A Vancouver Port Rail Authority – Is it time?
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INTRODUCTION

The Port of Vancouver, British Columbia (BC) is Canada's largest and most diversified port, trading $43 billion in goods with more than 90 countries annually.[1] Recently the port has seen unprecedented growth in import and export traffic. The emergence of China and India as major global trade partners is realigning trade patterns and shifting global supply chains. Currently the world's seventh largest economy, China is predicted to be the second largest by 2020 and the largest by 2041. Shifting trade patterns with Asia and an increase in other emerging markets is forecasted to result in significant growth in traffic through Canada's Pacific Gateway. By 2020, container cargo alone is projected to increase by up to 300% from 1.8 million containers to over 5 million containers.

Current volumes of traffic are already stressing the Vancouver port area's transportation infrastructure. In October 2005, the Government of Canada announced a Pacific Gateway Strategy which includes immediate capacity investment of $120 million to improve the performance of this vital gateway. However, this investment does not address rail capacity constraints in the greater Vancouver area.

The focus of this paper is to identify whether a non-profit, single port rail authority or agency for the greater Vancouver area could improve the utilization of the current rail infrastructure within Vancouver. The current rail infrastructure will be reviewed, port rail authorities and port terminal railroads as well as terminal and belt railways in other jurisdictions will be examined, potential port rail authority

organizational structures will be presented and potential benefits and risks will be outlined.

The intention of this paper is to present a platform for further discussions on the topic.

BACKGROUND

Currently three Canadian owned railroads and one United States (US) owned railroad operate within the greater Vancouver area. These are the Canadian National Railway (CN), Canadian Pacific Railways (CPR), Southern Railway of British Columbia Ltd. (SRY) and the Burlington Northern and Santa Fe Railway Co (BNSF).

While all four railroads have operations on the south shore of the port, one railroad has sole access to the facilities on the north shore, (CN bought out BC Rail Ltd operations in mid 2005).

Except for traffic coming down the BC Coast from Squamish, BC, all rail traffic coming from the mainland must cross the Second Narrows Bridge to access the facilities on the north shore. This bridge, owned by CN, is a lift span bridge that opens numerous times a day to allow marine traffic to pass, creating a rail bottleneck during high volume periods.

All CN, BNSF and SRY traffic entering the Vancouver area from the east must also cross the Fraser River Bridge. Owned by CN, this swing bridge also opens numerous times a day for marine traffic. The current demand on that bridge is about 46 trains a day.

CP lines are located on the north shore of the Fraser River and therefore bypass this first bottleneck. These bridge bottlenecks can result in operational delays for traffic accessing the terminal facilities on all four railways.

The following diagram illustrates the rail network in the Port of Vancouver and highlights the two bridges discussed.

Figure 1 - Railways Port Of Vancouver @ RAC Canada 2004

Many issues besides bridges cause problems for rail traffic entering or leaving the Vancouver port area. These include crew related and procedural issues for the railroads, the immediate and surrounding port area has little or no room for expanding railroad infrastructure, local concerns about railway noise in the evening/night time and some railways do not have access to each facility. One railway, having access to specific facilities, could restrict the ability for other railways to deliver traffic to these facilities.

Better coordination and utilization of the existing rail infrastructure and system operations is needed to address current and future demand and deal with issues that have troubled the port for years.

Recently announced initiatives deal with some of these problems. On January 26, 2006 CN and CPR announced an agreement in principle to improve rail operations in and around the Vancouver area. Starting in March 2006, CPR will handle all trains of both railroads destined for the south shore and CN will handle all trains of both railroads destined for the north shore. This agreement complements the

longstanding directional running zone between the two carriers from west of Ashcroft, BC to Mission, BC in the Fraser Canyon. [2]

The intent of both railroads is to improve the operational fluidity of their two networks in the greater Vancouver area, resulting in cost savings that don't necessarily have to be passed on to shippers and users of the port system. Currently each railroad optimizes to its own benefit and not necessarily to the benefit of the water/rail system in Vancouver. Could a coordinating agency or a port rail authority streamline the water/rail operations to reduce overall costs for end users?

CURRENT MODELS

Various models of terminal/port railways exist today in the US. These fall under three major categories:

- State Owned,
- Class 1 owned,
- Privately owned – shortline railways.

State Owned Terminal/Port Railways

The American Association of Short Line Railways (ASLRRA) lists 17 members as government owned switching/terminal or port railroads. (ASLRRA is a non profit trade association that represents more than 400 short line and regional railways in legislative and regulatory matters.) [3] These include state, county, city and port authority owned enterprises. Some of these railroads were owned by their respective governments from the beginning while others were taken over by the public entity at a later date. Some railroads resulted from state legislation.

Various models of publicly owned railroads include organizations that:

- own the capital assets and operate the railway themselves,
- own capital assets and hire a third party to operate,

- lease track from a private company and hire a third party to run the railway,
- bought a railroad company and continue to hold it as a revenue generating company which pays dividends to a public entity,
- are strictly a holding company with no assets but provide open access to the port/region.

Some of these organizations are the largest switching carriers in the US while others handle less than 1,000 carloads a year. All have the ability to publish their own switching tariffs and, if volume merits, enter into contracts with customers and railroads. Presented here are some representatives of the different models that were looked at to develop potential models for the Port of Vancouver.

State Owned

Owned by the State of Alabama, the Terminal Railway Alabama State Docks (TASD) was established via a legislative act in 1927. This terminal railway services the docks and terminals of the Port of Mobile, Alabama. It provides switching for the terminals and the Class 1 railways that interchange with it. Five Class 1 railroads interchange with the TASD – BNSF, CN, CSX Transportation (CSX), Kansas City Southern (KSC) and the Norfolk Southern (NS). It is not a tax supported entity but a revenue generating agency that owns the capital assets of the railroad and operates it with its own employees and locomotives.

TASD's mandate is to be a self sustaining entity with revenues going back into the organization for new infrastructure, debt servicing and leverage borrowing capacity. The TASD, along with the State Port Authority, helps to facilitate trade and create economic development. TASD also provides a level playing field for the railroads where no railroad has a competitive advantage over another.[4]

The Port Terminal Railroad of South Carolina (PTR) is another state owned railroad that owns the capital infrastructure and provides crews to operate the railway. The PTR was established in 1893 and

ownership was later transferred to the State Port Utilities Commission. The PTR has connections to the CSXT and the NS. Its mandate is to cover the cost of operations and maintain its capital property/assets. It receives no state funding. [5]

The Canton Railroad Company (CTN) is owned by the state of Maryland. The CTN is celebrating its 100th anniversary in 2006 but has been owned by the state only since 1987. It serves 30 shippers and interchanges with the CSXT and NS. This railway is unique in that the state bought it when it was in financial trouble and continues to operate it as a private enterprise. The sale was a stock transaction between the existing company CTN and the Maryland Transportation Authority, which now owns 100% of the stock. The railway provides a dividend to the Transportation Authority.

The Ohio Central Railroad System (OHCR) is a large short line railway company. It is unique in that, along with owning its own rail track, it also operates railroads publicly owned by either the State of Ohio or city economic development corporations. In the case of the Columbus and Ohio River Railroad, another company owns the track, leases it to the State of Ohio, which then contracts out the operation to the OHCR. The Youngstown and Austintown Railroad is a public private partnership between the OHCR and the Youngstown Economic Rail Development Corporation, a public non profit agency of Youngstown, Pennsylvania.

County Owned

The SEMO Port Railroad (SM) is owned by the Southeast Missouri Regional Port Authority (SEMO). It serves SEMO port and nearby industries and connects with the Union Pacific (UP) and the BNSF. Two counties formed the port authority in 1975 and built a port facility on the Mississippi River. In 1990, SM bought 6 miles of branchline that the UP wanted to abandon. The port authority received special permission from the state to establish the port railroad and the Interstate Commerce Commission certified the railway in 1994. SEMO owns the track and locomotives but contracts

out the rail operations to a third party. The railway's objective is to make enough money to cover its expenditure and capital expenditures. [6]

City and Port Authority Owned

The New Orleans Public Railway (NOPB) and the Tacoma Municipal Belt Line Railway (TMBL) are examples of city owned or port owned railways that own the capital assets and operate the railway with their own employees.

The NOPB, commissioned in 1904, is unique in that it is tax exempt from state and city taxes. It interchanges with the BN, CN, CSX, NS, KCS and the UP and serves about 165 industries. The NOPB is self sustaining. Its mandate, within city bylaws, is not to profit from the operations but to keep the switching prices down for the benefit of the users of the port facilities. The railroad is the property of the citizens of the City of New Orleans, Louisiana and was "conceived, constructed and is operated to be the most efficient, expeditious and economical switching service possible". [7]

Established in 1914, the TMBL is a similar entity. The TMBL is a division of Tacoma Public Utilities, which is owned by the city of Tacoma, Washington. It switches freight between Tacoma industries and BNSF and SP. Its largest customer is the Port of Tacoma, the fifth largest container port in the US. It's different from the NOPB as it pays 8% of its gross earnings to the city of Tacoma and 1.5% to the State of Washington. [8]

Other public entities like the City of Rochelle Railway (CIR) own the railbed but hire a third party to operate the rail. The city of Rochelle hires TLC Rail Switching Services to operate and maintain the railway. The city put in the rail line to attract industry and develop the local economy. It currently interchanges with the BNSF, UP and CP.

A unique railway is the Philadelphia Belt Line Railway (PBL). The PBL is a holding company that owns the rail bed but does not own locomotives and technically has no employees. The primary stakeholder is the Philadelphia Chamber of Commerce. The railroad was established in the late 1800's and is based on the Beltline Principle, which guarantees railway access. Three carriers access Philadelphia industry – the NS, CSXT and CP. CP would not be able to get into Philadelphia without this principle, which was upheld by the US Surface Transportation Board when Conrail folded and NS and CSXT picked up Conrail assets.

There were many reasons why public agencies took material positions in terminal/switching railroads. Some states did not want to lose rail service – some wanted to create economic development and attract industry. Others wanted to provide for open access, keep costs down and improve service to industry by offering flexibility.

Class 1 Owned Terminal/Port Railway

Class 1 railways own a number of terminal or port railways. Some are net expense operations while others pay a dividend to their share holders. The ASLRRA identifies 18 such carriers in their membership, including the Norfolk Portsmouth Belt Line RR (NPB), Indiana Harbour Belt Line Railway (IHB), Port Terminal Railroads Association (PTRA) and Texas City Terminal Railway Company (TCT).

The NPB and IHB both started out owned by intercity and/or mainline carriers. The NPB was formed in 1896 when 8 separate switching carriers formed the belt line. After a series of mergers and buyouts there are now only two owners – the NS and the CSXT. Offering flexible switching operations adds value to the industry but the mainline carriers are the main beneficiaries of the efficiencies and cost savings.

The IHB is the largest switching carrier in the US. The IHB interchanges with 16 other railroads and owns its own fleet of

approximately 14,000 cars. The railroad has its own profit and loss statement, pays its own taxes and pays a dividend to its shareholders CSXT, NS and CP.

The PTRA operates as a non profit port railway owned by three Class 1 railways – the CSXT, UP and the Texas Mexican Railway (TM). The PTRA operates in the Port of Houston and handles approximately 600,000 carloads a year and services over 170 customers. The land is owned by the port and PTRA pays a monthly fee to the port to operate over port land. Participating railways pay for all expenses – the locomotives, the ties, the rail, crews, and office space. Expenses, minus net revenue from fees like accessorial charges, are prorated for each railway and paid monthly to the PTRA. This includes capital and maintenance charges.[9] The railroad continues to work because it reduces congestion and provides better service to the port. The carrier is neutral to traffic originating or being handed off to the class 1 railways. It capitalizes on the fact that only one railway and not three operate in the port, reducing the need for train starts, crews and locomotives.

The TCT is owned by the BNSF and UP. The two railways also own the Port of Texas City which was started in 1893. In 1921, when the port was in financial trouble, three railroads came to the rescue and paid off the debt. Unlike the PTRA, the TCT profits through accessorial charges and local switching charges and, like the IHB, pays dividends to the two shareholders. [10]

The drawback for users of railway owned switching carriers is that while flexibility in service is offered, any efficiencies and savings accrue to the railway owners and not necessarily to the users of the services. As well the carriers operate with the intention of optimizing the rail operations and not necessarily the port/terminal system operations.

Privately Owned Terminal/Port Railways

The last category, and by far the largest in numbers, is privately owned railways. Some are owned by large companies like Genesee and Wyoming or Rail America. Others are very small companies that handle less than 500 carloads a year. Examples of these types of switching/port/terminal carriers are Golden Isle Terminal Railroad (GITM) in Georgia and Wilmington Terminal Railway (WTRY) in North Carolina, Ballard Terminal Railroad (BDTL) in Washington, Essex Terminal Railway (ETL) in Ontario, Clinton Terminal Railroad (CTR) in Illinois and Stockton Terminal and Eastern Railroad (STE) in California.

These and many others terminal railways, with the exception of the ETL have a common theme – they took over branchlines that Class 1 carriers wanted to abandon. In some states the shortline industry saved a large portion of the railroad network that other wise would have disappeared. They are not large entities however they serve the local industry and provide access to the North American rail network. Many of these have attracted more industry to their geographic region and have more than doubled the traffic levels from when they first started.

Small short line terminal railways offer competitive flexible service. However the railways don't have the ability to leverage a lot of financing to significantly increase their infrastructure to attract more industry.

PROPOSED MODELS

A port rail agency or authority could address many of the issues outlined in the beginning of this paper. Successful US organizations have shown that a single carrier operating in a terminal environment can increase operational efficiency, provide flexible service and reduce shippers' costs. There has been concern that some large belt line operations in the US hinder more than assist the network of the region. However these are very large entities interchanging with up to

twelve railways. Many very successful operations operate in a smaller environment where only a few carriers interchange with the terminal railway. The Port of Vancouver handles a significantly large amount of traffic, however, there are only three Class 1 railways accessing the port.

By having one organization servicing the port instead of three, efficiencies of the system could be realized through fewer locomotives and fewer crews required to marshal, deliver and pick up traffic from the various terminals. Fewer locomotives also mean reduced emissions. As well one body would coordinate the efforts of the whole system, not just pieces of the water/rail network. This would increase the throughput of the system and squeeze more capacity out of the current infrastructure while potentially addressing local issues.

Allowing multiple carrier access could increase competition in the port. This would benefit shippers delivering product for export and receivers across North America hoping to capitalize on the imports of containers bound from China to the mid continental market. The concept of a public belt line principle, which allows for open access to any carrier, should be further explored for the Port of Vancouver.

Three models could be considered for the Port of Vancouver:

- A Port Authority owned switching railroad
- Vancouver Rail Corporation – jointly owned by CN, CP, BNSF and Port – each are equal shareholders
- A port coordinating agency

All three models would allow for optimization for the water/rail system of the port. The only real difference in the models is the level of port authority financial involvement and the extent of the railroad's control of local operations.

A Port Authority Owned Switching Railroad

A Vancouver Port Authority switching railroad could operate in a number of ways. It could own the locomotives, provide its own employees to operate the railway and lease track from the railways similar to US State owned terminal/port railways. (There is some track already owned by the port and leased to CN in an agreement stemming from a 1953 Order in Council. See endnote.)[11]

It could hire a third party to operate a port terminal railway. This third party operator would operate and maintain the network or the Class 1 Railways would continue to maintain the capital infrastructure and the expense would be paid back to the Class 1 Railways in the lease rate of the railbed.

With either model the Port could operate the switching railway as a non profit organization to reduce costs to users similar to proven models in the US. At the same, time the port could offer access to all three class 1 railways for all port facilities, thus introducing a level of competition not seen today. The port could also take advantage of current federal funding allowing for cost sharing of green locomotives that would help to reduce emissions in the port area.

The advantages of a port owned and operated railroad include:

- minimized costs for the user thus attracting more traffic to the port by increasing the competitiveness of the port users,
- additional service levels could be realized – levels that existing Class 1 Railways may not be able to offer today,
- all railways should see reduced costs attributable to the port because the total number of locomotives, crews and train starts should decrease
- all railways currently participating in the port area would have a level playing field where one railroad would not have a competitive advantage over another.

Disadvantages to the port include an initial financial outlay for locomotives and leased railbed. The port would also have higher

operating expenses from running and maintaining the railway. This model introduces another level of operations to the port system that could increase the efficiency of the port system, but could cause more congestion and bottlenecks if the operation is not run properly. As well, all facilities and railways would have to support the concept for the model to work effectively. If the railroads did not agree to cooperate the port could end up having to purchase the railbeds from the railways creating a significantly large financial outlay for the port.

Vancouver Rail Corporation

A switching port railroad owned jointly by the Class 1 Railways and the Port of Vancouver has the advantage of bringing major rail stakeholders into the decision making process. The TCT in Texas City operates under a similar model. All three carriers would have to agree to share the cost, prorated, of the switching railway and the Port would also have to assume some of the cost. The railways would also have to agree to give up authority over their operations in the port and agree to a level playing field. However, to be financially beneficial to the port users, the Vancouver Rail Corporation would have to operate as a non profit organization.

The railway could be operated similar to the first model with the Class 1 railways providing locomotives on a prorated basis or the corporation could take ownership of the required number of locomotive through purchase or lease.

The advantage to the port authority is there is less financial risk. The advantage to the railways is continued involvement in decision making. The railways should see the same cost reductions as in the first model as one agency would handle and coordinate all switching activities.

A Port Coordinating Agency

A Port Coordinating Agency would have no financial position in the rail operations of the port. It would operate strictly to coordinate the

operations of the water/rail system in the Port of Vancouver. Currently there is no one body coordinating the combined system.

The agency could be placed within the Vancouver Port Authority organizational structure. A board could be set up and include representation from each railway operating in the port as well as representation from the major facilities.

The agency would be responsible for ensuring the optimum use of the port marine and rail infrastructure with the mandate of operating to minimize costs and at the same time dealing with local issues and concerns. Agency staff would have to be well versed in the marine and rail operations of the port.

The railroads would have to agree to give up control of local rail operations to an outside body, but they would have direct input into the coordination effort. Open access would allow for maximization efficiency however the class 1 railways might not agree to open access of the port facilities.

The advantage of this type of model is the Port of Vancouver does not have any financial stake in the operation. The disadvantage is that any saving realized by the coordination accrue to individual participants in the chain and not necessarily to the users of the port system.

SUMMARY

The success of switching/terminal railroads in the US shows that a similar model for the Port of Vancouver should benefit the entire port system. Whether the model is a port owned or a port coordinating system depends on the risk management scenario desired by the port and the cooperation of the class 1 railways and the port facilities.

Even though all three Class 1 railways own rail infrastructure in the port and all want a return on their investment there could be cost savings from a unified and coordinated approach to water/rail

operations, which would improve each individual rail's financial performance. Currently, in some of the terminal/port railway set ups in the US, CN or CP already participates in the model. (CP participates in IHB and PBL; CN participates in TASD and NOPB.)

The models presented here focussed on the potential of streamlining operations and fully utilizing the existing infrastructure and capital assets required to operate a terminal railway. A secondary goal was to minimize the cost to the users hence the proposal of a non profit organization.

With the predicted increase in traffic, all participants of the water/rail system must look at the whole system and not just individual pieces. Cooperation between all parties will lead to the maximum utilization of current infrastructure and efficiencies will be realized by all parties. A cooperative environment can lead to solutions that will address the issues of all participants including local concerns as well as large industrial parties.

Note

The views and opinions expressed in this paper are those of the author and do not represent those of the Government of Alberta.

Reference and Notes

[1] Port of Vancouver Web Site - www.portvancouver.com/media/port_facts.html
[2] Canadian National Railways Web site - http://www.cn.ca/about/media/news_releases/2006/1st_quarter/en_News20060126.shtml
[3] American Short Line and Regional Railroad Association Web site - http://www.aslrra.org/who_we_are/
[4] Alabama State Port Authority Web Site - www.asdd.com
[5] Port Terminal Railroad of South Carolina
[6] SEMO Port Railway Web Site - www.semoport.com
[7] New Orleans Public Railroad Archives document June 6, 1977
[8] Tacoma Rail Web Site – www.tacomarail.com
[9] Port Terminal Railroad Association web site - www.ptra.com
[10] Texas City Terminal web site - www.railporttc.com
[11] PC 1953-642 – where the Committee of the Privy Council, pursuant to the National Harbours Board Act of 1936, created an agreement between the National Harbours

Board and the Canadian National Railway Company that provided for the transfer (partly by way of sale, partly by way of assignment and partly by way of lease) of the Vancouver Terminal Railway from the Crown to the Company. This 50 year agreement was resigned in 2003.