

FINAL REPORT



Due Diligence Assessment of Plans for Second Berth at the Sydney Marine Terminal

Prepared for:

Nova Scotia Transportation and Infrastructure Renewal
Atlantic Canada Opportunities Agency

Prepared by:

CPCS

Acknowledgments / Opinions

Many stakeholders were consulted in the preparation of this report. CPCS acknowledges their contribution (a list of stakeholders consulted is provide in Appendix A). The Sydney Port Corporation was also very helpful in furnishing information, providing contacts, and answering questions.

Unless otherwise stated, the opinions in this report are those of CPCS and these do not necessarily reflect the views of Nova Scotia Transportation and Infrastructure Renewal, the Atlantic Canada Opportunities Agency or the Province of Nova Scotia or Government of Canada more broadly.

Cover image source: CPCS

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Acronyms / Abbreviations

ACOA	ATLANTIC CANADA OPPORTUNITIES AGENCY
BCA	BENEFIT COST ANALYSIS
BCR	BENEFIT-COST RATIO
BREA	BUSINESS RESEARCH & ECONOMIC ADVISORS
CATC	CENTER FOR AQUACULTURE TECHNOLOGIES CANADA
CBRM	CAPE BRETON REGIONAL MUNICIPALITY
CNE	ATLANTIC CANADA/NEW ENGLAND
CPI	CONSUMER PRICE INDEX
EIA	ECONOMIC IMPACT ANALYSIS
GDP	GROSS DOMESTIC PRODUCT
IO	INPUT-OUTPUT
NSTIR	NOVA SCOTIA TRANSPORTATION AND INFRASTRUCTURE RENEWAL
NSUARB/BOARD	NOVA SCOTIA UTILITIES AND REVIEW BOARD
PEI	PRINCE EDWARD ISLAND
PORT OF SYDNEY	SYDNEY PORT CORPORATION
PV	PRESENT VALUE

Executive Summary

Summary Conclusions and Opinion

The growth of the Port of Sydney's cruise business is constrained by its single berth. A second berth would address this limitation and provide additional berth space to accommodate Sydney's growing cruise business, as well as other potential business outside the peak cruise season. Of note, the second berth project is not premised on speculative traffic, but rather existing business that is growing and is expected to continue to grow.

A second berth is likely to generate more tourism business in Sydney through additional vessel calls and more passenger visits. The total expected direct + indirect provincial GDP impacts as a result of this added business is in the range of \$1.3 to \$3.1 million annually. When capitalized over a 30 year period the value of these GDP impacts are estimated to be as high as \$48 million. These positive incremental impacts would not likely be realized without the development of the second berth.

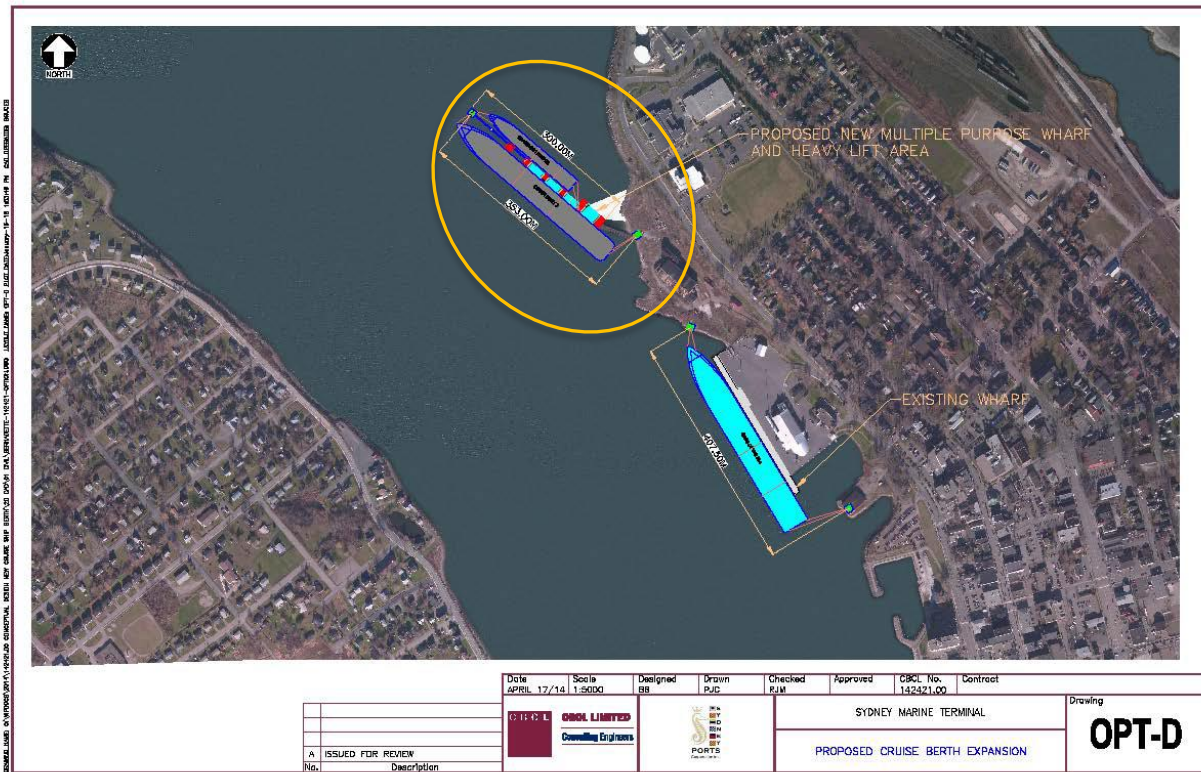
On this basis, it is our opinion that the second berth project has merit. However, the second berth by itself is not sufficient to successfully accommodate the growing cruise tourism demand. Key issues around the number and quality of motor coaches available to serve tourists and the quality of the "local experience" offered must at the same time be addressed. In addition, we have identified certain risks with the project - in particular that of cost overruns.

Context

The Cape Breton Regional Municipality (CBRM), which owns the Sydney Marine Terminal, and the Sydney Port Corporation (Port of Sydney), which manages and operates related facilities, are seeking to expand the Sydney Marine Terminal to include a second, "two face" cruise berth that could accommodate two additional cruise ships – one large (around 330m), and one smaller vessel (around 260 meters).

The total cost of the project is estimated to be \$20 million. CBRM has committed \$6,666,667 to the project, which has been approved by CBRM Council and we understand is included in CBRM's current capital budget. CBRM and the Port of Sydney are seeking federal and provincial funding support in equal amounts to fund the remaining cost of the project.

Figure ES-1: Proposed Second Cruise Berth (circled)



Source: CBCL Consulting Engineers, for the Port of Sydney, 2014

Need

The Sydney Marine Terminal is the only public deep water marine facility in CBRM. It has a single berth, which can only accommodate one large vessel at a time (up to a maximum length of 275 m). This berth largely serves the cruise industry. It is also used by Imperial Oil on a near weekly basis to refuel its nearby tank farm, which serves all of Cape Breton’s fuel needs. This berth is also the default port for security, Coast Guard and other limited port activities.

The need for a second berth is at least three fold:

- Cruise ship calls increasingly exceed available berth space to accommodate them:** Increasing cruise activity at the Port of Sydney and on Canada-New England (CNE) itineraries more generally has led to an increasing occurrence of scheduled ship calls on the same day (occurrence approx. 9 days per year in past years, though 16 days expected in 2017). This results in ships having to anchor in the harbour and “tender” passengers to shore via a smaller boat. The Port of Sydney loses revenues when ships are at anchor and passenger spending on shore based activities is also reduced. Some large cruise lines will not call Sydney unless they can use the berth and some, preferring not to tender, may forego a scheduled call.

The resulting lost revenues for the Port is approximately \$20,000 per lost ship call. The number of lost ship calls due to lack of berthing space is about 3 to 6 per year, though this number is expected to increase with increased cruise activity in the CNE region. Lost ship

calls or ships having to anchor results in reduced economic impacts for Sydney, Cape Breton and Nova Scotia more broadly.

- **The length of the existing berth is insufficient to accommodate new generation cruise ships measuring over 275 meters:** Cruise ships are generally getting larger (around 330 meters and some cases beyond). The existing berth at the Port of Sydney cannot accommodate ships of this size. We understand that cruise operators have recently inquired about calling Sydney with larger ships but that these ships cannot be accommodated at the existing berth. The deployment of larger cruise vessels in the CNE cruise region bolsters the case for a second, longer cruise berth at the Port of Sydney. Without additional berth space to accommodate larger ships, they would have to anchor at Sydney or otherwise bypass Sydney altogether.
- **The existing single berth is a barrier to accommodating other (non-cruise) business:** The existing berth is used by Imperial Oil on a near weekly basis to refuel its nearby tank farm, which serves all of Cape Breton’s fuel needs. Beyond the peak cruise season, regular use of the berth by Imperial Oil impedes the Port of Sydney’s ability to accommodate other cargo traffic, particularly ships looking to berth for long periods of time (for example, to handle project cargo operations). Based on documents received from the Port of Sydney, the Port could not accommodate six multi day/week project cargo ship calls over the last year and a half, resulting in lost Port revenues nearing \$400,000. Additional berth space could allow the Port of Sydney to accommodate certain cargo opportunities, though for the most part, we do not expect such operations to be compatible with cruise activity and such activity would largely be limited to outside the cruise season.

Alternative Options to Second Berth

There are currently no nearby deep water public port facilities in the CBRM that are suited to handle overflow cruise and common user-type cargo activities. An extension of the existing berth at the Port of Sydney is deemed to not be a viable option given that this would encroach on a nearby marina to the south of the Sydney Marine Terminal and involve considerable and costly dredging and land work on the north end. Several alternative configurations for the second berth were assessed in engineering studies and the proposed two face configuration was deemed the best and most viable. We are satisfied that this assessment is fair.

Logistical Considerations

Waterside: Based on our preliminary investigation, including a navigational impact study undertaken for the Port of Sydney, we do not anticipate that the second cruise berth would pose waterside logistical issues or negatively interfere with other regional marine activity.

Landside: The second cruise berth project requires the acquisition and development of a piece of property (Nickerson Property) to the North of the Sydney Marine Terminal. Beyond this, there do not appear to be significant land use barriers to the development and use of the second berth for additional cruise-related business and certain types of cargo activities (e.g. project cargo – there is adequate space nearby for a temporary laydown area).

Two key landside issues require resolution for the second berth to succeed. One is the constraint imposed by current restrictions to increasing motor coach quality and capacity to satisfy demand for landside excursions during the peak cruise season. This is both a regulatory issue (which is being reviewed by the Province) and a private/commercial matter. The Port of Sydney, it should be noted, is not seeking deregulation of the motor coach industry but rather an easing of related regulations to facilitate additional and enhanced motor coach capacity during the peak cruise season. Destination Cape Breton identified the lack of adequate motor coach capacity as “the number one issue” for increasing shore base excursions and associated regional economic impacts.

The second issue is the recognized need to enhance the local tourism experience by ensuring availability of popular attractions during the entire cruise season, adding to the number and variety to local experiences and enhancing opportunities in the downtown core. In short, the local experience needs to be improved if the full potential of the second berth is to be realized.

Anticipated Economic Impacts of the Second Berth Project

A second berth is likely to generate more tourism business in Sydney through additional vessel calls and more passenger visits. The total expected direct + indirect provincial GDP impacts as a result of this added business is in the range of \$1.3 to \$3.1 million annually. When capitalized over a 30 year period the value of these GDP impacts is estimated to be as high as \$48 million (using a 5% real discount rate), although the impacts are much smaller when capitalizing the lower end of the annually range at a higher (10%) real discount rate.

Risks and Concerns with the Second Berth Project

The primary risk associated with the project relates to the potential for cost overruns. The \$20 million cost estimates included in funding applications for the project are based on Class D engineering estimates and are not supported by detailed geotechnical, bathymetric, environmental studies, etc. The cost estimates in the engineering studies are now also close to three years old. We further understand from consultations that the price for the acquisition of the Nickerson property is considerably higher than budgeted in the funding application (\$6 million vs. \$1.5 million budgeted). This remains unresolved though CBRM could choose to expropriate the land. This land is also contaminated and we are not satisfied that the potential environmental remediation costs have been appropriately accounted for in the estimated costs of the second berth project.

Beyond the potential for cost overruns, we note that several federal and provincial approvals are required for the project to proceed, including but not limited to environmental approvals. CBRM does not deem these approvals as significant risks or challenges for the project. CBRM has already completed its consultation process with First Nations and reached an agreement with First Nations (2015) with respect to the second cruise berth project.

Conclusion and Opinion

Notwithstanding our noted concerns with respect to the potential for cost overruns, it is our opinion that the second berth project has merit. It is not based on speculative traffic, but rather existing business that is growing and is expected to continue to grow. It would also afford the Port of Sydney an opportunity to accommodate certain non-cruise related cargo business outside the cruise season (we nevertheless expect other cargo opportunities to be limited to ad hoc needs relating to project cargo, ship repair, etc.

The project is expected to lead to an increase in Port of Sydney revenues, and provincial economic (GDP) impacts in the range of \$1.3 to \$3.1 million annually. Without the second cruise berth, these benefits would be unlikely to materialize, save for organic business growth that can be handled by the existing cruise berth (e.g. during and outside the peak cruise season).

Key issues around the number and quality of motor coaches available to serve tourists and the quality of the “local experience” offered must at the same time be addressed to enable the full benefit of the second berth.

Beyond Sydney, the second berth project would enhance the competitiveness of CNE cruise itineraries more broadly which could attract additional cruise activity – including larger cruise ships - to other ports in Atlantic Canada and associated economic impacts.

1 Introduction

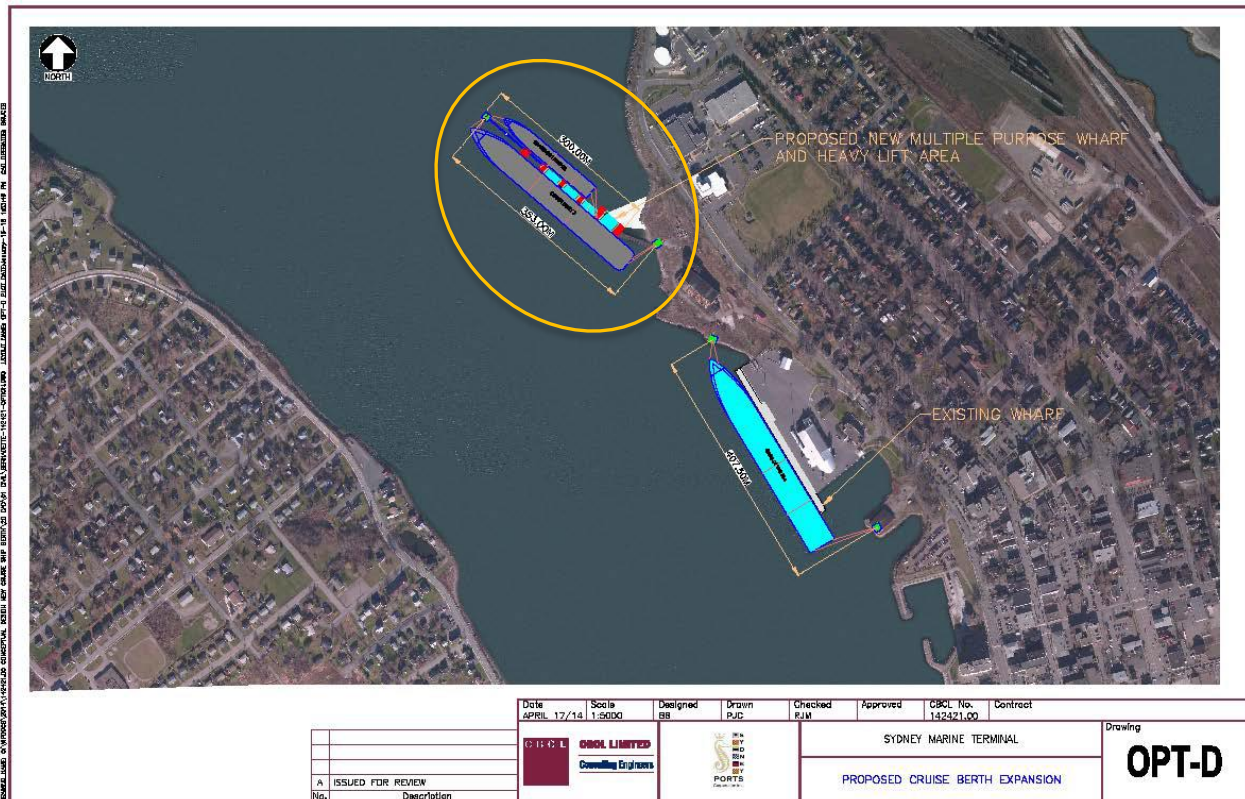
Key Chapter Takeaway

The objective of this Report is to provide an independent opinion on the merits of a second cruise berth at the Sydney Marine Terminal. The estimated cost of the project is \$20 million. Funding support is being sought by the proponents from the Province of Nova Scotia and Government of Canada.

1.1 Background

The Cape Breton Regional Municipality (CBRM), which owns the Sydney Marine Terminal, and the Sydney Port Corporation (Port of Sydney), which manages and operates these facilities, are seeking to expand the Sydney Marine Terminal to include a second, “two face” cruise berth.

Figure 1-1: Proposed Second Cruise Berth (circled)



CBCL Consulting Engineers, for the Port of Sydney, 2014

Various studies have been undertaken relating to this potential development, including engineering studies, a market assessment and an economic impact study.

The total cost of the project is estimated to be \$20 million. CBRM has committed \$6,666,667 to the project, which has been approved by CBRM Council and is included in CBRM's current capital budget. CBRM and the Port of Sydney are seeking federal and provincial funding support to fund the remaining cost of the project.

In consultations, CBRM's Chief Administrative Officer described the second berth project as CBRM's number one priority capital project.

Nova Scotia Transportation and Infrastructure Renewal (NSTIR) and the Atlantic Canada Opportunities Agency (ACOA) have asked CPCS to undertake a due diligence assessment on plans for the second cruise berth and that is the focus of this report.

1.2 Objective and Scope of this Report

The objective of this report is to provide an independent opinion on the merits of the second cruise berth project for which funding is being sought.

Specifically, this report addresses the following key questions:

1. Do the potential benefits of the proposed two-faced berth development project outweigh the costs of the project?
2. Was there adequate consideration of lower-cost options for creating additional berth space (e.g., extending the existing berth)?
3. What is the potential for attracting new, incremental cargo business to Sydney, given the proposed additional space? What are related operational constraints? Under what conditions would the Sydney Marine Terminal likely succeed in attracting this new cargo business, and what does this potential business look like (product, volumes, etc.)?
4. To what extent do landside constraints, and in particular current motor coach regulations in Nova Scotia, hinder Sydney's cruise business and how could related constraints most effectively be addressed?
5. Logistically, how would the new two-faced berth fit into cruise ship port call itineraries in the Canada/New England cruise region and what are the related strategic implications for Sydney? At a high level, would the new two faced-berth potentially impede other marine activity at or around the Sydney Marine Terminal?
6. Counterfactual: What would likely be the long term outcome for Sydney's cruise business (and associated regional benefits) if the new two-faced berth were not built?

Additional considerations identified in the course of the work are also noted in this report.

The analysis in this report is based largely on a review of documents and consultations with relevant project stakeholders (a list of those consulted is included in Appendix A).

2 Need for a New Cruise Berth

Key Chapter Takeaway

The growing number of cruise ship calls at the Port of Sydney during the peak cruise season (Aug-Oct), combined with other uses, is resulting in scheduling conflicts, unavailable berth space and lost business for the Port. The need for a second berth at the Sydney Marine Terminal is not premised on a future speculative opportunity but a current market need, which is expected to become more pronounced in the future.

2.1 Context and Related Need for a Second Berth

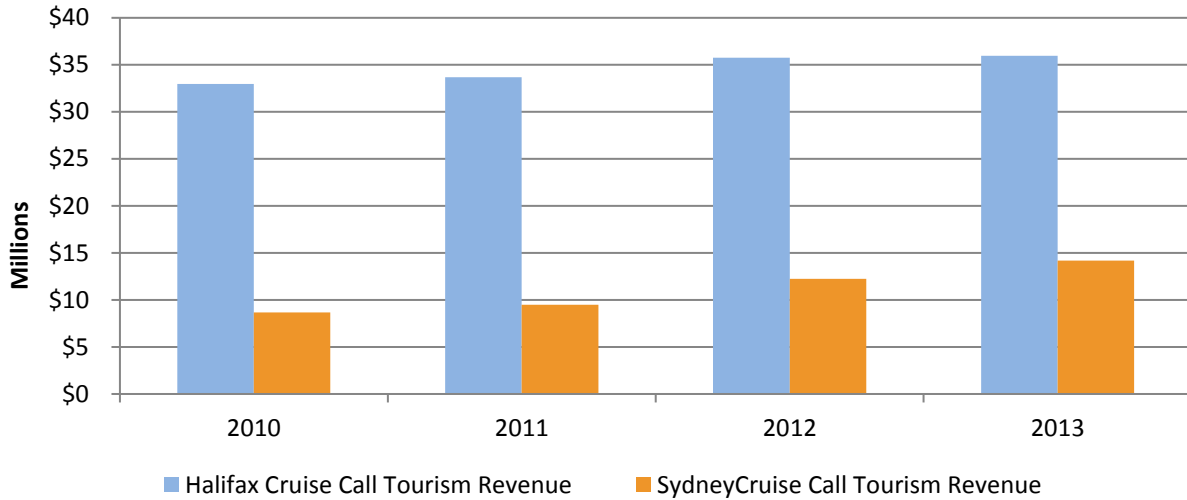
The Sydney Marine Terminal is the only public deep water marine facility in CBRM.¹ It has a single berth, measuring 275 m in length and cannot accommodate vessels with greater length.² This berth is most heavily used by the cruise industry and a measure of its importance is the growing contribution to Nova Scotia tourism revenue generated by cruises calling at Sydney. As shown in Figure 2-1, tourism revenue from cruise ships calling at Sydney increased more than 1.6 times between 2010 and 2013, from \$8.7 million to \$14.2 million, accounting for two thirds of the growth in Provincial tourism revenue from cruise activity over this period.

Because of growing demand on the part of the cruise industry and the inability to accommodate all of the vessels seeking to berth at Sydney, the Port of Sydney is promoting the construction of a second berth at the Sydney Marine Terminal.

¹ Other port facilities in the region, including the Provincial Energy Ventures dock (former Sydney Steel) are private or otherwise not common user public facilities.

² Email from Abraham Somavarapha of the Port of Sydney, July 25, 2016

Figure 2-1: Nova Scotia Tourism Revenue from Cruise Industry



Source: CPCS analysis of data from Tourism Nova Scotia and Atlantic Canada Cruise Association

There are also other uses made of the Sydney Marine Terminal. It is used by Imperial Oil on a near weekly basis to refuel its nearby tank farm, which serves all of Cape Breton’s fuel needs. This berth is also the default port for security, Coast Guard and other limited port activities.

In seeking a second berth, the Port of Sydney notes at least three reasons for the need:

- **Cruise ship calls increasingly exceed available berth space to accommodate them,** leading to lost or cancelled calls and associated Port revenues and regional economic impacts.
- **The length of the existing berth is insufficient to accommodate new generation cruise ships measuring over 275 meters.** The result is similarly lost cruise business and associated regional economic impacts.
- **The existing single berth is a barrier to accommodating other (non-cruise) business,** resulting in lost revenue for the Port of Sydney and lost regional economic activity.

The following considers each point in greater detail.

2.1.1 Cruise Ship Calls Beyond Berth Space to Accommodate Them

Cruise activity at the Port of Sydney, largely tied to popular Atlantic Canada/New England (CNE) cruise itineraries, has grown strongly over the past decade and is projected to grow further. The figures below show the recent history of cruise activity in Atlantic Canada in terms of passenger visitations and ship calls. As shown, the Port of Sydney’s cruise business has grown from close to 69,000 passengers and 46 ship calls in 2010, to close to 90,000 passengers and 70 ship calls in 2015. While current Port of Sydney cruise schedules indicate some decline in ship calls may be anticipated in 2016, passenger volumes are expected to

remain similar to those in 2015, in part due to increasing ship size and cruise lines stretching their capacity.³ In any case, strong growth is expected to resume in 2017 with the number of passengers scheduled rising to nearly 130,000 and ship calls increasing to 87.⁴

Figure 2-2: Atlantic Canada Annual Cruise Passengers

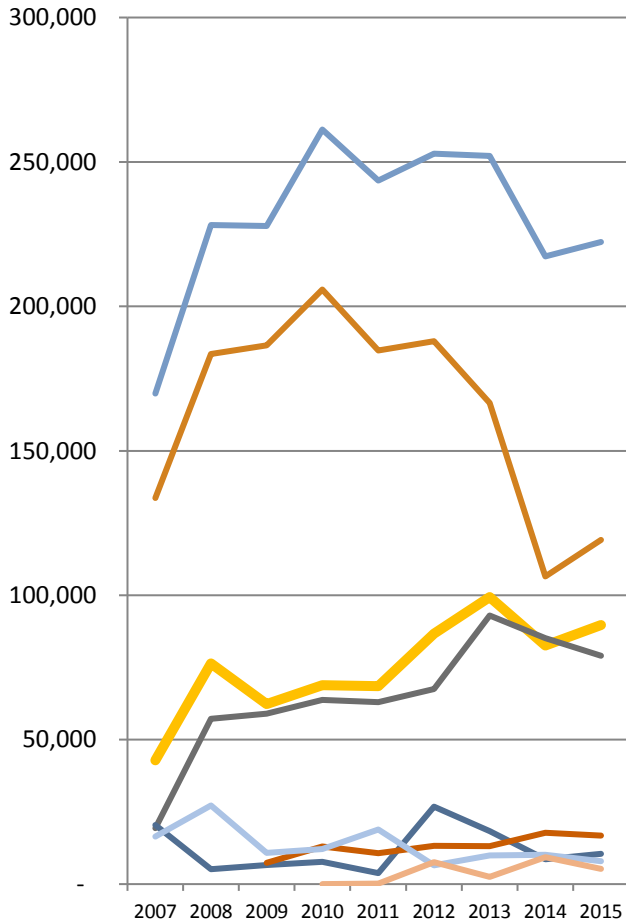
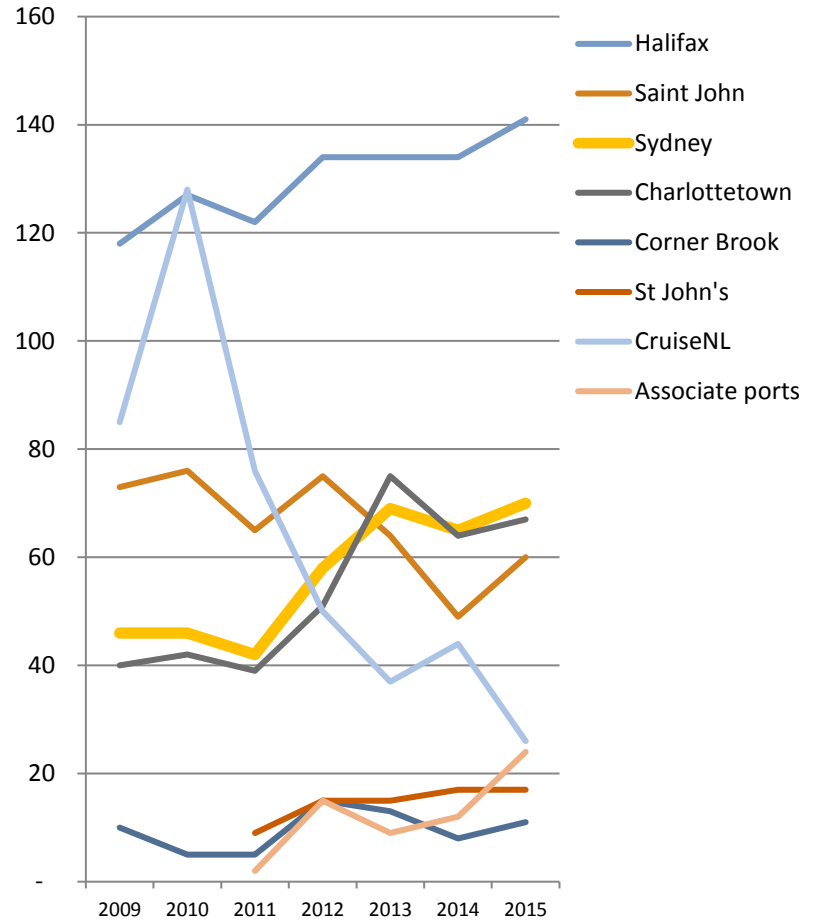


Figure 2-3: Atlantic Canada Annual Cruise Ship Calls



Source: CPCS analysis of data from Atlantic Canada Cruise Association

The expected continued growth in cruise activity at the Port of Sydney is expected to result in additional pressure on its existing berth.

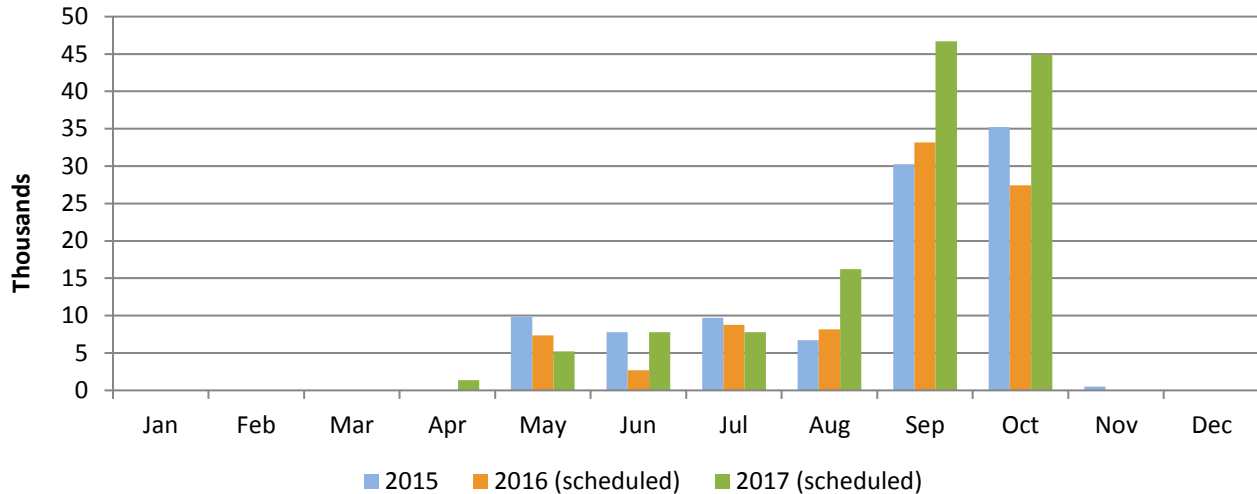
Moreover, CNE cruise activity is highly concentrated in the period between mid-August and late October (fall colours cruises), compounding the demand of berth capacity by the cruise industry. Figure 2-4 shows the monthly pattern of passenger visitations at the Port of Sydney for 2015-2017 according to the current cruise ship schedules. Moreover, owing largely to

³ The Port of Sydney notes, for example, that it expects 10 fewer ship calls by Holland America in 2016, due to their stretching their global fleet

⁴ Port of Sydney Development Corporation (June 21, 2016). Tentative Cruise Schedule for 2017.

cruise line itineraries, Sydney’s cruise business also tends to peak on Tuesday’s and Wednesday’s,⁵ further compounding the demand of cruise berth space.

Figure 2-4: Port of Sydney Monthly Cruise Passenger Visitations



Source: CPCS analysis of Port of Sydney Development Corporation Cruise Schedules

The combination of steady cruise business growth and the concentration of cruise activity during the mid-week period and the regular use of the cruise berth for important fuel supply functions has resulted in berth use scheduling conflicts, particularly during the fall peak cruise season. These conflicts are expected to worsen with increasing cruise activity. For example, in each 2012, 2013 and 2014, there were eight days when two cruise ships called Sydney on the same day, requiring one to anchor in the harbour and “tender” passengers by smaller boat to shore. In 2015, nine cruise ships were required to anchor. In 2016, seven ships are scheduled to call that will need anchor and this number is expected to increase to 16 in 2017, based on scheduled calls.

Cruise line scheduling conflicts – resulting from the single berth - are expected to worsen with increasing cruise activity.

For several reasons, anchoring is disliked by cruise operators and negative for the Port of Sydney’s cruise business, resulting in lost Port revenues and reduced passenger spending.

Certain cruise lines refuse to anchor and tender passengers to shore which has resulted in lost ship calls. Similarly, others that prefer not to tender may decide to forego a scheduled call.

⁵ Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014, Figure 24

Although the Port of Sydney does not explicitly track instances where cruise lines do not schedule or cancel calls to Sydney due to lack of available berth space, the Port of Sydney did provide several examples of correspondence with cruise lines and tour operators in which the lack of berth space is cited as a problem and in many cases the reason these lines decline to call Sydney on a particular itinerary (see adjacent example).

“We have ... had to take the decision to cancel our call to Sydney as we are concerned that an anchor call with the number of passengers involved...would be detrimental to the enjoyment of our guests.” (Email to Port of Sydney from a large cruise line)

Based on documents and correspondence shared by the Port of Sydney, we have estimated the number of lost cruise line calls due to berth space limitations to be in the order of 3 to 6 per year currently.

The number of lost cruise line calls due to berth space limitations is in the order of 3 to 6 per year currently.

The Port of Sydney estimates that lost revenues from berthage and passenger tax when a cruise line does not call Sydney is in the order of \$20,000 per call.⁶ This does not include lost regional economic impacts associated with cruise ship calls and passenger spending.

In fairness, some lines do accept to anchor, though this results in an inferior passenger experience, translating into fewer passengers participating in landside activities and excursions (and associated spending in Cape Breton). Ships that anchor do not pay berthage, and also generally do not fuel up or purchase water and other ship supplies at Sydney, which also results in lost revenue for the Port and Cape Breton businesses.

A second berth would certainly reduce the risk of lost cruise business in Sydney and make the Port of Sydney a more competitive offering for cruise activity on CNE itineraries.

⁶ Data provided by the Port of Sydney

2.1.2 Length of Existing Berth Insufficient to Accommodate Larger Cruise Ships

The existing berth at the Sydney Marine Terminal has a length of 275 meters. Though sufficient to accommodate most of the cruise ships currently operating on the CNE service, new cruise ships are getting larger, as cruise lines look to enhance their product offering and generate greater economies of scale. A recent review of cruise ships on order globally shows that cruise ships on order are getting larger; many cruise operators have ordered ships measuring over 300 meters, and in some cases as much as 350 meters in length.⁷

Although more of an exception than a norm, there are instances when cruise lines have inquired about calling Sydney with larger ships, which is currently not possible. We understand from discussions with the Port of Sydney that itineraries with these larger ships are being planned now for CNE itineraries. For example, the Port of Sydney recently received an inquiry from Princess for the Royal about calling in 2018. However, the existing berth cannot accommodate that ship's 330 meter length and so this ship would be required to anchor. It has not yet confirmed if it will call Sydney in 2018.

The planned second cruise berth would have a length of 299 meters and could accommodate ships up to 330 meters in length (ships can overhang by some length as long as they have a significant bollard to tie to). The Port of Sydney notes that it is unlikely that larger ships would call Sydney in the foreseeable future.

In short, we feel it's reasonable to expect that larger cruise ships will call Sydney in the future and that a second, longer cruise berth would help the Port of Sydney secure these calls. The alternative to accommodate these larger ships is to have them anchor and tender passengers to shore. The downsides of anchoring have been previously noted and this is not expected to be a long term solution to accommodating larger cruise ships and cruise business growth.

We would expect that the deployment of larger cruise ships on CNE itineraries in the future will create additional infrastructure requirements not just in Sydney, but in other ports on these itineraries as well. The CNE cruise region competes against other cruise regions, including the Caribbean, Alaska, the Baltic and the Mediterranean for cruise business.⁸ To this extent, a second berth at Sydney can help make CNE itineraries more competitive by attracting larger ships, but other ports in the CNE region would also need sufficient infrastructure to accommodate these larger ships if this increased regional competitiveness is to be realized.

A second berth at Sydney can help make CNE itineraries more competitive by attracting larger ships, but other ports in the CNE region would also need sufficient infrastructure to accommodate these larger ships.

⁷ Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014, Table 1

⁸ Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014, Page 5

2.1.3 Existing Single Berth Barrier to Accommodating Cargo and Other New Traffic

Beyond the Port of Sydney’s cruise business, the berth space constraint has limited the Port’s ability to market the facility and attract cargo and other new business. Though most acute during the peak tourism season, this is also the case outside the peak cruise season, given Imperial Oil’s regular need to use the facility preventing others from using the facility for more than a few days at a time.

According to the Ports of Sydney Master Plan of 2007, there is only limited potential at the existing Sydney Marine Terminal for cargo and other non-cruise activity given its current constricted laydown area, in-town location, and limited rail access. The Master Plan describes the terminal as not suitable for container or bulk handling, but with some potential for breakbulk, and recommends that development should focus on cruise with the existing wharf expanded to allow for second vessel berthing by incorporating a mooring dolphin system.⁹

The Port’s second berth funding application includes some discussion of the opportunities beyond serving the cruise industry.¹⁰ The Port does not have a formal strategy for pursuing these non-cruise opportunities, for lack of berth space to accommodate this new business.

As one indication of the potential, the Port of Sydney has provided the following “lost revenue file” showing unsolicited opportunities that had to be turned down because of lack of berthing space. The figure shows the lost revenue since the beginning of 2014, when the Port began tracking the information. As shown, these losses total close to \$400,000.¹¹

Figure 2-5: Port of Sydney Development Corporation Non-Cruise Opportunity Lost Revenue

Date	Ships	Project	Length of Berthage	Revenue Loss
Spring	Nexans Skagerrak	Maritime Link	2 weeks	\$ 10,654
Summer	Eship 1	Windmill	2 weeks	\$13,616
Winter	Algoscotia	Layup for repairs	1 month	\$30,000
Spring	Sarah Desganges	Layup for repairs	2 months	\$50,000
On going	Louis St Laurent	Winter berthage	Winter months	\$50,000
Winter	Catherine 3	Load scrap metal	5 days	\$968
Subtotal				\$155,238
				Wharfage Estimate ¹²
				\$223,634*
Total				\$378,872

Source: Port of Sydney Development Corporation

⁹ TEC inc. (November 2007). Ports of Sydney Master Plan. Pp. 135 and 150.

¹⁰ Port of Sydney (June 21, 2016). Sydney Marine Terminal 2nd Marine Berth Project. Innovative Communities Fund. Appendix I.

¹¹ Data obtained from the Port of Sydney

¹² The estimate is based on average revenues when vessels with project cargo use our docks, our operations manager used a multiplier of 1.5x based on our docks and the industry standard.

The most recent examples of lost revenue cited by the Port of Sydney include a request on July 19, 2016 from a ship associated with the Maritime Link Project (Skandi Chieftain), looking for berth space due to a mechanical issue. Because there was a cruise ship in the next day, the Port of Sydney was unable to accommodate the Skandi Chieftain request. This resulted in lost berthage revenue that would have come from the number of hours the Skandi Chieftain would need at port while waiting for repairs. In addition, Sydney had the “Race the Cape” participants (sailors from over the world for this annual event) coming to the port on July 21-22, 2016. Had a cruise ship been in, Sydney would have lost this layover which brings great value to the Sydney area.

The Port of Sydney has also provided more detailed information on a number of possible opportunities as follows.

Bunkering/Fueling

With its single berth, the Port of Sydney has had to use fuel trucks on its docks in order to fuel Trans-Atlantic vessels. The Port, however, explains that it is working with ESSO/Irving Oil to ensure that the new facility will be built to accommodate such fueling which the Port of Sydney believes could represent a significant opportunity.

Project and Breakbulk Cargo

As indicated in the “lost revenue file” above, there are opportunities for handling project cargo at the Sydney Marine Terminal. Such cargo is comprised of modules or pieces of equipment which are shipped for use in specific projects such as the Maritime Link, wind turbines or generators. Consultations with Logistec, a stevedore with regional operations, suggests that the Sydney Marine Terminal would be a good location to handle project cargo to and from the region, as an alternative to Sheet Harbour (over three hours away) and private facilities in and around Sydney, which are not well set up to handle project cargo.

Consultations with a regional stevedore suggest that the Sydney Marine Terminal would be a good location to handle project cargo to and from the region, as an alternative to Sheet Harbour (over three hours away).

Though more speculative, other Industrial opportunities could include research facilities. Research is a key part of the aquaculture industry and plays a major role in ensuring the sustainability of fishing globally. An example is the Center for Aquaculture Technologies Canada (CATC) which opened in the Port of Souris, PEI.

Cold Storage

Due to the scale of fishing in Nova Scotia, there is always considerable demand for cold storage. However, while fishing is the primary reason for having cold storage facilities in the Atlantic region, there is also a demand from other industries including aquaculture and agriculture. An example is the Port of Souris, PEI, where the Souris Harbour Authority has managed to consolidate storage of fishing and agriculture in a 22,000 square foot facility. Eastern Cold Storage is the port's anchor enterprise, accounting for over \$1 million in revenue in 2015 or almost 75% of total revenue (excluding transfer contributions).¹³ In addition to generating revenue for the port from existing industries the facility also has the potential to lead to increased agricultural output of perishables.

Cold storage opportunities are more speculative, in our view, than project cargo or fueling operations, though it is clear that such opportunities would be unlikely to materialize without a second berth at the Sydney Marine Terminal.

Cold storage opportunities are more speculative, in our view, than project cargo or fueling operations, though it is clear that such opportunities would be unlikely to materialize without a second berth at the Sydney Marine Terminal.

2.1.4 Other Noted Needs for a Second Berth

Beyond the noted need for a second berth, as noted above, we understand that the second berth can also help reduce the risk of weather related cruise ship cancellations. Currently, the Port of Sydney experiences cancelled cruise ship calls due to weather events – in particular, high winds. In one year, weather related cancellations were as high as 11 cancellations due to wind. The Port of Sydney has suggested that a second berth could mitigate the risk of weather-related cancellations by providing more suitable infrastructure (length and bollard), particularly for larger ships (aided by a tug operation).

¹³ Souris Harbour Authority Inc. Annual Report April 1, 2014-March 31, 2015.

2.2 Strategic Fit with CNE Cruise Itineraries

While there is to some extent competition between cruise ports in a region such as Atlantic Canada, the real competition in the cruise industry is between itineraries, as explained in the following box. A second berth would therefore strengthen not only Sydney. It would also contribute to strengthening the CNE itineraries and be of benefit to other ports in Atlantic Canada, a notion supported by the Port of Sydney and Port of Halifax in testimony before the Nova Scotia Utilities and Review Board (NSUARB/Board).¹⁴

Itineraries, Not Destinations

“The cruise industry sells itineraries, not destinations, underlining the core importance in the selection of a sequence of ports of call. Cruise operators are challenged to develop competitive cruise packages but at the same time they have to optimize the deployment of their cruise ship fleet in view of minimizing operating costs and/or maximizing revenue per passenger slot. As such, vessel deployment strategies and itinerary design are affected by market circumstances and requirements such as the seasonality in demand, the optimal duration of a cruise vacation, the balance between sailing time and shore time, the existence of ‘must see’ destinations and overall guest satisfaction. At the same time, pure operational considerations are taken into account such as the berthing capacity of and nautical accessibility in ports, the distance between ports of call (cruise ships can cover 200 nautical miles per night) and the synchronization with (international) air transfers.”

Source: Jean-Paul Rodrigue, Theo Notteboom. The geography of cruises: Itineraries, not destinations. Applied Geography, 38 (2013) p. 35.

Sydney’s role as an integral port in the CNE itineraries is also evident the figure below. The total column shows the number of scheduled 2016 cruise ship calls at each of the ports of Halifax, Sydney, Charlottetown and Saint John. The subsequent columns show how many of these cruise ship calls also call at each of the other ports. For example, 133 ships are scheduled to call at Halifax in 2016, of which 51 will also call at Sydney, 53 will also call at Charlottetown, and 52 will also call at Saint John.

Figure 2-6: Number of Cruise Ship Calls by Port and in Common with Other Ports, 2016

Port	Total	Of Total Calls, Number That Also Called At Ports Of:			
		Halifax	Sydney	Charlottetown	Saint John
Halifax	133		51	53	52
Sydney	55	46		38	13
Charlottetown	58	53	38		13
Saint John	66	57	13	13	

Source: CPCS Analysis of ports’ 2016 ship call schedules as provided by the Atlantic Canada Cruise Association

¹⁴ Nova Scotia Utility and Review Board, Decision 2015 NSUARB 246 M06471 (“Deadhead Decision”).

The data shows that for the most part, cruise ship traffic between Sydney, Charlottetown and Halifax is synergistic. As noted above, many ships that are scheduled to call at Halifax will also call at the other ports. . Likewise, 55 ships are scheduled to call at Sydney in 2016, of which 46 will also call at Halifax, 38 will also call at Charlottetown, and 13 will also call at Saint John. Furthermore, many vessel itineraries include all three of Halifax, Charlottetown and Sydney. For example, the HAL Veendam (pictured) is scheduled to call at all three of those ports 20 times in 2016, while the HAL Rotterdam is scheduled to call at all three eight times.

Meanwhile, vessels are less likely to call at both Sydney (or Charlottetown) and Saint John. Although many vessels (52) are scheduled to call at both Halifax and Saint John, the itineraries of these vessels usually do not also include either Sydney or Charlottetown. This suggests that Saint John is to some extent a competitor with Sydney (and Charlottetown).

Figure 2-7: Veendam at Sydney July 7, 2016



Source: CPCS

For the most part, cruise ship traffic between Sydney, Charlottetown and Halifax is synergistic.

3 Consideration of Alternatives

Key Chapter Takeaway

The proposed two face second berth (option D) is likely the best, most reasonable option to add berth capacity to the Sydney Marine Terminal

Several design options were considered for a second berth at the Sydney Marine Terminal. These are detailed in a study by consulting engineers CBCL Limited.¹⁵ Additionally, a navigational simulation was undertaken for alternative design concepts.¹⁶ In both cases the preferred alternative was design option “D”, as shown in Figure 1-1 (Proposed Second Cruise Berth (circled)).¹⁷

In consultations with the Port of Sydney, we assessed the extent to which other, lower cost options might be feasible that were not explicitly studied by CBCL, notably an extension to the existing berth rather than the development of a second berth.

We are satisfied that an extension of the existing berth to accommodate a second large vessel, such as the dolphin system, is not feasible in large part because this would effectively block access to the marina to the south of the existing berth (see picture on next page). To the north, such an extension would require considerable earthwork and dredging, which would be expected to be considerably more costly than the proposed second berth (option “D”). Moreover, whereas the proposed two-face second berth would provide berth access to two additional ships (one larger, up to 300 m, and one smaller, about 260 m, and extension to the existing berth would only provide possible access to one additional ship (given that it has only one face).

We are not aware of other possible berth development options and certainly believe that an option that is contiguous to the existing berth would make most sense as it would facilitate access to the cruise pavilion.

¹⁵ CBCL, Sydney Marine Terminal proposed Secondary Dock, May 7, 2014

¹⁶ CBCL, Sydney Marine Terminal - Second Berth Simulations, May 28, 2015

¹⁷ In total, five options were considered by CBCL Limited, of which three were found to be viable following consultations with the Atlantic Pilotage Authority and Sydney Ports Corporation. The three viable options were all generally similar except for differences in their location. Ultimately option D — located furthest from the north end of the existing dock, providing the best clearance from the opposite shoreline, and providing the necessary 10m draft clearance as well as the best option for berthing on the east face — was selected.

In short, we have no reason to doubt that the proposed two face second berth (option D) is a reasonable option to add additional berth capacity to the Sydney Marine Terminal.

Figure 3-1: Marina Immediately to the South of the Sydney Marine Terminal



Source: CPCS

4 Operations and Logistical Considerations

Key Chapter Takeaway

Notwithstanding the need to acquire land to the North of the Sydney Marine Terminal to develop the second berth, we have not identified major technical “show stopper” barriers to the development and operation of the second berth – either on the waterside, or on the landside. Challenges in deploying sufficient motor coach capacity during the peak cruise season, and the relatively limited “experience” value of downtown Sydney are weaknesses that could constrain the potential impacts of the second berth.

From an operations and logistical standpoint, we did not identify any major constraints to the development and operation of a second berth at the Sydney Marine Terminal, though there are certain pre-conditions to the second berth realizing its full potential. Related considerations – covering both waterside and landside logistical considerations – are outlined below.

4.1 Waterside Logistical Considerations

4.1.1 Navigational Considerations

In the spring of 2016, the Port of Sydney undertook a review of the potential navigational implications of the second berth for the Port of Sydney.^{18 19} This review involved navigational simulations modeling of several design options, using the Oasis of the Seas (for the outer berth), among the largest cruise ships presently operating (length of 361 meters), and alternative wind conditions. The smaller Carnival Fantasy (length of 260 meters) was used to model navigation to/from the inner berth.

¹⁸ CBCL, Navigation Protection Act – Notice to Minister, Sydney Marine Terminal Proposed Second Cruise Berth Construction, April 3, 2016

¹⁹ CBCL, Sydney Marine Terminal - Second Berth Simulations, May 28, 2015

Several design options were discarded on the basis of navigational challenges. The simulation nevertheless revealed that design option “D”²⁰ was feasible from a navigational perspective. The report in question notes that:

“the preferred scenario was that of Option “D” from both a navigational and safety perspective. Option “D” will also provide an increased comfort level to the Masters which will result in fewer missed port calls. The evaluation of the inner berth was incomplete due to the sounding information, however it is believed that this option would provide the best configuration for potential utilizing the east face of the proposed new dock as a third berth and would result in increased utilization of the terminal.”²¹

We also understand that Options “D” has also been discussed with and accepted by the Atlantic Pilotage Authority.

We further understand that McKeil Marine has recently set up a tug operation near the Sydney Marine Terminal. This tug operation could facilitate the docking of cruise ships, particularly in bad weather.

4.1.2 Other Waterside Considerations

Beyond navigational issues, the extent to which the development and operations of the second dock could pose a conflict with other regional marine operations was considered – notably the Canadian Coast Guard and Imperial Oil. We did not identify related operating or logistical issues or risks. On the contrary, the second berth is more likely to benefit these other operations by providing additional berth space, as summarized in the subsections below.

Canadian Coast Guard

The Coast Guard mainly provides ice breaking services in the region, so most Coast Guard activity occurs during the ice season. The Sydney Marine Terminal is used by the Coast Guard for purposes such as crew changes, bunkering fuel, and ship downtime. Additional cruise activity using a second berth would have little effect on the Canadian Coast Guard’s regional operations. A second berth could also mean lower costs to the Coast Guard and greater revenue to the Port of Sydney.

Imperial Oil

Similar to the Coast Guard, the second dock has no negatives for Imperial and could be positive.

²⁰ Option D: In this option the proposed berth has been relocated further north beyond the boundary of the current Nickerson property with its approach 320m from the north end of the existing dock. This dock is orientated at 17.5 degree off the alignment of the existing terminal. This option provides improved clearance to the opposite shore line and the necessary 10m draft clearance in addition to providing improved berthing on the east face of the proposed structure

²¹ CBCL, Sydney Marine Terminal - Second Berth Simulations, May 28, 2015

Imperial Oil uses the Sydney Marine Terminal to refuel the tank farm that supplies fuel to Cape Breton. It is our understanding that Imperial Oil sees this demand as basically remaining stable or possibly declining slightly. The number of fuel vessels calling at Sydney Marine Terminal for refuelling the tank farm varies from year to year but is on average about 40. However, these vessels do get pushed off the dock because of conflicts with other vessels, principally cruise vessels which get priority. Imperial understands that calls by cruise vessels will increase by 35 percent in 2017.

Imperial Oil is actively studying the feasibility of moving its operation to the new dock if it were to be built but has not yet come to any conclusion. If Imperial were to relocate to the new dock it would be positive for the region. Imperial Oil would be 50 percent closer to the oil terminal as compared to now, so the underground lines (that would have to be built) would be shorter by 50 percent than the current lines. This would also reduce the environmental exposure.

Cargo Activities

Section 2.1.3 identified potential for project and breakbulk cargo activities. Our consultations with a local stevedore suggests that there are unlikely to be major logistical impediments to moving project and breakbulk traffic over the Sydney Marine Terminal. There is nearby land which could be used for laydown and an additional road access to the north of the Sydney Marine Terminals (particularly on the Nickerson property).

Our consultations suggested that this location would be logistically better relative to the private dock at Provincial Energy Ventures (former Sydney Steel), given the fact that the facility is largely dedicated to bulk.

4.2 Landside Logistical Considerations

The following summarizes landside logistical considerations. Not included here, but discussed in section 6.2 are the outstanding issues with respect to the acquisition of the Nickerson Property to the north of the Sydney Marine Terminal which is required for the development and operation of the second berth.

4.2.1 Motor Coach Capacity and Regulation

A key landside issue is lack of adequate motor coach capacity during the peak cruise season. This is identified as a key weakness for the Port of Sydney in the BA Cruise Market Assessment report.²² Also, our consultation with Destination Cape Breton noted that lack of adequate motor coach capacity during the peak cruise season is “the number one issue” for increasing cruise-related excursions.

Destination Cape Breton noted that lack of adequate motor coach capacity during the peak cruise season is “the number one issue” for increasing cruise-related excursions.

²² Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014

According to the BA Cruise Market Assessment report, all of Atlantic Canada’s cruise ports are affected during the peak cruise season to varying degrees by a lack of large motor coaches within the region. This is confirmed by our consultations. The cause is the seasonal nature of the cruise business. Bus operators cannot afford to have idle capacity during the off-season and the result is a lack of adequate peak season capacity. Buses have to be allocated to where the demand is and the issue for operators is the cost of deadheading (i.e. moving empty in one direction).

As described in the BA Cruise Market Assessment report, coaches must be distributed based on demand but in some cases there is a lack of required capacity to offer the amounts of seats requested by the cruise lines while in port. This is exacerbated by moving coaches from their hubs in Halifax and Moncton to ports such as Sydney and Charlottetown. Operator costs and inefficiencies increase due to the drive distance and the use, to the extent that it occurs, of motor coaches for half day versus full day tours.²³

In Nova Scotia, this is complicated by the heavy regulation of the motor coach industry, the only Maritime province where such regulation occurs. The following box outlines the basics of the regulatory regime as described by the regulatory authority, the Nova Scotia Utility and Review Board (NSUARB or Board).

Nova Scotia Motor Coach Regulatory Regime

Pursuant to the Nova Scotia Motor Carrier Act and Motor Vehicle Transport Act, the Nova Scotia Utility and Review Board (NSUARB) regulates motor carriers to ensure there is a quality, safe, sustainable motor carrier industry operating throughout Nova Scotia, and from Nova Scotia to other parts of North America.

Under the legislation, no one is permitted to transport people on the highways of Nova Scotia without a license issued by the Board and no one has the right to be issued a license. If a license is granted, it provides no perpetual or exclusive right.

The Board may refuse to grant an application, in whole or in part, attach terms or conditions, specify routes or geographical areas for the services, and fix rates, fares, or charges, or minimum and/or maximum charges that a motor carrier is authorized to charge and the schedules and service that a motor carrier must observe and provide.

Under the Motor Carrier Act the Board has the same powers to set rates as it has under the Public Utilities Act. While the Board does not use its authority relating to rate base or return on rate base in regulating motor carriers, it does consider other powers including those requiring just rates, and therefore, rates that are not predatory or discriminatory.

The Board also has the power and authority to give effect to its Decisions, Rules and Regulations, and to do anything necessary or advisable for the effective exercise of its

²³ Bermello, Ajamil & Partners, Inc. (January 14, 2014). Cruise Market Assessment, p. 46.

powers.

In any licensing proceeding, the Board may consider any relevant or material issue. These include public interest, the sustainability of the industry, including whether there is a need for additional equipment in the geographical area, and the general effect on other transport services. “Need” is referenced by asking whether there would be an excess of equipment in the area if the license application or amendment were granted.

Source: Nova Scotia Utility and Review Board, Decision 2015 NSUARB 246 M06471 (“Deadhead Decision”)

As explained by the NSUARB,²⁴ one of the legislation’s overriding directives is to ensure the sustainability of the industry. Key components to achieving the objects of the legislation, including sustainability, are the regulation of the number and types/sizes of vehicles operating in the Province, the areas in which the services are provided, the location of the carriers, and the rates they charge.

At present, the participating carriers are permitted to operate the following number of vehicles (inclusive of both active and “on hold” plates) in Nova Scotia from their place of business:

Figure 4-1: Nova Scotia Motor Carrier Licenses

Carrier	Place of Business	Number of Vehicles
Absolute	Halifax	70
Coach Atlantic	Halifax, Moncton	84
Transoverland	Sydney	17
Tri-Star	Yarmouth	3
Molega	Mount Uniacke	7
Markie	Truro	6
*Subject to the specific Licenses of each carrier		

Source: Nova Scotia Utility and Review Board, Decision 2015 NSUARB 246 M06471 (“Deadhead Decision”)

With regard to Sydney in particular, and the Board’s concern for the sustainability of the motor coach industry including in rural areas, the NSUARB has established the following Lump Sum Cruise Ship Rate and related conditions:

Lump Sum Cruise Ship Rate: The lump sum cruise ship rate for a highway motor coach for 2015 is \$1,950 plus applicable taxes. This is subject to the following terms:

- 1) The rate shall apply to the use of a highway motor coach from Halifax to the Sydney Port, one day of usage, and a return to Halifax or the reverse thereof.
- 2) If the vehicle is used for more than one day, the carrier’s licensed rates shall apply.
- 3) The vehicle may only be used for cruise ship services.

²⁴ Nova Scotia Utility and Review Board, Decision 2015 NSUARB 246 M06471 (“Deadhead Decision”)

- 4) For vehicles sent from Halifax to Sydney, this rate may only be used after Carabin's & Transoverland Ltd has provided, in writing, that it does not have vehicles available for the dates in question. A copy of Carabin's & Transoverland Ltd's written statement is to be directed to the Clerk of the Board.²⁵

As our consultations have confirmed, there is a lack of adequate motor coach capacity available at Sydney during the peak cruise season. There is only one local carrier (Carabin's & Transoverland Ltd), licensed to operate 17 buses (some of which may not be useable at any given time), and other carriers cannot bring in buses until all of the local supplier's buses are being used.

As our consultations have confirmed, there is a lack of adequate motor coach capacity available at Sydney during the peak cruise season.

Tour operators who are not themselves suppliers of motor coaches have indicated that the Nova Scotia regulations are not necessarily a problem. Whatever issue there may be with a lack of motor coach capacity in Nova Scotia, it is basically the same as elsewhere in the region. However, this could be qualified by noting that in some cases motor coach companies will simply not enter the Nova Scotia market on account of the regulatory complexities, and this may to some extent contribute to limiting supply in Nova Scotia.

In contrast to the foregoing, some motor coach operators find the regulations too constraining and have advocated for re-regulation that would more easily allow for additional bus capacity to be made available at Sydney during seasonal peaks. As well, plans are being made to make additional capacity, in the form of non-traditional motor coaches, available for the time when there will be a second cruise ship berth and consequently greater demand. It is also our understanding that the Government of Nova Scotia is considering how the legislation might be changed to enable more flexibility for companies in being able to respond to peak demands.

4.2.2 Enhancing the "Local Experience"

The cruise business, and the attractiveness of itineraries is drawn to landside "experiences." Fortress Louisbourg has been mentioned as the number one site visited by cruise passengers calling at Sydney. However, during the fall cruise season it is only open for buses and does not serve tourists arriving individually or in small groups. It is also generally acknowledged that the excursions offered are too limited and routine.

By itself, the new berth being proposed will not be sufficient for Sydney to be successful in serving the developing cruise traffic. Key issues around the number and quality of motor

²⁵ Nova Scotia Utility and Review Board, Decision 2015 NSUARB 246 M06471 ("Deadhead Decision"), p. 29.

coaches available to serve tourists and the quality of the local experience offered also need to be addressed.

There needs to be an increase in the variety of tourist experiences available if Sydney is going to be able to attract significantly more tourists than at present. One such proposal is to offer tours similar to the popular Harbour Hopper in Halifax. This need to expand the products and services offered is one of the key conclusions of the Cruise Market Assessment report where it is described as follows.

Sydney Must Become More of a Tourist Experience.

“...the addition of more and larger coaches is not the long-term solution for the region to meet the demands of cruise tourism....there must be a concerted effort to develop tour products that do not require long haul coaches, and instead can utilize alternative[s] such as Segway, bicycles, small shuttles, specialty vehicles, etc.,...[to] meet the needs of a broader consumer demographic.... [and] for a more experiential visit for cruise and land-based guests....

...there are already several key tourism venues within Cape Breton that can attract and retain cruise tourism including Fortress Louisbourg, Bell Museum, Cabot Trail and the Miners Museum. New and many existing products, venues and services...could complement and expand upon the overall offerings....Each of the venues should be deliverable in the peak fall season....[In addition to Louisbourg] venues such as the Highland Village, the Gaelic College, the Heritage Park and the Goat Island Tour should be highly considered as excursion offerings....and could be incorporated as separate features or as part of an overall offering.

Sydney itself must also be addressed. Allowing for the development of interactive experiences in the downtown core that can become part of a tour package or be experienced by independent passengers...would provide for a successful Sydney product. There must [also] be life brought to the downtown area....”

Source: Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014, pp. 46-47.

4.2.3 Dockside Operations Facility

With a second berth, there is need for additional space for staging buses, accommodating taxis, providing a covered area for passengers in case of inclement weather, etc. This need is recognized by the Port of Sydney as fundamental and has been taken into account in the proposal.²⁶ Other than building out the land (notably on the Nickerson property) to accommodate these functions, there is also potential to build a road leading north from the site in question, which CBRM has confirmed is feasible (though not included in the proposed cost of the second berth project for which funding is being sought from the provincial and federal governments).

²⁶ Port of Sydney (June 21, 2016). Sydney Marine Terminal 2nd Marine Berth Project. Innovative Communities Fund.

5 Do the Potential Benefits Outweigh the Costs?

Key Chapter Takeaway

A second berth is likely to generate more tourism business in Sydney through additional vessel calls and more passenger visits. The total expected direct + indirect provincial GDP impacts as a result of this added business is in the range of \$1.3 to \$3.1 million annually. When capitalized over a 30 year period the value of these GDP impacts are estimated to be as high as \$48 million.

5.1 Benefit Cost Analysis and Economic Impacts

In order to evaluate the worthiness of certain public investments, policymakers rely on a range of tools including Benefit Cost Analysis (BCA) and Economic Impact Analysis (EIA). BCA is used generally to evaluate the feasibility of proposed investments and to prioritize investments competing for the same source of funds. For transportation BCAs, **benefits** often include:

- Travel time savings (for example, through reductions in road congestion)
- Infrastructure maintenance cost savings (such as road maintenance)
- Vehicle operating cost savings (when shifting to a more cost-effective mode)
- Fuel consumption savings (outside of fuel saved from modal shift)
- Emissions reductions (local and greenhouse gas)
- Collision cost reductions (such as fewer injuries and lives lost)

Transportation BCAs often include the following **costs**:

- Project construction costs
- Ongoing labor cost
- Ongoing maintenance and other costs

Benefits and costs are defined over a specific period of time, such as the expected life-cycle of the project. Each benefit and cost is put into monetary units, if they are not already. For example, travel time savings are usually multiplied by an estimate of users' willingness-to-pay to realize those travel time savings.

In order to put the benefits and costs into common terms, they are usually discounted to a present value (PV). The PV of benefits can then be divided by the PV of costs to arrive at a benefit-cost ratio (BCR).

BCAs are sometimes accompanied by other tools as part of a broader transportation investment appraisal package. Among these other tools are EIAs. EIAs use some of the same inputs as BCAs but are used for other purposes, such as estimating the *distributional* impacts of a proposed project. While BCAs are used to determine the total value of benefits that a project might generate relative to its costs, EIAs may help to determine how monetary sums that flow from the project are distributed through wages and taxes within a defined area (such as a region, state or country). EIAs typically make use of macroeconomic accounts, specifically national or regional Input-Output (IO) tables in order to estimate direct, indirect and induced GDP and/or employment impacts stemming from a specific activity. For example, in the case of a second berth, GDP impacts may include:

- **Direct GDP** that can be directly attributable to vessel calls at the port, such as local purchases of food and equipment made by passengers, crew or the cruise lines themselves.
- **Indirect GDP** generated from a supplier industry supported by direct expenditures from port business (e.g. GDP of companies who supply food or services to restaurants who are the recipients of the direct expenditures noted above), and
- **Induced GDP** from spending by individuals employed directly or indirectly in the sector, as a result of having a higher income than they otherwise would have had.

By adding these two (direct and indirect) or three (direct, indirect and induced)²⁷ employment components together, it is possible to estimate the total GDP impact associated vessel calls at the port. Further, by assuming that additional vessel activity will stimulate activity in a similar way (i.e., economic impacts will scale linearly with new cruise ship activity), the economic impact of new cruise ship activity can be estimated.

In the case of the proposed second berth, if the economic development of the region is a stated objective of the berth an EIA may be suitable, as an EIA attempts to capture the amount of economic activity generated in the region by the addition of the berth. The monetary value of this activity can then be contrasted against the estimated costs (both capital and ongoing) associated with the second berth. Care must be taken to explicitly compare the monetary values generated by the EIA against the project costs, as the outputs of an EIA do not necessarily represent the benefits side of a BCA as noted above. However, the magnitude of the economic impacts can provide an indication of the potential distributional impacts of a second berth on the region as a whole.

²⁷ Some EIAs include only direct and indirect impacts and induced impacts are generally considered to be smaller and more speculative in nature.

5.2 Economic Impacts of a Second Berth

5.2.1 Review of Past Economic Impact Estimates

Business Research & Economic Advisors (BREA) conducted an EIA of the cruise tourism industry in Sydney in 2012.²⁸ The EIA estimated the direct and indirect economic impacts in the province associated with cruise ship calls at Sydney. Specifically, the EIA estimated the direct expenditures in Sydney by cruise lines, cruise line passengers and crew members, through cruise line, passenger and crew member surveys. The EIA then estimated the associated indirect expenditures through the 2008 Statistics Canada provincial Input-Output (IO) tables for Nova Scotia.

BREA estimated that cruise tourism generated \$9 million in direct expenditures (gross output) in the province in 2012, increasing to \$21 million when including indirect expenditures. These expenditures were found to support 72 direct annual full and part-time jobs (55 jobs on an FTE basis), or 133 direct and indirect jobs (102 on an FTE basis²⁹) annually. BREA did not appear to calculate the associated GDP impacts (for an explanation of the difference between gross output and GDP see the text box below).

Gross Output vs. GDP

Gross output includes the total value of the goods produced by a firm or industry. In the case of the local cruise tourism industry, gross output includes for example expenditures by passengers on food, beverages, local transportation, etc. GDP differs from gross output in that it excludes the value of intermediate inputs such as fuel, purchased material and purchased services. For example, food and beverage service GDP impacts noted above would exclude the cost of ingredients for those items incurred by the food and beverage service provider. GDP can be calculated by subtracting these items from gross output, or by summing wages, capital depreciation and profit.

5.2.2 Economic Impacts of the Second Berth

As discussed in section 2.1, there have been and continue to be lost revenue opportunities due to the lack of available berth space. In addition, vessels that anchor and tender passengers are less likely to generate onshore visits by passengers and crew, while cruise lines are less likely to purchase supplies locally in those cases. These factors further contribute to lost revenue opportunities for the provincial economy.

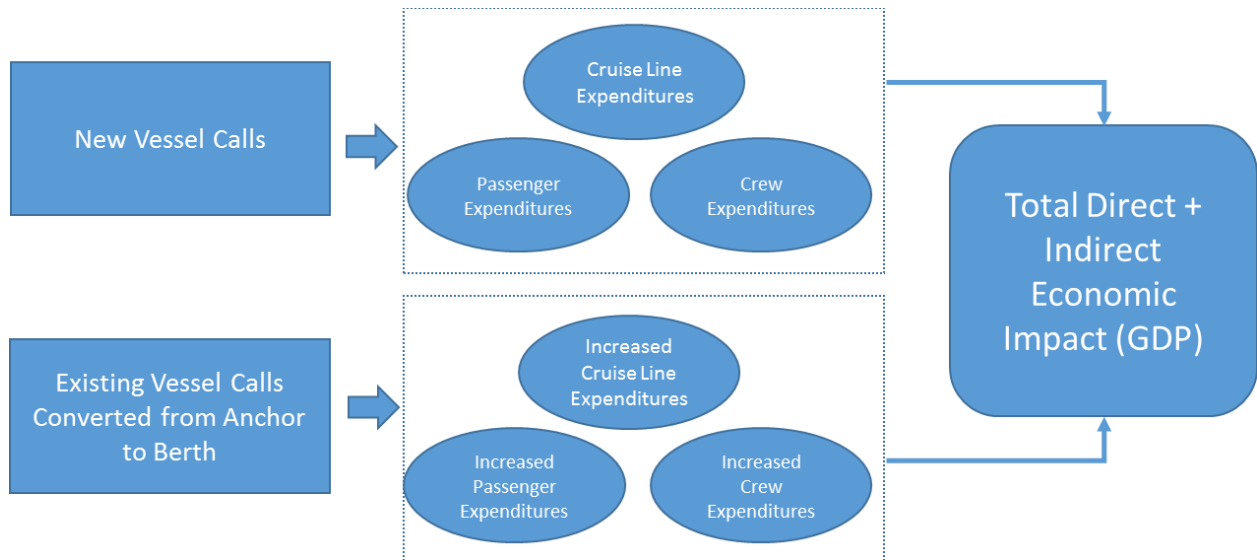
²⁸ Business Research & Economic Advisors (April 2013), The Economic Contribution of Cruise Tourism in Sydney 2012.

²⁹ The BREA report did not specify the total number of jobs on an FTE basis. To estimate this, we took the ratio of FTE to total direct jobs (55/72) and applied that to the total indirect jobs (133).

In order to estimate the value of these lost opportunities for the provincial economy, we modelled several EIA scenarios, taking into consideration expenditures by cruise lines, passengers and crew. The purpose of the EIA is to estimate:

- Cruise line expenditures (port and navigation fees, food and beverage purchases, and other operating expenditures), distinguished between berthed and anchored vessels
- Passenger and crew expenditures (tours and transportation, food and beverage, and retail purchases), distinguished between passengers on berthed and anchored vessels
- The direct impact on provincial industries of the above expenditures on a gross output and GDP basis
- The direct and indirect impact (gross output and GDP) of the above expenditures on the provincial industry as a whole

Figure 5-1: Economic Impact Flow from Cruise Tourism



The direct and indirect impacts are then annualized over a 30 year period and discounted to a present value.

The unit expenditures (per cruise ship, passenger and crew member) are anchored in the estimates generated by BREA’s surveys, inflated to 2016 using the Consumer Price Index (CPI) for Nova Scotia. Similar to the method used for the BREA study, we allocated expenditures for appropriate industries and modelled the provincial economic impacts through Statistics Canada’s most recent 2010 IO tables for Nova Scotia. However, our industry allocations differed from BREA’s in some cases. For example, onshore retail purchases by passengers and crew were assigned to the retail trade industry, rather than the goods producing industry. Further, through the IO tables we also estimated the GDP impacts (in addition to gross output

impacts), which are more suitable for the purpose of determining the impacts on the local economy.³⁰

Key to the EIA are estimates of new vessel and passenger activity expected to be generated by the addition of the new berth. These and other variables used in the EIA are summarized in the table below.

Figure 5-2: Cruise Tourism EIA Model Inputs

Variable	Description
Incremental Activity	
Incremental Vessel Calls	Total new vessel calls expected due to new berth
Incremental Vessel Berths	Total new vessel berths
Incremental Vessel Anchors	Total new vessel anchors. Calculated from total vessel calls and berths. Number can be negative if it's expected that some vessel anchors will be converted to berths.
Pax per Vessel	Average pax per new vessel
Crew per Vessel	Average number of crew per new vessel
Berthed Vessel Pax Disembarkment Rate	percent of pax that go onshore from berthed vessels
Berthed Vessel Crew Disembarkment Rate	percent of crew that go on shore from berthed vessels
Anchored Vessel Pax Disembarkment Rate	percent of pax that go onshore from anchored vessels
Anchored Vessel Crew Disembarkment Rate	percent of crew that go onshore from anchored vessels
New Annual Pax	Total new annual pax, calculated based on above inputs
New Annual Crew	Total new annual crew, calculated based on above inputs
Annual Berthed Pax	Annual berthed pax, calculated based on above inputs
Annual Berthed Crew	Annual berthed crew, calculated based on above inputs
Annual Anchored Pax	Annual anchored pax, calculated based on above inputs
Annual Anchored Crew	Annual anchored crew, calculated based on above inputs
Annual Pax Onshore Visits	Based on above inputs
Annual Crew Onshore Visits	Based on above inputs
Unit Expenditures	
Cruise Lines Expenditures Per Vessel	

³⁰ By estimating GDP, rather than gross output impacts, our estimates of the total economic impact are smaller than BREA's. Further, our estimate of direct + indirect impacts relative to direct impacts is also smaller than BREA's. This may be due to a combination of factors including the use of more recent IO tables and different industry assignments of expenditures. We also did not include induced impacts, which may or may not have been included in BREA's estimates (the BREA report does not make mention of induced impacts).

Variable	Description
Port and Nav Fees	Calculated from BREAs, inflated to 2016.
Food and Beverage	Calculated from BREAs, inflated to 2016.
Other Operating Expenses	Calculated from BREAs, inflated to 2016.
Port and Nav Fees ratio for Anchored Vessels	Estimate of percent expenditure per anchored vessel relative to berthed vessel
Food and Beverage ratio for Anchored Vessels	Estimate of percent expenditure per anchored vessel relative to berthed vessel
Other Operating Expenses ratio for Anchored Vessels	Estimate of percent expenditure per anchored vessel relative to berthed vessel
Pax Expenditures per Visit	
Tours and Transportation	Calculated from BREAs, inflated to 2016.
Food and Beverage	Calculated from BREAs, inflated to 2016.
Other Retail	Calculated from BREAs, inflated to 2016.
Crew Expenditures per Visit	
Tours and Transportation	Calculated from BREAs, inflated to 2016.
Food and Beverage	Calculated from BREAs, inflated to 2016.
Other Retail	Calculated from BREAs, inflated to 2016.
Other Assumptions	
Historical annual inflation rate factor	Based on Cansim Table 326-0020, NS inflation from June 2012 to June 2016. Used to inflate BREAs figures as necessary.
Future inflation rate	Future inflation rate assumption for any future nominal flows.
Real discount rate	Real discount rate used to discount future economic impacts to a present value.
Nominal discount rate	Sum of future inflation rate and real discount rate.

Source: CPCS

5.2.3 Economic Impact Scenarios

There are several uncertainties that will affect the economic impacts generated by the addition of the new berth, particularly those reflected in the table above. For one, there is no guarantee that a new berth will generate more vessel calls. While there is no doubt that cruise lines and passenger strongly prefer berthing as opposed to anchoring, as evidenced by past and current schedules some cruise lines have and continue to call at Sydney despite having to anchor. That said, there is no guarantee that these cruise lines will continue to tolerate anchoring into the future as new options become available. Further, cruise lines are less likely to cancel calls if a second berth is available. With that in mind, we model two scenarios to account for the potential variability in the key inputs. We further model those scenarios using alternative assumptions regarding the discount rate, due to the fact that the present value of the impacts will be particularly sensitive to the choice of discount rates.

Scenario 1

As noted in section 2.1, we have estimated that the port currently loses between 3 to 6 cruise vessel calls per year due to the lack of berth space. Furthermore, 10 vessels will be required to anchor according to the 2016 schedule while 16 vessels will be required to do so in 2017. We model our scenario according to the upper end of these ranges (6 additional vessel calls and 16 conversions from anchor to berth), on the basis that these figures would only be expected to grow over the life of the new berth.

As noted in section 2.1.2, there is an industry trend towards larger vessels and the new berth would allow the port to accommodate these larger vessels. We assume that the new vessel calls enabled by the addition of the new berth are larger on average than current vessels. Currently, cruise vessels that call at the port carry approximately 1500 passengers and 375 crew on average. We assume that the average number of passengers carried by new vessel calls will be 1800 while the average number of crew will reach 450. Note that that these are the average of the *new* vessel calls, as opposed to the average across all vessels calling at the port.

These and other key inputs and assumptions are shown in the table below.

Figure 5-3: Scenario 1 Key Inputs

Inputs	Value
Incremental Vessel Calls	6
Incremental Vessel Berths	16
Incremental Vessel Anchors	-10
Pax per Vessel	1800
Crew per Vessel	450
Berthed Vessel Pax Disembarkment Rate	0.95
Berthed Vessel Crew Disembarkment Rate	0.95
Anchored Vessel Pax Disembarkment Rate	0.75
Anchored Vessel Crew Disembarkment Rate	0.75
Port and Nav Fees ratio for Anchored Vessels	0.5
Food and Beverage ratio for Anchored Vessels	0
Other Operating Expenses ratio for Anchored Vessels	0.25
Future inflation rate	0.02
Real discount rate	0.05
Nominal discount rate	0.07

Source: CPCS analysis, assumptions based on research conducted for this report

On an annual basis, the incremental cruise line, passenger and crew member expenditures are expected to generate total direct GDP impacts of approximately \$950 thousand, and direct + indirect GDP impacts of approximately \$1.3 million, as summarized in Figure 5-4. Included in the gross output impacts are additional port and navigation fees of approximately \$180 thousand per year.

Figure 5-4: Scenario 1 Annual Economic Impacts

Industry	Gross Output (\$)	GDP (\$)	Labour Income (\$)	Jobs
Goods Producing	282,686	120,489	70,652	2
Transport and Warehousing	394,734	185,142	135,396	3
Retail Trade	625,127	407,942	299,399	8
Accommodation and Food Services	335,677	154,102	120,789	4
Other Services & Government	180,264	78,494	55,469	1
Total Direct	1,818,488	946,169	681,705	18
Total Direct + Indirect	2,501,742	1,307,943	892,649	23

Source: CPCS analysis, assumptions based on research conducted for this report

Finally, by discounting the impacts over a 30 year period, we estimate the present value of the total direct GDP impact to be \$14.4 million while the present value of the total direct + indirect GDP impact to be \$19.9 million.

Scenario 2

The BA Cruise Market Assessment report projected passenger and cruise ship calls at the port out to the year 2028. This scenario assumes growth in line with those projections, particularly the most optimistic “vessel deployment” projections.³¹ Those projections estimate that cruise vessel calls will grow to 90 (from their base of 69). However, passenger growth is projected to be much stronger due to the deployment of much larger vessels, to approximately 158 thousand passengers annually (from their base of just below 100 thousand). On an incremental basis, this implies that *new* vessel calls will average approximately 2,770 passengers.³²

As noted in the BA report, investments in cruise and tourism related infrastructure must keep pace with demand growth in order for the port to be successful. This means that absent investment in berth capacity (among other things), means all of this projected growth is unlikely to materialize. For the purpose of this EIA scenario, we need to make an assumption regarding the extent to which capacity constraints (absent new berth) will limit the growth projected by the BA study.

To do this, we assume that the number of vessels that are willing to anchor per year is unlikely to grow significantly beyond the 16 that are expected to do so for 2017. We make this assumption due to the fact that 1) there is growing evidence that cruise lines are avoiding Sydney due to the lack of berth space and 2) the trend towards larger vessels is expected to make anchoring and tendering passengers even less desirable due to the logistics of doing so

³¹ Bermello, Ajamil & Partners, Inc., Cruise Market Assessment for the Sydney Ports Corporation, 2014, pages 31 – 33.

³² $(157,520 - 99,372) / (90 - 69) = 2,769$ passengers.

for a large vessel. Therefore, we cap the annual number of vessels that are willing to anchor at 20 (slightly higher than what is expected for 2017). Further, we cap the annual number of vessel berths at 60, roughly reflecting historical patterns.³³

Assuming these caps, we can estimate the incremental business generated by the new berth to be the difference between these caps and the BA projections.

Figure 5-5: Scenario 2 Key Inputs

Inputs	Value
Incremental Vessel Calls	10
Incremental Vessel Berths	30
Incremental Vessel Anchors	-20
Pax per Vessel	2769
Crew per Vessel	692
Berthed Vessel Pax Disembarkment Rate	0.95
Berthed Vessel Crew Disembarkment Rate	0.95
Anchored Vessel Pax Disembarkment Rate	0.75
Anchored Vessel Crew Disembarkment Rate	0.75
Port and Nav Fees ratio for Anchored Vessels	0.5
Food and Beverage ratio for Anchored Vessels	0
Other Operating Expenses ratio for Anchored Vessels	0.25
Future inflation rate	0.02
Real discount rate	0.05
Nominal discount rate	0.07

Source: CPCS analysis, assumptions based on research conducted for this report

On an annual basis, the incremental cruise line, passenger and crew member expenditures are expected to generate total direct GDP impacts of approximately \$2.3 million, and direct + indirect GDP impacts of approximately \$3.1 million, as summarized in Figure 5-6. Included in the gross output impacts are additional port and navigation fees of approximately \$328 thousand per year.

Figure 5-6: Scenario 2 Annual Economic Impacts

Industry	Gross Output (\$)	GDP (\$)	Labour Income (\$)	Jobs
Goods Producing	523,493	223,127	130,838	3
Transport and Warehousing	1,064,611	499,334	365,167	8
Retail Trade	1,685,987	1,100,233	807,489	23

³³ As noted in section 2.2, seasonality of demand is a significant factor in berth capacity. For this scenario we assume that the same seasonal factors continue into the future.

Industry	Gross Output (\$)	GDP (\$)	Labour Income (\$)	Jobs
Accommodation and Food Services	744,875	341,956	268,033	9
Other Services & Government	327,752	142,716	100,852	1
Total Direct	4,346,718	2,307,366	1,672,379	44
Total Direct + Indirect	5,940,660	3,145,346	2,159,224	55

Source: CPCS analysis, assumptions based on research conducted for this report

The discounted present value of the total direct GDP impact to be \$35.2 million while the present value of the total direct + indirect GDP impact to be \$47.9 million.

Discount Rate Sensitivity

The EIA is sensitive to a number of other assumptions included in the model, particularly the discount rate to bring future values to a present value. Scenarios 1 and 2 made use of a 5% real discount rate. Although this is well-above current long-term interest rates, hurdle rates of a return of 15% (in nominal terms) or higher are not uncommon in the private sector. If we assume that some private sector investment will be required for the project and/or public sector capital competes to some extent with private sector capital, there is justification in using a higher discount rate.

Figure 5-7 shows the present value of direct and direct + indirect benefits according to scenarios 1 and 2 under the default (5%) real interest rate assumption as well as alternative real interest rate assumptions (7 and 10%).

Figure 5-7: Summary of Estimated Present Value of GDP Impacts of Incremental Cruise Toursim due to New Berth

	Scenario 1			Scenario 2		
Real Discount Rate (%)	5.0	7.0	10.0	5.0	7.0	10.0
Direct GDP (\$)	14,420,491	11,671,335	8,889,637	35,166,409	28,462,203	21,678,637
Direct + Indirect GDP (\$)	19,934,279	16,133,961	12,288,659	47,938,007	38,798,993	29,551,799

Source: CPCS Analysis

5.2.4 Other Considerations

As indicated in section 2.1.3, there are other potential revenue opportunities associated with the construction of a new berth, such as new cargo and refueling activity. Based on foregone opportunities over the past two years, the revenue potential from these activities is estimated to be in the range of \$200 thousand per year. However, these foregone opportunities have come unsolicited, indicating that additional revenue potential may exist if a new berth were built and corresponding marketing efforts were undertaken. On the other hand, as some of these opportunities have arisen during summer months which may coincide with the cruise

season, in which case occupying a berth (even with the new addition) for a period of two weeks or more may not be feasible.

Using the \$200 thousand per year as rough guidance for this other revenue potential, we estimated the corresponding direct + indirect GDP benefits to be approximately \$1.9 million using a 5% real discount rate, \$1.5 million at a 7% discount rate and \$1.2 million at a 10% discount rate.

We also note that any of the incremental opportunities that are captured by the Port of Sydney are incremental to the province as a whole. For example, in all of our scenarios where we assume that revenue opportunities are lost because passengers do not disembark from anchored vessels, or cruise lines do not resupply locally for the same reason, that these opportunities are not captured by Halifax (in which case the activity would remain in the province). It is a real possibility that at least some of this activity be made up by activity in Halifax, as cruise passengers and especially cruise lines have finite levels of demand for certain goods and services for any given itinerary.

5.2.5 Comparison with Cost of New Berth

As noted in Chapter 1, the cost of the new berth is expected to be approximately \$20 million. Although we cannot strictly compare the present value of the estimated GDP impacts to this cost in order to generate a BCR (for reasons described in section 5.1), a comparison of the two provides some indications of the potential value of the new berth for Nova Scotia, relative to the costs of the new berth.

It should be noted, however, that we are not assuming any new ongoing incremental operating costs associated with the new berth. Although operating costs are expected to be low relative to capital costs, some increment would be expected (such as long-term maintenance). Furthermore, as described throughout this report, success in the cruise tourism industry requires more than port infrastructure. To the extent that other investments are requirement to generate new cruise business (such as investments into making Sydney more attractive for tourists in general), the costs associated with these investments should be factored into the investment decision-making process.

Finally, there are risks associated with the cost of the construction of the new berth itself. Some of these risks are described in Chapter 6.

5.3 Counterfactual Case

If a second berth is not built at the Sydney Marine Terminal, the primary potential “counterfactual” implications could include:

- Lost incremental cruise ship activity (per the analysis in section 5.2)
- Bypassing of Sydney by larger, 300+ meter cruise ships on CNE itineraries (that are less likely to anchor if berth space cannot accommodate them)

Although speculative, there is a risk that over time, as more cruise lines bypass Sydney, whether due to schedule conflicts on the existing berth or larger ships bypassing Sydney, that Sydney gradually loses what cruise business it currently has as cruise lines look to other ports of call that can accommodate them (without the need to be at anchor).

Although it may be unnecessarily alarmist, but for the purposes of this counterfactual case, at the upper end of the range, in the long-term we could consider the entire cruise tourism industry in Sydney to be at stake. According to our own estimates, this would mean a loss in annual direct + indirect GDP of approximately \$7 million per year for Nova Scotia.³⁴ This is unlikely in the short to medium term, but one thing is certain, the development of a second berth would mitigate the risk of this outcome, however unlikely.

³⁴ As noted in section 5.2.2, our estimate of the economic impact of cruise tourism in Sydney is smaller than previous estimates by BREA for a number of reasons, most significant of which is our emphasis on GDP, rather than gross output impacts.

6 Risks, and Other Considerations

Key Chapter Takeaway

The primary risk we see with the project relates to the potential for cost overruns. The project cost estimates are based on Class D engineering estimates and are not supported by detailed geotechnical, bathymetric, environmental studies, and are also three years old. The acquisition of the Nickerson Property – necessary for the project development – is another challenge and potential risk.

Though not explicit in the original scope of work, we did identify potential risks and other material considerations in undertaking this due diligence assessment, which are outlined below.

6.1 Risk of Cost Overruns

The primary risk we see with the project relates to the potential for cost overruns.

The total cost of the second berth project is estimated to be \$20 million.³⁵ The related breakdown, as included in a funding application to the Innovative Communities Fund, dated June 21, 2016, is as follows:

Figure 6-1: Estimated Project Costs (per funding application)

Project Cost Items	Estimated Cost
2 nd . Berth Construction & Engineering Design/Oversight	\$17.00 million
North Lands Property & Water Lot Acquisition	\$1.50 million
Joan Harris Pavilion Renovations Construction & Engineering Design/Oversight	\$0.30 million
Capital Repairs to Existing Wharf Construction Design/Oversight	\$0.80 million
North Lands Site Modifications Construction & Engineering Design/Oversight	\$0.40 million
Total	\$20 million

Source: CBRM and Port of Sydney funding application to the Innovative Communities Fund, dated June 21, 2016

³⁵ Beyond, CBRM’s committed contribution of \$6,666,667 to the project, CBRM and the Port of Sydney are seeking federal and provincial funding support to fund the remaining cost of the project.

Given the relatively preliminary nature of the project cost estimates, we feel that there could be a risk of cost overruns. The largest cost component – the construction and associated engineering work, estimated to cost \$17 million is based on Class “D” engineering estimates and are not supported by detailed geotechnical, bathymetric, environmental studies, etc,. This limitation is explicitly noted in the CBCL report.³⁶

“To confirm design considerations and further refine cost estimates, more information is needed, including: 1) **Further investigation**: Some essential items that need further investigation is the completion of a geotechnical program to verify soil conditions; environmental sampling program to determine potential site contaminations, marine sediments sampling to establish disposal requirements, and updated bathymetric survey in the immediate area of the proposed dock, 2) **Ship simulator** [already conducted by CBCL in 20106], 3) **Engineering design**: The completion of preliminary design utilizing the information acquired from the above recommended investigation would allow confirmation of all assumptions and better defined capital costs”.³⁷

Other cost components, including the acquisition of the North Lands Property & Water Lot (the “Nickerson Property”), estimated to cost \$1.5 million, may also be underestimated. We understand, for example, that the owner of the Nickerson Property is seeking \$6 million for the property. We further understand that this land is contaminated. It is unclear to what extent the cost of environmental remediation is included in the estimate (though CBRM and the Port of Sydney have both indicated that adequate provision for environmental remediation is included in the cost estimates for the project).

Moreover, the cost estimates in the engineering studies, which is the basis for the cost estimates in the funding application are now also close to three years old.

As a general rule, public works projects tend to be over budget and there do not appear to be any provision for contingencies in the cost estimates for the second berth project. We feel that the risk of cost overruns on the second berth project are compounded by the fact that the cost estimates are largely based on preliminary (and now somewhat dated) engineering studies.

As a general rule, public works projects tend to be over budget and there do not appear to be any provision for contingencies in the cost estimates for the second berth

³⁶ CBCL, Sydney Marine Terminal proposed Secondary Dock, May 7, 2014

³⁷ CBCL, Sydney Marine Terminal proposed Secondary Dock, May 7, 2014

6.2 Acquisition of the Nickerson Property

There is disagreement about the terms of purchase of the Nickerson Property, and in particular, the price to be paid by CBRM to acquire this land, as noted. This matter remains unresolved and is a necessary precondition to the project going ahead. The cost of environmental remediation of this property is also at issue and the extent to which this will appropriately be reflected in the purchase price of the property also remains at issue. We understand from CBRM that the acquisition may become the subject of an expropriation by CBRM if agreement on price is not reached (in which case, the price would be set through a legal process after the fact).

6.3 Risks Associated with Necessary Approvals

Several approvals are required for the second berth project to proceed. A list of such approvals is provided in the CBRM and Port of Sydney funding application.³⁸ These include, but may not be limited to approval from and with respect to:

- Transport Canada (TC) – Navigable Waters Protection Act (NWPA)
- Department of Fisheries and Oceans (DFO) – Section 35 (1) authorization under the federal Fisheries Act related to Harmful Alteration, Disruption or Destruction (HADD) of Fish Habitat
- Environment Canada (EC) – Canadian Environmental Protection Act – CEPA
- Canadian Environmental Assessment Agency (CEAA) – Canadian Environmental Assessment Act (CEAA 2012)
- Province of Nova Scotia Beaches Act

CBRM and the Port of Sydney noted in consultations that they do not expect major risks or challenges associated with obtaining necessary permits.

CBRM and the Port of Sydney noted in consultations that they do not expect major risks or challenges associated with obtaining necessary permits

CBRM did note that it has already completed its consultation process with First Nations and reached an agreement with First Nations (2015) with respect to the second cruise berth project.

Although we are not in a position to comment on risks and challenges associated with obtaining necessary approvals, we note that obtaining these approvals have the potential to lead to delays and additional costs, over and above those outlined in CBRM and the Port of Sydney's funding application.

³⁸ CBRM and Port of Sydney funding application to the Innovative Communities Fund, dated June 21, 2016

6.4 Timing of the Second Berth Development, Associated Projects, Reforms and Other Initiatives

Cruise industry stakeholders consulted for this study are unanimous in seeing a second berth at the Sydney Marine Terminal as beneficial. However, to realize the full benefits of the second berth project, a number of other conditions must be in place by the time the new facility becomes operational. These conditions notably include resolving motor coach capacity limitations (in one way or another), ensuring adequate landside facilities for staging buses and taxis, and improving upon the downtown Sydney “experience”.

7 Conclusion and Opinion

Notwithstanding our noted initial concerns with respect to the potential for cost overruns, and other potential risks and considerations noted in the previous chapter, it is our opinion that the second berth project has merit. It is not premised on speculative traffic, but rather existing business that is growing and is expected to continue to grow. It would also afford the Port of Sydney an opportunity to accommodate certain non-cruise related cargo business outside the cruise season, in addition to increased Imperial Oil fueling operations (we nevertheless expect these opportunities to be limited to ad hoc needs relating to project cargo, ship repair, etc.).

The second berth project is not premised on speculative traffic, but rather existing business that is growing and is expected to continue to grow.

The project is expected to lead to an increase in Port of Sydney revenues, and provincial economic (GDP) impacts in the range of \$1.3 to \$3.1 million per year. Without the second cruise berth, these benefits would be unlikely to materialize, save for organic business growth that can be handled by the existing cruise berth (e.g. during and outside the peak cruise season).

Key issues around the number and quality of motor coaches available to serve tourists and the quality of the “local experience” offered must at the same time be addressed to enable the full benefit of the second berth.

Beyond Sydney, the second berth project would enhance the competitiveness of CNE cruise itineraries more broadly which could attract additional cruise activity – including larger cruise ships - to other ports in Atlantic Canada and associated economic impacts.

Appendix A: Stakeholders Consulted

Organization	Contact
Ambassatours	Dennis Campbell, CEO
Atlantic Canada Cruise Association	Brian Webb, Executive Director
Atlantic Canada Cruise Ship Services	Julie Gaudry, Manager
Atlantic Canada Opportunities Agency (ACOA)	Kent MacDonald, Director, Tourism
Canadian Coast Guard	Pat MacDonald, Acting Superintendent, Regional Operations Centre, Atlantic Canada
Canadian Maritime Engineering Ltd. (CME)	Tony Kennedy, President; Bob Deveaux
Destination Cape Breton Association	Mary Tulle, CEO
FK Warren Limited	Colin Conrad, President
Hedde Marine	Dennis Thorne
Holland America Group	Donna Silvera-Barnett
Imperial Oil	Tom Dicks, Manager
Logistec Stevedoring (Atlantic)	Tony Ross Hatcher, Assistant General Manager;
McKeil Marine	Blair McKeil, CEO
Port of Sydney	Marlene Usher
Port of Sydney	Bernadette MacNeil, Manager, Marketing and Development
Royal Caribbean Cruises	Marc Miller, Director, Deployment & Itinerary Planning
Tourism Industry Association of Nova Scotia (TIANS)	Darlene Grant Fiander, TIANS President
Tourism Nova Scotia	Anna Moran, Manager, Research, Planning & Decision Support
Cape Breton Regional Municipality	Michael Meritt, CAO