Understanding the importance of the port and marine freight shipping in Toronto

How to make the port work better

FINAL REPORT

Prepared for:

Toronto Industry Network

Prepared by:

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About the study

Toronto Industry Network (TIN) has requested CPCS to prepare a study to assess the importance of the Port of Toronto for marine freight shipping, and to assess key issues and recommendations to ensure the port and its shippers can continue to function effectively in the future.

About TIN

Toronto Industry Network is an association of manufacturers and industry associations with operations in the City of Toronto. TIN engages with policymakers to advocate for policies to make Toronto more competitive for manufacturing within Canada and internationally.

https://www.torontoindustrynetwork.com/

About CPCS

CPCS is a Canadian-headquartered global consulting firm specializing in transportation and infrastructure. CPCS advises public- and private-sector clients in the areas of transportation strategy, economics and policy with a mission to deliver fact-based, data-driven analysis to deliver better infrastructure solutions. More information about CPCS's areas of practice is included in Appendix B.

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Acknowledgements

The CPCS Team acknowledges and is thankful for the input of stakeholders consulted (see Appendix A), as well as the guidance and the input of representatives from TIN.

Opinions and limitations

Unless otherwise indicated, the opinions herein are those of the authors and do not necessarily reflect the views of TIN or other parties. CPCS makes efforts to validate data obtained from third parties, but CPCS cannot warrant the accuracy of third-party data.

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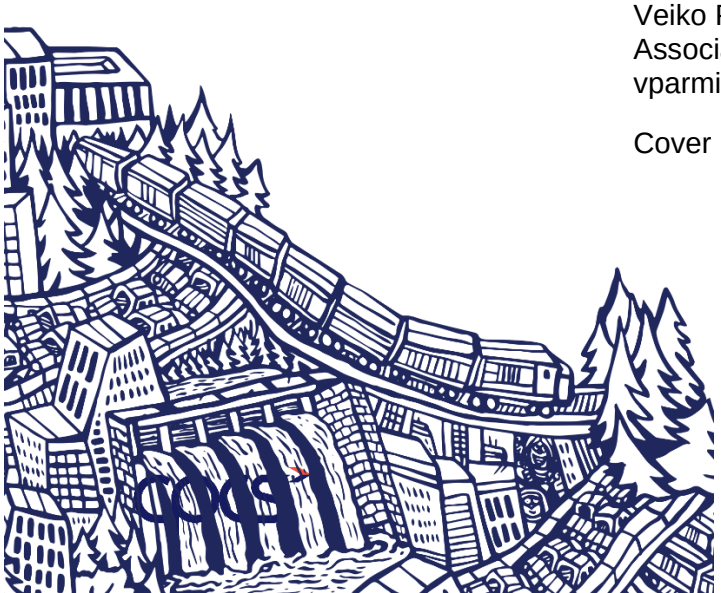


Table of contents

List of figures

Acronyms

CPA	Canada Port Authority
GTA / GTHA	Greater Toronto Area / Greater Toronto and Hamilton Area
HOPA	Hamilton-Oshawa Port Authority
LRT	Light Rail Transit
MTO	Ontario Ministry of Transportation
NIMBY	Not in my back yard
OP	Official Plan
PLPF	Port Lands Planning Framework
TEDCO	Toronto Economic Development Corporation
THC	Toronto Harbour Commission
TIN	Toronto Industry Network

Executive summary

In guiding the extensive Waterfront revitalization efforts in Toronto, the City's plans have called for maintaining and supporting marine freight shipping in and around the Port Lands, reflecting an understanding of the importance of a port which annually brings in 2.4 million tonnes of raw materials – including cement and aggregate for the Toronto region's buildings and infrastructure, salt for its roads, and sugar for its large and growing food manufacturing industry.

These supply chains rely on marine shipping – the lowest-cost and greenest mode of freight transportation – leveraging the natural advantage of the Toronto region along the Great Lakes and St. Lawrence Seaway system, which provides connections to key trade partners in the US and overseas. As roads become more congested and climate threats grow, the value of marine shipping will rise. The provincial government recently released its first-ever Marine Transportation Strategy to strengthen the marine network. With the region's main port, Port of Hamilton, becoming increasingly crowded, the Port of Toronto will continue to be a key cog in this network.

Why, with so much agreement on the strategic importance of marine shipping, is the on-the-ground reality at the Port of Toronto anything but rosy? Why do the freight industry stakeholders that were consulted for this report, including the main shippers that rely on the port, describe a frustrating setting that produces anxiety about the future viability of their operations – challenges that, if not addressed, would risk harming the region's economic competitiveness and its residents' prosperity?

Issue 1: The industrial waterfront is undervalued as a strategic resource

The first issue is one of regional prioritization. Our review finds that the Toronto region has ten times less waterfront industrial land (potential port land) within 40 km (25 miles) of the core compared to its Great Lakes peer Chicago, and four times less compared to London and Paris (inland megacities to which Toronto aspires). While these other urban metropolises have not shied away from city-building along their rivers or lakes, they have also retained much higher volumes of waterfront industrial lands to support marine supply chains, as part of a suite of transportation options.

By our estimates, redevelopment projects in the Port Lands will remove about half of its industrial waterfront frontage – further reducing the region's capacity. Among the three Canada Port Authority (CPA) ports regionally, Hamilton handles about three-quarters of marine tonnage, Toronto one-fifth, and Oshawa under 5%. Hamilton and Oshawa are 60+ km away, meaning that the Port of Toronto remains strategically important as the only port located within close proximity to the core.

The prospect of shrinking a valuable strategic resource should give policymakers pause. The port footprint being removed is not being replaced elsewhere within the core; in fact, elsewhere along the lake other large parcels are being targeted for residential intensification. Beyond the Port of Hamilton, the next best location for industrial development is in Niagara – about a 100-150-kilometre haul along the QEW. This is a risk because large metropolises with poor or no water access – such as Dallas and Atlanta – have to rely more heavily on sprawling highway and freight rail networks.

Issue 2: Freight shippers in the Port Lands are caught in an awkward web within a fragmented governance structure

The federal government set up the model of CPA ports to "[make] the system of Canadian ports competitive, efficient, and commercially oriented."[1] However, the allocation of roles, responsibilities

[1] See Government of Canada, Canada Marine Act (1998, c. 10) (link)

and mandates in the Toronto Port Lands has produced a setting that seems to stray from the spirit envisioned for the CPA model. The Port of Toronto is unusual in that much of the land is owned not by the CPA or by freight shippers, but rather by the City, which leases it out to shippers.

Under the CPA model, a port authority is empowered to play a middle role between government and industry – pursuing the public interest in growing trade, while operating commercially. However, in Toronto, poor integration of the marine-side and land-side mean the port authority (PortsToronto) and major landowner (CreateTO, an agency of the City of Toronto) have divided responsibility over important activities that a CPA port authority would normally perform. PortsToronto manages the harbour but has limited or no involvement in important landside functions, such as optimizing space, negotiating leases, pursuing new tenants and mediating land use conflicts. For its part, CreateTO does not have any explicit mandate to prioritize and grow marine shipping.

The governance challenges are leading to systemic problems and a risky future, according to port users who reported a range of issues related to a lack of vision, misaligned priorities, bureaucratic process, and the seeming deprioritization of marine shipping. There is a perception that the key parties have an ambiguous commitment to growing marine shipping, and these parties also seem to lack board members and management with significant marine freight expertise.

This puts the Port of Toronto at the opposite end of the spectrum compared to Great Lakes ports like Hamilton and Cleveland, which are nimble, entrepreneurial and growth-oriented. Given that the GTHA is a national manufacturing and export hub, it is seems the Port may be missing an opportunity by only serving inbound supply chains (in contrast to many other Great Lakes ports). However, it can be considered likely that the burdensome and frustrating operating climate is not only a threat to existing shippers, but also a deterrent to new business attraction.

Issue 3: Conflicts and ambiguities at a local planning level are a manifestation of the fragmented governance structure

Despite some efforts at coordination, there remain many important gaps and uncertainties which planning documents, such as the Port Lands Planning Framework, only address at a high level. Although the PLPF seems to be the result of a good-faith effort to balance competing demands, it does not seem to fully incorporate the operational realities of marine shipping; there are elements like waterfront promenades and public parks interspersed in the industrial areas that would seem to create potential conflicts, and in some cases necessitate a reduction in industry footprint.

Freight shippers describe an understanding of the need for adaptability and the importance of being good neighbours as the Port Lands evolve. Marine shipping has unique requirements and responsibilities, and shippers require greater clarity from the City of Toronto, PortsToronto and CreateTO on important issues – like how safe and efficient operations will be ensured in the water and on access roads; how crumbling dockwall, bridges and roadways will be upgraded; and how conflicts with sensitive land uses will be minimized.

The City of Toronto, of note, is advancing a vision to bring the general public into closer contact with the working port, as part of Port Lands revitalization. In the implementation of its vision, however, the City appears to be imposing more risk and uncertainty on shippers than it is delivering benefits for them. Shippers are concerned that projects like Lookout Park, a new park adjacent to cement terminals and aggregate piles, may have unintended consequences in exposing them to complaints and new mitigation measures. In order to achieve its vision, the City should be playing a more active role – through financial and organizational tools – to deliver a win-win proposition that defrays risks and demonstrates the City's commitment to the success of the working port.

The risk to the city and region

Freight shippers are commercial entities and make business decisions based on risk and reward. There is a locational advantage to the Port Lands, but this advantage can be eroded by factors like an inability to secure long-term leases, poor infrastructure, bureaucratic operating climate, a need for expensive mitigations against new sensitive land uses, and unclear commitment for prioritizing and growing marine shipping.

The resilience of the port's supply chains is not only a private matter for industry, but also of critical importance for the City of Toronto, surrounding municipalities and the Province – and by extension its businesses and residents. The tonnages carried at the port would require 57,000 annual heavy truck trips to replace; heavy trucks create the most traffic congestion, impose the greatest wear on the roads, discharge the most carbon into the atmosphere, and will most likely be last in line to be electrified. Diverting Toronto's marine traffic to Hamilton or Niagara would generate on the order of 17,000 to 25,000 tonnes of CO_2 emissions annually – which, for reference, would nearly offset the environmental benefits of $30+ billion in transit investments in the Ontario Line, Eglinton Crosstown and Hurontario LRT. Furthermore, it would upend these supply chains (which are largely built around marine distribution), leading to higher construction costs and further pressures on municipal pocketbooks, given that municipalities are big buyers of salt and cement.

In contrast, getting it right would mean creating a new set of conditions for a vibrant Port of Toronto which forms part of a connected network of Lake Ontario ports. A growing marine system would improve productivity, promote decarbonization, and support industry in growing the region's economy.

Recommendations for success

1)	**The governance structure should be overhauled to better harness the principles of the CPA model**	Strategic ●●● Operational ○○○
1.1	In consultation with other stakeholders, the City of Toronto should take the lead in revitalizing the port. City Council should direct staff to review this study's findings and report back to Council by Q4, 2024.	City of Toronto
1.2	The City should authorize a body with an explicit marine shipping mandate to govern the industrial lands in the Port Lands. Appoint marine shipping experts to its board of directors. Operationally, contract with the port authority to better integrate the land- and marine sides. In the interim, deliver CreateTO an explicit direction to promote and facilitate marine shipping in these lands.	City of Toronto
1.3	The City must foster a long-term collaborative relationship with the freight shippers, including through long lease terms that provide operational certainty.	City of Toronto, CreateTO
1.4	The provincial and federal governments should be willing to participate in the process of developing an improved governance model and, as needed, should pursue a more active role if the City is not taking proper leadership.	Federal and provincial governments
1.5	TC should assess whether PortsToronto is operating in alignment with the expectations of the Canada Marine Act, in its commitment to marine shipping.	Transport Canada

2)	**The Southern Ontario port system should be further integrated**	Strategic ●●● Operational ○○○
2.1	Examine the synergies of a regional marine authority to organize marine shipping in the region.	Port authorities, Transport Canada

3)	**Capital investments in and around the port should be increased, along with improved transparency and planning**	Strategic ●○○ Operational ●●○
3.1	Deliver a capital plan for transportation improvements, with target dates and identified funding sources.	City of Toronto
3.2	Deliver a capital plan for investments in the dockwall, with target dates and identified funding sources.	CreateTO
3.3	Demonstrate how past and current port fees and rents have been, or will be, invested in infrastructure investments benefitting port users. Show how fees and investments are aligned (e.g. wharfage fees collected by port authority, but dockwall is responsibility of CreateTO).	PortsToronto and City of Toronto / CreateTO
3.4	Ensure rail corridor alignment is protected, so that rail service to the port terminal could be reinstated in the future if desired.	City of Toronto / CreateTO
3.5	Ensure the Port Lands will continue to be well connected to the DVP and Gardiner Expressway, with a full interchange in the segment being realigned as part of the Gardiner East project, as part of the Due Diligence Review.	Province (MTO), City of Toronto

4)	**Further steps should be taken to ensure the long-term success of the region's marine network**	Strategic ●●○ Operational ●●○
4.1	Undertake a strategic assessment of capacity and demand for waterfront industrial lands in the Toronto region, to investigate opportunities to increase supply and protect against further losses of such lands.	Province of Ontario
4.2	Designate last-mile connectors to freight facilities, including the Port of Toronto, as part of the forthcoming multimodal strategic goods movement network (building on the example set by U.S. state freight plans).	MTO
4.3	Objectively assess the performance of the last-mile transportation network connecting to ports, e.g. for congestion, safety and resilience.	MTO
4.4	Create a new source of funding to fund or co-fund transportation network improvements on critical last-mile connectors (including municipally owned assets).	MTO

5)	**A renewed collaborative framework is needed to build the foundations of an operationally successful port**	Strategic ●●○ Operational ●●○
5.1	Offer to bear the responsibility for mitigations needed to be implemented by shippers, where such mitigations are needed as a result of the City's efforts to bring the public closer to the port.	City of Toronto
5.2	Lead the charge in communicating to the public its objectives in increasing access to the working port, and setting expectations (e.g. for Lookout Park). Proactively assign a team to handle comments or complaints from the public so as to seek to minimally burden freight shippers. These should be prerequisites for the park to open to the public.	City of Toronto
5.3	Undertake a review of the benefits versus costs of increasing public access to the working port, including costs to government and to industry. Clarify whether the direction from the PLPF in this regard continues to be a priority given potential budget challenges at all levels.	City of Toronto
5.4	Commit to including the industrial areas of the Port Lands as employment areas designated under the City's Official Plan, and work towards doing so. Also, expand provincially significant employment zones (PSEZ) to cover the industrial areas of the Port Lands.	City of Toronto Province of Ontario
5.5	Continue to ensure, through the PLPF and other planning and zoning tools, that incompatible uses do not impinge on industrial facilities in the Port Lands, and that these areas do not have residential development.	City of Toronto

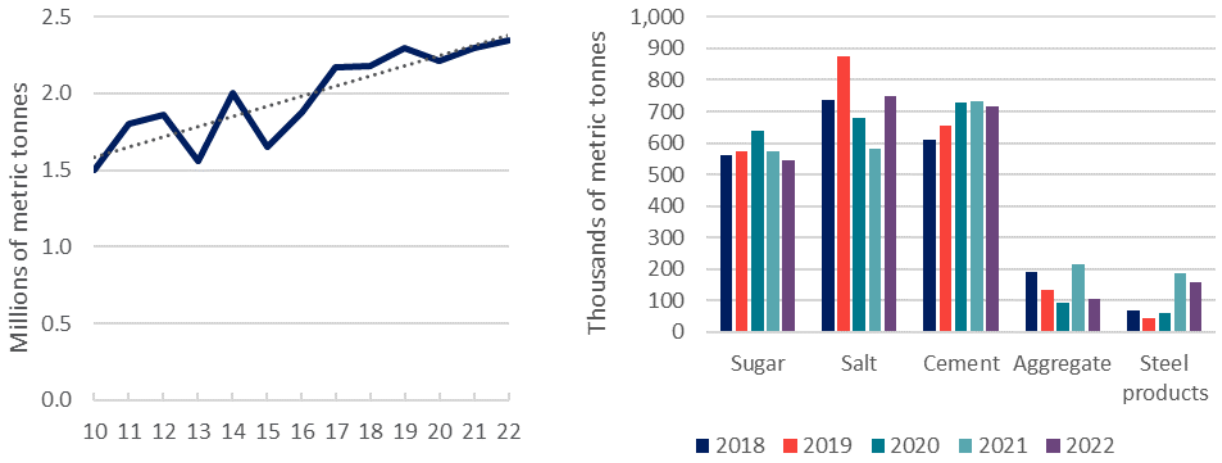
6)	**All parties need to work towards a common understanding of how the new Port Lands will work, in practice**	Strategic ○○○ Operational ●●●
6.1	Present a marine operations plan outlining how freight- and non-freight uses will operate safely and effectively in a new normal, while ensuring competitive operations for marine shippers.	PortsToronto, City of Toronto / Waterfront Toronto
6.2	Present a transportation network plan outlining key access routes for trucks connecting to freight facilities, and plans for protecting vulnerable road uses (as best practice, with fully separated paths). Include a prioritized list of infrastructure upgrades.	City of Toronto
6.3	Impose no restrictions on truck movements in the Port Lands without first undertaking a truck access study and making necessary infrastructure upgrades.	City of Toronto
6.4	Commission an independent study of the salt, cement and aggregate supply chains, assessing the role of the port and sensitivity to disruption. Take no action to reduce the footprint of any existing freight shipper, or affect the viability of any existing freight operations, without conducting such a study to ensure a fulsome understanding of the nature of the operations.	City of Toronto CreateTO
6.5	Continue to serve as a champion for freight users, and collaborate with like-minded organization, such as the Toronto Region Board of Trade (TRBOT) and Canadian Manufacturers & Exporters (CME), to advance discussions among key parties to generate action on the recommendations.	Toronto Industry Network (TIN)

Why the port matters

Shipping trends at the Port of Toronto

The Port of Toronto consists of several terminals clustered in the Port Lands and Central Waterfront, and is the only port located in the city proper. Its volumes are growing: from about 1.5 million (metric) tonnes in 2010 to 2.35 million tonnes in 2022 – a compound annual growth rate of 3.8%. As shown in Figure 1, the port primarily handles sugar, salt, cement, aggregate, and steel products, which have all had stable or growing trajectories in recent years. The Port of Toronto acts as an inbound port, bringing in materials that are critical to the city's and region's economy. Without these materials, the city would not be able to sustain its development.

Figure 1: Tonnage handled at the Port of Toronto, 2010-22 (total) and 2018-22 (detailed)



Source: CPCS analysis of PortsToronto fact sheets and annual reports, see for example: link

Profiles of the key supply chains at the Port of Toronto

Sugar supply chain at the Port of Toronto

Key facilities: *Redpath Sugar Refinery on Queens Quay.*

Inbound transportation: *Raw sugar is imported using ocean-going vessels mostly from Brazil and Central America. The ability to source sugar from global markets – enabled by the Seaway – is a big competitive advantage for the region, since typically most sugar refineries are located coastally along the ocean.*

Outbound transportation: *Refined sugar (dry or liquid) is trucked to customers across the GTHA. The facility is critical for supplying the food manufacturing industry, enabling the Toronto region to have one of the top three food manufacturing clusters in North America. About 75-90 truckloads of refined product go out daily.*

Key considerations: *The plant operates year-round, but because of the seasonality of the Seaway it is necessary to stockpile about 180,000 tonnes of product in winter storage in proximity to the refinery.*

Outlook: *The market for food manufacturing in the region is growing. The City of Toronto's outlook for food and beverage manufacturing states that "no other manufacturing sector is as important to the Toronto economy."*

Source: Industry consultations, CPCS research. See City of Toronto reference: 2020-2030 Sector Roadmap

Salt supply chain at the Port of Toronto

Key facilities: *There are three major salt suppliers – Cargill, Compass and Windsor Salt – which maintain large stockpiles adjacent to one another along the south shore of the Ship Channel.*

Inbound transportation: *Salt is brought in from salt mines in Southern Ontario and US Great Lakes states. The mines are located along the lakes and the entire inbound distribution system is marine-based.*

Outbound transportation: *Salt is trucked out to customers in the GTA, including municipalities, the Province (Ministry of Transportation), and commercial accounts. The primary use is winter ice control for highways, roads, parking lots, walkways, and commercial properties.*

Key considerations: *Salt demand varies depending on the severity of winter conditions. The mines operate throughout the year; salt is shipped throughout the navigation months to fill up stockpiles in the Port Lands and then drawn down over the winter. Maintaining a buffer is important, as supply shortages can have major repercussions on safety and economic productivity.*

Outlook: *Road salt functions as a quasi-public service, in terms of its operational importance. The Port Lands stockpiles have a strategic value, as the City of Toronto (for example) does not have nearly the capacity in its municipally-owned storage sheds throughout the city to store the needed volumes.*

Source: Industry consultations, CPCS research.

A recently released economic impact study undertaken by PortsToronto estimated that in 2022 marine cargo handled at the port generated $464 million in economic activity and supported 1,989 jobs in Ontario (directly and indirectly).[2]

Building materials supply chain at the Port of Toronto

Key facilities: *There are a number of terminals – owned by companies such as Heidelberg and Lafarge – receiving cement or aggregate. The Port terminal on Unwin Avenue handles steel products.*

Inbound transportation: *Most (but not all) cement manufacturing facilities in Southern Ontario are located along the lakes. The distribution network is heavily water-based: marine shipping enables product to be shipped in large quantities cost-effectively, compared to truck or rail. Cement and aggregate can be sourced from Ontario or US Great Lakes states, while steel can be sourced from overseas.*

Outbound transportation: *Cement terminals have a quick turnover: product is offloaded from ships into siloes and then discharged into heavy trucks, for distribution to concrete batch plants and job sites. Several concrete batch plants are also located nearby in the Port Lands. The concrete demand is largely driven by the construction industry, including for high-rise buildings and infrastructure projects.*

Key considerations: *Although these facilities serve customers across the GTHA, the port area is particularly important for the City of Toronto and Downtown Toronto, as the city does not have its own raw material extraction sites. Another benefit of the port is that it enables specialized high-grade aggregates to be imported – for example from Manitoulin Island or Ohio – to meet the higher specifications for 400-series highways.*

Outlook: *The demand for building materials is closely tied to population and housing growth. These facilities are critical for bringing in the needed materials for the city's development.*

Source: Industry consultations, CPCS research.

[2] See PortsToronto (2023), "Economic impacts of maritime shipping in the Port of Toronto" (link)

How the port came to be

Origins of marine freight shipping

Toronto owes its location as a city and trading hub to its natural harbour formed by the Toronto Islands – which was critical for helping move people and goods before the advent of trains, motor vehicles and airplanes.

Historically, manufacturing plants, warehouses, and trading hubs tended to be built in clusters along the waterfront so that supplies could efficiently be received and finished goods shipped out. However, the arrival of the railways sparked an increasing demand for industrialization. The 1850s marked the start of a century-long large-scale lake filling campaign to extend the shoreline from Front Street down to its present location – facilitating transportation, trade and economic expansion.

Evolution of governance structures

The Toronto Harbour Commission (THC) was established in 1911, spurred by concerns about the poor condition of harbour assets. The commission operated as a joint federal-municipal government agency with responsibility for managing the harbour and waterfront and undertaking large-scale works, including notably the Port lands infill developments. The THC managed the marine port for over 75 years, and also operated the Island Airport, which at the time was a small operation.

In the 1990s, much of the land in the Port Lands was transferred to the City of Toronto and the Toronto Economic Development Corporation (TEDCO), now subsumed within CreateTO, a municipal agency which manages the City's real estate assets.

In 1998, the Government of Canada passed the Canada Marine Act to improve the competitiveness of Canada's marine shipping. In doing so, the federal government withdrew from direct operation of many marine assets, including ports. The Act designated 19 marine ports nationwide, including the Port of Toronto, as economically significant. Each port is run by a Canadian Port Authority (CPA), which operates at arm's length from the federal government. In 1999, the THC was dissolved and authority over the port (and airport) were transferred to the newly created Toronto Port Authority, now known as PortsToronto.

Figure 2: Key dates in the history of marine shipping in Toronto

Year	Notable event
1890s	Keating Channel built, redirecting mouth of Don River
1911	Toronto Harbour Commission created to manage Port of Toronto
1920s	Port lands area developed as industrial and shipping hub
1958	Gardiner Expressway completed, providing connection to the highway network
1959	St. Lawrence Seaway completed, opening up the Great Lakes to the world
1990s	Most land in the Port Lands is transferred from THC to City agencies
1999	PortsToronto, as a CPA, takes over management of the Port of Toronto
2001	Waterfront Toronto created to oversee redevelopment of City's waterfront
2017	Port Lands Planning Framework adopted by City Council

Source: Various, including PortsToronto (link), Waterfront Toronto (link) and (link)

Redevelopment of the waterfront

Through much of the 19th century, Toronto had a highly industrialized waterfront (see Figure 3). Some efforts at redevelopment started in the 1970s, including the construction of Ontario Place, the CN Tower, and Harbourfront Centre.

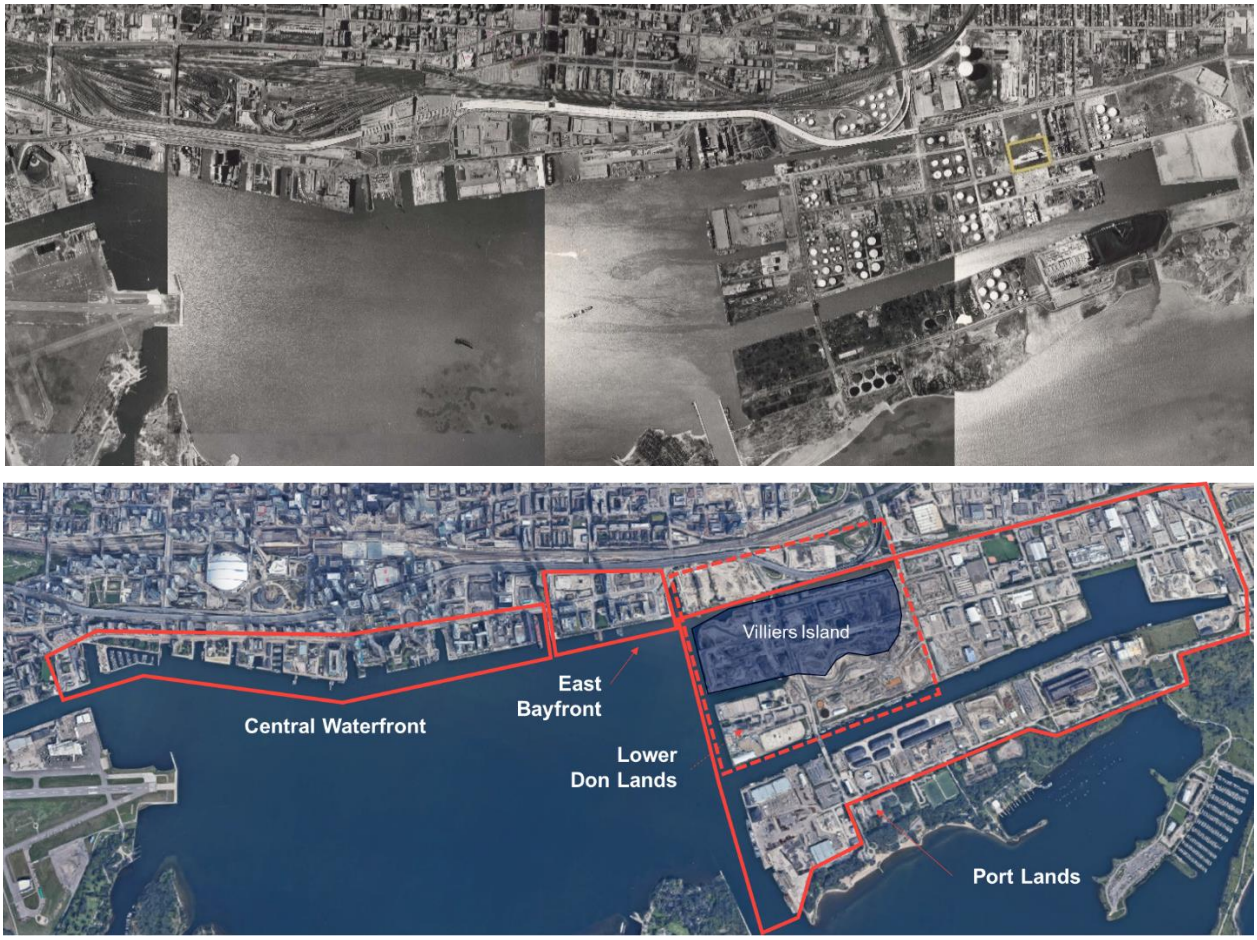
Large-scale waterfront redevelopment took off in 2001 when the three levels of government teamed up to create the Toronto Waterfront Revitalization Corporation, now known as Waterfront Toronto. Key factors driving revitalization efforts have included the opportunity to spur economic growth and tourism, the need to improve polluted and underutilized lands, and more recently the desire to increase the supply of housing.

On revitalization:
"The revitalization of Toronto's Waterfront is an almost unprecedented development opportunity. […] Many of the world's great waterfront cities have overcome impediments to revitalization and economic transformation."

- Toronto Waterfront Revitalization Task Force Report, 2000 (link)

With most of the Central Waterfront now developed, attention has turned to the East Bayfront and Port Lands. Waterfront Toronto has received a combined $1.25 billion from the three levels of government for a massive flood protection project, which involves rerouting the outlet of the Don River in order to improve natural habitats and unlock land for new communities in the Keating Channel Precinct, including the new Villiers Island neighbourhood in the Port Lands.

Figure 3: Aerial imagery of Toronto's waterfront, 1964 vs. 2023



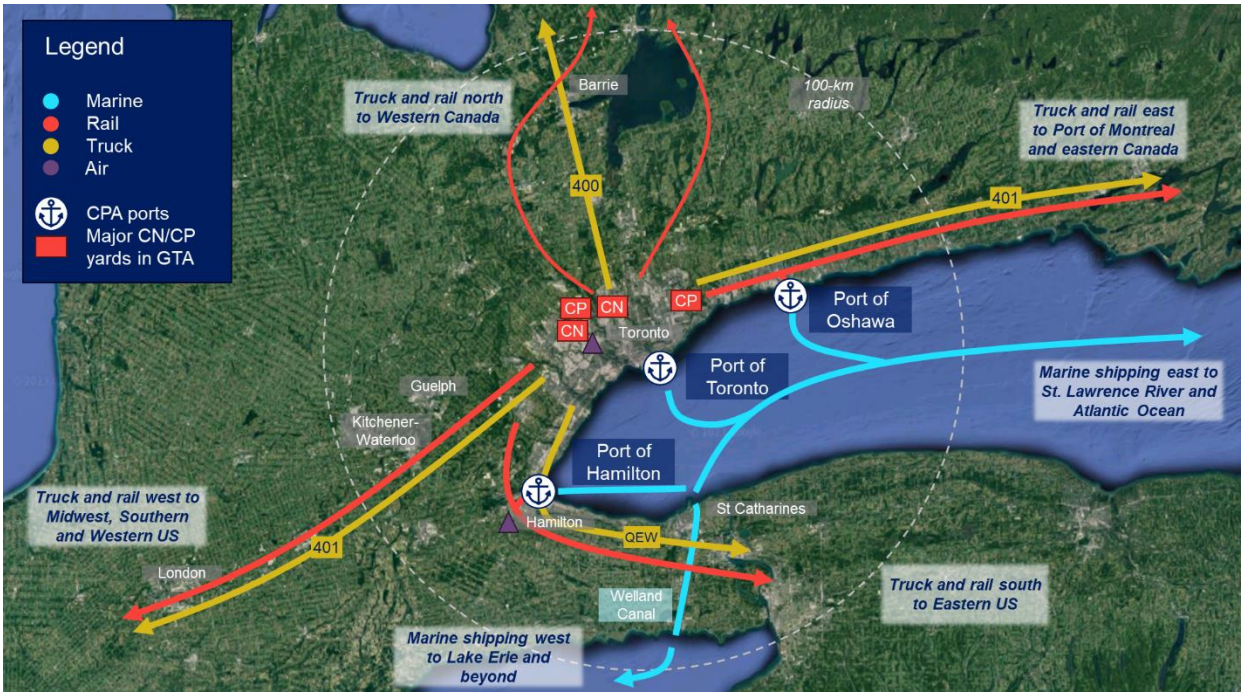
Source: City of Toronto Archives, Aerial Photographs 1964 (link), Google Earth accessed on 2023

How the region's freight system works

The regional multimodal freight transportation system

The Toronto region freight system consists of multiple transportation modes including trucking, rail, marine and air (see Figure 4). Each element is critical for ensuring the region's business and consumer base of 10 million people is connected to Canadian, US, and global markets.

Figure 4: Freight transportation network in the Toronto region



Source: CPCS analysis; locations are indicative. Base map from Google.

Toronto-region exporters and importers have several options:

- **Container shipping:** Many types of products, including consumer goods, are shipped to and from Canada by container ship. The four major container ports in Canada are Vancouver and Prince Rupert on the West Coast, and Montreal and Halifax on the East Coast. From the ports, containers are railed by CN or CP to intermodal terminals in the Toronto region, and then trucked to manufacturers or distributors.

- **Long-haul trucking:** Many types of goods, such as food products and auto parts, are shipped by tractor-trailers to and from destinations in Canada and the US. A truck driver can typically cover on the order of 800 kilometres per day, subject to hours-of-service limitations – roughly the distance from Toronto to New York or Chicago. This makes trucking a faster door-to-door service than intermodal rail, as the latter requires handling at terminals.

- **Air cargo:** Air transportation is a fast but expensive option for long-haul shipments, and is ideal for low-weight, high-value and/or time-sensitive goods. Air transportation may be used by manufacturers to receive critical time-sensitive parts, and by e-commerce companies to ship parcels. Pearson (Mississauga) and Munro (Hamilton) are two of the top three airports nationally by cargo volume.

- **Heavy freight:** Some products are too heavy, large, or high-volume to be shipped in containers or trailers. Marine shipping tends to be the lowest-cost mode of transportation, followed by rail and trucking. Heavy freight can be segmented as bulk, liquid bulk, breakbulk, and project cargo.

Although the various modes may compete against one another in certain situations, in the aggregate they all need to function effectively as a combined system, to support the prosperity of the region. Each mode fills an important niche within the regional freight transportation system.

The Great Lakes and St. Lawrence Seaway

The Port of Toronto is a stop on "Highway H_2O," a continuous marine network extending from Duluth, Minnesota to the Atlantic Ocean via the Great Lakes and St. Lawrence Seaway. When completed in the 1950s, the Seaway was considered an engineering marvel, as it overcomes a 183-metre elevation difference between Lake Superior and the ocean. The Seaway was built as a binational partnership between the US and Canada, and continues to operate as such today.

The Seaway moves a diverse mix of cargo, including grain, iron ore, dry bulk like cement and salt, liquid bulk such as fuel products, and a range of breakbulk and project cargoes including steel, machinery and large heavy-duty equipment. The primary value proposition of the Seaway is the ability to effectively and cost-efficiently move heavy freight, which has several important societal benefits. First, it substitutes for rail or trucking, reducing emissions and infrastructure wear. Second, the marine cost advantage reduces trade frictions and opens up new markets for exporters and importers.

The Seaway operates seasonally, typically for nine months from late March to late December. Although the seasonality constraints are an impediment, heavy freight shippers tend to be able to manage the closure using strategies like stockpiling.

Figure 5: Key stats about the St. Lawrence Seaway

3,700	**8.5**	**25%**
Seaway length, in kilometres	End-to-end sailing days from Duluth to Atlantic Ocean	of Seaway traffic destined to or from overseas ports
200 +	**~ 1/6th**	**$66 bil.**
Annual throughput, in millions of tonnes	CO_2 emissions by water versus by truck, per tonne-km	Economic activity supported by the Seaway

Source: Great Lakes St. Lawrence Seaway System: A Vital Waterway (link)

Not only is the Seaway a greener alternative versus rail and trucking, but stakeholders are taking active steps to enhance the environmental sustainability of operations, such as:

- Great Lakes steamship lines are among the world leaders in technological innovations to transition to biofuel, reducing carbon emissions;
- Ports are investing in shore-to-ship power capacity, to enable docking ships to plug in to electric power rather than running their engines;
- The Canadian government uses a combination of regulations, standards, and funding supports to improve sustainability, for example to reduce aquatic invasive species.

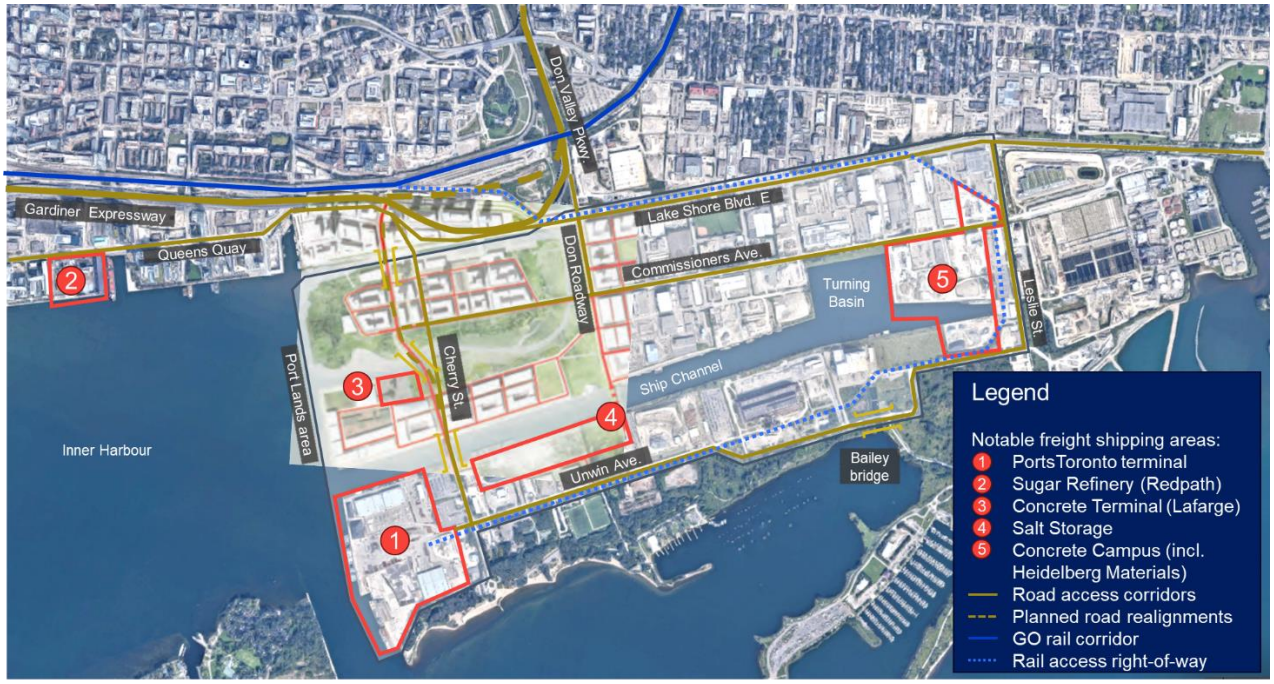
How the port functions

Location of facilities and infrastructure

The 21-hectare port terminal at 8 Unwin Avenue (demarcated as (1) in the figure below) is owned by the federal government and directly administered by PortsToronto. Importantly, there are many other marine freight shippers in the Port Lands which use their own terminals, but rely on the port authority for certain services such as harbour management, and who either own or lease the land on which they operate. The total marine tonnage of the Port of Toronto (as was shown earlier in Figure 1) is the sum of all of the tonnage handled across the marine terminals. Additionally, within the Port Lands there are other freight shippers which do not rely on marine transportation but benefit from being located adjacent to other industrial uses.

Landside transportation connections are vital to any port. A critical feature for the Port of Toronto is its close proximity to the Gardiner Expressway and Don Valley Parkway, which greatly reduces the need for trucks to use surface roads through the City of Toronto, except for the last-mile connection to the port facilities. The Port Lands area generally has a low density of road corridors, which places a high importance on available roads such as Cherry Street and Commissioners Avenue. A rail right-of-way connects the port to the regional rail network, although rail service has been discontinued and part of the track removed. Figure 6 illustrates the location of notable freight shippers and infrastructure.

Figure 6: Marine freight shipping activities and infrastructure at the Port of Toronto



Source: CPCS analysis; locations are indicative. Base map from Google, overlays new Villiers Island basemap from PLPF, Fig. 27.
Note: Ports Toronto terminal (Area 1) is about 21 hectares or 52 acres (link), versus 325 hectares for the Port Lands as a whole (link)

Key players at the port

Key players at the Port of Toronto include freight shippers / industrial users, the port owner / operator, landowners, and planning and regulatory agencies. An overview of the key players and their roles is provided in Figure 7.

Figure 7: Who's who at the Port of Toronto

Source: CPCS

CreateTO is an agency of the City of Toronto that has managed the City's real estate portfolio since 2018, when the City adopted a city-wide centralized model. CreateTO describes itself as a team of city builders who seek new and innovative opportunities to use the City's real estate assets, open spaces and underutilized and surplus lands to create more livable communities. Supporting the development of the port lands is a priority area for CreateTO. Featured projects include a new public park, with beach and lookout tower, along the Concrete Campus at the end of the Ship Channel.[3]

PortsToronto is a Canadian CPA established under the Canada Marine Act (see Figure 8 for the roles and responsibilities of CPAs). In contrast to some other CPAs, PortsToronto has a number of areas of operations, including air transportation (Billy Bishop Toronto City Airport), marine freight (Port of Toronto), tourism (Port of Toronto Cruise Ship Terminal), and recreational boating (Outer Harbour Marina). In addition, PortsToronto has responsibility for safety and environmental protection in the Toronto Harbour, which stretches from the Humber River to Victoria Park.

Figure 8: The roles and responsibilities of Canadian Port Authorities (CPAs)

Domain	Role / responsibility
Ownership	• Autonomous, non-share corporations operating at arm's length from the federal government, its sole shareholder
Governance	• Governed by a Board of Directors nominated by port user groups and various levels of government • Operate according to business principles, with authority to set a strategic direction
Commercial	• Must be financially self-sufficient, financing operations from revenues and borrowing for capital projects (cannot pledge federal real property as security for borrowing) • Do not receive federal government loans or loan guarantees; no taxation authority • Can set user fees (e.g. wharfage), if they are fair and reasonable
Operations	• Responsible for the maintenance of commercial shipping channels, incl. dredging • Act as landlord, leasing out port operations to private terminal operators

Source: Government of Canada, Transport Canada, Canada Marine Act (link)

[3] See createto.ca. See home page and "About Us." Accessed as of December, 2023.

Policy priorities and plans in the Port Lands

The **Port Lands Planning Framework** is a comprehensive planning document produced by the City of Toronto and Waterfront Toronto in 2017, which outlines the agencies' vision for the future of the Port Lands area. The framework prescribes a transformation from a primarily industrial area into a modern and vibrant mixed-use district which retains port and industrial uses but incorporates parklands, residential and mixed-use developments, and attractive public spaces. Considerable reference is made to the importance of maintaining industrial activities, given the port's unique role within the City of Toronto (see Figure 9 for notable quotes related to freight and shipping):

Figure 9: Notable quotes from the Port Lands Planning Framework related to industry

Freight vision from the Port Lands Planning Framework
On the role of industry *(p. 25):* *"The Port Lands has a confluence of active port and shipping activities that serve the city […] Maintaining and supporting these industries has been an important consideration in the planning for the Port Lands."*
On the character of the area *(p. 88):* *"Industry and the working port will be celebrated and embraced, offering exciting contrasts and a 'positive friction.'"*
On the nature of port land requirements *(p. 95):* *"[…] The working port will continue to provide accessible, convenient marine transportation that is important to the overall economy and environment. These uses require large, contiguous tracts of land adjacent to the dock wall, and employ fewer workers and generate heavier truck activity."*
On prioritizing marine uses *(p. 110):* *"The concrete batching and aggregate operations in the east end of the Port Lands are important operations for the continued growth of the city. There are few alternative locations for these types of operations in the downtown, allowing for just-in-time delivery of concrete and aggregate products that are building and maintaining the city. Over time, lands adjacent to the dockwall will become increasingly important for port operations. These lands will be optimized for port and maritime uses."*
On protecting industrial land *(p. 113):* *"[…] Our city will continue to grow over the coming decades, and in so doing, will continue to need the raw products that are delivered via ship to the Port Lands. As such, the Land Use Direction maintains a reserve of lands to meet these needs."*
On the importance of effective truck routes *(p. 224):* *"The reliable and efficient movement of goods into, and out of, the Port Lands is critical to facilitating further economic growth, intensifying industrial uses and supporting continued port operations."*
On accommodating sensitive land uses *(p. 125):* *"Where sensitive land uses are expressly permitted by this Framework and a development approval application submitted for sensitive land uses, the proponent of the sensitive land use is responsible for ensuring compatibility and for implementing any required mitigation measures"*

Source: City of Toronto and Waterfront Toronto, 2017, "Port Lands Planning Framework" (link)

The development of the **Concrete Campus** in the eastern Port Lands was a significant City of Toronto initiative. From 2013-15, the City helped to fund the relocation of concrete company operations from other locations in the Port Lands and other parts of the city in part to eliminate conflicts between these facilities and neighbourhoods. The CEO of the Toronto Port Lands Company (predecessor of CreateTO) lauded the benefits to the city of situating these facilities in the Port Lands, through reducing truck traffic and thereby traffic congestion, road wear and tear and greenhouse gas emissions; as well as better serving the construction market.[4] For example, the revitalization projects in Villiers Island are being built with concrete from the Concrete Campus.

[4] See ReNew Canada, 2015, "Cementing our future" by Michael Kraljevic, CEO of Toronto Port Lands Company (link)

How the port is falling short

Although there seems to be widespread agreement that the supply chains using the Port of Toronto are important to the city and region, this study uncovered concerns among stakeholders that current practices and structures are leading the port towards an uncertain and risky future. The consistency of this message across a range of parties is indicative of systemic, rather than one-off, causes. Just as the ultimate beneficiary of the port is the Toronto region and its people, so too would the region's residents be the ultimate losers from breakdowns in these supply chains.

Methodology: In the course of our consulting team's discussions with public- and private-sector stakeholders, we heard about a range of issues ranging from site-specific concerns to larger strategic challenges. The CPCS team has assessed these issues, taking an **objective, system-wide perspective** which considers the overarching goal to be the prosperity and wellbeing of the region and its residents. Therefore, some issues that were mentioned – although important to an individual stakeholder – may not be emphasized. Similarly, some findings may be the product not just of direct feedback from stakeholders, but also the study team's analysis and research, including into other jurisdictions.

The problems can largely be grouped into three classes:

1) Wider strategic issues arising from gaps in coordination of freight needs across the region;
2) Strategic issues arising from a fragmented governance structure at the port; and
3) Operational conflicts and ambiguities at a local planning level.

These issues are described in greater depth below.

Issue 1: The industrial waterfront is undervalued as a strategic resource

A defining feature of the Toronto region is its prime location aside Lake Ontario. The lake is beneficial for many reasons, both pragmatic and aspirational – drinking water, transportation, energy, ecology, recreation, tourism, and more. Over the decades, the land uses along the water have evolved, as policymakers have sought to strike a balance between competing priorities.

Figure 10: Waterfront industrial lands in the Toronto region

Source: CPCS analysis, locations are indicative. Base map from Google.

Aside from the Port Lands, relatively little land along the waterfront is allocated for industrial uses. Within any proximity to the central core, only the Clarkson area of Mississauga has additional industrial waterfront land (see Figure 10), with a cement plant and fuel refinery. Most of the region's waterfront is residential.

The Toronto region is short on waterfront industrial land, compared to peers

How does the region stack up against peers?[5] The US Great Lakes cities are similar to Toronto in their trade profile and have invested in developing their downtown waterfronts. But they also retain a large amount of waterfront industrial land (see Figure 11), aided by the presence of navigable inland waterways (in contrast, the Toronto region's rivers – such as the Don, Humber and Credit – are not navigable by freight vessels like barges). The most obvious peer region – Chicago – has more than ten times the waterfront industrial land within 40 kilometres (25 miles) of its core, which helps support a base of heavy industry in the southern part of the region.

As another basis of comparison, one can look to London and Paris, the two Western European metropolitan areas of similar or larger population as Toronto. These regions are also located away from the coast along inland waterways, have a service-driven economy, and have marine facilities handling similar types of freight such as building materials and industrial bulk products. Notably, both London and Paris have considerably more waterfront industrial land than Toronto.

Figure 11: Extent of industrial waterfront within 40 km of the core, for selected metropolitan areas

Metropolitan Area	Population	Extent of industrial waterfront, within 40 km of core
Great Lakes Cities		
Toronto	9.8 m.	**~11** km along Lake Ontario, of which 8.5 km in Port Lands *Note: Another 17 km at Hamilton, about 60 km away*
Chicago	9.8 m.	**150+** km along Lake Michigan and inland waterways (e.g. Chicago River, Calumet River)
Detroit-Windsor	5.7 m.	**40+** km along Detroit River and Rouge River
Cleveland	3.8 m.	**20+** km along Lake Erie and Cuyahoga River
Milwaukee	1.6 m.	~**11** km along Lake Michigan and inland waterways
Major European Cities		
London, UK	14.3 m.	**45+** km along the Thames *Note: Additionally, London Gateway is about 40 km out*
Paris, France	12.2 m.	**45+** km along Seine and other rivers

Source: CPCS research and analysis. Note: For the benefit of comparisons, Toronto region population reflects the Greater Golden Horseshoe, which is more comparable in land area and geographic reach to how the US defines metropolitan areas.

Port Lands redevelopment projects for new residential communities and a new film studio district will remove about half of the industrial waterfront frontage in the Port Lands (in its northern and western sections) This will reduce the total frontage in the above table from 11 km to 7 km. Furthermore, there is residential development pressure along the entire waterfront. For example, the Lakeview Village and Brightwater developments in Mississauga involve the conversion of large lakeside parcels into residential communities. In Hamilton, the West Harbour neighbourhood directly west of the port will soon be transformed into a large new residential and mixed use-community.

[5] The next largest Canadian metros after Toronto – Montreal and Vancouver – are flawed comparators: their expansive ports support not only the regional, but national, economy. Likewise, seven of the ten largest US metropolitan areas are big coastal trade gateways. Among the three others, Chicago is a Great Lakes city like Toronto, while Dallas and Atlanta are landlocked, relying on sprawling freeway networks and freight rail lines.

The pressures for residential development present a misleading choice

The Lake Ontario coastline is not unique in facing development pressures. Many employment lands face similar pressures due to the extreme demand for housing, given the Province forecasts population growth of 3+ million new residents to the region over the next twenty-odd years.

With the Greenbelt off-limits, the Province and municipalities have pursued growth through intensification. Large commercial or industrial parcels can make for attractive targets, enabling megaprojects to be built with limited land assembly. However, the opportunity cost of converting these lands is not necessarily well understood.

Even in a region with a highly service-driven economy, there remains a need for large land-intensive facilities – both publicly and privately run – which form the region's operational backbone. Large parcels are also needed for manufacturing and distribution to support the region's economic growth and prosperity. Moreover, the region needs to be able to effectively bring in the materials to build housing and infrastructure.

Even though the pressure on policymakers and developers to build housing is intense, it is far from clear that reallocating industrial and employment lands for residential development makes the region better off. Most likely, as the population grows, the need for industrial land will only rise. The region already has vast amounts of land dedicated for residential use, but underutilizes it through an inefficient built form. In fact, within the City of Toronto itself, there will be more than enough housing supply to accommodate 50+ years of growth, but employment lands will be in short supply (see inset box). The Toronto Region Board of Trade, in a recent report, concluded that turning employment lands into housing would be a "silent killer," putting 1.5 million jobs at risk.[6]

City of Toronto's housing review

The City of Toronto recently released the findings of a Land Use Assessment, which determines the quantity of land required to accommodate forecasted growth.

*The review found that the city will have **more than enough housing supply**, accounting for the current development pipeline, modest intensification and better use of the existing housing stock. In fact, the city has a surplus of 59.1% – equal to another 51 years' housing supply – beyond what is required to meet its share of provincial 2051 growth targets.*

In contrast, Toronto is projected to have a shortage of employment lands. The report concluded: "The City should continue to protect and preserve all Employment Areas for ongoing industrial and other adaptive employment uses."

Source: City of Toronto, April 2023, "Our Plan Toronto: Land Needs Assessment" (link)

There are drawbacks of pushing out industrial land too far into the periphery

Heavy industry typically requires sizable parcels of lower-cost land with minimal land use conflicts. The economics of industrial land development are such that, over time, market forces tend to push these uses further out into the urban periphery. Market forces work not only directly, but also indirectly: for example, municipalities farther out may act as active partners investing in business and job creation, while municipalities closer to the core may be likelier to set up roadblocks in seeking to deprioritize or even impede industry.

Governments do not control market forces, but they can make strategic decisions that enable the market to better advance policy objectives, for the long-term benefit of the region. There are several

[6] Mike Crawley, CBC, Nov 9, 2023, "Business leaders warn turning employment lands into housing would be 'silent killer' of GTA jobs" (link); see also the report: Toronto Region Board of Trade, Nov 2023, "The Race for Space" (link)

reasons why policymakers should take an active interest in helping to guide the distribution of land uses (Figure 12):

- Waterfront industrial land is a scarce resource – especially larger parcels. Once land has been developed for other uses, it is hard to reverse course.
- Marine shipping is the greenest form of transportation, but it requires the land and infrastructure to operate effectively. Among other things, the seasonal nature of the Seaway creates a need for larger winter storage areas.
- There is a strong benefit, economically and operationally, in having port facilities close to the source of supply or demand for the product being shipped.

Figure 12: Market forces and policy for land use

Source: CPCS

The primary port in the GTHA is the Port of Hamilton, handling 9.8 million tonnes of freight in 2022 versus 2.4 and 0.5 (million tonnes) for the ports of Toronto and Oshawa respectively. Hamilton is strategically located for many industrial supply chains, notably agricultural, manufacturing and liquid bulk. However, demand for industrial port land is increasing rapidly and Hamilton is now crowded.

Market forces are leading Niagara Region to become the emerging growth area for marine shipping in the region. In fact, the Hamilton-Oshawa Port Authority (HOPA) recently announced an expansion to Niagara, adding parcels in Thorold and Port Colborne.

A strategic analysis would consider how all of these port facilities can work as a whole to best serve the region's current and future shipping demands. While the revitalization of the Port Lands is not strictly to blame for the region's small and sparse network of waterfront industrial lands, these developments should only magnify the urgent need to strategically assess the sufficiency and suitability of the region's marine shipping capacity. The consequences of a poorly planned system are significant: higher costs for shippers, lower competitiveness for the economy, and more heavy truck traffic on the highways.

Takeaway: Chipping away at industrial lands is likely to be short-sighted and detrimental to the region's long-run prosperity – especially given the low supply of waterfront industrial land compared to peers like Chicago, London and Paris. The Port of Toronto is important to the city, but also to the whole region's transportation system.

Issue 2: Freight shippers in the Port Lands are caught in an awkward web within a fragmented governance structure

The landside interface at ports is critically important for marine shipping to function effectively. Unfortunately, the allocation of roles, responsibilities and mandates in the Toronto Port Lands is complicated and unusual by the standard of Canadian and American ports.

When the Canada Marine Act was enacted in 1998, the objective of the bill was "making the system of Canadian ports competitive, efficient, and commercially oriented."[7] Canadian Port Authorities (CPA's) were empowered with a commercial and operational mandate to drive business and manage port tenants. In most CPA ports, the land is either publicly owned and leased out by the port authority, or privately owned by private parties including the shippers themselves.

This is not the case at the Port of Toronto, where much of the important land is owned by the City, as a result of a complex legacy of decisions, including the transfer of the Toronto Harbour Commission's lands before dissolution in the late 1990s, and the subsequent 2003 legal settlement between the port authority and the City in the matter of alleged wrongful appropriation.[8]

The unusual port governance model is a hindrance to port functioning

In the typical governance structure, the CPA fulfills a middle role between government and industry. This type of structure has important advantages:

- **Fulfilling the public interest:** Governments are charged with setting policy but are also subject to the pressures of political cycles. The CPA structure aims to circumvent this problem, by having the CPAs act as arm's length authorities which serve the public interest in facilitating transportation and trade, while having clear mandates set in law.

- **Driving business:** Port authorities are assigned the tools to pursue a commercial mandate, constrained by the mission to drive marine shipping. This incentivizes them to pursue new business leads, maintain port infrastructure, allocate space optimally, undertake investments, and engage port tenants in long-term business relationships.

- **Mediating issues:** Port authorities act as an organizational buffer between freight shippers and stakeholders, including government. This enables shippers to focus more attention on core operations, and to pursue joint interests in a coordinated way. Likewise, it benefits governments by providing a common touchpoint for mediating issues as they arise.

- **Subject expertise**: Port authorities have embodied organizational knowledge and subject matter expertise, which helps them in their middle role. They have a view into both on-the-ground operational realities and wider policy objectives.

- **Clarity of roles:** The relative simplicity of the CPA model provides for a clarity of roles, which promotes efficient use of resources and reduces confusion and misunderstandings.

At the Port of Toronto, these roles and responsibilities are effectively split between multiple parties, chiefly PortsToronto and CreateTO. PortsToronto manages the harbour but has limited or no involvement in important landside functions, such as optimizing space, negotiating leases, pursuing

[7] See Government of Canada, Canada Marine Act (1998, c. 10) (link)

[8] See City of Toronto, 2003, "Proposed Settlement of Legal Dispute between the City of Toronto, City of Toronto Economic Development Corporation (TEDCO) and the Toronto Port Authority" (link)

new tenants and mediating land use conflicts. It is perceived to be bureaucratic in its functioning and inattentive to prioritizing marine freight and growing the marine business.

CreateTO, as the landlord to most port tenants, brings a business mindset to managing the City's real estate inventory, but it is flawed in having no legal obligation or formal mandate to support marine shipping. CreateTO is perceived to lack an operational understanding of freight and heavy industry, and to show ambiguous commitment towards the long-term success of marine shipping.

In addition, a variety of other parties, including Waterfront Toronto, the City of Toronto (through various departments) and the Toronto and Region Conservation Authority, are also heavily involved in the revitalization efforts in the Port Lands – adding to the operational complexity.

Overall, while there are efforts at coordination, the on-the-ground reality at the Port of Toronto seems to have strayed far from the spirit envisioned for the CPA model, as well as from governance norms befitting an effective port.

Hamilton-Oshawa Port Authority (HOPA): A CPA Success Story

HOPA is seen as a success story, illustrating how the CPA model is put to good practice.

Land: *In Hamilton, HOPA has 630 acres with 130 tenants. Lease revenues generate about 80% of HOPA's income (compared to 15% from fees like wharfage), enabling HOPA to invest its income back in the port.*

Mandate: *During less busy periods in the past, HOPA would lease space to other commercial / industrial users, even if they did not require the port. However, as marine demand grew, they freed up space by transitioning these users to off-port locations. Even if some non-marine tenants may have generated higher lease revenues, HOPA was bound by its mission to prioritize marine shipping.*

Partnerships: *HOPA's current CEO has brought a business-forward mindset, aggressively pursuing new business and building relationships. HOPA makes it a point to invest alongside tenants – for example, building the servicing to a tenant's front step, and co-pursuing federal grants.*

Commercial: *HOPA is seen as nimble and growth-oriented. HOPA executes leases with tenants quickly and simply, and provides long leases of up to 60 years for companies that make big investments. In other cases their leases have clauses to protect against investments not being made or tonnages not materializing, providing a degree of protection and resiliency.*

Community: *HOPA is proactive in engaging community groups and the City of Hamilton on issues of importance to tenants, such as truck routes, and issues important to the community such as access.*

Source: HOPA website, discussions with HOPA and others

An unclear vision is leaving freight shippers anxious for the future

There are several problems at the port that can be traced to major strategic challenges:

1) **Weak freight mandate:** The Port Lands Planning Framework (PLPF) makes reference to the importance of retaining industrial uses and optimizing dockwall over time for port uses. It envisions retaining nearly 40% of the Port Lands for port and industrial uses (see Figure 13 – the purple- and green-shaded areas are proposed to retain an industrial focus). This seems to be the result of a good-faith effort by the City to recognize the importance of marine shipping, in balancing competing demands for space.

   However, the PLPF also seems to hedge its bets by designating a future water's edge promenade between the industrial facilities and their berths (see Figure 14), which is clearly

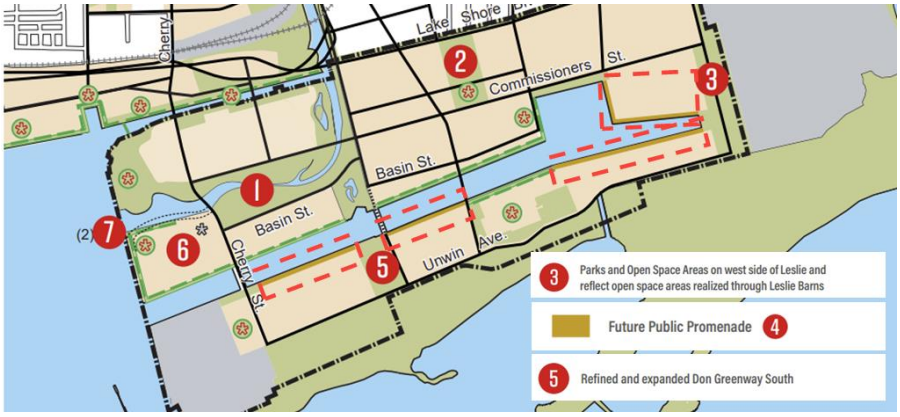
incompatible with a working port. The intention seems to be to protect for the possibility of installing such a promenade at some point in the future should current shipping uses no longer be operating. The Official Plan designations in the PLPF also propose new parks in the industrial areas; in the case of (#5) on the map, this would require repurposing land that is in active use by one of the major salt shipping companies in the Port Lands. (By our calculations, this would reduce the company's footprint by approximately half – a drastic impact). These elements serve to create a certain amount of confusion over the extent to which marine shipping is truly intended to be prioritized.

In any case, the PLPF is a tool to describe the land use that is desired, not a tool to make it happen. It is not a substitute for the kind of clear freight mandate that would instill confidence in port shippers, such as was intended under the CPA model. At other ports, shippers are comforted in that the whole *raison-d'être* of the landowner is to ensure the success of marine shipping. A planning framework sets out a type of guidance and direction, but it does not compel the landowner, which is the City itself, to negotiate, sign contracts, invest, and pursue business in such a manner as to ensure the long-term success of marine shipping. There does not appear to be any structural mechanism, even a memorandum of understanding, to compel the City and CreateTO to prioritize marine shipping in the industrial areas, and to foster the sustained commercial and operational feasibility of these uses.

Figure 13: Planned industrial areas within the Port Lands (red outline)

Source: CPCS screenshots of Port Lands Planning Framework, Figure 2: The Port Lands Geography and Context.
Red dotted line added by CPCS to represent the parts of the Port Lands intended to be retained for an industrial focus.

Figure 14: Location of promenades and green spaces in Port Lands Planning Framework



Source: CPCS screenshots of Port Lands Planning Framework, Figure 30: Official Plan Designations.
Red dotted line added by CPCS to more clearly outline the dark yellow shading which represents the future public promenade.

2) **Signs of non-committal:** Our research found multiple examples in which both the port authority and the City (as major landowner) seem to be favouring non-freight uses to the detriment of marine shipping. For example, long-term leases are being signed for film studios within the port terminal, repurposing warehouses. Some winter sugar storage has had to be pushed to Picton from the port terminal, raising logistics costs. CreateTO as a landlord seems to highly value leasing flexibility, whereas established heavy freight users require long-term certainty. Shippers are in the dark on whether fees and rents are being reinvested in improvements (such as new dockwall), or are cross-subsidizing non-freight development which, ironically, may be crowding freight out.

3) **Indications of low organizational attention to marine shipping**: CreateTO is ultimately responsive to the priorities of City Council, and as an organization does not have a freight focus. PortsToronto derives two-thirds of its revenues from the island airport, compared to only one-sixth from the marine port;[9] and its management expertise is very heavily air industry-oriented. Furthermore, neither CreateTO nor PortsToronto have board members specialized in marine freight,[10] even though a key principle in the creation of CPAs was that port users should play a central role in nominating directors. Given this disconnect, it is perhaps not surprising that there are perceptions of both knowledge gaps and misaligned priorities.

4) **Financial woes**: There has been tremendous investment in the northwest quadrant of the Port Lands to renaturalize the Don River; but in contrast, the industrial parts of the Port Lands have major unfunded investment needs. The dockwall is mostly old and in a state of poor repair; and is something that ordinarily a landowning port authority is expected to fund for its users. Likewise, the road and bridge network is in poor condition, including most strikingly an old one-lane bailey bridge on Unwin Avenue that does not have a posted weight limit and is not suitable for a modern port (see Figure 15). However, the City is under heavy financial pressure, and may not have the financial wherewithal to make needed investments in the foreseeable future.

Figure 15: One-lane bailey bridge on Unwin Avenue

Source: Google Earth © 2023. Toronto Port Lands – Unwin Av. (right-hand side - highlighted), beside multiuse path (left-hand side)

5) **Limitations on protection of industrial land uses:** The parts of the Port Lands envisioned to remain industrial under the PLPF are not included as “employment areas” under the City of Toronto’s Official Plan (OP).[11] Aside from the property administered directly by the CPA, the entirety of the (non-parkland) parts of the Port Lands are classified as “regeneration

[9] PortsToronto Annual Report, 2022, Consolidated statement of operations (link)

[10] See PortsToronto, Board of Directors (link) and CreateTO Board of Directors (link). Accessed December 2023.

[11] See City of Toronto, Official Plan (link). Accessed December 2023.

areas." It appears that the reason is that due to a quirk of geography, the Port Lands are not yet subject to the new OP. In any case, under the present designation the City's proactive efforts to protect employment areas would not explicitly apply to the industrial parts of the Port Lands, unless the "employment area" designation is extended to these areas under the Official Plan. Regeneration area designations are typically used for areas with vacant lands in need of new development such as mixed use and housing – not active industrial uses that are desired to be maintained and grown.

6) **Burdensome structure:** The lack of a unified body playing the full role expected of CPAs likely contributes to what operators describe as an added administrative and operating burden on freight companies, most of which operate nimbly with modest staff levels. Virtually across the board, stakeholders judged the operating climate in Toronto to be burdensome and frustrating, compared to other ports with which they have experience. The level of shipper dissatisfaction with the present state of affairs is very high, relative to typical ports.

In conclusion, there is an apparent disconnect. On the one hand, port traffic is growing, existing shippers foresee growing demand, and all indications are that centrally located port facilities should only grow in strategic importance in the future. Yet, on the other hand, the shipping industries in the Port Lands seem to be treated as a legacy industry with an uncertain outlook; at best, an indefinite continuation of the status quo. The Port of Toronto seems to be losing ground in some respects: whereas it used to receive project cargoes (specialized heavy freight), this has dropped off: in 2021, when Metrolinx had to bring in tunnel boring machines from Germany for the Scarborough Subway, they looked to the Port of Oshawa instead.[12]

Squaring this circle is not straightforward. Based on observation of other ports, however, it is likely that the wider perception of a fragmented governance structure, burdensome business climate and hassles in and around the port can be a deterrent to business attraction. It seems that the ideal setting has not been created to spur entrepreneurialism and growth. For example, the Port of Toronto may be missing an opportunity by functioning only as an inbound port, and not shipping goods outbound – considering that the Toronto region remains an important national hub for manufacturing and exports. Other ports, such as Cleveland (see box), have demonstrated it can be possible to unlock new and innovative offerings given the right conditions.

Port of Cleveland: A case study of entrepreneurial spirit

The Port of Cleveland has about 80 acres of land at its general cargo terminal, versus 52 acres at the Port of Toronto. Much of the inbound general cargo is steel (like Toronto), as well as occasional project cargo. However, Cleveland is seen as an innovator, having started the Cleveland-Europe Express in 2014 – the first Great Lakes transatlantic container service (since copied by Duluth). Though small compared to coastal ports, the service provides faster door-to-door times and personable service to shippers in a regional catchment area of ~150 miles. The past logistics-industry experience of key executives, plus a willingness to take risk to grow the business, are seen as the key ingredients to unlocking this innovative service offering.

Source: Port of Cleveland website, discussions with Port of Cleveland and others

Takeaway: A fragmented governance structure appears to be a risk both for existing port users and to new business generation. The issue is not with any particular individuals, per se, but with a system that is not well aligned with good practices.

[12] Toronto.com, J. Mitchell, 2021, "Talk about boring cargo: Massive tunnel machine arrives at Oshawa Harbour" (link)

Issue 3: Conflicts and ambiguities at a local planning level are a manifestation of the fragmented governance structure

It is natural that the transformative revitalization of the waterfront will require some changes to existing ways of doing things. Discussions with freight shippers revealed an understanding of the need for adaptability and the importance of being good neighbours as the Port Lands evolve. However, there was a significant difference in the level of apprehension among parties: whereas public agencies broadly expressed faith that freight needs will turn out to be reasonably balanced among those of other stakeholders, freight shippers conveyed a high level of anxiety about threats to their future viability.

There are many operational gaps that need to be worked through

These operational gaps are not necessarily things that are unique to Toronto or impossible to resolve. However, they require careful attention and intentional consideration. These have been categorized into four classes of operational challenges in the below tables:

1) How will safe and efficient marine shipping be ensured, and public safety protected?
2) How will safe and efficient landside connectivity to port and industrial facilities be ensured?
3) How will the availability and viability of waterfront industrial land be protected?
4) How will industrial lands be protected from conflicts with sensitive land uses?

Port facilities have unique operational needs, due to their heavy industrial character and elevated regulatory requirements (e.g., federal regulations on site security). The operators of these facilities have a serious responsibility for ensuring their operations are safe for port users and the public. In the context of a revitalizing Port Lands, it will be important to have clear operating concepts that describe the expectations and limitations on all parties to ensure a safe and effective operating environment. This is a matter that deserves close attention to detail. The marine interface is a complexity that is not present elsewhere in the city, and the scale of the facilities is also noteworthy in its own right (see Figure 16). The demands from commercial vehicles are high (see Figure 17).

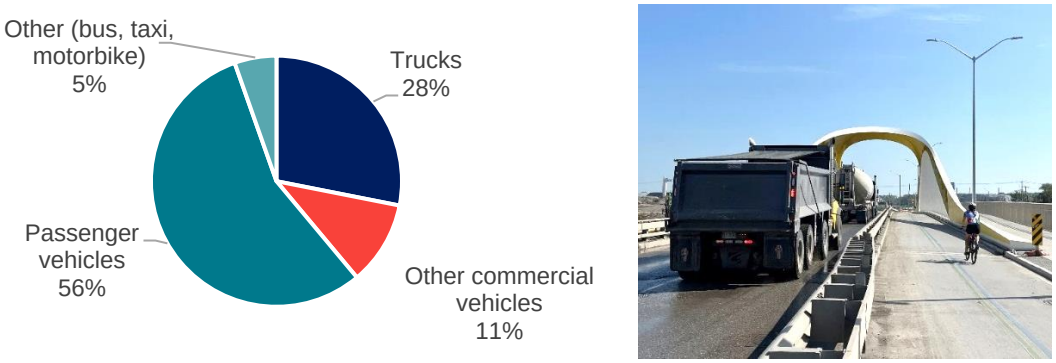
Figure 16: Scale comparison: Port Lands salt stockpiles (top), superimposed on Downtown (bottom)

Source: CPCS analysis using Google Earth. Approximately to scale. Top image is from the south side of the Ship Channel, northeast of Cherry Street and Unwin Avenue. Bottom image is from Nathan Phillips Square, north of Queen Street and stretching from University Avenue to past Yonge Street.

1) How will safe and efficient marine shipping be ensured, and public safety protected?	
Strategic direction	**Remaining gaps**
• A key part of the revitalization efforts is creating more opportunities for residents to enjoy the harbour, including for example canoeing, kayaking and similar functions. • The PLPF promotes new small boat launches, water's edge promenades and "putting public life on the water and in the water – not just next to the water" (p.56) *NB: PLPF refers to Port Lands Planning Framework.*	• Does the City have an operating plan which outlines how new waterside and landside uses will operate in proximity to heavy industry (e.g., new "Canoe Cove" being built ~ 50 metres from where vessels will continue to unload cement at Lafarge's Polson Pier terminal)? • Does the plan describe how public safety will be maintained, considering that the average resident may be likely to have low awareness of regulations, safety protocols or personal risks? • Does the plan describe an operating model in conformance with Transport Canada regulations for marine safety and site security? • How will the Broadview Ave. extension south across the Ship Channel impact marine shipping? • Has there been an exercise to map likely scenarios, and outline responsibilities and protocols?

2) How will safe and efficient landside connectivity to port and industrial facilities be ensured?	
Strategic direction	**Remaining gaps**
• The PLPF seeks to prioritize active transportation (walking and cycling) and complete streets that are designed to be safe for all users • The PLPF recognizes the importance of truck routes: "the reliable and efficient movement of goods into, and out of, the Port Lands is critical" (p. 224)	• Does the City have a transportation network plan which outlines how safe and efficient truck routes will be organized, accounting for the fact that normally port and industrial facilities generate high volumes of heavy trucks, including in the early morning and throughout the day? • Does the City have a prioritized project list for transportation improvements to upgrade the poor state of road and bridge infrastructure? Are there funding sources and timelines? • What is the City's plan for protecting the future of the rail spur and right-of-way, so that it could be re-activated in the future? • How will the City ensure a truck network that is resilient (with backup routes in cases of road closures) and safe for vulnerable road users? Will the City implement complete streets in such a way as safely accommodates trucks, and ensure it does not morph into "truck-free" streets or time-of-day limits that unreasonably restrict operations?

Figure 17: Current traffic mix on Cherry Street in the Port Lands



Source: CPCS traffic count in October 2023. 30-minute manual count, approximately 1:30 p.m. on a weekday. Bidirectional at Cherry Street South Bridge. Other commercial vehicles include pickup trucks with clear commercial usage (e.g. livery) or equipment. Count is of roadway and does not include multiuse path. Photo by CPCS.

3) How will the availability and viability of waterfront industrial land be protected?	
Strategic direction	**Remaining gaps**
• The PLPF describes a need to maintain a reserve of lands to meet future demands for industrial activity (p. 113) • The PLPF also refers to the need to protect and optimize lands adjacent to the dockwall for port and maritime uses (p. 110)	• What reserve of lands is being maintained to meet future demands – which lands are these and how will they be activated for marine and freight uses? • Is there a defined hierarchy of preferred uses (for example, prioritizing marine shippers first, then other heavy industry, then light industry, etc.)? • What type of analysis will be used to assess the sufficiency of industrial/port lands on an ongoing basis, as conditions change?

4) How will industrial lands be protected from conflicts with sensitive land uses?	
Strategic direction	**Remaining gaps**
• The PLPF describes a desire to bring residents closer to "the energy, vibrancy and theatre of the working port" (p. 34) • The PLPF establishes that "the proponent of [a] sensitive land use is responsible for ensuring compatibility and for implementing any required mitigation measures" (p. 125)	• What is the City's plan for increasing public access while ensuring health and safety and protecting industrial facilities from risks of trespassing and disruption? What methodology is being used to so that these interests are optimized and balanced? • Can the City ensure that port facilities can continue their normal operations, which may generate noise, light, odours and dust? • Will the City help manage the setting so that the public and businesses are not unfairly pitted against one another? • Will the City ensure that shippers do not need to bear significant increased burden – financially, operationally and in terms of risk?

Overall, the PLPF outlines a vision but does not fill in all of the gaps, especially around freight and the working port. The overall vision promotes the continued viability of the working port, but there remain a lot of impediments to be worked through for the vision to be successful, through updates and/or follow-on work.

The City should reflect on how to lay the groundwork for operational success

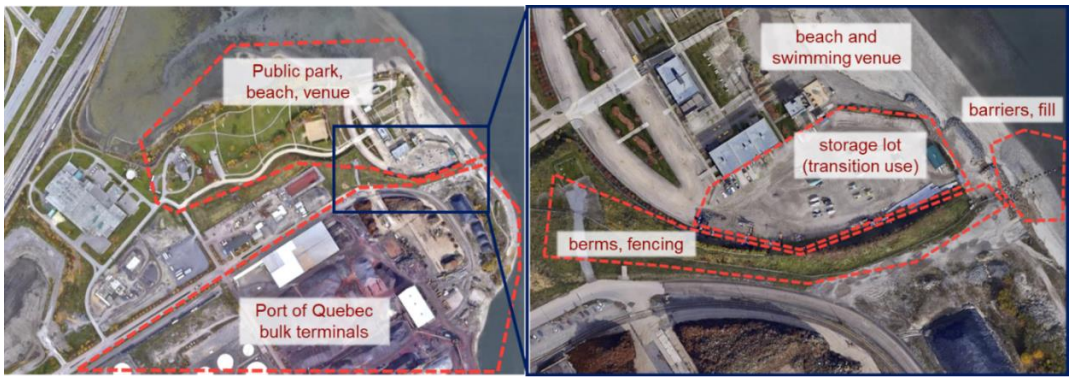
Of all the operational challenges, the biggest potential flashpoint for conflict seems to be the City's desire to bring the residents closer to the working port. The PLPF has many references to this principle, such as promoting the "theatre" of the port and exposing residents to the grittiness of industry.

This objective is not necessarily unachievable as a principle, and it does seem likely that there will be residents who take an interest in observing the working port. Similarly, an argument can be made that it is better to facilitate these interests in a structured rather than unplanned manner, and that public access may generate increased interest and support for the port over time. Indeed, the case of Sugar Beach opposite the Redpath Sugar Refinery seems to be a positive case study.

Still, there is clearly a balance to be struck between increasing public access and protecting safety, security and public health. Good industry practices have emerged over time to balance these interests, for example:

- Use of berms and transitional spaces to protect against noise, windborne dust and debris, and trespassing. See for example Figure 18, of a public park located beside a bulk terminal at the Port of Quebec.

Figure 18: Good practice land use mitigations at the Port of Quebec



Source: CPCS analysis using Google Earth © 2023. Port Beauport at Port of Quebec.

- Use of public lookout points on the opposite side of a body of water from a freight facility, to provide an optimal view, protect against excessive noise, and maintain operational separation. See for example Figure 19 of the public lookout in Vancouver across from Centerm container terminal.

Figure 19: Good practice land use planning with public lookout in Vancouver

Source: CPCS analysis using Google Earth © 2023. Vancouver Harbour.

- Use of fully separated multiuse paths for bicycles and pedestrians in port and industrial areas, to protect vulnerable road users from heavy freight traffic. See for example Figure 20 of a port access road in Rotterdam between a fuel terminal and container yard.

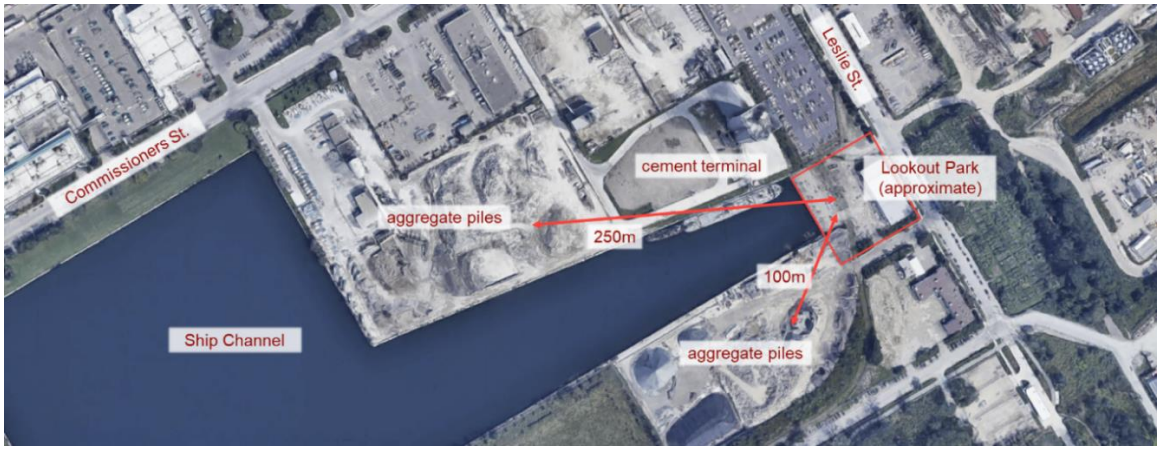
Figure 20: Good practice transportation mitigations at the Port of Rotterdam

Source: CPCS analysis using Google Earth and Google Street View. Imagery © 2023 Aerodata International Surveys, Airbus, Maxar Technologies. Oude Maasweg in Rotterdam, Netherlands.

As these examples show, there are established ways to facilitate public access in and near port areas, while managing the types of negative conflicts that may be reasonably expected.

The City's efforts to promote the drama of the working port are in their infancy, but a first foray is being made through the construction of Lookout Park, a new public park with a lookout tower at the foot of the Ship Channel along the Concrete Campus (see Figure 21 for location). Among all topics, this one elicited the sharpest contrast in stakeholder perspectives: freight shippers are extremely concerned about it, while public-sector stakeholders referred to it as a non-issue or red herring.

Figure 21: Location of Lookout Park in Toronto Port Lands, along Concrete Campus



Source: CPCS analysis using Google Earth © 2023

Since the park is under construction and not due to open until 2024, it is only possible to speculate as to potential impacts. However, based on the information available, there do appear to be a few challenges that can be considered negative and a departure from best practices:

- The park is directly beside high-traffic freight facilities, including heavily trucked areas, and because of the small footprint may lack the extent of buffering that would be ideal. It is likely that the noise level from trucks/vessels will be high, without necessarily the backdrop of high ambient noise as may be the case (say) closer to downtown.

- Most strikingly, the park is in a windy area across the channel from piles of aggregate. It can be considered likely that silica dust from the aggregate piles will blow into the public park and lookout tower as a regular occurrence.

- There is something of a disconnect in how the park is being portrayed. In discussions with public agencies it was described as a quick stop-over on a bike ride, but CreateTO's website markets it as something of a feature destination, providing "the public with dramatic views of the Toronto skyline" and "stunning 360 degree view." At a minimum, it appears there may not be consistent messaging to the general public as to the conditions to expect.

- The City may be optimistic that visitors will see the theatre of the port as an attraction, but what will happen if the public does not enjoy the show? There are many examples of freight facilities coming under attack from residents and community members, to the point of being pushed to move, even though the freight operations had a long pre-existing history on-site.

Beyond the specific matter of Lookout Park, there is the more general question of how the City is communicating with the freight shipping community on the topic of increasing public access to the

working port. As a general principle, it should be acknowledged that the main beneficiary is the City rather than the freight shippers. Specifically, the City is advancing the initiative because it perceives the city-building benefits to be valuable. For freight shippers, on the other hand, there is no clear business benefit, as the general public are not their customers, nor are there readily obvious monetization opportunities. Realistically, the risks and nuisances to these shippers would seem to outweigh the rewards (if any).

Against this backdrop of understandable shipper hesitance, the City should be expected to proactively put forth an offer in laying the groundwork for a long-term partnership of equals. Although the City may see its typical role as being that of a peacemaker or "interest balancer" of sorts among various stakeholders like businesses and residents, in this situation such a role would be misaligned – because the City is not a neutral disinterested party, but rather the promoter of a very particular vision. Rather, the City should see itself as representing its interest of opening up the port to the public, and should engage the shippers in something more akin to a "bilateral" relationship where the City is giving to the shippers in equal measure as it is asking.

Specifically, the City has the opportunity to bring several tools to bear that would demonstrate its commitment to a partnership. First, just as the City and CreateTO are investing funds in the park, they could come to the table prepared to take responsibility for mitigations or improvements required on-site by the shippers, including protecting against the risk of future mitigations being required (for example, in the case of public complaints). Alternatively, CreateTO could consider rent discounts to affected shippers to achieve a similar outcome. Such commitments would have the effect of derisking the financial position for the shippers, as well as demonstrating a joint interest in making the new model work for all parties. Notably, the City previously played such a proactive role in the development of the Concrete Campus.

Second, the City can bring to bear its organizational and communications capacities to benefit the shippers. The City has a good opportunity to lead the charge in creating messaging to the public that emphasizes the importance of the working port, describes the City's objectives in bringing the public closer to the port, and educates visitors on their safety. This could be done via on-site signage and online marketing materials about the park. As well, the City could mobilize an internal team to serve as the first-line of response to members of the public who have questions, comments, or complaints. These measures would serve to reduce the burden on shippers, and would demonstrate a reputational commitment on the part of the City to promoting the working port.

With a proactive approach leveraging their funding and communications tools, the City could offer the shippers a new deal, forming the basis for a collaborative relationship in which the City and freight shippers work together to identify creative opportunities to make the working port an attraction. However, if the City does not take the initiative, there seems to be a significant risk of a long-term relationship strained by defensiveness, conflict and adversarial positioning. In such a case the shippers might be forgiven for worrying whether the long-term goal might not be to gradually chip away at their viability, so as to transition more of the Port Lands away from heavy industry (particularly given that there are likely to be many "NIMBY"-ish members of the public who would presumably welcome such an outcome).

Takeaway: There are many unresolved operational challenges in the Port Lands. For the most part, the ball is in the City of Toronto's court to lay out a more detailed outlook for how the new industrial Port Lands will work, leveraging best practices from other ports. The City has the opportunity to lay the foundation for a lasting partnership by using financial and operational tools to defray risks for the shippers.

What should be done

All levels of government ought to have an interest in the success of the Port Lands.

The **federal government** is responsible for supporting international trade and ensuring the resiliency of the nation's trade infrastructure; the port system along the Seaway is an important trade gateway for Central Canada. The federal government directly oversees CPAs and is responsible for ensuring this system is working as intended. Furthermore, the federal government has adopted ambitious greenhouse gas emissions reductions targets, which would benefit from greater use of marine shipping and suffer from a breakdown in the marine system.

The **provincial government** is greatly invested in the economic prosperity of the province's largest growth engine – the Toronto region. Furthermore, the Province is responsible for the highway network, which means that an inability to harness the potential of the Seaway not only hurts the region's competitiveness but also puts more heavy trucks on crowded highways. The Province has recognized the importance of improved coordination of the marine system, by releasing its first Marine Transportation Strategy.[13]

The **City of Toronto** and Province both rely on the materials that come through the port – both directly (e.g., salt for the City's roads and MTO's highways) and indirectly (e.g., to support policy goals like new housing construction). In addition, the **other municipalities** in the region are also reliant on the port for similar reasons, though the City of Toronto in particular has fewer alternative options.

Consequences of getting it wrong

As a high-level exercise, one can visualize the transportation implications of the tonnages at the Port of Toronto being transferred to the roads. This could mean something like an extra 57,000 loaded trucks annually on the region's highways.[14] Supposing the marine traffic were diverted to Hamilton or Niagara, and then trucked back to the core, this might add on the order of 17,000 to 25,000 tonnes of CO_2 emissions annually.[15] That is striking, considering that the Ontario Line, Eglinton Crosstown, and Hurontario LRT are expected to reduce on the order of 29,000 tonnes of CO_2 emissions per year, combined.[16] In other words, the full diversion of marine freight from the core could nearly nullify the environmental benefits of $30+ billion in mass transit investments.

There are further problems. Most of the existing supply chains at the port are heavily marine-oriented; even a transfer to rail would be challenging. Stakeholders told us that in some cases, the region's transportation companies would not even have anywhere close to the truck capacity to carry the required volumes with any regularity – meaning the whole supply chain would need to be overhauled. Rather than an awkward transfer at another port (which would still require a long truck trip), some shippers would probably truck direct from the source, bypassing the marine network. No matter what, shifting away from the Port of Toronto would unlock a step change in the price of these bulk commodities, which are sensitive to logistics cost. This would cause another increase in the cost of construction, and would also be a direct hit to the City and Province's pocketbooks, as they

[13] See Government of Ontario, Marine Transportation Strategy (link)

[14] Figure cited by PortsToronto, which assumes a heavy truck carries approximately 40 tonnes (link)

[15] Uses the Seaway's (link) estimate of 75.5 grams of CO_2 emissions per tonne/km by truck. Takes into account loaded and (empty) return trip. Note actual travel patterns would require detailed origin-destination analysis. Assumes 75 km from Hamilton to Toronto and 100 km from St. Catharines area to Toronto. Note that Hamilton is essentially nearing capacity, hence any diversion to Hamilton may in turn push out other marine freight towards Niagara.

[16] See Metrolinx business cases for annual GHG reductions: 14,000 tonnes for Ontario Line, 11,000 for Eglinton, 4,000 for Hurontario.

are direct buyers of cement and salt. Based on our understanding, without the port available the City may have to substantially overhaul its contracting to accept performance risks, in order to be assured of receiving bids.

In summary, losing these supply chains from the port would be a grave blunder for the region. The types of vehicles needed to move bulk commodities by road are the heaviest trucks – which create the most traffic congestion, impose the greatest wear on the roads, discharge the most carbon into the atmosphere, and will most likely be last in line of all vehicles to be electrified. In every respect, the region should be doing all it can to protect these marine supply chains and shift even more freight traffic to the water.

Benefits of getting it right

In contrast, getting it right would mean setting up the conditions to enable the existing supply chains at the port to thrive. A stable and reliable port setting would invite increased private-sector investment, to meet growing demands. Furthermore, getting it right would mean creating the conditions for further growth, including pursuing new businesses, commodities and supply chains. In the course of our outreach, we spoke to a Toronto-based manufacturer who would prefer to use the Port of Toronto, given its proximity relative to Hamilton, but is not currently able to do so. However, pursuing new business is less about undertaking extensive market feasibility studies as it is about creating the conditions and incentives to foster growth.

From a regional perspective, a vibrant Port of Toronto will help to grow marine traffic in Southern Ontario, adding capacity and diverting trucks from highways. It will support local manufacturers and exporters with two-way flows of marine traffic. It will form part of the backbone of the Lake Ontario port system, and advance the region-wide objectives of improving productivity, supporting decarbonization, and enabling the region's growth.

Recommendations

1. The governance structure should be overhauled to better harness the principles of the CPA model

All three levels of government should be considering what role they could play in an improved governance structure that, at least, mimics the CPA model. The "true" CPA model would involve returning the industrial part of the Port Lands to the federal government's ownership, to benefit from a CPA's protections. However, assuming this is not desirable, there are potential alternative models that could recreate the same types of benefits.

The City of Toronto is in the best position to take a leading role, given a) its land ownership, b) its stated vision, in the PLPF, for a successful working port, and c) the importance of the port as part of the city's operating backbone. The City of Toronto should show leadership in creating a new governance model for the industrial parts of the Port Lands that copies the essential principles of the proven CPA model.

Two key principles should be emphasized:

- First, the landowning authority should have a clear and explicit mandate to advance marine freight transportation. This mandate would include committing to prioritize marine freight land uses, reinvesting lease revenues in capital improvements, and representing the interests of the marine shipping community in dealing with other agencies and third parties.

- Second, a unitary authority would be desirable that takes responsibility for both the land-side and marine-side. Presuming the City remains the landowner, it could consider contracting the port authority for a nominal fee to effectively manage the land (including contracting tenants). The port authority could then operationally and financially integrate the land- and marine sides, and pursue an optimized system.

The other levels of government are important beneficiaries of a successful port network, and should not be passive observers. Both the provincial and federal governments should actively push for and support governance reforms, and be willing to participate in developing an improved model. Potentially, a Waterfront Toronto-type model could be an option, where the lands are governed by an organization that has representation from multiple levels of government, although in such a case it would be important to clarify the expectations of each level of government. Absent leadership from the City, the Province could consider pushing to receive land ownership, perhaps in exchange for funding important marine or land-side improvements that the City cannot afford. All options should be considered that would fulfill the key principles described above.

1.1. In consultation with other stakeholders, the City of Toronto should take the lead in revitalizing the port. City Council should direct staff to review this study's findings and report back to Council by Q4, 2024.

1.2. The City of Toronto should authorize a body with an explicit marine shipping mandate to govern the industrial lands in the Port Lands. The board should include marine shipping experts, some of whom should be nominated by port users. Operationally, it could contract with the port authority for management of the lands. As an interim measure, the City should deliver to CreateTO an explicit direction to promote and facilitate marine shipping in these lands.

1.3. The City must foster a long-term collaborative relationship with the freight shippers, including through long lease terms that provide operational certainty.

1.4. The provincial and federal governments should be willing to participate in the process of developing an improved governance model and, as needed, should pursue a more active role if the City is not taking proper leadership.

1.5. The federal government (Transport Canada) should assess whether PortsToronto is operating in alignment with the expectations of the Canada Marine Act, in its commitment to marine shipping.

2. The Southern Ontario port system should be integrated

The port system in the Lake Ontario and Lake Erie region operates as a greater whole, with each port fulfilling a valuable niche in the regional marine network. Broadly, there is more scope for collaboration than competition among the ports, at least at the governance level.

Prior efforts at integration of the ports, such as the merger of the Hamilton and Oshawa port authorities, appear to have borne fruit. There seems to be good reason to expect that increased integration would produce further synergies still.

A more integrated network would enable traffic to be directed to the port where it is most optimally served, taking into account the facilities at the port and the proximity to customer demands. Integration could also help to support the dispersion of best practices including entrepreneurial

methods, and enable a consolidation of organizational and administrative capacity to the benefit of smaller ports in particular.

This recommendation could be pursued independently of Recommendation #1, although it could also be nicely complementary as the integration of the landside could be expected to improve the financial sustainability of operations.

2.1. The federal government, and the current port authorities on Lake Ontario, should examine the synergies of a regional marine authority to organize marine shipping in the region.

3. Capital investments in and around the port should be increased, along with improved transparency and planning

For the port to be successful in the long run, it needs to be supported by high-quality, modern infrastructure. This is true of both the marine-side infrastructure (dockwall) and the transportation network which provides last-mile access to the port (e.g., roads and bridges). The dockwall is the responsibility of the landowner (which is mostly CreateTO), while the road network is the responsibility of the City of Toronto.

Through the revitalization efforts, traditional industrial lands in the north and west of the Port Lands are being displaced to accommodate more lucrative residential development and the film industry. It would be reasonable to expect that some of the new revenues generated for the City and CreateTO as a result of revitalization would be reinvested into the dockwall and transportation network for the industrial areas that remain.

3.1. The City of Toronto should deliver a capital plan for transportation improvements, with target dates and identified funding sources.

3.2. CreateTO should deliver a capital plan for investments in the dockwall, with target dates and identified funding sources.

3.3. PortsToronto and CreateTO should both produce an analysis demonstrating how past and current port fees and rents have been, or will be, invested in infrastructure improvement benefitting users. If PortsToronto is collecting wharfage fees but investment is being made by CreateTO, then the parties should agree on an arrangement where the fees are directed suitably.

3.4. The parties should ensure that the rail corridor alignment is protected, so that a rail service to the port terminal can be reinstated in the future should there be the need and desire to do so.

3.5. In its new role as owner of the DVP and Gardiner Expressway, as part of the Due Diligence Review, the Province of Ontario should ensure the Port Lands will be well connected to the highways with a full interchange in the new realigned segment. The City should also facilitate improved connections on its road network to ensure heavy trucks can access the highways as efficiently and safely as possible.

4. Ontario should take further steps to ensure the long-term success of the region's marine network

The Province's Marine Transportation Strategy is a first effort to recognize the importance of marine shipping for Ontario's prosperity. The strategy defines a new, active role for the Province in building a resilient marine transportation network. There are many steps that the Province could take to build on the initial momentum of its study.

4.1. The Province of Ontario should study the capacity and demand for waterfront industrial land in the Toronto region. The study should assess shipping trends, forecast shipping demand, and investigate opportunities to increase supply and protect against further losses of such lands.

4.2. MTO should designate last-mile connectors to freight facilities, including the Port of Toronto, as part of its provincewide multimodal strategic goods movement network (which is proposed under its Marine Transportation Strategy). U.S. state freight plans have led the way in recognizing the strategic importance of last-mile connectors that link major freight nodes to the highway network.

4.3. MTO should objectively assess the performance of the last-mile transportation network connecting to ports, for congestion, safety, resiliency, and other issues affecting connectivity.

4.4. MTO should create a new pot of funding, which could be on a competitive solicitation basis, to fund or co-fund transportation network improvements for roads and bridges on the network of key last-mile connectors (including municipally owned assets). This would help financially constrained municipalities and would provide an intelligently prioritized basis to issue regular funding.

5. The City of Toronto should propose a collaborative framework to build the foundations of an operationally successful port

As part of the "new normal," the City of Toronto should recognize that its desire to bring the public close to the port is being pursued primarily to advance the City's own objectives of city-building. To overcome the natural hesitance of shippers, the City should bring to the table a package of tools – financial and organizational – that demonstrate a commitment on its part towards an operationally successful port. Efforts to date to develop Lookout Park – overlooking the concerns of the shipper community that is intended to be the bedrock of the eastern Port Lands – may well turn out to be a cautionary tale when it comes to introducing land uses that could cause conflict and destabilize port operations.

The PLPF outlined the principle that "the proponent of [a] sensitive land use is responsible for ensuring compatibility and for implementing any required mitigation measures." The City should also apply this principle to its own efforts to introduce new interactions between the public and industry.

For their part, the freight shippers should be open to a future setting in which members of the public can more easily observe the working port, assuming it can be accomplished sensibly and in a manner that ensures safety and security for all parties.

The process of increasing access to the port should be a "bilateral" effort between the City (on the one side) and the freight shipping community (on the other side), rather than a multistakeholder effort in which the freight users are just one of many stakeholders.

5.1. Where an investment in a freight facility is made that improves the performance of the facility, the shipper should bear the cost; but insofar as a mitigation is required due to the City's efforts in bringing the public closer to the port, then the City should offer to bear responsibility.

5.2. For locations like Lookout Park, the City should lead the charge in communicating to the public its objectives in increasing access to the working port, and setting public expectations. The City should also be proactive in providing a team to handle comments or complaints from the general public so as to seek to minimally burden freight shippers. These should be prerequisites for the park to open to the public.

5.3. The City should undertake a review of the benefits versus costs (to government and to industry) of fulfilling the objective of increased public access to the working port. It should assess whether this objective continues to be a high priority in the context of increasing budgetary pressures.

5.4. The City should commit to including the industrial areas of the Port Lands as designated employment areas under the City's Official Plan, and work towards doing so. Similarly, the Province should also extend its provincially significant employment zones (PSEZ) designation to cover the industrial areas of the Port Lands.

5.5. The City should continue to ensure, through the PLPF and other planning and zoning tools, that incompatible land uses do not impinge on industrial facilities in the Port Lands, and that the industrial areas of the Port Lands do not have residential development.

6. All parties should work towards developing a common understanding of how the Port Lands will work

The operational gaps are numerous, but should not be an impossible task to resolve. It would be valuable to first resolve the governance challenges, so as to create a setting where the parties are aligned regarding the bigger-picture principles. This could provide the foundation to enable more effective usage of working groups to resolve the operational issues.

The freight shippers should stress that a safe and effective system is to everyone's benefit. The shippers are not strictly self-interested; much of the clarity they require has to do with how the future marine- and land-side systems will ensure safety for all parties, including the public. Shippers should offer proactive measures they are willing to take for the benefit of public safety, as part of the new arrangements. Developing a set of operating practices that is optimal for everyone will take collaboration and negotiation.

6.1. PortsToronto and the City of Toronto / Waterfront Toronto should present a marine operations plan which outlines how freight- and non-freight uses will operate safely and effectively in a new normal, while ensuring competitive operations for marine shippers.

6.2. **The City of Toronto should present a transportation network plan which outlines key access routes for trucks in the Port Lands connecting to freight facilities, and plans for protecting vulnerable road users. As best practice, the latter should be protected by use of fully separated paths. The plan should include an identification of capital and operating needs, including a prioritized list of infrastructure upgrades.**

6.3. **The City of Toronto should not impose restrictions on truck movements in the Port Lands without first undertaking a truck access study and making the necessary infrastructure upgrades.**

6.4. **The City of Toronto should commission a firm with subject matter expertise to undertake supply chain studies for the salt, cement and aggregate supply chains. These studies should assess in greater detail the role of the Port of Toronto and sensitivity of the supply chains to disruptions. The City and CreateTO should not take any action to reduce the footprint of any existing freight shipper, or affect the viability of any existing freight operations, without first carrying out such a supply chain study to have a fulsome understanding of the nature of the operations.**

6.5. **TIN should continue to serve as a champion for freight users, and should collaborate with like-minded organizations, such as the Toronto Region Board of Trade and Canadian Manufacturers & Exporters, to advance discussions among key parties to generate action on the recommendations.**

Appendix A : Stakeholders consulted

Stakeholder engagement

CPCS engaged approximately 18 stakeholder groups as part of this study. Engagements were held virtually over Microsoft Teams. CPCS is thankful for the input provided by all parties consulted.

The stakeholders represented a range of interests, including:

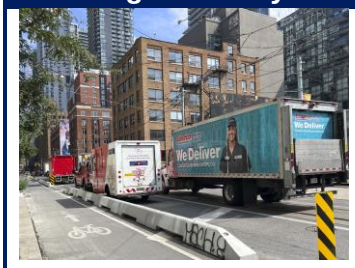
- Parties involved in marine shipping and operations, including current and prospective freight shippers at the Port of Toronto;
- Representatives of agencies including City of Toronto, CreateTO, MTO, PortsToronto, Waterfront Toronto, and the Waterfront Secretariat;
- Representatives of other ports on the Great Lakes.

To respect the sensitivities of stakeholders, inputs have been anonymized by the CPCS team, and no direct quotes have been used, or comments attributed, within this report.

Appendix B : CPCS company profile

CPCS is a Canadian-headquartered global management consulting firm specializing in strategy, economics and policy in the areas of transportation and infrastructure. In North America some of CPCS's areas of specialization include:

Planning and analysis for freight / goods movement



- Led the goods movement analysis (as part of a larger consultant team) on the Gardiner Expressway East EA for the City of Toronto / Waterfront Toronto; assessed the role of the Gardiner Expressway in serving freight shippers including at the Port of Toronto.
- Lead consultant for the Toronto Region Board of Trade on its multiyear goods movement initiative. CPCS prepared a series of six independent fact-based reports profiling important issues in the movement of goods in the Toronto region, for the benefit of policymakers and the general public.
- Have led freight planning studies for many US states, Canadian provinces, metropolitan planning organizations and municipalities – which serve to assess needs, issues and solutions to improve the effectiveness and safety of the transportation network.

Supply chain analytics

- Conducted numerous supply chain studies for infrastructure owners, operators, government clients and industry associations across a wide range of geographies, modes and commodities – to provide a more insightful, data-driven picture of freight flows.
- Infrastructure analytics team creates web-based visualizations and dashboards to help clients communicate findings, and brings big data analytics capabilities to leverage emerging data sources.

Marine-sector advisory services

- Have assisted port authorities in Ontario and across the country with strategic and economic analyses, such as related to traffic forecasting, business cases, suitability of infrastructure, supply chain visibility, economic impact, and independent review/validation.
- Have led numerous strategic mandates for Transport Canada, including reviews of CPA ports, the St. Lawrence Seaway, and interprovincial ferry services.
- Supported the Canada Infrastructure Bank as a technical advisor for maritime-sector infrastructure projects.

Strategic advisory in transportation

- Trusted advisor to a wide range of transportation clients across various modes. Rail practice advises Metrolinx and other municipal transit agencies in the Toronto region to help deliver transformative transportation investments that will improve connectivity and access.

Photos by CPCS.

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