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PUBLIC VERSION

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Via email: ferroviaire-rail@otc-cta.gc.ca.

Secretariat, Canadian Transportation Agency
60 Laval Street, Unit 1-117
Gatineau, Quebec
Canada J8X 3G9

RE: CN's REPLY SUBMISSION TO THE AGENCY'S CONSULTATION ON COMMERCIAL MARKET FACTORS TO BE CONSIDERED IN DETERMINING REGULATED INTERSWITCHING RATES

Dear Sir/Madam,

CN hereby provides its reply to issues raised in the response submissions filed by Canadian Pacific Kansas City ("**CPKC**"), the Competition Bureau (the "**Bureau**") and the FAIR Rail Coalition ("**FAIR**") in the context of the Canadian Transportation Agency's ("**Agency**") consultation on commercial market factors to be considered in determining fair and reasonable interswitching rates (the "**Consultation**"). The Consultation arises out of the Federal Court of Appeal's decision in *Canadian National Railway v. Canadian Transportation Agency*, 2025 FCA 184 (the "**FCA Decision**"), which mandated that "the Agency must consider commercial market factors" when setting regulated interswitching rates under the *Canada Transportation Act* (the "**Act**").

In this reply submission, CN makes reference to the expert report of Dr. Nadia Soboleva of Charles River Associates prepared in reply to the Response Report of Julie M. Carey of NERA Economic Consulting, dated June 19, 2026 (the "**NERA Report**"), appended to CPKC's response submissions. Dr. Soboleva's reply expert report is attached hereto as Schedule 1 (the "**Reply Report**").

A. CONFIDENTIALITY

CN's submissions are provided in two versions: a confidential version and a public version. The confidential version is marked "CONFIDENTIAL VERSION" and contains



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highly sensitive commercial and confidential information, which is shown within brackets ([]) and must not be disclosed to the public or to any other party without CN's prior written consent. In the public version, labelled "PUBLIC VERSION," all confidential information has been redacted.

B. CN'S REPLIES TO THE RESPONSE SUBMISSIONS

The response submissions of CPKC, the Bureau and FAIR (together, the "**Response Submissions**") criticize the methodology proposed by CN (the "**CN Proposed Methodology**"), but fail to provide the Agency with any workable methodology for the Agency to determine how to consider commercial market factors in its determination of regulated interswitching rates. Instead, they propose maintaining the current cost-based approach that the FCA found was unlawful given the Agency's obligation to consider commercial market factors under s. 112 of the Act. The FCA found that it is not open to the Agency to adopt a methodology that systematically excludes consideration of relevant market evidence.¹

Further, as CN explains below, the criticisms they make of the CN Proposed Methodology do not stand up to econometric scrutiny and, in any event, even if these criticisms were valid (which is denied), they would indicate that the CN Proposed Methodology should be refined, not discarded.

In particular, there is no basis to eschew reliance on market data: market rates are the best available evidence of commercial fairness (point 1), variations in market data can be addressed through regression analysis (point 2), and market data does not need to be derived from a perfectly competitive market to be relevant (point 3). Further, the econometric criticisms in the NERA Report are flawed: R-squared is not a valid basis to critique the reliability of the CN Proposed Methodology (point 4), and the NERA Report's methodological adjustments are unsound (point 5). Additionally, the data used by CN to develop the CN Proposed Methodology is sufficient and comparable: the Agency does not require data from *all* U.S. railways to implement the CN Proposed Methodology (point 6), US reciprocal switching rates are comparable (point 7), shortline transactions present a reliable benchmark (point 8), and differences in large-block traffic data simply reflect the effects of regulation in Canada (point 9). Finally, the CN Proposed Methodology will not incentivize the Class I railways to engage in rate collusion (point 10), the Agency regularly receives confidential data from railways (point 11), and the Agency should

¹ *Canadian National Railway Company v. Canada (Transportation Agency)*, [2025 FCA 184](#) at [para. 39](#) ("**FCA Decision**").



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consider seeking an independent external expert, if necessary, and should also consider that the need to consider market factors in setting regulated rates is even more critical in light of the Government's proposal to reintroduce extended interswitching (EIS) (point 12).

CN maintains that the CN Proposed Methodology is the most rigorous and appropriate methodology to calculate interswitching rates that are commercially fair and reasonable, as interpreted by the FCA Decision. In fact, CN is the only stakeholder that has proposed a methodology that considers market factors, which the Agency is **required** to do when setting regulated interswitching rates. The FCA Decision was clear that commercial market factors need to be considered, and that the Agency's existing cost-based approach is the product of legal error.

1. MARKET RATES ARE THE BEST AVAILABLE EVIDENCE OF COMMERCIAL FAIRNESS

The Response Submissions propose maintaining the Agency's current cost-based approach to setting interswitching rates, though sometimes with minor adjustments.² However, observed market transactions are the best available evidence for setting interswitching rates that are commercially fair and reasonable. The CN Proposed Methodology demonstrates how this evidence can be used to identify relevant characteristics that affect interswitching rates and to estimate commercially fair and reasonable rates using regression analysis.

The cost-based rates the Response Submissions advocate for are not commercially fair and reasonable because they produce market distortions: in particular, they produce rates below market levels. This does not benefit either the railways or the shippers as a class. Rather, railways who are net payers of interswitching charges (e.g., CPKC) benefit at the expense of railways that are net recipients of interswitching charges (e.g., CN) as shown in Figure 1, and shippers with access to regulated interswitching benefit from artificially low rates that must be subsidized by other shippers.³ The reality is that commercially fair and reasonable rates that approximate the market would result in a net benefit by encouraging railways to invest to promote services for everyone.

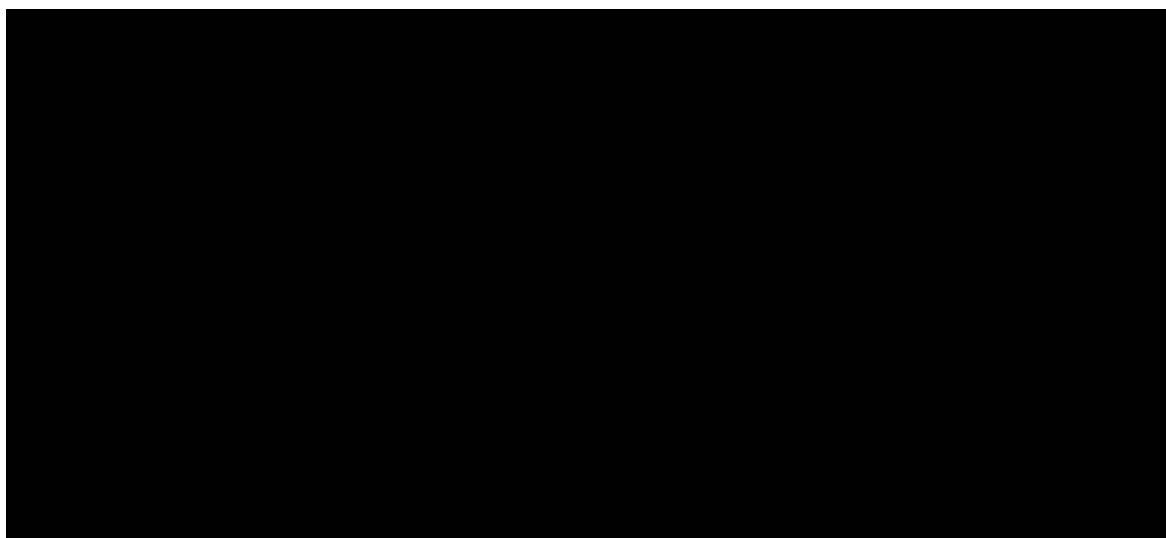
² Soboleva Reply Report at paras. 7, 31.

³ Soboleva Reply Report at section 3, paras. 31-37, 41-42.



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**[Regulated Interswitching Services Performed by CN for CPKC (CN Receivable) vs
by CPKC for CN (CN Payable)]**



[Figure 1: Regulated Interswitching Transactions between CN and CPKC 2022-2025]

The limitations of a cost-based methodology are well recognized. In the Transportation Research Board's 2015 Special Report 318, Modernizing Freight Rail Regulation,⁴ the report concluded that rail rate reasonableness can and should be assessed through empirical benchmarking of commercial rates, and that cost-allocation tools were economically invalid and produce unreliable results because most railroad costs are shared across traffic and cannot be meaningfully assigned to individual movements in a non-arbitrary manner.⁵ The Special Report then demonstrated how shipment-level data can be used to estimate benchmark commercial rates for comparable movements, controlling for relevant characteristics through a regression analysis.⁶ The approach set out in the CN Proposed Methodology conforms with the findings of this Special Report.

FAIR also suggests that the Agency should consider railway caps in public tariffs on the quantum of switching charges they will absorb or otherwise include in the linehaul rates.⁷

⁴ Available online, here: <https://www.nationalacademies.org/read/21759> ("TRB Special Report").

⁵ TRB Special Report 318, pp. 4-6, 107-110, 191-200, 205-210.

⁶ TRB Special Report 318, Appendix B, pp. 225-258.

⁷ FAIR Response Submissions at paras. 35-37.



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Contrary to FAIR's submission, these caps are not a useful data point. These caps do not provide a practical benchmark, as they apply to only some commodities, vary across tariffs and railways, provide no information about the volume of traffic to which the capped rates apply, and do not cover traffic moving under confidential contracts.⁸

2. VARIATIONS IN THE DATA ARE ADDRESSED THROUGH REGRESSION ANALYSIS

CPKC's Response Submissions and the NERA Report repeatedly argue that CN's market evidence is insufficiently comparable to regulated Canadian interswitching because the transactions differ by jurisdiction, railway type, commodity mix, geography, or operational arrangement.⁹ These criticisms ought to be rejected for three reasons.

First, comparability is not an all-or-nothing threshold. It is a question of degree, to be assessed through model design, diagnostics, and sensitivity testing. Economic benchmarking rarely depends on identical transactions; it typically uses observations that differ in relevant respects and then applies controls, weighting, segmentation, or sensitivity analysis to assess the effect of those differences. The CN Proposed Methodology does so by estimating the average effect of diverse commercial and operational factors through regression analysis.

Second, and relatedly, if differences alone were enough to dismiss market evidence, no U.S. evidence, shortline evidence, commodity-specific evidence, or geographically distinct evidence could ever be considered. Virtually no commercial market evidence would survive such scrutiny, and the only "valid" comparator left would be the regulated interswitching rates themselves. Applying an impossibly strict requirement of comparability would have the effect of circumventing the Federal Court of Appeal's order that the Agency must consider commercial market factors.

Third, the differences in the data highlighted by the NERA Report are reflective of commercial and operational factors that shape negotiated rates. In a commercial market, negotiated rates are expected to vary across customers, commodities, locations, bargaining conditions, service requirements, and operational constraints. It is thus no surprise that the U.S. switching arrangements may reflect commercial and operational factors, such as commercial negotiations, customer-specific conditions, commodity-specific arrangements, reciprocal access exchanges, merger remedies, location-specific

⁸ Soboleva Reply Report, section 3 at paras. 38-39.

⁹ See, e.g., CPKC Response Submission at paras. 9, 14, 17; NERA Report at paras. 5, 14.



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circumstances, or bargaining outcomes between railways.¹⁰ This is not a flaw in the data, as the NERA Report suggests,¹¹ but rather confirmation that those rates are relevant evidence of commercial market factors.

Fourth, commercial differences are factors to be accounted for and measured through econometric analysis. Indeed, as Dr. Soboleva points out, “[i]f the markets and transactions were identical in all relevant respects, there would be little need for econometric analysis”.¹² These differences are not a basis to exclude evidence of commercial market outcomes found in actual transactions negotiated by sophisticated market participants. Moreover, the Agency has experience using estimates and the best reasonably available evidence (which includes, in this case, the U.S. data) to calculate rates. For example, under the Agency’s current approach to setting interswitching rates, the Agency uses samples, equations and factors to estimate costs.¹³

The criticisms in the Response Submissions are not a reason to reject the CN Proposed Methodology; rather, they reflect disagreement with specific aspects of the methodology’s implementation, weighting choices, or dataset. The Agency should adopt the CN Proposed Methodology as the starting point for a market-based framework, subject to reasonable refinements. Alternatively, the Agency could use the same dataset CN provided and perform its own regression analysis from scratch. In any case, the Agency should reject the Response Submissions’ invitation to treat limitations or differences in the market data as a reason to exclude that evidence or reject regression analysis as a rate-setting methodology altogether.

3. MARKET DATA DOES NOT NEED TO BE PERFECTLY COMPETITIVE TO BE RELEVANT

The Bureau and FAIR also argue that the commercial market data does not reflect rates that prevail under conditions of “effective competition”.¹⁴ This is an unrealistic approach that demands a hypothetical, perfectly competitive market. Market rates do not cease to

¹⁰ Soboleva Reply Report at paras. 10-11; section 2, para. 24.

¹¹ NERA Report at paras. 22-26,

¹² Soboleva Reply Report at section 4, paras. 48-50.

¹³ Determination No. [R-2025-197](#) at Appendix A, s. 2.0 (“An index factor (using indices developed in support of the 2025-2026 volume-related composite price index) and a productivity factor are applied (based on the Agency’s current productivity model) in order to **estimate** costs in 2026” (emphasis added)); Appendix B, Final rates per zone (“Where the contribution to fixed costs is **estimated** using the following equation ...”) (emphasis added)). See also Soboleva Reply Report at section 3, para. 46.

¹⁴ Bureau Response Submissions at p. 2; FAIR Response Submissions at paras. 1, 4.



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reflect commercial market factors simply because they do not arise in a theoretical perfectly competitive environment.¹⁵

Rejecting market evidence because the market is not perfectly competitive would be economically backwards (as no real market is perfectly competitive) and inconsistent with the FCA's binding decision that a wholesale rejection of commercial market evidence is an error of law. The FCA Decision mandates the Agency to consider commercial market factors, including interswitching rates in other markets and commercial market prices;¹⁶ the FCA did **not** stipulate that the Agency ought only to consider these factors if they reflect perfect competition.

Further, while the Bureau raises concerns that the CN Proposed Methodology uses data that may include partial foreclosure,¹⁷ Dr. Soboleva has clarified that she relied on data concerning interswitching movements that actually occurred, indicating the applicable rate was not exceedingly high as to result in foreclosure. Additionally, Dr. Soboleva conducted a sensitivity check using unregulated interswitching rates from non-Class I railways, as these rates would be largely free from foreclosure concerns; Dr. Soboleva's findings were not substantially altered by restricting the analysis to non-Class I railways, suggesting that the Bureau's concern is misplaced.¹⁸

4. R-SQUARED IS NOT A VALID BASIS TO REJECT A METHODOLOGY

The NERA Report relies on R-squared as a basis for criticizing CN's methodology; specifically, the NERA Report suggests that the CN Proposed Methodology produces low R-squared values, and that this means that the methodology is not reliable.¹⁹ CPKC, in turn, relies on the NERA Report to allege that the CN Proposed Methodology lacks statistical reliability.²⁰ These critiques fundamentally misunderstand the R-squared measure, which measures the proportion of variance explained by a model, not whether the model is appropriate, reliable, causal, economically meaningful, or suitable for regulatory purposes. There is no basis for treating R-squared alone as a measure of reliability, as the NERA Report does. R-squared cannot, by itself, determine whether a methodology should be accepted or rejected.²¹ As Dr. Soboleva explains, the NERA

¹⁵ Soboleva Reply Report at section 2, para. 22-25. See also the March 5 Soboleva Report at para. 33.

¹⁶ FCA Decision at paras. 6, 39.

¹⁷ Bureau Response Submissions at p. 2.

¹⁸ Soboleva Reply Report at section 2, paras. 26-28.

¹⁹ NERA Report at paras. 50-53; see also paras. 63, 71-72.

²⁰ CPKC Response Submissions at para. 29.

²¹ Soboleva Reply Report at section 5.5.1, paras. 105-108.



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Report's critique also confuses in-sample fit and out-of-sample performance.²² This fundamental misunderstanding of an economic concept calls into question the reliability of the NERA Report.

The NERA Report also claims that its modifications to the CN Proposed Methodology are sound because they produce a higher R-squared.²³ But, a higher R-squared does not necessarily mean a better model; equally, declining R-squared values do not establish declining reliability.²⁴ For example, splitting heterogeneous data into narrower groups (reducing heterogeneity) can increase the R-squared, but does not necessarily improve predictive quality. Or, a higher R-squared may reflect overfitting the data, but an overfitted model will not generalize well to another sample.²⁵ The NERA Report's own results illustrate this point: its weighted specification reports an R-squared of 0.85 for 2024, but the value falls to 0.35 for 2025 and 0.29 for 2026.²⁶ This pattern suggests that the NERA Report's model is overfitted or excessively tailored, and captures idiosyncrasies of one sample year rather than stable market relationships.²⁷

Further, the 2025 and 2026 values are mentioned only in passing in footnote 87 of the NERA Report, and are similar or lower than the R-squared values in the CN Proposed Methodology, which the NERA Report critiques. The result is an asymmetrical critique: modest R-squared values are portrayed as a fatal flaw when they appear in the CN Proposed Methodology, but not when they appear in the NERA Report's own specifications. This sort of asymmetric criticism similarly calls into question the reliability of the NERA Report.

5. NERA REPORT'S METHODOLOGICAL ADJUSTMENTS ARE NOT SOUND

The NERA Report proposes methodological modifications to the CN Proposed Methodology, including adding commodity and interchange fixed effects and applying a separate prediction and averaging procedure to calculate regulated rates,²⁸ and reweighting the observations to reproduce selected characteristics of regulated traffic.²⁹

²² Soboleva Reply Report at section 5.5.2, paras. 111-115.

²³ NERA Report at paras. 63, 71-72.

²⁴ Soboleva Reply Report at section 5.5.3, para. 116.

²⁵ Soboleva Reply Report at section 5.5.1, para. 110; section 5.5.5, para. 118.

²⁶ NERA Report at para. 72, Footnote 87.

²⁷ Soboleva Reply Report at section 5.5.1, para. 109; section 5.5.5, paras. 118-119.

²⁸ NERA Report at paras. 54-65.

²⁹ NERA Report at paras. 66-72.



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As a preliminary point, the fact that the NERA Report has suggested using different econometric specifications to test, refine and improve the methodology confirm CN's position that the commercial market evidence should not be outright rejected. The NERA Report's ability to modify the model and obtain different estimates supports the usefulness of the underlying market data and a regression-based methodology. The dispute is therefore about specification, not whether market evidence should be ignored.

However, the NERA Report's suggested methodological modifications reflect an asymmetric criticism of the CN Proposed Methodology and are economically unsound.³⁰

First, while the NERA Report criticizes CN's market evidence as non-representative and insufficient, the NERA Report then relies on an even narrower subset of observations by restricting the data to Class I switches only.³¹ Further, because the CN data used in the CN Proposed Methodology extended only to 50 km, and in Canada interswitching between Class I railways below 30 km is regulated, the only unregulated Class I-Class I observations fall within the 30-to-50 km range. The NERA Report's criticism of the CN Proposed Methodology is thus asymmetric: it treats CN's broader dataset as too limited but then relies on an even narrower subset of the data for its own analysis. Again, this sort of asymmetric criticism calls into question the reliability of the NERA Report.

Second, and as identified in the Soboleva Reply Report, the NERA Report's suggested modifications do not provide a valid econometric methodology. The NERA Report is inconsistent as to the importance it assigns to commodity and interchange effects,³² as the data does not show that commodity type materially affects rates (excepting TIH/PIH, automotives, and dimensional loads).³³ Moreover, if commodity and interchange effects are important enough to include in the model, the NERA Report does not explain why those differences should be averaged out rather than reflected in the rate structure.³⁴ That said, CN notes that the NERA Report's use of the STCC-based modelling implicitly accepts that commercially and operationally relevant traffic characteristics can justify a rate differentiation – again confirming that, at most, the NERA Report's criticisms call for a refinement of the CN Proposed Methodology, not a rejection.

³⁰ Soboleva Reply Report at section 5.6.

³¹ NERA Report at para. 59.

³² Soboleva Reply Report at section 5.4, paras. 100-103.

³³ Soboleva Reply Report at section 4.3, paras. 68-71.

³⁴ Soboleva Reply Report at section 5.2, para. 95.



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Third, that the NERA Report's proposed methodological changes are flawed is also illustrated by the fact that the rate calculations also produce implausible results (including a negative rate for Zone 3 movements of farm products at Moose Jaw, implausibly low positive rates that are well below both regulated rates *and* unregulated market rates, and a negative coefficient for distance which suggests that the total amount paid for interswitching should *decrease* as the distance *increases*),³⁵ and the methodology cannot be applied consistently across interchanges or years.³⁶ Furthermore, the proposed reweighting does not actually address the concerns identified in the NERA Report,³⁷ and the reweighting is incorrectly implemented.³⁸

6. NOT ALL U.S. DATA IS REQUIRED

CPKC suggests that the CN Proposed Methodology requires data from all federally-regulated railways in the U.S.³⁹ This is not the case. The CN Proposed Methodology uses CN's U.S. and Canadian data to estimate the relationship between unregulated interswitching rates and the characteristics relevant to those transactions.⁴⁰ The lack of a complete dataset is not a basis to discard relevant market evidence. Using a sample is common in econometric analysis and the Agency routinely makes interswitching rate determinations using samples. The relevant question is not whether every transaction in North America has been observed, but whether the data sample contains sufficient observations and variation to estimate the relationship between market interswitching rates and relevant transaction characteristics, such that the data sample can provide useful evidence of commercial market outcomes.⁴¹ They do, and this evidence should be considered by the Agency.

To the extent that additional data would improve the analysis, the logical response is to expand the dataset and test the effect of additional observations, not to discard the market evidence already available. CPKC has additional relevant data in its own records, though the NERA Report does not quantify the effect, if any, that adding CPKC data would

³⁵ Soboleva Report Reply at section 5.1, paras. 88-91.

³⁶ Soboleva Reply Report at section 5.3, paras. 96-99.

³⁷ Soboleva Reply Report at section 5.6.1, paras. 120-124.

³⁸ Soboleva Reply Report at section 5.6.2, paras. 125-136.

³⁹ CPKC Response Submissions at paras. 31-32.

⁴⁰ Soboleva Reply Report at section 4.1, para. 54.

⁴¹ Soboleva Reply Report at section 4.1, paras. 56-60.



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have to the estimates in the CN Proposed Methodology.⁴² CPKC should not be permitted to withhold relevant evidence while criticizing the available dataset as incomplete.

7. THE U.S. RECIPROCAL SWITCHING RATES ARE COMPARABLE

CPKC and the NERA Report argue that U.S. reciprocal switching rates are not comparable because the U.S. rail market is larger, denser, and more interconnected.⁴³

This criticism does not establish that U.S. rates are inflated or irrelevant, and the NERA Report does not demonstrate that geographic differences materially affect the rates predicted by the CN Proposed Methodology.⁴⁴ In any event, the CN Proposed Methodology includes a control for whether the interswitching movement occurs in Canada or the United States,⁴⁵ treating the jurisdictional difference as a factor to be measured rather than as a reason to reject the evidence outright. This highlights how regression analysis works to derive relevant characteristics to estimate rates from available market evidence.

Additionally, from an economic perspective, greater network density and more interconnections often indicate more supply and more competitive alternatives, which would tend to discipline prices rather than increase them.

Similarly, while the Bureau argues that the CN Proposed Methodology assumes that the relationship between rates and transaction characteristics is the same in the U.S. and in Canada,⁴⁶ the CN Proposed Methodology is not based on this assumption and includes a control for country. In any event, Dr. Soboleva has tested a new specification that shows the estimated relationship between distance and rates is similar in Canada and the U.S., suggesting the Bureau's concern is unfounded.⁴⁷

8. SHORTLINE TRANSACTIONS ARE A RELIABLE BENCHMARK

The criticism by CPKC and the NERA Report that shortline evidence is not a reliable benchmark is similarly unfounded.⁴⁸ Shortline transactions are not irrelevant merely

⁴² Soboleva Reply Report at section 4.1, para. 62.

⁴³ CPKC Report at paras. 15-16; NERA Report at paras. 18-20.

⁴⁴ Soboleva Reply Report at section 4.1, para. 55.

⁴⁵ Soboleva March 5 Report at para. 60, Figure 7.

⁴⁶ Bureau Response Submissions at pp. 2-3.

⁴⁷ Soboleva Reply Report at section 4.2, paras. 65-67.

⁴⁸ CPKC Response Submissions at paras. 22-28; NERA Report at paras. 5, 33-44.



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because they differ from Class I–Class I transactions.⁴⁹ Those differences may matter, but the proper econometric response is to control for them, test their effect, and assess robustness. The CN Proposed Methodology controls for these differences.⁵⁰

Furthermore, while CPKC and the NERA Report emphasize the difference in commodity mix between shortline and Class I movements,⁵¹ they have not established that these differences are material. The CN Proposed Methodology accounts for differences in commodity where the differences were material, namely, for TIH/PIH, automobiles, and dimensional loads.⁵²

Relatedly, proposing a premium for certain goods is not outside the scope of this Consultation, as suggested by the Bureau.⁵³ Rather, CN's suggestion that the Agency calculate a premium for certain goods, based on material differences in the data, directly responds to the Consultation, which asks how the Agency should consider commercial market factors when setting the regulated interswitching rate. Implementing a premium is a way to consider commercial market factors.⁵⁴

Similarly, it is not outside the scope of the Agency's jurisdiction to exclude certain commodities from regulated interswitching, as suggested by FAIR.⁵⁵ The Act grants the Agency broad authority to make regulations prescribing terms and conditions governing the interswitching of traffic, and the Agency has used this to exempt movements from regulated interswitching based on revenue.⁵⁶ CN maintains that TIH/PIH movements should be excluded entirely from the statutory interswitching regime, and that the Agency has jurisdiction to do so.

In any event, CN has in the alternative submitted that a premium should be applied to TIH/PIH movements, along with automotives and dimensional loads. If the Agency does not exclude certain commodities from regulated interswitching, then the Agency should apply a premium to such traffic.⁵⁷

⁴⁹ Soboleva Reply Report at section 4.6, paras. 79-82.

⁵⁰ Soboleva Reply Report at section 4.6, para. 82.

⁵¹ CPKC Response Report at paras. 21, 27; NERA Report at paras. 17, 28-32.

⁵² Soboleva Reply Report at section 4.3, para. 68.

⁵³ Bureau Response Submissions at p. 3.

⁵⁴ See also Soboleva Reply Report at section 3, para. 44.

⁵⁵ FAIR Response Submissions at paras. 31-32.

⁵⁶ *Railway Interswitching Regulations*, [S.O.R./88-41, s. 3](#).

⁵⁷ See also Soboleva Reply Report at section 3, paras. 43-44.



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Additionally, the criticism by CPKC and the NERA Report that the shortline data might include haulage services is unfounded,⁵⁸ as these movements were excluded from the data underlying the CN Proposed Methodology.⁵⁹

Finally, the criticism by CPKC and the NERA Report that the shortline data might reflect merger conditions or other commercial agreements is without merit.⁶⁰ To begin, identified merger conditions were excluded from the data underlying the CN Proposed Methodology, and the NERA Report does not identify particular rates that were materially affected by merger conditions.⁶¹ More fundamentally, the fact that the rates might reflect a broader commercial agreement is not a reason to discount those rates; this is indicative of the fact that the rates are commercial market rates, which the Agency must consider.

9. THE DIFFERENCE IN LARGE BLOCK TRAFFIC REFLECTS THE EFFECT OF REGULATION

The NERA Report alleges that there is a difference in the number of large block movements in regulated Canadian interswitching traffic versus in unregulated switching traffic.⁶² As explained by Dr. Soboleva in her Reply Report, a plausible explanation for this difference is that there is a substantial discount available under the current regulated interswitching rates once a movement reaches sixty plus cars, which encourages traffic to be consolidated into large block. As such, this is not a discrepancy in the data which means it is not comparable, but rather an economically relevant characteristic which the CN Proposed Methodology accounts for.⁶³

10. THE CN PROPOSED METHODOLOGY WILL NOT INCENTIVIZE CLASS I RAILWAYS TO ARTIFICIALLY RAISED UNREGULATED INTERSWITCHING RATES

FAIR and the Bureau have speculated that the CN Proposed Methodology may create an incentive to charge unregulated rates in a manner designed to influence regulated rates.⁶⁴ FAIR in particular suggests that CN and CPKC would be incentivized to raise the rates paid between them in respect of US reciprocal switching, in order to raise regulated interswitching rates in Canada. The suggestion that CN will engage in some form of collusion with CPKC to artificially impact rates is wholly speculative and without basis,

⁵⁸ CPKC Response Submissions at para. 26; NERA Report at paras. 35-36, 39.

⁵⁹ Soboleva Reply Report at section 4.5, para. 74.

⁶⁰ CPKC Response Report at paras. 17-20; NERA Report at paras. 23, 26

⁶¹ Soboleva Reply Report at section 4.6, paras. 76-78.

⁶² NERA Report at paras. 41-43, 54

⁶³ Soboleva Reply Report at section 4.4, paras. 72-73.

⁶⁴ Bureau Response Submissions at p. 2; FAIR Response Submissions at para. 27.



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and the Agency should not give it any weight. CN would not engage in collusion or price-fixing behaviour. FAIR and the Bureau's suggestion otherwise is unwarranted.

In any event, to the extent that there is any legitimacy to this concern with respect to CN or otherwise (which is denied), the CN Proposed Methodology can account for any unduly high rates. As indicated in Dr. Soboleva's March 5 Report, sensitivity checks can be performed to, e.g., confirm whether there are artificially high rates that impact estimated rates (Dr. Soboleva excluded the top 10% of values from unregulated data to confirm whether the data included any unusual outliers).⁶⁵ Similarly, Dr. Soboleva performed a sensitivity check which excluded all data for the Class I railways.⁶⁶ The Agency could perform such checks in future years and, if necessary, take adequate remedial action. Finally, as Dr. Soboleva notes, the inclusion of U.S. data in the CN Proposed Methodology materially reduces this concern, as the majority of the transactions involve counterparties who are not subject to the Canadian regulated interswitching rate and thus have no incentive to adjust commercial market rates to influence the Canadian regulated rate.⁶⁷

11. THE AGENCY REGULARLY RECEIVES CONFIDENTIAL RAILWAY DATA

FAIR complains that redactions to CN's initial submissions and Dr. Soboleva's March 5 report make it impossible for them to make meaningful submissions on the CN Proposed Methodology.⁶⁸ However, it is not unusual for the Agency to receive commercially sensitive data from the railways on a confidential basis without making that information publicly available or providing it to shippers, and the Agency's Consultation process specifically permits information to be filed on a confidential basis.

12. ADDITIONAL COMMENTS

If the Agency considers the competing methodological positions difficult to reconcile, it could usefully seek the assistance of an independent external expert in rail economics or applied econometrics to advise on the soundness of the competing approaches. Such a step would not diminish the Agency's expertise; rather, it would reinforce the transparency, independence, and confidence in the Agency's ultimate determination and would provide an additional safeguard where the methodological issue is important, contested, and central to the fairness of the resulting rate framework.

⁶⁵ Soboleva March 5 Report, Appendix B, paras. 5-6.

⁶⁶ Soboleva March 5 Report, Appendix B, para. 4.

⁶⁷ Soboleva Reply Report at section 4.1, paras. 63-64.

⁶⁸ FAIR Response Submissions at paras. 28-29.



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Finally, adopting a commercial-factor-based rate-setting methodology is even more critical in light of the Government's proposal to reintroduce extended interswitching (EIS) through a 48-month pilot program. By extending regulated interswitching distances to 160 km, EIS would move well beyond the short-range terminal switching activities contemplated under the existing 30 km interswitching regime and require Class I railways to provide substantially longer-haul transportation services at regulated rates. Such an expansion, if implemented using a methodology that gives little or no weight to market factors, would deter railway investment, reduce network capacity and fluidity, negatively affect employment and would harm economic growth. In these circumstances, it is essential that interswitching rates reflect commercial realities and market conditions. While CN continues to strongly oppose the reintroduction of EIS, the adoption of the CN Proposed Methodology would help mitigate the adverse effects of EIS by ensuring that regulated interswitching rates provide market-based compensation for the services provided and by reducing the investment-detering effects associated with non-compensatory cost-based rates.

C. CONCLUSIONS

The Response Submissions of CPKC, the Bureau and FAIR fail to provide any workable methodology that the Agency can use to address the FCA's finding that the Agency **must** consider commercial market factors when setting regulated interswitching rates. Instead, they continue to advocate for a cost-based approach which does not provide the Agency with an operational methodology to assess commercial market factors and indeed would give commercial market factors no meaning, contrary to s. 112 of the Act.

Moreover, the Response Submissions do not put forward any valid reason as to why the CN data is irrelevant, unreliable or incapable of supporting a rate determination, or as to why the CN Proposed Methodology is flawed. The issue is not whether a regression explains every observed rate variation; it is whether the model provides a reasonable, transparent, and empirically grounded benchmark for comparing commercial rates across traffic with relevant observable characteristics. As outlined above, and in the Soboleva Reply Report, the Response Submissions' criticisms are ill-conceived and, in any event, would point towards refinement of the model rather than outright rejection.

The Agency should reject the Response Submissions' suggestion to give little or no weight to CN's market-based evidence. CN urges the Agency to not only consider but give decisive—effectively 100%—weight to commercial market evidence and adopt the CN Proposed Methodology (which can be refined, as required, with additional data, controls,



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and sensitivity testing) in determining regulated interswitching rates, including for 2024, 2025, and 2026.

CN remains available to provide any additional information or clarification the Agency may require.

Best regards,

A handwritten signature in blue ink, appearing to read 'Pascale', with a stylized flourish at the end.

Pascale De Meyer
Senior Counsel Regulatory Affairs
Canadian National Railway Company

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Canadian Transportation Agency

***Consultation on commercial market factors to be considered in determining fair
and reasonable interswitching rates***

Use of Market Factors to Determine Regulated Interswitching Rates

Nadia Soboleva, Ph.D.

August 31, 2026

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EXECUTIVE SUMMARY

1. I prepared a report dated March 5, 2026, (the “March Report”) recommending a methodology for the Canadian Transportation Agency (“CTA”) that takes into account commercial market factors in setting regulated interswitching rates that are “commercially fair and reasonable” under Section 127.1 of the Canada Transportation Act (the “Act”).¹ I understand that my report was submitted to the CTA by the Canadian National Railway Company (“CN”) on March 6, 2026 as part of its submissions in response to the CTA’s Consultation on commercial market factors to be considered in determining fair and reasonable interswitching rates (the “Consultation”).² Submissions on the Consultation were also filed on behalf of the Canadian Competition Bureau (the “Bureau”), the Canadian Pacific Kansas City Railway (“CPKC”), and the FAIR Rail Coalition (the “Coalition”), collectively the “three initial submissions”.³ I prepared a second report, submitted by CN as part of its submissions on June 19, 2026, (the “June Report”), responding to those submissions.⁴ A second set of submissions on the Consultation were also filed in June on behalf of the Bureau, CPKC, and the Coalition, collectively the “three response submissions”.⁵ I was asked to review the three response submissions, including the expert report of Ms. Julie Carey submitted by CPKC (the “Carey Report”), and comment on the positions they advance.⁶
2. The response submissions raise two questions: (i) whether observed unregulated interswitching rates can be used to incorporate commercial market factors into regulated interswitching rate determinations, and (ii) whether the available data and the implementation of that approach permit the reliable determination of regulated interswitching rates in Canada. Their

¹ “Use of Market Factors to Determine Regulated Interswitching Rates,” March 5, 2026 (the “March Report”).

² “Consultation on commercial market factors to be considered in determining fair and reasonable interswitching rates,” February 26, 2026 (“Consultation”).

³ Competition Bureau Submission to the Canadian Transportation Agency, “Re: Consultation on Determining Fair and Reasonable Interswitching Rates,” March 6, 2026 (“Bureau’s Submission”), In the matter of the Determination of the 2026 Regulated Interswitching Rates and Redetermination of Rates for 2024 and 2025 Submissions of Canadian Pacific Railway Company (Carrying on Business as Canadian Pacific Kansas City “CPKC”), March 6, 2026 (“CPKC’s Submission”), FAIR Rail Coalition Submission “Re: 2025-26 Interswitching Consultation,” March 6, 2026 (“Coalition’s Submission”).

⁴ “Use of Market Factors to Determine Regulated Interswitching Rates,” June 19, 2026 (the “June Report”).

⁵ Competition Bureau Submission to the Canadian Transportation Agency, “Re: Consultation on Determining Fair and Reasonable Interswitching Rates,” June 19, 2026, (“Bureau’s Second Submission”), In the matter of the Determination of the 2026 Regulated Interswitching Rates and Redetermination of Rates for 2024 and 2025 Responding Submissions of Canadian Pacific Railway Company (carrying on Business as Canadian Pacific Kansas City “CPKC”), June 19, 2026 (“CPKC’s Second Submission”), FAIR Rail Coalition Submission “Re: 2025-26 Interswitching Consultation,” June 19, 2026 (“Coalition’s Second Submission”).

⁶ Response Report of Julie M. Carey, On Behalf of Canadian Pacific Railway Company d/b/a CPKC, June 19, 2026 (“Carey Report”).

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methodological criticisms focus principally on the second question, including the suitability of the data and the specification, implementation, and interpretation of the methodology.

3. If the commercial rates that would apply to a regulated movement in the absence of regulation were observed, the suitability of the data and the performance of any methodology could be evaluated directly by comparing the estimated and observed (counterfactual) rates. These counterfactual commercial rates are not observed. The suitability of the data and the reliability of the methodology must therefore be evaluated indirectly by examining economic reasoning, comparability, predictive performance, stability across reasonable analytical choices, and practical implementation.
4. The June Report set out criteria for evaluating alternative approaches to incorporating commercial market factors. Such a methodology should be feasible to implement within a reasonable timeframe; be based on objective, quantified data rather than qualitative or discretionary assessments; be sufficiently flexible to incorporate updated information consistently over time; be grounded in sound economic principles and established statistical methods; and set out a clear and fully specified procedure for translating observed inputs into regulated rates. The analyses in this report evaluate the concerns and alternative approaches raised in the response submissions against those criteria.
5. The proposed methodology incorporates commercial market factors by estimating relationships in observed commercial transactions. It does not use the rates produced under the existing cost-based approach as an input or constraint. Commercial prices are directly observed in the transaction data, while costs used in existing regulatory rate setting require estimation and the allocation of fixed and common costs. The rates produced by each method reflect these different inputs and analytical approaches. Whether one method produces higher rates than the other is therefore an empirical question. The comparison also depends on the particular rates being examined. For 2025, the single-car rates predicted using the estimates in the March Report are lower than the CTA's published rates in four of the five zones. For 2024, they are also lower in two of the five zones.
6. Because the response submissions generally treat lower regulated rates as beneficial, the discussion below focuses on the consequences of regulated rates below market-based levels. Regulated interswitching rates below market-based levels are not distributionally neutral. Because interswitching charges are railway-to-railway payments, rates below the market-based benchmark reduce payments to railways providing interswitching services and benefit railways purchasing those services. They may also shift the rate burden from shippers with access to regulated interswitching to those without access and across traffic types with different handling requirements. The response submissions do not examine these effects or provide a policy rationale for them.
7. The Bureau and the Coalition argue that the observed commercial rates may not reflect conditions of "effective competition." That concern calls for empirical assessment, not the exclusion of the commercial transaction data. Their submissions neither provide an operational method for identifying the rates that would prevail under that standard nor quantify the resulting effect on the March Report estimates. More generally, the response submissions do not propose

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a complete operational methodology for incorporating commercial market factors into annual regulated interswitching rate determinations. The Bureau, CPKC, and the Coalition favour continued reliance on the existing cost-based methodology, although they differ on the role that evidence of commercial market factors should play. Ms. Carey confines her analysis to criticisms of the methodology in the March Report; she neither endorses the cost-based approach nor proposes an alternative operational methodology.⁷

8. The response submissions emphasize differences in country, railway type, geography, commodity mix, and traffic composition between the data for unregulated and regulated interswitching movements. Those differences do not, by themselves, make the unregulated transactions unsuitable as comparators. The methodology proposed in the March Report does not assume that the transactions or markets are identical. It uses regression analysis to estimate relationships between rates and observable transaction characteristics and applies those relationships to regulated movements. The analyses in this report examine the principal differences identified in the response submissions through additional controls, sample restrictions, alternative weighting procedures, and predictive comparisons.
9. A market-based benchmark does not require identical transactions or data covering the entire market. The relevant question is whether the observed transactions provide sufficient information to estimate relationships between interswitching rates and transaction characteristics such as distance after accounting for observable differences. The analyses provided in the March Report and the additional analyses in this report allow relationships to differ by country, add commodity controls, restrict the estimation sample, and apply alternative weighting methods. These analyses do not support the response submissions' contentions that the differences identified in the response submissions materially alter the estimated regulated rates.
10. The geographic scope of CN's data also does not, by itself, determine whether the data are informative. The methodology proposed in the March Report uses observed transactions to estimate conditional relationships between rates and transaction characteristics; it does not require the sample to reproduce the composition of the entire U.S. railway system or to include transactions from every U.S. railway. CN's data include transactions with more than thirty Class I, II, and III railway counterparties, reducing reliance on the circumstances of any single railway and on the smaller set of Canadian unregulated transactions. These data include transactions in which CN both pays other railways for interswitching services they provide to CN and receives payments for interswitching services it provides to other railways. The methodology in the March Report readily permits the incorporation of data from additional railways. The response submissions do not present empirical evidence that the relationships estimated from CN's data differ systematically from those that would be estimated using other railway data.
11. Ms. Carey uses the same underlying data and general econometric framework as the March Report. Her different estimates result from changes to the estimation sample, explanatory variables, treatment of block size, weighting methodology, and prediction procedure. They do not

⁷ Bureau's Second Submission, p.4; Coalition's Second Submission, ¶13; CPKC's Submission, ¶13; Carey Report, Section II.

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result from an identified computational error or from an error in the implementation of the methodology as presented in the March Report.

12. Ms. Carey's principal alternative specification produces economically implausible results: the total interswitching rate declines as interswitching distance increases, and some predicted rates are negative while others are positive but unusually low.⁸ Ms. Carey's rate calculations rely predominantly on commodity-interchange combinations for which no traffic is observed, disregard substantial differences in actual traffic volumes across interchanges, and require interchange-specific effects that cannot be estimated reliably for many regulated locations.⁹ The Carey Report also does not specify how its pooled multi-year sample would be updated for annual rate setting.
13. Ms. Carey's reweighting analysis does not address potential differences involving unobserved characteristics. In addition, the Carey Report's reweighting procedure relies on zone assignments for unregulated movements that do not correspond to their observed distances. Correcting the zone assignment for unregulated movements based on their observed distances eliminates approximately one-half of the difference between the rates reported in the Carey Report and those estimated in the March Report. Her weights do not achieve the intended balance between the observable characteristics of the regulated and unregulated samples. Weighting methods that achieve substantially better balance produce rate estimates similar to, or higher than, those in the March Report.
14. Ms. Carey treats the R-squared statistic as a measure of model reliability or validity, although it measures in-sample statistical fit and does not establish model validity.¹⁰ More importantly, when comparing alternative models used to predict regulated rates, the relevant comparison is out-of-sample performance rather than in-sample fit. This report therefore compares the out-of-sample performance of the specification in the March Report with that of a specification that includes Ms. Carey's additional commodity effects. Those effects modestly improve out-of-sample predictions. However, when they are averaged to produce the commodity-neutral rate schedule in the Carey Report, the resulting specification performs less well than the specification used in the March Report.
15. Taken together, the Carey Report analyses show that estimated rates differ when the sample, specification, prediction procedure, and weighting method differ. Depending on the modification, these alternative analyses: (i) reduce out-of-sample predictive performance; (ii) produce economically implausible results; (iii) rely heavily on transaction combinations for which no traffic is observed; or (iv) cannot be applied consistently across regulated interchanges and annual rate-

⁸ Carey Report, Appendix B. See also, Carey Report Production, "HC-WP Revised Regression.xlsx", sheet "NERA Rates".

⁹ Carey Report, Section III.B and Appendix B. To create rates, Ms. Carey generates predicted rates using her model from Section III.B for each combination of commodity, interchange and zone, without regard to whether those combinations are actually observed in the data used to estimate the model. Ms. Carey then averages those rates within each zone to produce predicted rates shown in Carey Report Figure 10.

¹⁰ Carey Report, Section III.A.

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setting periods. They do not establish that the methodology or principal conclusions of the March Report are unreliable.

16. Across the alternative specifications, sample restrictions, prediction exercises, and weighting procedures examined, the principal conclusions of the March Report remain broadly stable. Observed rates for comparable commercial transactions provide direct evidence concerning the combined influence of supply conditions, demand conditions, bargaining circumstances, and transaction characteristics. I therefore maintain the conclusion expressed in the March Report: the best way to incorporate market factors into the determination of regulated interswitching rates is to use these market prices for comparable unregulated movements as a benchmark.
17. Conclusions in this report are based on the currently available data and approaches discussed in the submissions. Additional evidence, including transaction data from other railways, or future experience with implementation could provide a basis for reassessing particular methodological choices.
18. In preparing this report, I have relied on the materials cited herein.

1 THE SCOPE OF THE METHODOLOGICAL DISPUTE

19. What information reflects commercial market factors? The reports and submissions in this consultation largely refer to observed commercial prices for unregulated movements as a source of information about commercial market factors. The key empirical question is whether relationships estimated from those prices can reliably inform the determination of rates for regulated movements in Canada.
20. The methodological criticisms of the March Report in the response submissions focus principally on this question. They concern the suitability of the data and the specification, implementation, and interpretation of the methodology. In particular:
 - a) whether the unregulated interswitching data are sufficiently representative;
 - b) whether unregulated and regulated transactions are comparable;
 - c) which interswitching transactions should be included in the estimation sample;
 - d) which transaction characteristics should be included in the regression;
 - e) whether differences in the composition of unregulated and regulated traffic require adjustments to the estimation sample or to the relative weights assigned to individual observations;
 - f) how regression estimates should be translated into rates for regulated movements; and
 - g) how the resulting estimates should be interpreted and used.
21. These are questions of data suitability, model specification, validation, and implementation. They may affect the reliability of the resulting estimates and the weight assigned to them, but they do not establish that unregulated interswitching rates cannot, in principle, be used to incorporate commercial market factors into the determination of regulated interswitching rates. Nor do they establish that commercial market factors themselves should be assigned no weight.

2 THE ECONOMIC RELEVANCE OF OBSERVED COMMERCIAL RATES

22. The Bureau and the Coalition assert, without demonstrating, that observed commercial rates may not correspond to the rates that would prevail under conditions of “effective competition.”¹¹ Neither submission defines effective competition precisely, explains how rates satisfying that standard could be identified, offers an operational methodology for determining them, or provides evidence that the concern materially affects the estimates in the March Report.
23. The Bureau states that determining whether unregulated rates reflect competitive market outcomes requires an independent competitive benchmark, such as rates from a market with demonstrated effective competition, a structural model of competitive pricing, or a cost-based study such as the CTA’s existing methodology.¹² The Bureau does not identify a comparable market in which effective competition has been demonstrated, present a structural model, or establish that a cost-based study measures commercial reasonableness. A cost estimate may be calculated independently of observed commercial rates, but that does not make it an independent benchmark of a competitive price. It measures costs under the CTA’s current cost-based methodology. It does not estimate demand, bargaining conditions, opportunity costs, or the price that would prevail under the Bureau’s asserted standard of effective competition. “Effectively competitive” rates would include a profit margin too, but the Bureau has not proposed how that margin would be determined. The Bureau and the Coalition favour continued reliance on the existing cost-based methodology and do not propose a method to incorporate commercial market factors into annual regulated interswitching rate determinations.
24. Market prices do not cease to reflect commercial market factors merely because they may differ from prices in an abstract “effectively competitive” market. Unregulated commercial rates reflect the commercial reality in which market participants actually transact. Bargaining negotiations are not an imperfection that deprives an observed price of economic content, but a price-setting mechanism through which commercial market factors are expressed.¹³ The fact that prices are determined through bargaining may affect how particular observations should be interpreted. It does not render observed commercial prices irrelevant.
25. The methodology in the March Report therefore treats unregulated transaction data as commercial evidence, subject to screening, econometric controls, and sensitivity analyses. Rates unlikely to be market-based, such as rates imposed under a merger agreement, are screened out. Sensitivity analyses test whether the regression results depend materially on the inclusion of particular categories of observations or on particular modeling choices. Use of transaction-level

¹¹ Coalition’s Second Submission, ¶¶1-2, 4 and the Bureau’s Second Submission, p.2.

¹² Bureau’s Second Submission, p.2.

¹³ Competition Bureau Canada, Merger Enforcement Guidelines (proposed), November 2025, Proposed Merger Enforcement Guidelines, Section 4.4.1.1; Allen, Jason, Robert Clark, and Jean-François Houde. “Search frictions and market power in negotiated-price markets.” *Journal of Political Economy* 127.4 (2019): 1550-1598.

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data gives greater weight to rates observed more frequently, so rates associated with more movements have greater influence on the estimates.

26. The Bureau further claims that this analysis “appears to contemplate situations where the data may include partial foreclosure, that is, rates that are set higher than otherwise...”¹⁴ As explained in the March Report, the unregulated interswitching data reflect movements that actually occurred because the applicable rate was not sufficiently high to foreclose access for those movements.¹⁵ This does not establish that the observed rate was the lowest possible rate. But neither does the possibility that a lower rate might have generated additional traffic establish that the observed transactions contain no relevant information about commercial market factors or that the observed rates are systematically too high.
27. Moreover, the particular foreclosure concern described by the Bureau arises where the terminal carrier competes with the line-haul carrier for the line-haul portion of the move. Foreclosure is not a concern where the terminal carrier is a smaller railway that does not compete for the line-haul service. These smaller railways earn revenues by interlining with line-haul carriers and therefore they have an incentive to facilitate access rather than foreclose such access. Hence, unregulated interswitching rates from non-Class I railways are largely free from this foreclosure concern, which is why the March Report used them as an important sensitivity check. As shown in the March Report, the findings are not substantially altered when the analysis is restricted to non-Class I railways.¹⁶
28. The Bureau states that “line-haul carriers can still exercise market power over short-line carriers that have limited alternatives, even absent foreclosure incentives.”¹⁷ That concern does not support the Bureau’s suggestion that the observed interswitching rates may be higher than they otherwise would be. In transactions between line-haul carriers and shortline railways, line-haul carriers are net purchasers of interswitching services and shortline railways are net suppliers. To the extent that a line-haul carrier exercises market power as a buyer over a shortline railway selling interswitching services, the expected effect would be to reduce the interswitching rate paid to the shortline, not to increase it.
29. The Coalition’s position similarly leaves no meaningful role for commercial market evidence. It effectively equates commercial fairness with the recovery of costs plus a regulated return. Under that approach, commercial market factors can have no independent effect on the rates produced by the CTA’s existing cost methodology.¹⁸ The Coalition argues that the purpose of regulated interswitching goes beyond providing access to competing railways for line-haul movement. They emphasize access “for the benefit of shippers” which is entirely consistent with the access point in the March Report: interswitching, whether regulated or not, provides access to a competing

¹⁴ Bureau’s Second Submission, p. 2.

¹⁵ March Report, ¶¶38-41.

¹⁶ March Report, ¶¶38-41, Appendix B, ¶4 and Figure B2.

¹⁷ Bureau’s Second Submission, p.2.

¹⁸ Coalition’s Second Submission, ¶¶16-18.

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railway which may benefit the shipper.¹⁹ The Coalition, however, goes further and argues that interswitching is not merely about access, but about access at rates that result in “optimal, welfare-maximizing, efficient volumes that ensure no harm to the economy.”²⁰ The Coalition is silent on whether current regulated rates meet that standard. Nor does it explain how such a standard could be implemented in practice, measured empirically, or incorporated into an annual rate-setting methodology. It also does not identify how the CTA should determine whether a particular set of regulated rates satisfies that standard. As discussed below, the welfare effects of interswitching rates are complex.

30. CPKC, for its part, agrees that commercial market rates can be used to evaluate reasonableness of other rates, but disputes that the proposed unregulated rates are appropriate comparators for regulated interswitching rates in Canada.²¹ These concerns are addressed below.

3 REGULATED RATES BELOW MARKET-BASED LEVELS CREATE TRANSFERS AMONG MARKET PARTICIPANTS

31. In continuing to advocate for a cost-based methodology, the response submissions do not examine the consequences of regulated rates that differ from commercial market levels.²² They overlook that interswitching charges are railway-to-railway payments and appear to treat lower regulated rates as inherently beneficial without considering the effects on market participants.²³ The Coalition argues that while these are railway-to-railway payments, they are “recovered” from shippers. But the incidence of the charge and the incentives created by the charge are distinct economic questions. The Coalition addresses the former, not the latter.
32. Whether market-based rates are above or below cost-based rates is ultimately an empirical question. As the March Report results illustrate, market-based rates may be either above or below cost-based rates depending on the rate category and time period examined. The response submissions generally treat lower rates as beneficial. Accordingly, the discussion below focuses on circumstances in which regulated rates are below market-based levels.
33. None of the submissions address the distributional consequences of imposing below-market regulated interswitching rates, including transfers from shortline railways to Class I railways, shifts in the rate burden from shippers with access to regulated interswitching to those without access, and shifts in the rate burden across traffic types with different handling requirements.

¹⁹ Coalition’s Second Submission, ¶23.

²⁰ Coalition’s Second Submission, ¶25.

²¹ CPKC’s Second Submission, ¶6.

²² See discussion in the June Report, Section 4.

²³ Estimated interswitching rates in the March Report are somewhat above the current regulated rates for some rate categories and time periods, which is why this discussion is focused on the regulated rate set below market-based levels. As March Report results show, market-based rates may also be lower than the cost-based rates for some rate categories and time periods.

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34. When regulated interswitching rates differ systematically from market-based rates, the resulting effects are not distributionally neutral. Regulated rates below the market-based benchmark reduce the payments received by railways providing interswitching services and correspondingly benefit the railways purchasing those services. The resulting transfers depend on whether each railway is, on balance, a net recipient or net payer of interswitching charges.
35. Regulated interswitching applies to all federally regulated railways, not only Class I railways. Shortline and smaller railways that provide more interswitching services than they purchase are net recipients of interswitching payments. Rates below the market-based benchmark reduce the amounts these railways receive and benefit the railways purchasing those services. The same effect may arise between Class I railways, depending on their respective traffic flows. A regulated rate below the market-based benchmark therefore transfers revenues among railways according to the balance of interswitching services each railway provides and purchases.
36. Ontario Northland Railway illustrates this effect. Ontario Northland is a federally regulated railway operated by the Ontario Northland Transportation Commission, a provincial Crown agency of the Government of Ontario, and participates in regulated interswitching. Based on the data in the March Report, Ontario Northland, as a net recipient of interswitching payments, receives less under the current cost-based regulated rates than it would under the rates estimated in the March Report, using a market-based benchmark. Relative to those estimates, the current rates transfer revenue from Ontario Northland, as a provider of interswitching services, to the Class I railway purchasing those services. Ontario Northland's public ownership makes the incidence of this transfer particularly visible, but the underlying economic point does not depend on the identity or ownership of the parties.
37. Rates below the market-based benchmark favour the net payer and disadvantage the net recipient of interswitching payments relative to the market-based benchmark. The submissions do not address this consequence of the rate-setting methodology or provide a policy rationale for it.
38. The Coalition acknowledges that interswitching fees are railway-to-railway payments, and that railways absorb these charges, at least to some degree, without passing them onto shippers.²⁴ The Coalition points to UP's 2007 published grain tariff under which UP will absorb up to USD \$160 (approximately CAD \$220 at the current exchange rate) per loaded car in connecting carrier

²⁴ Coalition's Second Submission, ¶¶35-37. See, also, for example CPKC's description of reciprocal switching: "When CPKC delivers a railcar to a connecting railway for reciprocal switching, CPKC will pay the applicable tariff or contractually agreed switch fee to that railway. If the switch fee is higher than the amount provisioned in the freight publication under which the CPKC line-haul was performed, CPKC may invoice the difference to the payer of freight for that shipment (e.g., the freight contract includes 'switching up to \$300' and the actual switch fee is \$500... therefore the difference is \$200). Where the freight publication is silent on the switch fee amount included in the freight rate, CPKC will absorb the switch fee." CPKC Tariff 7 June 30, 2026, available at <https://www.cpkcr.com/content/dam/cpkc/customer-resources/pricing-and-tariffs/2026-updates/CPKC%207%202026.1%20Pub%202026.06.30%20Eff%202026.08.01.pdf>

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switching charges.²⁵ UP's 2025 version of the same grain tariff refers to absorption of switching charges up to USD \$295 (approximately CAD \$415 at the current exchange rate).²⁶ A more general UP absorption rule applicable to many commodities provides for the absorption of all switching charges provided UP's net transport charges are met.²⁷ UP tariffs for other commodities provide for full absorption or specify limits as high as USD \$600 or USD \$900 (approximately CAD \$831 or CAD \$1,246 at the current exchange rate) per railcar.²⁸ Other railways also publish tariffs providing for the absorption of switching charges without limits.²⁹

39. The Coalition "submits that these caps approximate the level of switching charges that railways consider reasonable" and proposes these caps as evidence relevant to the Agency's consideration of commercial market factors.³⁰ However, the caps do not apply to many interswitching movements and, where present, vary substantially within and across railways, making the selection of a representative cap impractical. Nor is there information showing which caps apply to actual movements or the volume of traffic moving under them. Because the caps appear in published tariffs, they also do not capture at least some traffic moving under confidential contracts. The CN data analyzed in the March Report, in contrast, identify both the rates and the volume of traffic moving at each rate.
40. Finally, absorption concerns whether a railway passes an interswitching fee on to a shipper. That is a different economic question, involving the railway and the shipper, from the determination of the interswitching fee between the line-haul railway and the terminal railway.
41. Even on the Coalition's own reasoning, lower interswitching rates may not benefit shippers as a *group*. Even if the Coalition is correct that lower interswitching rates benefit some shippers, despite interswitching charges being a railway-to-railway payment, any benefit would accrue to

²⁵ Coalition's Second Submission, Schedule A, Item 20, "Unless otherwise specified in individual rate items herein, Union Pacific will absorb a maximum of \$160.00 per loaded car of connecting line's switching charges. Charges not absorbed will be in addition to the line-haul charges. Any absorption provisions which may be provided in other Union Pacific System switching tariffs are not applicable."

²⁶ UP Pricing Documents, UP 17 Circular, August 7, 2025, available at <https://c02.my.uprr.com/shopping-experience-external-ui/#/price-documents>.

²⁷ UP 6004-C, Item 9355, March 26, 2008, available at <https://c02.my.uprr.com/shopping-experience-external-ui/#/price-documents>.

²⁸ For example, UP 2037 Circular, March 2, 2026, available at <https://c02.my.uprr.com/shopping-experience-external-ui/#/price-documents>.

²⁹ CPKC Tariff 7, June 30, 2026, available at <https://www.cpkcr.com/content/dam/cpkc/customer-resources/pricing-and-tariffs/2026-updates/CPKC%207%202026.1%20Pub%202026.06.30%20Eff%202026.08.01.pdf>; NS Tariff 8001-A, April 11, 2025 available at <https://www.norfolksouthern.com/en/customer-alerts/tariff-alerts/tariff-update---ns-8001---effective-5-03-2025>, CSXT Tariff 8100, April 1, 2026, available at https://www.csx.com/share/wwwcsx15/assets/File/Customers/CSXT_8100_Publication_Effective_4-1-2026.pdf.

³⁰ Coalition's Second Submission, ¶¶35-37.

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shippers *with* access to regulated interswitching.³¹ Those benefits could come at the expense of shippers *without* such access if railways recover the resulting revenue shortfall associated with the provision of interswitching services at below-market rates through higher charges on other traffic. This would create a further potential shift in the rate burden from shippers with access to shippers without access. The response submissions do not address the possibility or incidence of such a shift in the rate burden, or its implications for the regulated rate-setting methodology.

42. Regulated interswitching rates below market-based levels therefore affect market participants differently. They transfer revenues from net recipients of interswitching payments to net payers and may also shift the rate burden from shippers with access to regulated interswitching to shippers without such access. None of the three response submissions examine the incidence or economic effects of these transfers.
43. Relatedly, the Coalition opposes the exclusion of any type of traffic, including dangerous goods, from the regulated interswitching.³² The Bureau states that excluding or surcharging certain goods is outside the scope of the consultation. The economic point is narrower: material differences in commodity or handling requirements are commercial market factors that affect market-based rates, and therefore should be reflected in the applicable regulated rates. Whether particular traffic may instead be excluded from regulated interswitching is a separate legal or regulatory question.
44. In the March Report, the estimated model shows that in the absence of special handling premia for certain shipments, regulated rates for other shipments would increase.³³ Thus, omitting the premia for special handling requirements results in interswitching rates for automobiles, hazardous materials, and dimensional loads that are lower than they otherwise would be, while rates for other traffic are higher than they otherwise would be. Neither the Bureau nor the Coalition addresses the redistribution of rate burden between traffic types and the affected shippers, explains why it would benefit shippers as a whole, or provides a rationale for that redistribution.
45. As explained in the March Report and in the June Report, maintaining the current cost-based methodology is unlikely to result in rates that incorporate commercial market factors. Continued reliance on the current methodology may perpetuate transfers between railways and potentially among shippers, without identifying or evaluating their incidence.
46. The Carey Report does not endorse a cost-based approach to determining regulated interswitching rates, propose an alternative methodology, or explain how to incorporate commercial market factors into the determination of regulated interswitching rates. Instead, the Carey Report critiques the analysis and methodology proposed in the March Report.³⁴ Several of

³¹ Coalition's Second Submission, ¶23. See also, Coalition's Submission, ¶5.

³² Coalition's Second Submission, ¶32.

³³ March Report, ¶88.

³⁴ Ms. Carey states that her assignment was "to review the Expert Report of Dr. Nadia Soboleva...and provide an independent expert opinion on her report." Carey Report, ¶4. Ms. Carey conducts "two sensitivity

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the critiques in the Carey Report that are directed at the market-based methodology in the March Report would apply to the current cost-based methodology as well. The same is true of several concerns raised by the Bureau and the Coalition. For example, cost-based methodologies also rely on data collected from a limited set of operations or locations; use those data to estimate relationships that are then used to calculate rates more broadly, including at locations different from those where the data were collected; and may be affected by differences in handling requirements between the observations used to estimate the rates and the movements to which those rates are applied. Moreover, if commodity type affects interswitching costs independently of handling requirements, as the Carey Report assumes, differences in commodity mix would also present a potential concern for the current cost-based methodology, which does not expressly account for commodity in its calculation of costs.³⁵

4 A MARKET-BASED BENCHMARK DOES NOT REQUIRE IDENTICAL MARKETS OR TRANSACTIONS

47. CPKC and the Carey Report emphasize differences among the observations in the data, including differences in country, railway type, geography, commodity mix, and traffic characteristics, and suggest that these differences render the data inappropriate for use as a benchmark for regulated rates in Canada.³⁶ These differences do not, by themselves, make the data unsuitable as a benchmark.
48. The proposed methodology does not assume that the underlying markets or transactions are identical. Using data from one market to study outcomes in another is common in competition and antitrust analysis. Under the widely used yardstick approach, prices or other outcomes in the market of interest are compared with those in another reasonably comparable market. The transactions in the yardstick market need not be identical to those in the market being studied.³⁷ Relevant observable differences between the markets can be accounted for through regression

analyses regarding Dr. Soboleva's regression analysis for the sole purpose of determining, if possible, the materiality of certain of the flaws I have identified in Dr. Soboleva's proposed methodology." Carey Report, ¶6. Ms. Carey describes her alternative estimated statistical model as "not sufficiently reliable to set the Canadian regulated interswitching rates." Carey Report, ¶64.

³⁵ CTA, "Determination No. R-2025-197," Appendix A and B, November 28, 2025, available at <https://otc-cta.gc.ca/eng/ruling/r-2025-197>.

³⁶ CPKC's Second Submission, Section II, and Carey Report, Section II.B.

³⁷ "A perfect comparator is not required and adjustments may be used to account for differences." Proving Antitrust Damages, ABA, Third Edition, p. 118, 275. See also McCrary, Justin, and Daniel L. Rubinfeld. "Measuring Benchmark Damages in Antitrust Litigation," *Journal of Econometric Methods* 3, no. 1 (2014): 63-74.

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analysis and other econometric methods. If the markets and transactions were identical in all relevant respects, there would be little need for econometric analysis.³⁸

49. The methodology does require that, after accounting for the observed characteristics used in the model, the relationships estimated from unregulated transactions provide relevant information for regulated movements. That is an empirical question, not an assumption that the two datasets are identical. The appropriate way to examine it is through sensitivity analyses that allow relevant relationships to differ, test additional controls and sample restrictions, and evaluate predictive performance. The March Report provided several such sensitivity analyses in Appendix B of the March Report, and additional sensitivity analyses are presented below.³⁹ The response submissions do not show that the conditional relationships materially differ in a manner that invalidates the estimates.
50. The average differences between regulated and unregulated interswitching traffic identified in the Carey Report do not, by themselves, make unregulated interswitching rates unsuitable as a benchmark for regulated interswitching rates or establish that the proposed methodology in the March Report is unreliable.⁴⁰ Because market prices incorporate relevant commercial factors, variation in observed commercial rates is a natural result of transactions occurring under a variety of market conditions. That variation is not merely statistical noise; it is partly the phenomenon that a market-based benchmark is intended to measure. The appropriate analytical response is to identify and account for economically relevant differences, not to reject the transactions because their rates differ or because they do not arise from the same country, railway, commodity or geographic market.
51. Moreover, the Carey Report does not demonstrate that the differences it identifies between regulated and unregulated interswitching movements materially affect the regulated rates produced by the methodology proposed in the March Report. Some of the factual assertions in the Carey Report are unsupported or are inconsistent with the underlying information.⁴¹ In other instances, the Carey Report identifies possible differences but does not test whether they

³⁸ As a simple analogy, comparable used cars need not be identical. Differences in age, mileage, model, and other observable characteristics can be taken into account. Those differences do not, by themselves, make observed used car sales unsuitable as comparators for valuing another used car.

³⁹ March Report, Appendix B.

⁴⁰ Carey Report, ¶¶29-31, 41, 46, Figures 6-8.

⁴¹ For example, Ms. Carey inexplicably claims that CN's switch book includes information for "about 50 customers," whereas the tariff contains 130 customer entries, of which over 100 are unique customers. Setting aside this substantial miscount, Ms. Carey does not explain why the number of customers listed in CN's switch book is economically relevant to the reliability of the analyses in the March Report. Carey Report, footnote 28. The Carey Report also claims without any empirical support that U.S. rates "have many distinctive characteristics that **cannot be adequately addressed** by her [March Report] proposed methodology, and are based on incomplete data" and points to commodity/product mix as one such distinction. Not only can well-established econometrics methods readily adjust for differences such as commodity mix, but the Carey Report applies such methods for that purpose by controlling for two-digit commodity codes. Carey Report, ¶¶17, 55.

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materially affect the resulting estimates.⁴² Where the Carey Report quantifies the effect of particular differences, its analyses have the conceptual or implementation limitations discussed below. When those limitations are addressed, the results do not show that the identified differences materially affect the estimated regulated rates.

52. More generally, differences in raw sample proportions or unconditional subgroup averages do not test the resulting conditional estimates.⁴³ A lower average rate within a selected subgroup may reflect differences in distance, block size, commodity, geography, or other characteristics of the movements in that subgroup. Comparing raw unconditional averages while disregarding those characteristics and the econometric analysis that accounts for them does not establish that the conditional regression estimates are biased.
53. The analysis in the Carey Report implicitly recognizes this principle. Rather than excluding all observations arising from markets or transactions considered different from regulated interswitching, the Carey Report modifies the controls and weights applied to those observations.⁴⁴ The Carey Report therefore recognizes that the relevant methodological question concerns how observed differences should be accounted for, not whether commercially negotiated rates must be excluded merely because they differ from regulated transactions in some respects.

4.1 THE SCOPE OF THE UNREGULATED INTERSWITCHING DATA DOES NOT RENDER THESE DATA UNSUITABLE AS A BENCHMARK

54. The Carey Report emphasizes that CN's U.S. data cover a limited portion of the U.S. and represent only a fraction of U.S. interswitching movements.⁴⁵ Neither observation establishes that the data are unsuitable as a benchmark. The methodology does not require interswitching data from the entire U.S. market. It uses observed commercial transactions to estimate relationships between rates and relevant transaction characteristics. Whether the data are representative of the entire U.S. interswitching market is not the relevant criterion. What matters is whether the sample is informative about the relationships between the transaction characteristics and interswitching rates.

⁴² For example, Ms. Carey raises concerns about the geographic scope of the U.S. data, but does not provide any empirical evidence that unregulated switching rates differ meaningfully across geographic regions. Nor does she demonstrate that any such geographic differences materially affect the rates predicted by the model in the March Report. Carey Report, ¶¶18-20.

⁴³ An unconditional comparison does not control for differences in observed characteristics, only a conditional comparison does. For example, a group containing more older children will generally be taller on average than a group containing more younger children. The difference in average height between the two groups does not establish that children *of the same age* differ in height between the groups. That requires comparing children of the same age. The first comparison is unconditional, the second conditions on age.

⁴⁴ Carey Report, ¶¶68-70.

⁴⁵ Carey Report, ¶¶17-20.

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55. The Carey Report suggests, but provides no empirical analysis to show, that unregulated interswitching rates in the geographic regions represented in the data differ systematically from rates elsewhere in the United States. The geographic coverage of the data therefore does not, by itself, establish that the resulting estimates are unreliable.
56. The use of CN data also provides an additional dimension of comparability. CN is a party to both the unregulated transactions used to estimate the model and the regulated transactions for which market-based rates are predicted. Comparisons involving CN therefore hold railway identity constant, although the transactions may differ in other respects. Data from CPKC and other railways would broaden the available sample.
57. Moreover, the purpose of the methodology proposed in the March Report is not to reproduce the composition of the entire U.S. railway system. The methodology uses observed commercial interswitching transactions to estimate the relationship between interswitching rates and the characteristics relevant to those transactions. A sample need not contain every railway, state, commodity or type of movement in the same proportions as the broader U.S. system to provide information about those conditional relationships. Econometric models are ordinarily estimated using samples rather than the entire population.⁴⁶
58. CPKC claims that the proposed methodology in the March Report relies “on the availability of data from all federally-regulated railways in the U.S.,” which CPKC says are unlikely to be available.⁴⁷ The methodology in the March Report does not rely on data from all federally regulated railways in the U.S.; it was implemented using CN data alone.⁴⁸ Data from additional railways may broaden the available sample, but data from every railway are not necessary to apply the methodology.
59. The Carey Report also claims that CN “relies on just a small portion of the U.S. reciprocal switch rates.”⁴⁹ CPKC, for its part, similarly claims that CN represents only approximately [REDACTED] percent of total U.S. interswitching activity.⁵⁰ This appears to be based on Ms. Carey’s calculation that CN represented roughly [REDACTED] percent of U.S. Class I railroad operating revenue in 2025.⁵¹ That comparison does not measure CN’s share of U.S. interswitching activity.

⁴⁶ “While we are interested in the population we often need to resort to studying a sample due to time, financial, or logistic constraints that might make studying the entire population infeasible. Instead, we use inferential statistics to make inferences about the population from a sample.” Jenkins-Smith, H., Pierce, J., Woods, N., et al., *Quantitative Research Methods for Political Science, Public Policy and Public Administration* (University of Oklahoma), §5.1, “Populations and Samples.”

⁴⁷ CPKC Second Submission, ¶31.

⁴⁸ March Report, ¶92.

⁴⁹ Carey Report, ¶17.

⁵⁰ CPKC Second Submission, ¶16.

⁵¹ Annual STB Report R-1, Schedule 210 for GTC. See also, Annual STB Report R-1, Schedule 210 for BNSF, CSX, NS, SOO/KCSR, and UP to calculate total operating revenues for U.S. Class I railways.

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60. More importantly, CN's share of total U.S. interswitching activity is not the relevant criterion for determining whether the data can support the proposed analysis. The methodology uses a sample of observed transactions to estimate the relationship between interswitching rates and transaction characteristics. The relevant questions are whether the sample contains sufficient observations and variation to estimate those relationships with sufficient statistical precision and whether there is reason to believe that the estimated relationships differ systematically from those applicable to the regulated transactions. The CN data contain sufficient observations and variation to estimate the relationships used in the March Report model.⁵²
61. The Bureau's concern that the methodology may be unable to generate specific rates in a year with no, or very few, unregulated interswitching movements is theoretically valid but does not arise in the data analyzed in the March Report.⁵³ The inclusion of U.S. transactions substantially increases the available observations and allows the model to be estimated separately using CN's transaction data for each of the years examined. The methodology also does not require observations in every regulated zone or block size category because it estimates relationships using the full sample and applies those relationships to movements with the relevant observed characteristics. If the available observations were insufficient in a future year, the methodology could be adapted by incorporating data from other railways (e.g. CPKC), using data from multiple years, or applying another predetermined method for addressing an unusually sparse annual sample. The possibility of insufficient data in a future year therefore calls for an appropriate contingency rule; it does not show that the proposed methodology is presently unworkable.
62. The CN data include transactions with multiple railways, including Class I, Class II, and Class III railways, and transactions in which CN is both the payer and the recipient of interswitching payments. The Carey Report does not demonstrate that the relationships estimated from those transactions are systematically unrepresentative of commercially negotiated U.S. interswitching rates.⁵⁴ Nor does the Carey Report present CPKC data showing that estimates based on CPKC transactions would materially differ from those produced using the CN data. If data from CPKC or other railways revealed systematic differences, those differences could be incorporated into the methodology.⁵⁵
63. The Bureau also raises a concern that the relatively small number of unregulated interswitching movements in Canada may make regulated rates susceptible to influence through changes in Canadian unregulated rates.⁵⁶ The use of U.S. data materially reduces this concern. The U.S. data include transactions between CN and more than thirty Class I, II and III railways, with CN acting both as payer and receiver. The majority of those counterparties are not subject to Canadian regulated interswitching rates and therefore do not share the hypothesized incentive to

⁵² March Report, ¶¶7, 59. Figure 5 from the March Report shows the variation in the CN data, and Figures 7-9 show that we obtain statistically significant results using this data.

⁵³ Bureau's Second Submission, p. 2. March Report, ¶59 and Figure 5.

⁵⁴ Carey Report, ¶¶33-40.

⁵⁵ March Report, ¶¶13, 96, and footnote 53.

⁵⁶ Bureau's Second Submission, p. 2.

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alter their unregulated U.S. rates to influence the Canadian regulated rates, which they neither pay nor receive. The resulting estimates consequently do not depend solely, or even principally, on the relatively small number of Canadian unregulated transactions identified by the Bureau.

64. Similarly, the Coalition argues that CN and CPKC have an incentive to increase the rates paid between them in order to increase regulated interswitching rates.⁵⁷ That argument considers only the potential future effect on regulated rates and ignores the parties' opposing interests in the commercial transactions themselves. In any particular transaction, the railway paying the interswitching rate has an incentive to pay less, while the railway receiving it has an incentive to charge more. Moreover, the estimates in the March Report rely extensively on U.S. transactions with more than thirty other Class I, II and III railways, which have no identified interest in increasing Canadian regulated interswitching rates. The Coalition does not explain how CN and CPKC could systematically increase the rates established with these independent counterparties or how increases limited to rates between CN and CPKC could materially influence estimates drawn from the broader data.

4.2 THE METHODOLOGY CAN ACCOMMODATE DIFFERENCES BETWEEN CANADIAN AND U.S. DATA

65. The Bureau raises a concern that pooling Canadian and U.S. observations assumes that the relationship between rates and transaction characteristics is the same in both countries.⁵⁸ The methodology in the March Report does not require such an assumption and can allow the relationships between rates and transaction characteristics to differ between Canadian and U.S. transactions. Figure 1 presents results of such a specification.
66. Figure 1 presents results from a specification that allows the relationship between distance and rates to differ between Canada and the U.S., while also including a separate coefficient on all U.S. transactions. The resulting predicted rates are similar to those produced by the specification in the March Report.⁵⁹ This similarity reflects the fact that the estimated relationship between distance and rates is similar in Canada and the U.S. These results therefore do not support the Bureau's concern that assuming a common relationship between distance and rates materially affects the estimated regulated rates. The corresponding regression estimates are reported in Appendix A, Figure A5.

⁵⁷ Coalition's Second Submission, ¶27.

⁵⁸ Bureau's Second Submission, p.2.

⁵⁹ March Report, Figure 13.

[Figure 1: Predicted 2024 Rates for a Specification Including Distance-Country Interactions]

Regulated Interswitching Zone	Single (1-59 Cars)		Block (60 or More Cars)	
	March Report	Added U.S. Interswitch x KM Interaction	March Report	Added U.S. Interswitch x KM Interaction
1				
2				
3				
4a				
4b				
	km over 40	km over 40	km over 40	km over 40
Premiums:				
Automotive (Car type "V"):				
Hazardous and Dangerous (STCC 48, 49)				
Dimensional Loads:				

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Premiums for automobiles, hazardous and dangerous materials, and dimensional loads are added to the base rate when applicable. The premium on dimensional loads is a weighted average of small block and large block premiums with weights proportional to the share of regulated interswitched dimensional loads.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>.

67. The March Report also referred to a comparison based only on unregulated Canadian transactions, but the results were not included in Appendix B of that report.⁶⁰ Figure 2 below presents that analysis. The corresponding regression estimates are reported in Appendix A, Figure A4.

⁶⁰ March Report, ¶59.

[Figure 2: 2024 Predicted Rates Based on Canadian Data Only]

		Single (1-59 Cars)		Block (60 or More Cars)	
		March Report	Canadian Switching Only	March Report	Canadian Switching Only
Regulated Interswitching Zone					
1					
2					
3					
4a					
4b					
		km over 40	km over 40	km over 40	km over 40
Premiums:					
Automotive (Car type "V"):					
Hazardous and Dangerous (STCC 48, 49)					
Dimensional Loads:					

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Premiums for automobiles, hazardous and dangerous materials, and dimensional loads are added to the base rate when applicable. The premium on dimensional loads is a weighted average of small block and large block premiums with weights proportional to the share of regulated interswitched dimensional loads.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>.

4.3 THE METHODOLOGY ACCOMMODATES DIFFERENCES IN COMMODITY MIX

68. The Carey Report also emphasizes differences in commodity mix between shortline and Class I movements.⁶¹ Such differences matter only to the extent that commodity type affects rates after accounting for other characteristics of the movement included in the regression model. The methodology in the March Report already accounts separately for shipment categories for which the data show distinct rate effects, including dimensional loads, automobiles, and hazardous and dangerous goods. As explained in the March Report, the methodology can also accommodate additional commodity categories where appropriate.⁶²

69. To test whether accounting for additional commodity categories materially affects the estimated rates, Figure 3 below presents the results of a specification that includes indicators for commodity categories at the two-digit STCC level, as in the Carey Report.

70. Figure 3 shows that including these commodity categories does not materially change the regulated rates predicted by the methodology in the March Report for 2024. Figures A2 and A3 in

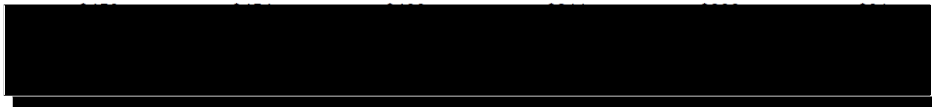
⁶¹ Carey Report, ¶138.

⁶² March Report, ¶¶8, 90.

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Appendix A show similar results for 2025 and 2026. These results also demonstrate that commodity differences can be tested and accounted for econometrically.

[Figure 3: Estimated 2024 Interswitching Rates]

Regulated Interswitching Zone	Single (1-59 Cars)			Block (60 or More Cars)		
	March Report	March Report + STCC	Carey Report	March Report	March Report + STCC	Carey Report
1						
2						
3						
4a						
4b						
	km over 40	km over 40	km over 40	km over 40	km over 40	km over 40

Premiums:
Automotive (Car type "V"):
Hazardous and Dangerous (STCC 48, 49):
Dimensional Loads:

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Premiums for automobiles, hazardous and dangerous materials, and dimensional loads are added to the base rate when applicable. The premium on dimensional loads is a weighted average of small block and large block premiums with weights proportional to the share of regulated interswitched dimensional loads.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025; available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; Carey Report Production.

71. While the Carey Report estimates relationships between commodity categories and rates, it does not provide an economic explanation for treating each commodity category as a separate determinant of interswitching rates. Economic theory, knowledge of railway operations, and the institutional features of interswitching inform the selection of variables for an economic model. The data may identify additional relationships warranting examination, but those relationships must be assessed in light of economic theory and the relevant operational and institutional context. Regression analysis is then used to estimate the empirical importance of the selected factors and interpret the results. The March Report model is grounded in prior economic reasoning and institutional knowledge rather than derived from a purely statistical search of the data. In particular, separate premia are estimated for dimensional loads, automotive traffic, and hazardous and dangerous goods. While this may appear similar to the commodity controls used in the Carey Report, the underlying basis for including the variables differs. These variables are included because they correspond to identifiable differences in handling requirements, operating practices, risks, and other factors that distinguish the interswitching services provided for these categories, as described in the March Report. In contrast, the Carey Report includes separate effects for commodity categories without identifying corresponding differences in the interswitching service performed. The Carey Report does not explain why, for example, interswitching a boxcar of newsprint (STCC 26) should require a different adjustment from interswitching a boxcar of canned vegetables (STCC 20) when the railway performs the same interswitching service.

4.4 DIFFERENCES IN LARGE BLOCK TRAFFIC MAY REFLECT THE EFFECT OF REGULATION

72. The Carey Report Figure 7 shows that large block movements constitute a greater share of regulated traffic than of unregulated traffic in the data.⁶³ One plausible explanation is the substantial discount available under the current regulated interswitching rates once a movement reaches 60 cars. That discount may encourage traffic to be consolidated into blocks of 60 or more cars, including shipments that would otherwise move in smaller blocks. If so, the difference in traffic composition may reflect incentives created by the regulated rate structure rather than an underlying difference between otherwise comparable interswitching services.
73. Under that interpretation, removing the large block variable, as the Carey Report does in one of its alternative specifications, would eliminate an economically relevant characteristic because its prevalence differs between regulated and unregulated traffic.⁶⁴ Removing the variable would not make the underlying movements more comparable. Rather, it would prevent the regression model from estimating the commercial rate difference associated with block size. The methodology in the March Report retains the large block size variable and estimates the discount observed in commercially negotiated rates. That estimated discount is smaller than the discount embedded in the current regulated interswitching rates, a result that is consistent with the possibility that the regulated discount affects how traffic is assembled into blocks.⁶⁵

4.5 HAULAGE MOVEMENTS ARE EXCLUDED FROM THE ANALYSIS

74. Ms. Carey discusses differences between haulage and interswitching and observes that agreements between Class I and shortline railways may include haulage services or have interswitching services combined with haulage services.⁶⁶ Those observations have no bearing on the analyses in the March Report because of the exclusion of all haulage movements from it.⁶⁷ This includes movements where interswitching and haulage were provided as a bundle.

4.6 THE SHORTLINE OWNERSHIP AND CONTRACTUAL ARRANGEMENT ARGUMENTS ARE UNSUPPORTED

75. Ms. Carey observes that “many short line railroads were either sold or leased by Class I railroads” and suggests that their switching rates may therefore reflect terms associated with those

⁶³ Carey Report, ¶41, Figure 7.

⁶⁴ Carey Report, ¶56.

⁶⁵ Carey Report, ¶42 and footnote 60. March Report, ¶¶71-72 and Figure 7. Note that even if the reaction of shippers to artificially low rates for large blocks only partially explains the difference between the prevalence of large blocks in the regulated and unregulated data, the exclusion of large blocks is still a concern.

⁶⁶ Carey Report, ¶¶35, 36 and 39.

⁶⁷ March Report, ¶57.

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transactions.⁶⁸ This observation does not establish that the concern affects the data or estimates in the March Report, for the following reasons.

76. First, Ms. Carey does not identify any particular movement, rate, or agreement in the data used in the March Report analysis that was affected by a sale or lease arrangement. Her observation identifies a theoretical possibility but does not show that it applies to the observations in the data or materially affects the estimated rates.
77. Second, the March Report expressly recognized that rates imposed by a merger condition may not reflect market outcomes and should be excluded from the data where they can be identified.⁶⁹ Consistent with that approach, the data request to CN specified the exclusion of traffic moving at rates regulated or imposed under post-merger conditions because those rates may not reflect market outcomes.⁷⁰ Ms. Carey's observation therefore neither identifies an actual problem in the data used in the March Report nor raises a concern that the proposed methodology in the March Report fails to address. The same principle generally applies to other rates that the CTA may determine should be omitted from the analysis.⁷¹
78. Third, based on information provided by CN, rates established at the time of a sale or merger generally remain in effect for only a few years. Thereafter, the rates may be commercially negotiated or renegotiated if either party is no longer satisfied with the arrangement.
79. Fourth, Ms. Carey observes that some interswitching rates are negotiated as part of broader commercial agreements.⁷² In particular, she identifies the following characteristics of U.S. reciprocal switching arrangements: (a) some rates apply only to particular carriers; (b) some rates

⁶⁸ Carey Report, ¶139.

⁶⁹ March Report, ¶¶13, 52, and Appendix B ¶25.

⁷⁰ March Report, ¶13.

⁷¹ For example, on May 15, 2026, UP initiated proceedings before the U.S. Surface Transportation Board with regard to BNSF's changes to voluntary reciprocal switching arrangement involving UP and BNSF affecting customer facilities in six locations (Hastings, Grand Island, Lincoln, and Havelock, Nebraska; Island Park, Iowa; and Saginaw, Texas). See *Union Pacific Railroad Company v. BNSF Railway Company*, STB Docket No. NOR 42188. These locations do not appear in the CN transaction data used in the March Report. Moreover, the methodology calls for excluding rates when there is a concern that the rates do not represent an ordinary market transaction. Therefore, disputed rates can be readily omitted from the data. (I note that transactions at undisputed rates involving parties in a dispute over other rates need not be discarded just because there exist rates subject to a dispute.) In addition, the market-based approach does not give equal weight to every published rate and instead relies on transactions where traffic actually moves. Rates associated with greater volume of traffic have a greater weight in the econometric analyses than rates with little traffic. This reduces the undue influence of isolated observations and focuses on rates at which traffic actually moves. Note also that this is a dispute between two Class I railways who both appear to compete for the line haul traffic from these facilities and therefore the dispute might not have arisen if one of the railways was a Class II or Class III railway. The March Report provides estimates with data limited to transactions involving non-Class I railways and shows that the results are similar to those from the full sample.

⁷² Carey Report, ¶122.

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are commodity-specific; (c) reciprocal access at one location may be exchanged for access at another; (d) different U.S. Class I railways negotiate different arrangements; and (e) some rates arise from merger-related conditions.⁷³

80. The fact that some rates are negotiated as part of broader commercial agreements does not, by itself, make those rates unsuitable. A rate negotiated as one component of a broader agreement remains a commercially negotiated outcome reflecting the circumstances, alternatives, and bargaining positions of the parties.
81. With the exception of post-merger conditions discussed above, the other characteristics identified in the Carey Report are features common to commercially negotiated transactions that reflect the commercial circumstances in which those rates were determined.⁷⁴ The Carey Report does not show that any of these characteristics systematically biases the observed rates or materially affects the rates predicted by the model in the March Report.
82. Taken together, the differences identified by Ms. Carey do not establish that the observed commercial transactions are unsuitable as a benchmark. Some of these differences concern transactions already excluded from the analysis; others involve observable characteristics that can be accounted for econometrically. Still others, such as differences in large block traffic, may themselves reflect the effects of regulation and can nevertheless be accounted for econometrically. More generally, Ms. Carey's observations identify matters appropriate for additional sensitivity testing, although the Carey Report does not undertake that testing. The additional analyses presented in this report examine those matters and do not show that the remaining differences materially affect the resulting rate estimates or provide a basis for changing the methodology in the March Report. Although these matters may inform further refinement, they do not provide a basis for assigning no weight to commercially negotiated interswitching rates.

5 MS. CAREY'S PROPOSED MODIFICATIONS DO NOT PROVIDE A WORKABLE RATE-SETTING METHODOLOGY AND GENERATE IMPLAUSIBLE RESULTS

83. Ms. Carey critiques the methodology and data presented in the March Report but does not propose an alternative approach or incorporate additional data. The Carey Report uses the data accompanying the March Report and modifies the regression model to estimate alternative specifications and calculate alternative regulated rates.⁷⁵
84. Ms. Carey's empirical analyses do not establish that the methodology proposed in the March Report is unreliable. Some of Ms. Carey's criticisms raise questions that warrant further examination. The additional sensitivity analyses and refinements presented in this report examine those questions. The results of that examination do not warrant changing the regression model or

⁷³ Carey Report, ¶122.

⁷⁴ Carey Report, ¶¶15, 19, 22-24.

⁷⁵ Carey Report, ¶¶5-7, 60, and footnote 82.

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the broader methodological approach, nor do they establish that commercial market factors cannot reliably inform the determination of regulated interswitching rates.⁷⁶

85. Ms. Carey proposes two principal modifications to the methodology in the March Report. First, she adds commodity and interchange fixed effects and applies a separate prediction and averaging procedure to calculate regulated rates.⁷⁷ Second, she reweights the observations in the unregulated data to reproduce selected characteristics of regulated traffic when estimating the regression model.⁷⁸ Neither modification provides a valid or workable rate-setting methodology. The first is internally inconsistent, produces economically implausible predictions, and cannot be applied consistently across interchanges or years. The second does not address the concerns Ms. Carey identifies and is also incorrectly implemented. Furthermore, Ms. Carey treats the R-squared statistic as a measure of model reliability or validity, although it measures in-sample statistical fit and does not establish model validity. When assessed based on out-of-sample predictive performance and suitability for annual rate setting, her alternative specifications do not improve upon the specification in the March Report.
86. Because Ms. Carey uses the same data, differences attributable to her analytical choices can be identified and assessed. The differences between the rates calculated by Ms. Carey and those presented in the March Report result from changes to the estimation sample, explanatory variables, treatment of block size, weighting methodology, and prediction procedure. They do not result from an identified computational error or from an error in the implementation of the methodology as presented in the March Report.
87. Ms. Carey's alternative specifications do not provide a complete operational method for incorporating commercial market factors into the determination of regulated interswitching rates. Her principal alternative specification applies only to small-block movements, produces negative predicted rates and, by her own account, is not suitable for setting Canadian regulated interswitching rates.⁷⁹

5.1 THE CAREY REPORT'S MODEL PRODUCES ECONOMICALLY IMPLAUSIBLE RESULTS

88. The model reported in Carey Report Figure 10 and in Appendix B of the Carey Report estimates a *negative* coefficient on distance.⁸⁰ All else equal, this implies that the total amount paid for interswitching *decreases* as the distance of the movement increases. This is not merely a decline in the charge per kilometre or revenue per ton-mile, either of which may decline with distance. Rather, it is a decline in the total charge, equivalent to a rebate for additional distance. Such a relationship is economically implausible, contradicts the observed patterns in the underlying data,

⁷⁶ Carey Report, Section III.

⁷⁷ Carey Report, Section III.B.

⁷⁸ Carey Report, Section III.C.

⁷⁹ Carey Report, ¶¶56, 64, 67, and footnote 83.

⁸⁰ Carey Report, Figure 10 and Appendix B.

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and is inconsistent with the regulated interswitching rate structure, under which rates tend to be higher for more distant zones.⁸¹

89. The inclusion of interchange fixed effects may contribute to the model's negative relationship between rates and distance. Movements at a particular interchange generally originate from or terminate at a limited number of locations and therefore cover a limited range of distances. Interchange identity and the movement distances at that interchange are consequently correlated. As a result, the interchange fixed effects may absorb variation in rates associated with distance, limiting the distance coefficient from accurately estimating the relationship between distance and rates. This limitation is particularly relevant because distance defines the regulated interswitching zones and is therefore central to the rate-setting methodology.
90. The approach in the Carey Report also produces negative and otherwise economically implausible predicted rates.⁸² For example, for Zone 4a, for single-car rates, approximately 2 percent of the predictions generated for Canadian interchange stations by Ms. Carey's model are negative, and an additional 34 percent are less than half the applicable 2025 regulated rate.⁸³ Ms. Carey excludes those negative predictions from the calculation of the rates reported in Carey Report Figure 10.⁸⁴ For example, the model predicts a negative rate of [REDACTED] for a Zone 3 movement of farm products at Moose Jaw.⁸⁵ This would imply that the railway providing the interswitching service would *pay* the line-haul railway [REDACTED] rather than *be paid* for the service it performs. Although Ms. Carey excludes these negative predictions from the resulting averages, their occurrence shows that her model produces economically unrealistic predictions and raises concerns about the reliability of the resulting estimates. In contrast, the model estimated in the March Report did not produce negative predicted rates.⁸⁶
91. Ms. Carey's model also produces positive but unusually low predicted rates that contribute to her calculation of regulated rates. For example, her model predicts a rate of [REDACTED] for a movement of clay, concrete, glass or stone products at Paddington, Manitoba, in Zone 4a, which is for

⁸¹ See Figure 4 of the March Report. In some years, the regulated rate for Zone 2 is higher than the rates for Zones 3 or 4. However, none of the regulated rate schedules from 2021 to 2025 exhibits a consistently downward relationship between the total charge and distance across all zones. Regulated rates have generally tended to be higher for movements in more distant zones.

⁸² Carey Report, footnote 83. While Ms. Carey removes the negative predictions from her average to produce the rates shown in her Figure 10, the fact that the model produces negative rates as predictions is a concern.

⁸³ Carey Report Production, "HC-WP Revised Regression.xlsx", sheet "NERA Rates" shows [REDACTED] negative predicted rates, and additional [REDACTED] predicted rates less than [REDACTED] the 2025 regulated single-car fee of \$605, divided by a total of [REDACTED] predicted rates for Canadian interchange stations. See March Report, Figure 4.

⁸⁴ Carey Report, footnote 83. Carey Report Production, "HC-WP Revised Regression.xlsx", sheet "Figure 8".

⁸⁵ Carey Report Production, "HC-WP Revised Regression.xlsx", sheet "NERA Rates".

⁸⁶ March Report ¶ 6 and Appendix B.

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distances of 20 km or more.⁸⁷ This is less than [REDACTED] of the applicable regulated rate of \$455 per railcar and less than [REDACTED] of the lowest unregulated rate observed at Paddington, [REDACTED], for movements of under 8 kilometres, less than half of the distance for Zone 4a.⁸⁸ Excluding the negative predictions does not resolve the underlying problem: Ms. Carey's statistical model predicts economically implausible rates, which in turn affect the regulated rates calculated using that model.

5.2 THE CAREY REPORT'S RATE CALCULATIONS DO NOT REFLECT OBSERVED TRAFFIC

92. The rate calculations in the Carey Report rely predominantly on predictions for traffic combinations that are not observed in the data. Ms. Carey's model predicts rates for combinations of regulated zone, interchange, and commodity and then averages those predictions within each zone.⁸⁹ As shown in Figure 4 below, the vast majority of these combinations have no corresponding traffic in the data, while observed traffic is concentrated in a relatively small number of commodity-interchange combinations. Her approach gives substantial weight to predictions for combinations for which no actual traffic is observed in the data.⁹⁰
93. Figure 4 shows the number of observations in the unregulated data for each combination of two-digit STCC commodity category and interchange. Each cell represents one commodity-interchange combination within Zone 3. Empty cells in which the relevant commodity-interchange combination is not observed, have no colour, while progressively darker shading indicates a larger number of observations. The figure shows that over [REDACTED] percent of the cells are empty and that observed traffic is concentrated in a small subset of commodity-interchange combinations. Only a small proportion of cells, [REDACTED] percent of total cells, contain [REDACTED] or more observations, as indicated by the limited number of darker cells in each panel. Figures A6-1, A6-2, and A6-3 in the Appendix A show similar patterns in the other zones, with no observations for most commodity-interchange combinations.

⁸⁷ Carey Report Production, "HC-WP Revised Regression.xlsx", sheet "NERA Rates"

⁸⁸ CN Interswitching Data, 2022-2025.

⁸⁹ Carey Report, ¶155.

⁹⁰ Carey Report, Figure 10 Note 4.

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[Figure 4: Observed Traffic by Commodity and Interchange for Zone 3]



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Notes: Zones are defined based on haul distance (km), with Zone 1 corresponding to distances greater than 0 km and up to 6.4 km, Zone 2 to distances greater than 6.4 km and up to 10 km, Zone 3 to distances greater than 10 km and up to 20 km, and Zone 4a to distances greater than 20 km and up to 40 km

Sources: CN Interswitching Data, 2022-2025.

94. The approach in the Carey Report generates predictions for all combinations of interchange, commodity and zone, regardless of whether those combinations are observed in the data.⁹¹ Across all zones combined, [REDACTED] percent of the commodity-interchange combinations contain no observations, [REDACTED] percent contain between [REDACTED] observations, and only [REDACTED] percent contain at least [REDACTED] observations in the unregulated data used to estimate her model. The vast majority of predictions used to calculate the rates reported in Carey Report Figure 10 therefore correspond to commodity-interchange combinations for which no actual traffic is observed.⁹² The Carey Report approach thus requires predictions at a level of granularity that the observed transactions do not reliably support. The March Report model does not estimate separate interchange effects and therefore does not require observations for every commodity-interchange combination.
95. Ms. Carey then calculates a simple average of these predictions without accounting for substantial differences in traffic volumes across interchanges.⁹³ For example, [REDACTED], with more than [REDACTED] interswitched carloads annually, will in some instances receive the same weight as [REDACTED], with fewer than [REDACTED] carloads annually. Her averaging procedure gives equal weight to interchanges that differ dramatically in their importance to actual traffic and does not produce rates representative of the observed distribution of movements. In contrast, the methodology proposed in the March Report estimates the model using individual observed carloads. Rates and transaction characteristics associated with greater traffic volumes therefore have correspondingly greater influence on the estimated relationships.

5.3 THE CAREY REPORT'S METHODOLOGY CANNOT BE APPLIED CONSISTENTLY ACROSS INTERCHANGES OR YEARS

96. A more empirically grounded application of the specification in the Carey Report would generate predictions using the observed distribution of regulated traffic. However, the inclusion of interchange fixed effects means that the model can generate a prediction for a regulated interchange only if that interchange also appears in the unregulated estimation data. Regulated interchanges for which no unregulated interswitching transactions are observed therefore cannot be accommodated by Ms. Carey's statistical model. Where the unregulated data contain relatively few observations for a particular interchange or commodity, the corresponding effects may be imprecisely estimated, if they can be estimated at all.

⁹¹ Carey Report, ¶155.

⁹² Carey Report, Figure 10.

⁹³ Carey Report, ¶155 and Figure 10.

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97. Moreover, the Carey Report does not establish that interchange identity is itself an economically relevant determinant of rates. Without evidence that interchange identity affects rates after accounting for the other characteristics of the movement, there is no demonstrated basis for including interchange fixed effects in the model. The estimated interchange fixed effects in the Carey Report do not provide such evidence because the specification has the limitations described in this section and the underlying interchange-level data are sparse. Any inclusion of interchange-specific variables would need to account for the limitations of the available data. In addition, the regulated interswitching rates are not interchange-specific.⁹⁴ The Carey Report specification introduces distinctions that are not reflected in the regulated-rate structure and prevents the model from calculating rates consistently for all interchanges subject to regulated interswitching.
98. The sparsity of the interchange-commodity data shown in Figure 4 is partly mitigated by the Carey Report's use of data pooled across several years to calculate the predicted rates reported in Carey Report Figure 10. Although pooling years increases the number of observations available for estimation, it does not resolve the sparsity of particular interchange-commodity combinations and creates an additional issue for annual rate setting.
99. Regulated interswitching rates are updated annually, but the Carey Report approach uses multiple years of data to predict one set of regulated rates. Such an approach would require rules governing how many years of data to include, which years to include, how to weight older observations, and how to account for changes in rates and traffic composition over time. The Carey Report neither addresses these issues nor explains how the pooled specification would be updated from one year to the next.

5.4 THE CAREY REPORT'S USE OF INTERCHANGE AND COMMODITY FIXED EFFECTS IS INTERNALLY INCONSISTENT

100. The Carey Report does not explain the inclusion of commodity and interchange fixed effects in the model and the subsequent calculation of regulated rates solely by zone.
101. In Section III.B of the Carey Report, the model includes indicator variables for each interchange and each two-digit STCC commodity category.⁹⁵ Those indicator variables allow the estimated rate to differ by interchange and commodity. The Carey Report then generates predictions for combinations of interchange, commodity and regulated zone, but averages the resulting predictions within each zone to calculate the rates reported in Carey Report Figure 10.⁹⁶
102. If commodity and interchange are sufficiently important to require separate estimated effects, it is unclear why those differences are then averaged rather than incorporated into commodity-specific or interchange-specific regulated rates. Conversely, if those differences need not be

⁹⁴ Carey Report, Section III.B.

⁹⁵ Carey Report, Section III.B.

⁹⁶ At the time of writing this report, I am not aware of any published study that uses the approach used to predict rates in Section III.B of the Carey Report.

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reflected in the resulting rate structure, the Carey Report does not explain why estimating separate interchange and commodity effects and then averaging them away produces more reliable zone-level rates.⁹⁷

103. Figure 5 below lists interchanges in Canada represented in the CN Interswitching Data used in the March Report and reports the volumes of carloads moved at regulated and unregulated rates between 2022 and 2025. Ms. Carey's approach presumes that interchange fixed effects are necessary to account for interchange-specific factors that may affect market rates. However, requiring interchange-specific fixed effects prevents her model from generating predictions for most locations where regulated interswitching occurs. For example, the second most common interchange in the regulated data is [REDACTED] with [REDACTED] carloads interswitched between 2022–2025 at regulated rates. Over the same four-year span, only two carloads were interswitched at [REDACTED] at unregulated rates, providing no reliable basis for Ms. Carey to estimate a [REDACTED]-specific effect. At many interchanges, no unregulated carloads were interswitched during the same period, making it impossible to estimate an interchange-specific effect for those locations. Ms. Carey's specification therefore requires interchange-specific effects precisely where the available data often make those effects impossible to estimate. Any prediction for those locations would have to assign an interchange effect that was not estimated for that location, defeating the stated purpose of including interchange fixed effects. This limitation is created by Ms. Carey's specification, rather than being inherent in the market data or a market-based methodology.

⁹⁷ Carey Report, Section III.B.

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[Figure 5: Regulated and Unregulated Interswitched Carloads, Canada, 2022-2025]

Interchange	Interswitched Carloads (2022-2025)	
	Regulated	Unregulated
[REDACTED]		

Notes: Includes only carloads interswitched in Canada.

Sources: CN Interswitching Data, 2022-2025; Bank of Canada, “Annual exchange rates,” published December 31, 2025; available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otccta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; 2025 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2024-181>.

5.5 R-SQUARED DOES NOT ESTABLISH MODEL RELIABILITY

104. Ms. Carey relies on R-squared and discusses the concepts of “explanatory power,” “statistical reliability,” prediction, and determining rates for “the future” as if they were interchangeable.⁹⁸ These concepts are distinct. R-squared measures fit within the estimation sample, commonly referred to as in-sample fit. Statistical power concerns the probability of detecting an effect of a specified magnitude when that effect exists. Predictive reliability concerns how accurately a model predicts observations outside the estimation sample. None is determined by R-squared alone.

5.5.1 R-SQUARED MEASURES IN-SAMPLE FIT, NOT MODEL VALIDITY

105. The Carey Report repeatedly treats R-squared as a measure of model reliability.⁹⁹ It is not. R-squared measures statistical fit within the estimation sample. It does not establish whether a model is valid, whether it produces reliable estimates or how accurately it predicts observations outside the estimation sample.
106. In her discussion of R-squared, Ms. Carey treats a measure of statistical fit as a measure of model validity.¹⁰⁰ The econometrics textbook she cites explains that R-squared measures the proportion of variation in observed outcomes accounted for by the variables included in the regression.¹⁰¹ In this case, R-squared measures the proportion of the variation in observed interswitching rates accounted for by the explanatory variables included in the model such as distance, block size and shipment characteristics.
107. An R-squared of 0.289 does not mean that the model *predicts interswitching rates “at a 29% level.”*¹⁰² Rather, it means that approximately 28.9 percent of the *observed variation in interswitching rates* is accounted for by the fitted regression model and the variables included in it, including distance, block size, and shipment characteristics. That statistic does not establish whether a model is correctly specified, whether the estimated relationships are economically

⁹⁸ Carey Report, ¶¶49-53.

⁹⁹ Carey Report, ¶¶52-53, 63-64.

¹⁰⁰ Carey Report, Section III.A.

¹⁰¹ Carey Report, ¶50 and footnote 68.

¹⁰² Carey Report, ¶53.

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meaningful, or whether the model provides reliable estimates for the question being studied. As another econometric textbook explains:

*“R2 values often help us understand how well our model predicts the dependent variable, but the measure may be less useful than it seems. **A high R2 is neither necessary nor sufficient for an analysis to be useful.** A high R2 means the predicted values are close to the actual values. It says nothing more. We can have a model loaded with endogeneity that generates a high R2. The high R2 in this case means nothing; the model is junk, the high R2 notwithstanding. **And to make matters worse, some people have the intuition that a good fit is necessary for believing regression results. This intuition isn’t correct, either. There is no minimum value we need for a good regression.** In fact, it is very common for experiments (the gold standards of statistical analyses) to have low R2 values. There can be all kinds of reasons for low R2 ... but the model could nonetheless yield valuable insight.”¹⁰³ (emphasis added)*

108. Ms. Carey’s criticism of model reliability rests heavily on the proposition that the regressions in the March Report have R-squared values ranging from 0.289 to 0.671, making them unreliable “in and of themselves”.¹⁰⁴ As the textbook passage above illustrates, that proposition is incorrect. There is no basis for treating R-squared alone as a measure of reliability. The relevant question is not whether the regression explains *all* variation in observed rates, but whether the included variables capture economically meaningful determinants of interswitching rates and produce reliable estimates of market-based rates for regulated interswitching movements.¹⁰⁵
109. Ms. Carey’s own analysis illustrates why R-squared values cannot be treated as a measure of reliability. Her alternative specifications produce R-squared values ranging from 0.291 to 0.849.¹⁰⁶ Those values describe differences in statistical fit; they do not establish that any particular specification is economically valid or reliable. Indeed, there is no meaningful distinction between an R-squared of 0.289 in the March Report and an R-squared of 0.291 in the Carey Report. This reinforces the point made throughout the econometrics literature: the R-squared statistic is a measure of fit, not a measure of model validity.

¹⁰³ Bailey, Michael, *Real Econometrics*, New York: Oxford University Press, 2017, p. 71.

¹⁰⁴ “These low r^2 raise substantial concerns for reliable estimates in and of themselves.” “A methodology which can only predict the interswitching rate at a 29% level in the present is unreliable for purposes of determining the regulated CTA interswitching rate, setting aside all other deficiencies with the methodology.” Carey Report, ¶¶51-52. Ms. Carey’s proposed alternative regression specifications have R-squared values between 0.291 and 0.85, with her specification in Carey Figure 11 having an R-squared of 0.66.

¹⁰⁵ “Nevertheless, heavy reliance on the $\bar{R}^2$ (or R^2) can be a trap. In applications, “maximize the $\bar{R}^2$ ” is rarely the answer to any economically or statistically meaningful question. Instead, the decision about whether to include a variable in a multiple regression should be based on whether including that variable allows you better to estimate the causal effect of interest.” James H. Stock and Mark W. Watson, *Introduction to Econometrics*, 3rd Edition Update, Pearson, 2015, p.198.

¹⁰⁶ Carey Report, Appendix B.

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110. A classic illustration of why R-squared alone cannot establish whether a model is appropriate is Anscombe's Quartet. In that well-known statistical example, four datasets with dramatically different underlying patterns produce nearly identical summary statistics, including means, variances, correlations, regression lines, and R-squared values of approximately 0.667. The example shows that apparently identical measures of fit can arise from fundamentally different relationships in the underlying data. The lesson is limited but important: the R-squared statistic provides information about in-sample fit, but it does not, standing alone, establish that a model is valid, appropriate, or reliable for the question being studied.

Figure 6: Anscombe's Quartet

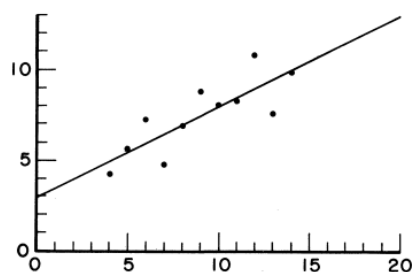


Figure 1

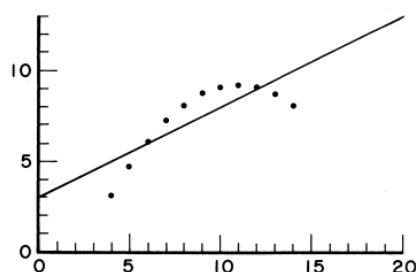


Figure 2

19

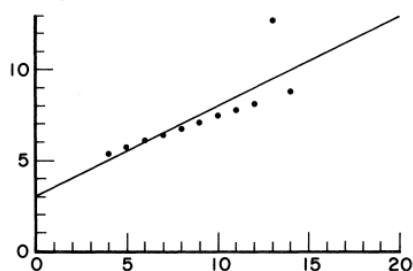


Figure 3

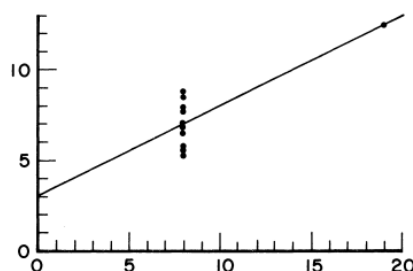


Figure 4

Notes: Figures 1-4 reproduced from the original Anscombe's paper. Each regression line has an R-squared of 0.667.

Sources: Anscombe, Francis J. "Graphs in statistical analysis," *The American Statistician* 27, no. 1 (1973): 17-21.

5.5.2 PREDICTIVE PERFORMANCE IS THE RELEVANT TEST

111. Ms. Carey's discussion of R-squared and the models' predictive capacity also conflates two distinct but related concepts: in-sample fit and out-of-sample performance. In-sample fit refers to the model's ability to fit the data used to estimate the model, whereas out-of-sample performance

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concerns its ability to predict values not used in estimation. Ms. Carey's criticism of March Report regressions' R-squared concerns the models' in-sample fit.¹⁰⁷ The proposed methodology, however, uses relationships estimated from unregulated interswitching transactions to predict market-based rates for regulated interswitching movements. The relevant question is therefore how well the estimated relationships perform outside the data used to estimate them, not merely how closely the model fits the estimation sample.

112. This distinction is important because it is well known that good in-sample performance does not necessarily translate into good out-of-sample performance, and that the in-sample advantage of one model over another may narrow or reverse out of sample. Furthermore, the rate calculations in the Carey Report average the estimated STCC fixed effects because the proposed rate schedule does not vary by STCC category.¹⁰⁸ That averaging removes the commodity-specific distinctions introduced into the model before the resulting predictions are translated into regulated rates. Whether the additional STCC fixed effects improve the model's predictive performance must therefore be assessed after applying the averaging procedure required by the proposed rate schedule.
113. I performed that comparison using root mean squared prediction error ("RMSPE"), a measure of the difference between predicted and observed rates.¹⁰⁹ Figure 7 below reports the RMSPE for each combination of estimation year and prediction year in the unregulated data. For example, the 2024–2025 combination reports the RMSPE obtained by applying the coefficients estimated using the 2024 estimation sample to observations in the 2025 sample. The left panel reports the RMSPE for three specifications: (1) original specification from the March Report; (2) the same original specification with STCC fixed effects added; and (3) the specification with STCC fixed effects averaged before predictions are calculated. The third specification reflects the averaging procedure used to translate the Carey Report's model into a rate schedule that does not vary by STCC category.
114. The right panel, "Relative to Baseline," presents the percentage difference between each model's RMSPE and the RMSPE of the Baseline model. A negative value indicates better predictive performance relative to the Baseline model. The *Baseline + STCC FEs* specification has an RMSPE approximately [REDACTED] percent lower on average than the Baseline model. However, once the STCC fixed effects are averaged before prediction, as required to produce a rate schedule that does not vary by commodity category, the result reverses. The resulting specification has an RMSPE approximately [REDACTED] percent higher on average than the Baseline model.
115. In short, adding STCC fixed effects modestly improves out-of-sample predictive performance when the commodity-specific effects are retained. That improvement reverses when those effects

¹⁰⁷ Carey Report, ¶¶51-52.

¹⁰⁸ Carey Report, ¶55.

¹⁰⁹ The RMSPE is the square root of the mean of the squared differences between the observed outcome and the predicted outcome, mathematically: $\text{RMSPE} = \sqrt{\sum_{k=1}^n (\text{Observed}_k - \text{Predicted}_k)^2 / n}$.

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are averaged before prediction, as the rate calculations in the Carey Report require.¹¹⁰ The specification used to calculate the rates proposed in the Carey Report therefore performs worse, rather than better, than the original specification.

[Figure 7: Root Mean Squared Prediction Error by Specification and Model Year]

Model	Model Year	Predicted Sample Year			Relative to Baseline		
		2024	2025	2026	2024	2025	2026
Baseline	2024						
	2025						
	2026						
Baseline + STCC FEs	2024						
	2025						
	2026						
Baseline + STCC FEs w/ Mean FEs	2024						
	2025						
	2026						

Notes: Rows represent the specification and year for each model. For example, the Baseline 2024 row reports results for the baseline specification estimated using data from October 2022 through September 2023. Columns represent the year of the rates being predicted. The left panel reports the Root Mean Squared Prediction Error (RMSPE) in levels, while the right panel reports the RMSPE as a percentage difference relative to the baseline specification.

Sources: March Report; CN Interswitching Data, 2022-2025; Bank of Canada, “Annual exchange rates,” published December 31, 2025; available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otccta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; 2025 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2024-181>.

5.5.3 DECLINING ANNUAL R-SQUARED VALUES DO NOT ESTABLISH DECLINING RELIABILITY

116. Ms. Carey further observes that the R-squared values for the annual specifications in the March Report decline from 0.503 for 2022-2023 to 0.433 for 2023-2024 and 0.289 for 2024-2025.¹¹¹ She concludes that the methodology is “likely to become more unreliable over time.”¹¹² That conclusion does not follow from the three annual R-squared values. As explained above, the models are estimated using different annual datasets. Her comparison therefore establishes only that in-sample fit differed across the three years. That difference may result from changes in the dispersion of observed rates, the composition of the annual samples, the prevalence of transaction-specific variation, or the relationship between the explanatory variables and rates

¹¹⁰ Carey Report, ¶¶61 and Figure 10 note 4.

¹¹¹ Carey Report, Figure 9.

¹¹² Carey Report, ¶¶51-52.

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during the relevant period. It does not establish that the methodology itself became less reliable over time. The Carey Report does not examine whether the decline in R-squared corresponds to an increase in prediction error.¹¹³ Without such analysis, the change in in-sample fit does not establish that the model's predictions became less reliable over time.

5.5.4 R-SQUARED COMPARISONS ACROSS DIFFERENT SAMPLES DO NOT ESTABLISH RELATIVE FIT

117. The limitations of the Carey Report's reliance on the R-squared statistic are also apparent elsewhere in the report. For instance, in Carey Report Figure 9, Ms. Carey compares R-squared values across different models. Those models are estimated using *different* subsets of data.¹¹⁴ To the extent that the R-squared statistic can be used to compare the relative fit of different model specifications, such comparisons are generally informative only where the models use the same dependent variable and are estimated on the *same* underlying sample. Otherwise, differences in R-squared may simply reflect differences in the data being analyzed rather than differences in the relative fit of the specifications.¹¹⁵

5.5.5 ADDITION OF FIXED EFFECTS CAN INCREASE IN-SAMPLE FIT WITHOUT IMPROVING PREDICTIONS

118. The inclusion of interchange fixed effects allows the model to assign a separate intercept to each interchange and thereby absorb persistent interchange-specific differences in the observed rates. For models estimated on the same sample, adding these fixed effects cannot reduce ordinary R-squared and will generally increase it because the model contains additional parameters selected to fit the observed data.¹¹⁶ It may also increase the adjusted R-squared if the

¹¹³ Carey Report ¶¶63, 71-72, and Figure 11.

¹¹⁴ Carey Report, Figure 9.

¹¹⁵ Damodar N. Gujarati, *Basic Econometrics*, 4th Edition, McGraw-Hill/Irwin, 2003, Chapter 13, §13.9.1, ("But there are problems with R^2 . First, it measures in-sample goodness of fit in the sense of how close an estimated Y value is to its actual value in the given sample. There is no guarantee that it will forecast well out-of-sample observations. Second, in comparing two or more R^2 's, the dependent variable, or regressand, must be the same. Third, and more importantly, an R^2 cannot fall when more variables are added to the model. Therefore, there is every temptation to play the game of 'maximizing the R^2 ' by simply adding more variables to the model."); See also, Jeffrey M. Wooldridge, *Introductory Econometrics: A Modern Approach*, 7th Edition, Cengage, 2020, p. 77. ("If two regressions use different sets of observations, then, in general, we cannot tell how the R-squareds will compare, even if one regression uses a subset of regressors.")

¹¹⁶ In all instances where a certain variable has a non-zero correlation with the dependent variable, the R-squared increases as the number of variables in the model is increased. See James H. Stock and Mark W. Watson, *Introduction to Econometrics*, 4th Global Edition, Pearson, 2020, p.223: "In multiple regression, the R^2 increases whenever a regressor is added unless the estimated coefficient on the added regressor is exactly 0." This illustrates a drawback to one possible use of R-squared, where one might keep adding variables (a "kitchen sink" regression) to increase the R-squared value. If one is trying to predict interchange rates using shipment distance and shipment characteristics, one could also include many highly granular shipment-specific indicators that have no causal relationship to rates. These additional variables may have little or no genuine

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improvement in fit outweighs the penalty for the inclusion of the additional parameters. Neither result establishes that the specification is more economically appropriate or produces more reliable predictions for regulated interswitching movements. Instead, it may reflect overfitting, where a model fits features specific to the observed sample rather than relationships that extend beyond it.

119. The concern is not simply that the model contains additional variables. It is that a specification may achieve a better fit to the particular observations used for estimation by absorbing sample-specific differences without improving, and potentially while reducing, its usefulness for prediction outside those observations. The appropriate test is therefore whether the additional fixed effects improve the model's predictive performance for the regulatory application at issue, not whether they increase its in-sample R-squared.¹¹⁷ The Carey Report provides no such test for the additional variables it includes.¹¹⁸

5.6 MS. CAREY'S REWEIGHTING IS CONCEPTUALLY UNSOUND AND, IN ANY CASE, IS INCORRECTLY IMPLEMENTED

5.6.1 MS. CAREY'S REWEIGHTING IS CONCEPTUALLY UNSOUND

120. In Section III.C of her report, Ms. Carey retains the specification from the March Report but applies weights to observations in the data based on differences between regulated and unregulated traffic. Specifically, Ms. Carey calculates her weights as the ratio of regulated to unregulated carloads in each of eight bins corresponding to large and small blocks in interswitching zones 1 through 4.¹¹⁹
121. Ms. Carey describes this reweighting scheme as a "transformation process that relies on the data Dr. Soboleva has and weights the economic characteristics of the 'unregulated' rates to better match the characteristics of the CTA regulated interswitches." She further explains that "this process involves re-weighting the importance the regression applies to specific observations in the 'unregulated' rate data to better mimic the spread/relationship of the CTA regulated interswitching data." Thus, Ms. Carey's stated purpose of applying this reweighting scheme to the

relationship with rates, yet the model's R-squared will never decrease as variables are added and may increase simply because the additional variables capture random variation in the sample rather than meaningful determinants of value. In Carey Report, Appendix B, Ms. Carey introduces 89 new variables into the model after her addition of interchange and commodity fixed effects.

¹¹⁷ "Statistical prediction entails using data to estimate a prediction model and then applying that model to new, out-of-sample observations. The goal is accurate out-of-sample prediction." James H. Stock and Mark W. Watson, *Introduction to Econometrics*, 4th Global Edition, Pearson Education Limited, 2020, Chapter 14, "Prediction with Many Regressors and Big Data," p. 514.

¹¹⁸ Carey Report, Section III.B.

¹¹⁹ Carey Report, Section III.C.

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unregulated interswitching data is to “better match the characteristics of the CTA regulated interswitches.”¹²⁰

122. To illustrate the supposed need for such reweighting, Ms. Carey points to the fact that large block movements account for a greater proportion of the regulated data than the unregulated data. However, block size is expressly included in the regression in the March Report model, and the regression model estimates rates conditional on block size rather than assuming that the block size distributions are identical between regulated and unregulated interswitching movements. Differences in the proportions of large and small block movements do not, by themselves, bias those conditional estimates.
123. Reweighting observations in the unregulated data to reproduce the composition of regulated traffic does not address any deficiency in the conditional estimates produced by the regression analysis in the March Report. Rather, reweighting changes the influence of individual observations to match the composition of the regulated traffic, even though the model already estimates the relationship between rates and those observed characteristics. The Carey Report does not explain why changing the influence of observations to reproduce the composition of regulated traffic would produce more reliable estimates of the commercial relationship between rates, distance and block size than those produced by the regression model without such reweighting.
124. Ms. Carey states that she reweights the unregulated data to “better match the characteristics of the CTA regulated interswitches,” using interswitching zone and block size which Ms. Carey describes as representing “the physical characteristics of Canadian regulated interswitching moves.”¹²¹ The Carey Report does not explain whether other characteristics, including special handling requirements, were evaluated as part of the reweighting exercise or whether they differ between regulated and unregulated traffic. The report does not address why interswitching zone and block size were selected for reweighting while other potentially relevant characteristics were not.

5.6.2 THE CAREY REPORT’S REWEIGHTING IS INCORRECTLY IMPLEMENTED

125. Even setting aside these conceptual issues, the weighting procedure in the Carey Report is implemented in a manner inconsistent with the underlying data. The data include separate variables for distance measured in kilometres and interswitching zone. However, interswitching zones are defined only for regulated traffic and do not apply to unregulated movements. The Carey Report nevertheless classifies unregulated movements using the recorded zone field rather than their observed distances.¹²² That field does not reliably identify zones for unregulated

¹²⁰ Carey Report, ¶¶68.

¹²¹ Carey Report, ¶¶68-69.

¹²² Carey Report, ¶¶66-70.

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traffic.¹²³ Where the field contains values that do not correspond to any regulated zone, such as "X" or "99," or no entry, the Carey Report assigns the movement a weight of zero and excludes it from the regression, even if its observed distance falls within the corresponding regulated-zone threshold. Where the field contains 1, 2, or 3, the Carey Report treats the value as a valid zone even though it does not represent a regulated-zone classification for an unregulated movement. Unregulated movements should instead be assigned to corresponding zones based on their observed distances and the applicable distance thresholds under the Railway Interswitching Regulations.

126. This implementation error results in incorrect zone assignments for unregulated movements. The resulting weights produce substantial arbitrary differences in the treatment of otherwise similar movements. For example, when constructing 2025 interswitching rates, the Carey Report assigns a weight of zero to 63 carloads of two-digit STCC [REDACTED] commodities moving in blocks of fewer than 60 cars over a distance of 13.5 kilometres at [REDACTED], effectively excluding those observations from the regression.¹²⁴ In contrast, the Carey Report assigns a weight of 15 to 71 carloads of the same commodity category moving in the same block size category over the same distance at the same interchange.¹²⁵ The substantial differences in the weights assigned to these otherwise similar movements do not appear to be explained by differences in commodity, block size, distance, or interchange location, but instead by differences in the recorded zone values used in the reweighting exercise.¹²⁶
127. Figure 8 below replicates the Carey Report's weighting analysis after assigning unregulated movements to zones using the distance thresholds specified in the Railway Interswitching Regulations. Figure A1 in Appendix A reports the coefficients from the underlying models that produce the predictions shown in Figure 8. As shown in Figure 8, the resulting predicted rates are higher than those reported in Carey Report Figure 12. This adjustment alone reduces by approximately [REDACTED] the difference between the rates reported in that figure and those estimated in the March Report.¹²⁷

¹²³ The CN Interswitching Data contain a field identifying the regulated interswitching zone for movements subject to Canadian interswitching regulation. For movements that are not subject to that regulatory regime, including unregulated Canadian movements and movements in the United States, the entries in this field do not identify regulated interswitching zones and therefore do not provide a basis for classifying such movements into regulated-zone categories. The data and code used in the March Report were provided with that report. The code classifies unregulated movements using their observed distances rather than the recorded interswitching-zone field.

¹²⁴ Carey Report Production, "HC-WP SE Weighted Sensitivity.do".

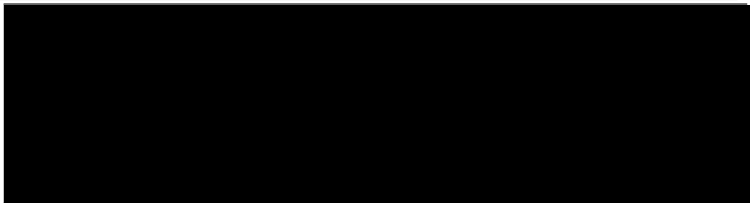
¹²⁵ Carey Report Production, "HC-WP SE Weighted Sensitivity.do".

¹²⁶ Carey Report, ¶70.

¹²⁷ Carey Report, ¶70 and Carey Report Figure 12.

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[Figure 8: Predicted 2024 Rates, Using the Carey Report's Weighting Procedure with Zones Assigned by Distance]

		Single (1-59 Cars)		
Regulated Interswitching Zone		March Report	Carey Report, Revised	Carey Report, Original
	1			
	2			
	3			
	4a			
	4b			
		km over 40	km over 40	km over 40
Premiums:				
Automotive (Car type "V"):				
Hazardous and Dangerous (STCC 48, 49):				
Dimensional Loads:				

Notes: Predicted rates under Carey Report, Revised model defines regulated interswitching zones based on definition in 7(2) of the Railway Interswitching Regulations. Zone 4b is unchanged from CN Interswitching Data.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025; available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otccta.gc.ca/eng/ruling/r-2022-164>; Railway Interswitching Regulations, available at <https://laws-lois.justice.gc.ca/eng/regulations/sor-88-41/FullText.html>; Carey Report Production.

128. Separate from the issue concerning the recorded zone values, the reweighting procedure assigns some observations weights as high as twenty, based on the relative prevalence of regulated traffic within the corresponding zone and block size category.¹²⁸ As a result, a relatively small number of movements in particular zone and block size categories can have a substantial influence on the estimated relationships, while other economically similar observations receive considerably less weight or no weight.
129. The Carey Report does not explain why differences in the prevalence of regulated traffic across zone and block size categories correspond to differences in the relevance of the underlying observations for estimating market-based rates.
130. The cell-ratio construction of the Carey Report weights creates a further issue. As described in Section III.C of the Carey Report, each weight is calculated by dividing the number of regulated carloads in a particular zone and block size cell by the number of unregulated carloads in the same cell.¹²⁹ The resulting weights can be very large when a cell contains few unregulated

¹²⁸ Carey Report, ¶¶66-70. Carey Report Production, "HC-WP SE Weighted Sensitivity.do".

¹²⁹ Carey Report, ¶70.

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carloads and cannot be calculated at all when a cell is empty. As a result, the weighting procedure is sensitive to the distribution of unregulated observations across zone and block size cells. The methodology described in the March Report does not depend on the availability of unregulated observations within each individual cell.

131. Given the implementation issues described above, the reweighting approach in the Carey Report does not appear to achieve its stated objective of reweighting “the economic characteristics of the ‘unregulated’ rates to better match the characteristics of the CTA regulated interswitches.” Whether the procedure achieves this objective can be assessed by comparing the average characteristics of the regulated data with those of the reweighted unregulated data. This assessment is generally referred to as a test of covariate balance.
132. Figure 9 reports average values for several shipment characteristics in the regulated data and in the unregulated data after application of the Carey Report’s weighting procedure using zones assigned from observed distances. A reweighting procedure designed to align the characteristics of two samples would generally be expected to improve balance between the regulated and reweighted unregulated data. As shown in Figure 9, substantial differences remain between the two groups after the application of the Carey Report weights. The weighting procedure as applied in Carey Report therefore does not appear to fully align the observable characteristics of the reweighted unregulated data with those of the regulated interswitching movements.
133. Two alternative reweighting approaches based on well-established methods were implemented to assess whether closer alignment between the regulated and unregulated samples could be achieved. The first approach uses propensity score weighting, while the second uses entropy balancing.¹³⁰ Both approaches reweight the data based on interswitching zone, block size, and special handling requirements. As shown in Figure 9, the propensity score approach substantially improves covariate balance between the regulated and unregulated samples, while entropy balancing achieves exact balance for the selected characteristics.¹³¹
134. Figure 9 presents a covariate balance table comparing averages from the regulated traffic with weighted averages obtained under each of the three reweighting approaches described above: entropy balancing, propensity score weighting, and Carey Report’s weighting scheme. Both entropy balancing and propensity score weighting substantially reduce differences between the regulated and unregulated samples across the reported covariates. In contrast, material differences remain between the regulated benchmarks and the weighted averages produced by Ms. Carey’s approach. These results suggest that the entropy balancing and propensity score

¹³⁰ The propensity score approach uses shipment characteristics to estimate the probability that a given shipment is regulated rather than unregulated. Those estimated probabilities are then used to construct weights, with shipment types that are relatively less common in the unregulated data receiving larger weights. Entropy balancing searches for a set of weights that makes the average characteristics of the unregulated shipments match those of the regulated shipments, with a penalty for weights that vary substantially across shipments.

¹³¹ See Appendix A for details about how to implement these reweighting schemes.

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approaches achieve a greater degree of covariate balance than the weighting procedure used in the Carey Report.

[Figure 9: Covariate Balance Table Under Alternative Reweighting Methods]

Covariates	Regulated Average	Unregulated Average	Unregulated Weighted Average		
			Entropy Balancing	Propensity Score	Carey Report
2024					
Distance (km)					
Automotive Share					
Hazardous/Dangerous Share					
Dimensional Load Share					
Large-Block Share					
2025					
Distance (km)					
Automotive Share					
Hazardous/Dangerous Share					
Dimensional Load Share					
Large-Block Share					
2026					
Distance (km)					
Automotive Share					
Hazardous/Dangerous Share					
Dimensional Load Share					
Large-Block Share					

Notes: Smaller differences between Regulated Average and Unregulated Weighted Average indicate greater covariate balance.

Sources: CN Interswitching Data, 2022-2025; Bank of Canada, “Annual exchange rates,” published December 31, 2025; available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otccta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; 2025 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2024-181>; Carey Report Production.

135. After confirming that both reweighting approaches achieve covariate balance between the regulated and unregulated interswitching samples, the methodology described in the March Report was applied to the reweighted data. Figures A7–A9 in Appendix A present the resulting regulated rates. The estimated rates are generally similar to, and in several instances higher than, those reported in the March Report. Accordingly, the results do not suggest that reweighting the data using these approaches leads to lower regulated rates than those reported in the March Report.
136. The sensitivity analysis in the Carey Report does not demonstrate that reweighting leads to more reliable predictions of regulated rates. The variables used to construct the Carey Report’s weights are already included in the regression model. In addition, the reweighting scheme does not account for other observable characteristics, such as special handling requirements, and

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relies on recorded zone values that do not represent regulated interswitching zones for unregulated movements. As discussed above, the Carey Report's weights do not achieve covariate balance between the regulated and unregulated samples. When alternative reweighting approaches that achieve covariate balance are applied, the resulting regulated rates are generally similar to, and in some instances higher than, those reported in the March Report.¹³² These results do not provide evidence that reweighting undermines the methodology described in the March Report or improves the reliability of its predictions. Rather, reweighting adds complexity without materially changing the resulting rate estimates and therefore does not provide a basis for changing the March Report methodology.

6 CONCLUSION

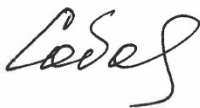
137. The three response submissions do not establish that unregulated interswitching data are irrelevant or incapable of informing regulated interswitching rates. They raise questions concerning comparability, sample composition, and model specification. These questions can be addressed through econometric controls and sensitivity testing rather than treated as reasons to disregard the commercial data.
138. The response submissions do not provide an operational alternative for incorporating commercial market factors into annual regulated interswitching rates. Continued reliance on the existing cost-based methodology would not address that omission. It may also produce transfers among railways and shifts in the rate burden among shippers and traffic types that the response submissions do not examine or justify.
139. The methodology does not require data from every U.S. railway or a sample that reproduces the composition of the entire U.S. railway system. The country-interaction and Canada-only analyses do not show that pooling Canadian and U.S. observations materially affects the principal rate estimates.
140. The analysis in the Carey Report does not establish that commercially negotiated rates lack informational value for determining regulated interswitching rates. The Carey Report treats the data from the March Report as sufficiently informative to estimate alternative models and predict rates using an econometric approach similar to that in the March Report. Observable differences between regulated and unregulated traffic can be incorporated into the analysis and tested to determine whether they materially affect the estimated rates. The analyses presented in this report show that the differences identified by Ms. Carey do not overturn the principal results of the March Report.
141. The Carey Report's reliance on R-squared does not establish that the March Report model is unreliable. R-squared measures in-sample fit, not model validity or out-of-sample predictive performance. Furthermore, Ms. Carey's preferred modifications do not produce more reliable rate estimates. Depending on the modification, they worsen out-of-sample predictive performance,

¹³² See Figures A7-A9.

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produce economically implausible results, or prevent the model from applying adjustments that Ms. Carey considers necessary at many locations where regulated rates must be determined. Ms. Carey obtains different estimates because she changes the sample, controls, weighting procedure, and prediction population. These changes produce a counterintuitive negative relationship between rates and distance, negative and implausibly low predicted rates, and averages that give equal influence to predicted cells regardless of observed traffic volumes. Her interchange fixed-effects specification requires location-specific effects that cannot be estimated for many regulated interchanges.

142. The Carey Report's reweighting exercise cannot address differences in unobserved characteristics and its results change materially when unregulated movements are correctly assigned to zones based on their observed distances. Correcting that implementation eliminates approximately half of the difference between the rates reported by Ms. Carey and those estimated in the March Report. Alternative reweighting methods that achieve substantially better covariate balance produce estimates broadly consistent with, and in some instances higher than, those in the March Report. Reweighting therefore does not provide a basis for changing the March Report methodology.
143. I therefore continue to recommend that appropriately screened and analyzed commercial interswitching rates form the primary market benchmark for regulated interswitching rates.



Nadia Soboleva, signed August 31, 2026

APPENDIX A

A.1 THE CAREY REPORT MODEL WITH REVISED WEIGHTING

1. Figure A1 below presents a replication of the Carey Report's weighting analysis after assigning unregulated movements to zones using the distance thresholds specified in the Railway Interswitching Regulations. These regression results are used to predict the rates shown in Figure 8 in Section 5.6.2 above. The changes in the regression coefficients reduce the differences between the revised specification and the March Report: the constant and the coefficients for KM, 60 or more cars, and U.S. interswitching fall between the corresponding estimates in the March Report and those in the original Carey Report regression. The revised regression includes almost [REDACTED] more observations than the original Carey Report regression because unregulated observations are no longer excluded based on the recorded zone variable.

[Figure A1: Comparison of Regression Results from the March Report, the Original Carey Report Specification, and the Carey Report Specification with Revised Weighting]

	March Report	Carey Report, Revised	Carey Report, Original
Constant	[REDACTED]		
KM			
60 or More Cars			
Automobiles			
Hazardous Materials			
U.S. Interswitch			
Dimensional Load			
Dimensional Load x 60 or More Cars			
Observations			
R-squared			

Notes: Predicted rates under Carey Report, Revised model defines regulated interswitching zones based on definition in 7(2) of the Railway Interswitching Regulations. Zone 4b is unchanged from CN Interswitching Data.

Sources: CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; Railway Interswitching Regulations, available at <https://laws-lois.justice.gc.ca/eng/regulations/sor-88-41/FullText.html>; Carey Report Production.

A.2 ALTERNATIVE REGRESSION SPECIFICATIONS WITH ADDITIONS OF COMMODITY TYPES AT 2-DIGIT STCC LEVELS FOR 2025 AND 2026

2. Figure A2 shows the predicted rates for 2025 when the model in the March Report includes additional commodity categories at the two-digit STCC level, as in the Carey Report. Figure A2 applies the same approach used in Figure 3 above for the 2024 rates. The results are similar to those in Figure 3: including the additional commodity categories does not materially change the rates estimated using the methodology in the March Report.

[Figure A2: Estimated 2025 Rates with Two-Digit STCC Commodity Indicators]

Regulated Interswitching Zone	Single (1-59 Cars)			Block (60 or More Cars)		
	March Report	March Report + STCC	Carey Report	March Report	March Report + STCC	Carey Report
1						
2						
3						
4a						
4b						
	km over 40	km over 40	km over 40	km over 40	km over 40	km over 40

Premiums:

Automotive (Car type "V"):	
Hazardous and Dangerous (STCC 48, 49):	
Dimensional Loads:	

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Rates are a weighted average of all shipment types with weights proportional to the share of regulated interswitching shipments.

Sources: March Report; CN Interswitching Data, 2023-2024; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; Carey Report Production.

3. Figure A3 shows the same for 2026.

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[Figure A3: Estimated 2026 Rates with Two-Digit STCC Commodity Indicators]

Regulated Interswitching Zone	Single (1-59 Cars)			Block (60 or More Cars)		
	March Report	March Report + STCC	Carey Report	March Report	March Report + STCC	Carey Report
1						
2						
3						
4a						
4b						
	km over 40	km over 40	km over 40	km over 40	km over 40	km over 40
Premiums:						
Automotive (Car type "V"):						
Hazardous and Dangerous (STCC 48, 49):						
Dimensional Loads:						

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Rates are a weighted average of all shipment types with weights proportional to the share of regulated interswitching shipments.

Sources: March Report; CN Interswitching Data, 2024-2025; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; 2025 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2024-181>; Carey Report Production.

A.3 ALTERNATIVE REGRESSION SPECIFICATION ESTIMATED ON UNREGULATED CANADIAN DATA ONLY

Figure A4 presents regression results using only unregulated Canadian data, which were inadvertently omitted from the March Report. The Canadian data alone do not permit estimation of the coefficient for dimensional loads and the interaction between dimensional loads and block size.

[Figure A4: Regression Analysis of Market Rates Using Canadian Data Only]

	March Report	Canadian Switching Only
Constant		
KM		
60 or More Cars		
Automobiles		
Hazardous Materials		
U.S. Interswitch		
Dimensional Load		
Dimensional Load x 60 or More Cars		
Observations		
R-squared		

Notes: Cluster-robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). The dependent variable for each regression is the switching rate in CAD. Hazardous Materials refers to STCC codes starting with 48 or 49. Automobiles are identified as carloads with “V” as the first initial of the AAR car type. Dimensional loads are identified in CN data. See Appendix B.3 for a discussion of clustered standard errors.

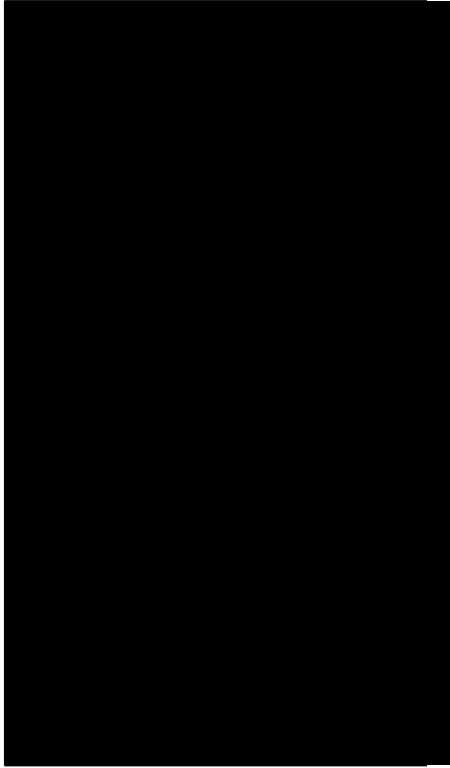
Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, “Annual exchange rates,” published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>.

A.4 ALTERNATIVE REGRESSION SPECIFICATION FROM THE MARCH REPORT WITH SEPARATE DISTANCE COEFFICIENTS FOR THE U.S. AND CANADA

- The Bureau raises a concern that pooling Canadian and U.S. observations assumes that the relationship between rates and transaction characteristics is the same in both countries. Figure A5 presents results from a specification that allows the relationship between distance and rates to differ between Canada and the U.S., while also including a separate coefficient for U.S. transactions. The estimated coefficients are similar to the corresponding coefficients in the specification in the March Report. Figure 1 above reports the predicted rates from this regression.

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[Figure A5: Regression Analysis of Market Rates With Separate Distance Coefficients for the U.S. and Canada]

	March Report	Added U.S. Interswitch x KM Interaction
Constant		
KM		
60 or More Cars		
Automobiles		
Hazardous Materials		
U.S. Interswitch		
U.S. Interswitch x KM		
Dimensional Load		
Dimensional Load x 60 or More Cars		
Observations		
R-squared		

Notes: Cluster-robust standard errors in parentheses (** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$). The dependent variable for each regression is the switching rate in CAD. Rates which were paid in USD are converted to CAD using the average exchange rate from 2022. Hazardous Materials refers to STCC codes starting with 48 or 49. Automobiles are identified as carloads with “V” as the first initial of the AAR car type. Dimensional loads are identified in CN data. See Appendix B.3 for a discussion of clustered standard errors.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, “Annual exchange rates,” published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>.

A.5 VISUALIZATION OF VOLUME IN OBSERVED COMMODITY-INTERCHANGE PAIRS

5. Figure 4 above shows the number of observations in the unregulated data for each combination of two-digit STCC commodity category and interchange for Zone 3. Figures A6-1, A6-2, and A6-3 show the same for Zone 1, 2, and 4a respectively. Each cell represents one commodity-interchange combination within the applicable zone. Empty cells in which the relevant commodity-interchange combination is not observed, have no colour, while progressively darker shading indicates a larger number of observations. The figure shows that the majority of the cells are empty and that observed traffic is concentrated in a small subset of commodity-interchange combinations. Only a small proportion of cells contain many observations, as indicated by the limited number of darker cells in each panel.

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**[Figure A6-1: Observed Traffic by Commodity and Interchange
for Zone 1]**



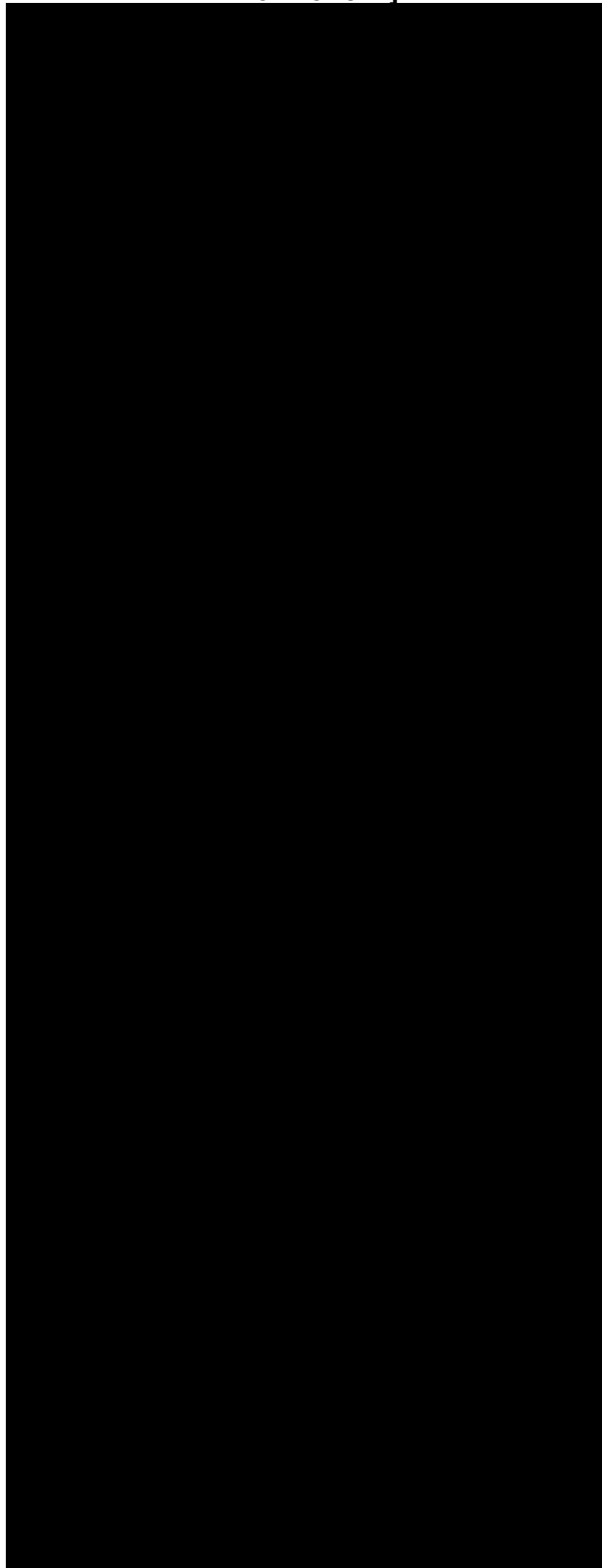
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Notes: Includes only unregulated carloads. An interswitching movement is assigned to a zone according to its distance. Distances greater than 0 km and up to 6.4 km are classified as Zone 1; distances greater than 6.4 km and up to 10 km as Zone 2; distances greater than 10 km and up to 20 km as Zone 3; and distances greater than 20 km and up to 40 km as Zone 4A.

Sources: CN Interswitching Data, 2022-2025; Railway Interswitching Regulations, available at <https://laws-lois.justice.gc.ca/eng/regulations/sor-88-41/FullText.html>.

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**[Figure A6-2: Observed Traffic by Commodity and Interchange
for Zone 2]**



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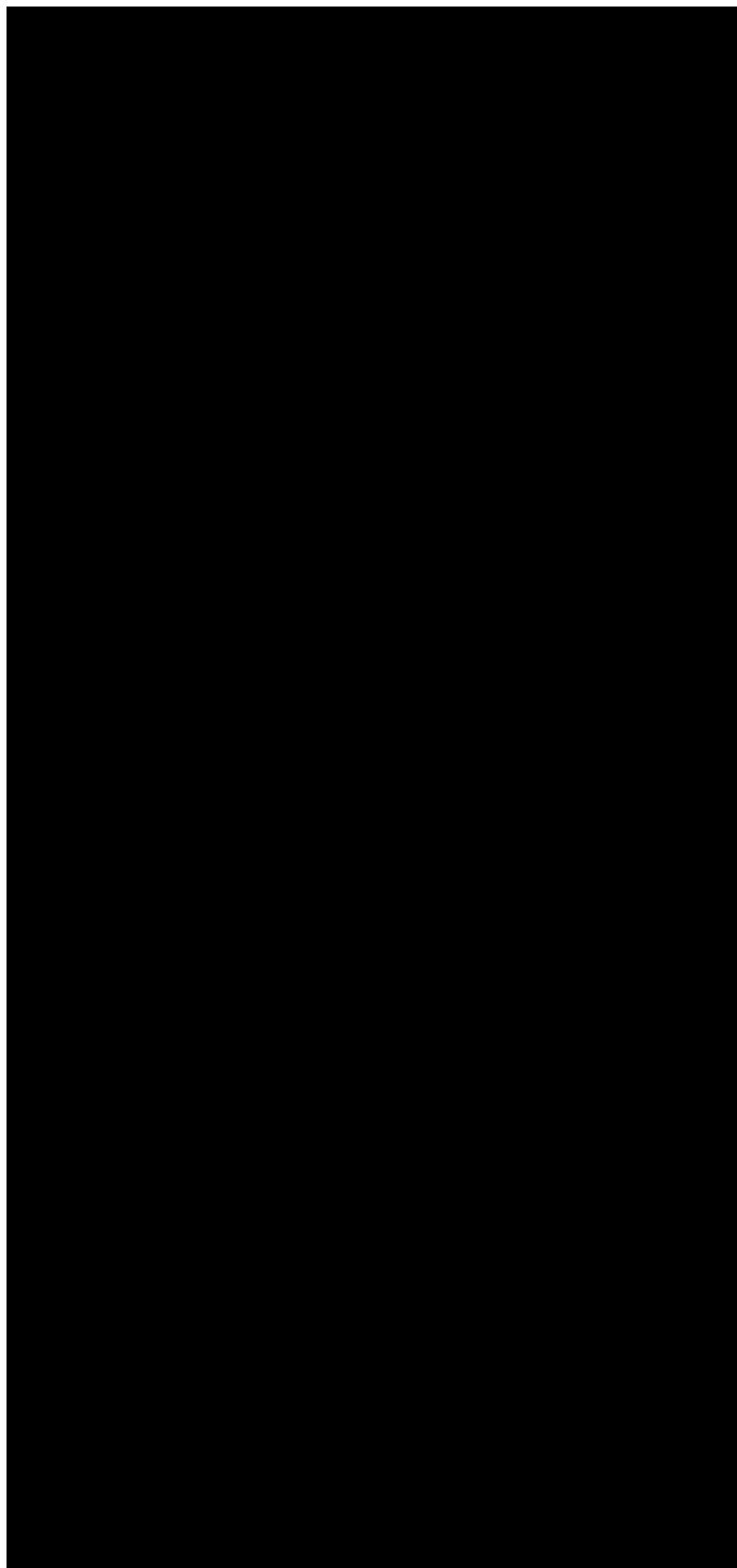
Notes: Includes only unregulated carloads. An interswitching movement is assigned to a zone according to its distance. Distances greater than 0 km and up to 6.4 km are classified as Zone 1; distances greater than 6.4 km and up to 10 km as Zone 2; distances greater than 10 km and up to 20 km as Zone 3; and distances greater than 20 km and up to 40 km as Zone 4A.

Sources: CN Interswitching Data, 2022-2025; Railway Interswitching Regulations, available at <https://laws-lois.justice.gc.ca/eng/regulations/sor-88-41/FullText.html>.

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**[Figure A6-3: Observed Traffic by Commodity and Interchange
for Zone 4a]**

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Notes: Includes only unregulated carloads. An interswitching movement is assigned to a zone according to its distance. Distances greater than 0 km and up to 6.4 km are classified as Zone 1; distances greater than 6.4 km and up to 10 km as Zone 2; distances greater than 10 km and up to 20 km as Zone 3; and distances greater than 20 km and up to 40 km as Zone 4A.

Sources: CN Interswitching Data, 2022-2025 Railway Interswitching Regulations, available at <https://laws-lois.justice.gc.ca/eng/regulations/sor-88-41/FullText.html>.

A.6 ALTERNATIVE SPECIFICATIONS USING DIFFERENT REWEIGHTING METHODS

6. Figures A7 through A9 compare estimated interswitching rates using the reweighting methods discussed in Section 5.6. The propensity score approach uses shipment characteristics to estimate the probability that a given shipment is regulated rather than unregulated. Those estimated probabilities are then used to construct weights, with shipment types that are relatively less common in the unregulated data receiving larger weights.
7. Entropy balancing searches for a set of weights that makes the average characteristics of the unregulated shipments match those of the regulated shipments, with a penalty for weights that vary substantially across shipments. Under both approaches, the predicted interswitching rates are broadly in line with those presented in the March Report.

[Figure A7: Predicted 2024 Rates using Alternative Reweighting Methods]

Regulated Interswitching Zone	Single (1-59 Cars)				Block (60 or More Cars)			
	March Report	Entropy Balancing	Propensity Score	Carey Report	March Report	Entropy Balancing	Propensity Score	Carey Report
1								
2								
3								
4a								
4b								
	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40
Premiums:								
Automotive (Car type "V"):								
Hazardous and Dangerous (STCC 48, 49):								
Dimensional Loads:								

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Rates are a weighted average of all shipment types with weights proportional to the share of regulated interswitching shipments.

Sources: March Report; CN Interswitching Data, 2022-2023; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2021 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2020-194>; 2021 Re-Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-161>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; Carey Report Production.

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[Figure A8: Predicted 2025 Rates using Alternative Reweighting Methods]

Regulated Interswitching Zone	Single (1-59 Cars)				Block (60 or More Cars)			
	March Report	Entropy Balancing	Propensity Score	Carey Report	March Report	Entropy Balancing	Propensity Score	Carey Report
1								
2								
3								
4a								
4b								
	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40
Premiums:								
Automotive (Car type "V"):								
Hazardous and Dangerous (STCC 48, 49):								
Dimensional Loads:								

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Rates are a weighted average of all shipment types with weights proportional to the share of regulated interswitching shipments.

Sources: March Report; CN Interswitching Data, 2023-2024; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2022 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2021-176>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; Carey Report Production.

[Figure A9: Predicted 2026 Rates using Alternative Reweighting Methods]

Regulated Interswitching Zone	Single (1-59 Cars)				Block (60 or More Cars)			
	March Report	Entropy Balancing	Propensity Score	Carey Report	March Report	Entropy Balancing	Propensity Score	Carey Report
1								
2								
3								
4a								
4b								
	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40	per km over 40
Premiums:								
Automotive (Car type "V"):								
Hazardous and Dangerous (STCC 48, 49):								
Dimensional Loads:								

Notes: Base rates are calculated using the midpoint of the range of distances for each zone. The base rate for Zone 4b is calculated using a distance of 40 km with a per km surcharge included. Rates are a weighted average of all shipment types with weights proportional to the share of regulated interswitching shipments.

Sources: March Report; CN Interswitching Data, 2024-2025; Bank of Canada, "Annual exchange rates," published December 31, 2025, available at <https://www.bankofcanada.ca/rates/exchange/annual-average-exchange-rates/>; 2023 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2022-164>; 2024 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2023-237>; 2025 Determination, available at <https://otc-cta.gc.ca/eng/ruling/r-2024-181>; Carey Report Production.