is the number of enterprises, with a breakdown of the composition of businesses with and without employees as well as the frequency distribution of business counts from small, medium, to large enterprises. Table 6 provides a comparative snapshot of businesses with and without employees. As the table

shows, among a total of 1,695 businesses, there are 553 businesses with employees whereas the sum of businesses without employees is 1,106 – exactly double the number of businesses with employees.

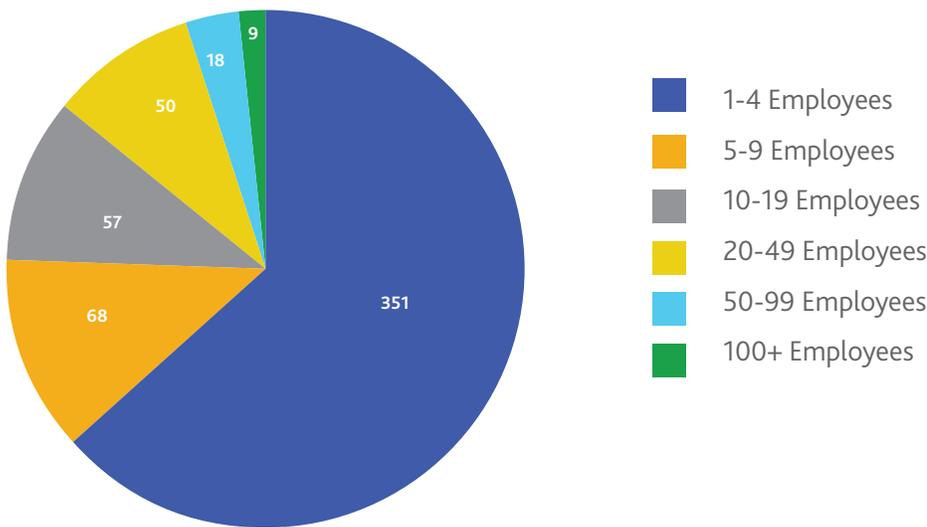
TABLE 6: NIAGARA'S T&L SECTOR BUSINESS COUNTS

EMPLOYEE COMPOSITION	BUSINESS COUNTS
Businesses without Employees	1,106
Businesses with Employees	553

Moreover, as Figure 3 indicates, most of the businesses (351 in total) with employees are microenterprises with one to four workers, followed by 68 businesses with somewhere between five and nine workers. There is a total of 57 businesses employing between 10 and 19

workers, 50 businesses with 20 to 49 workers and only 18 businesses employing between 50 and 99 workers. Nine businesses in Niagara reported employing more than 100 people each.

FIGURE 3: DISTRIBUTION OF BUSINESSES WITH EMPLOYEES



A final lens for determining the vitality of Niagara's T&L sector is the wage distribution of industries that make up a sector. As indicated in Table 7, senior managers - construction, transportation, production and utilities, report the highest median wage of \$47.22 per hour whereas taxi and limousine drivers and chauffeurs register the lowest median wage of \$14.50. Overall, Niagara's median hourly wage distribution in the sector juxtaposed with that of Ontario's median averages indicates relatively comparable pay scales. Only senior managers - construction, transportation, production and utilities register a noticeably large wage differential of nearly \$6.00 an hour less for those working in Niagara. However, given the general tendency for industries in most sectors to register lower pay scales for residents living in smaller regions compared to their counterparts in larger regions, Niagara's overall wage distribution in the T&L sector seems to be faring relatively well. Moreover, when the region's relatively lower cost of living is considered, compared to workers in the Peel region, for instance, Niagara's median wage distribution looks even more appealing.

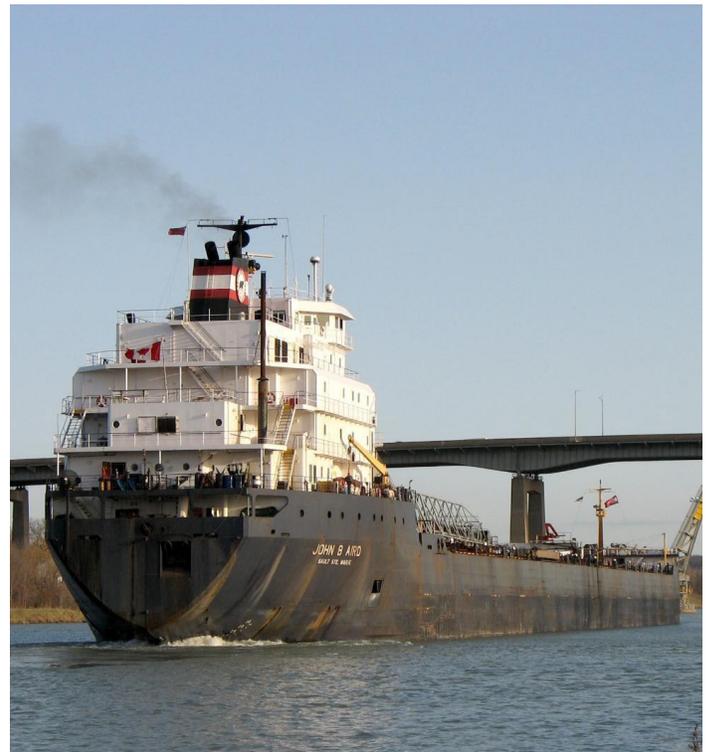


TABLE 7: NIAGARA'S 2018 T&L SECTOR MEDIAN HOURLY WAGES

NOC	DESCRIPTION	2018 NIAGARA MEDIAN HOURLY WAGES	2018 ONTARIO MEDIAN HOURLY WAGES	WAGE DIFFERENCES
0016	Senior managers - construction, transportation, production and utilities	47.22	52.93	-5.71
0731	Managers in transportation	37.61	39.97	-2.36
1215	Supervisors, supply chain, tracking and scheduling co-ordination occupations	24.36	24.04	0.32
1315	Customs, ship and other brokers	22.70	24.01	-1.31
1511	Mail, postal and related workers	22.87	23	-0.13
1512	Letter carriers	25.06	25	0.06
1513	Couriers, messengers and door-to-door distributors	16.73	16.67	0.06
1521	Shippers and receivers	18.55	18.46	0.09
1523	Production logistics co-ordinators	25.44	25	0.44
1524	Purchasing and inventory control workers	18.06	17.3	0.76
1525	Dispatchers	23.62	23.08	0.54
1526	Transportation route and crew schedulers	24.57	24.04	0.53
2271	Air pilots, flight engineers and flying instructors	38.55	39	-0.45
2272	Air traffic controllers and related occupations	39.96	40.54	-0.58
2273	Deck officers, water transport	33.96	34.41	-0.45
2274	Engineer officers, water transport	33.52	33.92	-0.40
6524	Ground and water transport ticket agents, cargo service representatives and related clerks	20.97	22.66	-1.69
7452	Material handlers	17.95	17.49	0.46
7511	Transport truck drivers	21.27	21	0.27
7512	Bus drivers, subway operators and other transit operators	16.39	18	-1.61
7513	Taxi and limousine drivers and chauffeurs	14.50	14.73	-0.23
7514	Delivery and courier service drivers	17.79	19	-1.21
7531	Railway yard and track maintenance workers	27.87	28.5	-0.63
7532	Water transport deck and engine room crew	23.15	23.75	-0.60
7533	Boat and cable ferry operators and related occupations	22.31	22.84	-0.53

Some would argue that Niagara's relative lower median wages could be pitched as a competitive advantage in the race among regions to attract potential T&L investors. However, suppressed wages in any sector or region comes with its challenges of industrial relations and employee motivation especially in light of broader demographic shifts and the challenges smaller regions face in attracting and retaining younger workers and immigrants. We will return to these issues in the discussion below.



The analysis of the data above indicates an overall growth trend in Niagara's transportation and logistics (T&L) sector. However, it also reveals a nuanced picture of variation in growth trajectory across industries within the sector, with some industries faring better than others. The overall picture is one of a sector with several strengths and potentials, not only boasting a complex network of road, rail, marine, and air infrastructure, plus affordable land for warehousing, but also a respectable stock of businesses, and thousands of people employed or self-employed. The range of businesses and talents span the full spectrum of the sector from major actors like CN, CP and other transportation carriers to customs brokerages, warehouse companies, freight forwarders, third-party logistics providers, trucking companies and other intermediary services.

One of the most obvious economic benefits in a region commanding such strengths in the T&L sector is that the jobs in the sector are principally local and place-based and, unlike manufacturing, cannot be easily relocated or moved offshore. In this regard, locational strategic advantages associated with strengths in the T&L sector are largely "sticky" in the sense that once a region builds the requisite competencies, it does not face the imminent threat of businesses in the sector moving "offshore". This means that the accumulated human and institutional assets critical to the sector have a built in resilience compared to those in other sectors. For instance, Niagara's pool of specialists such as designers and electronics technicians supporting the region's logistics hub are here to stay for the foreseeable future, and their expertise could be leveraged in other areas of the region's economy as needed.

Moreover, the diverse occupational composition of blue-collar, white-collar and no-collar jobs in the T&L sector renders it more resilient to recession-induced shocks. Unlike emerging sectors like ICT (or "high tech" industries) with a narrow focus on knowledge-intensive skillsets and a reputation for creating employment for skilled workers but seldom addressing the pervasive problems of underemployment and unemployment in mid-sized regions, the T&L sector tends to create relatively decent, stable and well-paying jobs for less-educated or less-trained workers. In fact, salaries for non-college-educated jobs in North America's T&L sector are about the same as those in manufacturing (Sheffi 2012).

Furthermore, as Niagara confronts the question of the strategic role of the T&L sector within its long-term economic visioning, it is worth highlighting that the T&L sector often plays a foundational role as an all-purpose "platform sector" in a region's economic competitiveness (D'Aleo et al 2017; Coyle et al. 2012). This is because T&L industries are integral to the economic activities in other sectors like agri-food, manufacturing and tourism, all of which tremendously rely on the efficient and rapid movement of goods and people (Sheffi 2012). Moreover, because of their all-purpose function within an economy (in addition to the factor outlined earlier), the T&L sector tends to be one of the most resilient in times of economic downturns. A case in point is that when the COVID-pandemic led to a shutdown of much of the global economy, the T&L sector was singled out as an exception and an essential service in North America's cross-border trade flows.

But an even more useful lens for appreciating the strategic significance of the T&L sector is its role in a region's capacity to entrench its penetration of global markets (Nezerenko and Koppel 2015). Given Niagara's geographic location as a border-region and a critical conduit in the physical flows of goods and activities in a vast global commodity chain, the region's T&L sector has a demonstrated centrality in the region's capacity to punch well above its weight in Canada and North America's economy. For instance, for a region close enough to the GTA and Buffalo regions but not subject to their warehousing overcapacity challenges (largely due to land constraints), Niagara commands a competitive pricing for warehousing that makes it indispensable to the continent's commodity distribution chain's vast logistics architecture. Niagara's core competencies in the T&L sector thus positions it to serve as critical node and lynchpin within a complex global economy. Such a global positioning comes with considerable strategic, economic and political clout that could be leveraged for Niagara's long-term economic development goals in other sectors.

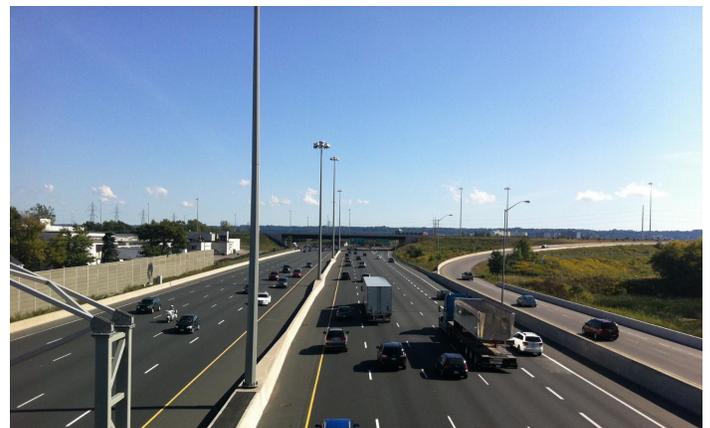
Niagara's T&L sector is undoubtedly a vital component of the region's overall domestic economic resilience, national competitiveness and global positioning. However, the sector is also constrained by a number of weaknesses that need to be highlighted and addressed if it is to stay competitive in the face of shifting trends. We conclude with some observations about some of the sector's weaknesses and the implications of these constraints in light of emergent technological, market and demographic trends. More importantly, we offer recommendations for potential action steps by industry and policy stakeholders.

Firstly, while applauding the region's locational asset as a border region sandwiched between several metropolitan areas in two countries it is worth noting that the ease of navigation to these larger cities is becoming increasingly difficult owing to growing highway congestion. In this regard, infrastructure is becoming one of the pressing constraints threatening the T&L sector's future role in Niagara's global economic positioning. For example, long and short haul truckers complain about bottlenecks and congestion on the QEW highway when traveling to or through the GTA to get to the Ottawa-Montreal markets.⁶ In similar vein, the railway industry in Niagara is reporting problems of aging infrastructure in the region. These highway and railway constraints have led to discussions about exploring alternative routes like the much-touted mid-peninsula corridor to ease the QEW highway congestion. However, addressing congestion is not restricted to building more highways and railways. It could also mean alternative ways for commuters to get around such as light rail and transit like GO that could get people off the highways to allow commercial vehicles better access.

Clearly, the public-good nature of highways and the massive costs associated with updating or expanding the railway infrastructure will exceed the capacity and motivation of either the private sector or government to go it alone. However, through joint ventures, government can play a strategic leadership role in facilitating a modal shift, which would include bold initiatives like "getting trucks off the road and onto the water".⁷ Partnerships with the relevant industries within the sector to explore the possibility of non-conventional modes like truck

ferries is one example, opening up opportunities in Niagara to operate a truck ferry from St. Catharines to Oshawa and bypass the Golden Horseshoe.

Beyond the immediate challenges of infrastructural constraints in Niagara, another set of challenges confronting the T&L sector globally are the tectonic technological shifts towards automated driving capacities, drone technologies and robotic systems.⁸ How a region like Niagara adapts to these trends will make a critical difference for the future of jobs in the sector. More importantly, these trends need not be merely viewed as threats but also as opportunities to exploit a growing market in the urban logistics economy, including the emergence of new business models. The warehousing industry, for instance, is undergoing seismic transformation with process automation to deal with the growing volume of cross-border eCommerce and increasing demand for integrated supply chain solutions. This shift in trajectory towards eCommerce is evident in the trend of a lot more people moving away from the traditional brick-and-mortar facilities to more of an on-demand online approach to customer sales and service. The recent spike in the eCommerce market that resulted from the COVID-19 pandemic is only the most recent phenomenon in a long-term trend. This trend signals a potential exponential growth of geographic nodes of logistics-related industries in key regions to allow for bulk shipping to surrounding areas.



⁶ Interviews

⁷ Ibid

⁸ *Global Transportation and Logistics Industry Outlook Report 2019* <https://www.businesswire.com/news/home/20190930005705/en/Global-Transportation-Logistics-Industry-Outlook-Report-2019>

As Niagara explores ideas for exploiting these emergent trends, an inspiring example for Niagara could be found in Denmark's "Transportation Innovation Network", initiated by the Danish Technological Institute to undertake joint ventures of research and development activities in areas like electric transport, intermodal transport, short sea shipping and port infrastructure, sustainable fuels, information technologies in the field of transport and logistics, city logistics and mobility management, and the development of competence and education in the field of transport and logistics (Lebedeva and Rogavichene 2018).

Ironically, even in the face of the technological trends, described above, one of the most potent challenges confronting the T&L sector (especially for drivers in the trucking industry) is the scarcity of workforce due to demographic changes with an aging population and the tendency for the young to pursue careers in more knowledge-intensive and service-based fields and to flock to larger cities with more career opportunities. While immigration may help driver recruitment and training in larger regions like Toronto where new migrants are more inclined to settle, smaller and less culturally diverse communities struggle to attract and retain newcomers. Thus the challenge of labour shortages in the current context of Canada's demographic shifts of a shrinking and aging population will be acutely felt in smaller regions like Niagara over the medium to long term. To put this challenge in perspective, although the T&L sector's efficiency and overall performance rests on the combined elements of infrastructure, capital and labour, the last of these three – the human factor – is most critical for the sector's medium-term performance and long-term resilience (D'Aleo et al 2017).

In light of all the trends, challenges and opportunities highlighted above, Niagara's strategic investment in T&L as a critical component of long-term economic development goals can hardly be exaggerated. This will mean first and foremost, a careful and systematic mapping of industry strengths and weaknesses such as we have done above. Building on this information, however, requires deliberation and action. Niagara's locational advantages cannot be taken for granted in a world of breakneck technological, economic and demographic shifts. Addressing the immediate and growing constraints in the supporting infrastructure of transportation services, equipment and warehousing is time-sensitive. Equally so, investing in digital and institutional infrastructure to exploiting emerging opportunities in eCommerce is not a luxury but a necessity in a sector where change is the only constant (Lebedeva and Rogavichene 2018).

Finally, the above trends, challenges and opportunities in Niagara's T&L sector will demand the concerted effort of Canada's various orders of government – federal, provincial and regional-local. This means that Niagara's T&L stakeholder will need to skillfully navigate the complexities of multilevel governance in Canada's fractious federation to advance the sector's immediate and long-term interests. For instance, upper levels of government not only command the resources necessary to invest in infrastructure upgrades and workforce strategy but also the institutional authority to enact smarter regulations carefully calibrated to the changing needs of a fluid sector.

An example of this is the policy initiative of targeted fiscal incentives under the Foreign Trade Zone (FTZ) program. In this regard, Niagara has a head start, being Ontario's first designated FTZ. Even before the FTZ's advantages are exploited, the region already boasts annual manufacturing exports worth \$3.7 billion, wholesale trade exports of about \$200 million, \$110 million in agricultural, forestry, fishing and hunting exports, \$20 million in transportation, warehousing exports, and \$15 million in construction exports. The FTZ designation further raises the region's profile and potential as a transportation and logistics hub, granting a number of highly competitive tax and duty exemptions and deferrals to businesses within the region that import and export goods. However, how businesses leverage the benefits of such a region's FTZ designation requires a more strategic outreach in education and awareness-raising campaigns on the part of regional and local economic development offices (Rivera et al 2016: 287). Some T&L sector firms (large and small) still feel confused about the actual value of the FTZ and how it relates to their businesses.⁹



⁹ Interviews

Local and regional municipalities in Niagara could also make some institutional and regulatory adjustments within their sphere of jurisdiction. For instance, addressing things like greater synchronization in applying for T&L business permits, and aligning the different protocols and processes of planning departments in the region's municipalities, could improve efficiencies for businesses in the sector.¹⁰ In fact, the FTZ initiative illustrates how local and regional municipalities could strategically build on senior-government initiatives. For example, the FTZ offers an opportunity for a broader SME growth strategy that will directly benefit the T&L sector. Niagara Region's recent economic growth strategy is well placed in this regard.¹¹ However, the region must confront and address the question of how and where the T&L sector fits within its long-term economic development strategy. As noted earlier, as an all-purpose platform, the T&L sector is integral to any strategic investment decision and marketing activity the region undertakes. The Region's five- year economic development strategy

has identified key areas of economic growth and job creation. But the T&L sector deserves a well thought-out and clearly articulated strategy woven into the fabric of the region's core economic sectors. As one interviewee puts it, a struggling T&L sector in the economy is like "having a great computer, but you have no Internet... it makes no sense."¹² In fact, the emerging trend in regional economic development is towards "platform strategies" that emphasize policy-supported flows of complementarities across different sectors (Asheim et al 2019). Platform strategies recognize the potential for regional economic renewal by forging connections beyond single sectors. For an all-purpose sector like T&L, this means thinking purposefully about its adaptation to shifting technological, economic and demographic trends to stay nationally and globally competitive.

¹⁰ Interviews

¹¹ *Niagara Economic Growth Strategy*: <https://niagaracanada.com/niagara-economic-development-5-year-strategy/>

¹² Interview

Bibliography

- D'Aleo, Vittorio and Bruno Sergio Sergi. "Human factor: the competitive advantage driver of the EU's logistics sector" in International Journal of Production Research 55:3 (2017) 642-65.
- Jaffee, David. "A deeper channel floats all boats: the port economy as urban growth regime." In Environment and Planning A (2015) 47, pp 783-800.
- Kumar, Indraneel, Andrey Zhalnin, Kim Ayoung, and Lionel J. Beaulieu. "Transportation and logistics cluster competitive advantages in the U.S. regions: A cross-sectional and spatio-temporal analysis". In Research in Transportation Economics 61 (2017) 25-26.
- Lebedeva, A.S., and L.I. Rogavichene. "The Innovative Development of the Transport Services Market: A Cluster Approach." In Studies on Russian Economic Development (2018) 29:4, p 399-405.
- Nezerenko, Olga and Ott Koppel. "Formal and Informal Macro-Regional Transport Clusters as a Primary Step in the Design and Implementation of Cluster-based Strategies." In Transport and Telecommunication (2015) 16:3 p 207-216.
- Rivera, Liliana, Yossi Sheffi, Desiree Knoppen. "Logistics clusters: The impact of further agglomeration, training and firm size on collaboration and value added services." In Int. J. Production Economics 179 (2016) 285-294.
- Sheffi, Yossi. "Driving Growth and Employment through Logistics" in MIT Sloan Management Review (2012) 54:1.
- Woudsma, Clarence, Paul Jakubicek, and Laetitia Dablanc. "Logistics sprawl in North America: methodological issues and a case study in Toronto" 9th International Conference on City Logistics, Tenerife, Canary Islands (Spain) 2015.

About the author:

Charles Conteh, PhD, is director of the Niagara Community Observatory at Brock University and an associate professor of political science. His research and teaching interests are in the areas of Canadian and comparative public policy, public management, political economy, and governance.

The Niagara Community Observatory is a public-policy think-tank working in partnership with the Niagara community to foster, produce and disseminate research on current and emerging issues. An electronic copy of this policy brief can be found on our website at www.brocku.ca/nco

Contact

Charles Conteh, PhD
Director, NCO, Brock University
cconteh@brocku.ca

Brock University

Niagara Region
1812 Sir Isaac Brock Way
St. Catharines, ON L2S 3A1 Canada

www.brocku.ca/nco
[@BrockNCO](https://twitter.com/BrockNCO)

The logo for the Niagara Region, featuring the word "Niagara" in a dark blue serif font, a stylized green and white graphic of a river or water flow, and the word "Region" in a dark blue sans-serif font, all enclosed within a white rectangular box with thin horizontal lines above and below.

Niagara Region Economic Development supported this policy brief through the provision of industry data, as well as peer review support. For economic, industry and sector information, please contact the Economic Development office:

1815 Sir Isaac Brock Way
P.O. Box 1042
Thorold, ON, L2V 4T7

info@niagaracanada.com 905-980-6000