

Improving Annual Grain Plans

Introduction

Since 2018 the railways have, in accordance with the legislation, produced annual grain plans designed to provide stakeholders, including regulators and policy makers, with an assessment of their capabilities and the steps to be taken to transport the grain required to move each grain year. In establishing this legislative requirement, Transport Canada indicated that these plans should provide transparency for stakeholders into the railways' planning assumptions underlying their service and capacity offerings. Ideally, these plans should include quantifiable service and performance targets that would provide grain shippers with meaningful service benchmarks to facilitate their own supply chain planning activities as well as provide a basis for all stakeholders to measure railway performance – the first step in holding them accountable for their performance.

Four years into this process it is evident that the legislation has yielded neither the intended nor the desired results. History tells us that CN and CP will not willingly provide any meaningful transparency into their operations nor put forth any basis to allow stakeholders to hold them accountable for their performance. Railway service for the grain industry has seen a systemic decline in recent years as railways continue to place the interests of their shareholders above those of their customers and the broader Canadian economy. While they publicly tout themselves as engines of economic growth, they concurrently keep their hand firmly on the throttle that governs that growth permitting it to occur at the pace most beneficial to their individual corporate interests. While this should never be deemed acceptable the consequences of this monopolistic behaviour are greater than ever as we enter a time of global food insecurity and Canada's capabilities as a reliable global supplier of agricultural products are constrained by corporate interests.

While the provisions of the *Transportation Modernization Act* were well intentioned, they have not changed the landscape for grain shippers. In part we believe this is due to overly broad language in the act which the railways have managed to turn to their advantage. This has resulted in grain plans, that while containing some high-level information regarding capital investment strategies and an abundance of anecdotal information, fail to provide any transparency into their actual plans for the movement of grain, let alone quantifiable service targets.

The enclosed document provides a review of existing grain plans including an assessment of the value, or lack thereof, the information in these plans has for system stakeholders. The document also takes the opportunity to identify specific asset and service performance metrics that need to be included and that would deliver value to stakeholders in line with the government's objectives.

While the attached document provides more in-depth analysis and rationale for the inclusion of these specific metrics they are identified below.

1. Forecast of demand by principal commodity group (bulk grain v. processed grain products) by month and origin – destination corridor.

2. Planned weekly rail car capacity offering segregated between railway supplied and private rail cars for the movement of bulk grain and grain products.
3. Transparency for all stakeholders into the railways' calculations of maximum sustainable supply chain capacity upon which they justify the reductions in their capacity offering during winter months.
4. Asset utilization targets for railway supplied hopper cars by month and origin – destination corridor, specifically hopper car cycles for railway supplied hopper cars to grain shippers.
5. Service performance targets for loaded railway movements by month and origin region – destination corridor, specifically railway trip times from origin to destination.
6. Monthly performance reporting against established asset and service targets as identified above.

Transport Canada must direct the railways to amend their grain plans for the coming year to reflect these recommendations.

Background

The *Transportation Modernization Act* of 2018 included the requirement for Canadian National Railways (CN) and Canadian Pacific Railway (CP) to provide the Minister of Transport with a report each year outlining their plans for the movement of grain for the upcoming grain year.

Section 151.01 (1) of the Act states:

Before the beginning of every crop year, a prescribed railway company shall provide to the Minister a report, in the form and manner that may be specified by the Minister, that

- a) assesses the prescribed railway company's ability to move the grain that it is required to move during the crop year taking into account the total volume of grain expected to be moved for the crop year; and*
- b) identifies the steps that the prescribed railway company is taking to enable it to move the grain that it is required to move during the crop year.*

The Act further requires the railways to publish these reports on their respective websites concurrent with providing them to the Minister of Transport.

The objective of having the railways develop these plans, and their public dissemination, is to provide transparency for all grain sector stakeholders, including regulators and policy makers, into the railways' plans, capacities, and capabilities to move the required levels of grain in the coming grain year. It was also, we believe, the government's intent to have these plans provide grain shippers with meaningful service and performance information to assist their planning efforts for their individual grain supply chains. Lastly, the publication of this information would create a basis against which to measure railway performance during and at the conclusion of each grain shipping season.

The grain industry in Western Canada, through its support for and involvement in the Ag Transport Coalition (ATC) has worked diligently for more than ten years to enhance transparency in railway service performance with the objective of holding railways accountable for the quality of service and to highlight the impact of railway performance on the success of the grain handling and transportation system more broadly. These efforts continue to this day. Unfortunately, there have never been, and still are not, any quantifiable benchmarks, standards, or targets of railway service against which to measure performance.

While common sense and simple observation of published performance data, such as that produced by the ATC, allows even the most casual of observers to conclude if railway service constitutes good or poor performance, the absence of established benchmarks or targets prevents all stakeholders, regulators and policy makers included, from determining if actual performance is consistent with, better, or worse than planned service levels. While it is important to understand what performance is and whether it has improved or deteriorated over time, it is perhaps more important, in our view, to understand if actual railway service levels reflect what the railways planned them to be or if, for any number of reasons, service levels have deviated from expectations. Without knowing this, finding solutions to the consistently poor service levels being experienced by grain shippers is difficult, if not impossible, as it is unclear which problem needs to be solved.

The introduction of the federal mandate for the publication of annual grain plans in 2018 created the opportunity to close this gap by creating a vehicle for transparency into the railways' planning assumptions and planned service levels for the coming grain year. However, this has failed to materialize with service and performance standards and targets against which the railways can be held accountable remaining absent four years hence.

Within the next few weeks CN and CP will submit their 2022-2023 grain plans to the Minister of Transport. Four years in, grain shippers remain steadfast in their belief that the railways will continue to omit meaningful service and performance information from these reports unless directed to do so by the Minister of Transport. The inclusion of such data is critical to achieving the intended outcomes of the legislation to provide grain industry stakeholders with transparency into railway service planning assumptions as well as meaningful service and performance data to assist shippers in their planning efforts and a basis against which to measure railway performance and hold the railways accountable for such performance.

Furthermore, we believe that the direction provided by the Minister must identify the specific service and capacity information the railways are to include in their reports. Simply leaving the railways to determine what those should be will yield a less than desirable outcome. The information to be included should reflect the needs of the railways' customers who ultimately must manage the performance of the entire grain supply chain. Lastly, the Minister should require CN and CP to publicly report each month on their actual performance against these plans.

Few grain industry participants or observers are surprised that the railways have structured their grain plans as they have, striking a strategically advantageous balance between meeting the "letter of the law" and providing as little transparency as possible into both their planning assumptions and the levels of service to be expected by grain shippers. A monopolist's worst enemy is transparency, and the railways will not yield that leverage willingly.

The railways have, in part, been able to do this because of the overly broad language found in the legislation which simply requires them to do three things to meet its requirements:

1. assess their ability to move the grain that it is required to move during the crop year
2. consider the total volume of grain expected to be moved for the crop year; and
3. identify the steps they are taking to enable them to move the grain required to move

The legislation does not explicitly require the railways to identify expected service levels nor to reveal the planning assumptions behind such service levels. As a result, they have leveraged the language of the Act to their advantage resulting in a document that meets the requirements of the legislation but does nothing to meet the intended objectives of the legislation.

Are current grain plans published by the railways meeting the stated requirements of the legislation? Yes. Are they doing so in a manner that provides transparency into their planning assumptions and establishes service targets to allow shippers to plan their broader supply chain processes within expected railway service levels? No.

What do Current Grain Plans Contain and Why is it of Little Value?

A review of CN and CP grain plans for the years 2018 – 2021 shows us that the content of these plans has remained fairly consistent from year to year with few exceptions other than to offer periodic commentary or information pertaining to current events of the day whether regarding railway specific initiatives or the market in general.

In setting the stage for a discussion on what these plans should contain it is important to understand what the current plans do contain and why it falls short of stakeholders' needs. The following discussion reflects the content of CN and CP plans published for the 2021-2022 grain year although as noted above the content over the initial four years has been very consistent, so these plans are generally reflective of what is published each year.

1. Review of Prior Crop Year Performance

CN and CP each begin their respective plans with a review of their performance for the prior year. Generally, this consists of highlighting the grain volumes moved and in recent years with much emphasis on the grain movement records achieved during the prior grain year. Unfortunately, as the content of the plans attest, volume of grain moved is seen by the railways as the premiere barometer of performance and success. The more volume they move by definition the better the system is performing. This is perhaps a meaningful "performance metric" for shareholders and investment analysts but is frankly of little value to anyone else.

What the railways fail to include in their plans is a review of their performance from a customer service perspective against any number of generally accepted service criteria for the railway industry.

In its two most recent reports CN has included a discussion of so-called "lessons learned" which according to the railway are lessons to be incorporated into future planning. These include items such as:

- a nod to the importance of its own capital planning efforts in delivering better results
- the establishment of the industry Agricultural Council made up of producer representatives
- a reminder they voluntarily produce weekly and monthly reporting and
- the difficulties in sourcing train operating crews in a timely fashion

CP includes a discussion touting their industry leading safety performance, environmental disaster preparedness, participation in industry events and like CN reminding stakeholders of their **voluntary** publication of a weekly supply chain scorecard. Unsurprisingly, CP's supply chain scorecard looks at one thing only – volume of grain moved.

While the inclusion of this information by CN and CP offers interesting contextual information and, in some respects, may reassure stakeholders of the railways' preparedness it provides absolutely no transparency whatsoever for system stakeholders, most notably grain shippers, with respect to railway planning assumptions or expected service levels.

2. Market Conditions and Considerations

This discussion is somewhat unique to CN's plan and consists of a discussion around the commercial and operational factors that can and may impact performance of the grain supply chain in the coming year. In its most recent report CN identified commercial factors including the impact of COVID 19 on global grain demand, the value of the Canadian dollar, and the potential impacts of international trade barriers.

With respect to operational factors, or as CN refers to them "factors intrinsic to rail", the discussion centers on the operational performance of grain terminals, cold winter weather and track disruptions and how each of these can negatively impact railway performance. Most important it seems, though not explicitly stated, is that these factors and others are beyond the railway's control effectively laying the groundwork for explaining the inevitable service failures to come.

Once again, perhaps interesting contextual information but offering no value to their customers or other system stakeholders with respect to the service levels that should be expected in the coming year.

3. Capital Investment Review

Each of the railways go to great lengths in their respective plans to document their investments in rail infrastructure and assets (rail cars, locomotives). Understanding that the railways continue to invest in their plant is no doubt comforting for some although it does nothing more than confirm that they are doing what all industries do on an ongoing basis.

Is there value in this information from the perspective of understanding expected service levels?
No.

4. The Plan

The discussion regarding the railways' plans, in theory the principal objective of these documents is the briefest and least detailed element of what the railways include. For both railways "the plan" consists of the following elements:

1. estimating the amount of grain to be moved (grain supply)
2. identifying the weekly rail car capacity the railways plan to provide
3. confirmation of the size of existing of hopper car fleets and in the case of CP the number of locomotives and train crews estimated to be used in the movement of grain.

Grain Supply

Estimating the grain supply for the coming grain year is an important first step in assessing the level of capacity that is required for all grain industry participants, not just railways, although perhaps most importantly for railways. Grain supply reflects the sum of the current year's crop plus the

carry-in from the prior year less estimated domestic consumption. The crop size is the most significant element in this equation and also the most difficult to predict.

While crop size, and the ensuing grain supply, is a prime driver of sales programs for grain companies it plays less of a role in sizing short term infrastructure capacity at country elevator and port terminal locations as that capacity is largely fixed. For railways, however, who have the ability to add and subtract assets (rail cars, train crews, locomotives) to / from their capacity offering in the short term the expected size of the annual grain crop should in theory play an important role in “sizing” those assets as part of their planning process.

Both CN and CP emphasize here, as well as in other parts of their documents, that they consult extensively with their customers with respect to expected production and other factors such as changes in market conditions but that ultimately, they rely on government publications to establish the foundation for their planning efforts – as do all other industry participants incidentally. Ultimately, they seek the consensus view of industry and government and using principally their historical market share on a regional basis estimate the volume of grain and grain products they expect to move in the coming year. For 2021-2022 CN estimated 25.5 – 28 MMT of grain and grain products in carload service (excluding intermodal movements). For its part CP states that it expects to move more than 30 MMT of grain and grain products during the 2021-2022 crop year.

Weekly Rail Car Capacity Offering

With their respective estimates of the grain supply established for the coming year the railways identify the level of railway capacity they plan to supply weekly throughout the grain year. For both railways this is expressed in terms of the number of rail cars the railways will supply or “spot empty” at shipper origins each week for the movement of bulk grain and grain products – subject to market demand. The planned capacity to be offered does not, however, come without caveats.

For instance, CN says the following in its 2021-2022 grain plan.

*“These numbers are based on **maximum sustainable end-to-end supply chain capacity** and are reflective of key assumptions: Grain supply chain fluidity across corridors; seven-day terminal and rail unload operations at all major grain export facilities; a full resumption of loading during inclement weather at West Coast terminals; normal winter rail operating conditions (issues related to winter operating conditions and measures CN has taken to address them will be addressed in its Winter Contingency Report); no significant labour, mainline or other major supply chain disruptions; a stable global trade environment; and no additional important material effect on demand for grain or the capacity of the supply chain due to COVID-19.” [Emphasis added]*

In other words, this represents the maximum capacity the railways will offer each week and that commitment comes with a long list of conditions should any of which come into play seemingly excuses the railways from their commitments. Again, laying the groundwork for explaining failure.

Maximum Sustainable Supply Chain Capacity

The concept of “maximum sustainable supply chain capacity” is important in this context as it is being used by both railways to establish a ceiling on the capacity they are prepared to offer industry each year. Simply stated the railways claim to have determined the maximum sustainable capacity of the entire grain supply chain at any point in time during the grain year which they say is a function of the **capacities and operational efficiencies of all pieces of the supply chain from origin to destination**.¹ While the railways are clear in their plans that this factor governs their capacity and operating plans, they offer no transparency whatsoever as to what the total system capacity is, how it has been calculated, and the underlying assumptions behind these calculations.

While there are obvious factors that impact seasonal supply chain capacity – i.e., the closure of Thunder Bay during the Dec – Mar period – the railways offer no other insight into this calculation. When all is said and done the railways use the unexplained and opaque concept of maximum sustainable supply chain capacity as justification for arbitrarily capping railway capacity at the levels they choose including justifying reducing the capacity offering materially through the winter months.

The table below summarizes the planned weekly capacity offering for CN and CP for the 2021-2022 grain year for the movement of bulk grain. Based on 2021-2022 plan numbers this represents a 22% reduction in capacity for CN and a 27% reduction for CP during winter months.

Planned Weekly Hopper Car Capacity 2021-2022 Grain Year²

Month	Grain Weeks	CN	CP
August - November	1 - 17	5,950	6,000
December – March	18 - 35	4,600	4,350
April - July	36 - 52	5,950	6,000

For all the shortcomings of these plans, the weekly rail car spotting capacity plan provided by the railways represents the most meaningful information included in these plans. Having said that the information is not without its own shortcomings and falls woefully short of what stakeholders need.

It is notable that for both railways the most important information contained in the plan accounts for the smallest share of the plan. While CP’s plan runs 26 pages in total only a single page is

¹ 2018-2019 CN Grain Plan

² We note that CN values have been estimated using more detailed information from prior year reports to remove private cars that are not controlled by the railway in order to reflect the number of railway supplied / controlled rail cars. CP’s 2021-2022 plan does not define the specific grain weeks each level of capacity is to be offered and has therefore been placed on the same schedule as CN for illustrative purposes although likely only varies by one or two weeks if at all given the timelines provided in prior year’s plans.

dedicated to the discussion of rail capacity. CN's plan runs a total of 35 pages, and it too dedicates a single page to the issue of planned rail capacity.

The problem with the information currently provided is that it lacks sufficient detail and in CN's case lacks consistency of presentation materially reducing its value. On the latter issue CN changes the presentation of this data from one year to the next to either reflect only railway supplied rail cars, both railway and private shipper cars, or as is the case in their most recent plan no segregation between railway and private cars but only between bulk grain and processed grain.

The highly aggregated level of the information reduces its utility but changing how it is presented year to year makes it difficult for stakeholders to understand what capacity the railway is actually offering and how that is in fact changing from one year to the next. Whether incompetence or deliberate obfuscation the result is the same – an unclear picture of planned railway capacity.

What Do Stakeholders Need to See in Railway Grain Plans?

Railway grain plans should strive to meet the needs of all grain system stakeholders through the provision of clear, detailed information that reflects the railway's planning assumptions and how those assumptions translate into specific asset and service performance targets. For non-shippers, including regulators and policy makers, this information will provide transparency into railway planning assumptions and establish service levels against which actual railway performance can be measured and railways held accountable. For grain shippers specifically, this information can assist them in the planning of their own supply chain operations of which rail is but one component, but a very important one.

Grain supply chains are complex systems that, much like many other supply chains, require companies to plan and coordinate inputs, processing, and transportation of goods. In the case of grain this means planning and executing on:

1. the receipt of grain from producers across a network of Prairie based country elevators
2. the planning and ordering of rail cars by destination corridor and origin country location
3. the movement of grain to destination
4. the receipt of grain at export terminals, and
5. the contracting and scheduling of bulk vessel movements or container capacity internationally for the movement of grain to customers around the world.

Each of these elements needs to be coordinated and executed within established time frames to meet contractual sales commitments that are often made months in advance. While grain companies and processors can generally control or exert significant influence on four of these five elements, they are at the mercy of railways for the inland movement of their grain from country origins to destination. Railways, while only one of five principal players in the supply chain, exert outsized influence on the performance and success of the entire grain supply chain.

In planning the rail portion of their operations, the grain industry strives to know to the best of their abilities the answer to the following questions:

1. How many rail cars will the railways supply each week?
2. Will those rail cars arrive in the weeks for which they are ordered?
3. How long will it take for the railways to move loaded rail cars from origin to destination?

While the on-time arrival of rail cars is perhaps something no one can foresee one must assume for planning purposes that it is the intent of the railways and the expectations of shippers that they will be supplied when they are required. With respect to railway capacity (rail cars) and utilization of that capacity (service) the railways are in a position to provide significantly more information than they currently do in their respective grain plans. As such railways should be compelled to provide the following information as part of their annual grain plans.

Volume Forecasts

Required: Forecast of demand by principal commodity group (bulk grain v. processed grain products) by month and origin – destination corridor.

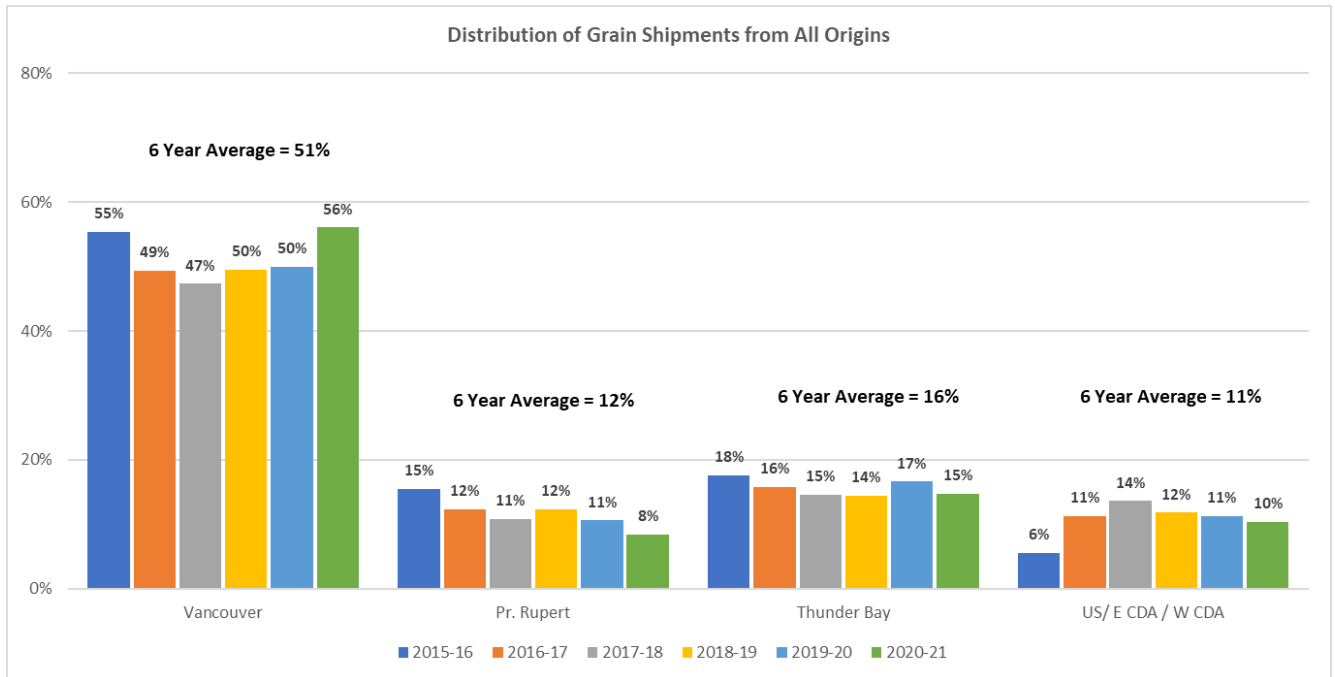
All stakeholders should be able to understand the railways' forecasts of grain and grain product volumes they expect to move during the grain year. This forecast should be detailed by commodity group by month and by principal origin – destination corridor. A forecast at this level of detail will confirm for stakeholders that the railways share a common view with industry of the volume of traffic to be moved and provides transparency into the railways' planning assumptions both for the total movement but also with respect to seasonal movements, specifically during the peak shipping season. Such a forecast will, or should, establish the basis for railway capacity and service planning efforts.

Current railway plans currently only provide a highly aggregated estimate of the total grain and grain products (tonnes) the railways expect to move during the grain year. Current information provides no seasonal or geographic breakdown, both critical elements of understanding the railways' planning assumptions for the movement of that grain. Absent more detail, what value does any system stakeholder derive from knowing that CN or CP expect to move 28 – 30 MMT of grain in a year?

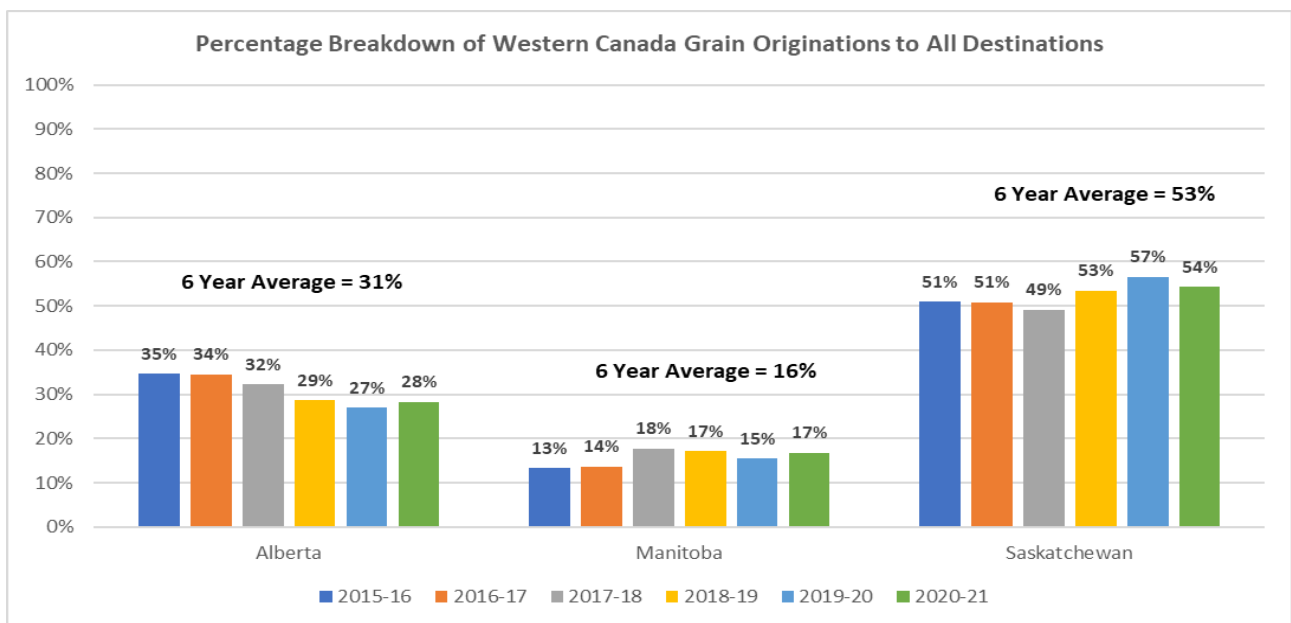
CN and CP have been consistent in their messaging on this issue. While they claim to understand the desire of government and other stakeholders to understand forecast volumes projected at this level of detail they argue it simply cannot be done because of crop size uncertainty and where and when grain is shipped is driven by the market decisions of their customers and beyond the railways' control. While it is correct that shippers ultimately make the decisions about when and where to ship grain the railway rationale is at best self-serving and at worst designed to limit transparency.

Each of CN and CP are well positioned to provide stakeholders with a more detailed breakdown of forecasted grain movements for two reasons. First, while grain movement patterns can change stemming from shifts in market forces or regional variability in production, we know from history that they tend to be very consistent from year to year as the charts below confirm. Second, and most importantly, the railways need to break down their forecasts to this level as part of their business planning process in order to be able to forecast revenue, fleet requirements, and train run plans including crew and locomotive requirements. It is therefore not a question of being able to provide the data but rather the willingness to do so.

The chart below provides a 6-year history of bulk grain shipments in hopper cars for CN and CP for the 2015-16 to 2020-21 grain years inclusive.³ We can see that grain movements by rail maintain fairly stable patterns year after year. While there are variances from year to year, as one would expect, they are generally not significant.

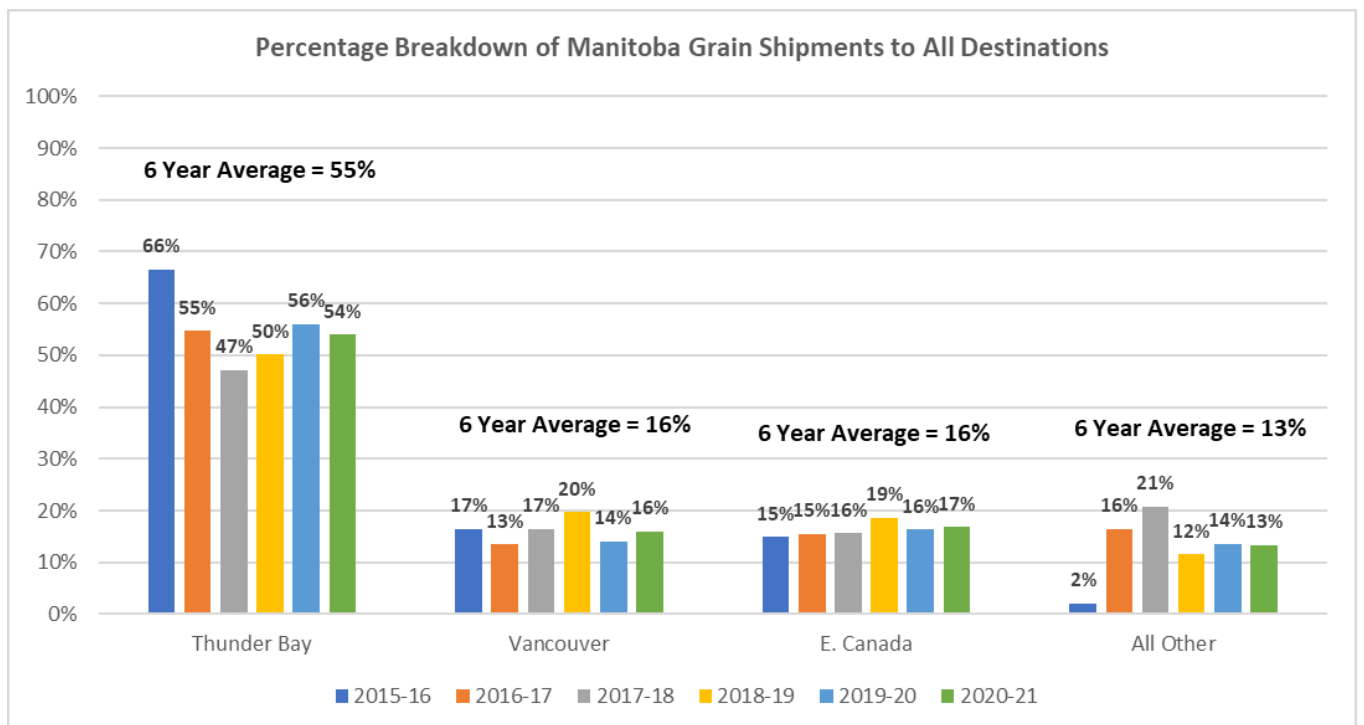
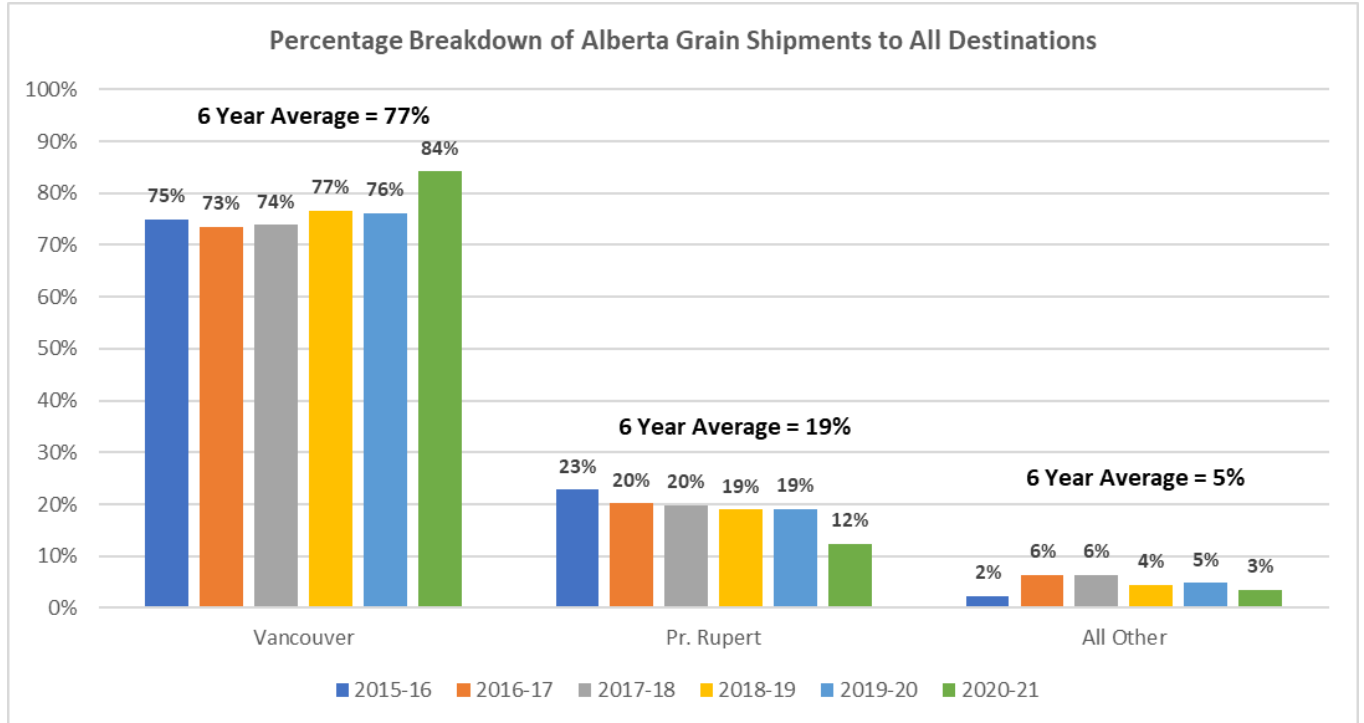


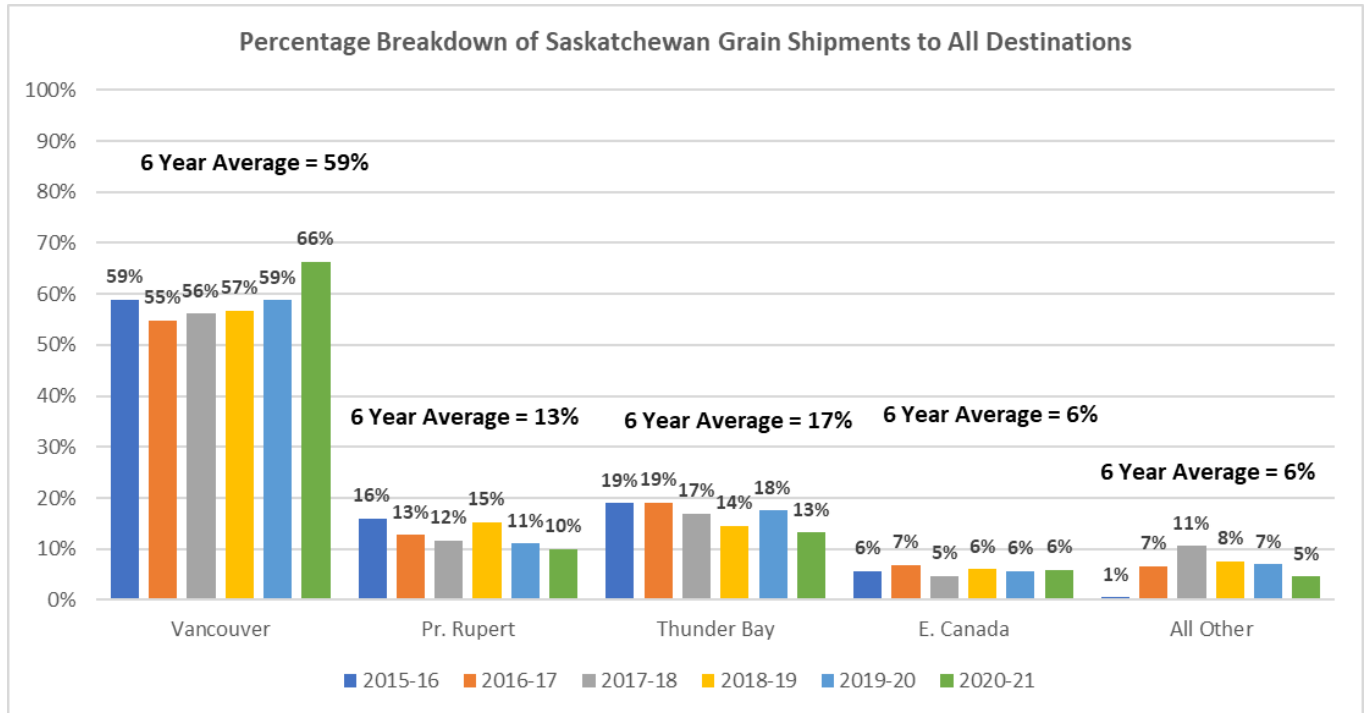
A look at where grain originates in Western Canada yields the same conclusion.



³ Source: Quorum Corporation

Lastly, a look at the distribution of grain shipments from each of the Prairie Provinces across principal destination corridors once again indicates a very consistent pattern year to year.





While traffic patterns speak for themselves the more compelling argument for the railways possessing this information and it being readily available to share as part of their grain plans is the knowledge that this level of commodity forecasting is a basic building block of railway business planning processes.

The core business activity of railways is moving their customers goods from origin to destination. Therefore, in planning their operations and assets to support those activities the most fundamental building block is a forecast of the volume of goods to be moved and the geography associated with those movements. The foundation of this process is the development of a tonnage or volume forecast of anticipated movements in the coming year from which all other business planning activities flow.

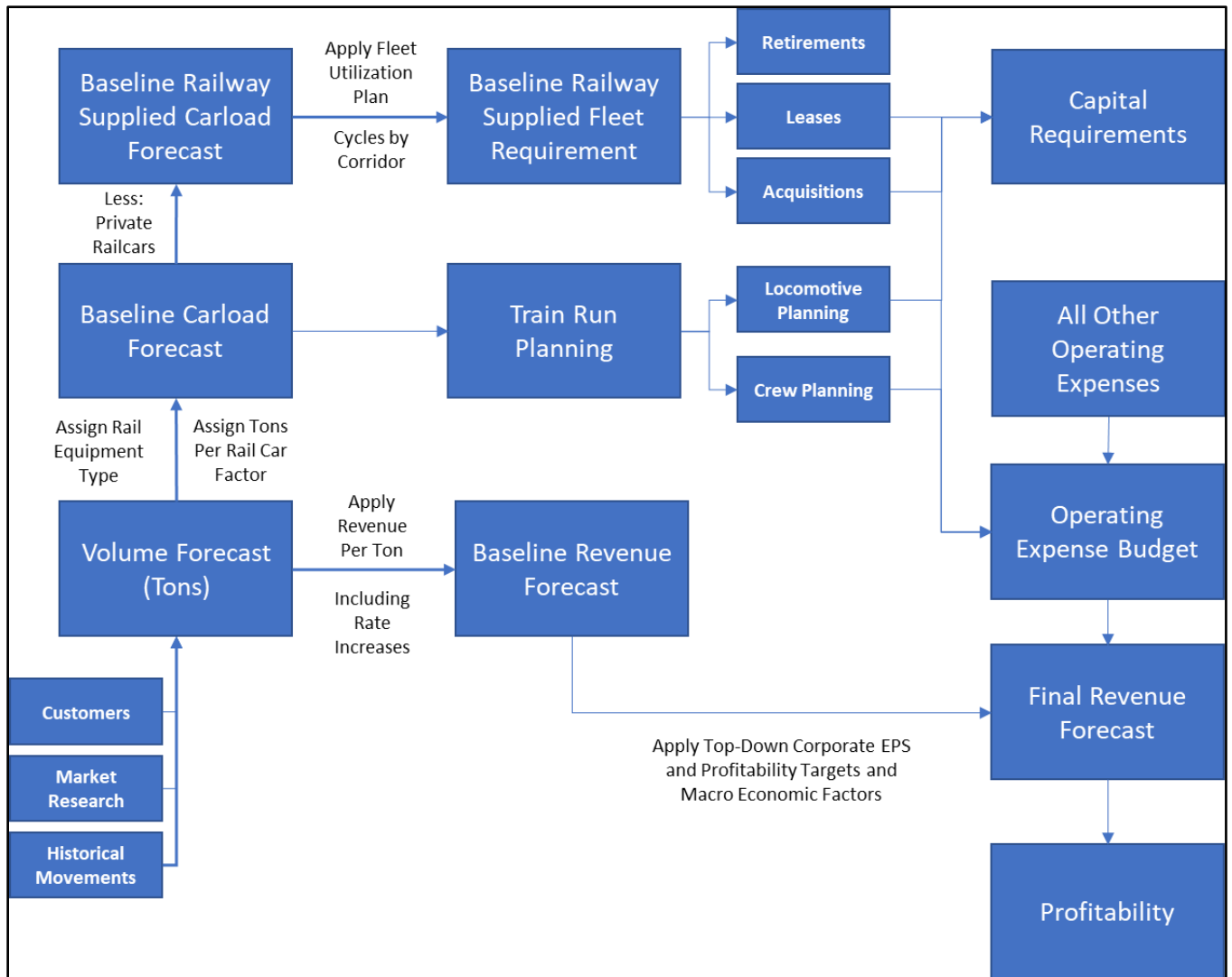
The basic steps include:

1. Development of a baseline volume forecast using direct customer input, market research and historical movements. These forecasts are structured at a commodity / corridor (origin – destination) level by month expressed in tons / tonnes.⁴
2. Translation of the tonnage forecast into a transportation unit or carload forecast by applying specific car types against specific commodities and assigning a payload factor (tons / car) to each. This yields a forecast of the total number of carloads to be moved by month for each commodity in each corridor.
3. Segregation of the traffic moving in private shipper supplied equipment (e.g., tank cars) to derive a forecast of total carloads to be moved in railway supplied (owned / leased) equipment.

⁴ Some lines of business such as Intermodal are forecasted in units (containers) as opposed to tons but the same basic planning principles apply.

4. Calculation of railway fleet requirements by car type by applying a utilization factor against each equipment type in each principal corridor (car cycles) yielding the total number of cars required to move the projected volumes in the corridors they are forecast to move.
5. Analysis of requirements against current inventory incorporating planned equipment retirements, lease renewals, and acquisitions with the latter two items incorporated into the railway's capital expenditure budget.
6. In a separate planning stream, the total traffic forecast for movement (baseline carload forecast including private equipment) is used to forecast the number of trains to be run across the network including locomotive and crew requirements.

The diagram below presents a very simplified view of railway planning processes.



The railways may argue, although they have yet to do so, that providing forecast data at this level of detail would infringe on customer confidentiality or reveal commercially sensitive information. While such an argument may have some validity for some commodities that have very high market and or geographic concentration this is not the case for grain. Yes, the industry is highly concentrated among the largest six companies but for the most part their operations span the Prairies and there are no geographic areas (origins) or destination corridors that are dominated by any subset of this group.

The value of providing forecast grain movements by month by origin province - destination corridor far exceeds any risks associated with railway or shipper confidentiality issues.

Rail Car Capacity

Required: Planned weekly rail car capacity offering segregated between railway supplied and private rail cars for the movement of bulk grain and grain products.

As noted earlier current plans do include very high-level information regarding the number of rail cars the railways plan to supply each week for the movement of bulk grain and processed grain products. The problem with what is currently provided is two-fold. First, the presentation of the data, particularly by CN, is inconsistent from year to year making it difficult to determine, even for a knowledgeable industry participant, exactly how much capacity is being offered for the movement of what commodities. Second, as is clearly stated by both railways in their respective plans, the planned capacity offering is provided based on what the railways deem to be the “maximum sustainable supply chain capacity” of the entire grain handling system.

On the first issue the railways should be compelled to provide their planned weekly rail car capacity offering clearly distinguishing between:

- Railway supplied hopper cars for bulk grain
- Privately supplied hopper cars for bulk grain
- Railway supplied hopper cars for processed grain products
- Privately supplied cars for processed grain products

This would permit both industry players and other stakeholders to clearly understand the level of rail capacity being offered and would set a clear benchmark for subsequent performance measures.

Required: Transparency for all stakeholders into the railways’ calculations of maximum sustainable supply chain capacity.

As discussed earlier this concept has been developed by the railways and while it is the principal justification for reducing rail car capacity to shippers during winter months the railways provide no transparency whatsoever into what it means or how it has been developed. For the planned capacity offering published by the railways to have even the slightest legitimacy they must provide transparency on this issue. The failure to do so de-legitimizes its use and results in the railways being permitted to arbitrarily constrain capacity to grain shippers without justification.

Asset Utilization and Service Performance Targets

Existing railway grain plans offer few asset metrics, and no service performance targets or standards whatsoever that allow stakeholders to validate the railways' planning assumptions or to use as inputs to their own planning process. It goes without saying therefore that there is also no basis against which to measure actual performance.

In considering these issues it is important to remember that these plans are intended to provide information of value to a broad range of stakeholders including grain shippers, regulators, and policy makers about the railways' plans to move grain in the coming year. Each of these stakeholders will weigh the importance of different types of information and some, such as shippers, will use some information as a direct input to their own planning processes. For all, the establishment of such benchmarks provides a basis against which to measure actual performance which is the key to understanding if performance was as planned and if not to understand where and why performance deviated from plan. One would think that even the railways would have a vested interest in continuous improvement.

Required: Asset utilization targets for railway supplied hopper cars by month and origin – destination corridor.

Car Cycles

The principal measure of asset utilization for railway freight equipment used in revenue service is car cycles. This measure, typically expressed in days, calculates the average time elapsed from one loaded movement to the next for an individual car fleet (e.g., covered hopper cars). A cycle is composed of six basic components: origin loading time, origin dwell time, loaded transit, destination dwell time, unloading time and empty transit time. It is an industry standard measure of rail fleet efficiency for railways.

Recalling the earlier discussion regarding railway planning processes it is this utilization factor that railways apply against their carload forecast to calculate the number of actual rail cars required to move the projected level of business. A simple example below.

- | | |
|--------------------------------------|------------------------|
| A. Forecast Tonnage for Movement: | 100,000 tons |
| B. Average Rail Car Capacity (Tons): | 100 tons |
| C. Number of Carloads: | 1,000 cars (A / B = C) |
| D. Average Car Cycle: | 14 days |
| E. Number of Cars Required: | 71.4 cars (C / D = E) |

It is important to understand however that cycles can vary significantly depending on the corridor (distance) in which a car is travelling. For example, an average cycle for traffic from Manitoba origins to Thunder Bay might be 5 days while from the same origin to the US could be 30 days and to Vancouver could be 16 days. This explains why railways, in the course of developing their business plans, need to understand the volumes projected to move in specific corridors. Without this it would be very difficult to

determine their fleet requirements which would more often than not lead to either over investment in rail cars (too many) or under investment in rail cars (too few), the latter scenario likely leading to a negative impact on service performance.

A clear sign of this measure's importance to the federal government in understanding railway performance for the movement of grain is its place as a foundational measure of the Grain Monitoring Program (GMP). Unfortunately, under its current mandate the Grain Monitor is not permitted to divulge performance by individual railway.⁵ Even if it were, it would still lack a benchmark against which to measure performance.

Shippers that invest in private car fleets, much like railways, size their fleet investments based on the calculation outlined above. If one assumes that private and railway supplied equipment receive the same level of service – there is no reason they should not - then railway car cycle targets could be used for these shippers as a direct input to their own planning processes.

Required: Service performance targets for loaded railway movements by month and origin – destination corridor.

Loaded Trip Times

While car cycles by corridor would provide useful information for private car shippers in their planning efforts it does little for shippers using railway supplied equipment other than to provide a high-level indicator of how efficiently rail cars are moving through the system over time. As cycles increase fleet efficiency declines and generally is reflective of a deterioration in service. The reverse is also true.

As noted earlier, a key input to planning for grain shippers is the length of time it will take for railways to move loaded cars from origin to destination at different times throughout the year. The problem with car cycles in this particular situation is that, unless broken into their individual components, they do not provide insight or transparency into the loaded portion of the movement which is what the majority of shippers need to know.

Understanding that grain supply chain operations from country to vessel are linked and must be in large part coordinated within specific timeframes speaks to the importance of understanding what level of railway service a shipper should expect whether shipping to Vancouver, Thunder Bay, Prince Rupert, or Eastern Canada. Equally important to know is how that performance might change throughout the course of a year.

Shippers schedule producer grain deliveries to their grain elevators tied to railway car ordering processes in order to try and meet vessel sailings and sales commitments. Ocean vessels are typically contracted months in advance with very specific performance windows. If a grain shipper knows they have a vessel scheduled to arrive at Vancouver in the first two weeks of October to meet a specific sales commitment, they will effectively reverse engineer the timeline from the planned vessel arrival for both

⁵ The one exception to this would be car cycle performance in the Prince Rupert corridor which is by definition CN performance as it is the only railway that service Prince Rupert.

calling in grain to country elevators and ordering railcars. Built into this calculation is an assumption by the shipper of the time it will take to move the loaded rail cars from origin to destination.

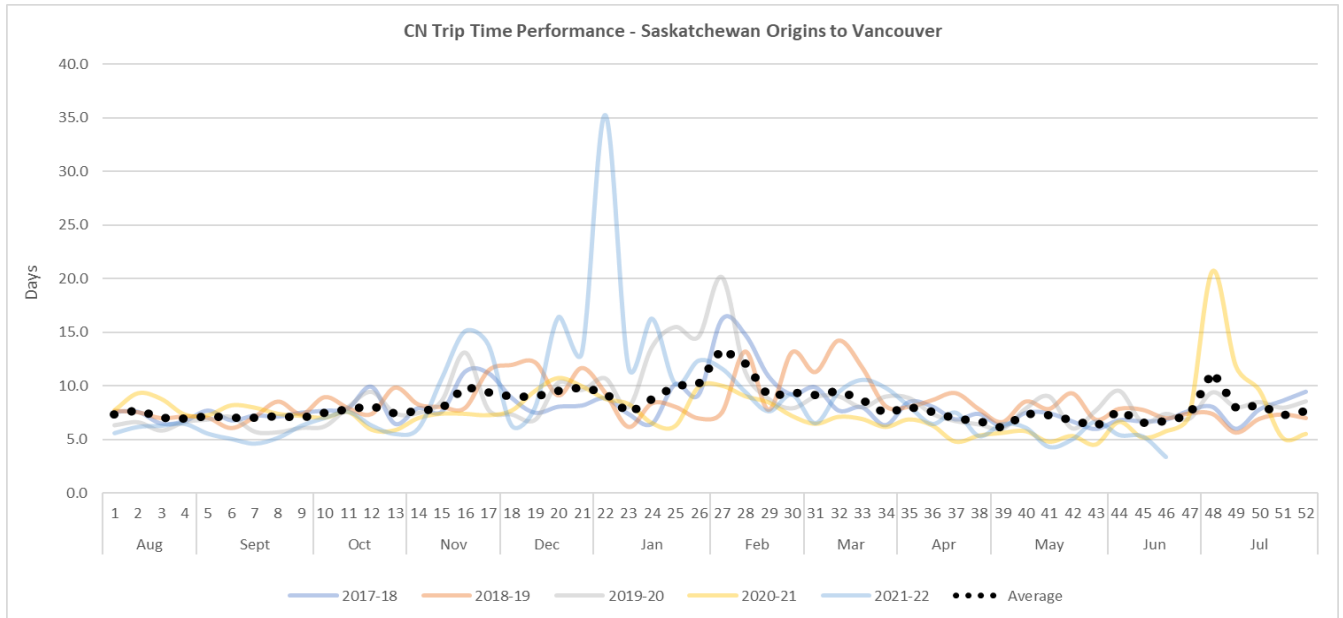
There is no reason for the railways not to provide this information. It is without a doubt readily available within their existing systems, there is no issue of confidentiality nor commercial sensitivity. Railways may try to argue that trip times differ for different customers because train service will differ depending on where a shipper is located or based on the size of the shipment (single car versus unit train). Service times will also vary and are not predictable, they will argue, due to unforeseen events such as extreme cold or natural disasters, situations for which the railways cannot be held accountable.

While all of these things are true, they do not, in our view, constitute a valid reason for not providing their customers with some reasonable guidance on service to assist in their planning efforts. The larger issue for the railways is their concern around making service targets publicly available that will subsequently be used to criticize their performance. Only a monopolist would think this way, or for that matter be able to act this way. In a truly competitive market environment service providers would look for competitive advantage by publicizing their service offerings without fear of retribution.

Stakeholders are well aware, based on experience, and railways consistently remind them, that winter operations bring challenges that have adverse effects on railway service. Given this, understanding the anticipated variability in railway performance through the winter months in particular is important for shippers.

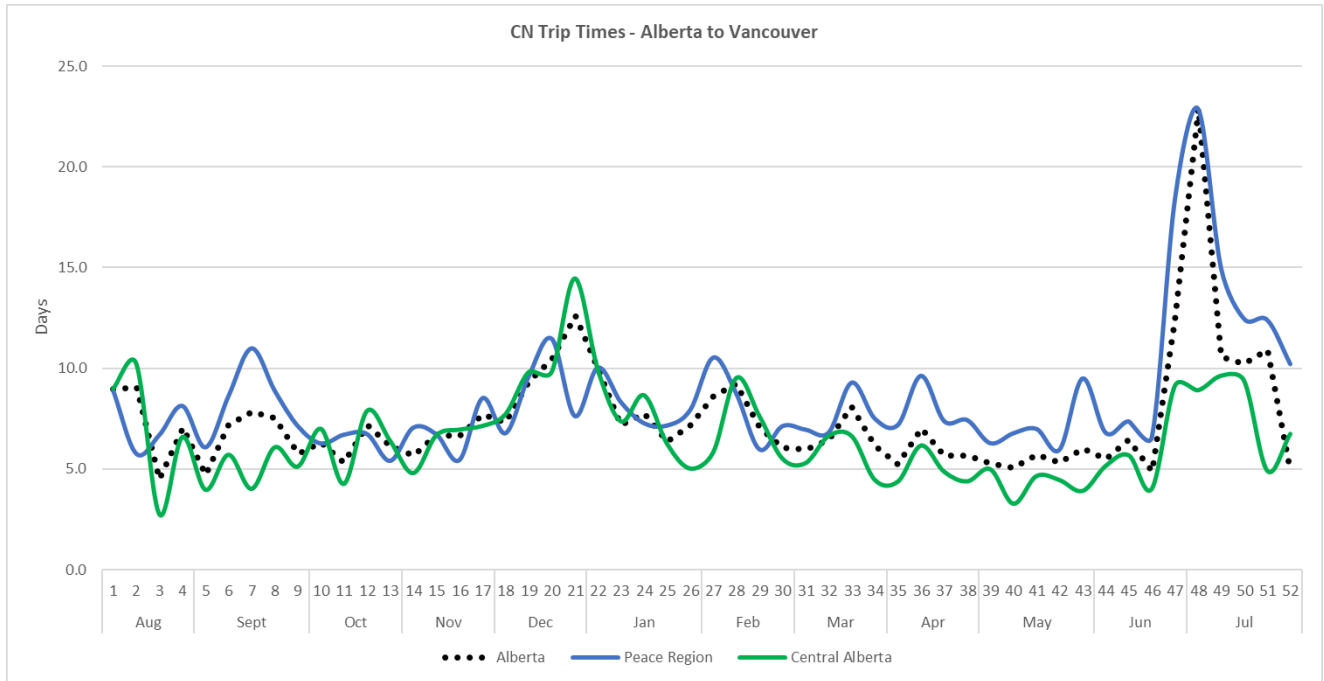
The chart below shows the average trip times for CN from all Saskatchewan origins to the Port of Vancouver for grain years 2017-18 to 2020-21.⁶ We can readily see that service consistently degrades during the November – March period. The extent of the degradation varies each year, but the pattern is clear. There are in some cases extreme circumstances, such as December 2021 when both railways lost service to Vancouver for a number of days due to flooding in southern BC, but these events are outliers and no one, including grain shippers, expects the railways to be able to foresee such events.

⁶ Source: Ag Transport Coalition



Given the geographic breadth of CN and CP’s networks a province wide view may in this instance be too broad. To illustrate that point the chart below provides a view of CN trip time performance from Alberta origins to the Port of Vancouver for the 2020-21 grain year. In this instance the data has been segregated regionally to show performance for the province as a whole, the Peace Region in northern Alberta and Alberta origins not in the Peace Region (Central AB).

We can see that while the same pattern of service degradation during the winter months appears here as well there is a significant difference in the service experience of shippers located in the northern reaches of the province as opposed to the central portion of the province. Shippers in the Peace region consistently see much longer transit times than their peers to the south of them and the differences can be significant, in some instances nearly twice as long. We note that the significantly higher trip times in July 2021 are not representative of normal service levels as they are a reflection of the extended line outages incurred by CN and CP due to southern B.C. wildfires.



How then should this information be provided to be of the greatest benefit to all stakeholders. In our view much along the same lines as the proposed car cycle targets discussed earlier, however, recognizing that there can be notable regional disparity within individual provinces, perhaps even with an added level of detail.

We recommend that the railways be required to provide monthly service targets (trip times) within their grain plans on the following basis.

Railway	Origin Province	Origin Region	Destination Corridor			
			Vancouver	Prince Rupert	Thunder Bay	Quebec
CN	Alberta	Peace Region	X	X		
		All Other	X	X		
	Manitoba	Manitoba	X	X	X	X
	Saskatchewan	Northern SK	X	X	X	X
		Southern SK	X	X	X	X
CP	Alberta	Alberta	X		X	
	Manitoba	Manitoba	X		X	X
	Saskatchewan	Northern SK	X		X	
		Southern SK	X		X	X

Based on demographics for the Ag Transport Coalition which accounts for more than 90% of grain shipments originating in Western Canada we believe this segmentation is appropriate while maintaining confidentiality for individual shippers.

Performance Reporting

Required: Monthly performance reporting against established asset and service targets contained in the plan.

Performance standards absent reporting of actual performance against those standards greatly diminishes their value and does not contribute to system stakeholders understanding what performance has been, and equally importantly how it has deviated from planned performance. That understanding is critical to long term improvement in the performance of Canada's grain supply chains in total. All stakeholders, including railways should have a vested interest in such ongoing improvement particularly at a time of global food insecurity and the growing importance of Canada as a global provider of agricultural products.

Currently CN and CP provide a bare minimum level of reporting on their performance throughout the grain year. Much like their respective plans these monthly reports or updates lack any meaningful performance information to allow system stakeholder to understand how the railways are performing, let alone how they are performing against their plan. There are differences in reporting for the two railways that are noteworthy.

CN

CN produces monthly updates to its annual grain plan and makes them available publicly on their website. Unfortunately, these updates, much like their plans contain little if any meaningful service information. While they do provide anecdotal commentary on issues impacting service, they do not in any way quantify service levels. They are focused, much like their plans, on the tonnage moved each month because that is how they measure success.

More broadly CN does produce a weekly Canadian grain report which is focused on their car spotting performance mirroring in many ways the weekly order fulfillment reporting that is produced by the Ag Transport Coalition. CN should be commended for implementing this reporting as it does provide some transparency into their performance for grain shippers. Having said that, it does not speak to the grain plan.

CP

CP performance reporting is extremely limited and is wholly focused on shipment volumes. Their reporting consists of a single chart tracking CP grain shipments by week over a rolling three-year period. This is supplemented by a more detailed table showing the same information by principal destination corridor. Interesting but not helpful and not even close to touching on service performance.

We therefore would request the Minister to direct the railways to provide comprehensive service reporting each month against the asset and service targets to be established in their plans.