

**Market Access Session Proceedings**  
PNWER Annual Summit – Whistler, British Columbia  
July 21, 2014

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**Co-Chair** Scott Rudderham, Senior Vice President – Operations, Canpotex, SK  
**Co-Chair** Kathy Olesen, MLA, AB

**Speakers**

Janice Tranberg, Assistant Deputy Minister, Ministry of Agriculture, SK  
Dean Wise, Vice President, BNSF Railway  
Sam Ruda, Chief Commercial Officer, Port of Portland  
Katherine Bamford, Director of Trade Development, Port Metro Vancouver  
Michael Crawford, Ministry of Transportation and Infrastructure, BC

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**Kathy Olesen: Opening Remarks**

Provided an introduction to the panel and Scott Rudderham, and reinforced the importance of access to international markets for trade and economic success for the region.

**Scott Rudderham – Introduction to Session**

Market access can constitute what is required to move anything to anywhere. PNWER is ultimately about market access: the physical, political, and other challenges to get things to market.

Canpotex is focusing on capacity and how it is created, and solutions to short and long-term challenges, such as flooding, resource constraints, polar vortex, increased demand, and legislation prioritizing grain movement by rail.

Late shipments and unfulfilled orders result in unhappy customers and reputation damage. Reliability on Canpotex's part allows customers to plan agricultural growth with confidence. To create this reliability, Canpotex has invested in an enhanced supply chain: its own railcars, bulk carriers, storage capacity and dedicated terminal facilities. Despite all this investment, results were poor.

Why invest in infrastructure? A lot of moving parts – need to understand all of them and how they interconnect to make the right decisions. These decisions are collective and the supply chain is only as strong as the weakest link.

**Janice Tranberg – Ministry of Agriculture, SK**

Topic: SK Plan for Growth (Vision 2020 and beyond)

Sk intends to increase crop production, agro-food exports, biosciences, and value-added activities to make a better life for people in SK (well on the way to meeting these targets). This vision is supported by federal government's pursuit of free trade agreements, and PNWER is part of the vision through SK's collaboration with others in the region.

The last crop year enjoyed ideal growth conditions, but the resulting 40% crop increase was also due to crop science, bioscience research, etc. Unfortunately, the increased crop yield could not be transported to market.

The grain market supply chain = producer → truck + country elevator + railway + terminal + bulk carrier → buyer

Transportation constraints were a significant challenge for SK, with a total railcar shortfall exceeding 75,000 cars. Cold weather was a significant factor in transportation constraints: shorter trains, breakdowns, derailment risks, snow blockages.

Agriculture is major driver of SK economy, so crisis impacted everyone and damaged SK's reputation. Government is concerned about long-term viability of entire supply system to accommodate planned growth and growing demand for all SK products: oil, gas, potash, uranium mining as well as agriculture.

Legislative measures to resolve issues:

- Order in council
- Performance benchmarks
- Penalties (\$100,000 for non-compliance)
- Fair Rail for Grain Farmers Act (Bill C-30): 11,000 railcars/week, extended inter-switching distances to 160 km. Guaranteed services for all customers and shippers in the corridor.

The objective of the Fair Rail for Grain Farmers Act is to ensure grain efficiently and effectively reaches the world market. Every element of the grain supply chain needs to be coordinated to function effectively.

Long-term, the government desires improvements in the overall performance and competitiveness in the Canadian transportation system. Need to address the weaknesses and plan for improvements to accommodate growth for all shippers, not just agri-products, so Canada can supply the products the world wants when they are wanted.

Loss of Canada's international reputation as a reliable supplier for grain, potash, uranium, etc. will harm the economy in the region.

#### Questions:

How are railroads reacting to quotas set?

Today, they have met their quotas and significant shipments have gone through. However, still have a backlog and now more crops are coming through.

Who owns the railcars needed for grain shipment?

Shippers, Canadian National (CN), Canadian Pacific (CP)

What is the capacity of the rail industry to meet increased demand across the country?

Can't answer that – encourage other experts to step forward

Comment from floor: Railcars carrying grain are all going west. The cars going south are all carrying oil, so farmers can't meet demand in the US.

Do governments own railcars?

Understanding is that the rail companies own the railcars

Comment from Scott Rudderham: Approximately 50,000 grain railcars bought by the federal government (assisted by the provinces), plus a smaller private fleet. Historically, the Canadian Wheat Board owned railcars.

### **Dean Wise - VP BNSF Railway**

Topic: Burlington Northern Santa Fe (BNSF) Railway (refer to slides for detailed statistics)

Rail = backbone of transportation system in North America, gauge is the same for all tracks with over 140,000 miles of track on the continent.

Controversy exists over shipping crude oil by rail, and both benefits and risks exist. In the US, 40% of ton-miles are moved by rail (bigger percentage in Canada). The benefits to transporting oil by rail include:

- Fuel efficiency and cost efficiency compared to trucks (40% of ton-miles, 2% of GHG emissions)
- Railroads can add capacity incrementally fairly easily – usually within 12-20 months

Rail Network in North America:

- Both CN and CP go coast-to-coast in Canada and into the US. US railways are more regional: north, west, south, and east.
- BNSF has made small inroads into Canada, connects to over 40 ports in North America
- Railroad industry in North America is private sector and funded in large majority by the railroad companies

Refer to slideshow for a graph of BNSF's business mix.

Risk Reduction at BNSF:

- Risk reduction program focused on ensuring all shipments are handled safely and arrive damage- and incident-free
- Risk reduction relies heavily on the kind of returns that allow the rail company to invest in upgrades in infrastructure and redundancy to exceed compliance requirements.
- Involved in employee training and also community first responder training

Capacity of rail network = network throughput (trains per day)

Planning and execution components:

- Service design (regulations are different in the US – market allocates railcars by shippers choosing to buy a rail set)
- Communications
- Mobile resources – people, locomotives, and railcars
- Infrastructure – rails and terminals
- Short-term focus: velocity momentum (weather slowed down railcars across the country, lost momentum)
- Long-term focus: infrastructure expansion (\$5 billion investment in 2014)
- Investment: split between maintenance and new infrastructure

Public Policy Challenges:

- US Highway Trust Fund will be bankrupt in a month – the gas tax does not cover needed repairs. If highway repairs are being taken from a general infrastructure fund, that creates an imbalance.
- Focus highway investment on intermodal connectors and collectors to rail facilities to speed up intermodal transitions

Challenges for Infrastructure Development:

- Anyone can shout stop and delay permits or cause a lawsuit
- Social license requires new approaches to collaboration over the long term
- Need to identify ways to coordinate highway and rail investment to save money and identify win-win situations for capital efficiency

Focus growth on corridors:

- Great Northern (along the border)
- MidCon (Canada to Mexico)
- TransCon

Great Northern Corridor Coalition: involves eight states and three provinces working together to grow. Looking for joint infrastructure projects and public-private partnerships for future investment in the corridor.

Questions:

How many locomotives does BNSF own?  
7,000 with 1,000 added in the past year

How many railcars? How are they allocated?

Tank railcar business is nearly 100% owned by shippers (BNSF runs the trains). At the other end of the spectrum, BNSF owns grain cars. The number of cars doesn't matter as much as how smart the railroads are to run those cars. Companies can rent train shuttles (110 cars) in advance to have the use of the cars they think they will need, and trade the capacity if you don't need it. Mr. Wise believes that legislating capacity is very challenging because of how it affects the entire network. BNSF is focusing on increasing momentum and speed (rising tide raises all boats).

What is the US plan for grade-separated railways? (Canada has worked out how to do grade-separated rail corridors in urban areas)

Grade separation is very expensive. By law, in the US, the railroads contribute 5% to grade separation projects, which can be anywhere from \$20 million to several hundred million dollars.

**Sam Ruda – Chief Commercial Officer, Port of Portland**

Market access observations from the US perspective:

- Current focus on developing port capacity and supporting infrastructure for containers.
- Cargo demand forecasts have been substantially wrong related to bulk commodity movements (energy, agriculture, minerals).
- Container growth has flat-lined on the west coast and there is even inefficient use of container capacity (Port of Seattle running at 40% of container capacity).
- In the Pacific Northwest, politics have slowed the development of critical port infrastructure for certain commodities (coal, crude, LNG).

- Many people do not appreciate the role that the energy and agricultural sectors can play in this area.

Port of Portland:

- One of five port authorities in the US that operates a port and an airport. Unlike airports, the federal government does not have a coordinated role in infrastructure planning for marine ports.
- Located on the Columbia River (166 km up river) where the main lines of BNSF and Union Pacific (UP) intersect.
- River channel has been deepened to 43 feet (13 m) with a 600-foot wide channel. Deepening by 1 m took over 22 years: 3 years of construction + 18 years of litigation.
- Looking to the future, planning horizons have elongated.
- Columbia River cargo is substantially bulk materials with only one container terminal (causes 90% of headaches, 110% of losses).
- Has generally been overshadowed by ports to the north and south on the coast.

*Note for record:* Canadian terminals on slideshow are shown in the same size font as the American terminals!

Thoughts on transportation of goods:

- The border is becoming increasingly meaningless –cargo does not have to be nationalized.
- Historically, wheat was the biggest export, but it has flat-lined. Growth is in corn, pulses, and other agricultural products (feeding China and reflecting changes in diet). Historically, the “grain-shed” is moving to the northwest.
- In certain segments that are energy intensive, North America is becoming a very competitive producer (thanks to natural gas), which is driving increased rail transport demand.
- Portland is well situated for rail access with UP, BNSF, CP, and CN and an at-grade crossing through the Cascades.
- Currently, there are nine grain terminals in the Pacific Northwest (seven on the Columbia River). There is a lot of M&A activity in the area (large multi-national players, with Chinese companies looking to get involved). All have been investing in increased capacity. Expectation is that more Canadian grain will come through Port of Portland – this is where the capacity is.

Good news regarding market access:

- Bulk rail shipments are very profitable for railroads (more than containers) and can generate adequate returns for future investments.
- There are four Class 1 railroads in the area plus a mix of short-lines.
- More than enough cargo growth to not be a threat to Port Metro Vancouver or Port of Prince Rupert.

Market access system constraints:

- Choke points for railways tend to be in and around cities.
- Concerns include at-grade crossings, bridge heights, last mile to the port.
- Infrastructure projects that support market access tend to have small constituencies, not politically important (not exciting or sexy to the public).
- US problem: gas tax is 18.4 cents and was not indexed to inflation (set in 1997).

Market access planning tools (refer to slideshow for map):

- Connect Oregon: state transportation funding programs are focused on road improvements (gas tax) and not other modes. Port of Portland was a leader in creating a funding mechanism for non-road infrastructure projects: ports, airports, intermodal networks at the state level. Backed by lottery bonds, companies can apply for grants.
- Availability of public funds can be the tipping point for railroads when making a business case decision to invest in infrastructure.

The future of market access:

- Ignore the Canada-US border.
- Look at agriculture, mineral, and energy sectors for growth – these sectors will generate more cargo growth than even the improved Panama Canal will generate.

Questions:

Where are the signs of progress moving away from containers and toward cargo?

Response: There is a rethink going on for future investment decisions at the various ports. They are looking at diversification of infrastructure.

Market access tends to be more focused on tariff and regulatory issues than infrastructure. With the “ignore the border” move, there are regulatory issues that need to be worked on to make that possible.

Response: growth in commodities has occurred over a small planning horizon that it has outpaced the regulatory change. Movement needs to happen.

**Katherine Bamford – Director of Trade Development, PMV**

PMV applies a unique collaborative approach to building infrastructure.

Corporate governance: PMV is set up differently and has a competitive advantage

Port authorities exist to advance Canada’s international trade – take a broad view – and mandated to balance the health of the environment and needs of the communities in which PMV operates.

Mission and vision comes out of the legislation

PMV is Canada’s largest gateway: move cargo and passengers efficiently and safely, and build infrastructure. Operates across 16 municipalities and 1 First Nation with 28 major terminals, and 3 first class railroads (excellent rail connections and access). Refer to slideshow for detailed statistics on capacity and impact.

Five business sectors:

- Cruise: Vancouver-Alaska cruise route (812,000 passengers yearly)
- Bulk: coal, grain, petroleum, sulphur, potash, forest products
- Container: 2.8 M TEUs (15-20% of total volume of port)
- Break-bulk: logs, woodpulp, lumber, steel, project cargo
- Auto: 250,000 to 400,000 vehicles per year

Capacity: depends on infrastructure, performance, and reliability (long-term planning).

Focused on building both off-terminal infrastructure (typically, port authorities don’t get involved in off-terminal projects) and on-terminal infrastructure on port land, apply reliability strategies to all infrastructure.

Federal government has invested billions in infrastructure across the gateway. Port Mann Bridge and South Fraser Perimeter Road projects cost \$5 billion. Government is very focused on providing the infrastructure needed for market access.

Conducted a study in 2006/2007 to increase capacity on existing footprint, through using overpasses to separate road and rail. 17 overpasses in three areas (total cost of \$700 million) were collaboratively funded and will be delivered on time and under budget by the end of 2014.

- North Shore Trade Area (\$100 million)
- South Shore Trade Area (\$293 million)
- Roberts Bank Trade Area (\$307 million)

Removing conflict by removing at-grade crossings increases fluidity and capacity. Each trade area has a different fee structure for use, depending on commodities moved through.

Roberts Bank Trade Area: using a collaborative approach with twelve funding partners (government at all levels, railroads, TransLink, and PMV), the rail corridor capacity has been doubled in a critical area. This funding model is unique to the Vancouver region.

Fraser River Trade Area: studies underway for a replacement New Westminster Rail Bridge and a tunnel replacement project (new bridge) all over a nationally significant waterway (the same economic output as the St. Lawrence Seaway).

Private-sector investments (terminal expansions) on PMV-owned land (\$12 billion): grain, containers, potash and coal, shipbuilding.

Example project: Proposed Terminal 2 Development (\$2-3 billion capital cost) to increase container capacity to meet projected demand in 2030.

Reliability includes alignment (another means to increase capacity): labour, rail, trucking, vessels, and terminals all have to work together.

For PMV, long-term planning is essential. Working on a 40-year horizon.

Environmental and sustainability initiatives include:

- Incentives and support to help vessels reduce GHG emissions
- Leveraging the collaborative funding model to deliver a \$12 billion program (governments, industry, municipalities).

Questions saved for end of session.

### **Michael Crawford – BC Ministry of Transportation and Infrastructure**

New West Partnership is a commitment by governments of BC, AB, SK to strengthen economies of western Canada. Traditionally, partnership focused on four key areas: trade, international cooperation, innovation, and procurement. Until recently, the Transportation Ministries in these provinces hadn't considered market access (focused on harmonizing licensing, etc.), although agricultural ministries have gone on shared trade missions to jointly address market access issues.

Three separate research initiatives undertaken to address market access concerns (to develop a clear understanding of existing supply chain and project future demands):

1. Review of current projected agricultural commodity demand on system and ability of West Coast ports to handle demand (led by SK)
2. Assessment of the competitiveness of the West Canada's supply chain (led by SK)
3. Pacific Gateway Transportation Needs Assessment (led by BC and Pacific Gateway Alliance)

Pacific Gateway Alliance (PGA)

- In effect since 2005
- Meets quarterly
- includes YVR, PMV, other ports, municipalities
- Oversees \$22 billion in public and private investment
- Guided growth of container industry
- Developed an initial action plan that identified pinch points in the transportation network

Gateway 2.0 strategy in 2012 identified future strategies, but was not an action plan: did not identify pinch points or potential demand and solutions. New West Partnership started to discuss market access issues and how to address them: leading to a Needs Assessment project.

Michael is the project manager for the Needs Assessment, and the project team has a wide range of expertise in commodities as well as transportation. Team is currently working to produce twelve Western Canada commodity sector reports:

- Coal
- Potash
- Forest products
- Metals & minerals
- Oil
- Natural gas
- LNG
- Sulphur
- Fertilizer
- Agriculture products
- Petro chemicals
- Containers

Reports will examine global market structure, macro production, supply output, demand trends, key drivers, and the role of BC and Western Canada in the market. Reports will also forecast for production and supply to 2024, planned routing, analyze existing and planned network capacity, and identify future constraints on capacity to define solutions. Combining the data from each of the reports will allow for cumulative assessment and a plan for future action.

Research process:

1. Desktop analysis and research, market demand, synthesize known information about infrastructure capacity
2. Consultations based on research: meetings with public and private sector representatives to discuss findings and seek perspectives of each representative on market output in their industry and transportation impacts.
3. Hosting a series of round-table working group meetings to validate findings, validate forecasts and discuss transportation impacts.

Provided a useful venue for people from different areas of the supply chain to come together and talk about different concerns and constraints. Ultimately, the Pacific Gateway Alliance will validate all the work undertaken.



Specifics on the research:

For each commodity, three scenarios were produced:

- Low (organic growth),
- Medium (organic growth plus traffic projections and stated growth projections from commodity producers),
- High (all the preceding plus the outcome if all programs go ahead)

For the cumulative projection, taken the medium growth scenario and consider how shipment volumes translate into trains, ships, terminal usage, etc. Terminal capacity is relatively easy, rail is more complicated to assess and consider future growth (what are the number of trains per day that can be sustainably operated on this network, how can the capacity be increased over time). For roads, used GIS for national highway system and projected truck volume expectations. Marine traffic was straightforward to assess using vessel counts.

The twelve reports will be considered for the combined impact on the network and the priorities of the network, to ensure the network is performing at the level the government wants. This work brings together key participants for a joint collaboration effort.

#### Questions:

Question (Geoffrey Hale – U of Lethbridge): expansion of port capacity relevant to anticipated pipeline development – LNG, etc. What lessons have you learned from working with community stakeholders for road and rail improvements that could be useful for dealing with increased tanker traffic on the coast? If you don't have the infrastructure capacity to get them out of the port?

Response (Katherine Bamford): PMV covers 22 municipalities, one treaty First Nation, and other claimed lands. Focused on a collaborative effort between industry and government when talking to communities. Use community liaison committees. PMV took five years to collaboratively create strict protocols for commodity movements. Additionally, PMV goes beyond its jurisdiction to provide expertise in other areas: Centre for Excellence to develop protocols.

Question (Pamela Schwann – SK Mining Association): Mining takes up 50% of rail traffic volume and revenues in Canada. It is important to get mining product to market. Are there any regulatory conditions that would prevent BNSF from taking a more aggressive role in the Canadian market? Do you have to report on your activities?

Response (Dean Wise): BNSF is open to additional facilities and gateways. Currently works with CN and CP to operate a multi-model facility. Do not have to report on activities, except for hazardous materials reported to the state-level response team. If there was a business case to move further into SK, there are no issues to prevent it.

Question (Desi Jordanoff – US Department of Commerce): interested to learn more about product safety, particularly when goods are coming from Asia, how are goods inspected in transit, particularly when coming into the US through Canada? Six minutes on dock [as mentioned by Katherine Bamford] is a stunning turnaround.

Response (Katherine Bamford): Six minutes does not apply to every product. PMV is bound by Transport Canada regulations for dangerous goods, with manifest reporting requirements.

Transport Canada is responsible for regulating all import and export safety regulations – very prescriptive regulations that PMV complies with.

Response (Sam Ruda): security applies to airports and seaports. The federal government has a clear, defined role in the security process. The seaport side: there is less urgency for container inspection; the process is very fragmented with many players and unclear boundary limits.

### **Scott Rudderham – Wrap-Up**

In today's session:

- Touched on grain movement challenges and future aggressive growth targets supported by government.
- More goods are moving on rail relative to other modes and demand is growing, even for products like coal
- Capacity is complex.
- Different allocation system in the US for grain cars compared to Canada's legislated approach
- Containers are over-committed; bulk growth is greater than containers.
- Long lead times to build transportation networks and there is risk of permitting and litigation.
- Demand for port capacity is growing.
- Ignore the border is an interesting approach and has merit to improve the movement of goods.
- Exceptional capacity creation at PMV using a collaborative approach with everyone having financial commitments for the projects – it actually worked and all sectors brought together.
- Taking away infrastructure conflicts increases capacity
- Forward planning is essential – PMV is looking out to 2050 – the projects completed in 2014 started before 2002
- The New West Partnership is again about collaboration, bringing people and ideas together to share information and project future needs and growth in capacity that will be needed. In the described scenario, there's no super-cycle expected in the next ten years, but expecting good, positive, sustainable growth.

The session starting questions were:

- What is capacity?
- How does it work?
- What are the challenges
- What are the solutions?
- Why invest?

Hope that the presentations today have answered some of these questions.