Emergence of Seasonal Pricing in Rail Freight Rates for Grain

QUORUM CORPORATION
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Overview

In recent years, there has been a marked shift in how both Class I carriers have set tariff rates for the movement of Western Canadian grain. Since the 2021-22 crop year, Canada's major railways have tended to increase rates at the start of the crop year beyond any change implied by the Volume-Related Composite Price Index (VRCPI) as determined by the Canadian Transportation Agency (CTA). These initial rate increases have been followed by counteracting reductions later in the crop year, which generate sharp gyrations in railway pricing. This report examines such seasonal pricing actions since August 2000 and discusses how they fit within the regulatory framework of the Maximum Revenue Entitlement (MRE).

- Section 1 provides a brief overview of the Maximum Revenue Entitlement, Volume-Related Composite Price Index, and how they serve to influence the setting of railway freight rates.

- Section 2 shows that, historically, the magnitude of rate changes within any given crop year were far more muted and generally shadowed the change in the underlying VRCPI without significant seasonal variation.

- Section 3 concludes that, despite the introduction of seasonal pricing, the volume of grain moved in each period does not vary with rates. Several factors may contribute to this but, foremost among them, is the price-inelasticity exhibited by the demand for grain being moved by rail within the Grain Handling and Transportation System.

- Section 4 provides a simplified overview of how seasonal rail rates and the volume for high-density commodities moved during the 2024-25 crop year figure into the management of total revenues.

The timing and flow of Western Canadian grain for export is largely decided by market conditions that favour exporting grain in the four or five months following harvest. Furthermore, given the absence of any practical alternative to long-haul rail movements from prairie origins to port destinations, grain exporters have little choice but to pay the prevailing rail rates.

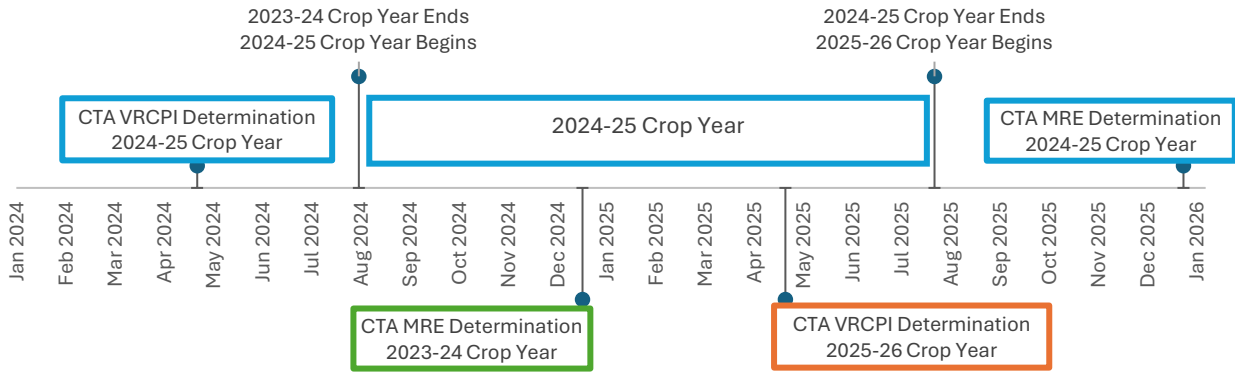
Section 1 - Maximum Revenue Entitlement

Throughout much of the 20th century, the movement of Western Canadian grain was subject to extensive regulatory control. At the close of this period, the CTA set the maximum rates that both the Canadian National Railway Company (CN) and the forerunner to today's Canadian Pacific Kansas City Limited (CPKC) could charge shippers for the movement of Western Canadian grain to port positions. This system was replaced with the MRE in 2000. Rather than set actual freight rates, the MRE, in essence acts as a dynamic inflationary-control mechanism, allowing the railways to increase their freight rates in line with changes in their underlying costs, but not more so. The entitlement was fashioned to ensure that the railways were fairly compensated for both the volume and workload associated with moving grain in any crop year following its inception. Inflationary cost adjustments are addressed through the Volume-Related Composite Price Index (VRCPI), which ensures that prescribed railways are compensated for the change in the costs tied to moving grain. Because the actual volume and length-of-haul are considered within the MRE formula, railways see their revenue entitlements increase or decrease in step with their workload.

It is important to note that, within the current regulatory environment, there are few constraints on how the railways can set their rates. While the MRE effectively puts a ceiling on the overall average revenue per tonne, individual rates can be set and varied throughout the year at the discretion of the carriers themselves. In fact, price differentiation is a key feature in the management of their businesses. Some elements of differentiation include equipment type, number of railcars loaded, track configuration at the origin or destination terminal, corridor, commodity, volume commitments, and, as this report will further discuss, seasons.

Figure 1 presents a timeline for the 2024-25 crop year along with its VRPCI and MRE determination dates, along with important dates for the 2023-24 and 2025-26 crop years that occur during the same time frame. Notably, the elements that determine the final MRE value are not known in advance of the crop year, which necessitates that the MRE calculation come after the fact.

Figure 1 Maximum Revenue Entitlement Process Timeline (2024-25 Crop Year)



- By April 30th, three months before the crop year begins, the Canadian Transportation Agency will publish the VRCPI values for the upcoming year. By way of example, the CTA issued these values for the 2024-2025 crop year on 29 April 2024. This lead time affords CN and CPKC an opportunity to formulate their pricing strategies based on the estimated change in costs envisioned by the indices. Notably, the VRCPI determination only provides a projection, albeit a governing one of how much railway input costs are anticipated to change.

- The crop year runs from August 1st through July 31st of the following year. Railways will usually post new tariffs for the movement of Western Canadian grain early in the new crop year. However, there is no requirement that rate changes be posted at the start of a crop year, nor must they strictly adhere to the change delineated in the earlier VRCPI determination. The only obligation is that any rate increases require a minimum of 30 days' advance notice to shippers, whereas rate reductions require no such notice.

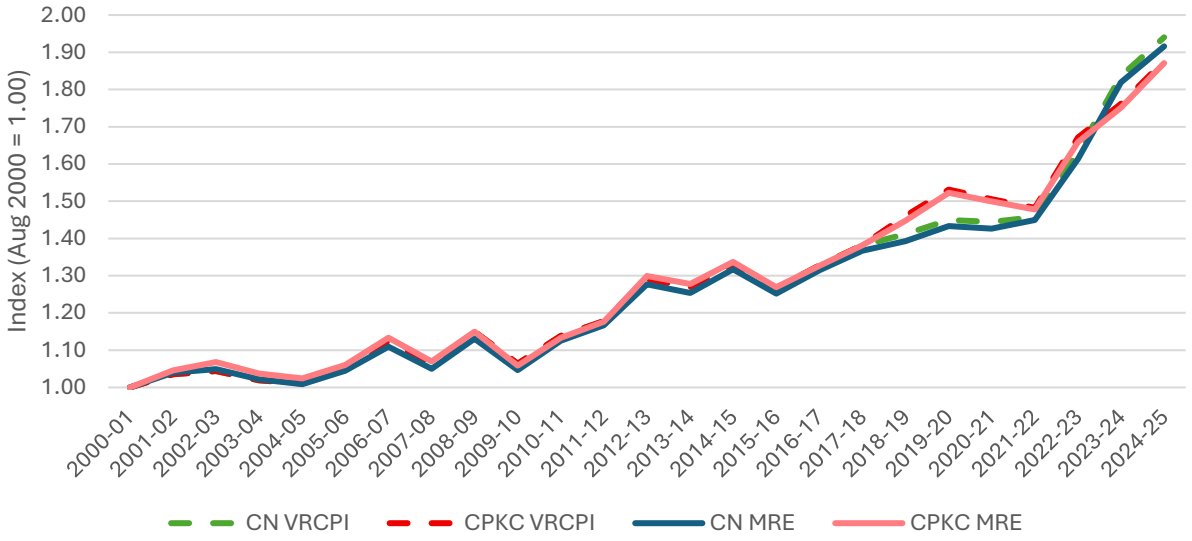
- By December 31st of the following calendar year, the CTA is obligated to render its MRE determination. To further the example of the 2024-2025 crop year, the CTA issued this determination on 17 December 2025. This is based on actual traffic data supplied by the railways for the crop year just ended, coupled with the earlier VRCPI determination. The CTA also rules on whether the carriers' actual revenues were either above or below the resultant thresholds. In the months immediately following (January through April of the ensuing crop year), the CTA turns its attention towards determining the next VRCPI. This includes adjusting its earlier cost estimates using actual data supplied by the railways. Although these will figure into the calculation of the VRCPI for the next crop year, they are not made publicly available.

The MRE is typically expressed in dollars of allowable revenue, which is the output of all the factors in the calculation[1], including the VRCPI, volume moved and average length-of-haul for the crop year just ended. Given that the size of the harvest plays a big role in how much volume there is to export, the MRE can vary significantly from year to year, even if the inflationary component of the VRCPI does not. To address this,

[1] www.grainmonitor.ca has a paper with a more detailed explanation and breakdown of the MRE formula.

Quorum Corporation depicts the MRE in cents per revenue tonne-mile[2] to standardize the comparison across multiple years. Figure 2 indexes the MRE as cents per revenue tonne-mile alongside the VRCPI to show that they track very closely, with the time series almost completely overlapping for each carrier.

Figure 2 MRE vs VRCPI (Indexed to 2000-01 Crop Year, MRE base in cents per tonne-mile)



Thus, even though the total workload associated with moving Western Canadian grain to export positions is unknown when the VRCPI is set, there is substantial predictability in what the revenue entitlement will be when expressed in cents per revenue tonne-mile. Such insight affords CN and CPKC great latitude in managing their rates since they have better information on their average revenue per tonne-mile throughout the crop year. For shippers, however, the VRCPI adjustment offers little ability to forward plan as it does not necessarily correlate with the setting of rates in any given month.

Section 2 - VRCPI, CPI, and Rail Rates

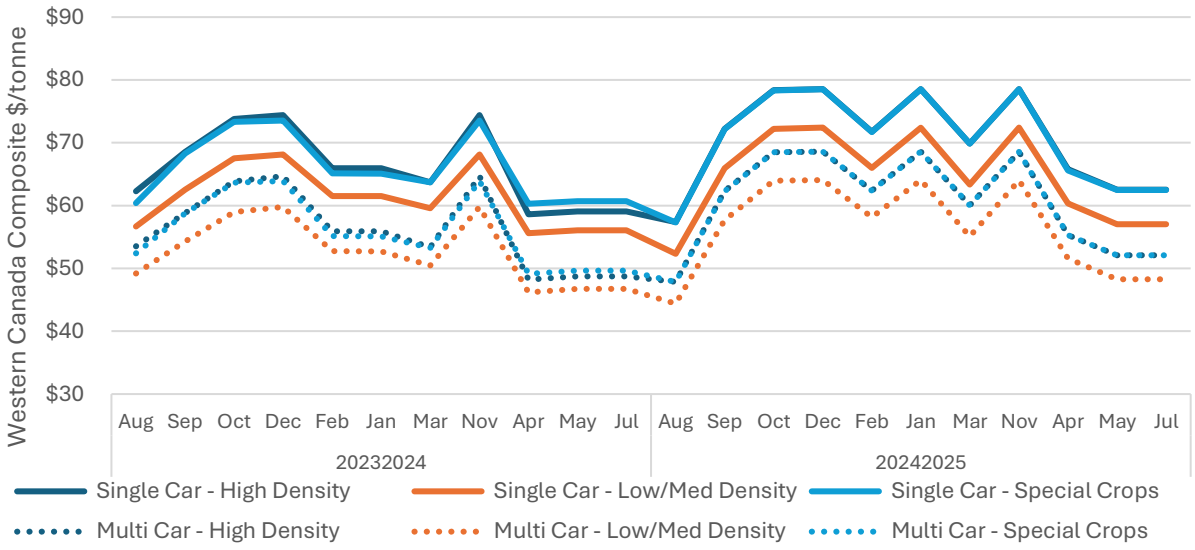
As noted, rail pricing has shifted in recent years to favour a pattern that sees substantially higher rates introduced at the beginning of the crop year, followed by offsetting reductions in the second half. While the MRE does not regulate how rates must be set throughout the year, it remains an important guide in pricing decisions because it defines the average revenue per tonne that can be earned for any volume of grain moved. As a result, when rates are set higher at the start of the crop year, total revenue may need to be managed through lower rates later to remain within the entitlement. This is examined further in Section 4.

The Grain Monitoring Program (GMP) has indexed a representative set of rates for hopper-car movements since 1999. The index is composed of single-car wheat rates for a subset of rail stations and grain delivery points across Western Canada that have remained active throughout the entire time series. While this allows for comparisons across time, it does not fully capture the breadth of rate differentiation that may occur, notably with multiple-car-block incentive discounts. Even so, the month-over-month variance in single-car wheat rates are generally mirrored across different grains, discount incentives, and port corridors such that they are reflective of the general trends in all rate categories. Figure 3 demonstrates this across commodity densities and block sizes from August 2023 through July 2025. Wheat is considered a high-

[2] Revenue per revenue tonne-mile (Rev/RTM) is a standard metric in the railway industry that considers the tonnage and length of haul of the revenue generating portion of a movement. The metric shows revenue earned for moving one tonne of freight over one mile, allowing for comparisons of revenue-generating rail operations.

density grain, and bears the same rates as other dense commodities, such as peas, rye, and soybeans, which all generally move in covered-hopper cars. In 2024-25 both carriers realigned their rates for high-density commodities and special crops, which were previously only slightly differentiated. Examples of low or medium density commodities are canola seed, oats, and barley.

Figure 3 Composite Average $/tonne Rail Rates – CN & CPKC, All Port Corridors, All Origins



Given the commonality in both the timing and scale of rate changes across these categories, the remainder of this report references only single-car rates for high-density products to draw on the time series collected since August 1999.

The time series of each carrier's VRCPI against their quarterly index of Vancouver and Thunder Bay rates are shown in Figures 4 and 5. From August 2000 through July 2021, the indices followed broadly similar trends. However, starting in the 2021-22 crop year the pattern described earlier begins to emerge. It is the magnitude of these more recent rate swings that has proven disconcerting. Section 3 drills into one year of each decade to show month-over-month rail rate variances throughout the year against the VRCPI adjustment and volume moved to export position.

Figure 4 CN VRCPI (Aug 2000 = 100) and GMP Quarterly Rail Rate Indices (Aug 1999 = 100)

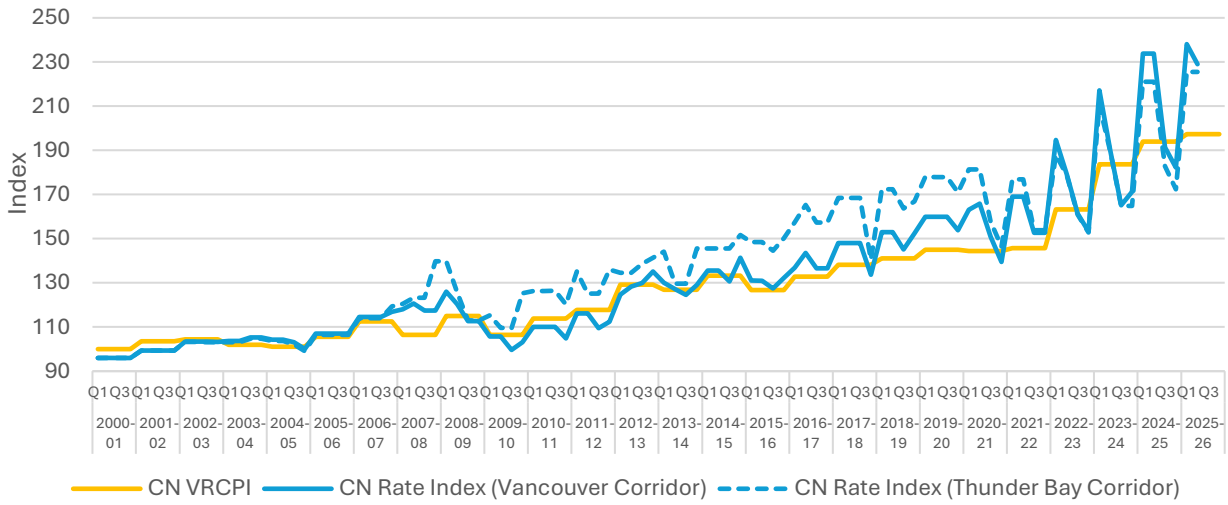
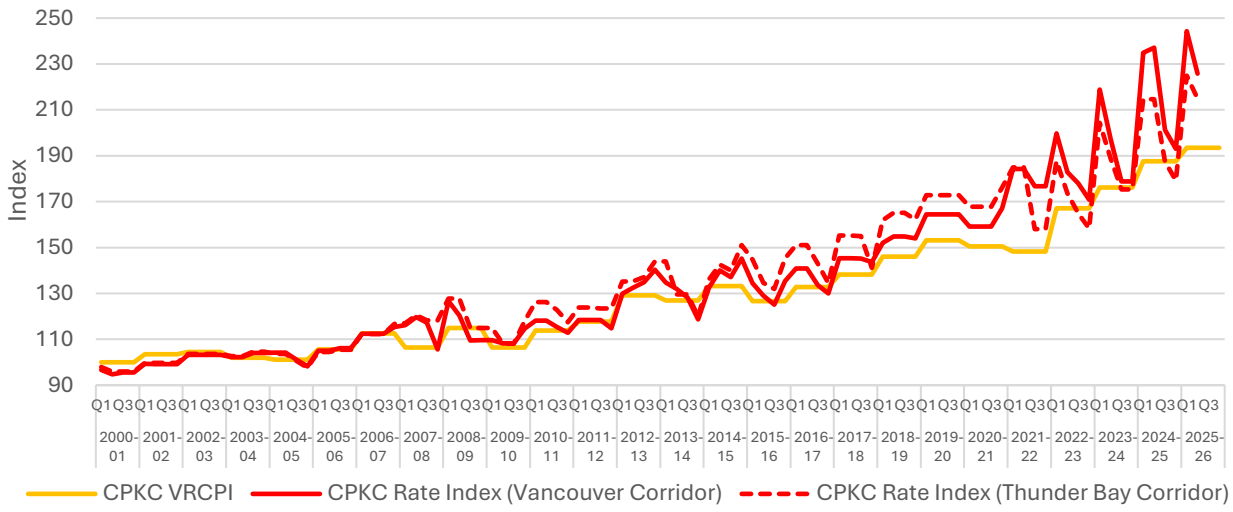


Figure 5 CPKC VRCPI (Aug 2000 = 100) and GMP Quarterly Rail Rate Indices (Aug 1999 = 100)



This pricing strategy is a relatively recent development and represents a notable shift in rate-setting patterns. The increased variability in rates is not in contravention of any regulations, but the uncertainty of these price changes presents challenges for grain shippers. Although the timing of rate adjustments has been somewhat predictable, the magnitude of the change hasn't. Most export contracts are signed two to three months in advance of when rail transportation is arranged. Since railways are only required to provide 30 days' notice for rate increases there are circumstances where grain companies are contractually locked into a sale that failed to fully provide for the cost of moving the grain to export position when it is time to deliver. However, the converse is also true - that shippers may commit to sales while rates are relatively high only to benefit from reductions that occur before it is time to order railcars. The largest grain dealers may have more financial capability to manage the timing differences than smaller dealers, though the situation has some industry members arguing that the current pricing strategy necessitates more advance notice of rail rate changes.

Section 3 - Rail Rates and Rail Traffic

Figures 6 through 11 show variances in high-density grain rates to Vancouver, along with the volumes moved in each month relative to July of the year just ended[3]. These high-density commodities account for over half of the volume handled by the GHTS and, although single-car rates effectively denote the maximum that any shipper would pay, they provide a solid foundation on which to examine railway pricing.

In prior decades, changes in the single-car rates largely reflected the allied VRCPI adjustment. As such, railway pricing actions were inherently linked, with changes in the VRCPI producing similar changes in railway rates. This was an uncomplicated relationship that lent itself to predictability. As such, comparatively minimal rate fluctuations can be seen in the 2004-05 and 2014-15 crop years, as depicted below.

[3] Rail traffic volume is the CN & CPKC combined movement of high-density commodities.

2004-05 Crop Year

Figures 6 and 7 plot the variances in the VRCPI, rail rates and traffic volume for the 2004-05 crop year for both CN and CPKC. During this period rail rates remained largely static, with very little change in the monthly averages being observed. Moreover, any change in rail rates was closely tied to that of the VRCPI. Perhaps an even more important observation is that the month-over-month swings in traffic volume proved independent of rates, a key feature of its price inelasticity.

Figure 6 CN VRCPI, Rail Rate, and High-Density Traffic Variances 2004-05 Crop Year

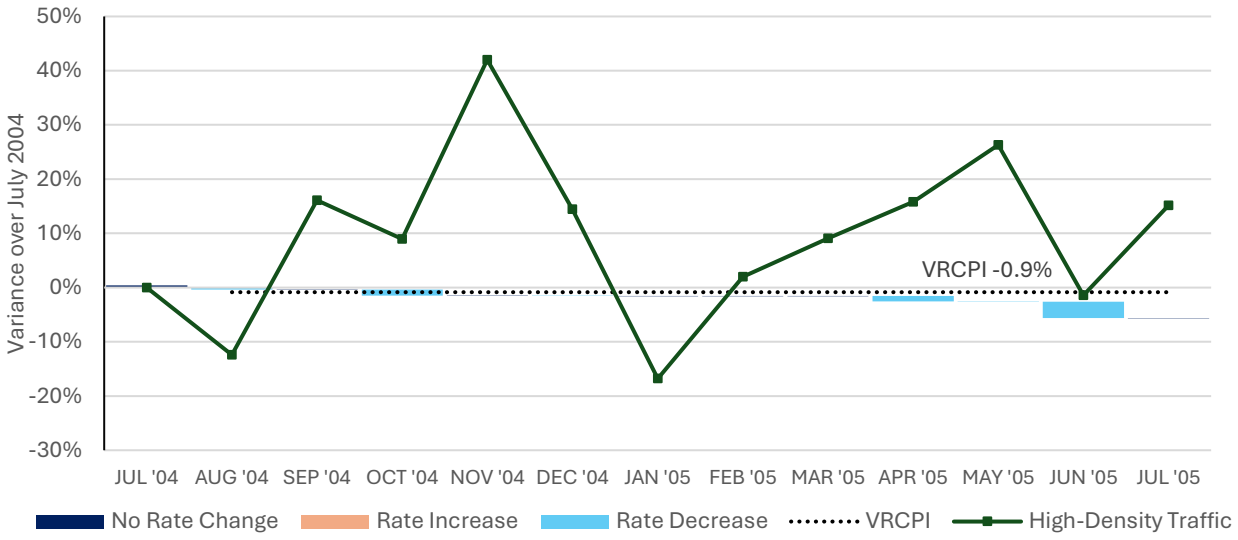
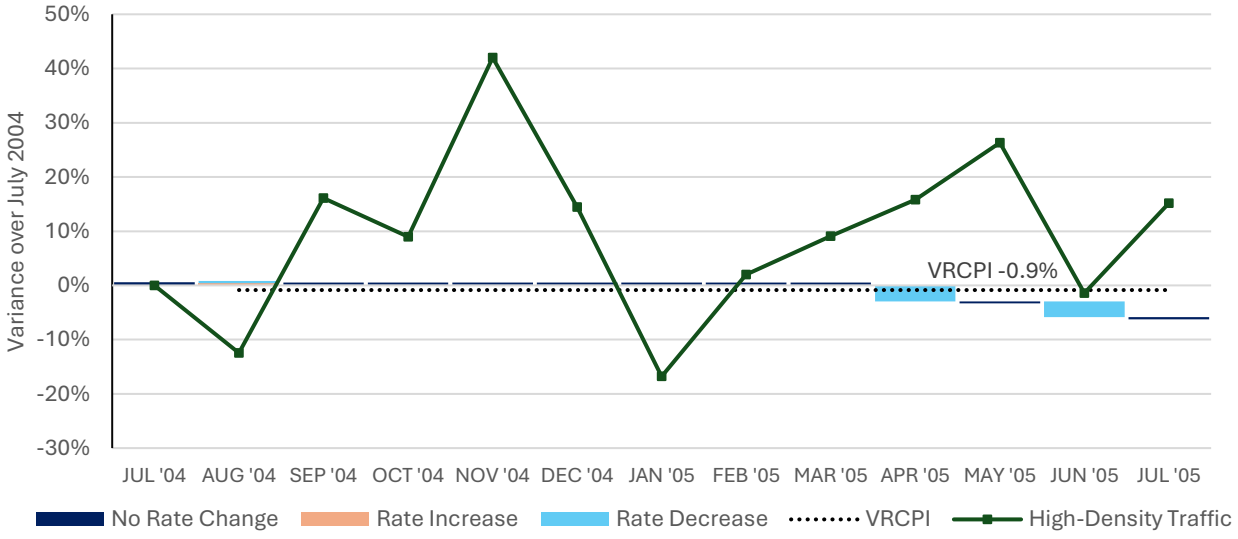


Figure 7 CPKC VRCPI, Rail Rate, and High-Density Traffic Variances 2004-05 Crop Year



2014-15 Crop Year

The 2014-15 crop year saw few rate changes throughout the year with both carriers, and the scale of these changes was subdued. Again, the volume moved each month proved independent of any change in rail rates, signalling once more that the amount of grain moved is determined through other factors.

Figure 8 CN VRCPI, Rail Rate, and High-Density Traffic Variances 2014-15 Crop Year

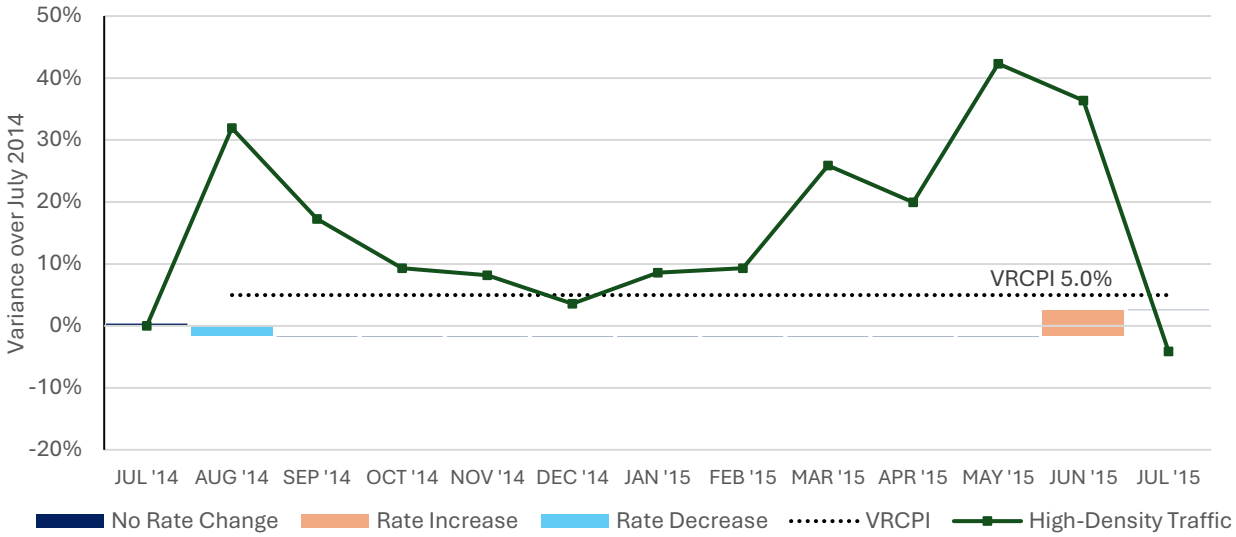
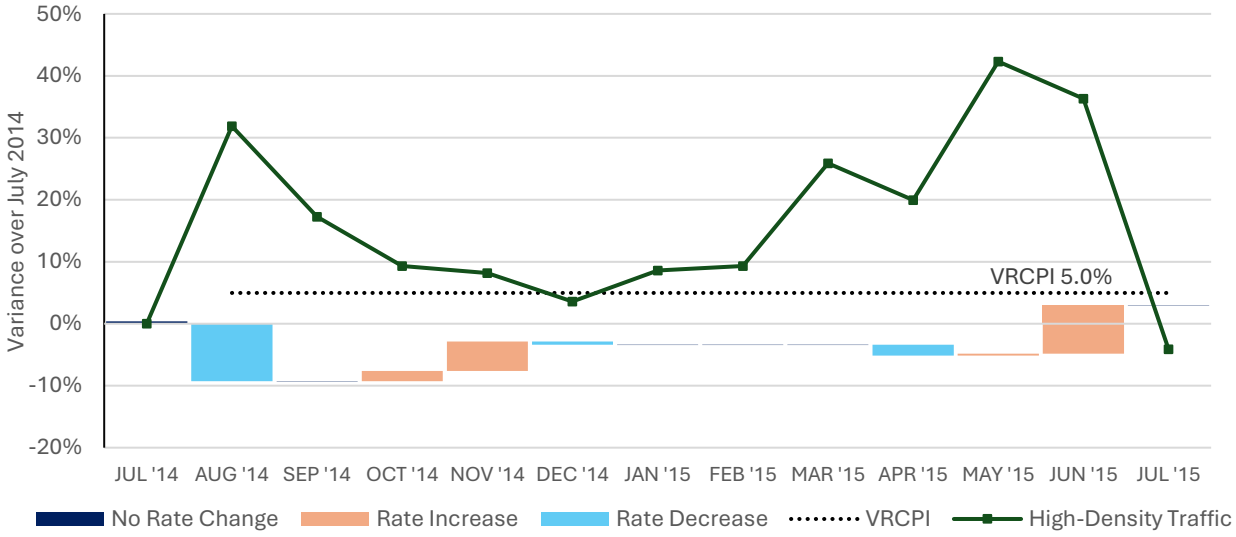


Figure 9 CPKC VRCPI, Rail Rate, and High-Density Traffic Variances 2014-15 Crop Year



2024-25 Crop Year

Figures 10 and 11 underscore the comparatively more dramatic change in railway pricing observed during the 2024-25 crop year. Unlike the pricing depicted in the 2004-05 and 2014-15 crop years, railway pricing proved more dynamic, with significant swings being observed at various points throughout the 2024-25 crop year. Notable rate increases occurred in September and October with both carriers, while traffic volumes surged despite an increase in single-car rates. December and January saw rates maintained from October's increase but traffic fell from November's high. Beginning in February rates started to decline and traffic grew until April. This pattern is consistent with price inelastic demand, as volume rose at different points during the year, regardless of whether rail prices were relatively high or low.

Figure 10 Rail CN VRCPI, Rail Rate, and High-Density Traffic Variances 2024-25 Crop Year

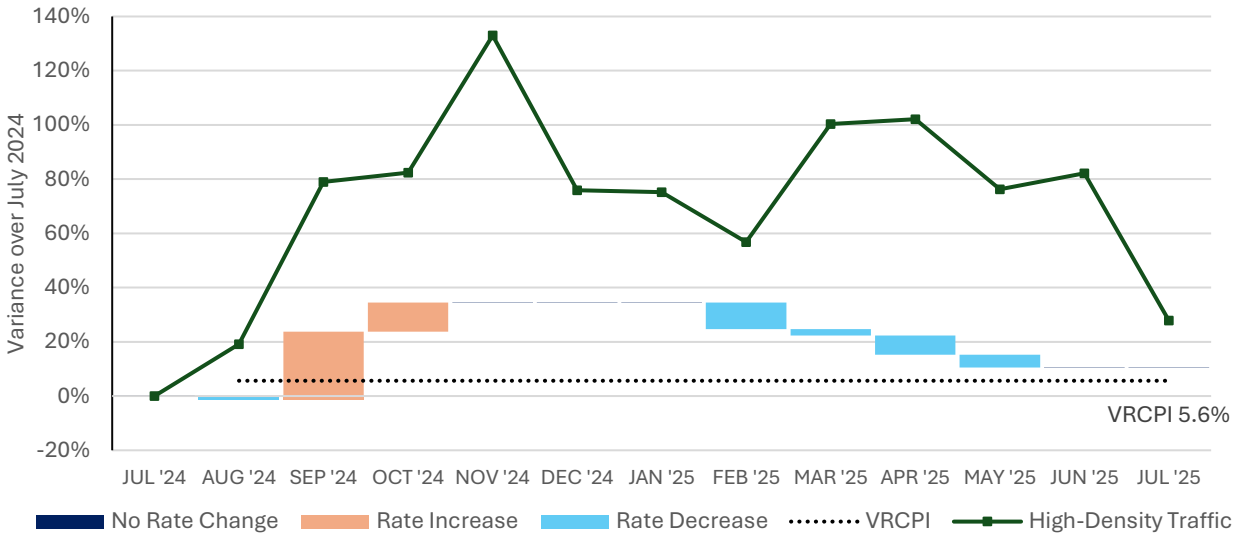
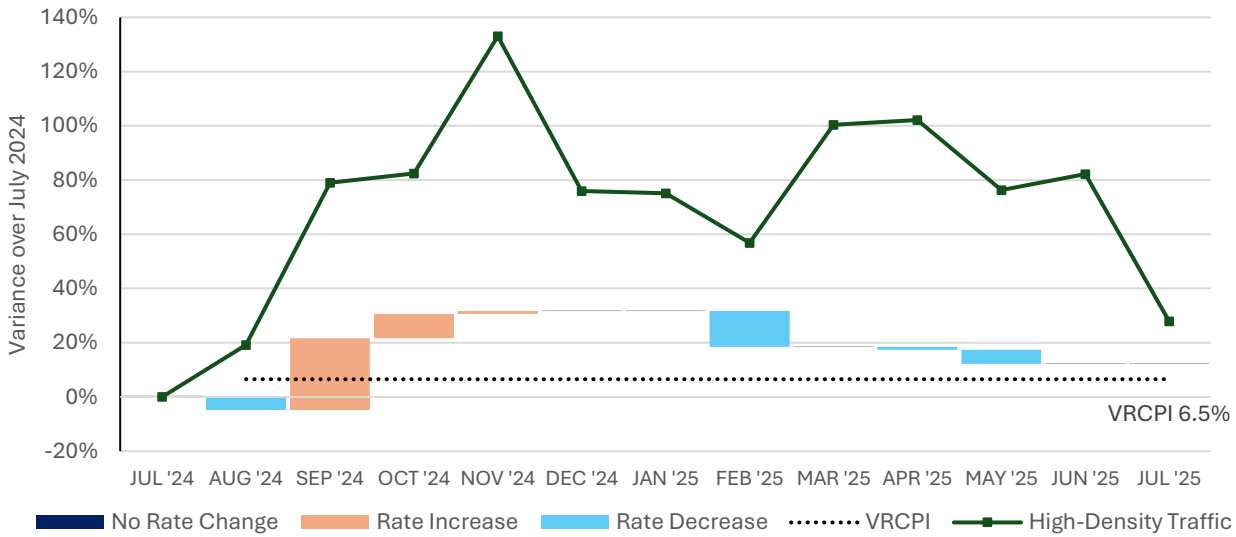


Figure 11 CPKC VRCPI, Rail Rate, and High-Density Traffic Variances 2024-25 Crop Year



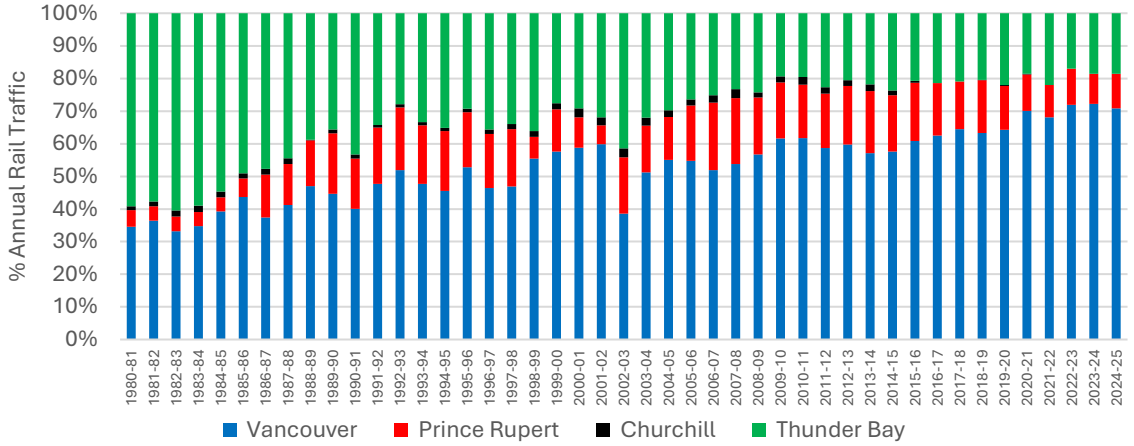
Independence of Grain Movement and Freight Rates

Demand for rail transportation is a “derived demand”, because it is driven by the underlying demand for the goods being transported. In this case the product, Canadian grain exports, is subject to global factors that typically heighten the demand for Canadian crops in the months following harvest, regardless of shifts within transportation pricing. In a similar fashion, the “derived demand” is also dependent on the origin and destinations. There is no need for transportation to destinations that do not want the product, nor is there demand from origins that cannot supply it. In this manner, grain transportation patterns are largely defined by growing regions, harvest timing, the global grain market, and geographic location of customers rather than freight pricing.

The GHTS has two examples where transportation within Canada has been affected by changes in demand patterns:

Over the long term there is a shift in market share from the 1980s to today, which has gravitated towards Asia-Pacific customers and away from those in Western and Eastern Europe. The shift in demand from the geographical location of overseas customers has redefined the predominant routing of grain within Canada to favour exporting from west coast ports. As shown in Section 2, rail rates for the Vancouver and Thunder Bay corridors followed broadly similar trends so the continued growth in west coast volumes can not be solely attributed to freight costs.

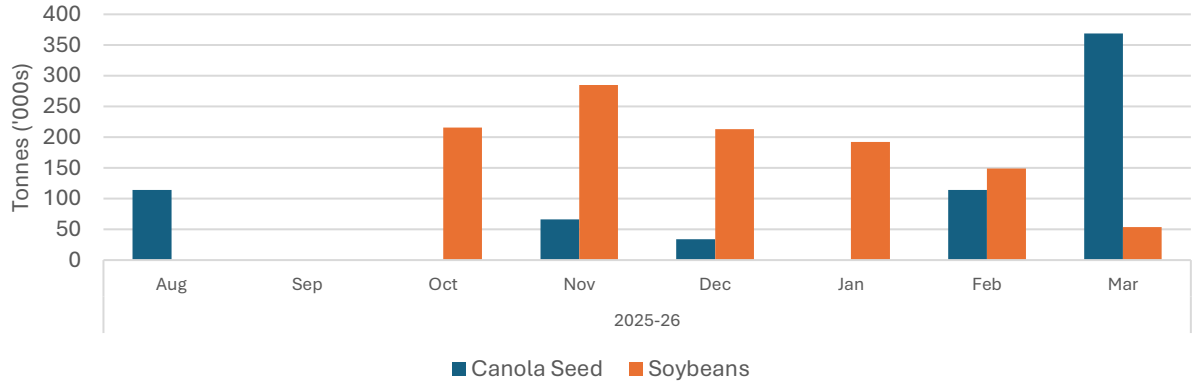
Figure 12 Proportion of Annual Rail Traffic by Port Destination 1980-81 to 2024-25



Source: Canadian Grain Commission

Another illustrative example is from the 2025-26 crop year which saw the imposition of 100% import tariffs by Chinese authorities on Canadian canola seed in August 2025, later to be reduced in March 2026.

Figure 13 Canola Seed and Soybean Exports to China (2025-26 March YTD)



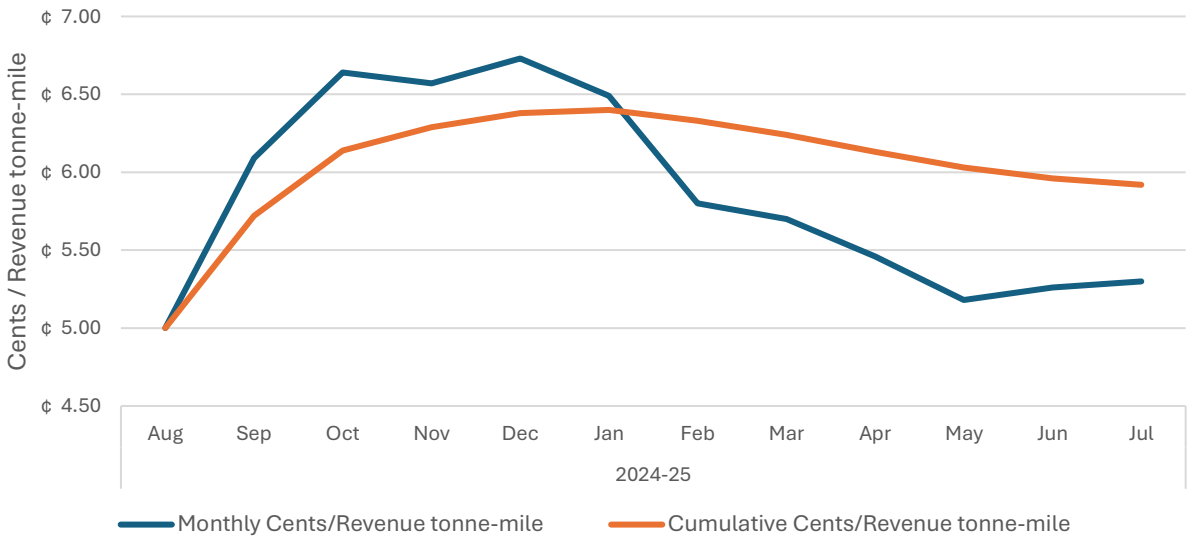
By September 2025, nearly all canola seed shipments to destinations in China ceased while soybean exports to China surged. There was no significant change to rail or marine pricing that swapped the economic viability of canola seed and soybean transportation, rather the Chinese demand for Canadian oilseeds shifted from predominantly canola to soybeans and the transportation volumes reflected that. When the import tariffs on canola seed were reduced effective March 1, 2026, the pattern reversed again.

Section 4 - Example Scenario for 2024-25 Crop Year

As described in Sections 1 & 2, the Maximum Revenue Entitlement dynamically restricts the total revenue that may be earned for the overall workload of all MRE grain movements within the crop year. Since all movements during the crop year are combined into the final MRE determination, those which occurred at lower-than-allowed revenue are offset by those which occurred at higher-than-allowed revenue, and vice versa.

Figure 14 models how the period of relatively high rates at the onset of the 2024-25 crop year combines with the relatively low rates in the latter half of the year to balance cumulative revenue per revenue tonne-mile (Rev/RTM). The values calculated for Figure 12 are inherently incomplete and do not represent actual total revenue earned during the year. Rather, they use the actual volume to port destinations to gauge the impact of rates throughout the year subject to a scenario where all grain was transported in hopper cars under single-car rates.

Figure 14 2024-25 Crop Year Estimated Cents per revenue tonne-mile (High-Density Commodities, Single Car Rates, All Origins to All Port Destinations)



The scenario's cumulative Rev/RTM ended the crop year at ¢5.92/RTM, with a monthly peak of ¢6.73/RTM in December and a trough of ¢5.00/RTM in August. As the year progressed, the relatively high rates between October and January saw Rev/RTM climb before the trend reversed as both carriers began to lower their rates in February. January marked the highpoint for cumulative Rev/RTM of ¢6.40 and by July, it had fallen by ¢0.48/RTM during the closing six-month period.

This simplified scenario does not have an MRE target to refer to, but it remains illustrative of how the latitude to vary rates seasonally allows CN & CPKC to effectively manage overall revenues within the MRE framework. As described earlier, this is a critical dimension in the workings of the current regulatory environment. And while the emergence of more pronounced seasonal pricing since 2022 may present challenges for grain shippers at large, it is not inconsistent with the legal framework under which they have been advanced.

Summary

Beginning with the 2021-22 crop year a pattern of seasonal pricing within rail rates for grain has emerged, marked by rate increases in Q1 and Q2 followed by reductions in Q3 and Q4. While mid-year changes to rail tariffs are not a new occurrence in the GHTS, the scale of the variances is outsized compared to historical patterns. This report examined these seasonal variations and how they fit within regulatory environment defined by the Maximum Revenue Entitlement (MRE). To summarize the key points:

- An important aspect of the MRE is that it does not directly restrict the ability for the prescribed railways, CN and CPKC, to set rates in accordance with the management of their businesses. Seasonal pricing, even with high variance between months, is just one method by which grain tariffs are managed - other factors include commodity density, port destination, and large block or high-efficiency incentives.

- The MRE indirectly affects rate-setting throughout a crop year to the extent that average revenue per tonne moved cannot exceed the entitlement. While there is no cap on the revenue that can be earned for any individual movement, those which generated higher revenue may need to be offset by those that earned relatively lower revenue.

- High variance in rates between months presents some challenges for grain shippers on account of disparities between when export sales are committed to, when railcars are ordered to fulfill them, and how far in advance rate changes are announced.

  Sales contracts can be made months in advance of delivery overseas, railcars are typically ordered within 2 weeks of when grain is needed at port, and rail rate increases require 30 days' advance notice. Rate decreases do not require advance notice to shippers. Such timing differences create circumstances where the rail freight component of a sale's total cost is unknown, leaving the shipper exposed to financial risk associated with potential rate changes. To be sure, a rate decrease will work to the benefit of the shipper, but rate increases will reduce the margin earned on a sale already contracted. The risks produced by a lack of predictability have industry groups arguing that more advance notice of rate changes are necessary.

- The prevailing conditions in the global marketplace bolster demand for Canadian exports in the four to five months following harvest. This period of heightened demand is insensitive to the comparatively small changes in transportation costs occurring within Canada. Rather, shifts in customer buying patterns occur more readily through other factors such as global production, harvest periods for grain export nations, and trade policies that affect overall commodity prices. Accordingly, the GHTS sees fluctuations in rail movement patterns that do not correlate with rail rate changes.