

# ***Rail Freight Service Review***

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Analysis of Operating

Practices:

Key Issues from Stakeholder Interviews

Potential System-wide Solutions.

October 2009





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## Executive Summary

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On May 30, 2007, the Government of Canada announced the introduction of a Bill, which contained improvements to the shipper protection provisions of the *Canada Transportation Act*. The announcement also indicated that the government would undertake a review of rail freight service.

This report has been prepared as part of the analytical phase of the service review. The objective of this report is to assess and analyze the operating practices of system stakeholders to identify those practices that adversely impact service, system efficiencies and the capacity of the system. This report is based on the results of stakeholder consultations and the identification of best practices in the Canadian rail freight logistics system.

For our assessment of the rail logistics system QGI has used the Supply Chain model of logistics as a framework to guide our analysis. A Supply Chain is the set of processes, activities, agreements and systems that operate between and within the various organizations and stakeholders in a logistics system. Supply Chain management involves both supply and demand planning. It also requires a high degree of collaboration between partners in order to ensure that the requirements and constraints of individual firms in the network can be considered and if possible incorporated in the planning and operations of other network partners.

### *Methodology*

In consultation with the client – Transport Canada – QGI developed a list of stakeholders to be interviewed for this project. Shippers from all regions of Canada and representing various industries and types of rail service were chosen to participate.<sup>1</sup>

In addition to rail shippers the stakeholder list included a broad selection of: short line railways, marine terminal operators, port authorities and shipping lines. In addition, one of the largest railway labour unions provided their input to the process.

A key characteristic of the rail freight supply chain is its response to variability whether such variability is caused by weather, markets or the behaviour of individual partners in the supply chain. As noted earlier, effective collaboration is a key characteristic of supply chain management as the investment, marketing and operational decisions of a single partner can have serious implications for the overall system. The process of anticipating and planning for events which cause variability in demand and supply across a

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<sup>1</sup> The full list of stakeholders who participated in these interviews is attached to the report as Appendix 1.

supply chain is one of the key purposes of the collaborative processes which supply chain partners must create in order to operate effectively.

However, in addition to the collaboration needed to *forecast and plan for future demand*, a supply chain is an operational system with the need for day to day integration of the partners' operations. Each partner in a supply chain while planning their own operations must do so with a clear understanding of the capacity and demands of their logistics partners. The need for *operational collaboration* and communication will therefore also be examined in this report.

Finally, investment in both railway and shipper infrastructure in order to handle wide variability in demand can impose significant costs on the supply chain and inevitably these costs and resulting benefits may not be distributed in such a way as to impose the costs on those who benefit and confer the benefits on those who pay the costs. The ability of the Canadian freight rail logistics system to support *decision making which optimizes the overall system*, rather than a single partner, was also a subject of the team's review.

In order to provide a framework for the assessment of operating practices in the Canadian rail freight supply chain, the project team developed the following list of best practices that should exist in such a system. This set of desirable supply chain characteristics or behaviours was developed both from the experience of the team and from a review of academic literature on the topic.

#### Best Practice Supply Chain Characteristics

**1. There should be well developed mechanisms to communicate demand and capacity for planning operations.**

- i. Partners in the supply chain should have formal processes to share information about future demand to support capacity planning.
- ii. Partners should have transparent processes to inform each other about their capacity limitations to ensure that both operational and investment planning of individual partners take into account the needs and limitations of the entire system.
- iii. Demand and capacity planning should recognize the special constraints created by possible seasonal demand peaks and by reasonably predictable network disruptions such as those caused by seasonal weather events.

**2. Partners should have processes that support integrated day to day operations and communication.**

- i. Performance standards should be developed in a collaborative environment to ensure that they reflect the needs and limitations of key stakeholders, especially supply chain asset owners.
- ii. Performance standards should be reflected in measurements and this data should be accessible to all supply chain partners.
- iii. Carriers, shippers and terminals should have access to their partners' demand, capacity and operational status wherever commercial competitive considerations do not prevent this.

- 3. The system should seek to optimize output and profitability of the entire supply chain.<sup>2</sup>**
- i. This requires mechanisms or agreements that permit the sharing of operational and investment costs and benefits across the firms and organizations in the supply chain.
  - ii. There is a revealed process for sharing business risk – risk of performance and market variances.
  - iii. Participants in the system are not limited to a short term view of investment and risk but are willing to consider operational and investment planning from a longer term perspective.

These best practice characteristics provided a framework for the stakeholder consultations.<sup>3</sup> The use of this theoretical approach to a supply chain allowed the study team to focus on the common processes and activities that link the stakeholders together in the rail freight logistics system. Given the importance of collaboration in the planning and operation of supply chains the study team chose to focus on the key processes at the interface between supply chain partners. In discussions with the client regarding the methodology for this study it was agreed that using this unifying model of the supply chain to structure the analysis would allow a more strategic examination of the issues than might be obtained from a detailed examination of individual stakeholders industry specific or even company specific operating practices.

Each interview included questions on the following topics:

**1. Forecasting and demand assessment**

- These questions generated discussion of the stakeholders' transportation forecasting processes and reviewed how forecast information was communicated between stakeholders and how such data was used for planning purposes.

**2. Operations**

- This section included a series of questions dealing with communication processes for daily operations, problem solving processes, the establishment of service standards and measurement, and issues respecting billing processes for freight and ancillary services.

**3. System Optimization**

- In this section stakeholders were asked about investment planning, infrastructure needs and constraints, labour practices and labour regulation.

With only a few exceptions, interviews were conducted in person and took from 1-3 hours each. All participants' responses were analyzed and a summary document prepared for review by the project team.<sup>4</sup>

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<sup>2</sup> Maximizing profitable output may not be consistent with minimizing total cost. If cost minimization restricts output of the system below a level with higher profitable output then the system is not optimized. For example, reducing rail service may reduce total costs but if it limits a rail customer's output potential it may reduce the total profitability of the supply chain.

<sup>3</sup> A copy of the shipper interview guide is attached as Appendix 3. All other interview guides covered the same areas of questioning with somewhat different wording and prompts to match the circumstances of the specific stakeholder groups.

<sup>4</sup> This summary which is attached as Appendix 4 has been edited to remove references to individual persons and companies in the Shipper, Shortline and Ports and Terminals sections.

While the views of the stakeholders as determined from the interview summaries allowed for the clear identification of issues, prioritization of these issues required reference to criteria that take into account both regulatory policy and practical considerations. Various frameworks for assessment were reviewed by the project team including those provided by:

- National Transportation Policy - as outlined in the Canada Transportation Act
- The Grain Handling and Transportation System Monitoring Program
- The project team's experience and guidance

In addition to the National Transportation Policy and GHTS experience noted above, the project team also recognized that issues of uncertainty, risk and financial return must be weighed in assessing the impact of an issue and the choice of a potential solution. Therefore, the team also considered the magnitude and feasibility of change and the estimated financial impact of the current situation and potential solutions. It was in this area that QGI relied on the project team members to apply their combined experience and judgment to the assessment of issues and potential solutions.

### ***Key Issues***

Using the criteria described above, the following issues were identified by the project team and they are listed in order of priority.

#### ***Need for balanced accountability***

Most stakeholders believe that a supply chain participant should be responsible for the costs that their behaviour imposes on the other participants in the supply chain. For example, if a shipper sends more railcars to a receiver than that receiver can unload and thereby creates congestion in the rail network, ideally, the shipper would be held responsible for any congestion costs. Similarly, if a railway unduly delays shipments enroute to a rail receiver resulting in traffic being "bunched" and delivered in unusually high volumes (compared to the day to day shipping volumes normally experienced) then stakeholders believe the railway should be accountable for any resulting congestion costs. The issue of balanced accountability is complicated by the fact that railways are networks with a high degree of shared cost and by the fact that some railway customers do not have effective access to alternatives to rail transportation.

In general, disruptions to service are caused by unexpected events that overwhelm the capacity of the network at points of constraint. These events which can be caused by outside factors such as weather or by the operating or marketing decisions of a supply chain partner, introduce unplanned variability into the network resulting in traffic delays and the creation of additional costs required to compensate for unplanned events. The magnitude of this variability in network availability or volume will determine the size of the disruption. However, this issue does not lend itself to easy answers as the determination of what is "acceptable" or "normal" variation in performance and capability must be determined from the circumstances of each traffic flow.

Examples of situations where the principle of balanced accountability was sometimes not respected were:

- Bunching of traffic at origin and destination due to railway operating decisions
- Railway scheduling that restricted service in order to accomplish “demand smoothing”
- Shipper or receiver requirements to increase investment in rail car handling capability to take account of reduced railway service frequency
- Pressure from shippers for railways to handle demand surges that require investment in “standby capacity” without a commensurate increase in revenue or sharing of risk.

The problems of balanced accountability were of particular interest to railway customers who do not have practical access to transportation alternatives. For these so-called “captive” customers, railway decisions which restrict their capacity or increase their costs cannot be off-set through adjustments to logistics strategy. For these customers the issue of balanced accountability is of strategic importance to their business. However, customers in all business segments regardless of their access to alternative transportation also expressed concerns that could be broadly grouped under this general heading.

Most rail customers make commitments to supply chain and logistics systems that are long term investments in facilities, supply networks and marketing strategy. Even if changes in logistics would allow for the introduction of transportation alternatives such alternatives are not practically available to shippers in the short term and changing logistics configuration may involve substantial financial risk.

### ***Operational Cooperation and Communication***

Given the importance of effective collaboration in supply chain planning and operations, deficiencies in these areas are of great concern to the study team. Shippers, shortlines, and terminal operators would like to see improvements in the way that railways communicate with respect to both the status of rail traffic and their day to day planning for local pick up and delivery of traffic.

Railways have made considerable investments in information systems which allow customers to enquire on the status of individual rail cars or to produce reports about the last reported position of traffic that they have shipped, or that is destined to their facilities. These systems allow railway customers to see in near real time the location of their traffic and the systems provide the expected time of arrival (ETA) of the shipments at destination.

However, stakeholders are very skeptical of the quality of the ETA information on individual rail cars and the railways acknowledge that the accuracy of this information is not subject to measurement at either CN or CP and that the computer logic that provides an individual rail car’s ETA is subject to a high degree of error.

In addition, at the important direct interface between the railway and rail customer, shippers have difficulty predicting the day to day time of arrival of local railway services that pick up and drop off rail cars. When there is uncertainty about the daily time of arrival of railway crews and equipment it can be very disruptive to customers’ operations. For example, customers may order labour to coordinate the loading and

unloading of rail cars to coincide with the time of arrival and/or pick up of rail cars by the railways. Railway customers are sometimes unable to effectively coordinate this loading and unloading activity resulting in either excess labour costs for customer labour that was ordered to deal with rail traffic that did not arrive or in excess demurrage costs for rail cars that arrived in a volume or at a time that was not consistent with advance information provided by the railways.

In addition to railway customers, many railway shortlines expressed concern with obtaining consistent daily interchange service with their Class 1 railway connectors. In particular, they were often frustrated that interchange times did not conform to established interchange agreement times.

### ***Responsiveness***

While many railway customers and other supply chain partners were frustrated with a perceived lack of railway responsiveness to service issues, customers were more positive about CP's handling of complaints than CN's response. Many stakeholders praised the efforts of front line customer service and operations staff in their response to service issues however, they often felt that these staff were not empowered to act on service complaints. Often shippers and receivers found that informal channels and relationships with railway employees were more effective than working through their designated contacts at the railways. When dealing with CN in particular, many customers did not believe that there was an established and well managed process for the logging, escalation, resolution and response to service issues raised by customers. For both railways, many customers were frustrated with the railways' failure to provide feedback on the railways' available capacity and capability with respect to rail car supply, bulk train capacity, intermodal slot and train capacity and overall network capacity.

### ***Ancillary Services Administration***

Ancillary services are those chargeable services provided by railways for activities beyond the movement of rail freight from origin to destination. Most ancillary charges are for the time spent by customers in loading and unloading of railway provided rail cars (demurrage). Most railway customers, and the vast majority of stakeholders interviewed for this project, recognize that ancillary charges create incentives for the efficient use of railway assets and can help to reduce congestion and improve the overall velocity of the rail freight supply chain.

Stakeholder concerns about demurrage fell into two areas:

- a. Low level of administrative effectiveness

According to railway customers, error rates for ancillary services bills range from 20% to 70%. This requires customers to devote considerable staff resources to the investigation and negotiation of charges for ancillary services. The accuracy of demurrage charges relies on the timely and accurate reporting of actual car placement events at customer facilities, customer notification processes regarding car availability and constructive placement reporting. Many stakeholders indicated that they had difficulty reconciling

railway demurrage charges as their primary source of data for auditing demurrage bills is railway provided reporting on car placements and they believe that this reporting is often inaccurate.

In general, CP was found to have a higher accuracy rate for ancillary services administration than CN. CP has a defined quality control process for ensuring the completeness and accuracy of switching performance. Currently CN has no standardized company-wide process for the use of manual work orders (known as Daily Operating Plans – DOP's) for reporting on work performed by operating crews.

b. Fairness with respect to free time calculation

Some stakeholders argued that the fact that the calculation of free time for demurrage begins at 0001 hrs daily regardless of the time that the customer was served by the railway leads to not all customers being treated equally. This was seen as particularly important for the calculation of free time for loading of empty railway cars where only 24 hours of free time is permitted. Because a single railway train or switching assignment will serve multiple customers, some customers will obviously receive their cars earlier in the day than others. Those customers that are switched first will effectively have more free time for loading or unloading than those switched after them.

### *Summary of Key Recommended Solutions*

In a number of areas, stakeholders identified best practices in the processes that were examined in the interviews and these are illustrated through example in the report. These best practice examples, the input of stakeholders and the experience of the project team all contributed to the development of the following recommendations:

**Issue**

*Need for Balanced Accountability*

**Responsibility**

*Canadian Transportation Agency and Transport Canada*

Recommendation 1

The Agency should consider the development of methodology that could be used to determine in specific cases whether a particular set of rail service conditions support the concept of balanced accountability. Once developed and applied in practice, policy makers may after consultation with system stakeholders wish to consider enshrining the principles of balanced accountability and supply chain optimization into the regulatory framework through changes to the Canada Transportation Act. On a day-to-day basis, the existence of these principles in the CTA would encourage each stakeholder to take into account the needs and constraints of the overall rail logistics system in the management of their own operations.

Recommendation 2

Transport Canada should ensure that rail system logistics performance is subject to on-going measurement so that regulators can monitor changes in performance.

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**Issue** *Ancillary Services Administration*

**Responsibility** *CN and CP*

Recommendation 3

Both railways should implement processes to improve stakeholders' confidence in the accuracy of demurrage administration. CN in particular should standardize the review of crew work orders (DOP's) and implement work order completion measures especially for car events that affect demurrage calculations.

Recommendation 4

Both railways should consider making changes to their demurrage systems which allow for a more equitable calculation of free time for loading empty cars. Railways should consider using a daily cut-off time at each shipper's facility that relates to the shipper's normal working hours for loading rail cars.

**Issue** *Operational Coordination and Communication*

**Responsibility** *CN and CP*

Recommendation 5

CN and CP should ensure that rail car ETA accuracy is subject to measurement so that both railways and their customers have a clear picture of the accuracy of this important customer and railway planning information.

Recommendation 6

Both CN and CP should ensure that the terms of interchange service agreements that are in place with each of their shortline railway partners are subject to performance measurement and that such measures are shared with their shortline partners.

Recommendation 7

CN and CP should institute processes to measure the conformance of local switching performance against the planned day and eight hour window for local service.

Recommendation 8

Railways should review and improve their processes for communicating the expected time of arrival of loaded and empty trains at major facilities such as port terminals and bulk shipping facilities.

**Issue** *Responsiveness*  
**Responsibility** *CN and Transport Canada*

Recommendation 9

Transport Canada should institute an on-going survey of railway stakeholders' satisfaction.

Recommendation 10

CN should review its current processes for dealing with customer service complaints in order to ensure a more systematic handling of the recording, escalation and response to customer service issues.

While the project team has only made recommendations with respect to issues affecting two of the three key best practice characteristics used in the analysis, some problems were identified with respect to the third best practice characteristic which was:

- There should be well developed mechanisms to communicate demand and capacity for planning operations

In the areas of capacity planning and forecasting both railways and shippers were concerned that their joint processes to plan for future demand were subject to unacceptable error and that this exposed all stakeholders to financial risks that would be reduced if future transportation demand and capacity could be more precisely known. However, the project team does not have any specific recommendations to improve forecast accuracy as both railways and shippers already have invested considerable resources in this area. The project team believes that a more appropriate emphasis would be for stakeholders to improve their strategies to deal with reasonably predictable variability in demand rather than trying to perfect demand forecasting in the volatile world commodity markets.

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# 1. Purpose of the Project

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On May 30, 2007, the Government of Canada announced the introduction of a Bill, which contained improvements to the shipper protection provisions of the *Canada Transportation Act*. The announcement also indicated that the government would undertake a review of rail freight service.

The overall objectives of this review are to:

- Conduct a review of the rail-based logistics chain (including shippers, terminal operators, ports, and vessels), with a focus on service provided to Canadian shippers and customers by Canadian National Railways (CN) and Canadian Pacific Railway (CPR) within Canada, including to and from ports and border crossings;
- Identify problems and issues with respect to railway service including those stemming from other elements of the logistics chain;
- For shippers located on shortlines and experiencing problems with rail service, examine the relationship between shortlines and the main line carriers to determine whether such problems are attributable to service, operating, or marketing practices of the main line carriers;
- Identify best practices and how these can be expanded to address service issues; and
- Make recommendations on how to address these problems and issues, including both commercial and, if necessary, regulatory solutions.

The government has determined that the review will be conducted in two stages. The first stage will consist of quantitative and analytical work. In the second stage, draft recommendations will be developed by a Panel of three eminent persons based on the results of the analytical phase and any other relevant information that is available. The Panel will consult stakeholders on the draft recommendations and submit a final report to the Minister of Transport, Infrastructure and Communities.

On July 24, 2008 Transport Canada released the terms of reference for the quantitative and analytical stage of the rail freight service review. This report has been prepared in response to the requirements of the RFP covering the “Analysis of Operating Practices”. The objective of this report is to assess and analyze the operating practices of system stakeholders to identify those practices that adversely impact service, system efficiencies and the capacity of the system. According to the terms of the RFP, QGI was to also identify best practices within each of the stakeholder groups and develop suggestions for system wide solutions that may be applicable to others within the rail logistics system.

This report is based on the results of stakeholder consultations and the identification of best practices in the Canadian rail freight logistics system.

For our assessment of the rail logistics system QGI has used the Supply Chain model of logistics as a framework to guide our analysis. A Supply Chain is the set of processes, activities, agreements and systems that operate between and within the various organizations and stakeholders in a logistics system. Supply Chain management involves both supply and demand planning. It also requires a high degree of collaboration between partners in order to ensure that the requirements and constraints of individual firms in the network can be considered and if possible incorporated in the planning and operations of other network partners.

## 2. Methodology

### 2.1 Analytical Framework

In consultation with the client – Transport Canada – QGI developed a list of stakeholders to be interviewed for this project. Shippers who were asked to participate in these interviews were selected from a list of railway shippers that was provided to QGI by CN and CP.<sup>5</sup>

Shippers from all regions of Canada and representing various industries and types of rail service were chosen to participate.<sup>6</sup> The list of all shippers was sorted by industry type and size and individual railway customers were then randomly chosen to ensure that a wide variety of different types of rail customers were selected that would be generally representative of all shippers.

In addition to rail shippers QGI and Transport Canada extended the stakeholder list to include a broad selection of: short line railways, marine terminal operators, port authorities and shipping lines. In addition, one of the largest railway labour unions provided their input to the process. The breakdown of participants by stakeholder group was as follows:

The purpose of the interviews was to discuss with stakeholders their views on the performance of the rail freight logistics system and to identify systemic problems and potential solutions. The team of consultants engaged by QGI for this project included individuals with extensive experience in railroad operations and marketing. In addition, individuals with

Figure 1 Summary of stakeholders interviewed for project.

Stakeholder Group	Number of interviews completed
Major Railways	2
Shortlines	12
Shippers	34
	1 Coal
	4 Sulphur / Fertilizers
	7 Merchandise
	6 Grain
	2 Automotive
	14 Intermodal (Retail, Wholesale, Import Export)
Ports and Terminals	15
Transload Operators	5
Labour Unions	1
<b>Total</b>	<b>69</b>

<sup>5</sup> These shippers included all customers of CN and CP who ship traffic on their Canadian rail lines. The data provided to QGI included a breakdown of all rail shipments moved by these customers from Oct. 2006 to Sept. 2008 including details of these shipments at the origin/destination/commodity level.

<sup>6</sup> The full list of stakeholders who participated in these interviews is attached to the report as Appendix 1.

experience in marine freight operations, shortline railway management and operations and bulk commodities transportation, participated in the consultations on behalf of QGI.<sup>7</sup>

Supply chain management is the process of managing the logistics flow across organizational boundaries. Supply chains include suppliers, transportation and logistics providers and firms that consume the goods produced by those using the logistics services. As the central link in many supply chains in Canada, railways make investment and operational decisions that have profound effects on the logistics chains of many companies. However, shippers, receivers and ocean terminals also make decisions which in turn have a major impact on the workload levels and workload variability of railways. Given Canada's problems of having "too much geography"<sup>8</sup> - and many rail stakeholders will add - 'too much weather' it is inevitable that weather related disruptions to rail service will occur. In addition, as was amply demonstrated in the economic downturn of 2008-2009, international financial and commodity market conditions can introduce additional variability into the system. Therefore, a key characteristic of the rail freight supply chain is its response to variability whether such variability is caused by weather, markets or the behaviour of individual partners in the supply chain. As noted earlier, effective collaboration is a key characteristic of supply chain management as the investment, marketing and operational decisions of a single partner can have serious implications for the overall system. The process of anticipating and planning for events which cause variability in demand and supply across a supply chain is one of the key purposes of the collaborative processes which supply chain partners must create in order to operate effectively.

However, in addition to the collaboration needed to *forecast and plan for future demand*, a supply chain is an operational system with the need for day to day integration of the partners' operations. Each partner in a supply chain while planning their own operations must do so with a clear understanding of the capacity and demands of their logistics partners. The daily interface between railways and their logistics partners involves both electronic transactions to effect the communication of rail car shipping information and shipment status as well as direct operational integration with rail cars and intermodal containers being picked up from and delivered to railway customers' facilities. This operational interface is the place where railway workload is directly determined day to day but it also affects the daily operations of not only logistics activities but also the operational and manufacturing activities of supply chain partners. This need for *operational collaboration* and communication will also be examined in this report.

Finally, investment in both railway and shipper infrastructure in order to handle wide variability in demand can impose significant costs on the supply chain and inevitably these costs and resulting benefits may not be distributed in such a way as to impose the costs on those who benefit and confer the benefits on those who pay the costs. Therefore, a supply chain partner that has wide variability in demand may not be able to convince its partners to make the investments required to handle such variability as these partners may doubt that they will receive a reasonable financial return on such investments. A good example of this is

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<sup>7</sup> The project team with brief biographies is attached as Appendix 2.

<sup>8</sup>"If some countries have too much history, we have too much geography." Prime Minister William Lyon Mackenzie King In a 1938 speech to the House of Commons.

the on-going dialogue between railways and their customers on the right size of railway car fleets that will be required to handle forecast traffic levels. However, this process of forecasting traffic and therefore determining optimum investment levels in rail cars, locomotives, track and human resources also extends to railway customer investments in manufacturing and rail handling capacity including rail loading and unloading capacity at the customers' and their ocean terminal partners' facilities. The ability of the Canadian freight rail logistics system to support *decision making which optimizes the overall system*, rather than a single partner, will also be examined in this report.

In order to provide a framework for the assessment of operating practices in the Canadian rail freight supply chain, the project team developed the following list of best practices that should exist in such a system. This set of desirable supply chain characteristics or behaviours was developed both from the experience of the team and from a review of academic literature on the topic.

Figure 2 Best Practice Supply Chain Characteristics

<p><b>1. There should be well developed mechanisms to communicate demand and capacity for planning operations.</b></p> <ul style="list-style-type: none"> <li>i. Partners in the supply chain should have formal processes to share information about future demand to support capacity planning.</li> <li>ii. Partners should have transparent processes to inform each other about their capacity limitations to ensure that both operational and investment planning of individual partners take into account the needs and limitations of the entire system.</li> <li>iii. Demand and capacity planning should recognize the special constraints created by possible seasonal demand peaks and by reasonably predictable network disruptions such as those caused by seasonal weather events.</li> </ul>
<p><b>2. Partners should have processes that support integrated day to day operations and communication.</b></p> <ul style="list-style-type: none"> <li>i. Performance standards should be developed in a collaborative environment to ensure that they reflect the needs and limitations of key stakeholders, especially supply chain asset owners.</li> <li>ii. Performance standards should be reflected in measurements and this data should be accessible to all supply chain partners.</li> <li>iii. Carriers, shippers and terminals should have access to their partners' demand, capacity and operational status wherever commercial competitive considerations do not prevent this.</li> </ul>

- 3. The system should seek to optimize output and profitability of the entire supply chain.<sup>9</sup>**
- i. This requires mechanisms or agreements that permit the sharing of operational and investment costs and benefits across the firms and organizations in the supply chain.
  - ii. There is a revealed process for sharing business risk – risk of performance and market variances.
  - iii. Participants in the system are not limited to a short term view of investment and risk but are willing to consider operational and investment planning from a longer term perspective.

## **2.2 Stakeholder Interviews**

### **Interview design**

The best practice characteristics identified in the previous section of this report provided a framework for the creation of interview guides for the stakeholder consultations. The use of this somewhat idealized view of a supply chain allowed the study team to focus on the key processes and activities that link the stakeholders together in the rail freight logistics system. Given the importance of collaboration in the planning and operation of supply chains, the study team chose to focus on the key processes at the interface between supply chain partners. In discussions with the client regarding the methodology for this study it was agreed that using this unifying model of the supply chain to structure the analysis would allow a more strategic examination of the issues than might be obtained from a detailed examination of individual stakeholders' industry specific or even company specific operating practices.

While it was recognized that each stakeholder group would have a slightly different perspective on the various rail transportation processes, the standardized approach to the interviews ensured that the views of each stakeholder and each stakeholder group could be compared and contrasted with each other for the key processes under review. Where necessary during the interviews, stakeholders provided detailed information about their specific operating processes and practices in order to allow the study team to clearly understand the issues being examined. In some cases, where participants identified problems in specific areas the study team requested and was provided with detailed technical information including: railway and shipper performance reports, background on measurement processes and in the case of ancillary services – detailed railway and shipper documentation of issues.

While the interview process involved open ended questioning that allowed both stakeholder and consultant to fully explore each topic, the interviews were conducted in a structured manner and stakeholder responses for each question were recorded in a standard written format by the interviewers and entered by

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<sup>9</sup> Maximizing profitable output may not be consistent with minimizing total cost. If cost minimization restricts output of the system below a level with higher profitable output then the system is not optimized. For example, reducing rail service may reduce total costs but if it limits a rail customer's output potential it may reduce the total profitability of the supply chain.

QGI staff into a database to facilitate key issue identification and analysis.<sup>10</sup> Interview participants were advised that interviews were to be conducted in confidence and that no individual participant's comments or detailed information would be communicated to either the client or other stakeholders without permission.

Each interview included questions on the following topics:

**Forecasting and demand assessment**

- These questions generated discussion of the stakeholders' transportation forecasting processes and reviewed how forecast information was communicated between stakeholders and how such data was used for planning purposes.

**Operations**

- This section included a series of questions dealing with communication processes for daily operations, problem solving processes, the establishment of service standards and measurement, and issues respecting billing processes for freight and ancillary services.

**System Optimization**

- In this section stakeholders were asked about investment planning, infrastructure needs and constraints, labour practices and labour regulation.

## Stakeholder selection

As noted earlier, stakeholders were selected with the intention of ensuring that the views presented in the interviews would be generally representative of the broad range of firms and organizations in the Canadian rail freight logistics system. For shippers, who were the largest group of stakeholders who participated in the process, individual firms were selected from a list of all Canadian rail shippers provided to QGI by Canadian National Railways and Canadian Pacific Railway. The information provided to QGI by the railways included data on the rail volume of the specific commodities shipped by these firms between October 1, 2006 and September 30, 2008 and the origins and destinations of this traffic.

The shippers on these lists were grouped according to both the commodities shipped and by annual volume of shipments as follows:

Commodity groupings:

- Automotive
- Grain products
- Bulk Products and fertilizer
- Merchandise products
- Intermodal

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<sup>10</sup> Copies of the shipper interview guide is attached as Appendix 3. All other interview guides covered the same areas of questioning with somewhat different wording and prompts to match the circumstances of the specific stakeholder groups.

Size groupings:

- 100 – 1000 rail cars/containers per year
- 1001 – 4999 “ “ “ “ “
- Over 5000 “ “ “ “ “

Within each commodity grouping, shippers were randomly selected from each size grouping in order to ensure that the proportion of the shippers selected within each commodity and size grouping corresponded to the overall proportion of shippers in that specific group. For the bulk shippers group, as rail traffic in this group is highly concentrated amongst large customers, no small customers were selected whereas Intermodal and Merchandise participants were selected from all three size groups. After reviewing the initial list, minor adjustments were made to ensure that the overall list of shippers included a satisfactory balance of shippers by geographic region.

The list of ports, port authorities and shortlines who were interviewed for the study included all of Canada's major ports and the port authorities and principal terminal operators at those locations. Similarly, the list of shortline railroad operators included operators who connected to both of Canada's Class I railways, operated in all regions of Canada, and included shortlines that handled a wide variety of commodities including both merchandise and bulk products.

Prior to the interviews, participants were provided with an overview document which included an explanation of the terms of reference for the project and a list of the questions that would be asked in the interviews. Most of the interviews were conducted in person with only three interviews conducted by telephone. The interview team at each interview included subject matter experts from QGI with specific knowledge of the logistics issues faced by the interview participant. Interview length varied from 1 – 3 hours depending on the breadth of the participants' rail logistics issues and their role in rail transportation in their organization.

### **Interview analysis process**

The interview participants' responses were entered into a spreadsheet which allowed QGI to review answers to individual questions both across and within the stakeholder groups. A document which summarized stakeholder responses to key questions was developed and this document is attached as Appendix 4.<sup>11</sup> A preliminary list of key issues was then identified based upon the frequency with which such issues were raised within and across the stakeholder groups.

The project team was provided with the summary document and the preliminary list of key issues and the team subsequently met to; review and validate the interview summaries, review and prioritize the key issues and to discuss potential solutions to identified systemic issues.

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<sup>11</sup> This summary has been edited to remove references to individual persons and companies in the Shipper, Shortline and Ports and Terminals sections.

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## Framework for prioritizing issues and assessing solutions

The team discussed the factors that could or should be used to prioritize the key issues that were identified in the stakeholder interviews. While the views of the stakeholders as determined from the interview summaries allowed for the clear identification of issues, prioritization of these issues required reference to criteria that take into account both regulatory policy and practical considerations. Various frameworks for assessment were reviewed by the project team including those provided by:

- National Transportation Policy - as outlined in the Canada Transportation Act
- The Grain Handling and Transportation System Monitoring Program
- The project team's experience and guidance

National Transportation Policy, as described in Section 5 of the *Canada Transportation Act* states in part: "...that a competitive, economic and efficient national transportation system" will be most likely achieved when "competition and market forces, both within and among the various modes of transportation, are the prime agents in providing viable and effective transportation services". It further states that "regulation and strategic public intervention are used to achieve economic, safety, security, environmental or social outcomes that cannot be achieved satisfactorily by competition and market forces..." However, the policy also places emphasis on a system which enables "competitiveness and economic growth." As noted earlier, railways in Canada are critical links in many Canadian firms' logistics processes - within the country, across the continent and through our ports in international supply chains worldwide. Therefore, issues which impact the competitiveness of Canadian industry must be given high priority.

In addition, due to the presence on the QGI team of members with considerable experience with the Canadian Grain Handling and Transportation System (GHTS) monitoring program, the criteria that have been identified as critical success factors for the GHTS were also discussed as potential prioritization criteria.<sup>12</sup> These critical success factors are:

- Commercial Accountability
- Operational Efficiency
- Customer Service
- Continuous Improvement
- Maximizing Producer Value

Clearly the first two factors are consistent with National Transportation Policy as discussed earlier. In addition, the emphasis on Customer Service and Continuous Improvement is consistent with the overall supply chain model of logistics management that QGI has chosen as its framework for the assessment of the rail freight system because an emphasis on service performance and measurement is vital to success

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<sup>12</sup> Monitoring Program Design for Grain Handling and Transportation. Quorum Corporation. Revised May 2005.

in the highly cross functional and cross organizational world of supply chain management. Finally, while the last factor, “maximizing producer value” focuses on the benefits that accrue to only one of the supply chain partners in the GHTS; when considered from the perspective of the overall rail supply chain, it is consistent with our analytical framework that emphasizes the need for the system to deliver value to the entire supply chain, rather than just to the dominant asset owners in the system – the rail carriers.<sup>13</sup>

In addition to the National Transportation Policy and GHTS experience noted above, the project team also recognized that issues of uncertainty, risk and financial return must be weighed in assessing the impact of an issue and the choice of a potential solution. Therefore, the team also considered the magnitude and feasibility of change and the estimated financial impact of the current situation and potential solutions. It was in this area that QGI relied on the project team members to apply their combined experience and judgment to the assessment of issues and potential solutions.

As noted earlier, the team developed a general framework that identified the following three high level best practice characteristics of a supply chain:

1. There should be well developed mechanisms to communicate demand and capacity for planning operations
2. Partners should have processes that support integrated day to day operations and communication
3. The system should seek to optimize the output and profitability of the entire system

With these best practice standards as a frame of reference and considering the criteria for assessment discussed above, the team then reviewed all of the key issues identified by stakeholders in the interview process. This review involved facilitated discussion to identify and group all key issues. Issues were then prioritized and potential solutions identified.

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<sup>13</sup> It is recognized that the history of Grain Transportation in Canada and the special regulatory framework for grain transportation as outlined in Part III, Division VI of the Canada Transportation Act make the Grain Monitoring Program only a point of reference and not a perfect template for considering the performance of the rail freight logistics system as a whole. Nevertheless, the project team felt that with the possible exception of the final criterion as noted above, the program provides a useful frame of reference for this project.

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## 3. Key Issues Identified

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The following are the key issues identified during the stakeholder interviews. They are listed in the order of priority that was determined by the project team using the criteria described in the previous section of the report.

### ***3.1 Need for Balanced Accountability***

The concern about an imbalance of accountability for service performance was identified from a number of different perspectives. In general, stakeholders believed that a supply chain participant should be responsible for the costs that their behaviour imposes on the other participants in the supply chain. For example, if a shipper sends more railcars to a receiver than that receiver can unload and thereby creates congestion in the rail network, ideally, the shipper would be held responsible for any congestion costs. Similarly, if a railway unduly delays shipments enroute to a rail receiver resulting in traffic being “bunched” and delivered in unusually high volumes (compared to the day to day shipping volumes normally experienced) then stakeholders believe the railway should be accountable for any resulting congestion costs.

The problems of balanced accountability in the railway based supply chains in Canada are complicated by two factors. Firstly, the fact that a supply chain in general and a railway specifically are both networks with a high degree of shared facilities and costs across users. Secondly, problems with balanced accountability are exacerbated in situations where railway customers do not have access to alternative forms of transportation competition.

#### **Network complexities in determining accountability**

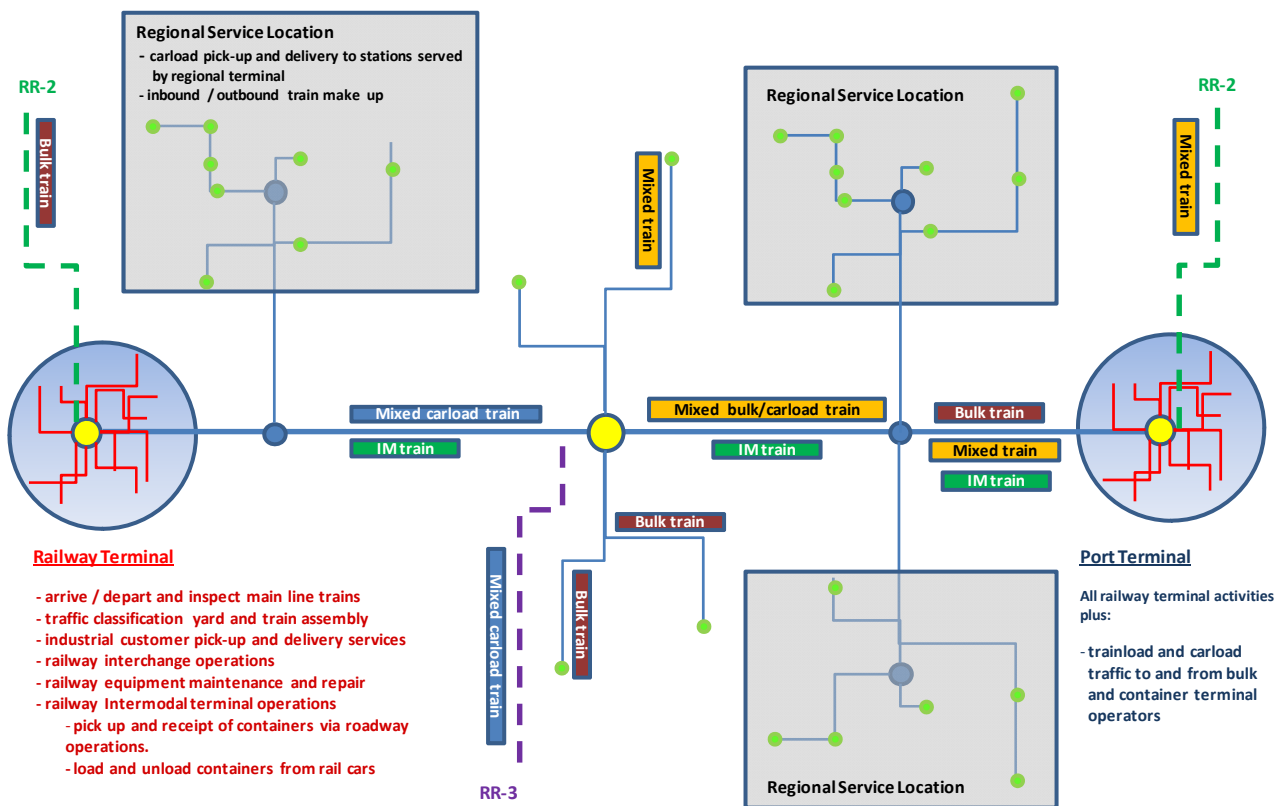
The network configuration of railways can make accountability for problems that occur in any particular part of the network difficult to assign to an individual cause or individual participant. Figure 3, illustrates some of the key activities that take place in a railway network including; rail car pick up and delivery at customers, train movement of cars between terminals, traffic classification and handling in terminals and interchange activities with other railways. As noted above; whether a customer’s rail traffic is composed of merchandise or bulk products, in railway owned or shipper owned railcars or intermodal containers, it moves over the same network and uses many of the same railway systems and assets (such as locomotives, crews and terminals) as other customers’ traffic.

When network disruption occurs it interrupts the smooth flow of the entire system - creating first a reduction in flow and then a heavier than normal pulse of traffic around points of constraint in the network. Constraints can be physical limitations such as the number and length of tracks in a terminal, the number of

locomotives and crews, or the capacity of a section of track and the availability of passing locations (sidings) on single track sections. However, constraints are also a function of the throughput capability of key railway facilities and this can be affected by operational processes and systems such as; rail traffic control systems, rail terminal processes for traffic classification and train assembly, and asset management processes for locomotive and empty rail car distribution. Customer facilities and interchange locations between railways are also potential constraints to throughput and locations where disruption to traffic flows can be triggered.

If unplanned variability in volumes in the network exceeds capacity at any constraint in the network; disruption to service can occur and additional supply chain costs incurred to deal with the congestion. Variability in demand and supply can also be caused by the market activities of one or more supply chain participants and the effect of variations which are not matched by capacity have the same effect as network disruptions caused by outside forces such as weather.

Figure 3 Railway network traffic schematic



However, this issue does not lend itself to easy answers as the determination of what is “acceptable” or “normal” variation in performance and capability must be determined from the circumstances of each traffic flow. For a large volume rail shipper who releases multiple trainloads of traffic per day, variations in loading of 25-50 cars per day might be considered normal and acceptable to that shipper’s rail receivers

and the rail carriers. However, to a railway receiver accustomed to unloading 5 cars per day – a minor railway service disruption combined with some traffic bunching by a rail carrier could result in 20 cars arriving in a single day at the unloading facility and creating congestion for the rail carrier and demurrage charges for the receiver.

Furthermore, one of a railway's key cost drivers is the operation of trains. The maximization of individual train length allows a railway to spread its train operating costs for locomotives and crews across more individual carloads. In brief, longer trains - within a railway's established train length capacity limits<sup>14</sup> – means a lower cost per car moved and higher profitability for the railway. As a result, when congestion disrupts traffic flows it can affect the number of cars available per planned train. Railways will be very reluctant to create extra trains at less than trainload volumes as this increases cost per car moved substantially. In addition, if the network is planned with available locomotives, cars and crews to service normal levels of variation, railway capacity may not be sufficient to create extra trains. Railways will instead try wherever possible to accumulate traffic to build full trainload volumes before moving the traffic.<sup>15</sup> In the short term, this can add to the effect of disruption on customers as traffic is accumulated in railway terminals or at customer locations waiting a re-balancing of railway train capacity.

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<sup>14</sup> The maximum train length on any part of a railway's network will be determined by factors such as:

- the length of sidings or passing tracks available over the train's route to allow trains to pass each other on single mainline tracks or on double-tracked sections
- the steepness of the maximum gradient of the track on the route to allow locomotive power and train braking systems to safely and efficiently control the train on both uphill and downhill gradients
- the maximum curvature of track over the train's route. Higher curvatures can be difficult to handle for longer trains as cars will be pulled against the curvature leading to possible derailment.

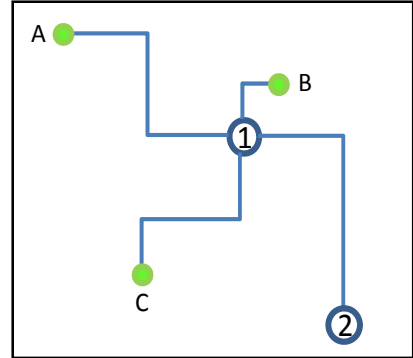
<sup>15</sup> In addition to direct train operating costs, railways need to consider rail car, crew, locomotive and rail yard utilization in making day-to-day train operations decisions. In addition, contractual customer service requirements must be taken into account. However, from a cost management perspective, maximizing train length to minimize per car operating costs is a dominating factor.

**Problem example identified by stakeholders:** Bunching of traffic at destination

When railways due to service disruption or changes in operating practices accumulate traffic at points between origin and destination, it can result in a build-up of traffic enroute to receivers resulting in more traffic arriving at receivers than has been planned for and can be easily accommodated. This results in congestion in destination railway terminals, at receiver facilities and potentially may require railways to hold traffic back from movement to destination to allow the congestion to be unloaded by receivers.

**Example:** Multiple Shippers sending traffic to single unloading point

In the example illustrated by the graphic at right, there are three shippers at locations A, B and C each loading 3 cars per day 7 days per week and these cars are all moved by the railway through intermediate terminal 1 to the destination at 2. The number of cars arriving every day at 2 depends on the frequency of rail service between each of the origins and the intermediate terminal and between the intermediate terminal and the final destination. If there is daily service on all legs of the trips then an average of 9 cars per day will arrive at destination. However if the three origins are only provided with service three days per week on M-W-F then on Mondays, 27 cars will be enroute from origin.



If due to a service disruption between terminals 1 and 2, two days of traffic are accumulated at location 1, traffic can begin to build quickly and an additional two days of loading or 18 more cars may be quickly added to the 27 that have been delayed. In addition, due to reductions in other traffic being offered by shippers in the area, the railway may choose to consolidate two days of trains between 1 and 2 to provide a more efficient use of locomotive and crew assets.

In such circumstances, if shippers do not coordinate loading with the destination receiver’s capability to unload traffic, a backlog of cars may occur when the only modestly delayed traffic arrives at destination creating congestion costs for the railway and demurrage charges for customers.

In such a situation, if the railway does not unduly delay the traffic and if they take all reasonable steps to return to normal service, then the shippers and receivers will be accountable for demurrage costs. A railway cannot be reasonably expected to have a network that is never subject to disruption and it should not be required to move inefficient short trains unless it has established strict service standards with customers that require movement of traffic on specific schedules.

However, in all cases, the burden of proof rests with railway customers to establish that a delay was beyond normal service variation and should therefore be the responsibility of the railway and not the shippers and receivers. In situations where the base level of railway service may have a high degree of variability, determining what constitutes unacceptable bunching can be problematic for railway customers.

**Accountability without access to alternative transportation**

In addition, as noted above, not all railway customers have equal access to alternative modes of transportation or to multiple rail carriers. Large bulk shippers, shippers in remote areas or shippers in a region such as Atlantic Canada, which are served by a single Class I railway, have limited or no practical alternatives to the use of a particular rail carrier. In situations such as this, the ability of the market

dominant transportation supplier to make decisions that can unfairly impose costs or restrict capacity makes the principle of balanced accountability particularly important.

In the stakeholder interviews, some large shippers and receivers – particularly those using intermodal services – identified the railways’ implementation of “balanced scheduling” as an example of an unfair imposition of costs upon shippers, terminals and shipping lines by railways. Balanced scheduling refers to railways setting capacity targets and assigning railway resources for traffic at levels that seek to even out the weekly and seasonal peaks in traffic demand. This leveling of capacity seeks to even traffic flows in order to improve railway asset utilization by lessening the requirement for ‘standby’ capacity that would be needed to handle a more imbalanced traffic flow. Note that if shippers and receivers were able to balance their traffic demands in line with the railways’ desire for a balanced daily service – then no costs would be imposed on the system and total supply chain costs would be reduced. However, many rail stakeholders argue that there are factors in their specific markets that prevent them from imposing the same demand balancing on their customers that railways wish to impose on rail shippers. As a result, any congestion costs created at the shippers’ or receivers’ end due to uneven demand levels are borne by the shippers or receivers and the benefits of balanced scheduling are therefore thought by some shippers to accrue only to the railways.

**Problem example identified by stakeholders:** Intermodal Scheduling Can Limit Recovery Capability and Transfer Congestion Costs to other Stakeholders.

In 2004, CN introduced its IMX program with the objective of smoothing daily variations in traffic volumes by balancing scheduling and assets in traffic corridors on a daily basis. The program focused specifically on the transcontinental routes between Central Canada (Toronto/ Montreal) and Western and Atlantic Canada. The IMX program offers shippers the opportunity to reserve “slots” on scheduled trains with a fixed number of slots, balanced in both directions and subject to change periodically based on changes on traffic demand.

International Traffic Impact: As the link between the railway and ocean vessels, terminal operators at Canadian ports are extremely dependant on the railways to help maintain terminal fluidity and service to the shipping lines that are their mutual customer. When a service disruption occurs, whether in the rail network or at sea, it can result in a surge in container volumes at the port terminal creating terminal congestion. During such instances the railways have generally been hesitant to provide additional short term rail car capacity to speed the return to normal operations choosing rather to maintain their balanced service and asset strategy. This response by the railways leaves the terminal operators and off-dock container handling facilities to absorb the costs associated with managing the backlog of traffic until the system returns to normal volume levels. However, railways argue that excessive investment by railways to compensate for disruptions that occur outside their network (at sea or in ocean terminals) increases their costs without a commensurate increase in revenue.

With higher dwell times at the terminal as a result of rail congestion, shipping lines may be charged storage charges for containers of up to \$125 per day and this cost ultimately gets passed on to Canada’s exporters and importers. In addition, operating costs at the terminals are increased due to increased requirements for multiple handling of

containers and inefficiencies created by congestion at the facilities. Extended periods of congestion can affect Canadian exporters' reputations as reliable suppliers of export products and Canadian ports' reputations as efficient and competitive gateways for international trade.

Domestic Traffic Impact: For shippers using CN and CP's domestic intermodal services, a failure to provide recovery capacity for disruptions may require that they maintain the capability to move traffic via the highway mode at substantially higher cost.

Atlantic Canada Impact: Stakeholders in Atlantic Canada were particularly concerned about the impact of balanced scheduling as their vulnerability is increased by having access to a single intermodal rail provider. Some stakeholders felt that this put practical limits on their ability to expand both domestic intermodal services and import traffic through the Port of Halifax.

Where shippers have made past investments to provide rail car loading and unloading capacity, they have sometimes faced pressure from railways to increase their current rail handling capacity and/or face reduced service frequency which has the effect of increasing their required investment in rail car handling. Where this happens without underlying changes in the shippers' service requirements but due only to a railway's desire to reduce the cost of such service, stakeholders argue that this is an unfair imposition of costs on the railway customer.

In a similar way, some shippers argued that railways were not making satisfactory investments in capacity to handle variations in service that result from weather related service disruption. While rail shippers were not unanimous in their views about this issue, many argued that railways had a responsibility to provide for satisfactory investment levels that would allow them to handle expected seasonal variations in weather without causing undue delay to traffic.

From the railways' perspective, finding ways to encourage shippers and receivers to balance their shipping demands across the days of the week, and even across seasons, is a key objective. Railways argue that it is unfair for them to bear the investment risks associated with spending on standby capacity that may be required to handle wide day of week variations in traffic levels. They believe that total supply chain costs are reduced when demand variations are smoothed out and they do not believe that current railway profitability levels support additional investment in standby capacity beyond that which exists today. While the railways acknowledged their responsibility to make investments in service capacity to handle reasonably predictable seasonal weather variations – they also believe that while the current system is not "bullet-proof" they argue that spending on additional rolling stock, track, avalanche and slide prevention and human resources cannot be commercially justified.

An additional area where many shippers and receivers indicated that they believe that railway customers bear an inappropriate cost burden as a result of service variability is in the area of ancillary service charges. This issue was of such importance to stakeholders that it will be reviewed separately in a subsequent section of the report.

The problems of balanced accountability were of particular interest to railway customers who do not have practical access to competitive alternatives to a single rail carrier. For these so-called “captive” customers, railway decisions which restrict their capacity or increase their costs cannot be off-set through adjustments to logistics strategy. For these customers the issue of balanced accountability is of strategic importance to their business. However, customers in all business segments regardless of their access to alternative transportation also expressed concerns that could be broadly grouped under this general heading.

Most rail customers make commitments to supply chain and logistics systems that are long term investments in facilities, supply networks and marketing strategy. Even if changes in logistics would allow for the introduction of transportation alternatives such alternatives are not practically available to shippers in the short term and changing logistics configuration may involve substantial financial risk.

**Problem example identified by stakeholders:**      Facility Investment versus Railway Switching Costs

In this situation a transload facility handling forest products designed their in-plant rail infrastructure for rail car handling in collaboration with the serving railway. Service levels were established at 2 switches per day 5 days per week consistent with the customers’ operations and the anticipated volume of traffic.

The railway subsequently unilaterally reduced switching frequency to one switch per day as a cost saving measure. The customer determined that traffic volumes could not be handled with the existing rail infrastructure with only one switch per day and that additional track would need to be constructed to handle the expected number of cars per switch.

Leaving aside the issue of whether or not an explicit agreement exists between the customer and the railway for frequency of service, the balanced accountability framework could be used to determine the total supply chain costs of each alternative service scenario. Determining this cost would involve assessing the benefits associated with reduction in switching versus the investment, maintenance, and incremental operating costs associated with handling the same rail car volume with a lower service frequency.

Railway cost savings from reduced switching <sup>16</sup>		Customer costs
Labour	\$ 165,000	New track required to handle additional 12 cars per switch
Locomotive Maintenance	\$ 41,000	
Fuel	\$ 101,000	
Total direct savings	\$ 307,000 / yr	Approx. 1200 feet of rail      \$ 209,000
		Addition rail construction
		Sub-grade                      \$ 30,000
		Turnouts                      \$ 20,000
		Total additional direct costs    \$ 259,000 in year 0

<sup>16</sup> Railway cost estimates are developed from railway cost information published in *Rail in Canada 2007*. Statistics Canada Catalogue number 52-216-XWE.

Total railway cost savings assume the reduction in the active locomotive fleet of a single locomotive unit and the reduction of a single switching crew on a full time basis as a result of the cancellation of the switching assignment. These may or may not be a reasonable assumptions but are used for the purposes of illustration for this example.

Based on the above analysis, this basic examination of supply chain costs suggests that the lowest cost solution is for the railway and shipper to agree on a lower frequency of service with incremental investment in shipper track capacity. However, the issue to be resolved is that all incremental costs accrue to the railway customer and all savings accrue to the railway. A balanced accountability assessment would seek some sharing of benefits and would ensure that all non direct costs and benefits that may not have been captured from this simple analysis were also taken into consideration prior to the parties determining a reasonable sharing of costs and benefits. These additional direct and indirect costs might include

- Inventory carrying costs
- Stockout risks and costs
- Incremental labour costs
- Incremental track maintenance costs
- Other infrastructure investment costs
- Periodic cost for extra switching as required

**Best Practice example identified by stakeholders:**

Terminal Authorization Processes

Rail traffic congestion, delays and demurrage charges can result when more traffic arrives at an unloading point than can be processed by the receiver. This can happen if a single facility receives traffic from multiple loading points without coordination of the timing of the traffic shipped.

Many rail facilities, particularly in the grain industry have recognized the need to coordinate inbound shipments and they have instituted various types of terminal authorization processes to regulate the flow to their handling facilities. In the pulse and special crops industry, many shippers move their products via bulk rail to unloading points at the ports where the product is unloaded from rail cars and loaded into international shipping containers for export. Many of these unloading facilities in the Vancouver area and Montreal have required shippers to obtain from them a terminal authorization number prior to loading and shipping traffic to their transload facilities. This number must be included in the rail shipping documentation which allows transload operators to track inbound rail traffic according to the authorization numbers provided. If traffic is shipped without authorization, the transload facility may not accept the shipment and any demurrage charges resulting from such unauthorized shipments will be the responsibility of the shipper.

The terminal authorization process can ensure that properly planned and authorized traffic receives priority handling at destination and allows transload operators to plan for workload levels that their facilities can manage. However, an effective terminal authorization process still requires that railway transit time from shipper to facility has a narrow and predictable range of variability to allow the transload operator and their customers to plan and manage traffic flows and transloading processes.

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## 3.2 *Operational Communication and Coordination*

This issue was identified by shippers and receivers in all sectors and by short lines, ports and terminal operators. There were two key dimensions to the concerns raised by stakeholders under this general heading:

- **Railway processes for communicating with respect to day to day service are ineffective**
- **Railways do not respect the operating needs and constraints of shipper and receiver facilities**

### Shipment status

Railways communicate with their customers with respect to day to day operating activities in a number of ways. Most daily interaction with railways is electronic and the rail car release, billing, ordering of empty and loaded rail cars for loading and unloading and rail car tracing; is most often done through the railways' electronic commerce (Ecommerce) web portals or through third party firms which provide such electronic services. Alternatively, some larger customers use direct electronic data interchange (EDI) between their information systems and those of the railways to enact day to day business transactions.

However, while the systems which allow the customers to provide transactional data to the railways have advanced significantly in recent years, railway customers remain frustrated with the lack of access to information about the status of their shipments. In addition, stakeholders are frustrated that it can be difficult to obtain accurate data from railways about the expected performance of local services that provide direct pick up and delivery of rail cars from customer facilities.

Railways have made considerable investments in information systems which allow customers to enquire on the status of individual rail cars or to produce reports about the last reported position of traffic that they have shipped, or that is destined to their facilities. These systems allow railway customers to see in near real time the location of their traffic and the systems provide the expected time of arrival (ETA) of the shipments at destination.

However, stakeholders are very skeptical of the quality of the ETA information on individual rail cars and the railways acknowledge that the accuracy of this information is not subject to measurement at either CN or CP and that the computer logic that provides an individual rail car's ETA is subject to a high degree of error.

### Local service planning

In addition, at the important direct interface between the railway and rail customer, shippers have difficulty predicting the day to day time of arrival of local railway services that pick up and drop off rail cars. Neither railway generally commits to the pick up and delivery of traffic at a specific time each day. Both railways

acknowledge that shippers become accustomed to a generally consistent time and day of service at their facilities and under normal operations service may be quite predictable on a day to day and week to week basis. However, railways generally only commit to providing service during a particular 8 hour window during the day and require that their customers be able to adapt to receiving service any time during that window. At facilities where customers' traffic is picked up from and left at tracks that are physically separate from the operating areas of a customers' facilities this may not create direct conflict with the customers' operations. However, in many cases, railway customer operations associated with the safe movement of people and vehicles on their property and even the manufacturing or processing activities of the customers themselves can be disrupted while railway crews are operating on the customers' sites. When there is uncertainty about the daily time of arrival of railway crews and equipment it can be very disruptive to customers' operations. For example, customers may order labour to coordinate the loading and unloading of rail cars to coincide with the time of arrival and/or pick up of rail cars by the railways. Railway customers are sometimes unable to effectively coordinate this loading and unloading activity resulting in either excess labour costs for customer labour that was ordered to deal with rail traffic that did not arrive or in excess demurrage costs for rail cars that arrived in a volume or at a time that was not consistent with advance information provided by the railways. Many railway customers operate under labour agreements that involve very high labour cost differentials for off-shift or unscheduled activity. In these cases, a lack of predictability in railway operations can impose significant costs on railway customers if rail traffic must be handled at a time of day or on a weekend when work has not been previously scheduled at such operations.

In addition to railway customers, many railway shortlines expressed concern with obtaining consistent daily interchange service with their Class 1 railway connectors. In particular, they were often frustrated that interchange times did not conform to established interchange agreement times. Similar to railway shippers and receivers, this creates difficulty for the shortlines in planning their own operations.

While many stakeholders noted that both railways had in recent years improved their ability to communicate during times of major disruption many customers still believe that day to day operating information is sometimes poor. This concern about the accuracy of day to day operational information was specifically identified with respect to traffic moving between the railway networks under the CN - CP coproduction agreements. Large intermodal and grain customers in particular were concerned about the lack of transparency with respect to transit planning on blocks of cars moving between the railways to and from port terminal facilities at Vancouver. However shippers in the fertilizer, forest products, and coal business segments also indicated that getting accurate information about traffic status was problematic for traffic on both railways.

These problems with day to day operational communication with railways about customer service expectations are exacerbated by the fact that railways often do not share performance measurement information with shippers. In addition, railways and shippers do not, in general, have a shared set of performance standards against which to evaluate railway performance. QGI identified the need for shared

performance standards and performance measurement as a best practice in supply chain management. With the exception of some large customers in business segments such as bulk products and automotive, railways do not communicate service performance information to customers except on an exception basis. CN does have available through its customer Ecommerce portal its expected transit times from origin to destination. CP does not publish such information. However, neither company shares performance information for transit time with its shippers on a regular basis, except for the few exceptions noted above. CN through its Guaranteed Car Order program does provide extensive reporting to customers with respect to car supply performance for its customers who use that system.

Neither CN nor CP measures performance of its operations with respect to the timeliness of day to day pick up and delivery of traffic from customer loading and unloading facilities.

**Problem example identified by stakeholders:**      Splitting of grain unit trains

Some large grain shippers load trainload (unit train) quantities so they may benefit from railway discounted freight rates (incentives)<sup>17</sup>. As a means to maximize asset utilization and train load railways will sometimes “split” trains en route, turning three trains into two or using grain cars from unit trains as “fill traffic” on mixed freight trains<sup>18</sup>. While most grain shippers do not object to the practice in theory, if such changes are made without consultation with the shipper and receiver it can negatively affect their logistics processes. If a terminal operator expects a unit train to be moved in a single block, as has been the normal past practice, they will plan their inventory management and ship loading processes accordingly. When railways make changes to unit train operations without consultation it results in car blocks arriving at the port terminal out of sequence with respect to both planned timing and order.

**Impact**

The arrival of grain blocks out of the origin release sequence can result in additional costs for terminal operations including: lower space utilization levels, extended storage times and can result in the bunching of rail cars and associated rail demurrage charges. It can also increase ocean vessel loading time, or require vessels to berth multiple times to fully load resulting in ship demurrage and additional berthing fees. In the worst cases, delays to traffic caused by the splitting of unit trains can negatively influence Canadian exporters’ reputations as consistent and reliable suppliers.

<sup>17</sup> As part of their structured grain rate programs, CN and CP offer qualified shippers loading incentives for car blocks greater than 50 cars up to full trainload units (100 cars with CN and 112 cars with CP). The conditions for qualification include the ability to load large blocks within a 24 hour period and the provision of proper documentation electronically. The terms of the tariffs do not include guarantees of transit times or a commitment that the delivery of the block of cars be in the same order or grouping as they were shipped. While it is the shipper’s expectation based on experience that the railway will move the train or car block through to destination in single block, there is no contractual or tariff reference that commit the railway to doing so.

<sup>18</sup> Train starts are a major cost driver for railways. The combination of trains or car blocks is an effective means of reducing train starts as is the breaking up of grain trains and moving those cars in smaller blocks in other train service that may not be fully utilized.

**Problem example identified by stakeholders:**      Unit Train Grain Loading Delay

This example shows the direct cost impact of a situation where the railway fails to deliver an empty 112 car unit train to a country elevator for loading as scheduled on Day 0 at 0800. This situation can apply for grain elevators served by either CN or CP although this example references the commercial terms published by CP.

The grain company schedules labour for train loading and car inspection to meet planned arrival time of a train which is delivered a day later than scheduled without sufficient prior notification to the grain company to allow them to cancel scheduled labour. Under railway tariff, if a unit train of 112 cars is not loaded within 24 hours of placement the customer will not qualify for unit train (incentive) rates.

Increased freight costs (lost incentive rate)

The inability to load within the required 24 hour period would result in increased costs of approximately \$70,560 (\$7 per tonne x 90 tonnes per car x 112 cars per train)

Given these very high penalties, shippers would schedule special labour to ensure that the train is loaded in 24 hours. The excess labour costs for the crew that was unable to load the train as scheduled would be as much as \$ 4,000 - \$5,000 per train including any required inspections (depending on the grain company's ability to cancel a previously called crew without penalty).

**Best Practice example identified by stakeholders:**      Port Railway of Montreal

At most Canadian ports CN and CP switch rail cars directly to and from the docks and terminal facilities. However, in Montreal the Port Authority owns, maintains and operates its own rail network serving all customers on port property.

Both transcontinental railways, CN and CP, deliver their inbound railcars to the Port Authority yard and pick up outbound rail cars from the same yard. The Port Railway controls access to and from their yard and moves all cars into the appropriate terminal.

Stakeholders identified the Montreal Port Railway and Port authority processes for operational communication and coordination as best practices in these areas for ports in Canada.

Through regular conference calls with both railways and terminal operators the Port Railway is able to control the flow of cars to and from the dock and terminals and provide predictable service at these facilities. The Port control center coordinates all spotting and switching on the docks and billing for switching service is directly between the Port and the shipper. Railways and terminal operators are sent monthly performance statistics covering all aspects of the Port Authority operation.

### **3.3 Responsiveness**

Many stakeholders were frustrated with a perceived lack of railway responsiveness to service issues or complaints by railway customers. In general, customers were more positive about CP's handling of complaints than CN's response. Many of the rail shippers and receivers did not believe that they had an effective collaborative relationship with their rail supply chain partners. For CN in particular, many shippers did not believe that CN was interested in developing collaborative relationships with its customers.

As identified earlier in this report, QGI believes that collaboration is a keystone best practice characteristic of a supply chain and therefore the lack of effective collaboration in supply chain operations and planning is a serious deficiency.

This difficulty with establishing effective and responsive planning relationships with supply chain partners was not limited to shippers and receivers as this problem was also found to exist for shortline railways in their relationships with the Class 1 railways and particularly with CN.

While many stakeholders praised the efforts of front line customer service and operations staff in their response to service issues, they often felt that these staff were not empowered to act on service complaints. Often shippers and receivers found that informal channels and relationships with railway employees were more effective than working through their designated contacts at the railways. When dealing with CN in particular, many customers did not believe that there was an established and well managed process for the logging, escalation, resolution and response to service issues raised by customers. In addition, railway customers did not feel that communication processes within CN between the customer service and marketing functions and the Operating department were effective – resulting in mixed messages being delivered to customers regarding railway Operation's capability and commitment from different CN representatives.

This concern about a lack of responsiveness extended to the railways' failure to provide feedback on capacity and capability with respect to rail car supply, bulk train capacity, intermodal slot and train capacity and overall network capacity. In general, customers noted that for day to day operations, railways have made significant investments in systems to communicate their commitments on weekly rail car supply. However, particularly during times of disruption and when demand peaks appear to exceed railway capacity, many stakeholders believe that railways - at a strategic level - were too often unwilling to be transparent about capacity allocation and capacity capability issues.

On a positive note, CN is developing enhancements to its customer notification process that will in future allow customers to subscribe to an automated email service that will advise them of changes to scheduled switching services. Subscribers will automatically be advised of changes to schedules for industrial switch assignments and wayfreight trains providing on line customer switching. These notifications will advise of changes to base schedules only but will not provide real time ETA information for day to day service.

Nevertheless, QGI believes that this type of service, if found to provide timely information, will be a welcome enhancement to CN's customer service processes.

**Problem example identified by stakeholders:** Railway non-response to bulk shipper request to increase volume

A large bulk shipper approached their primary carrier to ask if they could handle a twenty percent increase in traffic above the level that had originally been forecast by the shipper for the upcoming several months. Despite numerous attempts to obtain a reply from the carrier, the shipper was unable to get either an agreement to handle the additional volume or a statement by the carrier that such volume increases could not be handled. Neither could the shipper obtain a clear understanding with respect to how the railway would assess and respond to the request. This created tremendous uncertainty for the shipper in their negotiations with their customers and introduced great uncertainty into the customer's marketing and operations planning activities. Friction over this uncertainty has severely impacted the customer's relationship with their primary carrier and hampered any ongoing supply chain improvement initiatives.

**Best Practice examples identified by stakeholders:** BNSF Railroad

Amongst the stakeholders interviewed, the railway that was identified most often as representing "best practices" in customer service processes was BNSF. BNSF were cited for their superior customer service management and processes including:

- Knowledgeable service representatives who have direct experience with local operations and are able to provide answers to questions, and most often able to fix simple problems before they need to be escalated
- Where problems require escalation there is an established and clear process that includes access for major customers to Senior Operating executives
- A collaborative approach to discussions re – service requirements and service performance including the reporting of service performance

CP Intermodal

For responsiveness to customer service issues in Intermodal services, CP was identified as the preferred carrier by many large shippers. The availability of CP Intermodal customer service personnel and the willingness of CP to adapt their scheduling to integrate with customers' logistics systems were noted by multiple large intermodal users.

### **3.4 Ancillary Services**

Ancillary services are those chargeable services provided by railways for activities beyond the movement of rail freight from origin to destination. Most ancillary charges are for the time spent by customers in loading and unloading of railway provided rail cars (demurrage). In addition, railways may impose ancillary charges for moving railcars (switching) from one location to another on shipper or railway property, at the request of the customer. Special charges may also be imposed if shippers wish to change the destination

of a railcar while it is enroute to destination (diversion) or if the car is found to have been loaded improperly resulting in a safety hazard due to an unbalanced or overloaded car.<sup>19</sup>

Most railway customers, and the vast majority of stakeholders interviewed for this project, recognize that ancillary charges create incentives for the efficient use of railway assets and can help to reduce congestion and improve the overall velocity of the rail freight supply chain. When properly administered they are also consistent with the concept of balanced accountability – ensuring that supply chain costs are imposed on those who create such costs.

### **CN and CP demurrage programs**

Demurrage was the most controversial of the ancillary charges identified by stakeholders. The demurrage programs of CN and CP are administered using a debit and credit system. Shippers and receivers earn credits based on the allowable free time provided by the railways and incur debits as they use this free time to load or unload cars. The credit – debit system allows customers to apply credits earned through good loading/unloading performance against debits incurred in cases where loading/unloading exceeds the free time allowed. Credits and debits are reconciled by CN and CP at the end of each billing period – for CN weekly and for CP monthly – and charges are assessed to customers based on net debits incurred. No credits or debits are carried over from one billing period to the next and they are specific to a customer at an individual facility.

Many of the terms and conditions of the CN and CP demurrage programs are similar with some minor exceptions. Key provisions of the railways' demurrage programs include:

- allowable free time for loading of railway owned versus privately owned equipment
- allowances provided for early or late arrival of empty cars for loading
- allowances provided to shippers who perform their own in-plant switching
- allowable free time for unloading of cars at destination

#### ***Allowable Free Time - Loading***

CN and CP each provide shippers with 1 free day (credit) for loading of a railway supplied<sup>20</sup> railcar. The demurrage clock is started at 0001 hrs following the day the car is actually placed at the customer siding or notification is provided of constructive placement<sup>21</sup> of the car. The demurrage clock stops once the shipper releases the car to the railway indicating the car is loaded and available for pick up.

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<sup>19</sup> CN's tariffs refer to these as Optional Services and CP's term for such services is Supplemental Services. The term ancillary services is commonly used in the rail industry to describe these non-linehaul services.

<sup>20</sup> A railway supplied car is defined as a rail car owned or leased by the railway and provided to the shipper as opposed to a rail car that is privately owned or leased by the shipper.

<sup>21</sup> Constructive placement is a car status used by the railways to identify a car being held on railway tracks pending notification of delivery instructions by the shipper or receiver. This car status will in some instances be used to initiate demurrage charges.

Most railway shippers order empty rail cars from CN and CP using the railways' Ecommerce systems. While the business terms of such orders and supply may vary by railway and line of business a specific number of cars is generally ordered for a specific day of the week based on the shipper's needs. The day cars are ordered for is referred to as the "Want Date" and "Ordered for Date" in the CN and CP demurrage rules respectively.

It is not uncommon for empty cars to be available for placement at the loading facility prior to or after the shipper's Want Date. Whether placed at the shipper's siding early or held by the railway until the specified Want Date the demurrage clock will not start until 0001 hrs on the day following the Want Date. Similarly shippers are not penalized when the railway is late in providing empty cars for loading after the stated Want Date. While both railways provide relief in such instances they do so differently. CN defers the start of the demurrage clock until 0001 hrs of the day following the shipper's next Want Date. For example, if a shipper ordered cars for Tuesday and Thursday and CN delivered the Tuesday cars on Wednesday the demurrage clock for the Tuesday cars would not start until 0001 hrs on the Friday and the demurrage clock for the Thursday cars would start the day following the shipper's next order date. CP does not consider the next order date but rather provides the shipper with additional credits or free days for loading equal to the number days between the Ordered for Date and the actual placement date.

CN has recently implemented changes to its origin demurrage program to address concerns raised by shippers. Effective August 2009, CN provides an additional credit for each rail car placed for loading at the shipper facility on the Want Date but after the completion of the scheduled 8 hour service assignment. CN is issuing credits manually while changes to its demurrage systems are being programmed.

#### *Allowable Free Time - Unloading*

The same credit-debit demurrage system is used in respect of unloading of cars at destination. For unloading CN and CP each provide receivers with 2 free days (credits) for unloading of railway supplied railcars. The demurrage clock is started at 0001 hrs following the day the car is actually placed at the customer's siding or notification is provided of constructive placement of the car. The demurrage clock stops once the shipper releases the car to the railway indicating the car is unloaded and available for pick up.

The railways differ in the approach to the constructive placement of loaded cars at destination and when the demurrage clock is started. Currently, CN issues notification of car availability to customers generally 5 hours prior to the scheduled start of the switching assignment and will start the demurrage clock at 0001 hrs on the day following the notification regardless of when the actual or constructive placement event occurs.<sup>22</sup> Starting December 1, 2009, CN will make changes to its demurrage process to ensure that the demurrage clock will begin at the next 0001 hrs following *the end* of the next switching assignment after

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<sup>22</sup> While the 5 hour time frame for advance notification is a general rule at CN; the company's demurrage systems permit the establishment of a different standard and exceptions to this rule do exist to reflect the circumstances at particular locations.

notification has taken place. In addition notification will not be sent to customers if a car has not physically arrived at the yard that serves the customer. Some customers had complained in the past that notifications were being made on traffic that was still enroute to the serving yard location. CP will not constructively place the car until the next available service day for that customer. This practice of CP's provides some measure of relief to receivers.

CN has also recently announced changes to demurrage provisions at destination for export grain. This will place export grain customers on the same credit-debit system that is in place for merchandise customers. Principal changes include an additional 24 hours free time for unloading and a change in daily demurrage charges from \$60 to \$85 per car per day. At Vancouver - which has a \$30 surcharge - the cost will increase from \$90 to \$115 per day for export grain demurrage.

### **Stakeholder concerns with demurrage programs**

Many stakeholders raised serious concerns with the CN and CP demurrage programs. While railway customers were more likely to complain about the administration of CN's demurrage program than CP's program – there were multiple stakeholders who were unhappy with each railway's policies and processes. Stakeholder concerns about demurrage fell into two areas:

- Low level of administrative effectiveness
- Fairness with respect to free time calculation

#### ***Administrative Effectiveness***

Railway customers do not think the railways do a good job of administering the current demurrage programs. Key issues raised by shippers include the accuracy of demurrage billing by the railways and the supporting administrative processes related to dispute resolution.

#### ***Invoicing Accuracy and Dispute Resolution***

The railway customers interviewed estimate that error rates on demurrage invoices range from a low of 20% to as high as 70%. The high error rates experienced by customers have led many companies to assign personnel to more closely monitor and audit demurrage invoices. Many rail stakeholders believe the railways have unfairly and unreasonably placed the cost burden of ensuring demurrage accuracy on customers in lieu of implementing the internal business processes required to ensure billing accuracy. While some stakeholders acknowledge that the railways – particularly CN – have made some changes in the last year to improve demurrage administration, they remain concerned about continuing high error rates on demurrage invoices from the railways.

Railway demurrage processes are largely mechanized using operational car movement reporting applied against computer based logic to calculate and assess demurrage charges. Both CN and CP have implemented Internet based demurrage programs that customers can access through the railway

Ecommerce sites to monitor the demurrage status of their shipments. These systems can also be used by customers to challenge individual charges prior to invoices being issued.

If charges are challenged prior to invoices being issued the dispute resolution process is handled through the railways' customer service organizations. The stakeholders interviewed indicated that dispute resolution becomes much more difficult after invoices have been issued. CN provides a 21 day window for disputes to be filed and commits to a 21 day response time, although not to resolution within this time frame. CP's policy is that disputes must be filed prior to the payable date on the invoice.

Notwithstanding the availability of these systems and processes, stakeholders generally feel that demurrage dispute resolution is difficult, time consuming and that the onus is placed on the customer to substantiate the inaccuracy of billings and not on the railway to demonstrate their accuracy.

### ***Railway Reporting***

The accuracy of demurrage charges relies on the timely and accurate reporting of actual car placement events at customer facilities, customer notification processes regarding car availability and constructive placement reporting. Many stakeholders indicated that they had difficulty reconciling railway demurrage charges as their primary source of data for auditing demurrage bills is railway provided reporting on car placements and they believe that this reporting is often inaccurate. Where customers retain their own records on car placement and release times they have a source of data against which to check railway records but this still places an administrative burden on the railway customer.

The arrival of a rail car at a customer facility (car placement) can be reported in one of two ways: electronically using Automatic Equipment Identification (AEI) technology<sup>23</sup> or manually by clerical personnel based on work orders or switch lists completed in writing by train crews and delivered or faxed back to the customer service center or local yard office for data entry. Both of these approaches can result in inaccurate reporting of car placements that cause errors on demurrage bills.

The use of AEI technology for car placement reporting is primarily done at CN and is very rarely done at CP. Car placements reported this way can be inaccurate in some instances because the actual placement time of the car is inferred based on an electronically reported event as opposed to the explicit reporting of the car placement at the customer facility. For instance AEI readers may be located on railway property close to a customer's facility. Cars destined to that customer may be reported on the train as it approaches the customer facility and not on the train as it passes the AEI reader beyond the customer facility. In such a case the computer system can be programmed to report that the car has been placed at the customer facility. However, this can result in an inaccurate placement reporting if the cars have in fact been set out from the train at a location other than on the designated customer track. If the relevant crew work order is

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<sup>23</sup> AEI technology uses radio frequency identification tags (RFID) on railcars that are read by stationary AEI readers located at tracksides in strategic locations throughout the railway network. These readers are connected to the railway operations information management systems allowing the remote identification and reporting on rail car and locomotive locations. AEI tags are required on all rail cars moving in interchange service between the member railways of the Association of American Railroads of which all North American Class I railways are members.

not used to verify actual reporting and correct the error, the inaccurate AEI reporting can trigger the demurrage calculation process.

The use of manual reporting using work orders completed by train crews relies on the accurate recording of work events by the train crew, the transmission of the work order for data entry, and the accurate transcription of the completed work order into the railway's operating system. This can lead to a number of different problems including:

- Incomplete work reporting by train crews
- Inaccurate work reporting by train crews – in the past it was not uncommon practice for a train crew to assign the same time to all work completed during the course of an assignment
- Missing work order documents either not transmitted for data entry or lost in transmission
- Errors in data entry when transcribing work order information

Currently CN has no standardized company-wide process for the use of manual work orders (known as Daily Operating Plans – DOP's) for reporting on work performed by operating crews. In some locations all DOP's will be returned in hard copy or electronic form to a regional office, but there is no standardized process for reviewing work performed, for retention of documentation or for auditing of reporting accuracy.

By comparison CP has a defined quality control process for ensuring the completeness and accuracy of switching performance. CP employs a multi-stage control process including:

- Confirmation of receipt of transmitted work order by train crew (conductor) via telephone
- Review of work order documents submitted by crews for completeness and legibility of data
- Contacting train crews for required clarification of work order information
- Documentation of reporting exceptions or problems during data entry in CP's customer relationship management system
- Production of daily exception reports
- Weekly discussion of systemic reporting issues and performance reporting to AVP Operations

For all Canadian operations, this quality control process is managed by CP's Customer Service and Finance group in Winnipeg, Manitoba. The employees in this organization can use CP's customer relationship management (CRM) system to identify possible problems in reporting accuracy and can log such issues for investigation if required. CP's operations management process includes the tracking of both work order completions and the incidence of work order reporting problems.

### ***Free Time Calculation for Unloading***

The railways' demurrage programs are designed to provide all shippers with a minimum of 48 hours free time for unloading. Similarly to the process with empty cars, they begin the demurrage clock at 1 minute after midnight on the day following the triggering of the demurrage process by either a car placement,

customer notification, or constructive placement. The exact trigger event differs between customers and railways.

For the delivery of loaded cars, railway customers are classified as either “spot on arrival” or “hold for orders”.<sup>24</sup> For a spot on arrival customer the railway has standing instructions to deliver rail cars directly to the customer’s facility as soon as they are available. A “hold for orders” customer will not have cars placed by the railway unless the customer orders in cars identifying them by car initial and number.

Railways will notify customers that loaded cars are available through their Internet systems and also through the generation of automated fax messages. Once notified it is the responsibility of the customer to request cars be delivered. CN’s Ecommerce systems permit the customer to monitor inbound loaded cars through the Internet and customers are allowed to order cars to be moved directly to their unloading facilities up to 48 hours in advance of the cars estimated time of arrival at the railway serving yard or station. This capability relies on the provision of accurate ETA’s for the traffic but does permit customers to plan their unloading processes in advance of arrival of the traffic and to thereby avoid delays and demurrage charges.

If the railway does not receive an advance order from the customer to deliver the loaded cars by the time they arrive at destination the railway will hold the cars on railway property and constructively place the cars pending receipt of the customer’s order. CP’s business process is to constructively place cars, thereby initiating the demurrage calculation at the next 0001 hrs on the next planned service day after customer notification.

CN however, generally issues an automated notification 5 hours prior to the starting time of the rail assignment that will provide the next switching service to the customer and the demurrage calculation begins at the next 0001 hrs after the notification.<sup>25</sup> Depending on the time of day that is established as the planned switch time, the system may begin calculating demurrage as little as an hour after the notification. Some stakeholders believed that this places an unrealistic burden on receivers especially if notifications arrive after their normal business hours; as they cannot reasonably respond until after the demurrage clock has already started. As noted earlier, CN’s planned changes to their demurrage processes starting December 1, 2009 directly addresses this problem by shifting the start time of the demurrage clock from the first 0001 hrs after the start of the first switching assignment after notification to the first 0001 hrs after the end of the switching assignment.

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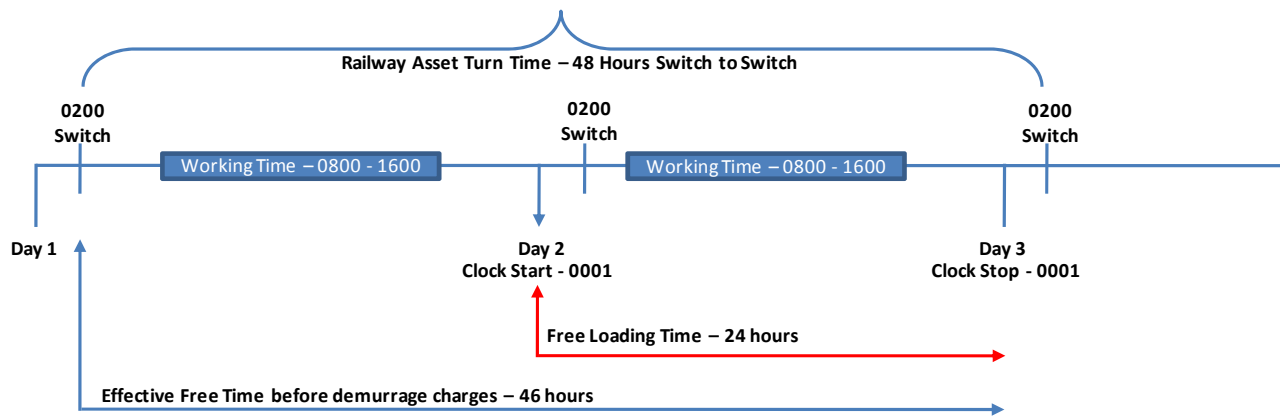
<sup>24</sup> “Spot on arrival” and “hold for orders” are the terms used by CN to describe the two different customer processes. CP uses the terms “open gate” and “closed gate” to describe the two situations on their railway. A railway will designate a customer as spot on arrival or open gate if they have the physical ability within their facilities to receive all of the traffic destined to them over 95% of the time. This implies that the customer has made extensive investments in in-plant rail infrastructure and loading and unloading capacity that allow them to absorb their expected variances in rail traffic flow.

<sup>25</sup> As noted earlier, while the 5 hour rule at CN is a system wide standard, exceptions are granted to customers to reflect special circumstances at individual locations.

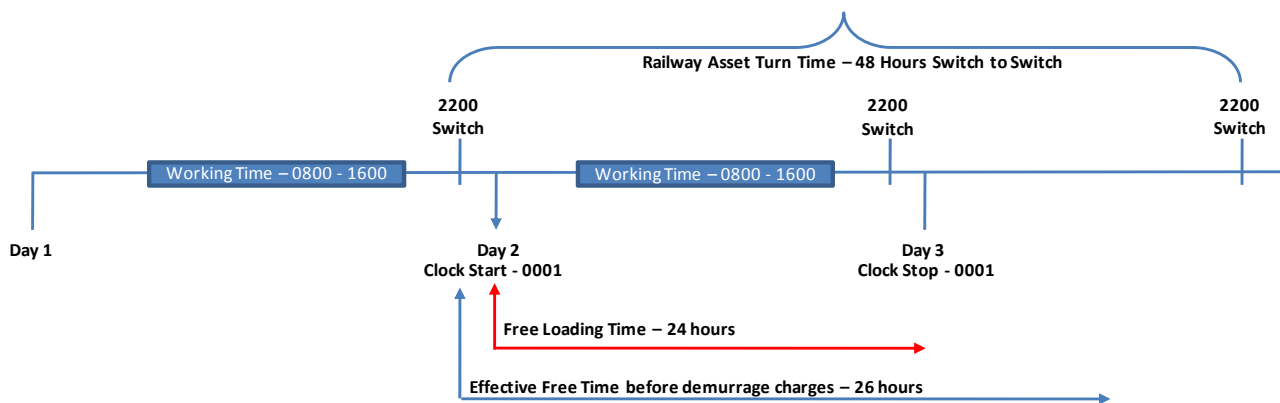
**Free Time Calculation for Loading**

Some stakeholders indicated that using the arbitrary time of 0001 hrs to trigger demurrage calculations provides some customers with the opportunity to accumulate additional loading credits whereas others cannot. Because a single railway train or switching assignment will serve multiple customers, some customers will obviously receive their cars earlier in the day than others. Those customers that are switched first will effectively have more free time for loading or unloading than those switched after them. As shown below in the most extreme case a shipper could effectively double his free time allowance simply by virtue of when he is switched.

*Shipper A - Operating days Monday to Friday 0800 to 1600; switch time 0200*



*Shipper B - Operating days Monday to Friday 0800 to 1600; switch time 2200*



Some stakeholders argue this leads to not all customers being treated equally. This was seen as particularly important for the calculation of free time for loading of empty cars where only 24 hours of free time is permitted. Stakeholders felt that while all customers receive the same minimum amount of

time for loading some customers by virtue of the normal time of day that they are served will have the opportunity to accumulate additional credits whereas others cannot.

**Problem example identified by stakeholders:** Forest Products Shipper Demurrage Administration

A large Forest Products shipper is typical of many large customers in that they have assigned 1.5 full time staff persons to the audit of ancillary charges bills from their rail carrier. Over the past several years their experience is that ancillary services charges were inaccurate approximately 70% of the time. The value of annual ancillary services charges is greater than \$1 million however the work effort associated with the reconciliation of these charges has severely affected the relationship between the shipper and their carrier – and the overall relationships is worth over \$100 million per year in freight charges.

The failure of the railway and shipper to reconcile these charges has interrupted ongoing efforts to pursue strategic opportunities for both partners that have much greater potential value than the outstanding ancillary charges.

### **3.5 Other issues**

The project team's review of the stakeholder summaries also identified two additional issues that were extensively discussed by stakeholders however, given the prioritization criteria as identified above, the team did not believe that they need be prioritized for solutions.

#### **Capacity planning**

As noted earlier, supply chain planning necessarily involves stakeholder collaboration with respect to demand forecasting and capacity planning. From the railway customers' perspective, concerns about railway capacity planning had different emphasis in different business segments. In the Merchandise business, shippers were more likely to be concerned that shippers' forecasts and car orders were being used to size fleets for more conservative estimates of demand than those provided by shippers. They saw this as an explicit risk management strategy by railways who they believe have too strong a focus on asset velocity to both their own and the railway's detriment.

For some intermodal customers, concerns with capacity were expressed in terms of railways sizing train service, container and car fleets and, for CN, slot reservation capability at levels well below shippers' demand requirements. This was identified by some intermodal and other customers as being a function of the railways using too optimistic assumptions about asset velocity in their planning processes.

This uncertainty with respect to railway capacity was too often expressed as a lack of trust that railways would use demand forecasts in good faith to meet shipper needs as railway profitability goals were seen as having a higher priority than meeting shipper demands. Shippers often noted that they believed that

demand forecasts were more important to the railways for revenue and yield (pricing) planning than they were for the development of capital and operating plans to meet shipper demand.

There were customers in all business units who expressed frustration with railways' failure to provide feedback on rail car supply, bulk train capacity, intermodal slot and train capacity and overall network capacity. This was both a function of railway failures in customer service processes - and a concern that railways at a strategic level were unwilling to be transparent about capacity allocation and capacity capability issues.

Railways were sometimes seen as not interested in engaging in dialogue about longer term demand planning with ports and terminals or of providing accurate data (asset velocity) to support such planning. The discussions about the North Shore of Vancouver are a notable exception to this problem where customers expressed satisfaction with the railways' level of engagement.

However, the project team did not believe that there were obvious solutions to the problems identified above that are specific to the problem of demand planning. Rather, the team believes that the solutions that will be proposed for the higher ranked issues listed above will help to improve the overall railway – customer/partner relationships and lead to improvements in this area as well.

## Forecasting

Both railways expressed concern with the accuracy of demand forecasts provided by railway customers. Railway representatives believe that the problem of forecasting accuracy exists at multiple levels in customers' organizations. At the lower levels, railways expressed concern that the customers' personnel sometimes available to railway account managers for forecasting discussions may not have access to the best information possible in a customer's organization which can limit the accuracy of the forecast. However, they also noted that inaccurate forecasts can occur at a higher level in a customer's organization due to complexities and inefficiencies in customers' global logistics chain management and due to unrealistic or inaccurate market share and marketing strategy information.

The railways noted that their capital planning cycles are at least 2-3 years long and high levels of variability and uncertainty of future demand forces railways to absorb unacceptable levels of financial risk. Some railway personnel are concerned that the high levels of demand variability being experienced in current markets may increase railway risk aversion in the future.

However, customers in all segments identified significant and real challenges in creating reliable forecasts of transportation demand. Customers indicated that their forecasts needed to take into account and predict their competitors' behavior as well as their own marketing strategies in developing forecasts. If they failed to accurately predict competitors and consumers actions their assumptions about market share will be wrong as will their forecasts. In addition, in the grain industry specifically, shippers emphasized the

role of the Canadian Wheat Board (CWB) in determining markets and market share as being a limitation on their own ability to forecast.

Customers also emphasized how unusual the current economic environment has been and how dramatic and generally unexpected the Q3 2008 through Q2 2009 declines in traffic and economic activity have been both for themselves and their customers.

Rather than focus on improving the accuracy of future demand forecasts, the project team believes that any further investment of railway and customer resources in such an effort is liable to have little payoff in terms of improving forecast accuracy. The pursuit of the perfect forecast is a futile endeavour that can distract stakeholders from developing forecasts that would more appropriately seek to identify a reasonable base line forecast and determine a potential range of variability that can be anticipated. The project team believes that planning for strategies that can cope with variability in demand are more likely to be useful to the supply chain than attempting to pin down a precise measure of future demand in world commodity markets.

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## 4. Potential System Wide Solutions

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### 4.1 *Balanced Accountability*

As noted earlier, the desire for a system that ensures balanced accountability for all stakeholders in the Canadian rail freight logistics system was a theme voiced by many participants in the consultation process. Stakeholders provided many examples of situations where they do not believe that the current relationships between railways and other stakeholders respect this important principle. As noted earlier in the paper, there is no simple answer to the problems raised by stakeholders under this general concern as each situation will have its own set of commercial and competitive characteristics that need to be taken into account to determine whether or not they support the concept of balanced accountability. Within the current rail regulatory framework, whatever is done that might change the balance in relationships between railways and their customers must take into account the private ownership of Canada's railways and their requirement to earn competitive returns for their shareholders. Railways are capital intensive businesses with long lived assets. Their capital planning decisions require predictability with respect to the income that they can earn on their investments. Some railway representatives have identified a shipper's ability to seek rate relief under the Final Offer Arbitration provisions of the Canada Transportation Act, and the threat of potential running rights provisions under that legislation as restrictions on their ability to plan with a high degree of certainty on the income that will be earned from investments in rail capacity. However, as many railway stakeholders noted in the interview process, they also operate in the same capital investment markets and environments. While few customers match railways from the perspective of capital intensity, they face the same types of pressures to earn competitive returns on their invested capital and many believe that they operate in equally if not more competitive market environments than those faced by Canada's railways.

Furthermore, the concept of balanced accountability is not currently recognized in the Canada Transportation Act (CTA). The CTA currently requires that rail carriers provide "adequate and suitable accommodation" for the carriage of rail customers' freight and requires rail carriers to move such traffic "without delay, and with due care and diligence."<sup>26</sup> Where the Canadian Transportation Agency (the Agency) establishes a rate or service condition pursuant to its authority under the CTA, Section 112 of the Canada Transportation Act requires only that such a rate or condition "must be commercially fair and reasonable to all parties."<sup>27</sup>

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<sup>26</sup> Canada Transportation Act. Section 113.

<sup>27</sup> Canada Transportation Act. Section 112

In deference to national transportation policy as described in Section 5 of the Canada Transportation Act, the project team understands that market oriented solutions to perceived problems will be preferred to regulatory solutions unless there is clear evidence that a regulatory solution is required. Under the current regulatory regime as governed by the CTA the standards of “adequate and suitable” and “commercially fair and reasonable” establish a goal for service levels of uncertain width. As a result it is difficult for regulators and stakeholders to determine in any particular case whether the service offered has either ‘hit the net’ or gone far wide of the goal.

The project team believes that the concept of balanced accountability provides a clarifying principle that may be of use to regulators and stakeholders in the examination of railway services to determine in particular cases whether the service offered to a railway customer or group of customers is “adequate and suitable.”

Under section 116 of the CTA a railway customer may make a complaint to the Agency if they believe that a railway has not fulfilled their service obligations as set out in the CTA. One of the services currently offered by the Agency for investigation of service complaints by shippers and railways is mediation. Mediation provides an informal and timelier alternative to dispute resolution than that provided by formal investigation by the Agency with a customary 30-day deadline rather than the 120-day deadline for the Agency's formal dispute-resolution process. QGI believes that the concept of balanced accountability may be a useful framework for the examination of rail service complaints that are examined under Agency sponsored mediation. The project team therefore proposes that the Agency should develop a methodology that could be used to determine in specific cases whether a particular set of rail service conditions are supportive of the concept of balanced accountability. As noted earlier, this concept has a number of components however the central principle is that a supply chain participant should be responsible for the costs that their behaviour imposes on the other participants in the supply chain. However, in addition QGI has identified the best practice principle in supply chain management that the supply chain system should seek to optimize output of the entire system at the most profitable level.

QGI believes that methodology could be developed to assess a particular set of service conditions from the perspective of total logistics costs for the movement from origin to destination but extending the examination of cost to include:

- Direct railway costs for transport of freight
- Railway rates charged to customer
- Direct shipper & receiver costs for loading / unloading and provision of rail related services
- Indirect shipper costs associated with rail service frequency such as;
  - Handling costs
  - Storage costs
  - Differential operating costs

This approach would allow both railways and railway customers to ensure that the examination of what is adequate and suitable accommodation and what constitutes movement without delay, and with due care and diligence; takes into account a broader view of logistics costs than just the direct cost of railway transportation. While the project team does not believe that the concept of balanced accountability should in any way limit or constrain the Agency in any determination of what is commercially fair and reasonable, it would provide an additional and generally accepted framework for railways and shippers to examine and resolve disputes with respect to railway service.

QGI recognizes that the development of accepted methodology for the examination of service according to the principle of balanced accountability may require time and resources and that such a concept is open to enough interpretation that no single formula for consideration of total logistics costs is likely to meet with unanimous approval from stakeholders. However, the development of a conceptual approach such as this by a respected third party such as the Agency may bring a new clarity to the interpretation of what is adequate and suitable accommodation in a specific case for a specific railway customer.

Furthermore, once developed and applied in practice, policy makers may wish to consider enshrining the principles of balanced accountability and supply chain optimization into the regulatory framework through changes to National Transportation Policy or through changes to Part III Division IV of the CTA governing railway Rates, Tariffs and Services. This would empower the Agency to examine all rail service complaints through the lens of these important principles. The existence of these principles in transportation legislation would provide a framework for railways and their customers in the development and assessment of rail services that may increase the likelihood of consensus between railways and their customers as to what constitutes an appropriate minimum level of service. On a day to day basis, the existence of these principles in the CTA would encourage each stakeholder to take into account the needs and constraints of the overall rail logistics system in the management of their own operations.

If policy makers wish to proceed with the recommended changes to Canada's transportation regulation, it is expected that specific input on these changes would be sought from all system stakeholders.

While Canadian transportation policy as defined by the Canada Transportation Act has a clear preference for market oriented solutions to rail transportation issues, it also recognizes that regulation and strategic public intervention can be used where competition and market forces do not provide acceptable outcomes. The decision of regulators and policy makers as to the circumstances under which regulatory solutions should be considered requires reference to both standards of performance and actual performance experience of the supply chain partners. At present, there is no on-going independent measurement of the performance of the rail logistics system in Canada that can be used as a baseline to determine if service in a particular case can be considered adequate and suitable.

While the quantitative analysis components of the Rail Freight Service Review will provide a baseline of service performance measurement, the project team believes that Transport Canada should ensure that

the rail logistics system performance is subject to on-going measurement so that regulators and policy makers can monitor changes in performance.<sup>28</sup> This would also allow stakeholders to determine in any particular case how railway service to a particular customer compares to service for other groups of similar customers and other types of customers. The experience gained through the quantitative analysis phase can provide information that will help determine the elements of railway and shipper performance that should be independently measured on an on-going basis and the dimensions and framework for such a measures program.

On-going service performance measurement will allow stakeholders to determine the impact over time of changes made in either the regulation or the management of the system. If the service problems identified in this report are not dealt with in a timely manner through changes such as those proposed by the project team and through the on-going commercial relationships between railways and their customers, policy makers and regulators can then determine through reference to service performance measurement whether or not to take further action to compel the changes required to improve rail logistics system performance.

One option for regulators to deal with on-going service problems in the rail logistics system in the future may be the creation of standards for railway service that railways and shippers would have to respect. However, standards imposed for one shipper or a group of shippers may have serious effects on other shippers as capacity used to achieve such standards for a target group of shippers may be obtained at the expense of rail assets and capacity available for all other shippers. Furthermore, standards established for a given set of service and market conditions may become inappropriate as these conditions change over time. In addition, some shippers have invested heavily in their own rail logistics capabilities. These shippers may feel disadvantaged if shippers who have not made such investments in trackage, loading or unloading facilities or rolling stock receive service advantages through regulatory action that they obtained only through their own investments in capacity. Due to the issues of network complexity and the dynamics of competition within both transportation and commodity markets, policy makers and regulators should move very cautiously when considering the imposition of railway service standards and ensure that both direct and indirect effects of such standards are well understood before they are imposed.

## ***4.2 Operational Communication and Coordination***

As identified earlier in the report, many stakeholders were very concerned with the lack of effectiveness of railway processes for communicating with respect to the status of rail traffic and the expected time of local service at customer facilities. This concern existed both with respect to the information available to customers on the movement of single rail cars but was of particular importance to customers which handle

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<sup>28</sup> Transport Canada may wish to consider whether or not changes may be required to regulations to facilitate the timely provision of performance data by railways to either themselves or an independent monitor in order to support an on-going rail transportation service measurement program.

large blocks or trainload volumes of traffic through their facilities on a daily basis. Workload planning in these facilities which include; ocean container terminals, bulk terminals, fertilizer plants, grain elevators and forest product and petrochemical facilities can be significantly affected by the operations of railways. This applies both to the direct impact on shippers needing to adapt to the presence of railway crews and equipment on customer property but also to the production and logistics processes that are affected by the movement of customers' products into and out of these facilities.

The project team believes that railways should place greater management emphasis on the importance of providing accurate information to customers with respect to single car movements (ETA's) and should place a special emphasis on improving communication with those facilities and locations where unpredictable railway operations have the potential to significantly disrupt customer operations.

QGI believes that the discussion between railways and their customers with respect to service levels would be facilitated if the railways established - and shared with their customers - performance information with respect to the accuracy of traffic status data that they currently exchange with shippers and receivers.

As the rail car ETA at destination is a vital planning tool for railways and customers, its accuracy should be subjected to ongoing measurement and railway performance against this measurement should be shared with customers. The level of detail at which such a measurement should be established and shared with customers would need to reflect both practical and competitive considerations. The development of such measures would require the investment of resources for computer systems development at the railways and the definition of such measures, their development and implementation, will not result in any quick fix for railway customers. However, given the importance of timely information on rail traffic performance to stakeholders, railways and their customers should seriously consider how such measures could be developed and implemented. Both railways have on-going discussions with their customers with respect to future information system needs, and this information is currently used to prioritize system development. During the stakeholder consultations both railways suggested that rail car ETA will continue to be an important element of the information provided to customers. Therefore, the project team believes that this key information should be subject to measurement so that both railways and their customers have a clear picture of the accuracy of this important customer and railway planning information.

In addition, the project team feels strongly that for major shippers and receivers such as port terminals and unit train shippers and receivers, the process of communication with respect to the expected time of arrival of loaded and empty trains at customer facilities should be reviewed with a view to improving the predictability of such information. Whether the railways believe that system development is required in this area is a matter that can be left to railways and their customers. However, as with information about single car ETA, at all major facilities, there should be processes in place to:

- Provide a predicted time of arrival of loaded and empty trains
- Measure actual performance at customer facilities versus the time predicted

- Share performance information with customers

The project team also believes that, as with their major rail customers, railways should develop processes to track their interchange performance with their key shortline partners. Both CN and CP should ensure that the terms of interchange service agreements that are in place with each of their shortline railway partners are subject to performance measurement and that such measures are shared with their shortline partners. These measures would be expected to include train blocking performance and interchange time performance.

Finally, the project team believes that CN and CP should institute processes to measure the conformance of local switching performance against the planned day and eight hour window for local service. As CP currently has a centralized process for recording work completed and the time of all switching activities; this should be possible with minor changes to CP's current systems and processes. At CN, if the recommendations made in the section of this report below on ancillary services are adopted, this should also be possible at CN though the project team recognizes that CN will likely have to make more changes to systems and processes to accommodate such measures.

The creation of these new measures is not meant to imply that the commercial arrangements between railways and their customers should be changed as a result of the implementation of these communication processes and measures. The level of commitment for service will continue to be subject to both the Canada Transportation Act and any contractual arrangements that exist between railways and their customers. However, given the strong input provided to the project team by stakeholders, the project team is proposing these measures and processes to increase railway management focus on the importance of improving the linkages in the rail supply chain at the interface between railway and customer operations. In addition, the measures proposed, which should be developed with railway customer input can provide a common set of facts for railways and their customers regarding railway performance. This should facilitate joint supply chain planning improvement efforts between the railways and their customers in the future.

### **4.3 Responsiveness**

While the project team felt that the issue of responsiveness was of sufficient importance to be included as a separate area of examination in this report, responsiveness – like the concept of balanced accountability – is a characteristic of all effective supply chain relationships and extends to all business processes that exist between a railway and its customers. Thus, while the project team will make specific recommendations to address stakeholder concerns in this area, improvements in all of the other areas identified in this report will also contribute to stakeholders concerns regarding a perceived lack of responsiveness by railways to their concerns about service.

When stakeholders were asked what were the behaviours that they believed represented best practice with respect to customer service processes, stakeholders said that best practice companies:

- Provided personal contact with knowledgeable and empowered service representatives
- Had clear escalation processes for customer service issues
- Gave timely responses to service enquiries and complaints
- Provided direct access to senior decision makers for issues that required escalation

Stakeholders also noted that the sharing of customer specific performance measurement was also a common characteristic of best practice firms in the transportation industry. Therefore, the service measurement proposals in the previous section should be of considerable help in increasing railway customers' satisfaction with railway responsiveness.

In addition to the measures already proposed, the project team believes that CN should review its current processes for handling customer service complaints with the intention of implementing more systematic handling of the recording, escalation and response to customer service issues. This would be expected to include the implementation of reporting processes that would allow senior railway management to track and enquire on the progress of issue resolution in a systematic way. Whether or not CN believes that this would be facilitated through the implementation of a computer supported customer relationship management system (CRM) as has been done at CP, it is clear that CN needs to improve the process by which customer service processes are managed.

In addition, the team recommends that the client institute an on-going process of measurement of railway stakeholders' satisfaction with railway customer service processes. This on-going process could be administered annually and should measure railway progress in addressing the key issues identified in this review.

#### ***4.4 Ancillary Services***

The key problems in ancillary services administration by railways relate to concerns with administrative effectiveness and fairness. As noted earlier, stakeholder concerns in this area are related to those expressed in the discussion of balanced accountability. The proposals below reflect a recognition that whatever changes are proposed in ancillary services administration at the railways must support the principles of balanced accountability. Furthermore, nothing that is proposed should detract from the objective of ensuring that rail supply chain decisions and processes should promote the efficient use of supply chain assets thereby ensuring the optimization of the supply chain at its most profitable level.

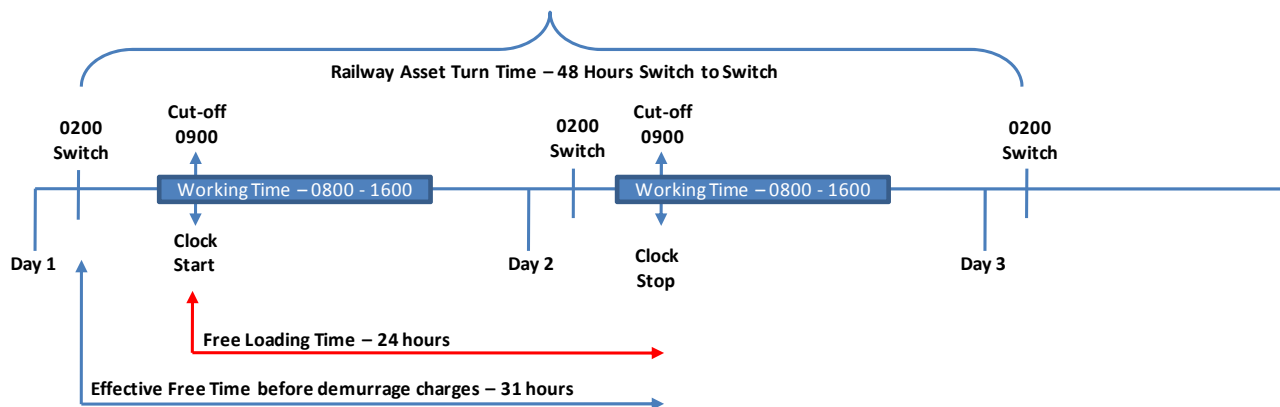
As noted earlier, CN has made and continues to make changes to its demurrage policies and processes and these changes should have a positive impact on shipper concerns with respect to demurrage. However, regardless of any changes that may be contemplated with respect to the demurrage policies of CN and CP, processes should be put in place to improve stakeholders' confidence in the accuracy of

demurrage administration. Specifically, CN should implement processes that standardize the use and review of crew work orders (DOP's) for reporting of events that affect demurrage calculations. Whether or not a centralized process of work order report handling and review such as that used by CP is adopted at CN or not – processes should be implemented that provide for the review of all work orders to track reporting completion and accuracy and to ensure that original documents or electronic facsimiles of such documents are available for audit purposes. These new processes at CN should pay particular attention to the need for verification of crew reporting versus AEI reporting of car placement events. This process should include new management processes that measure; work order completion and work order reporting error rates and reasons.

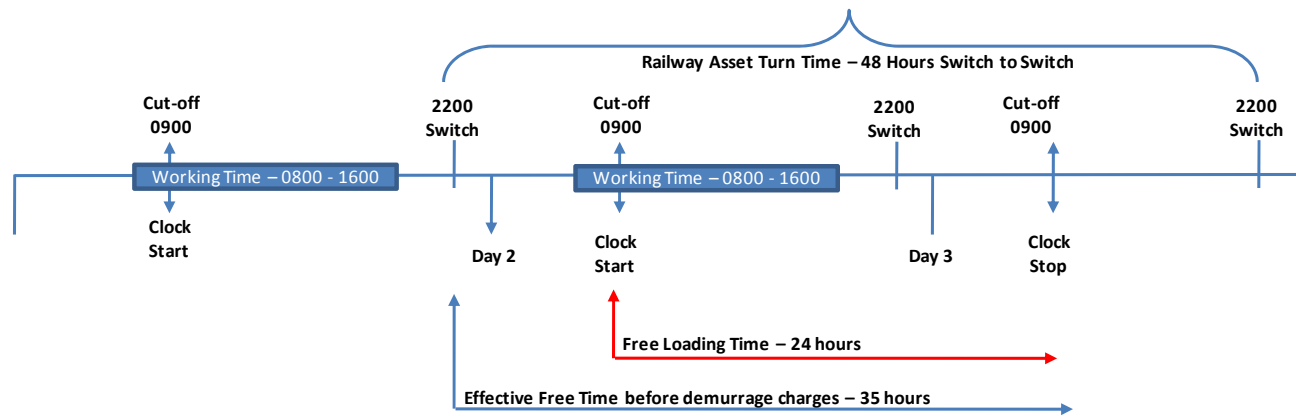
As regards the issue of fairness with respect to the calculation of free time for loading and unloading, based on stakeholder discussions QGI makes two recommendations. Firstly, that CN review its policy that empty car arrival notification is generally sent 5 hours prior to the scheduled rail service starting time. Consideration should be given to adjusting the notification period to always reflect individual receiver's normal working hours to allow receivers to respond to notifications prior to demurrage debits being accrued. As these notifications are automatically generated based on computer table entries, it should be possible for CN to allow for exceptions to the 5 hour rule in situations where it is manifestly unfair to receivers.

Finally, QGI recommends that both railways consider making changes to their demurrage systems which allow for a more equitable calculation of free time for loading empty cars. The present systems which use the 0001 hours cut-off can unfairly disadvantage shippers who receive their rail cars late in the day in comparison to those that receive service in the early morning hours. Both railways should consider using a daily cut-off time at each shipper's facility that relates to the shipper's normal working hours for loading rail cars. If rail cars arrive before the specified cut-off, demurrage calculation would begin at the cut-off but if cars arrive after the cut-off, demurrage calculation would begin at the next specified cut-off/day.

*Shipper A - Operating days Monday to Friday 0800 to 1600; switch time 0200*



*Shipper B - Operating days Monday to Friday 0800 to 1600; switch time 2200*



QGI recognizes that while such a system will be more equitable between shippers, it will result in some shippers who currently enjoy advantages under the current system, losing those advantages. In addition, QGI recognizes that such a system will require railway information systems development and each railway in conjunction with its customers will need to weigh the cost and benefits of such changes as compared to using resources for other initiatives. QGI offers this proposal however in response to the concerns raised by stakeholders in the consultation process. Whether this proposal is adopted by CN and CP or not, it can form the basis of a joint review by the railways and their customers on the merits of making changes to demurrage programs that will support the concept of balanced accountability for all supply chain partners.

In 2008 the Government of Canada amended the Canada Transportation Act adding a new section 120.1 which empowers the Agency upon receipt of a complaint by a shipper to investigate the terms and conditions for the movement of traffic and incidental services that are governed by open tariffs applying to more than one shipper. Hopefully, railways will continue to make the necessary changes to their ancillary services programs and processes to address the issues raised in this report. However, in the absence of such changes, it is possible that the new authority granted to the Agency to investigate the terms and conditions of railway ancillary services charges will result in more shippers bringing complaints before the Agency relating to problems with railway ancillary services. If so, the principle of balanced accountability may be a useful concept for the Agency in the adjudication of these disputes.

## 5. Conclusion

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The development by the project team of a set of best practice characteristics in a supply chain provided a standardized framework for the examination of key processes in the rail freight logistics system in Canada from the perspective of the primary stakeholder groups. The use of the supply chain paradigm placed particular emphasis on the importance of the inter-relationship of the stakeholders and the importance of collaboration in business planning and operations.

The QGI project team determined that in a best practice supply chain:

1. There should be well developed mechanisms to communicate demand and capacity for planning operations
2. Partners should have processes that support integrated day to day operations and communication
3. The system should seek to optimize the output and profitability of the entire supply chain.

Therefore the stakeholder interviews reviewed participants' processes in the areas of; forecasting and demand assessment, operations and system optimization. While all stakeholder groups acknowledged that progress had been achieved in recent years in certain areas (particularly in the management of major service disruptions) the team identified a need for improvement in the following areas.

### *Key issues identified*

#### *Need for balanced accountability*

Most stakeholders believe that a supply chain participant should be responsible for the costs that their behaviour imposes on the other participants in the supply chain. The issue of balanced accountability is complicated by the fact that railways are networks with a high degree of shared cost and by the fact that some railway customers do not have effective access to transportation competition.

Examples of situations where the principle of balanced accountability was sometimes not respected were:

- Bunching of traffic at origin and destination due to railway operating decisions
- Railway scheduling that restricted service in order to accomplish "demand smoothing"
- Shipper or receiver requirements to increase investment in rail car handling capability to take account of reduced railway service frequency
- Pressure from shippers for railways to handle demand surges that require investment in "standby capacity" without a commensurate increase in revenue or sharing of risk.

### ***Operational Cooperation and Communication***

Given the importance of effective collaboration in supply chain planning and operations, deficiencies in these areas are of great concern to the study team. Shippers, shortlines, and terminal operators would like to see improvements in the way that railways communicate with respect to both the status of rail traffic and their day to day planning for local pick up and delivery of traffic.

Railways have made considerable investments in information systems which allow customers to enquire on the status of individual rail cars or to produce reports about the last reported position of traffic that they have shipped, or that is destined to their facilities. These systems allow railway customers to see in near real time the location of their traffic and the systems provide the expected time of arrival (ETA) of the shipments at destination.

However, stakeholders are very skeptical of the quality of the ETA information on individual rail cars and the railways acknowledge that the accuracy of this information is not subject to measurement at either CN or CP and that the computer logic that provides an individual rail car's ETA is subject to a high degree of error.

In addition, at the important direct interface between the railway and rail customer, shippers have difficulty predicting the day to day time of arrival of local railway services that pick up and drop off rail cars.

### ***Responsiveness***

While many railway customers and other supply chain partners were frustrated with a perceived lack of railway responsiveness to service issues, customers were more positive about CP's handling of complaints than CN's response. Many stakeholders praised the efforts of front line customer service and operations staff in their response to service issues however, they often felt that these staff were not empowered to act on service complaints. Often shippers and receivers found that informal channels and relationships with railway employees were more effective than working through their designated contacts at the railways. When dealing with CN in particular, many customers did not believe that there was an established and well managed process for the logging, escalation, resolution and response to service issues raised by customers. For both railways, many customers were frustrated with the railways failure to provide feedback on the railways' available capacity and capability with respect to rail car supply, bulk train capacity, intermodal slot and train capacity and overall network capacity.

### ***Ancillary Services Administration***

Ancillary services are those chargeable services provided by railways for activities beyond the movement of rail freight from origin to destination. Most ancillary charges are for the time spent by customers in loading and unloading of railway provided rail cars (demurrage). Stakeholder concerns about demurrage fell into two areas:

a. Low level of administrative effectiveness

According to railway customers, error rates for ancillary services bills range from 20% to 70%. This requires customers to devote considerable staff resources to the investigation and negotiation of charges for ancillary services. In general, CP was found to have a higher accuracy rate for ancillary services administration than CN. CP has a defined quality control process for ensuring the completeness and accuracy of switching performance. Currently CN has no standardized company-wide process for the use of manual work orders (known as Daily Operating Plans – DOP’s) for reporting on work performed by operating crews.

b. Fairness with respect to free time calculation

Some stakeholders argued that the fact that the calculation of free time for demurrage begins at 0001 hrs daily regardless of the time that the customer was served by the railway leads to not all customers being treated equally. This was seen as particularly important for the calculation of free time for loading of empty railway cars where only 24 hours of free time is permitted. Because a single railway train or switching assignment will serve multiple customers, some customers will obviously receive their cars earlier in the day than others. Those customers that are switched first will effectively have more free time for loading or unloading than those switched after them

### *Summary of Recommended Solutions*

In a number of areas, stakeholders identified best practices in the processes that were examined in the interviews and these are illustrated through example in the report. These best practice examples, the input of stakeholders and the experience of the project team all contributed to the development of the following potential solutions.

**Issue**

*Need for Balanced Accountability*

**Responsibility**

*Canadian Transportation Agency and Transport Canada*

Recommendation 1

The Agency should consider the development of methodology that could be used to determine in specific cases whether a particular set of rail service conditions support the concept of balanced accountability. Once developed and applied in practice, policy makers may after consultation with system stakeholders wish to consider enshrining the principles of balanced accountability and supply chain optimization into the regulatory framework through changes to the Canada Transportation Act. On a day to day basis, the existence of these principles in the CTA would encourage each stakeholder to take into account the needs and

constraints of the overall rail logistics system in the management of their own operations.

Recommendation 2

Transport Canada should ensure that rail system logistics performance is subject to on-going measurement so that regulators can monitor changes in performance.

**Issue** *Ancillary Services Administration*

**Responsibility** *CN and CP*

Recommendation 3

Both railways should implement processes to improve stakeholders' confidence in the accuracy of demurrage administration. CN in particular should standardize the review of crew work orders (DOP's) and implement work order completion measures especially for car events that affect demurrage calculations.

Recommendation 4

Both railways should consider making changes to their demurrage systems which allow for a more equitable calculation of free time for loading empty cars. Railways should consider using a daily cut-off time at each shipper's facility that relates to the shipper's normal working hours for loading rail cars.

**Issue** *Operational Coordination and Communication*

**Responsibility** *CN and CP*

Recommendation 5

CN and CP should ensure that rail car ETA accuracy is subject to measurement so that both railways and their customers have a clear picture of the accuracy of this important customer and railway planning information.

Recommendation 6

Both CN and CP should ensure that the terms of interchange service agreements that are in place with each of their shortline railway partners are subject to performance measurement and that such measures are shared with their shortline partners.

Recommendation 7

CN and CP should institute processes to measure the conformance of local switching performance against the planned day and eight hour window for local service.

Recommendation 8

Railways should review and improve their processes for communicating the expected time of arrival of loaded and empty trains at major facilities such as port terminals and bulk shipping facilities.

**Issue**

*Responsiveness*

**Responsibility**

*CN and Transport Canada*

Recommendation 9

Transport Canada should institute an on-going survey of railway stakeholders' satisfaction.

Recommendation 10

CN should review its current processes for dealing with customer service complaints in order to ensure a more systematic handling of the recording, escalation and response to customer service issues.

While the project team has only made recommendations with respect to issues affecting two of the three key best practice characteristics used in the analysis, some problems were identified with respect to the third best practice characteristic which was:

- There should be well developed mechanisms to communicate demand and capacity for planning operations

In the areas of capacity planning and forecasting both railways and shippers were concerned that their joint processes to plan for future demand were subject to unacceptable error and that this exposed all stakeholders to financial risks that would be reduced if future transportation demand and capacity could be more precisely known. However, the project team does not have any specific recommendations to improve forecast accuracy as both railways and shippers already have invested considerable resources in this area. The project team believes that a more appropriate emphasis would be for stakeholders to improve their strategies to deal with reasonably predictable variability in demand rather than trying to perfect demand forecasting in the volatile world commodity markets.

# Appendix 1 – List of Stakeholders

## Interviewed

Stakeholder Group	Industry Segment	Company
Major Railways		Canadian National Railways
		Canadian Pacific Railway
Shortlines		Quebec and Gatineau Railway
		St. Lawrence and Atlantic Railway
		Huron Central Railway
		New Brunswick Southern Railway
		Montreal Maine and Atlantic Railway
		Ontario Northland Railway
		Goderich and Exeter Railway
		Ottawa Valley Railway
		Great Western Railway
		Southern Railway of British Columbia
		Hudson Bay Railway
		Carleton Trail Railway
Shippers	Coal	Teck Coal
	Sulphur / Fertilizers	Agrium
		Canpotex
		Sultran
		Potash Corporation of Saskatchewan
	Merchandise	Abitibi Bowater
		Inco-Vale
		Saskatchewan Minerals
	West Fraser Timber	
	Canadian Forest Products	
	Keyera Energy	

		Shell Canada
	Grain	Viterra
		James Richardson International
		Paterson Grain
		Walker Seeds
		Canadian Wheat Board
		Great Northern Grain
	Automotive	Ford Motor Company
		Toyota
	Intermodal	Atlantic Container Lines
		Armour Transport
		Bay – Zellers
		Canadian Tire Corporation
		COSCO Shipping
		Kraft
		Maersk – Sealand
		Orient Overseas Container Lines
		Vitrans Corporation
		Yanke Transport
		Zim Integrated Shipping Services
		Maritime Ontario
		Consolidated Fastfrate
		Mediterranean Shipping Company
Ports and Terminals		Westshore Terminals
		Vancouver Wharves – Kinder Morgan
		TSI (Deltaport / Vanterm)
		Port Metro Vancouver
		Neptune Terminals
		Dubai Ports International
		Prince Rupert Grain
		Ridley Terminals
		Prince Rupert Port Authority

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		Thunder Bay Port Authority
		Termont (Montreal)
		Port of Montreal
		Gateway Terminals (Montreal)
		Halterm
		Fairview Terminals
Transload Operators		Coast 2000
		Lynnterm Terminal
		Transpacific Container Terminal
		Logistec - Montreal
		Raymont Containers
Labour Unions		Teamsters Canada Rail Conference

## Appendix 2 – Team Biographies

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**Mark Hemmes**                      President – Quorum Corporation

Mark Hemmes is President of Quorum Corporation. A career transportation professional, he manages the activities related to the Federal Governments Grain Monitoring Program. In addition to his extensive knowledge of the Canadian grain handling and transportation system, Mark has developed a broad knowledge and experience relative to the market and operational issues in the rail and intermodal system in Canada.

Previously Mark spent 23 years with CN Rail where he held a variety of senior positions in the fields of marketing, intermodal, and operations including the General Manager of Marketing for Western Canada and Assistant Superintendent of Operations. Mark attended school in Edmonton at the University of Alberta and has also completed course work at the University of Western Ontario in the area of Marketing. He has also held various board and executive positions with industry associations and currently sits on the Board of Directors of the Northern Alberta Transportation Club and the Canadian Transportation Research Forum.

**Milt Poirier, BBA**                      Partner – QGI Consulting Ltd

Milt Poirier is a principal of QGI Consulting Ltd. He acts as team leader for QGI Consulting initiatives providing clients with expert advice on transportation and distribution issues, market analysis, and technology issues related to transportation.

Previously he spent fifteen years with Canadian National Railway where he held a number of senior management positions in Operations and Marketing departments. As Director of Service Excellence for CN he was instrumental in the development and management of that company's performance metrics systems. In addition as Manager of Financial Planning for CN's marketing organization he was directly responsible for the development and management of its demand forecasting, revenue planning and workload forecasting processes.

**Robert Moore, MBA**                      Partner – QGI Consulting Ltd

Robert Moore is a consulting professional with a broad range of expertise. He holds an MBA from the University of British Columbia. He is a Partner of Quorum Group and President of QGI Consulting with extensive experience including market forecasting as part of acquisitions related due diligence. At QGI, he has provided market research, operational and business planning advice to a variety of private sector

clients. He has also led and contributed to projects for public sector clients in the areas of rail transportation policy and sectoral economic development strategy (cluster strategy).

Prior to joining QGI Robert worked for both the Government of Canada and Canadian National Railway where he was instrumental in the establishment of that firms' ongoing customer satisfaction research program. Subsequently he held senior positions in Operations and Marketing Departments including; Sr. Market Manager, System Director of Car Management and Director Traffic Management Systems. As System Director of Car Management he led a team that developed a new car management system including customer car order and fleet management components. While Director of Traffic Management Systems he was also responsible for the management of CN's performance metrics system.

### **Richard Boyd**

Rick Boyd is a retired railway executive who spent 28 years with Canadian National Railways in a variety of senior management roles. From 1994 to 1997 he was responsible for CN activities in western Canada as Senior Vice President, a territory that consisted of over \$2 billion of annual traffic and 10,000 employees. He was a member of the six-person senior executive committee of CN during this time. His railway career included terms as Operations Manager for two different western provinces, Assistant Vice President Marketing for CN's grain transportation business, Marketing Manager for CN's intermodal business, and a number of positions in finance, marketing, and railway costing. Following his career at CN Rick was an executive at an Alberta provincial health care organization. He holds an M.A. in economics and a B.Sc. in mathematics. Since 2003 he has traveled internationally, worked as a consultant, and served as a board member of several volunteer organizations.

### **Neal Foot**

Neal Foot is a retired railway executive who spent 40 years with CP Rail in a variety of senior management and executive roles. During his career Neal was a member of the Executive Committee at Canadian Pacific Railway, Vice-Chairman of the Senior Operations Management Committee (SOMC) of the Railway Association of Canada, Chairman of the SOMC committee of the American Association of Railroads and a member of the Board of Directors of the Transportation Technology Center Inc (TTCI). In the past he has served on the Board of Directors of the following companies: Minnesota Commercial Railroad, Indiana Harbour Board Railroad, Kansas City Terminal Railroad, and Soo Line Railroad.

Responsibilities at Canadian Pacific Railway included overall leadership and direction of all railroad operations functions including Field Operations, Transportation, Engineering, Mechanical, Customer Billing Services, Damage Prevention & Claims Services, Product Design, Safety & Regulatory Affairs,

Environmental Services, Police Department and Occupational & Health Services. Total staff responsibilities of approximately 14,500 comprised of 2,200 managers and 12,300 unionized.

### **Terry Harasym**

Terry is a Professional agronomist with 30 years progressive senior management and leadership experience in the private and public sectors of the Canadian Grains and Oilseeds industry and brings over 30 years of experience and perspective as a user of the Canadian rail freight logistics system. In 2007, Terry concluded his five year appointment as the Assistant Chief Commissioner of the Canadian Grain Commission.

Prior to his appointment with the Canadian Grain Commission, Terry spent over 18 years with the Saskatchewan and Alberta Wheat Pools where he held several executive and senior management positions in the policy, research and Governmental relations departments. A graduate of the Sciences at the University of Alberta, Terry also has extensive Board experience having served with the Canada Grains Council, Western Grain Elevator Association, Statistics Canada Advisory Board, and University of Saskatchewan Center for Studies of Agriculture, Law, and the Environment, amongst others.

### **David Gardiner**

Mr. David K. Gardiner of Chilliwack, B.C. was appointed as chair of the board of directors of the Pacific Pilotage Authority in April 2005. David Gardiner holds a bachelor of arts, with a major in economics, from Concordia University. He currently serves as principal, COMFAC Services Ltd. From 1994 until 2002, Mr. Gardiner served as the president of the Western Transportation Advisory Council (WESTAC). He was previously employed as president and chief executive officer of Great Lakes Bulk Carriers Inc., and as vice-president of Terminal Development at Federal Industries. Mr. Gardiner has served as a member of the Canada Marine Act Review Panel and the Canadian Flag Shipping Review Task Force. He has also served as chairman of the Canadian Ship Owners Association and the Canadian Lake Carriers Association.

### **Bernie Boucher**

Bernie Boucher is a professional executive with a broad range of experience in general management, operations and marketing. Since 2004 he has provided professional advice to transportation and manufacturing companies in Canada and overseas.

From 1965 to 1999, he worked at Canadian National Railways in a number of senior positions within the Operations, Customer Service and Human Resources functions. From 1999 to 2004, he held executive management positions in the Operations and Marketing departments at OmniTRAX Inc., one of North America's largest short line and regional railway companies. He is currently Chairman of the Board for ArcticNet (Networks of Centres of Excellence of Canada) and a past trustee of the Helen Betty Osborne

Foundation. During his tenure as President of the Churchill Grain Development Corporation he held a Director seat on the Board.

### **Rod Shulha**

Rod Shulha is currently Vice President Sales and Marketing for Progressive Rail Specialized Logistics. In this capacity he is responsible for the development of transportation logistics plans for the movement of large machinery and high value dimensional loads from locations across North America destined to western Canada based industrial areas including the Oil Sands at Fort McMurray, the proposed up-graders in the Alberta Industrial Heartland, and the refinery expansions in the East Edmonton and Strathcona industrial areas. His involvement includes the development of transportation pricing, engineering specifications, and route surveys, as well as complete transportation logistics and monitoring at the time of shipments to various project sites.

Prior to joining Progressive Rail Rod spent 27 years with Canadian National Railways in a number of capacities in their Operations department including trainmaster and Assistant Superintendent of CN's Alberta Division.

### **Marcel Beaulieu**

#### **Director Rail Research and Analysis – Quorum Corporation**

Marcel Beaulieu joined Quorum shortly after its opening and was one of the original members of the Grain Monitoring team, a role he continues in today. He is career transportation professional and possesses an extensive understanding of railway operations and tariff and pricing structures and the regulatory environment Canadian railways operate within.

### **Bruce McFadden**

#### **Director Grain Industry Research – Quorum Corporation**

Bruce McFadden joined Quorum in 2001 as one of the original members of the Grain Monitoring team, a role he continues in today. He brings extensive experience in the transportation profession through his many years at the Grain Transportation Agency. Bruce has extensive experience and knowledge of the Canadian grain handling and transportation system as well as a thorough understanding of railway processes.

## Appendix 3 – Sample Interview Structure

<b><u>Company Interviewed</u></b>	
Personnel Interviewed	
What is their Role in the Transportation function	
Interviewers	
Facility Location (s)	
Railway Servicing Facility (s)	
<b><u>Facility Description</u></b>	
Facility Type	
Work Schedule	
Tracks	
Car Spots	
Internal Rail Operation	
Type of rail Service	
<b><u>Traffic Description</u></b>	
Approximate volumes	
Types of commodities handled	

<b>Forecasting / Demand assessment</b>	
Do you have a process for forecasting <i>transportation demand</i> ?	
Annual ( Yes or No):	
Periodic (Yes or No):	
Describe the annual process <i>What role do your customers and logistics partners play in the forecast process?</i> <i>Would you describe your process as bottom up from the sales process, top down from a market outlook, or a combination?</i> <i>At what level of detail do you forecast transportation demand?</i>	
Describe the periodic process <i>Same prompts as above</i>	

<p>If forecasting is not done, why not and how do you determine your workload?</p>	
<p>How do you communicate this medium to longer term demand to your railway and other logistics partners?</p> <p><i>How formal is the process and how is it update as the forecast changes?</i></p>	
<p>How do you think that railways use whatever forecast information you provide?</p>	
<p>Do railways let you know whether or not they are likely to satisfy your medium to longer term forecast demand and if so how?</p>	
<p>Do you measure forecast performance (Yes or No)</p>	
<p>If yes, how do you measure</p>	
<p>Best practice example</p> <p><i>Can you identify a firm or a carrier who does a particularly good job of demand forecasting</i></p>	
<p>Key problem areas</p> <p><i>What is your biggest problem or issue with respect to demand forecasting</i></p>	

**Operations**

**Communications**

<p>How do you communicate your medium to longer term (3–12 month) service expectations to the railway?</p>	
<p>For day to day local service, how do you communicate your need for service to the railway?</p> <p><i>For bulk customers question should be related to operational issues associated with loading of unit trains.</i></p> <p><i>For grain customers, discussion will relate to whether or not there are mechanisms other than the order entry systems for car orders.</i></p>	
<p>How do you deal with service exceptions and how does the railway respond to them?</p> <p><i>Are processes formalized or ad hoc?</i></p> <p><i>What systems and personnel resources support customer service processes.</i></p>	

**Standards / Execution**

<p>Based on your experience, do railways establish standards for local service?</p> <p><i>May not be relevant to bulk shippers</i></p>	
<p>Based on your experience, do railways establish standards for transit time from origin to destination?</p>	
<p>Based on your experience, how well does the railway execute on their service commitments to you?</p>	

<b>Measurement</b>	
<p>Do the railways provide you with measures of their own performance against any service standards that they've established</p> <p><i>Does the customer think that railway performance measures accurately reflect the service they receive?</i></p>	
<p>Do you measure your own performance with respect to railway related activities such as:</p> <ul style="list-style-type: none"> <li>- car (equipment) order accuracy</li> <li>- cars (equipment) supplied and not loaded</li> <li>- timeliness of loading or unloading</li> </ul>	
<b>Joint Problem Solving/ Cooperation and Coordination</b>	
<p>How do you and your partners exchange information about the current status and near term forecast status of your operations to each other (especially railways and ocean carriers)?</p> <p><i>Is there a structured day to day process for operational communication?</i></p> <p><i>Is there a special process for major disruptions and network delays?</i></p>	
<p>Do you have any concerns with respect to the accuracy of billing for freight or for ancillary services?</p> <p><i>How do you resolve such issues and what resources do you have devoted to handling them.</i></p>	

<p>Best practice examples</p> <p><i>Can you identify a firm or a carrier who does a particularly good job in the areas of:</i></p> <ul style="list-style-type: none"><li>• <i>performance measurement</i></li><li>• <i>problem solving /communication.</i></li></ul>	
<p>Key problem areas</p> <p><i>What are your biggest problems in the areas of</i></p> <ul style="list-style-type: none"><li>• <i>performance measurement</i></li><li>• <i>problem solving / communication</i></li></ul>	

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**System Optimization**

<p>In general, do system participants (railways, terminals, shippers, receivers) plan their investments and operations with the constraints of their logistics partners as an important consideration?</p>	
<p>Are there any key infrastructure constraints that are negatively affecting the performance of the rail based logistics chain?</p>	

<p>To what extent do you think that railroads should provide additional capacity to handle peak or unexpected demand and to facilitate recovery when there are system problems due to weather or other causes?</p>	
<p>Given today's transportation market outlook, do you think that investment needs to be made in any part of the logistics system, where the benefits may not accrue to the infrastructure owner?</p> <p>In these cases how might the costs of the investments be shared by those who will benefit?</p> <p>Is there a role for governments in creating mechanisms to foster investments in rail freight system optimization?</p> <p><i>Examples: terminals, track, road network or ports or rolling stock.</i></p>	
<p>How do labour practices at Terminals, Railways, Shippers and other logistics providers affect the efficiency of the rail based logistics chain?</p> <p>Are there better ways of regulating or managing labour relations that should be explored?</p>	

## Appendix 4 – Summary Stakeholder Responses

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The following summarizes the responses gathered in the comprehensive stakeholder interview process undertaken by QGI for the project. These interviews were undertaken between November 2008 and March 2009.

The responses are grouped by stakeholder group type and reflect the interview teams understanding of the stakeholders positions in each of the interviews subject areas. In cases where specific shipper's positions were used in the discussion QGI has chosen to edit their names from the document so as to maintain the context of the summarized notes.

### *Forecasting and Demand*

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#### **Describe the annual process**

##### **Shipper Response Summary**

- Automotive annual processes are by product type, generally two years out and include macro forecasting
- Most Merchandise customers attempt to forecast by product and transportation lane and use a combination of bottom up sales forecast and historical information. Challenge is predicting both macroeconomic issues and competitors' behavior. Vertically integrated companies can better forecast but are still subject to market swings and uncertainties.
- Issues are similar for bulk as there are generally fewer lanes to forecast. Large bulk customers may be obligated by contract to provide a forecast on an annual, quarterly, monthly or even weekly basis.
- Grain shippers predominantly use historical information, crop projections, CWB sales input and then provide a forecast to the railways at an origin-zone-port flow level. These are highly weather and market dependent processes that change from the June to autumn period.
- Intermodal processes vary widely depending on the size and sophistication of the organization. Most wholesale customers use historical information as do smaller retail shippers. For large integrated companies there is access to sales based forecasting that are complimented by sophisticated modeling systems.
- It is noted that both wholesale customers and shipping lines are transportation rather than production oriented companies and they have the same challenges in forecasting as a railway - their demand is a derived demand

##### **Short Line Response Summary**

- All shortlines have an annual planning process that involves direct contact with customers. Processes do not differ by business line and there is almost no sharing of information between short lines and their Class 1 partners in the planning environment.
- Carloads by month by customer are the standard planning outputs.

##### **Port/Terminal Response Summary**

- Container terminals receive the same forecasts from their shipping line customers that the lines send to railways. There are contractual requirements for the provision of these forecasts. Container terminals then use these forecasts for workload planning. Information received includes TEU volumes, destinations.
- Bulk and Breakbulk terminals get forecasts from their shippers - some of which is contractually obligated.
- One Stuffing/Deconsolidation company develops an annual plan with its railway partner but others only develop forecasts for internal purposes

- Port authorities in Vancouver and Montreal have annual workload planning processes for the development and planning of capital spending. Montreal Port also needs this for planning port railway operations. Both use top down historical approach updated with market intelligence from partners.

#### **CN Response**

- CN develops an annual and 5 year rolling plan each year. The 5 year rolling view is developed at a high level incorporating the base year plan adjusted for forecast macroeconomic factors and “significant” known market issues.
- Plan development begins mid-summer and continues through early fall. The process is iterative using history as a base and adjusts for direct customer input.
- CN estimates that 70% of demand inputs are done at customer level. Plan / forecast information is aggregated to flow level defined by origin –destination – commodity combinations. (Move keys)
- Once Marketing's bottom up process is complete final demand is rationalized jointly with Financial Planning incorporating broader macroeconomic factors.

#### **CP Response**

- CP develops an annual and 4 year rolling plan each year. The 4 year view is developed at a higher strategic level and looks at 80 specific markets and applies macroeconomic factors against based year plan to provide future view of revenues.
- The annual plan is developed in the August – October timeframe. Primary forecasting units are tons and carloads that are structured at the origin-destination-commodity flow level. Demand forecast is then applied against rates to derive revenues.
- The base plan is then calibrated / validated by looking at external economic forecasts – e.g. Global Insight, bank economic outlooks, etc. – and by applying market share assumptions where appropriate.
- Intermodal and grain plan development are somewhat different, employing a broader market view as opposed to customer specific view.
- The primary forecast unit is carloads which is then translated into tons and used to derive revenues.

## **Describe the periodic process**

#### **Shipper Response Summary**

- Automotive updates to forecast are reviewed every two - four weeks by the shippers and submitted to the railways (through TTX)
- Merchandise companies generally update monthly forecasts based on production forecasts which are in turn driven by their own marketing forecasts. They may or may not provide corridor specific demand.
- Bulk producers have 3 month rolling outlooks (generally) updated from their own marketing data. One specific large volume shipper was noted as having an exceptional process that goes to the train level one month out and to the hourly level two weeks out.
- Grain forecasts differ by company. Some use a sales based demand pull model primarily and others use historic forecast out 4 week, updated with crop and sales information as it comes available. Grain forecasts are corridor specific while some Merchandise shippers may or may not forecast to this level of detail. Weekly forecasts for grain are updated out four to six weeks.
- Intermodal retail customers more likely to provide weekly and monthly forecasts at the lane level. CN seen as only wanting short term forecast information through their reservation system for 1-2 weeks out and many IM customers of all types provide flow level information 3-4 weeks out for railway planning purposes.

#### **Short Line Response Summary**

- Periodic planning processes are informal at best involving monthly and/or quarterly updates to annual plans through informal discussions with customers.

### **Port/Terminal Response Summary**

- Container terminals receive 4- week rolling forecasts from shipping lines and receive 3 day outlook from CP rail. Receipt of ocean bills for exports 4-8 days in advance of inbound vessel arrival also provides near term forecast information. CN supplies forecast information to some and not others.
- Breakbulk shippers use weekly forecasts for ILWU callout and for inventory management.
- Bulk shippers have more involved workload planning processes with shippers and other agents (i.e. CWB) on a weekly basis.
- Stuffing/Deconsolidation: One stakeholder was noted as having visibility into the supply chain systems and shares this information with railways. Another developed a terminal authorization system which ensures that railway only spots cars for customers whose traffic is authorized by facility operator.

### **CN Response**

- During the course of the year the plan is updated monthly to provide the most recent outlook based on experience to date and new information developed through Marketing / Sales organizations.
- Monthly outlooks are developed weekly; quarterly and annual outlooks are developed monthly.

### **CP Response**

- The annual plan is revisited on a monthly basis to determine necessary adjustments (up or down) based on experience and intelligence gathered to date and updated market and customer information.
- 

## **How do you communicate this medium to longer term demand to your railway and other logistics partners?**

### **Shipper Response Summary**

- The Automotive shippers submit updates through TTX (usually through spreadsheet, email and telephone conference calls)
- For Merchandise shippers, the CN and CP car order processes provide rolling 1-3 week views of demand but no corridor specific information. (There is less formalization on updates on data than in the case of bulk shippers). Some shippers have regular conference calls to discuss demand (i.e.- forest products Western CN) but others have acrimonious relationships and do not have a formal process for receiving updated market intelligence.
- For Grain customers, car order systems provide corridor specific demand info and larger customers supplement this with spreadsheets containing forecast information that goes beyond the demands of the car order processes of the railways.  
Large bulk customers provide monthly train demand data to railways in spreadsheet format with largest customers provide detailed train order requirements.
- There are some customers who are concerned about the confidentiality of information provided to railways (re. SEC disclosure regulations) inhibiting some in the level of detail and timing of the information that they share with railways.

### **Short Line Response Summary**

- Shortline customers communicate their long to medium term demand directly through discussions (meetings) with shortline personnel. While these discussions are largely described as formal there is no structured / formal process for exchange of demand forecast data.
- There is no interaction with Class 1 partners, however Class 1's generally maintain contact with these shippers and would have access to their forecast information if they wish to obtain it.

### **Port/Terminal Response Summary**

- This is seen as more of shipper responsibility though most port authorities and larger shippers have annual planning meetings with railways.

### **CN Response**

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- Shipper input for the annual planning process is best described as informal.
- There is no “formal” exchange of data, rather, information is collected through direct discussion with Account Managers.
- 90% of accounts have an account manager assigned.

### **CP Response**

- The basis for demand / revenue planning is historical with adjustments based on direct discussions with shippers.
- CP says that Marketing / Sales organization has specific discussions with approximately 500 customers with annual revenues of \$1 million or more.
- There is no formal or structured transfer of demand / forecast data from customers to CP – information generally gathered through discussions and entered into CP Revenue Planning System (RPS) by CP marketing personnel within each business unit.

## **How do you think that railways use whatever forecast information you provide?**

### **Shipper Response Summary**

- Automotive: The long term forecast is used to plan resources and the short term is used to allocate equipment. Shippers believe the information is used primarily for revenue planning
- Merchandise shippers do not see the process as being used for location specific planning but more for aggregate planning of car supply and for revenue planning.
- Most bulk shippers believe that it is used for revenue planning more than workload planning. They also believe that railways plan for resources at capacity levels lower than actual demand projections would require.
- Grain shippers are doubtful that data is used by railways for anything beyond fleet planning. Most agree that it is used for Revenue Cap planning and management.
- Some Intermodal customers are skeptical it is used at all while others are certain it is used for equipment planning and for train sizing/planning.
- In general, the team noted that there was a lack of trust with respect to the use of confidential shipper information by railways.

### **Short Line Response Summary**

- Shortlines claim they use forecast info for development of financial plan although most shortlines use demand information in some manner to plan assets (cars, locomotives, crews)

### **Port/Terminal Response Summary**

- Container terminals believe that short term forecasts are used to balance trainload and in the longer term are used for financial planning
- Bulk terminals see railways as using short term forecasts for operational planning.
- Port authority forecasts are not seen as being of much use to railways
- Halifax port stakeholders were concerned that CN established intermodal trainload capacity based on export demands and that this set a maximum limit on their ability to attract new import customers to the port.

### **CN Response**

- Primary users of the annual plan include:
  - Financial Planning
  - Operations Planning
  - Sales / Marketing
  - Investor Relations
- The marketing plan is a direct input to the service and asset planning processes at CN.
- The marketing carload / tonnage forecasts are primarily used for planning of car fleet requirements.

- Revenue ton mile forecast is an output of the planning process which is translated into a gross ton mile forecast using historical ratio. GTM forecast becomes the basis for locomotive and service design planning.

#### **CP Response**

- Demand forecast developed by Marketing / Sales is used for asset and service planning.
  - Focus of operational planning efforts is 80 corridors and 12-15 major terminals. Look at train, motive power, and fleet and crew capacities to identify potential shortfalls based on projected demand.
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## ***Operations***

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**For day to day local service, how do you communicate your need for service to the railway?**

**How do you deal with service exceptions and how does the railway respond to them?**

#### **Shipper Response Summary**

- In automotive, both through the TTX process and through auto firm contact there is daily structured contact on spotting plans. There are structured weekly and monthly discussions with railways concerning performance and key operating status events. One stakeholder noted a significant information gap between CN's Marketing and operations people.
- In Merchandise, for both railroads most transactions for daily events are electronic. CSR's are used for problem solving. Merchandise shippers on both railways state they usually are notified of major disruptions but not always. For merchandise shippers there is little transparency in problem resolution for either railway or no consistent feedback on issues they raise with the railways. Even larger merchandise shippers were frustrated with their lack of access to the railways for follow up on service and commercial issues.
- Bulk and fertilizer customers have full time staffs who deal with railways on operational issues, in addition to electronic transmission of transactions. Satisfaction with resources dedicated to service exception management is mixed for bulk customers. (It was generally noted that those customers with the greatest investment in logistics and logistics processes seem to get more responsive service from the railways).
- Largest grain customers have access to bulk ops groups at CN and CP and will also have relationships with local Trainmasters and Superintendents. Account Managers are sometimes used for escalation of service issues. Satisfaction with problem solving at each road varied by customer. Some preferred CP and some preferred CN. CP is more likely to be viewed as responsive to customer service issues. Smaller customers rely on contact through CSR's.
- Large retail intermodal customers had dedicated customer service staff for problem solving and follow-up on issues was more transparent. Two shippers in particular were noted as having a more structured approach to service issue management and better satisfaction than others.
- Some wholesale Intermodal shippers had good relationships with both CN IMX desk and with CP's dedicated CSR's while others did not find either railroad to be responsive. CN IMX communicates predominantly through email. Shipping lines differ in views – While one found CN very proactive on major disruptions others were very frustrated. In the case of both railways, CSR's and Account Managers were used for problem escalation.
- Shippers in all business units did not think that CSR's had the authority to resolve service issues on their behalf. In response, many shippers have developed informal contacts with operating employees at many levels in the railways to resolve problems as formal processes seem ineffective.

#### **Short Line Response Summary**

##### *Local Service*

- With only 2 exceptions all shortlines operate scheduled local switching services - additional or non scheduled switching requirements are communicated by customers through phone or fax requests.

##### *Equipment Supply*

- With few exceptions customers will order cars from CN or CP in most instances directly through their Internet based car ordering systems. In almost all instances the short line operator has no access to CN and CP systems and as such only has visibility of orders by virtue of what shippers tell them or through independent monitoring of empty cars destined to their interchange.
- For situations where short line supplies cars customers place orders directly with short line via phone, email, fax.
- Communication with customers when disruptions occur on the short line itself is done either by phone or fax.
- Few short line operators receive meaningful information from the Class 1 partners regarding disruptions on the Class 1 that may have an impact on them. They all have access to the railway "broadcast" messages.
- Only one shipper was noted as having a structured disruption protocol that establishes severity and action based on defined criteria. This is however only used as a local management tool and is not shared with its Class 1 partner.

### **Port/Terminal Response Summary**

- Container terminals have daily conference calls but for problem solving, they find railways unresponsive. CP was noted as being better than CN in this regard.
- Breakbulk terminals deal directly with local terminal trainmasters and switch crews. They do not find railways responsive to their concerns (CN) and do not have RR account representatives to represent their interests.
- Bulk terminals have daily operations conference calls with railways and use CN bulk ops group and local operating supervisors for problem solving. CN is seen as being less responsive on customer service issues than CP.

### **CN Response**

- Most order entry and business transactions are through Internet. For service issues, the focus is on use of EBusiness tools for both large and small customer to advise of car order and shipment status. Customer service reps in the regions are available for customers for local service concerns.
- No special process was identified for managing disruptions however CN does have a broadcast email system that sends special messages to customers whose traffic is likely to be affected by major disruptions. CN does not have a formal CRM process or problem log process. In addition, they were clear that their focus was not on measurement of yesterday's problems but on putting resources and training in place to avoid problems and to manage the operations of the railway efficiently.

### **CP Response**

- Most local transactions for car order, release, and billing are electronic but some are sent by fax to CP and re-keyed into systems. Calgary CSR's handle issues raised by customers. Winnipeg clerks handle transactional processes. They have a problem resolution log (CRM) that they developed in PeopleSoft and is now on an Oracle platform.
- In times of disruption, CP works with their connecting carriers to look for re-routing options. Larger shippers are advised through their network management centre while Account Managers will notify others.

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## **How do you and your partners exchange information about the current status and near term forecast status of your operations to each other (especially railways and ocean carriers)?**

### **Shipper Response Summary**

- Automotive has daily updates through TTX on planning and operations
- In merchandise, there are generally no structured processes for advising on operations but both sides advise each other of major events (disruptions outages, plant exceptions). Only the larger companies have centralized operational control of multiple plants.

- Large bulk shippers have daily structured exchanges of information on operations of railway and customers. However, these shippers are sometimes still frustrated with respect to getting accurate train ETA information
- With one exception that was noted, the larger retail intermodal customers have dedicated resources and structured processes with railway for notification of performance issues. Shipping lines may use terminal operators to coordinate discussion on local operations with railways.

#### **Short Line Response Summary**

- With the exception of one operator, there is no formal process or structure noted in place for the exchange of information between short lines and Class 1s regarding the current status of their respective operations.
- Communications of this nature are local in nature at the operating level within each organization.

#### **Port/Terminal Response Summary**

- Container and bulk terminals have daily conference calls with railways. However, some shipping lines would like to have more structured discussions on exception management with railways to identify containers that are in need of expedited handling. Railways have not been receptive to their approach on these issues.

#### **CN Response**

- CN believes that in most cases with large terminals there is a daily structured communication about service needs and service delivery expectations that includes connecting carriers where required.

#### **CP Response**

- For largest customers there is daily contact with the Network Management Centre in Calgary through Managers of Shipment Planning. Data exchanged includes train ETA's as required. In some cases (e.g. Westshore) CP and partners share offices, data bases. Local Yard Service Reps (YSR's) from major terminals report to individual who provides a Voice of the Customer in the network operations control centre in Calgary.

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## **Do you have any concerns with respect to the accuracy of billing for freight or for ancillary services?**

#### **Shipper Response Summary**

- Automotive customers pay based on own records. One company in particular noted that ancillary charges have high error rate "owing to the mechanical nature of how they are billed.
- Merchandise shippers reported very high error rates on demurrage bills (up to 70%). Also, shippers noted that demurrage bills are on 24 hour clock and start times do not respect operating windows at shipper locations. The demurrage cycle is not consistent with the business cycle of the customers.
- Process is very frustrating and time consuming, with one customer having 1.5 person years of full time staff dedicated to auditing railway ancillary billings.
- Bulk customers also very frustrated by ancillary service charge inaccuracies at both CN and CP. One shipper called CP's process "horrendous" Another large bulk shipper's analysis revealed that CN's ancillary charges have a 70% error rate.
- Many grain shippers customers also have significant staff dedicated to reviewing ancillary charges Error rates are estimated to run anywhere from 20-60% on ancillary charges.
- While not all Intermodal customers have problems with ancillary billing, four companies interviewed explicitly noted that they has significant issues with both ancillary and regular freight billing accuracy
- Shippers were less likely to be unhappy with CP in the chargeable services area. CN was viewed as more confrontational and willing to use collection processes and legal means to address these issues than CP.

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## **Based on your experience, do railways establish standards for local service?**

**Shipper Response Summary**

- Automotive customers have strict switching standards in contracts
- Large Fertilizer, Sulphur and Potash all say yes and that process is generally well managed for unit trains
- One large shipper noted they were very unhappy with local service for their plant
- Merchandise shippers point out that local service windows are determined by the needs of local railway operations and do not respect the shippers operating needs. They also note that switching windows are generally 8 hours long and may not respect shift changes, loading crew times, etc.
- Grain customers indicate that where commitments used to exist, they are now generally switched at the railways convenience.
- It was noted that 2/3 of retail Intermodal customers indicated improvements have been seen in this area in recent years
- Shipping lines were generally unhappy with railroad performance on local services.

**Short Line Response Summary**

- All short line operators say they have some form of standards in place for local switching
- Standards consist of the scheduled switching service in place. While for some major customers specific customer requirements are taken into account, the standards (schedules) established are driven more by operational efficiency and cost considerations of the short line.

**Port/Terminal Response Summary**

- Container terminals see the local plans as being established on a daily basis for both time and quantity of cars
- Breakbulk and bulk terminals did not think that RR's established standards for local services.

**CN Response**

- CN provides a commitment to provide service within a specified day and generally within an 8 hour window. Given varying workloads by day for assignments, more specific levels of service are unreasonable.
- When service days are changed or when service failures occur, they try to communicate in advance to customers.
- In general service levels are determined by the needs of the larger anchor customers on a given wayfreight or switcher and other customers receive the service levels determined by the needs of the larger customers.

**CP Response**

- They do work with customers to determine local switch and cut-off times. Standards are a balance of customer need and productivity needs. They build schedules from the bottom up. Local Svc Op Plan (LSOP), yard service (YSOP), and freight service/train service (FSOP). Customers do not get local schedules. Discussion on local scheduling takes place primarily through Account Managers and also through local operating contacts.
- Customers through time "come to expect" service consistency with respect to switch windows.

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## Based on your experience, do railways establish standards for transit time from origin to destination?

**Shipper Response Summary**

- Automotive customers have strict contractual standards
- With the exception of two companies, fertilizer shippers do not believe that RR's set meaningful standards for transit time
- Two merchandise shippers stated that they do not believe there are standards. All others do believe standards exist but are split on whether railways respect those standards.
- Grain customers do not believe that there are transit standards

- For retail intermodal approximately 2/3 of shippers indicated that standards do exist while only one felt the railways performance respected those standards Wholesale intermodal customers and shipping lines feel performance is not consistent though they acknowledge standards exist.

#### **Short Line Response Summary**

- Transit Time
  - For most short lines standards for transit time relate directly to interchange operations. In many instances these are defined within the context of ISAs. In select cases interchange standards are also influenced by track sharing agreements with commuter trains.

#### **Port/Terminal Response Summary**

- Container, bulk and breakbulk terminals believe that railways set transit time standards with their customers, but they do not perform in accordance with the standards.

#### **CN Response**

- The system of train plans and associated trip plans for traffic are developed with a goal of providing the shortest possible average transit for cars. Service is not designed around carload service for individual market segment needs but around the most efficient overall plan. Standards are available to shippers through the on-line product catalogue available through the E-Business tools on the website. Standards are expressed in terms of hours. Commitment is to make best effort to achieve these standards which reflect design plans.

#### **CP Response**

- For transit time, competition is a factor in setting overall goals but consistency is a higher priority. Standards are not provided except on special request to customers. For largest customers they do establish standards and review performance quarterly. Bulk customers are provided with good visibility with respect to overall cycle times.

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## **Do the railways provide you with measures of their own performance against any service standards that they've established?**

#### **Shipper Response Summary**

- Automotive customers share measurement data in detail with railways though some data is provided by the automotive companies
- Bulk customers get some data from railways but also develop their own measures using their own systems. One company noted they receive no data from CN
- Merchandise customers get GCO data from CN but little other data from either railway. CP does not provide car supply data to merchandise customers.
- Grain customers normally receive no performance reporting with the exception being from CP on an as requested basis
- Retail Intermodal customers get data both from third parties who use CLM's and delivery reports and directly from railways for large shippers. Shipping lines do not get reporting from railways on performance. Wholesale Intermodal companies get some reporting from CP upon request but no regular reports from either railway.
- In general, shippers had a low regard for the quality of the performance data available from railways even when it was provided.

#### **Short Line Response Summary**

- Local Service
  - Customers are aware of the scheduled way freight and switching assignments in place
- Transit Time
  - Standards are not generally communicated to shippers - some exceptions where systemic service issues have been identified.

**Port/Terminal Response Summary**

- Container terminals do not trust the performance standards provided by railways, they establish expectations based on their own measurements.
- Breakbulk terminals do not receive any performance or service standard information
- Some bulk terminals received high level train cycle performance information from the railway.

**CN Response**

- CN has no measures of local service performance. They have extensive internal measures of transit time but performance measures are not provided to customers except in special circumstances. Car order and car supply measures are available on the EBusiness website for the GCO system.

**CP Response**

- For local service, Work lists for each local assignment are completed by crews and faxed to Winnipeg for entry into system. They measure work completed/not completed for each assignment and this is an operating metric that is tracked by the Operations executive. They do not provide this information to customers. CP does not have a well developed system for measuring transit time performance and this metric is not tracked internally by Operations executives nor is it available to customers – except in special circumstances.

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## **Are there any key infrastructure constraints that are negatively affecting the performance of the rail based logistics chain?**

**Shipper Response Summary**

- Key rail yards on CN and CP identified by shippers (those that most affect them directly) including:  
CN - Pr. George, Scotford  
CP - Alyth, Port Coquitlam Yard
- Need to for double track in northern Ontario and better co-production agreements between railways to minimize impact of disruptions on customers and mitigate risk of service disruption.
- Greater Vancouver Terminal including:
  - North Shore (bulk shipper emphasis)
  - New Westminster Yard
  - Port Coquitlam Yard (shipping lines emphasis)
  - Interchange capability (CN-BN in particular)
- Reinvestment needed on branch lines serving the grain industry and bulk resource shippers.
- Mixed views as to the effectiveness of co-production arrangements in Vancouver. Grain industry sees as positive, Automotive sees as failure
- Multiple mentions of potential value of terminal railway and / or 3<sup>rd</sup> party marshalling yard (e.g. the Matsqui concept - Intermodal mention)

**Short Line Response Summary**

Shortlines mentioned the following two constraints:

- (1) Weight on rail limitations - 286k
- (2) Interchange infrastructure

**Port/Terminal Response Summary**

- Container terminals believe that POCO yard, and for TSI, Roberts Bank surge support are key constraints.
- Breakbulk terminals identified the North Shore access and expansion issues as key.
- Deconsolidation/Stuffing terminals identified the Vancouver area road network as being a major and growing constraint

- Several Vancouver area stakeholders identified the Fraser River Bridge as a possible significant future risk.
- CP Windsor tunnel identified by Port of Montreal and some Atlantic Canada stakeholders as a constraint.

#### **CN Response**

- CN does not believe there are infrastructure constraints, particularly right now there is expected to be excess capacity in the system – even with a return to more normal levels of traffic as the economy recovers.

#### **CP Response**

- Port of Vancouver was but is now being addressed. Except for issue of loading in rain and wind at bulk terminals which still needs a solution.
  - They also mentioned: Detroit River tunnel; snow sheds/winter effects.
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## ***System Optimization***

**To what extent do you think that railroads should provide additional capacity to handle peak or unexpected demand and to facilitate recovery when there are system problems due to weather or other causes?**

#### **Shipper Response Summary**

General consensus across all business lines on the following issues:

- 1) Surge or Buffer Capacity  
Railways should invest in some amount of buffer or surge capacity to deal with service disruptions and winter. No one can quantify what this should be although shippers in Western Canada generally accept that the railway needs to see this as a cost of doing business.
  - a. No one believes the railway's core capacity should be designed for peak volumes - i.e. no need to "build the church for Easter Sunday".
  - b. Winter service continues to be poor and shippers believe that additional capacity needs to be in place to address these longstanding issues.
- 2) Capacity Management  
Many shippers -intermodal, bulk, grain - believe that CN has consciously decided to constrain capacity and believe they can smooth demand to accommodate existing capacity without harming their interests.

#### **Short Line Response Summary**

- Shortlines were split 50/50 on whether or not the railway should provide surge or buffer capacity. Those that said no believe that would be discriminatory as compared to other industries and that responsibility should be limited to "best efforts".

#### **Port/Terminal Response Summary**

- Container terminals believe that surge capacity should be provided for seasonal and weekly fluctuations to an extent, as the terminals cannot be expected to absorb railway outages and disruptions.
- Deconsolidation/Stuffing facilities believe that additional investments are required for railways to be adequately prepared for winter operations.

#### **CN Response**

- CN believes that they already have the capacity to handle surges with the track, motive power and train capacity in place. Increasing capacity via (for e.g.) additional locomotives & crews takes time, then the business risk of doing so rests on the railway. This creates a bias towards smoothing traffic.
- Their view is that a level of investment above the current level is not financially feasible.

#### **CP Response**

- They are considering their risks and opportunities for adding contingent capacity. They have done so in some areas – for example the provision of extra IM platforms near Vancouver to handle winter issues.
- When there are delays in the network, an alternate solution to contingent capacity is to control pipeline input at the origin end to limit congestion costs and recovery time.

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**Given today's transportation market outlook, do you think that investment needs to be made in any part of the logistics system, where the benefits may not accrue to the infrastructure owner?**

**Is there a role for governments in creating mechanisms to foster investments in rail freight system optimization?**

**Shipper Response Summary**

- 1) Role for government to either facilitate or directly invest in rail infrastructure in major centers such as Vancouver. Terminal Railway
- 2) Where government has played a role in facilitating planning across stakeholder groups, they have added value – such as the Vancouver winter planning sessions
- 3) Determination of whether or not there is sufficient capacity within the rail logistics system or at least the ability to identify the costs/benefits of investment for each of the supply chain partners
- 4) Overseer of rail system to identify specific areas where investment is required, the mechanisms for investment, and how recovered by railways - comparison drawn to pipeline industry
- 5) Intermodal specific suggestion that government ownership of rail cars (hoppers) should be repeated with investment in container cars - specifically for contingency capacity
- 6) Leadership role in development of KPIs directed at continuous improvement and transparency and accountability of railway performance. Establishment of performance standards for railways

**Short Line Response Summary**

Shortlines believe areas where governments can and should look to facilitate railroad investment include:

- upgrade of rail infrastructure to permit 286K
- traffic management systems (CTC)
- improvements in environmental efficiency of rail operations

It is believed that not all short lines are treated equally as government investment initiatives require strong provincial representation in order to secure federal funds - Quebec is a leading example of how this can work although not all provincial governments are similarly motivated.

**Port/Terminal Response Summary**

- Container terminals believe that Governments should consider supporting investments in an off dock transfer point for a surge container operation perhaps in Matsqui / Mission.
- Governments should have a role to provide regulatory recourse for service disputes for entities like terminals who do not have direct commercial relationships with railways
- A Deconsolidation / stuffing facility and breakbulk operator noted that RR's must show equal accountability to the economy and their shareholders and Government has the responsibility to ensure that RR's that are in a monopoly franchise position do not abuse that position.

**CN Response**

- Where there is clear public benefit or imposed public duty such as at grade separations, then government has a role – otherwise, no. Another example would be investments in track and other capacity to support VIA in Eastern Canada.

- Possible revisions to tax policy (capital write-offs).

**CP Response**

- If moving to 7 day a week operational capability is desired then all partners should share in costs of off-shift work. If customers want a “bullet proof” network then costs will need to be shared (example of greater snow shed and culvert investments through areas like Roger’s Pass. A surcharge to cover capacity investments might be possible through government involvement.
- Governments also have a role in investments in crossings at grade and in passenger rail transportation. Concern that government may require CP to introduce “positive train control” to follow U.S. This will take money from other badly needed capital projects.
- PPP and tax incentives like fuel tax reductions would be desirable changes to current policy.