

Analysis: Eastern Canada ports battle for mega-ship calls

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The Port of Montreal is the largest on Canada's east coast. [Photo credit: Port of Montreal.]

Every new terminal or port development has risks, particularly in a mature market with established stakeholders. The risk can be mitigated if container volumes have a pronounced upward trend, but the financial crisis of 2007-2008 has shifted growth expectations closer to the range of 2 to 3 percent annual growth rate at the global level, but around 5 percent for the North American East Coast. Still, these figures are subject to caution considering growing trade contentions as well as [technological changes](#) in global manufacturing and supply chains with the outsourcing and offshoring model being reconsidered.

[Ocean carriers](#) have responded to this environment by unprecedented industry consolidation, with more merger and acquisition activity happening in the last three years than in the decade preceding, and then further consolidating into mega-alliances with lines focusing on [larger vessels](#) to create scale economies and reduce slot costs. Many shipping lines are also involved in container terminal operations with various concession and ownership schemes.

1. All is not quiet on the East Coast front

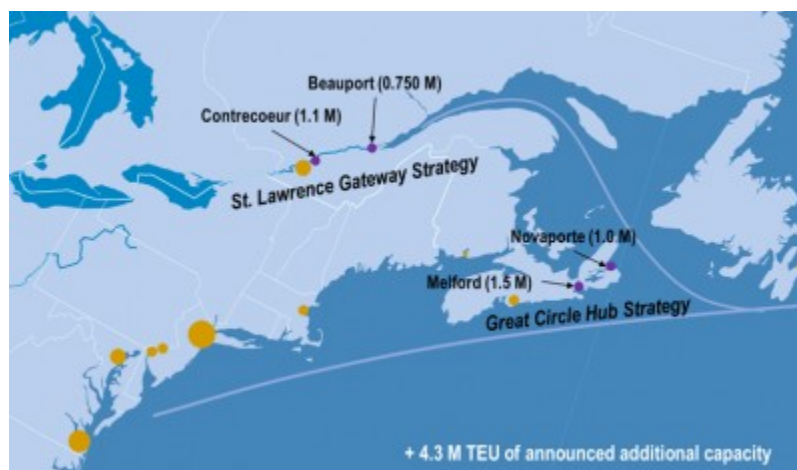
The Canadian East Coast has been a very stable market in the last 50 years with established ports, mainly [Montreal](#) and [Halifax](#), assuming dominance. While Montreal experienced a growth relatively on par with the US East Coast, the volumes handled by Halifax barely changed in the last 20 years but have recently shown sign of upward momentum due to new services. About 2.2 million TEU were handled by the Canadian East Coast in 2017.

The situation has recently significantly changed; the Canadian East Coast is in a state of turmoil by its own uneventful standards. Many container port projects are being considered, such as [a new terminal in Quebec City \(Beauport\)](#); plans to relocate or create a new terminal in Dartmouth, Halifax; a new terminal to expand and partially relocate the port of Montreal (Contrecoeur); a greenfield port in Melford, Nova Scotia; and a greenfield port in Sydney, Nova Scotia (Novaport). This represents about 4.3 million TEU of announced additional capacity, double the current volume handled by all Canadian East Coast ports.

Each of these projects has a level of controversy in terms of its market potential, its connectivity to maritime shipping networks and inland transportation systems, its funding, and the unwillingness of local communities to accept large infrastructure developments. The rationale for each of these terminals will be reviewed as well as their possible impacts on the Canadian East Coast.

2. The St. Lawrence: towards a dual container port strategy?

Montreal has traditionally been viewed as a destination port since it is the furthest point of inland navigation for conventional seagoing ships. It directly serves a local market of approximately 4 million people, but also serves as a direct rail link to Ontario and the US Midwest markets. Montreal's volume is around 1.54 million TEU annually against a capacity of 2.1 million TEU. These volumes are served by an even split between rail and trucking, with most of the truck market serving the local economy. While Europe has been the traditional market of the port of Montreal, the rise of transshipment in the Mediterranean, such as in Algeiras, has enabled the port to handle a growing share of East Asian cargo.



[Credit: Hofstra University.]

With its Contrecoeur project, Montreal is looking to add a terminal of more than 1.1 million TEU to allow for growth expectations. Like any large greenfield infrastructure project, there are several challenges facing Contrecoeur. First, environmental concerns and NIMBY-ism are prevalent. Second, there are political challenges within the province with Quebec City and possible objections by local communities, including First Nations. Finally, the megatrend of shipping lines' pursuit of scale economies poses a significant risk.

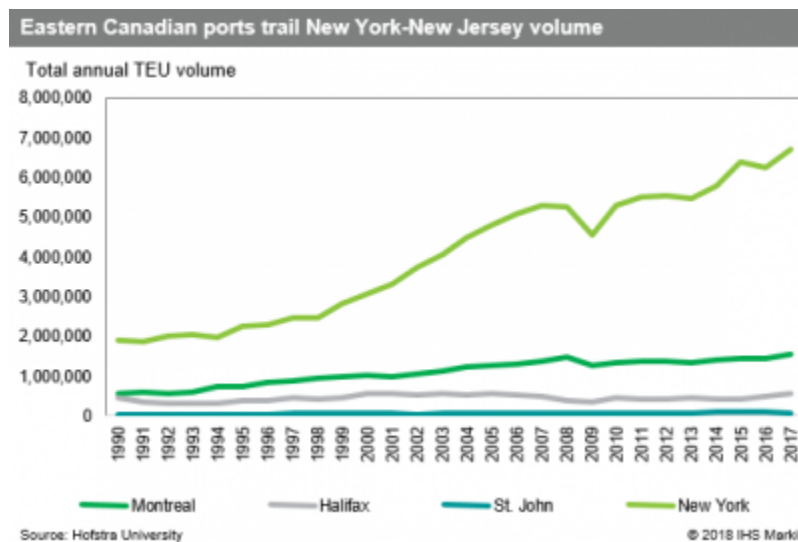
With a limitation on vessel size along the St. Lawrence navigation channel between Quebec City and Montreal to about 2,500 TEU of fully loaded containers (higher loads of up to 4,200 TEU are possible with empties and higher navigation channel water levels), shipping lines are considering opportunities to serve both the local Montreal market and the US rail markets with lower slot costs. It may be only a matter of time before the Europe-North America (NAM) trans-Atlantic vessels get large enough to handle the current cargo into Montreal and switch the flows through other NAM entry points. This would take place when the rail costs from another NAM entry, and the lower slot costs derived from larger vessels will enable the Montreal cargo to be transhipped (or railed) and the smaller direct Europe-Montreal services would be scrapped for cost savings.

In view of this risk, the Port of Quebec announced in 2017 its intention to move forward with a 750,000-TEU terminal at its Beauport site, with a possible expansion to 1.5 million TEU. This brownfield project implies the reconversion and

expansion of an existing port facility into a container terminal able to handle ships up to 15,000 TEU with a depth of 15 meters (49 feet). Since the local market is of limited size, the potential success of the Beauport project is contingent upon effective intermodal rail services to Ontario and the US Midwest. This project is also constrained by a limited footprint that pushes for intensification and automation and potential objections from local communities. Further, its traffic could involve a zero sum game with the Port of Montreal, undermining the potential of the Contrecoeur project. Yet, it represents a long-term risk mitigation strategy coping with the trend of megaships and consolidation in the shipping industry.

3. The Atlantic Coast: a race with high stakes

Halifax has other challenges. As a convenient location for entry to the North American market from Europe, the great circle routes across the Atlantic Ocean pass very close to Halifax. A common question is why Halifax does not have rail volumes into the US Midwest such as those that were developed on the Pacific Coast of Canada with the growth of the [Port of Prince Rupert](#).



Halifax has significant advantages with its location, a deep draft, and connectivity to [Canadian National Railway's](#) continental rail network with ships up to 11,000 TEU calling. Halifax's two major container terminals each have their own challenges, but a common challenge has been the overall cost of importing through Halifax to the US Midwest as compared with using ports such as the [Port of New York and New Jersey](#). Without a low enough rail rate or slot cost benefits on vessels, the ability to take advantage of this location is limited. Unlike Prince Rupert, Halifax was unable to capitalize on its great circle advantage with associated long distance rail services. With all the recent infrastructure improvements to ports in the New York-to-Virginia range, including the Bayonne Bridge raising, post-Panamax vessels are able to call all major ports in the Halifax to Virginia range, thus removing one of these obstacles.

Further, rail rates will need to be negotiated between the rail providers and their customers. As long as there is a positive yield on intermodal movements, the Canadian rail providers will want to attract rail volume away from CSX. That said, both terminals in Halifax are poorly located; one facility is behind two bridges and subject to air draft limitations while the other is surrounded by dense urban areas and parks. Much opposition is to be faced with any major expansion plans for this facility that go beyond increasing internal efficiency and equipment purchases. These problems are only increasing with the expected elimination of the current truck route that passes through downtown Halifax. The leading, but expensive and environmentally challenged, solution is to relocate a portion (or all) of the container volumes to an entirely new terminal across the harbor into Dartmouth. This solution comes with the normal greenfield risks of environmental review, approval process, community stakeholders, cost/benefit analysis, and market timing. New dredging, rail, and road connection requirements will make this development expensive, and this amount of complexity could take years to develop. This increases the risk of missing the window to serve the market needs and could seriously undermine the justification for the project.

The two greenfield projects announced, Melford and Sydney, each have benefits for shipping lines deploying increasingly large vessels; deeper water, no air draft restrictions, large terminal footprints, and being along the great circle route from Europe. Both projects also have environmental approvals from the local and federal governments, although some environmentalists have recently been vocal in their opposition to Melford.

Both projects also have some similar challenges. Neither has committed capital to effect construction immediately because neither project has an announced customer providing guaranteed volumes to mitigate any of the greenfield risks. Beyond this, neither of these projects have significant local demand that can be found in Halifax or Montreal. After these shared characteristics, each project has their own challenges before they can be developed. For example, Melford will require over 30 kilometers (about 18 miles) of rail to be constructed in order to connect with the short line that serves the local class I railroad (CN). The Melford permit for construction was extended until October 2018, but there has been no timeline for construction even if the promoters have been trying to mitigate the risks of the project with agreements for the [International Longshoremen's Association](#) and terminal design specifications. Also, to date, there have been no announcements or discussions on any consultation with the Canadian First Nations who will be instrumental in achieving support.

The Sydney harbor project (Novaport) has indicated publicly that it achieved full permitting and consultations with First Nations tribes. While the local short line rail service terminates a mere 1 kilometer from the project site and the cost to connect that track would be low, a major length of the short line is in need of significant maintenance since it no longer carries rail traffic.

But the main missing element required for both greenfield projects to start construction is convincing a major container shipping line to alter its current service network with larger vessels and reroute a large portion of its US Midwest rail traffic in order to guarantee volumes to the terminal. Obviously, Melford and Novaport are self-excluding projects since they cannot be jointly undertaken. They would add too much capacity for what the East Coast is expected to handle on the medium term. Further, the transshipment market over which these projects would be competing is already well established with Mediterranean hubs for the Asia/Middle East trade (Algeiras, Tanger Med) and Caribbean hubs for the South America/Pacific trade (Panama, Cartagena, Kingston, Freeport).

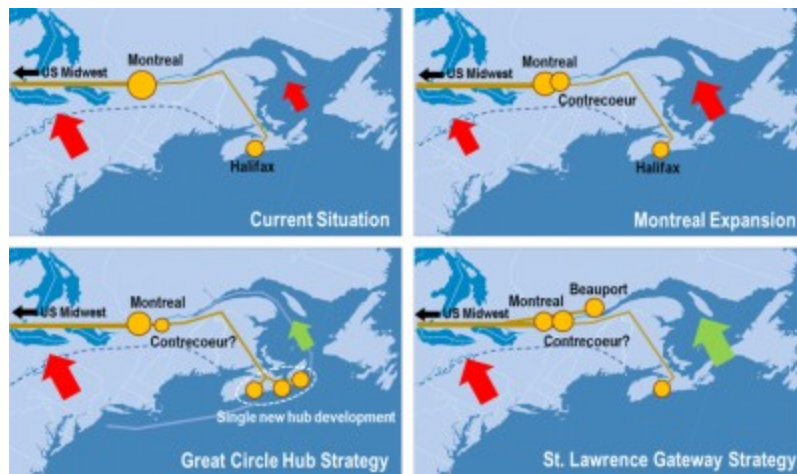
4. An optimal versus realistic strategy

The Canadian East Coast is facing pressures for additional fit-for-purpose capacity, better hinterland connectivity, and a push toward economies of scale, a situation none of its existing container ports is ideally suited to meet. While Montreal has the market and hinterland advantage, it is becoming seriously constrained in terms of ship size limitations. Almost the exact opposite applies for Halifax. Other port development projects try to remediate these shortcomings, but rather inconclusively.

The optimal port location would have an attractive local market, be along the great circle route from Europe to the North American market, have limited draft and clearance limitations to accommodate post-Panamax ships (above 8,000 TEU), have a direct Class I rail connection to the US Midwest market, have environmental and community support, and be ready for construction within a short time span (one to three years).

Obviously, all these expectations cannot be met, leading to an array of realistic, but less optimal, alternatives. Four scenarios can be considered:

-A base situation where there are no new terminal projects and the growth is assumed by the existing ports (mostly Montreal and Halifax) through the intensification of their terminal assets. Because of capacity considerations, the Canadian East Coast cannot absorb more than half a million TEU of additional volume. Under such circumstances, the Canadian East Coast is facing increasing hinterland competition from the US East Coast, in addition to Montreal facing the risk of additional marginalization because of [mega-ship](#) services unable to call the St. Lawrence River.



Credit: Hofstra University.

-Montreal undertakes its greenfield Contrecoeur project, adding around 1 million TEU of capacity, but faces the risk of a partial relocation of the port's existing capacity to the new terminal. Montreal, as a gateway, becomes more competitive over the hinterland, but still faces the risk of marginalization because of mega-ships calling the North American East Coast.

-The Pure Rail Terminal/Transshipment option (Great Circle Strategy). Either in addition to the current Halifax terminals, a new single hub is successfully developed on the Atlantic Coast (Melford or Novaport) or a new facility in Dartmouth relocates the current port with good levels of connectivity to the global shipping network and [Class 1 rail access](#) to the hinterland of both Canada and the US Midwest. This hub handles 14,000-TEU and larger vessels on trans-Atlantic services bringing thousands of intermodal containers weekly, in addition to allowing the replacement of the current smaller services calling at Montreal with high-frequency, short-sea services. Under such circumstances, Montreal and its expansion could face growth limitations and strong hinterland competition.

The St. Lawrence gateway option. The Beauport project in Quebec City goes ahead in collaboration with the Port of Montreal jointly creating a port strategy. The new post-Panamax container port in Quebec enables new high capacity services (6,000 to 8,000 TEU) on the St. Lawrence, coupled with inland rail services while the Montreal terminals allow for direct local market service for any smaller vessels. The outcome is a dual service configuration with an equilibrium between Montreal and Quebec subject to market forces. The Port of Montreal runs the risk of having its expansion potential curtailed because of the new capacity at Beauport. This scenario seriously undermines the development of any new terminal along the Canadian Atlantic Coast (Dartmouth, Melford, or Novaport).

The race is on, with only one of these new terminals required to change the Eastern Canadian container port landscape with a path dependency by restraining other options. The start of construction on any of these new developments in Beauport, Dartmouth, Melford, or Novaport is likely to signal to investors that developing the new Contrecoeur terminal in Montreal and any of the other remaining locations is riskier and potentially less profitable. Further, new terminals improve the pricing power of shipping lines and can put downward pressures on margins. The Canadian East Coast is thus finding itself in a situation where it needs to provide additional capacity and the manner in which this capacity will be provided changes the balance in a port system that had until now a substantial level of inertia.

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