

16 DECEMBER 2018

Submission of
Profs. Claude Comtois & Brian Slack

Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation,
University of Montreal, Montréal QC H3C 3J7 Canada
Claude.Comtois@umontreal.ca; Brian.Slack@concordia.ca

to

PORT MODERNIZATION REVIEW COMMITTEE
TRANSPORT CANADA

Our submission addresses current deficiencies of Canada's port policy. We submit the following for the Committee's consideration.

Port governance

CPA ports are too diverse to be bound by roughly similar status. In some respects, each CPA is different in function, capacity and relationship with customers. It would not be practical or desirable to establish unique status of each. On the other hand we suggest that three types of ports can be identified and serve as model.

- Ports of type A are those CPA's that are entirely based on local (bulk) trades. They are dependent on a few local industrial corporations for either shipments or receipts. Their administrative structures can be relatively simple, and their financial requirements are straightforward, but insufficient. Their status should be changed and integrated within the corporate strategies of major industry leaders embodying the capital, knowledge, labour force and resources applied to the port and maritime networks, including the capacity to make contracts of carriage, to perform transport and to negotiate transfer agreement in specific legal, financial and political frameworks in different parts of the world. The objective would be to make the best of the potential of these maritime bulk hubs able to compete with the major mineral port complexes at the international level.
- Ports of type B are individual ports involved in traffic that is competitive, (usually containers). They have to respond to commercial competitive conditions, and require more complex administrations that need to operate commercially, but within a public service provider framework. The federal government needs to ensure that the port authorities develop strategic planning that must specify their goals and objectives, and providing a means of comparing the results over a certain time framework by TC. Outside of this TC should give those ports greater freedom of action in both financial and trade promotion activities.
- Ports of type C are bulk ports that also provide transshipment roles. They will still be influenced by purely industrial supply chains, but as transshipment centres the competitiveness should result in a status somewhere between A & B ports.

While there are inevitable differences with this three-part structure, the present structure is too restrictive to some B ports that have to act quickly or with great financial adjustments, and some A ports may require another type of port status to become more competitive.

Port alliance

Current port governance in the context of existing patent letters is restricting port administrations in numerous ways. This approach is not adapted to the port development conditions in the context of economic globalisation, innovation, digital revolution and the emergence of new actors transforming the actions of port administrations. CPAs must pull out of paradoxical injunctions: doing more without changing the way business is done and answering the needs of users facing increasingly complex market conditions. Like the strategies based on reinforcing ports at the international level, CPAs must be allowed to form alliances with other ports with a view to avoid marginalization by the lack of coupling of CPAs with powerful axis of ocean traffic. The objective of these port alliances would entail transforming «Tonnage ports» into «Value added port complexes» by permitting to offer a wide range of infrastructures, to exploit combined knowledge, to share complementary resources, port experiences and technologies and to access new capital.

Port and marine data

The Canadian shipping and port industry as a whole needs to be more competitive, which requires not only new infrastructures in the right place and the right time, but also a strengthening knowledge of the chains. Canada's capacity for understanding the rapidly changing transport industry is unable to provide a knowledge base which Canadian transport providers and users can understand and exploit the changing commercial and technological trends. This requires information and data. Both the CPAs and TC are ill equipped to allow Canada's maritime transport and port system to become more competitive and equal to the best in the world because of inadequacy in data availability and lack of inter-governmental agency cooperation.

- TC must increase its capacity to create a permanent on-line database for the maritime industry and CPAs to enhance awareness of global changes and identify policy direction and corporate actions.
- Canada must embark on program of digitalizing its ports, maritime arteries and corridors including the Saint-Lawrence, Great Lakes, West Coast and Arctic passages.
- Steps should be taken to allow CPAs to have access to global vessel movements through AIS data currently available at the Canadian Space Agency.
- TC must develop a comprehensive database on 1) the conditions of port infrastructure investment needs; and 2) basic commodity flow data, with a view to

insure response capacity as a result of changes in the structure of freight flows, the influence of technological development and variation in transport network hierarchies to enhance safety and security including port performance.

Port innovation

The global shipping and port industries are currently undergoing technological, operational and economic transformations. But CPAs are ill-equipped to answer the challenges of new business models, working methods, security and safety norms and the mitigation and adaptation measures relating to environmental changes.

TC must embark in funding port and maritime transport scientific research and innovation program available to CPAs and Canadian Universities. Preference should be given to Canada's major port logistics hubs with research priorities focussing on:

- Resilience of Canada's major supply chains at the global, continental and urban scale;
- Embedded intelligence and digital infrastructures for Canadian ports;
- Structural changes of work conditions and labor relations in Canadian maritime industry;
- Innovative governance business models for waterways and navigation services;
- Energy transition towards low carbon economies for Canadian ports;
- Social acceptability of ecological port-city industrial clusters in Canada;
- New security and safety benchmarks for hazmat port transshipment and hinterland transport.

Creation of Maritime and Port University Chairs

Over 90% of world trade is carried by sea. Canada is a country with the longest coastline in the world. There is a pressing need to reequip a new generation of Canadian professionals and decision makers with the necessary skills to comprehend contemporary issues and challenges and future options in maritime shipping and port development. TC must consider the creation of 4 Maritime and Port University Chairs (West Coast, St-Lawrence-Great-Lakes, East Coast and Arctic).

A specificity of these Maritime and Port University Chairs lies in concentrating interdisciplinary taskforces to establish accurate diagnosis, map changes, measure vulnerabilities and risks and delineate conditions for transition pathways towards alternative development patterns and deliver blueprints for Canada's port and maritime sector. These Maritime and Port University Chairs would establish new institutional linkages between Canada's maritime industries reflecting the principle of Canada's expertise in port and maritime transport high quality knowledge production, advanced training, stimulating research and implementing innovative solutions. They would capitalize fully on collective intellectual and innovative capabilities to develop new tools by providing a new generation of Canadian experts to network. They would strengthen linkages and partnership between enterprises and markets by working with maritime

organizations and senior managers through need identification and consensus development in ways of ensuring innovative transport services to stimulate economic activities, generate employment opportunities and improve productivity. By linking with enterprises and markets, Maritime and Port University Chairs will be in a position to manage negotiation process to obtain resources from agencies, the private sector and overseas research funds through the development of international outreach program.

Adaptability to climate change

Canada's port future is likely to be compromised without a fully-fledged and comprehensive adaptation of its maritime and port industries to climate and environmental changes. The intensive use of gateways influences scarce resources, generates waste and affects the quality of the ecosystems. The need to implement sustainability measures is potentially the single most important issue facing the growth, performance and organization of gateways.

We suggest that TC must produce breakthroughs on adaptability to climate change by scientific advancements in green logistics process engineering under six headings:

1. Document geophysical and climate parameters and the vulnerabilities for port and maritime transport in Canada;
2. Identify the impacts and potential opportunities for maritime transport and port activities with regards to structural conceptions, freight and passenger services, service to ships, train and vehicles, equipment usage, logistics activities, security, emergency plans and organisational structure;
3. Physical and socio-economic risk assessment associated with impacts and opportunities in relation to climate change;
4. Normalized mitigation and adaptation measures within the industry in terms of institutional, logistics, engineering and technological innovations;
5. Reduction of the carbon footprint of port and maritime transport system;
6. Integration of environmental sustainability as competitive assets for private corporations.