There is No Need for a Second Container Terminal at Roberts Bank, B.C.

June 11, 2017

Port of Vancouver Lowest Case Container Forecasts Are Not Being Realized

The Vancouver Fraser Port Authority, known as the Port of Vancouver, claims there is a pressing need for investment for additional container capacity at the Port of Vancouver just to keep pace with projected growth demand. Six studies from 2006 to 2016 consistently present inflated growth forecasts. Even the lowest case forecasts are not being met as shown in the Table below.

Port of Vancouver Container Traffic Forecast Studies, 2006 – 2016
Lowest Case Forecasts and Actuals

Year	Deltaport CSR 2006 Forecast Low Case	Worley Parsons 2011 Forecast Low Case	OSC 2012 Forecast Low Case	OSC 2013 Forecast Low Case	OSC 2014 Forecast Low Case	OSC 2016 Forecast Low Case	Actual Total TEUs
	million TEUs	million TEUs	million TEUs	million TEUs	million TEUs	million TEUs	million TEUs
2006							2.30
2007							2.49
2008							2.49
2009							2.15
2010	2.80						2.51
2011		2.66					2.50
2012		2.81					2.71
2013		2.97	*2.80*	2.90			2.82
2014		3.14	2.93	3.06	2.97		2.91
2015	3.60	3.32	3.06	3.23	3.10		3.05
2016		3.47	3.21	3.38	3.24	3.16	2.93
2017		3.63	3.36	3.54	3.36	3.32	
2018		3.80	3.51	3.70	3.49	3.48	
2019		3.97	3.65	3.86	3.62	3.64	
2020	4.70	4.15	3.79	4.00	3.75	3.80	
2021			3.94	4.16	3.88	3.97	
2022			4.09	4.32	4.00	4.13	
2023			4.23	4.48	4.13	4.24	
2024			4.38	4.64	4.27	4.34	
2025		4.92	4.53	4.80	4.40	4.45	
2030		5.53	5.08	5.38	4.92	4.90	
2035			5.50	5.84	5.33	5.26	
2040			5.86	6.21	5.67	5.56	
2045			6.16	6.53	5.96	5.81	
2050			6.40	6.79	6.19	6.00	

Sources of Data: Deltaport Third Berth Project: *Comprehensive Study Report* (CSR), July 5, 2006 page 37.
Preliminary Container Traffic Projections for PMV, 2011 to 2030, WorleyParsons, May 27, 2011. Page 10/15
http://www.robertsbankterminal2.com/wp-content/uploads/Executive-Summary-09409-01-GE-REP-90006-500_Rev0_110527.pdf

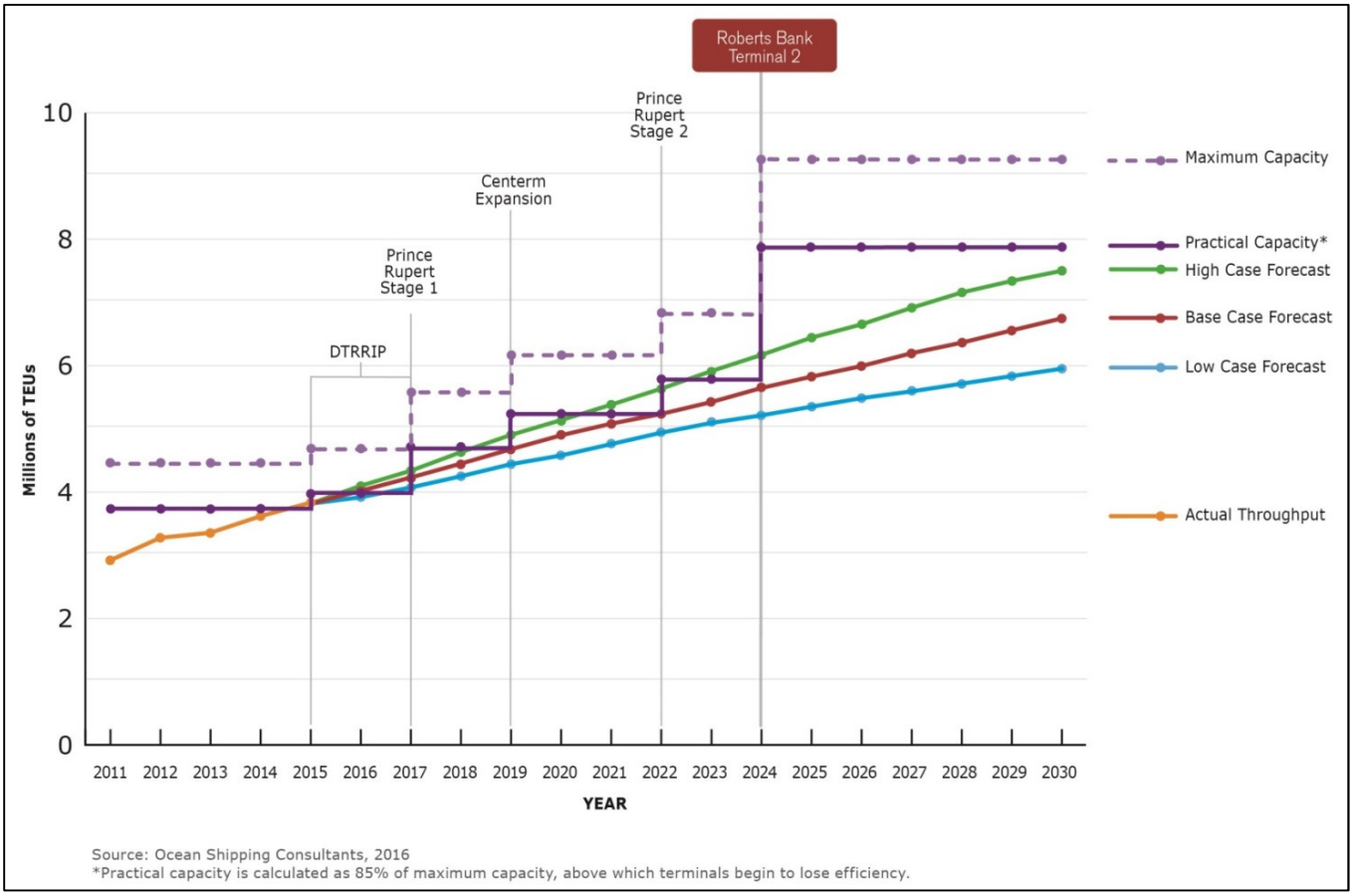
PMV Container Forecasts, Ocean Shipping Consultants Report, 2012, Page 159 http://www.robertsbankterminal2.com/wp-content/uploads/Port-Metro-Vancouver-Container-Forecasts-Ocean-Shipping-Consultants-2012.pdf

Container Traffic Forecast Study, Ocean Shipping Consultants Report, 2014, page 215
http://www.robertsbankterminal2.com/wp-content/uploads/Port-Metro-Vancouver-Container-Traffic-Forecast-Ocean-Shipping-Consultants-June-20141.pdf

Container Traffic Forecast Study, Ocean Shipping Consultants Report, 2016, page 219
http://www.robertsbankterminal2.com/wp-content/uploads/2016-Ocean-Shipping-Consultants-Container-Forecast.pdf

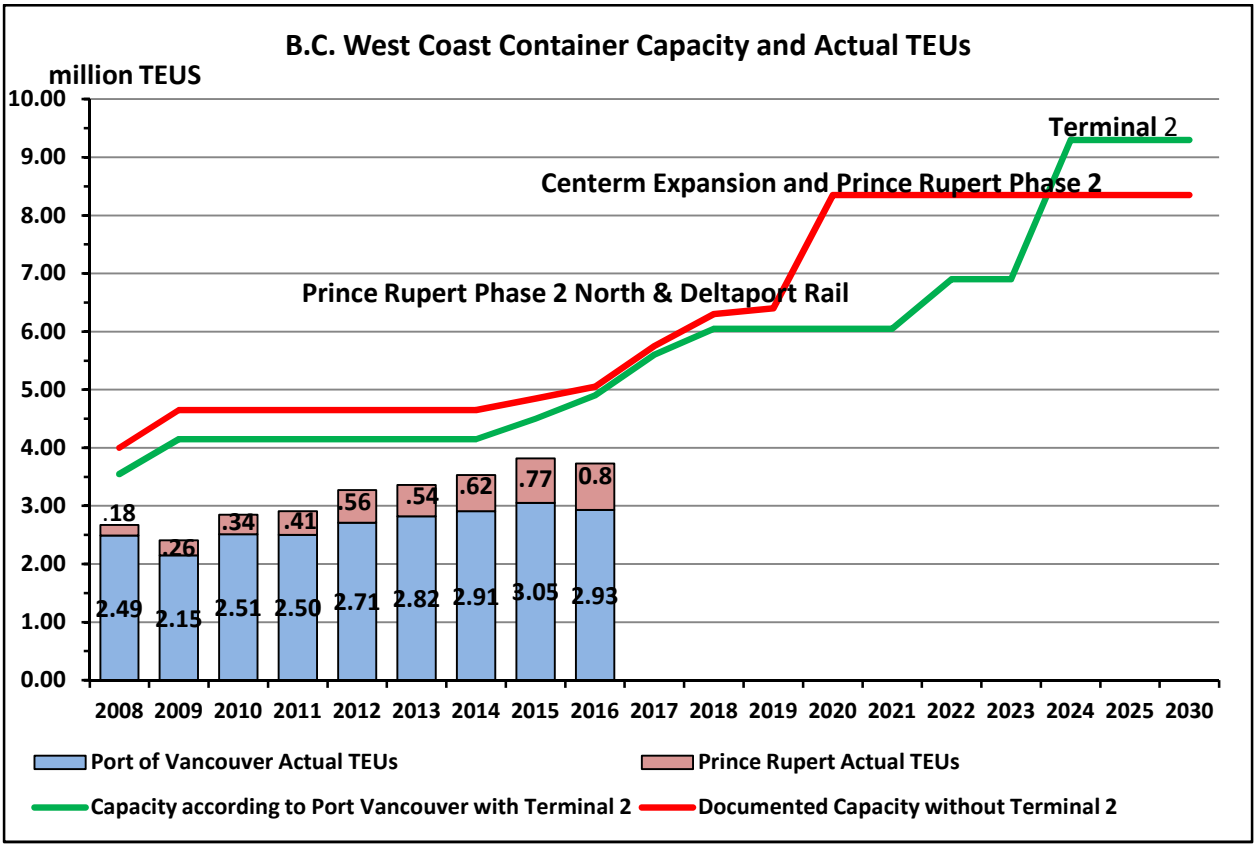
The Vancouver Fraser Port Authority (commonly called the Port of Vancouver) presents Figure 2-4 in the Environmental Impact Statement of the Roberts Bank Container Terminal 2 Project, page 2-13. The figure is a graph of BC west coast container forecasts and capacity. The source of information is documented as Ocean Shipping Consultants, 2014. There is no table or properly identified data.

A similar graph, copied below, is presented on the website of the Port of Vancouver. It is an updated version of the EIS graph from the Ocean Shipping Consultants Report, 2016. Both reports show outdated information on capacity as there have been expansions, upgrades and improved efficiencies at the BC west coast ports.



The planned expansion at Centerm is 900,000 TEUs which is not accurately shown on the port graph. Also, the Prince Rupert expansion, identified as Stage 2, is planned to add 1.05 million TEUs for a total capacity of 2.4 million TEUs.

The following graphs and tables show actual container business on the B.C. West Coast and ongoing expansions and upgrades which will provide sufficient container capacity for decades without constructing the expensive Roberts Bank Container Terminal 2.



Sources of Data: *Prince Rupert: Evolution from remote fishing port into critical container shipping, Fig.2*
http://www.joc.com/sites/default/files/u45421/Whitepapers/PrinceRupert/2016-WP.pdf
Port of Vancouver, Reporting, Statistics and Resources, Overview
http://www.portvancouver.com/about-us/statistics/
West Coast Capacity According to Port of Vancouver with Terminal 2, 2016 Container Traffic Forecast Study, Ocean Shipping Consultants, 2016, Page 113, Table 2.10
http://www.portvancouver.com/development-and-permits/development/container-capacity-improvement-program/2016-container-traffic-forecast-study-ocean-shipping-consultants/

Canada's West Coast Container Capacity by 2020 Without Terminal 2

Sources documented in Appendix A

Terminal	TEU Capacity	Expansions and Improvements				TEU Capacity
	2005	*2010*	*2015*	*2017*	*2017-2020*	*2020*
Deltaport	1,400,000	700,000	200,000	400,000	300,000	3,000,000
Vanterm	850,000	150,000				1,000,000
Centerm	900,000				900,000	1,800,000
Fraser Surrey	150,000					150,000
Vancouver Total	3,300,000					**5,950,000**
Prince Rupert		500,000		850,000	1,050,000	**2,400,000**
West Coast Total						**8,350,000**

The container business at the Port of Prince Rupert Port is growing rapidly showing a Compound Annual Growth Rate (CAGR) of 20.5% since it opened in 2008 to 2016.

Year	Prince Rupert Actual TEUs
2008	.18
2009	.26
2010	.34
2011	.41
2012	.56
2013	.54
2014	.62
2015	.77
2016	0.8

During the same 8 years, the container business in Vancouver grew at a CAGR of 2.05%. The Vancouver container business grew rapidly at a CAGR of 10.73% from 2000 to 2007 when the container business was becoming a new method of shipping worldwide. Since 2007, the Vancouver container business has levelled showing a CAGR of 1.82% in the last 9 years.

Table: Vancouver Container Business (TEUs) 2000-2016

Year	Vancouver Port Authority TEUs	Fraser River Port TEUs	Total TEUs
2000	1.16	0.06	1.22
2001	1.14	0.05	1.19
2002	1.44	0.10	1.54
2003	1.54	0.25	1.79
2004	1.66	0.32	1.98
2005	1.77	0.37	2.14
2006	2.21	0.09	2.30
2007	2.31	0.19	2.49
	Vancouver Fraser Port Authority		
2008			2.49
2009			2.15
2010			2.51
2011			2.50
2012			2.71
2013			2.82
2014			2.91
2015			3.05
2016			2.93

The container traffic forecast reports, commissioned by the Vancouver Fraser Port Authority, forecast an unrealistically- high growth rate for the Vancouver container business when compared to actual growth of the past 8 years *(2.05%)*. The forecasts of the 2016 Container Traffic Forecast Study by Ocean Shipping Consultants (OSC) show Compound Annual Growth Rates of 3.3% to 5.11% for the next 14 years (2016 to 2030):

Low Case CAGR: 3.32% Base Case CAGR: 4.04% High Case CAGR: 5.11%

Even at the Low Case Growth, which is not being realized, Vancouver has sufficient capacity until 2050.

The Vancouver Fraser Port Authority claims the planned Container Terminal 2 will be needed by 2030. As shown on the graph below, even at a CAGR of 3.5 %, more container capacity at Vancouver will not be required for decades.

Container Business Forecasts and Capacity at the Port of Vancouver, June, 2017

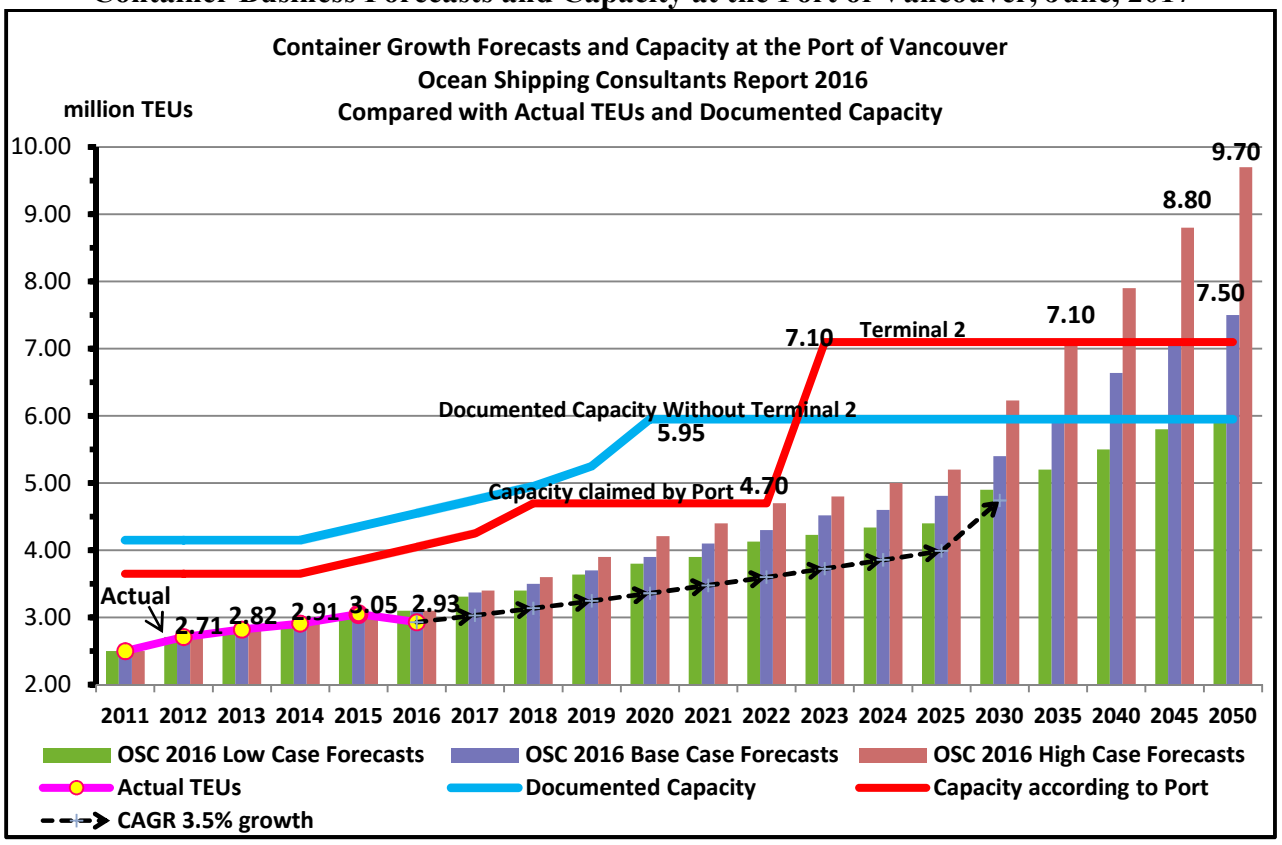


Table: Container Business Forecasts and Capacity at the Port of Vancouver

Year	OSC 2016 Forecast Low Case	OSC 2016 Forecast Base Case	OSC 2016 Forecast High Case	Actual Total TEUs	Compound Annual Growth Rate of 3.5% going forward	Capacity according to published information without T2	Capacity according to Port Vancouver With T2
2011	2.50	2.50	2.50	2.50		4.15	3.65
2012	2.71	2.71	2.71	2.71		4.15	3.65
2013	2.82	2.82	2.82	2.82		4.15	3.65
2014	2.91	2.91	2.91	2.91		4.15	3.65
2015	3.00	3.00	3.00	3.05		4.35	3.85
2016	3.10	3.10	3.10	2.93	2.93	4.55	4.05
2017	3.31	3.37	3.40		3.03	4.75	4.25
2018	3.40	3.50	3.60		3.14	4.95	4.70
2019	3.64	3.70	3.90		3.25	5.25	4.70
2020	3.80	3.90	4.21		3.36	5.95	4.70
2021	3.90	4.10	4.40		3.48	5.95	4.70
2022	4.13	4.30	4.70		3.60	5.95	4.70
2023	4.23	4.52	4.80		3.73	5.95	7.10
2024	4.34	4.60	5.00		3.86	5.95	7.10
2025	4.40	4.81	5.20		3.99	5.95	7.10
2030	4.90	5.40	6.23		4.74	5.95	7.10
2035	5.20	6.00	7.10		5.63	5.95	7.10
2040	5.50	6.64	7.90			5.95	7.10
2045	5.80	7.13	8.80			5.95	7.10
2050	5.99	7.50	9.70			5.95	7.10

Appendix A: Sources of Data

Port of Vancouver Container Business Forecasts

1. *Container Traffic Forecast Study – Port of Vancouver, 2016 by Ocean Shipping Consultants*

http://www.portvancouver.com/development-and-permits/development/container-capacity-improvement-program/2016-container-traffic-forecast-study-ocean-shipping-consultants/ Page 113

Deltaport, Roberts Bank and Vanterm, Burrard Inlet

2. *Transport Canada: Pacific Coast Container Terminal Competitiveness Study - TP 14837E, Hanam Canada Corporation; March 2008*

https://www.tc.gc.ca/eng/policy/report-research-ack-tp14837e-chapter4-1646.htm

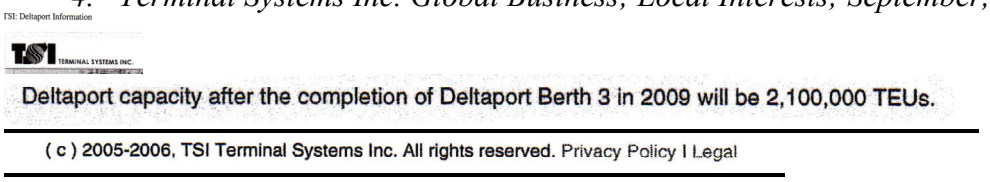
4.2 Productivity"Centerm, Vanterm and Deltaport exceed the average productivity of container terminals in the US. Terminal Systems Inc. is adding a third berth at **Deltaport to increase capacity from 1.4 to 2.1 million** TEUs per year by 2009 and has ordered equipment t**o increase Vanterm's capacity to over 1.0 million TEUs by 2009.**" Norman Stark, President and CEO, TSI, May 31, 2007

3. *Deltaport Third Berth Project, Project Overview, Port of Vancouver, June, 2010*

http://www.portvancouver.com/wp-content/uploads/2015/03/DP3_Boards_2010_06_22.pdf

"The Deltaport Third Berth Project (DP3) was a Port Metro Vancouver and TSI Terminal Systems Inc. initiative to expand existing container operations at the Deltaport container terminal at Roberts Bank. DP3 has **increased the capacity of Deltaport by up to 600,000 TEUs** (twenty-foot equivalent units) by adding a third berth and 20 hectares of container storage to the existing two-berth container terminal." (Page 1/21)

4. *Terminal Systems Inc. Global Business; Local Interests; September, 2007*



5. *Deltaport Terminal, Road and Rail Improvement Project (DTRRIP), Status 2014*

http://www.portvancouver.com/development-and-permits/status-of-applications/deltaport-terminal-road-and-rail-improvement-project/

Project status: The first component of the Deltaport Terminal, Road and Rail Improvement Project (DTRRIP) – the causeway overpass – was completed in November 2014. The new overpass separates road and rail traffic, improving the flow of trucks and trains accessing the terminal, reducing truck and vehicle idling and increasing safety, as well as contributing an estimated **150,000 to 200,000 twenty-foot equivalent units (TEUs) of additional capacity annually** at Deltaport. Construction work to reconfigure the Deltaport Intermodal yard is currently underway and is expected to be complete by 2017.

6. *Port Metro Vancouver, Project and Environmental Review Report PER No. 15-029, Global Container Terminals Canada Limited Partnership – Intermodal Yard Reconfiguration, Roberts Bank, Delta, B.C. October 8, 2015*

http://www.portvancouver.com/wp-content/uploads/2015/07/Final-PP2015-029-Project-Report-Category-C1-online.pdf

"In this second phase of DTRIPP, the new intermodal rail yard at Deltaport will enable the existing marine container terminal to handle **an additional 600,000 TEU** (twenty-foot equivalent units) annually…"

7. *Environmental Assessment Report, Deltaport Terminal Road and Rail Improvement Project; Hemmera; November, 2012*, bottom of page 276 *(Scrolled 299/450)*

http://www.portvancouver.com/wp-content/uploads/2015/03/the-environmental-assessment-report.pdf

"Emissions are calculated based on the Deltaport container terminal reaching a **capacity of 3 million TEUs per year by 2020 due to Deltaport improvements**" (page 276)

8. *Projections of Vessel Calls and Movements at Deltaport and Westshore Terminals Deltaport Terminal Road and Rail Improvement Project (DTRRIP), November 28, 2011*

Pages 20, 21; 22; 24; 26; 40; 41

http://www.robertsbankterminal2.com/wp-content/uploads/Projections-of-Vessel-Calls-and-Movements-at-Deltaport-and-Westshore-Terminals.pdf

"Case 1: Deltaport has a sustainable capacity of 2.4 million TEU. Deltaport has maximum capacity of 3.0 million TEU in the interim years of high demand up to about 2020.

Cases 2 and 3: Deltaport has a sustainable capacity of 3.0 million TEU." (Pages 21&22)

Centerm

9. *Container Capacity Improvement Program, Update November, 2014*; page 3

http://www.robertsbankterminal2.com/wp-content/uploads/PMV-Container-Capacity-Improvement-Program-Update-November-2014.pdf

In May 2014, Port Metro Vancouver announced that it is considering design options to **increase container capacity at the Centerm terminal in the Burrard Inlet, from its current 900,000 TEUs to as much as 1.8 million TEUs.**

Fraser Surrey Docks

10. *Roberts Bank Terminal 2 Project: Meeting Canada's Trade Demand; Project Rationale;*

http://www.robertsbankterminal2.com/wp-content/uploads/RBT2-Project-Rationale-March-2015.pdf

"Fraser Surrey Docks' container capacity was designed to **accommodate up to 600,000 TEUs** annually. Due to a combination of the river channel navigation constraints and the world market trend towards larger ships, this capacity has not been realized…Fraser Surrey Docks is assumed to have an actual capacity of approximately **150,000 TEUs**. (page 21)

Prince Rupert Port Authority

11. Fairview Container Terminal Expansion Project Reaches 75% Milestone

EFFECTIVE MONDAY, DECEMBER 12, 2016

http://www.rupertport.com/news/releases/fairview-expansion-75-percent-complete

"The Phase II North container terminal expansion project, launched in the first quarter of 2015, is now more than 75% complete and is on schedule to increase **annual capacity at Prince Rupert's container terminal to over 1.35 million TEUs by the third quarter of 2017**."

12. Asia Cargo News, February 4, 2016

http://www.asiacargonews.com/en/news/detail?id=660

Phase II South -"This will take **container capacity to 2.4 million TEUs"**