

Canadian Journal of Transportation Volume 4, Part 1 (2010)

Strategic Cooperation in Peripheral Ports: The Case of Atlantic Canada's Ports

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Abstract

This paper examines ports on the geographical periphery of the port business: they are off the main shipping routes or not located proximal to large domestic markets. These ports have development potential, but reaching it requires specific strategies. The paper first discusses the nature of peripheral ports followed by a conceptualization of two development strategies: cooperation among seaports and coordination of supply chain operators with the emphasis on cooperation. The paper considers Atlantic Canada's ports and their current cooperation initiatives concluding with recommendations on how these ports may better serve their interests through applying cooperation strategies found elsewhere.

Acknowledgements

The authors would like to thank the Centre for International Trade and Transportation at Dalhousie University, the Atlantic Canada Opportunities Agency, and the Province of Nova Scotia for supporting the development of this research.

1.0 Introduction

Seaports operate at the interface of ocean and land transportation. This paper is about a specific category of ports that face a unique competition challenge—*ports on the periphery*. These ports are characterized, first, by a limited domestic market and, second, by a more remote potential hinterland for which they have to compete with one or more other ports. Competition may differ for these ports dependent on whether they are competing against a single, large competitor in the region or the competitive situation is one that has no single dominant port player.

To develop a competitive port, peripheral ports need to work harder than those that are centrally located near maritime networks or large domestic markets. Proximity to a great circle route and having good facilities and/or good infrastructure connections are not sufficient. Advantages may be found in a better performing inland transport network, a more customized client approach, a more flexible business environment and/or the greater reliability that comes from some availability of assets.

To achieve growth targets such ports can choose different strategies. First, they may develop *cooperation strategies* to build business together; and secondly, port authorities may be leaders in bringing together the various supply chain actors to provide, through *coordination strategies*, an integrated transportation service beneficial to all the actors but especially to the port. It is the first strategy that is of paramount interest in this paper, but it is well to consider both approaches briefly in this introduction.

Considering the first strategy, if we take the perspective of a port range serving a limited overlapping hinterland, we can identify two reasons why ports might cooperate. First, there may be substantial duplication in the services leading to destructive competition; second, there are gaps in the ability of the port range to serve the needs of those shippers for whom cooperation might be advantageous. In the latter case, developing common regional public policy might be mutually beneficial or a common marketing strategy could drive growth in total traffic for the port range. Alternatively, cooperation may mean an agreement to specialize in a service at one port while not duplicating that service at another. The availability of cooperation benefits could lead to strategic alliances among ports premised on the belief that seamless customer service does not require ownership of all the assets and results from managerial values that accept cooperative behaviour.

To briefly discuss the second approach, Van der Horst and De Langen (2008) have developed the concept of coordination in hinterland accessibility using the lens of institutional economics to empirically examine coordination of supply chain actors and the role that ports may play. The degree of coordination among the supply chain actors focused on servicing a port and its hinterland impacts significantly on the port's ability to not only contribute to an efficient regional port infrastructure but also to ensure that inland hinterland areas are well serviced by the transportation and logistics companies using the port. From the public policy perspective, there are social welfare benefits arising from coordination. Bottlenecks impacting on local citizens are likely to be mitigated or at least addressed, and the interests of citizens as a whole are better served by a more efficient trading network delivering national wealth.

Our starting point in this research is that peripheral ports have development potential, but to reach it requires specific strategic actions. The purpose of the paper is to review cooperation strategies among ports, in general, and particularly in Atlantic Canada ports. The paper opens with a discussion of the nature of peripheral ports followed by a literature review and conceptualization of what cooperation among seaports entails. The paper then considers the case

of Atlantic Canada's ports and discusses their current cooperation initiatives. The paper concludes with recommendations on how the ports of Atlantic Canada may better serve their individual and regional interests through applying cooperation strategies found elsewhere in the world.

2.0 Ports on the periphery

Ports serve both ocean and land interests. On the ocean side, it is beneficial for a port to be located near major maritime networks to allow access to foreland (overseas) areas. On the landside, close proximity to hinterland areas is also beneficial. Hayuth and Fleming (1994) have designated the two location conditions respectively as *intermediacy* (applied to *en route* location) and *centrality* (applied to hinterland location). Three relative states of ocean and land location conditions apply. First, when both shipping lane proximity and hinterland centrality are well met it is likely that the port will succeed in its mission to serve shippers' needs, given, of course, the necessary port infrastructure and effective management. Secondly, it may be that the conditions at each location are not equal, with one being superior to the other. In such cases, one condition may make up for a deficiency in the other. The lack of shipping lane proximity may be offset by high hinterland centrality; alternatively, nearness to maritime networks may offset a peripheral land location. In both these cases, ports may be said to be peripheral: either peripheral to shipping lanes and overseas markets or peripheral to land markets. Finally, with regard to relative location conditions, if ports lack both intermediacy and centrality, they will struggle to serve shippers' needs.

Of interest here is the peripheral nature of a port's location and what can be done to overcome it. It is almost impossible to change a port's location relative to major shipping lanes. Ships are attracted to areas of cargo generation and/or consumption. How they access those areas depends largely on great circle routes, weather patterns, and world choke points, such as major straits or canals that limit options for movement. Thus, if a port lacks intermediacy—it is not *en route*—it has little chance to change the condition unless it can generate sufficient cargo to offset the extra shipping costs of deviation. On the other hand, it is not as difficult to overcome a lack of centrality, as long as intermediacy is strong. In order for this to occur land transportation must be strong and focused on catering to shipping interests. Otherwise, no amount of advantageous ocean location will overcome the peripheral landside disadvantage.

The last situation—good intermediacy and poor centrality—applies to ports in Atlantic Canada, especially to those ports serving interior continental markets with competitive hinterlands. It is not so much the situation for ports loading locally produced bulk products or receiving bulk products such as oil for immediate processing and re-distribution.

3.0 Cooperation Strategy

3.1 Overview

Our focus is ports with a poor centrality but relatively well located with respect to shipping networks. The challenge for these ports is to compete for a remote hinterland that is served to a large extent by larger ports having more centrality.

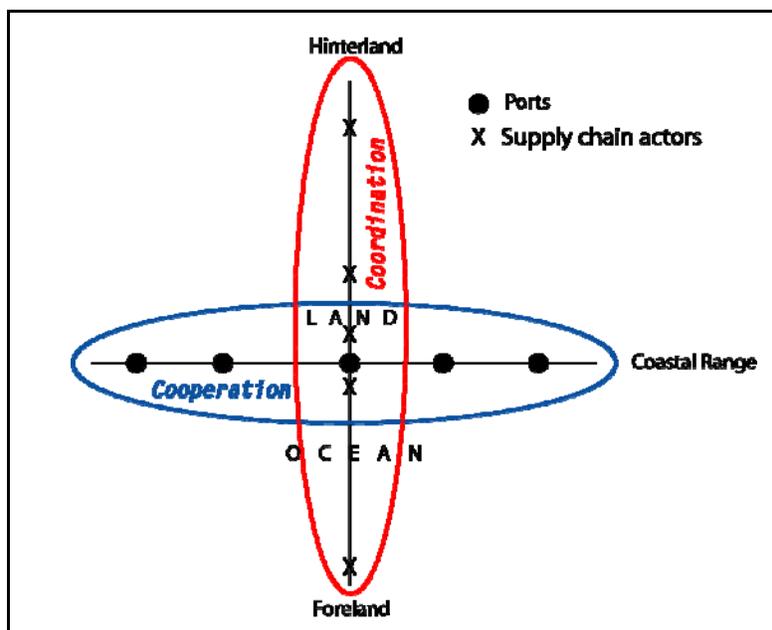
The centrally located load centre ports may face difficulties in maintaining their competitive position. A key reason is the continuously changing port–hinterland relationship. The advent of 'port regionalization' (Notteboom and Rodrigue, 2005, 2008), where the

performance of major seaports is strongly entwined with the development and performance of associated inland networks and value-added activities in the port hinterland, brings port development to a larger geographical scale, that is, beyond the port perimeter. Many load centres face local scarcity in land and the infrastructure needed to make efficient inland connections, conditions exacerbated by diseconomies of scale (i.e. inland congestion), environmental constraints, and local opposition to port expansion. In many of the larger ports, there is more than one deep sea terminal operator, more than one rail terminal from which shuttles depart, and more than one railway company serving the port. This has brought challenges in terms of the provision of smooth and effective spatially regionalized operations and efficient use of the infrastructure.

Thus, notwithstanding their poor centrality, ports on the periphery do have a chance to develop into ports with a gateway function for a more remote hinterland, but such development requires deliberate strategies. We find two main approaches in the academic literature on ports that contribute to this debate: (1) the concept of cooperation between different ports and (2) the concept of improving the integration and coordination in hinterland transport networks. Conceptually, the two strategies can be represented as shown in Figure 1. This figure shows two types of competitive strategies for ports: Ports may *Cooperate* with each other to serve shippers and shipping lines along a coastal range; or a port may *coordinate* with other supply chain actors to provide better service in linking overseas forelands with inland destinations.

The focus of this paper is in the cooperation between different ports, as is illustrated by the horizontal oval.

Figure 1
Cooperation and coordination in strategic port management



Source: authors.

3.2 Cooperation between ports: theory and examples

The relevance of cooperation between ports has been discussed by scholars involved in port studies, in the beginning in the context of public policy concerns about anti-trust activity, but more lately with respect to continuance of anti-trust immunity so that cooperation may be used to deal with the most pressing congestion problems that ports face. (See Kent and Ashar, 2001 regarding the former and American Association of Port Authorities, 2008 for the latter). Today, interport relations are complex and competition frequently accompanies cooperation. A rationale for cooperation for ports on the periphery is to bring more centrality to those ports and the region in which they are located through (1) an increase in the volume of specific hinterland and/or maritime transport services; and (2) a better configuration and working environment for maritime operations and hinterland transport chains.

Cooperation is not a new concept. UNCTAD (1996) and Juhel (2000), for example, have explored cooperation between ports in order for ports to adapt to more flexible traffic distribution patterns. Van Klink (1997) detailed the example of cooperation between Rotterdam and the Baltic Region ports to strengthen the competitive position of the 'home port', and Avery (2000) had proposed strategic alliances between adjacent container ports as a countervailing option against the growing market power in shipping lines. In business research, Nooteboom (1999) put forward a comprehensive concept of inter-firm alliances, which, by interpreting the term 'alliance' in a broad sense covering a wide spectrum of forms of cooperation between firms¹, provides a useful analytical tool to understand strategic port cooperation. The aims of strategic port cooperation are threefold: to better use assets in terms of efficiency, scale and scope; to improve competencies; and to gain positional advantage that may potentially pre-empt the competition.

As in any other business, cooperation between ports might be multi- or single- function (also: multi-project or single project) and might even reach the form of *coopetition*, that is, cooperation with competitors aimed to reach decisive benefits that cannot be reached otherwise (Dagnino and Rocco, 2009). In that way, different entities are both competitive and complementary units at the same time. It was precisely the strategic idea of *coopetition* for the port industry that Song (2003) put forward endorsing Slack's (1993) concept that within the new economic environment of seagoing trade, ports are 'pawns in the game'. Donselaar and Kolkman (2010) have recently suggested that cooperation among port authorities, using Dutch examples, may offset the undesirable effects of competition. There are societal gains to be made primarily through increased efficiencies.

The idea of port networking among neighbouring ports was also raised by Notteboom and Winkelmanns (2001), who advocated that segmentation of markets and coordination of functions can prevent port authorities from wasting scarce resources on inter-port competition. They focused on counterbalancing carrier power, and on landside coordination of hinterland connections through cooperation of neighbouring load centres. They argued that such cooperation would lead to the more effective bundling of container volumes towards the hinterland. Container bundling would allow deeper hinterland penetration and stimulate intermodal transportation through higher service frequency and better utilization of shuttle trains and barges.

The policy document that recently restructured the European Port Policy strategy explicitly recognized cooperation as a means to improve (sustainable) port performance:

Cooperation between ports and especially between those close to each other is most welcome, as it can lead, *inter alia*, to specialisation in cargo or ship types, and organisation and pooling of hinterland transport facilities. It would certainly lead in many cases to an improvement in output. (CEU 2007, 16)

Perceived imbalances in port capacity and the increased proximity of ports in broader geographical regions formed the key concerns behind this statement (Pallis and Verhoeven, 2009). The European Commission had already fostered port cooperation as a means to sustain existing maritime links or to establish new viable, frequent services integrated into the door-to-door logistics chain. EU funding (e.g. Motorways of the Seas) has made cooperative port development projects popular and even led to more permanent forms of association between ports in the European periphery. For example, the Federation of Regional and Local Channel Ports was set up in 2007 as a result.

A web and trade press search for this paper led to the identification of 21 different cases of cooperation involving more than 70 ports on five continents. We found that cooperation takes several forms suggesting the absence of one best approach. Cooperation includes training, technical exchanges, assistance in port management, sharing of information on port development and environmental programs, the promotion of mutual logistics business, and the development of common positions at international forums. It takes place between ports in the same geographical region with the aim often being the joint development of infrastructure, regional promotion and marketing, and common approaches to environmental issues. Cooperation between bigger ports and smaller ones is also frequent, as is regional cooperation aimed at enhancing particular trade corridors. It is also formal and informal. As examples of the different cases we offer the following:

- In North America, Los Angeles and Long Beach cooperate in the application of environmental initiatives (i.e. *PierPass*) and coordinate reductions of cargo storage fees to reduce congestion. Seattle and Tacoma cooperate on infrastructure, promotion and environmental issues. The infrastructure projects are both operational and administrative in scope, involving road and rail, to improve access to port areas.
- In northwest Europe, the port authorities of Rotterdam, Antwerp, Hamburg, Bremen and Le Havre meet regularly to discuss, amongst other matters of shared concern, financial, environmental and security issues. Rotterdam and Amsterdam have merged their independent port data systems to allow the exchange of data between themselves, their customers and Customs. The formal creation of one single port community information system is both an operational and administrative initiative resulting from the demand of the international business community operating in both ports.
- Regional cooperation in inter-continental marketing and operations is also evident in the Channel and Mediterranean regions. Algeciras, Dover, Calais, and Tangiers Med cooperate in marketing, commercial development, and the management of ro-ro terminals. Barcelona cooperates with the Tunisian Maritime Authority in enhancing quality of port services, as do Las Palmas and several ports in Morocco.

Using the empirical data from all the cases, a typology or classification of cooperation practices was derived (Table 1). As a first division, differentiation between formal and informal cooperation seems useful. Formal would apply to legal agreements or written contracts including

memoranda of understanding (MOU); informal would be *ad hoc* in nature in response to a specific issue or as a trial before formal arrangements are agreed. The different forms of cooperation can then be grouped under four headings: Marketing and Business Development, Operations, Administrative and Regulatory.

Given this background, the next sections of the paper examine the nature of cooperation practices already in place in the Atlantic Canada ports, and those that might be endorsed in the future.

Table 1
A Typology of Port Cooperation Activities

Activity	Formal	Informal
Marketing and Business Development	Joint advertising and promotional activities Establishing a joint marketing agency	Seeking joint clients Exchange of experts Promoting the use of each other's facilities
Operations	Common training agreements Joint application of new communications technologies ¹ Port development planning ¹ Partnerships with other actors ¹ Joint development of similar operating practices ¹	Information exchange on terminal management Sharing of information on port development Exchange of experts Joint studies
Administrative	Port representatives participating in other ports Joint investments in hinterland infrastructures Joint management of port expansion Formation of (inter)national cooperative organizations	Technical assistance in port management Common positions at international forums
Regulatory	Joint environmental protection initiatives Coordinated investment in safety and security	Information sharing on environmental programs

¹These cases might also develop in a less formal format (i.e. a formal agreement or contract might not be present).

4.0 The Atlantic Canada Case Study

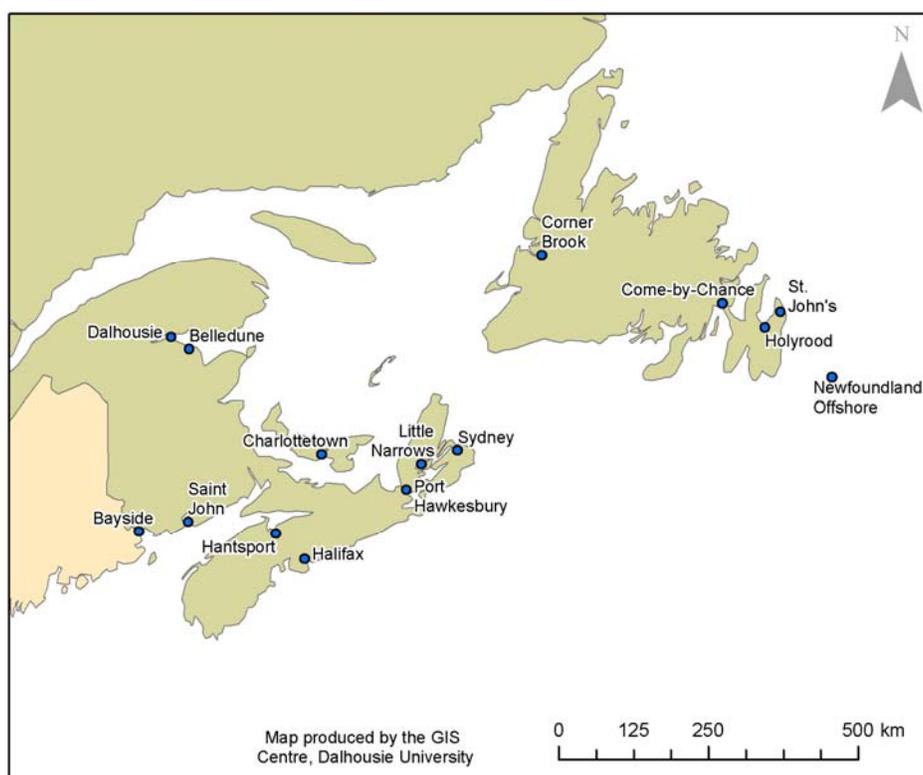
4.1 Overview of Atlantic Canada Shipping and Ports

Atlantic Canada is comprised of the four eastern Canadian provinces of Newfoundland and Labrador (NL), Prince Edward Island (PE), Nova Scotia (NS) and New Brunswick (NB) with a total area of 539,000 sq. km. This is a land area about the size of France but, unlike France (population over 60 million), the Atlantic Canada population is only slightly more than 2 million.

Halifax, NS is the largest urban area with a population of 370,000; St John's, NL has 181,000. Although the area has good access to the Atlantic Ocean and trade routes, it is far from the central core of North American population and wealth. In terms introduced in section 2, the area has high intermediacy but poor centrality; it is on the periphery.

In 2007, a total of 139.8 million tonnes of cargo were handled at the region's ports (Figure 2), up from 90.2 million tonnes in 2000. The increase is mainly accounted for by energy related products, especially crude petroleum for both domestic and international markets.

Figure 2
Major commercial ports in Atlantic Canada



The dominant, and increasing, international cargo handled by volume is energy-related (crude petroleum, refined products, coal and by-products). In 2000 it formed 54% of exports and 88% of imports (Table 2). In 2007 the respective proportions had increased to 67% and 92%. Dry bulk exports—non-metallic minerals and building materials—have been stable between 22 and 24%, although as Table 2 shows building material tonnages increased relative to non-metallic minerals. Forest products, especially newsprint, are a major local export, although exact amounts of newsprint exports are not available for 2007. The ‘other’ category is mainly comprised of containerized goods but it also includes steel products, automobiles and other unclassified breakbulk cargo not containerized. Currently, about 75 percent of Halifax’s container imports and exports come from or are destined to markets in excess of 800 kms away (Peveril, 2009).

Table 2
International Tonnage (million tonnes) by Commodity Type, 2000 and 2007

Commodity	2000				2007			
	Exports		Imports		Exports		Imports	
	Mt	%	Mt	%	Mt	%	Mt	%
Energy	21.3	53.8	27.3	87.8	37.6	66.8	31.5	91.8
Non-metallic Minerals	7.5	18.9			7.1	12.6		
Building Materials	2.1	5.3			5.0	8.8		
Newsprint	1.4	3.5						
Other	7.3	18.5	3.8	12.2	6.6	11.7	2.8	8.2
TOTAL	39.6	100.0	31.1	100.0	56.3	100.0	34.3	100.0

Source: (Statistics Canada 2002, 2010)

In 2007 there were 62 statistical reporting ports in the region but only 14 handled at least 0.5 million tonnes of cargo (Table 3) representing over 97 percent of all cargoes.

Table 3
Major Commercial Ports by Cargo Tonnage (million tonnes) in 2007

Port	Int'l Tonnage	Dom. Tonnage	Total Tonnage	% of Region	
				Total	Principal Trades*
Come by Chance, NL	18.4	15.9	34.3	24.5	T
Port Hawkesbury, NS	28.7	3.0	31.7	22.7	T, DB
Saint John, NB	20.7	5.4	26.1	18.7	T, DB, BB, Co, Cr
NL Offshore	1.6	17.2	18.8	13.5	T
Halifax, NS	9.9	2.7	12.6	9.0	T, DB, BB, Co, Cr
Corner Brook, NL	1.4	0.9	2.3	1.6	T, BB, Co, Cr
Sydney, NS	1.8	0.3	2.1	1.5	T, DB, Cr
Belledune, NB	1.9	1.7	1.9	1.4	T, DB
Bayside, NB	1.5	0.0	1.5	1.1	DB, BB
Hantsport, NS	1.4	<0.1	1.4	1.0	DB
St John's, NL	1.3	<0.1	1.3	0.9	T, DB, BB, Co, Cr
Little Narrows, NS	0.5	0.4	0.9	0.6	DB
Dalhousie, NB	0.7	0.0	0.7	0.5	T, DB
Charlottetown, PE	0.0	0.6	0.6	0.4	T, DB, Cr
Holyrood, NL	0.3	<0.1	0.3	0.2	T
SUBTOTAL	88.6	47.9	136.5	97.6	
Other ports (40)	1.3	2.0	3.3	2.4	
TOTAL REGION	89.9	49.9	139.8	100.0	

*T=Tanker, DB=Dry Bulk, BB=Break Bulk, Co= Containers, Cr=Cruise

Source: Statistics Canada, 2010

Virtually all ports handle some tanker traffic usually petroleum products for domestic local use, but five—Come by Chance, Port Hawkesbury, NL Offshore,² Halifax and Saint John—are

major crude petroleum handlers for refining, direct shipment or transshipment. Dry bulk cargoes are concentrated at Saint John (potash), Halifax (gypsum), Port Hawkesbury (building materials and gypsum), Sydney (coal), Hantsport (gypsum), Little Narrows (gypsum), and Belledune (wood pellets). Containers are handled at Halifax, St John's, Saint John and Corner Brook. Halifax is the principal container port handling 490 000 TEUs in 2007. The cruise business is also a feature of the region and will be discussed later.

Only three ports—Halifax, Saint John, and St John's—are 'full service' ports. Along with Belledune, these three are administered as separate port authorities under the terms of the *Canada Marine Act*, marking them as having strategic significance to Canada's trade. The four belong to the Association of Canadian Port Authorities (ACPA). The remaining ports are less diversified or they handle relatively little tonnage, and are locally administered by community and/or industry interests, with many of them belonging to the Independent Maritime Port Authorities of Canada (IMPAC).

4.2 Cooperation Initiatives

Using the framework established in Table 1, we talked with port management in six Atlantic Canadian ports to identify existing cooperative practices to see if there were examples in all four activity areas and any of a more formal than informal nature. Table 4 gives an overview of the types of cooperation found in Atlantic Canada.

Table 4

The Reality of Existing Cooperation among Atlantic Canada's Ports

Activity	Formal	Informal
Marketing and Business Development	Atlantic Canada Cruise Association (discussed below) Some ports have MOUs with ports outside the region Membership in IMPAC for a joint economic impact assessment	Joint trade missions (e.g. the mission to India discussed below); joint trade fair participation has happened in the past. Joint support of market studies (e.g. Belledune Corner Brook short sea study (Bellefontaine Consulting and MariNova Ltd (2007)) A large volume of <i>ad hoc</i> marketing activity takes place.
Operations	Small ports participate in a blanket insurance policy for IMPAC members.	Technical assistance on security implementation, and identifying best practices in operations.
Administrative	Membership in NAPA, IMPAC or ACPA*for information-sharing	Mutual assistance on issues of human resource management, staffing, information technology, and seeking best practices.
Regulatory		Meetings to develop common positions on regulatory and public policy issues.

Note: * NAPA = North Atlantic Ports Association, IMPAC = Independent Marine Ports Association of Canada, ACPA = Association of Canadian Port Authorities.

Table 4 is derived from personal communications with management at the ports of Belledune, Canso Superport, Corner Brook, Halifax, Saint John and St John's. These six ports account for the majority of non-energy traffic in Atlantic Canada.

Cooperation exists in all four of the activity areas we examined but the majority of all inter-port cooperation in Atlantic Canada is of the *ad hoc* or informal variety. One major example of successful formal cooperation is the Atlantic Canada Cruise Association and the impact it has had in terms of growing total cruise passengers in the region by attracting new customers who might have considered cruising elsewhere in previous years.

4.2.1 Case: Formal Cooperation via the Atlantic Canada Cruise Association.

Cooperative marketing has been demonstrated to lead to rising demand for the cooperating entities as a whole, by raising the volume of *served demand* closer to the *total market potential* (Best, 2005). An excellent example of this type of cooperation is the cruise industry. The Atlantic Canada Cruise Association (ACCA) is a regional body whose mission is to grow cruise passenger demand by promoting Atlantic Canada as a cruise destination. It is a partnership between ports in the region, tourism and cruise ship interests in each of the four Atlantic Provinces, the Atlantic Canada Opportunities Agency (a Canadian government development agency) and Parks Canada, a national government department (ACCA, 2009).

Atlantic Canadian ports accounted for 21 percent of the Canadian cruise passenger traffic in 2007; cruise visits are primarily extensions of cruise itineraries originating in the north-eastern United States but calls are also made by expedition ships and ships on transatlantic itineraries (BREA, 2008). The cruise traffic for the 2008 season increased by 35 percent with just over 814,000 passenger and crew visits to Atlantic Canada compared to 600,000 in 2007 (ACCA, 2009). Personnel at the Port of Halifax attribute the growth to an active marketing campaign with the overall strategy of marketing the region as a destination having diverse itineraries (McGrail, 2008).

ACCA has set as two of its objectives to “continue to collectively seek out opportunities to present Atlantic Canada as a cruise destination,” and to “develop the small ports cruising market for Atlantic Canada” thereby increasing the economic benefits to the small port communities (ACCA, 2008). This has a clear benefit to the larger ports in the region by building the size of the destination as a whole. The ACCA marketing plan lists a variety of co-operative activities including strategic alliances, joint marketing, educational programs, web marketing activities, and an integrated marketing approach in addition to the usual presence at the *Seatrade* trade show and traditional marketing collateral. The effort to promote and cross-market small ports in the region is a particularly unusual approach. It would appear to be successful in increasing regional traffic volume.

Such cooperation is not without cost and complexity, given the sheer number of actors involved. Membership funding is about C\$224,000 annually, two-thirds from five partner ports (Halifax, Saint John, Sydney, Charlottetown and Corner Brook—ordered in terms of their contribution of funding) and the remaining one third from provincial governments, smaller regional ports, and industry associations. While membership funding is supplemented by government funds; governance is by a registered society (McGrail, 2008).

4.2.2 Case: Informal Joint Marketing—the India Mission.

An informal example of port cooperation is the joint trade mission to India. In February 2008, 14 private sector and port-related businesses, along with representatives from the federal and

provincial governments, went on a seven day mission to India (Oxner, 2009). The purpose was to (1) promote trade between Canada and India via the Atlantic Gateway, (2) build awareness of the Atlantic Gateway as a supply chain corridor for trade to Canada and the United States, and (3) promote the assets and businesses that form part of the Atlantic Gateway. The mission was not seen as a full-fledged trade mission, but as a first step to establish a working relationship with Indian businesses and Indian government officials. Typical of marketing missions, the mission was led by the federal government and each participant³ paid his/her own airfare and accommodation. According to officials the private sector parties were very pleased with the results of the mission and research to target a number of ports in India is underway. This type of cooperation activity is less formal than the formal one taken by the cruise industry.

In areas other than marketing and business development, associations such as the Independent Marine Ports Association of Canada can provide formal support for operations, as illustrated by its joint insurance program for members, and by providing a venue for more *ad hoc* cooperative activities. However, it appears that the majority of port cooperation in Atlantic Canada falls into the marketing and business development category.

5.0 Discussion and Conclusions

Based on the empirical data, we conclude that cooperation occurs in a wide variety of forms and that there is not necessarily one best approach. There is an opportunity for further research on what makes for successful cooperative activities and for the identification of best practices.

Although cooperation among Atlantic Canadian ports does exist, it is on a more informal *ad hoc* basis, rather than a formal one, the exception being the Atlantic Canada Cruise Association; and not all types of cooperation exist. It is certainly the case that cooperation amongst Atlantic Canada ports is not as well developed as in Northern Europe, for example. One explanatory factor, especially when Atlantic Canada is compared to North Europe, and we suspect to Eastern Seaboard ports as well, is the nature of port centrality and hinterland development. The literature review above suggests that cooperation strategies in many ports elsewhere in the world are driven by congestion and landside hinterland access problems. With respect to North Europe, there is evidence of more cooperation, and that it has progressed beyond simple agreements to a situation where there is cooperation in coordination, driven by three factors: greater number and type of gateways and corridors, greater congestion in port areas and their hinterland networks, and the advancement of the concept of cooperation by public authorities. Cooperation among ports in high density gateways with high centrality is a way to mitigate demands on port land space and spread the load among neighbouring ports. Atlantic Canadian ports on the periphery, without these pressures, do not see the same need to participate in cooperation activities; yet elsewhere ports have sought the benefits of formal arrangements for cooperation between themselves and with major seaports.

What does this mean for the ports of Atlantic Canada and their future strategies? When ports see themselves as competing in similar lines of business, as noted in Table 3, the tendency is to view interest on the part of other ports as seeking to 'steal' cargo business. In the case of marketing the region, however, cooperation has been demonstrated in the cruise business to be one of 'a rising tide lifting all boats.' There is, in our estimation, opportunity to grow business for these ports on the periphery through greater cooperation than currently exists. We particularly recommend:

- More formal regional marketing cooperation

- More formal positions of regional regulatory issues to present a united front to Canadian federal government agencies (e.g. Transport Canada)
- Continued informal arrangements in information sharing
- Expanded informal, perhaps leading to formal, bi-port or multi-port studies testing the feasibility of cooperative trade developments that can be shared between ports, along the lines of the Belledune-Corner Brook short sea study, (Bellefontaine, 2007).

It is through activities like these that Atlantic Canadian ports will be able to deal with their peripheral nature as they compete for distant hinterlands.

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Endnotes

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- ¹ That is, between almost full integration to fully independent firms engaged in pure market contracting.
- ² NL offshore refers to offshore oil loaded directly to tanker from the offshore platform; thus, this is not a traditional port in the common land-based sense of the concept.
- ³ Participants included representatives of two ports, rail, trucking, a transload operator, container terminal operators, two airports, a large multinational, and a trade association.