Movement of Goods Series

Report #6:

Infrastructure Options to Improve the Movement of Goods in Canada's Innovation Corridor

JANUARY 2019

TORONTO REGION BOARD OF TRADE

FOREWORD

For decades, the Board and our Members called for the expansion of our transportation systems to keep pace with growth, building for today's demands as well as those of the more than 1.2 million new residents moving to the Toronto-Waterloo Corridor every ten years. We've seen little progress, to the point where we have badly fallen behind.

Half of Canada's manufacturing takes place in the Corridor, but our disabling congestion impacts just-in-time production inputs and distribution of finished goods. Many international manufacturers find ours to be the most expensive manufacturing jurisdiction in North America. The Board's Movement of Goods series identified our biggest pain point: the 400 series highways near Pearson International Airport—Canada's second-largest employment zone. One million cars travel in and around Pearson to get workers to the more than 300,000 jobs serving the airport area. Congested highways are backed up as far as Guelph, Hamilton, Oshawa and Bradford.

We need to address goods movement in the Corridor by reducing congestion, increasing supply chain efficiency and supporting export-driven businesses. And, we must look beyond simply tackling bottlenecks and build a competitive advantage for our manufacturers, suppliers, retailers and the region's growing e-commerce sector.

For the Board's sixth report, Infrastructure Options to Improve the Movement of Goods in the Corridor, we selected three priority projects under two categories based on input from our Members in the Corridor's business community, through roundtables, Policy Committee meetings and at our *4th Annual Transportation Summit: Uploading Opportunities*.

- **A Quick Win project**, the Milton Logistics Hub, requiring no public funding to proceed.

- **Long-Term Priority Multi-Modal Projects** requiring significant funding but also prime candidates for funding from Canadian Infrastructure Bank. These include Union Station West and a low cost initiative, the Smart Signal Rollout.

The New Rail Freight Corridor is a project for further consultation. This project segregates freight and passenger rail traffic and will help increase the region's capacity to absorb growing demand for both passengers and freight.

While these infrastructure projects come with significant price tags, the cost of doing nothing is even greater. Traffic congestion is only getting worse. At current trends, by 2043 travellers can expect to add another 18 minutes to an already long 49-minute afternoon drive from downtown Toronto to Pearson Airport – already one of the most congested areas in the Corridor for passengers and goods.

Leading global cities have world-class transportation systems that unlock their potential. To remain competitive and relevant, we need to lead on growth by building the transportation infrastructure the Corridor needs today and for the future.

Jan De Silva
President & CEO
Toronto Region Board of Trade

RESEARCH SUPPORT CPCS

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INTRODUCTION

Canada's Innovation Corridor is the largest transportation hub in the country. As profiled in the first report in this series, industries in the Corridor reliant on the movement of goods—including manufacturing, construction, and wholesale and retail trade—employ 1.4 million people and deliver $171 billion in direct GDP—or 34% of all GDP in the Corridor and 8% of Canadian GDP.[1]

Congestion is the number one challenge to the effective movement of goods cited by industry stakeholders, harming the speed and reliability of shipments to stores, restaurants, and just-in-time manufacturers. According to a recent study, 10 of the 20 worst traffic bottlenecks in Canada are located in and around Toronto, as measured by total delay.[2]

The Province projects the Corridor's population will increase from 7.7 million in 2016 to 11.3 million in 2041—46% growth over 25 years.[3] Without action, congestion will only become more severe, grinding the economy to a halt. If current trends continue, the amount of time cars and trucks lose due to congestion could nearly double by 2041.[4]

Given the central importance of Canada's Innovation Corridor in national supply chains, congestion in the Corridor has significant impacts across the country. Building a fluid national freight network means addressing bottlenecks not only along the border, but also in large urban areas.

FIGURE 1: The Corridor's Multimodal Freight System

AIR

Toronto Pearson Airport and Hamilton Airport rank first and third among all airports in Canada by domestic cargo tonnage, and Pearson alone handles 47% of Canada's transborder and international cargo.[5] Air cargo shipments tend to be high-value and time-sensitive, such as pharmaceuticals and critical manufacturing parts.

MARINE

Marine ports in the Corridor primarily handle bulk commodities shipped on the Great Lakes, such as steel industry products, construction aggregates, and road salt. There are three federally owned Canadian Port Authorities in the Corridor: Hamilton, Toronto and Oshawa.

RAIL

The Corridor is home to the largest intermodal terminals in Canada for both CN and CP—these facilities receive containerized consumer and other products from East and West Coast ports and ship manufactured products for export. Railways also ship bulk goods like agricultural products and chemicals; all rail traffic between Eastern and Western Canada travels along CN and CP's mainlines through the Corridor (as well as much cross-border traffic to Detroit, Chicago, and beyond.)

TRUCK

Trucks are ubiquitous in the supply chain, transporting a wide range of commodities and also providing critical last-mile connectivity to airports, intermodal rail terminals, marine ports and fuel depots. 23% of truck trip origins and destinations nationally are in the Corridor, versus 11% for second-ranked Montreal.[6] Many retailers serve Eastern Canada, or all of Canada, from distribution centres located in the Corridor, and it is also an important hub for cross-border traffic (although studies by the Ministry of Transportation have found that for food products, 70% of Canadian-owned trucks moving from Ontario to the U.S. and 50% of trucks moving from the U.S. to the GTA return empty).[7]

REPORTS IN THE MOVEMENT OF GOODS SERIES

Report #1 released
August 2017
Economic Impact of the Movement of Goods in the Toronto-Waterloo Innovation Corridor

Report #2 released
November 2017
Movement of Goods Challenges in the Toronto-Waterloo Corridor

Report #3 released
November 2017
Toronto-Waterloo Corridor Movement of Goods Business & Consumer Impacts

Report #4 released
January 2018
Polices to Improve Goods Movement

Report #5 released
June 2018
Three Bold Solutions for the Toronto-Waterloo Corridor

FIGURE 2: Canada's Innovation Corridor

WHY THIS LIST?

The purpose of this report is to identify large, high-impact projects that would significantly improve the movement of goods in the Corridor—as part of a comprehensive strategy that also includes making better use of existing infrastructure, improving coordination of transportation and land use, and tackling urban challenges.

This comprehensive policy toolkit is presented in the 4th report in this series, *Policies to Improve Goods Movement*.

The list of infrastructure projects was developed in several rounds of consultations with leading stakeholders from across the goods movement industry—including industry leaders from all modes (trucking, rail, air, and marine) and with input from top professionals in the private sector, public sector, and industry associations (more details on this process, including the list of criteria, are provided on the next page).

The list will help policymakers prioritize investments in the Corridor, by recognizing the freight benefits of these particular projects. The projects run the gamut from entirely new proposals (Super Express, proposed by the Toronto Region Board of Trade in the most recent report in this series) to ideas that have been around for decades (e.g. Highway 7 extension in Guelph/Kitchener). What these projects have in common is a strong conceptual business case, meaningful benefits for the movement of goods, and the collective backing of goods movement stakeholders in the Corridor.

Because the projects are all at various different stages, this list is not intended as a fulsome benefit-cost analysis of each project. Rather, the report identifies at a high level each project's most significant benefits and order-of-magnitude costs (from published materials or the consultant team's estimates). The report also provides recommendations to guide each project in moving forward.

While the capital costs of many of these projects are significant, the projects listed are ones that are also likely to have an outsized large benefit—for goods and people movement. Furthermore, the costs of the projects in this report are of a similar magnitude as recent non-goods movement spending (for example, Eglinton Crosstown LRT at $5-6 billion, the planned Scarborough Subway extension at $3-4 billion, and the proposed Downtown Relief Line at $6-8 billion). In many cases, the costs of these projects could be shared across multiple levels of government, potentially with an opportunity for involvement from the private sector or Canada Infrastructure Bank. In at least one case—the privately funded by CN Milton Logistics Hub—the bottleneck is not a lack of financial support from the government but rather a slow and cumbersome approvals process.

GOING BEYOND INFRASTRUCTURE

The full package of solutions to improve the movement of goods goes well beyond the infrastructure improvements described in this report. Other reports in this series profile other important improvements such as:

- Maximizing efficiency of existing infrastructure and protecting industrial lands around freight facilities—two of several key policies discussed in the 4th report
- Encouraging off-peak deliveries (OPD)—highlighted in the 5th report
- Planning for e-commerce—focus of forthcoming 7th report

AN OPPORTUNITY: CANADA INFRASTRUCTURE BANK

The Canada Infrastructure Bank (CIB) is a recently established Crown corporation, whose objective is to use federal support to attract private-sector and institutional investment to new revenue-generating infrastructure projects that are in the public interest. The CIB can help support projects on this list, providing extra capital funding to help some of the projects "get across the finish line." Most of the projects on this project list would qualify as having significant public benefits as well as revenue-generating potential. These ongoing revenue sources could include tolls, fares, or user fees. For example, CIB recently announced an agreement to finance $1.28 billion of the $6.3 billion capital cost for the Montreal express light-rail network, REM—in the form of a 15-year loan at an attractive 1-3% (escalating over the term of the loan). In advancing these projects, the Province of Ontario should consider all opportunities to leverage the CIB's financial support and expertise to ensure needed infrastructure is built quickly and efficiently.

DEVELOPING THE LIST

The list of projects was identified in consultation with leading stakeholders from across the goods movement industry (private sector, public sector, and industry associations). These projects take many forms but have one thing in common: they would all have a meaningful positive impact on the movement of goods in the Corridor.

The project list was unveiled to the wider business community at the Toronto Region Board of Trade's 4th Annual Transportation Summit in November 2018, and attendees were requested to vote on one "quick win" and three additional priority projects.

The projects prioritized in this report received the greatest support from our members in the Corridor's business community, through roundtables, Policy Committee meetings and at our *4th Annual Transportation Summit: Uploading Opportunities.*

These projects are:

1. Milton Logistics Hub;
2. Union Station West;
3. Smart Signal Rollout.;
4. New Rail Freight Corridor (for further consultation).

WHY THESE PROJECTS?

Embracing a Multimodal Lens

Many of the top capacity constraints in the Corridor are on the highway network—and this network is critical not only for the trucking industry but for the air, rail, and marine ports that rely on trucks for access and first-and last-mile connectivity.

Bringing in the Public and Private Sectors

The projects on this list will improve the competitiveness of the Corridor, and many will require significant public expenditure. But we have also included privately funded projects like CN's Milton Logistics Hub—where the public role is approvals rather than funding. We also see a potential role for the Canada Infrastructure Bank in supporting many of these projects as a supplement to public funding.

Taking a Wide View

In many cases existing highway infrastructure could be better used by trucks—yet these corridors are full of single-occupancy car commuters who currently have few good travel alternatives. This report includes two priority transit projects, recognizing the importance of investing in high-speed, high-capacity public transit for commuters in order to free up highway and road capacity for trucks.

Looking to the Future

The projects on this list can be implemented, or at least initiated, in the near or medium term. Yet we also draw attention to opportunities to use new and emerging technologies to make these projects happen—such as Smart Signals. Several notable infrastructure projects—the Highway 407 East extension, the Highway 427 extension to Major Mackenzie, and the Gardiner Expressway reconfiguration—would be part of this long list but have not been included due to the advanced stage of their development.

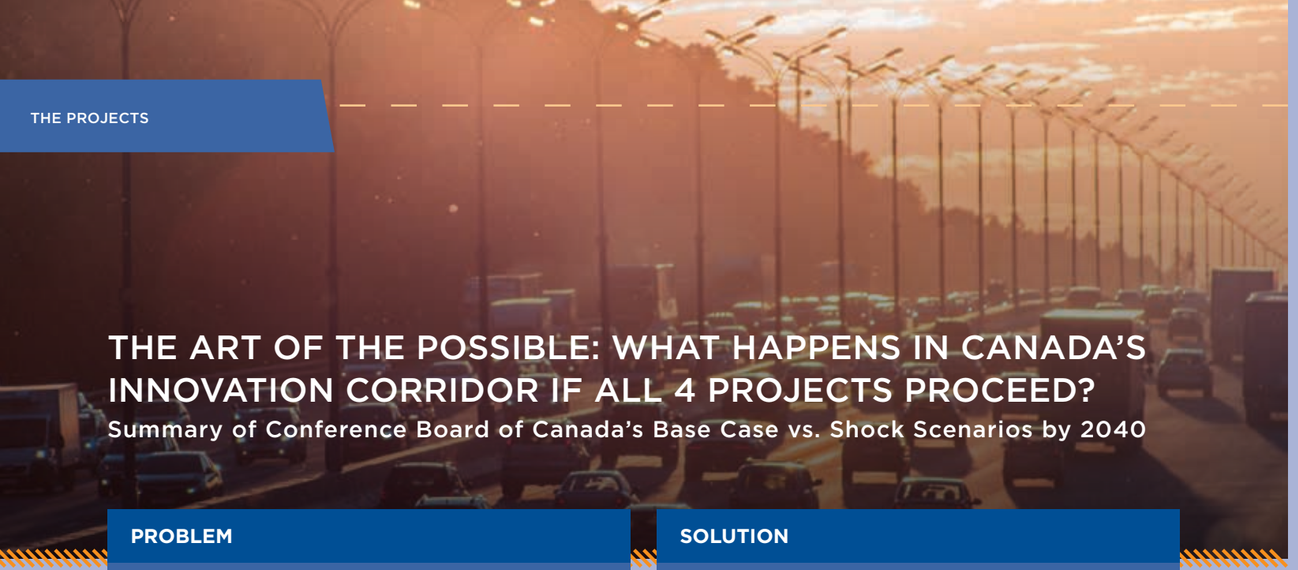
DEVELOPING THE LIST

LIST OF CRITERIA

- ✔ Package of multimodal projects
- ✔ Projects are in the Corridor
- ✔ Transportation infrastructure (not policy or regular operations)
- ✔ Compelling high-impact projects with meaningful freight angle
- ✔ Promising initial/conceptual business case
- ✔ Significant public role (funding or approval)
- ✔ Not yet underway
- ✔ Actionable right away or in short/medium term

PROCESS FOR DEVELOPING THE LIST

1) Consultant team developed long list
2) Initial consultations with approximately a dozen leading multimodal stakeholders
3) Discussed by a roundtable of industry professionals hosted at Toronto Region Board of Trade's offices
4) Circulated to the Board's committees for comment
5) Adjustments made along the way to produce final list
6) Business community vote at Transportation Summit to determine priority projects



THE ART OF THE POSSIBLE: WHAT HAPPENS IN CANADA'S INNOVATION CORRIDOR IF ALL 4 PROJECTS PROCEED?

Summary of Conference Board of Canada's Base Case vs. Shock Scenarios by 2040

PROBLEM

The highly congested state of public transit and road/highway systems in Canada's Innovation Corridor is adversely affecting the ability of businesses to get employees to their places of work and products to market. Congestion is typically cited as the number one competitiveness challenge limiting development of any sector in the Corridor from manufacturing to professional services. For example, TD Economics[8], noting that traffic gridlock carries a heavy price tag in terms of lost productivity, has long called for nothing less than the transformation of Toronto's transit and road system.

SOLUTION

This case study outlines key opportunities for the Corridor if urgently needed expansion of infrastructure goes ahead. The Conference Board of Canada's long-term macroeconomic model was "shocked" with a $17B infusion of capital (or $15B in real 2018 dollars) assuming that four infrastructure projects outlined below go ahead. Results were then compared between a base case scenario and shock scenario to understand the long-term impact from this investment over the next 20 years.

KEY ASSUMPTIONS

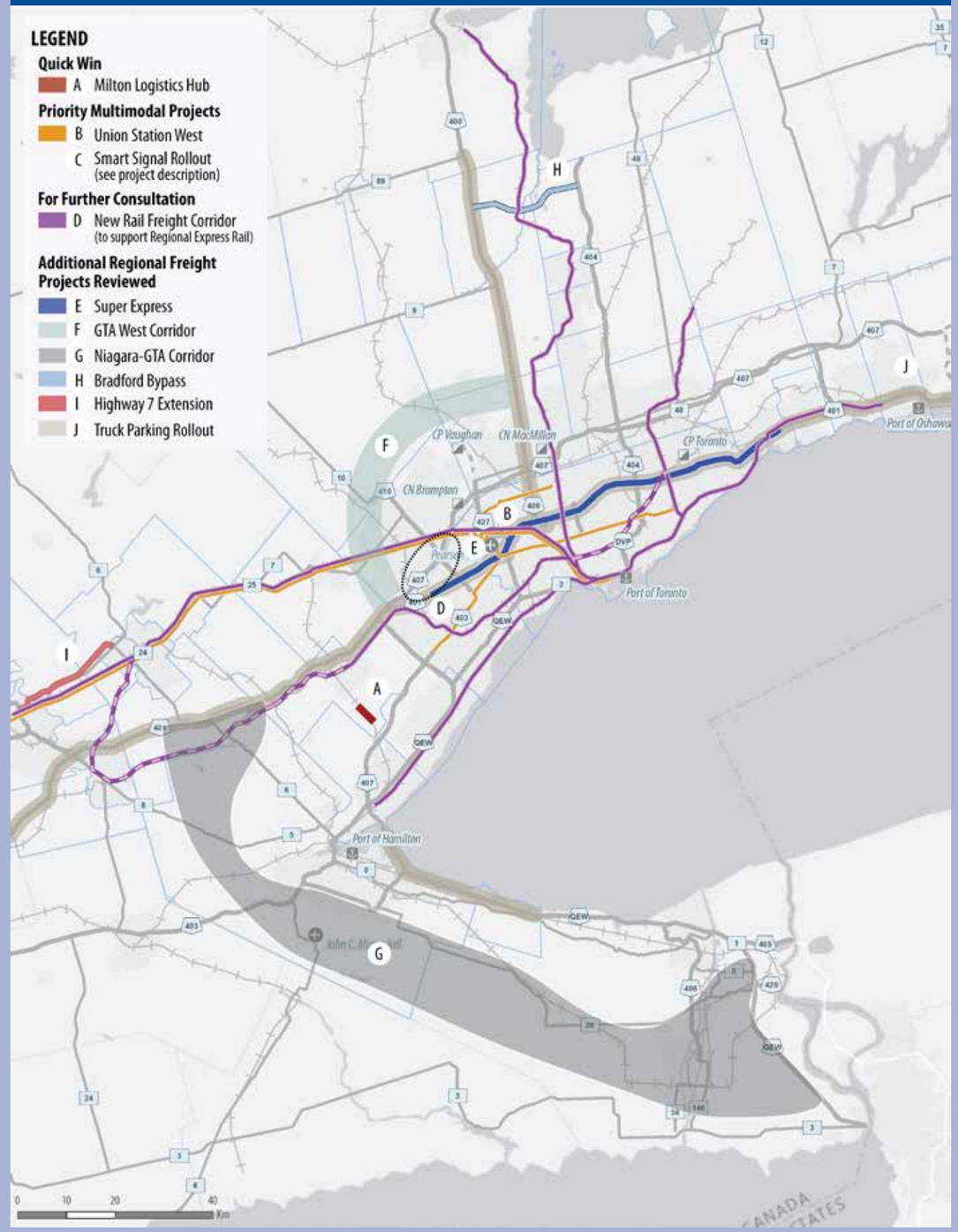
- Transportation infrastructure in the Corridor will be improved through implementation of four key projects and capital investment of $17 billion:
  - Milton Logistics Hub;
  - Union Station West;
  - Smart Signal Rollout; and
  - New Rail Freight Corridor (for further consultation).
- These projects would boost the Toronto economy via two phases:
  1) The impacts associated with increased economic activity directly related to the construction phase, and
  2) The impacts associated with the boost to the region's productivity once the projects are operational.
- The productivity impact assumes that for every 10% increase in the infrastructure capital stock, productivity increases by 0.8%. In this specific case, a $17 billion investment would increase Toronto's infrastructure capital stock by 4%, implying a 0.3% boost to the region's productivity.

KEY IMPACTS

- The cumulative impact on GDP over a 21-year period (2020-2040) would be $47 billion in real 2018 dollars. Of this total impact, the investment impact is $15 billion and the productivity impact is $32 billion.
- This means that for each $1 of investment in transportation infrastructure projects (four projects described above), $3.10 in GDP would be returned back to the economy.
- The investments would support the creation of 124,000 full-year jobs over 2020-40, where one full-year job represents the equivalent of one person working full-time for the duration of one year[9]. For example, 10 full-year jobs could be either 10 people working in one year or one person working over 10 years.
- The increase in employment would lift household income in current dollars by an average annual amount of $989 million, translating into nearly $100 on a per capita basis.

Source: The Conference Board of Canada.

THE PROJECTS WE CONSIDERED



QUICK WIN:

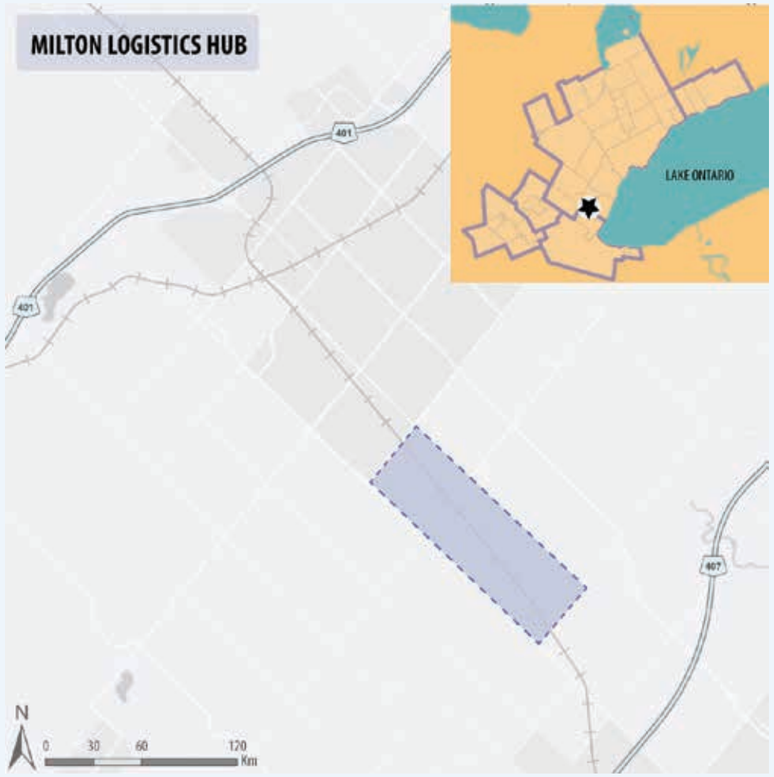
MILTON LOGISTICS HUB

- Milton (Halton Region)
- $250 million – entirely private funds
- Short-term project. Currently in approvals stage.

> "In the absence of this intermodal terminal, the Corridor would be restricted in its ability to serve the growing needs of Canada's exporters and importers, and would result in a shift of long-haul freight traffic from intermodal rail to trucking, exacerbating congestion on the Corridor's already-gridlocked 400-series highways such as 401."
> – CN

WHAT IT IS

CN's Brampton Intermodal Terminal—a critical piece of infrastructure—is nearly at capacity. CN is proposing to build and operate the Milton Logistics Hub, a $250 million privately funded infrastructure investment on CN-owned land in Halton Region—a project currently being slowed by a cumbersome approvals process.



WHY IS IT NEEDED

Supply Chain Competitiveness: Intermodal rail plays a critical role in facilitating international trade, and in connecting Canadian manufacturers and exporters to global markets: in 2017, CN exported $198 billion worth of goods through Ontario. The need for this project is driven by the growing demand for containerized goods in the Corridor and across Canada, a supply chain in which CN plays a critical role. With the Federal government investing heavily in coastal ports there is an equally important need to increase inland capacity. Without this additional infrastructure, the GTHA risks becoming the bottleneck of key Canadian trade corridors.

Environmental: Freight rail is on average four times as fuel efficient as trucking, according to the American Association of Railroads. Shipping freight by intermodal rail removes long-haul trucks from the highways; according to CN one double-stacked intermodal train replaces the equivalent of 280 long-haul trucks.

Congestion Relief: In total, CN's intermodal network removes approximately 2 million long-haul trucks off Canadian highways annually, half of which would flow through the Corridor.

ACTIONS

The Province and municipalities should support a quick completion of the approvals process so that this critical piece of privately-funded infrastructure is built without delay.
The Province should also consider designating Milton Logistics Hub as a provincial employment zone.

MORE INFO: CN Milton Logistics Hub
www.cn.ca/en/about-cn/milton-logistics-hub

Sources: CN website; consultations with CN; AAR, "Environmental Benefits of Moving Freight by Rail"

BACKGROUND

- There are currently two intermodal terminals in the Corridor – CN in Brampton and CP in Vaughan. Demand for intermodal rail continues to grow rapidly, and container volumes at Brampton have risen from 607,000 to 949,000 container units annually between 2009 and 2016 (a 6.6% annual growth rate).
- The Milton hub would supplement rather than replace the Brampton terminal, adding 450,000 container units of annual capacity.
- This project requires no public funding, but requires support for approvals via a Canadian Environmental Assessment Agency (CEAA) Federal Panel involving the Province, region, and municipality – enabling each of these stakeholders the ability to help or impede the project. This overly complex EA process, which started in 2013, is delaying this important piece of infrastructure from being built.
- Expanded intermodal capacity benefits the entire Corridor – yet the lengthy approvals process is already starting to have a negative impact. The project is taking three times as long to build as it should, and CN is having to turn away customers at its Brampton terminal.
- A strong approvals process should be robust and comprehensive but tailored to the size of the project – ensuring critical but modestly sized projects are not delayed unnecessarily. Investors need predictability and certainty in understanding how long it will take to secure approvals. Furthermore, slow and cumbersome approvals processes risk crippling crucial Canadian trade corridors and threatening the Corridor's competitiveness on the global stage.

PRIORITY MULTIMODAL PROJECTS:

UNION STATION WEST

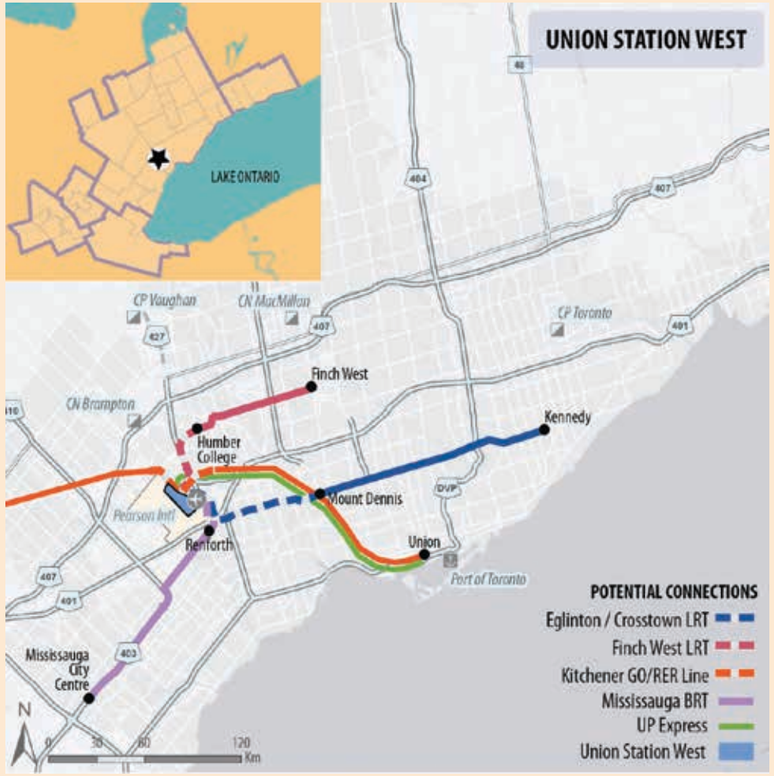
- Pearson Airport (Peel Region), across Airport Road from Terminal 3.
- Around $11-12 billion – including extensions of possible transit lines
- Long-term project. Currently in an early design stage.

"Road congestion is plaguing the region and could increase drive times 30% in the next twenty years. Improved transit through our planned transit hub will improve mobility throughout the region, reduce congestion and enable more efficient movement of goods."

– Howard Eng, President and CEO, GTAA

WHAT IT IS

As Toronto Pearson continues its development as a top-tier global hub airport, the airport's operator, the Greater Toronto Airports Authority (GTAA), has proposed a multi-modal transit and mobility hub.



WHY IS IT NEEDED

Increasing Transit Use: Despite being an important employment hub, over 90% of airport workers currently commute by automobile. Shifting this even to 75% or 50% (along the lines of Mississauga Square One or North York Centre, respectively) would free up road capacity for goods movement in an area that is the Corridor's central freight cluster and most severe bottleneck. According to the GTAA, conservative estimates show that the creation of Union Station West could take 43,000 vehicles off local roads daily.

A Second Regional Hub: Union Station in downtown Toronto is currently the only major ground mobility hub in the Corridor. The airport area is ideally situated as a second hub to expand the capacity, reach and frequency of the regional transit network; and to better connect businesses along the northern arc of the Corridor to the country's largest airport. The wider airport employment zone is already the second largest employment zone in Canada after downtown Toronto, and large low-density land uses (e.g. parking lots) can be repurposed for dense mixed-use developments.

Growing Pearson: Well over 30% of trips to advanced air hubs in Asia and Western Europe occur by transit (in many Asian cities substantially more), but at Pearson only 10% do. Moreover, other air hubs have leveraged good transit access to build dense business districts featuring office/retail developments and multinational headquarters. Pearson already provides direct access to 70% of the world's economies through daily direct flights and is expected to serve 85 million passengers by the mid-2030s. Building Union Station West would support Pearson's continued growth as a global hub, benefitting shippers across the Corridor through more direct flights to cities around the world.

BACKGROUND

- Concept design work is well underway since the GTAA's announcement of plans to develop the transit centre in February 2017
- Toronto Pearson and 10 other airports have also formed the Southern Ontario Airport Network (SOAN) to work together as a coordinated system. For example, while Pearson provides global connections, Hamilton Airport is a hub for regional parcel and package shipments.
- Potential connections could include the UP Express, Kitchener GO/Regional Express Rail (RER) line, Eglinton Crosstown LRT, Finch West LRT, and various bus rapid transit routes. These lines are in various stages of development; in several cases extensions or realignments would be necessary – notably, the Kitchener GO/RER line would require a change to its current alignment about 2 km northeast of the airport.

ACTIONS

The Province should continue its work to define and prioritize transit connections to Union Station West.

MORE INFO: Toronto Pearson Regional Growth
www.torontopearson.com/regionalgrowth

Sources: GTAA website; GTAA Master Plan; Neptis (2016), "Unlocking the potential of the Airport Megazone;"consultations with GTAA; Apex (2017), "GTAA Releases RFP for Massive Regional Transit Hub at Toronto Pearson Airport"

PRIORITY MULTIMODAL PROJECTS:

SMART SIGNAL ROLLOUT

Region-wide

$500 million - $1 billion for entire Corridor

Medium-term project. Currently at pilot stage

"Canada Post is supportive of all initiatives, such as the smart signal rollout project, that can ease traffic congestion, speed up truck transportation and improve safety for our employees and customers."
– Canada Post

WHAT IT IS

A large-scale rollout of smart traffic signals (traffic lights) across the arterial and collector road network throughout Canada's Innovation Corridor.

WHY IS IT NEEDED

Smoother Travel: Pilot projects of modern adaptive traffic signals elsewhere (such as Pittsburgh, an early adopter) have found that the new technology reduces travel time by 25%, braking by 30% and waiting time by more than 40%. Assuming at least 25% time savings, cars and trucks would save 15 minutes for every hour in traffic—a very significant impact given that the time lost due to congestion in Toronto is increasing every year at a rate of approximately 0.5 minutes per hour commuting.

Traffic Insights: While traditional adaptive signals use sensors such as in-pavement loops and require centralized timing coordination, modern smart signals use video technology and machine learning to communicate with each other and optimize traffic flow in real-time. Video technology can also produce much richer traffic insights to support long-term planning.

Safety: Smart signals can be programmed to provide more time for trucks completing turns and can also be programmed to provide extra crossing time for people with reduced mobility. New technologies currently being piloted relay information from users' smartphone apps directly to the signals to assist pedestrians with visual or physical disabilities to safely cross the street.

BACKGROUND

- The City of Toronto has launched a smart signal pilot at 10 intersections on Yonge St. in Midtown and 12 intersections on Sheppard Ave. in Scarborough. The City is testing two different technologies along the two arterial corridors.
- There are around 7,000 traffic signals (signalized intersections) total in the Corridor – of varying levels of sophistication.
- The pace of technological advancement in this field is very rapid, and benefit-to-cost ratios are likely to be very high. Further benefits are likely attainable by connecting smart signals to in-vehicle technology.

ACTIONS

Municipalities across the Corridor should closely monitor technological advancement in this field and follow the City of Toronto's lead in conducting pilot projects as a first step to large-scale rollout.

Sources: Smart Cities Dive (2017), "This AI traffic system in Pittsburgh has reduced travel time by 25%;" Carnegie Mellon University (2017), "Smart Traffic Signals Will Help Blind Cross Streets;" CBC (2017), "Toronto's new 'smart' traffic lights will sense congestion and adjust themselves;" CPCS estimations of number of signals and costs – assumes baseline $100,000 per signal. Trends in time lost due to commuting are extrapolated from TomTom's historical estimates for Toronto which found that the average percentage of "extra travel time" due to congestion was 23% in 2008 and 30% in 2016 – nearly a 1-percentage point increase per year

FOR FURTHER CONSULTATION:

NEW RAIL FREIGHT CORRIDOR

- Peel and York Regions. The full RER network spans across the Corridor.
- At least $2 billion for completing the link, and potentially $3 billion for corridor expansion.
- Long-term, currently conceptual.

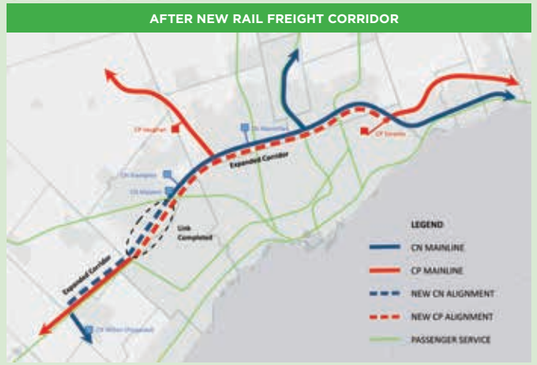
WHAT IT IS

The New Rail Freight Corridor is a proposed 15-km freight rail link that would support the Province's ability to implement Regional Express Rail (RER) by better segregating freight and passenger rail traffic—helping increase the region's capacity to absorb growing demand for both passengers and freight.

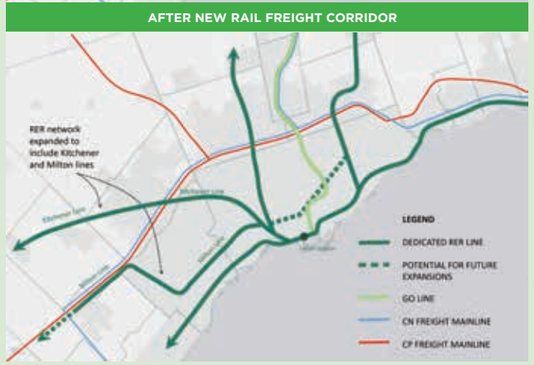
FREIGHT NETWORK
BEFORE NEW RAIL FREIGHT CORRIDOR

PASSENGER NETWORK
BEFORE NEW RAIL FREIGHT CORRIDOR

AFTER NEW RAIL FREIGHT CORRIDOR



AFTER NEW RAIL FREIGHT CORRIDOR



"As one of the world's largest biotechnology companies, it was important for our Canadian affiliate to be located in an area (Meadowvale, Mississauga) close to our industry peers, while still being in close proximity to the airport with easy access to the 407. However, the lack of transit options from downtown Toronto nearly became a deal-breaker. In fact, I know several companies that have decided not to come to this area because there is very limited GO service – an important consideration given the increased dependency on millennial-aged talent."

– Brian Hilberdink, President, Novo Nordisk Canada Inc.

WHY MORE CONSULTATION IS NEEDED

While New Rail Freight Corridor has the potential to make passenger and freight movement more efficient through the Corridor, this is a project that raised concerns from several municipalities such as Markham and Vaughan. However, there are supporters of this project notably in the Region of Peel, Toronto, Cambridge and Milton. Given the potential of this project to make people and freight movement more efficient, more consultation and review is required.

WHY IS IT NEEDED

Regional Mobility: New and expanded highways alone are not enough to meet the demands of a rapidly growing region. Without an ambitious project to provide commuters a meaningful competitive alternative to driving, the movement of goods will continue to be hamstrung by slow and unreliable highways.

Regional Growth: RER's improvements to linkages between Toronto and cities like Kitchener, Cambridge, Hamilton and Oshawa support the sustainable growth of these cities and improve their economic competitiveness.

Separation of Passengers and Freight: Separating passenger and freight traffic onto dedicated tracks serves to improve the speed, reliability and capacity of both freight and passenger service.

ACTIONS

Metrolinx should enhance its planned RER network by completing the New Rail Freight Corridor, engaging in close dialogue with CP, CN, and impacted municipalities.

MORE INFO: Metrolinx Regional Express Rail
www.metrolinx.com/en/regionalplanning/rer

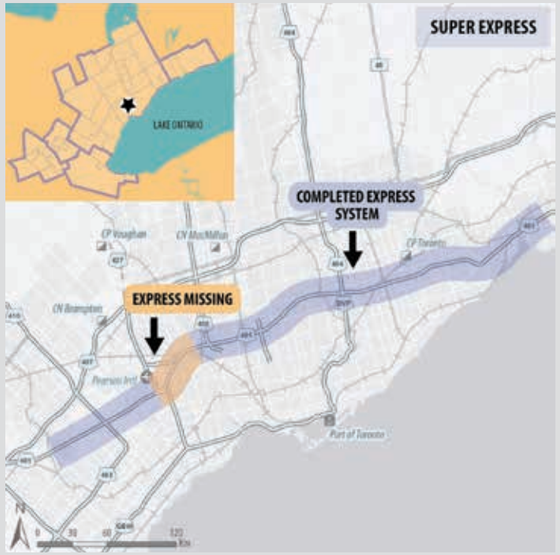
BACKGROUND

- Implementation of RER is already well underway, led by Metrolinx. The project involves electrification of GO rail lines and faster, more reliable, higher capacity, and more frequent all-day passenger rail service on GO corridors – modelled on similar systems in megacities such as Paris.
- Currently, GO trains operate partly on dedicated Metrolinx-owned tracks and partly on freight (CN/CP) rail lines – in the latter case limited to peak periods and peak directions. These freight lines are critical mainlines connecting Eastern and Western Canada (and the US), with no alternative bypass routes. Substantially increasing passenger service on these mainlines to the level of all-day two-way service is not possible without undermining the reliability of the Canadian freight rail industry.
- Building the New Rail Freight Corridor would enable RER to be expanded to the high-demand Milton and Kitchener GO corridors. Otherwise, RER can only be implemented on the Lakeshore East, Lakeshore West, Barrie, and Stouffville corridors (and the Kitchener corridor to Bramalea). The Richmond Hill line is otherwise constrained.
- Since the travelling public will be the main beneficiary, public-sector (and possibly CIB) funding is needed to undertake the project. No less importantly, close coordination between Metrolinx, CN and CP is critical. While both railways are currently able to operate efficiently and effectively under the current alignment, continued residential development will raise political pressures in favour of increased passenger service. Maintaining the level of freight service under any new alignment is critical so as to avoid disrupting freight supply chains and future capacity growth as well.

Sources: Metrolinx RER website; Metrolinx (2015), "GO Regional Express Rail Initial Business Case;" IBI Group for Town of Milton (2015), "Feasibility Study and Business Case of Constructing the Missing Link;" consultations; CPCS analysis

SUPER EXPRESS

- Highway 401 through the central part of the Corridor
- Around $2 billion
- Medium-Term Project. Currently in early conceptual stage. Construction should be expedited to mitigate traffic impacts.



WHAT IT IS

Super Express would complete the express lane network on Highway 401, giving priority to trucks and double decking through the airport-area bottleneck.

"This bottleneck, right in the heart of the Corridor near Pearson Airport, is the most severe highway chokepoint across Canada. If we are going to be serious about reducing congestion, we should take inspiration from other successful megacities and consider ambitious, space-efficient options to improve the flow of people and goods on our transportation network."

– Steve Dyck, Vice President, Ontario Government Relations, SNC Lavalin

ACTIONS

The Ministry of Transportation (MTO) should commence a business case analysis of Super Express for a variety of alternative configurations.

MORE INFO: Toronto Region Board of Trade, Movement of Goods 5th Report

Source: Toronto Region Board of Trade (2018), Movement of Goods Series 5th Report; CAA (2017), "Grinding to a Halt: Evaluating Canada's Worst Bottlenecks;" AHUA (2015), "Unclogging America's Arteries;" LBJ Express website, FAQs; CPCS analysis

GTA WEST CORRIDOR

- Across the top of Brampton – from Highway 400 in Vaughan to Highway 401 near Milton (York, Peel and Halton Regions)
- Around $5 billion
- Medium-term project. Project is resuming approvals stage after being halted by the previous provincial administration.

WHAT IT IS

Proposed new freeway approximately 50 km in length that would provide added east-west capacity for goods and people movement.

"We are pleased that the Province has re-opened the environmental assessment for the GTA West Corridor. Smart transportation policy doesn't mean choosing between transit and highways – it means investing in both as part of a comprehensive strategy to improve mobility. The GTA West Corridor would directly support the competitiveness of the region's central freight cluster – improving access and providing trucks a bypass route to relieve rampant congestion on the 401."

– Professor Matt Roorda, Chair of the Smart Freight Centre

ACTIONS

The Province of Ontario should proceed with the Phase 2 Environmental Assessment and prioritize this project because of its national significance as a goods movement corridor.

MORE INFO: GTA West Website www.gta-west.com

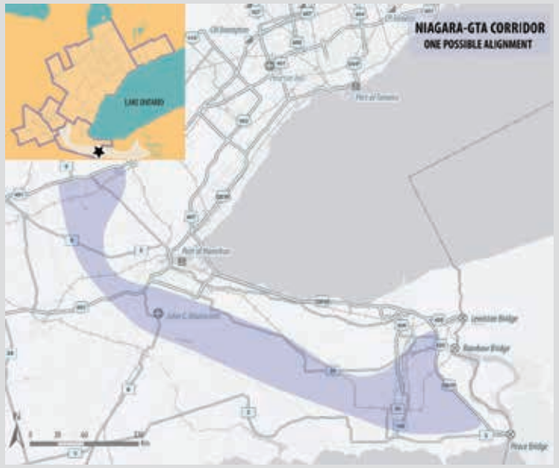
Source: GTA West website; CPCS analysis of 2017 GGH Growth Plan; GTA West Corridor EA: Constructability and Cost Summary Technical Memorandum (2011); GTA West Corridor Advisory Panel Report (2018); Government of Ontario, A Plan for the People: Ontario Economic Outlook and Fiscal Review (2018); consultations

NIAGARA-GTA CORRIDOR

Niagara, Hamilton, Wellington and/or Halton

Around $10 billion

Long-Term. Currently at conceptual design stage (route not yet determined)



WHAT IT IS

This proposed new freeway would traverse the central part of Niagara Region, parallel to the Queen Elizabeth Way (QEW). The full Niagara-GTA Corridor (NGTA) could stretch up to 100 km to Highway 401.

"There is a need for integrated intermodal connectivity, a viable ground network system that links our airports to all markets. The Mid-Peninsula Highway would traverse the central part of Niagara region parallel to the Queen Elizabeth Way and connect to Highway 401, provide congestion relief, and unlock a key trade corridor."

– Cathie Puckering, President & CEO, Hamilton International Airport

ACTIONS

The Province of Ontario should identify and designate a right-of-way for the NGTA Corridor, as a first step to constructing the highway.

MORE INFO: MTO Project Information
www.ontario.ca/page/niagara-greater-toronto-area-corridor

Sources: Province of Ontario website: Niagara to Greater Toronto Area Corridor; Niagara Region Transportation Master Plan: Niagara-Hamilton Trade Corridor Technical Paper (2017); alignment from MTO, Niagara-GTA: Analysis of Alternatives (presentation); cost from CPCS analysis based on baseline $100 million per km.

BRADFORD BYPASS

York and Simcoe Regions

$1-2 billion

Medium-term project.

WHAT IT IS

This proposed 16-km new freeway – also known as the "Connecting Link," would link Highways 400 and 404 in the area of Bradford.

"The Bradford Bypass is a long overdue project that would fix a gap in the highway network by linking the 400 and 404 – improving the connectivity and resiliency of the transportation system and diverting trucks off increasingly congested arterial roads."

– York Region

ACTIONS

The Ministry of Transportation should specify timelines for the construction of this connecting corridor, as an initial step to getting it built.

MORE INFO: MTO Project Information
www.ontario.ca/page/highway-400-highway-404-extension-link-bradford-bypass

Sources: Province of Ontario website: Highway 400-Highway 404 Connecting Link (Bradford Bypass); Simcoe.com (2017), "East-west transportation artery through Bradford back on province's books;" Places to Grow: Growth Plan for the Greater Golden Horseshoe (2017); cost from CPCS analysis based on baseline $100 million per km.

HIGHWAY 7 EXTENSION

Wellington and Waterloo Counties

$1-2 billion

Short-term project. Supporting engineering work is underway.

WHAT IT IS

This planned 19-km new freeway would serve as a high-speed corridor linking Guelph and Kitchener/ Waterloo.

"The long-awaited start of construction of a new Highway 7 between Waterloo Region and Guelph/Wellington County serves not only to connect two growing regional economies and population bases but also an important route for moving Waterloo Region products and people eastward, off Highway 401, towards the Greater Toronto Area."

– Greater Kitchener-Waterloo Chamber of Commerce

ACTIONS

The Ministry of Transportation should ensure construction proceeds on this limited access freeway without further delay.

MORE INFO: Project Page newhighway7.ca

Sources: Project site: newhighway7.ca; Places to Grow: Growth Plan for the Greater Golden Horseshoe (2017); MTO Southern Highways Program 2017-2021; Waterloo Region Record (2017), "New Highway 7 delayed again as 28 years of planning drags on;" cost from CPCS analysis based on baseline $100 million per km.

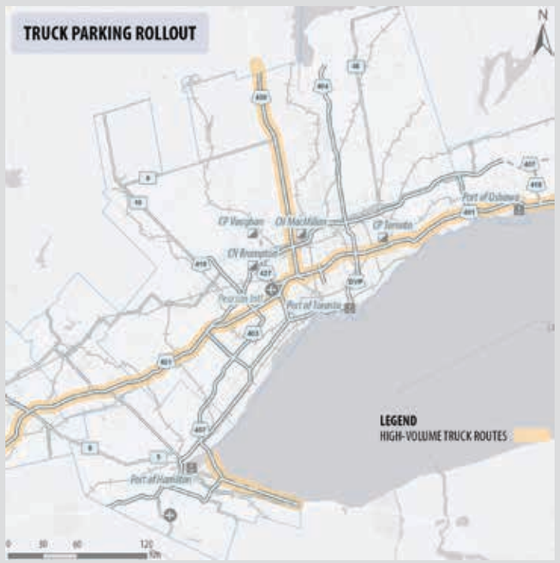
ADDITIONAL REGIONAL FREIGHT PROJECTS REVIEWED

TRUCK PARKING ROLLOUT

Along key truck highway corridors

Unknown but likely low; under $50 million

Short-term project. Currently under study by the Province.



WHAT IT IS

This project would involve improvements to regional truck parking infrastructure along key truck corridors such as Highways 401, 400 and QEW – subject to a fulsome review of truck parking needs and availability.

"Truck parking not only lets drivers rest, it also provides a staging area to make the trip to their final destination at the most opportune time. Having adequate and strategically located resting places adds flexibility to the supply chain and helps truck drivers avoid rush-hour traffic."

– Jonathan Blackham, Ontario Trucking Association

ACTIONS

The Ministry of Transportation, in partnership with OTA, should build on its ongoing study of truck parking needs to implement a strategic truck parking plan to serve the needs of the trucking industry in the Corridor.

Sources: Consultations with OTA; FHWA (2015), "Jason's Law Truck Parking Survey Results and Comparative Analysis" (Table 4); ATRI (2016), "Managing Critical Truck Parking Case Study" (Figure 4); OTA (2017), "Bring on ELD Mandate;" OTA (2017), "Have Your Say on Truck Parking in Ontario."

REPORT CONTRIBUTORS

TORONTO REGION BOARD OF TRADE REPRESENTATIVES

Douglas Goold,
Vice President, Policy

Natasha Apollonova,
Assistant Vice President, Policy

ECONOMIC DEVELOPMENT & TRADE COMMITTEE MEMBERS

Amanda Pautler,
Director of Operations and Chief of Staff,
University of Toronto

Andrew Thomson,
Chief of Government Relations,
University of Toronto

Ansar Ahmed,
Vice President,
Jacobs

Audrea Golding,
Partner,
Fragomen

Bambina Marcello,
Director, Business Development,
Air Canada

Bernice Cheung,
Vice President, Cultural & Financial Markets,
Environics Analytics

Brian Zeiler-Kligman,
Senior Associate,
Sussex Strategy Group

Christian Gualtieri,
Market Research Analyst,
Decision Resources Group

Christopher Kim,
Manager/Lawyer,
Fragomen

Ella Korets-Smith,
Executive Director,
TO Health!

Ferio Pugliese,
Senior Vice President Regional Markets and Government Relations,
Air Canada

Hillary Marshall,
Vice President, Stakeholder Relations & Communications,
Greater Toronto Airports Authority (Chair)

John Bauer,
Senior Director, Consulting & Deals
PricewaterhouseCoopers

Kevin Moshal,
Managing Partner, Southern Ontario,
Global Affairs Canada

Mark Maloney,
Partner,
Urban Consulting

Patrick Kelly,
Dean, School of Engineering Technology and Applied Science,
Centennial College

Ron Dizy,
Managing Director,
Advanced Energy Centre,
MaRS Discovery District

Sharlene McDevitt,
Vice President, Treasury & Security Services
JP Morgan Chase

Toby Lennox,
President and CEO,
Toronto Global

Tom Turner,
VP Sales,
Rogers Communications (Vice Chair)

INFRASTRUCTURE COMMITTEE MEMBERS

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President & CEO,
407 ETR

Andrew McAlpine,
Principal, Canada Group Leader,
Arup

Anthony Primerano,
Director, Government Relations,
Laborers' International Union of North America

Aylin Lusi,
Vice President, Public Affairs,
United Parcel Service

Bruce McCuaig,
VP, Canada Transit Sector Market Lead,
AECOM

Charles Thibault,
Commercial Performance Manager for Eastern Canada,
LafargeHolcim

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Senior Manager,
Deal Advisory – Infrastructure,
KPMG

Clement Alary-Sery,
Communication Coordinator,
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Vice President,
Construction & Infrastructure,
Aon

Derek Goring,
Senior Vice President, Development,
First Gulf

Elena Laktionova,
Director of Finance,
American Sugar Refining

Elliott Silverstein,
Government Relations Manager,
Canadian Automobile Association,
South Central Ontario

Emmanuel Kuhn,
Chief Executive Officer Office,
Keolis Rail North America

Henry Jeens,
Associate Principal,
Arup Group

Jim Janetos,
Partner,
McCarthy Tetrault

John McCabe,
Vice President,
LafargeHolcim

Kevin Sack,
Vice President, Marketing, Communications and Government Relations,
407 ETR

Marie Hélène Cloutier,
Vice-President Passenger Experience, Marketing & Sales,
Keolis

Matthew Kattapuram,
SVP, Strategic Business Development,
Aecon Group

Michael English,
Senior Manager, Consulting,
Accenture

Murtaza Haider,
Professor,
Business Management,
Ryerson University

Patrick O'Neill,
VP – Mobility,
Siemens

Paul Golini,
Executive Vice President, Co-Founder,
Empire Communities (Vice Chair)

Paul Lehmann,
Managing Director, Office of the CEO,
Bank of Montreal

Richard Shaban,
Partner, Construction,
Borden-Ladner-Gervais

Rodney Mons,
Director, Technology Division,
H. H. Angus

Sean Strickland,
Director, Business Development & Industry Relations,
Pomerleau

Steve Dyck,
VP Ontario Government Relations,
SNC-Lavalin (Chair)

Steve Daniels,
Vice President, Development,
Tridel

Tom Middlebrook,
SVP, Business Development,
Dragados-Canada

INNOVATION CORRIDOR CHAMBER CEOS

Jan De Silva,
President & CEO,
Toronto Region Board of Trade (Co-Chair)

Ian McLean,
President & CEO, Greater Kitchener Waterloo Chamber of Commerce (Co-Chair)

David Wojcik,
President & CEO,
Mississauga Board of Trade

Greg Durocher,
President & CEO,
Cambridge Chamber of Commerce

Kathleen Dills,
General Manager,
Halton Hills Chamber of Commerce

Keanin Loomis,
President & CEO,
Hamilton Chamber of Commerce

Kithio Mwanzia,
President & CEO,
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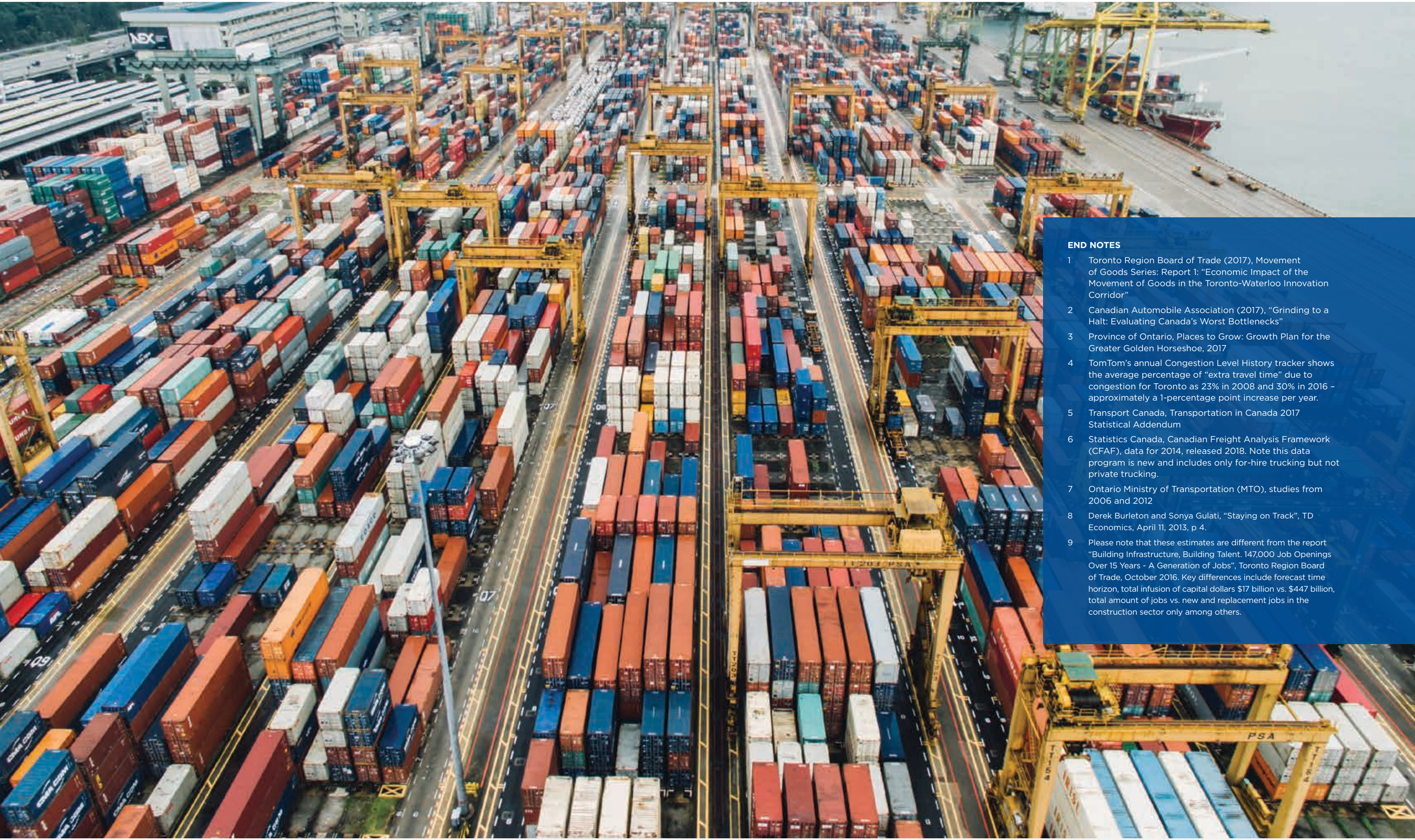

END NOTES

1 Toronto Region Board of Trade (2017), Movement of Goods Series: Report 1: "Economic Impact of the Movement of Goods in the Toronto-Waterloo Innovation Corridor"

2 Canadian Automobile Association (2017), "Grinding to a Halt: Evaluating Canada's Worst Bottlenecks"

3 Province of Ontario, Places to Grow: Growth Plan for the Greater Golden Horseshoe, 2017

4 TomTom's annual Congestion Level History tracker shows the average percentage of "extra travel time" due to congestion for Toronto as 23% in 2008 and 30% in 2016 – approximately a 1-percentage point increase per year.

5 Transport Canada, Transportation in Canada 2017 Statistical Addendum

6 Statistics Canada, Canadian Freight Analysis Framework (CFAF), data for 2014, released 2018. Note this data program is new and includes only for-hire trucking but not private trucking.

7 Ontario Ministry of Transportation (MTO), studies from 2006 and 2012

8 Derek Burleton and Sonya Gulati, "Staying on Track", TD Economics, April 11, 2013, p 4.

9 Please note that these estimates are different from the report "Building Infrastructure, Building Talent. 147,000 Job Openings Over 15 Years - A Generation of Jobs", Toronto Region Board of Trade, October 2016. Key differences include forecast time horizon, total infusion of capital dollars $17 billion vs. $447 billion, total amount of jobs vs. new and replacement jobs in the construction sector only among others.

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