Rate Reform Task Force

Report to the Surface Transportation Board

April 25, 2019

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To: The Surface Transportation Board
From: Rate Reform Task Force
Subject: Report and Recommendations
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I. Introduction

The Rate Reform Task Force respectfully submits this Report containing recommendations for possible changes to the rate review methodologies and processes used by the Surface Transportation Board.

The Board established the Task Force in January 2018 to recommend improvements to the existing rate review processes and to propose new rate review methodologies that are more attuned to the realities of the current transportation world. Earlier, pursuant to the Surface Transportation Board Reauthorization Act of 2015 (Reauthorization Act),[1] the Board took some steps to improve the processing of large cases. *Expediting Rate Cases*, EP 733 (STB served Nov. 30, 2017).[2] Those steps, however, were modest, and the Task Force's mission was to build on that work and to develop more affordable, accessible, and practical procedures for handling both large and small rate disputes.

After reviewing years of decisions, filings, and reports, the Task Force reached out to the transportation community through informal meetings with representatives of shippers and carriers, as well as academics, practitioners, and other interested parties. In addition to hosting and meeting with dozens of groups in Washington, D.C., members of the Task Force also attended shipper conferences in Chicago, Ill., Westchester, N.Y., Seattle, Wash., and Dallas, Tex., where they met and exchanged ideas with numerous individuals. Through frank, off-the-record conversations, the Task Force developed a sense of how the diverse components of the transportation community view the Board's administration of the rate review process, and of where it must change.

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[1] Pub. L. No. 114-110, 129 Stat. 2228 (2015).

[2] *See also* Reauthorization Act, section 11 (Board to "initiate a proceeding to assess procedures that are available to parties in litigation before courts to expedite such litigation and the potential application of any such procedures to rate cases.").

A. Legislative Background

In the 1970s, when the movement toward modern railroad rate regulation began, the industry was very different from the way it is today. In 1970, for example, over 70 "Class I" (larger) railroads operated over numerous overlapping and sometimes redundant routes. Regulation by the Board's predecessor, the Interstate Commerce Commission (ICC), was pervasive under a statute that had been designed nearly 100 years earlier to protect small shippers in a developing economy from abusive practices by powerful, dominant railroads.[3] And the railroad industry as a whole was in poor financial condition, with several of its members bankrupt.[4]

To revitalize the industry, Congress passed the Railroad Revitalization and Regulatory Reform Act of 1976 (4R Act),[5] and a few years later the Staggers Act. Those two statutes fundamentally changed the ICC's regulatory role: the ICC was still charged with protecting captive shippers from abuses of market power, and indeed retained its longstanding authority to declare rail rates unreasonable. But given the level of competition that had developed within and among the modes for most traffic, the impetus behind both laws was a desire to give railroads more leeway to operate in the marketplace like other industries.

Recognizing that markets generally function effectively as a result of competition rather than regulation, Congress expected that, along with its relaxation of regulation, railroads would compete, where possible, for traffic. Conference Report at 83, 84, 98-101, 113-17, 125. Thus, Congress provided for easier entry into and exit out of the industry (49 U.S.C. § 10901-06 [now § 10901-

[3] *See* the Congressional Declaration of Findings in section 2 of the Staggers Rail Act of 1980, Pub. L. No. 96-448, 94 Stat. 1895 (Staggers Act), reported in H.R. Rep. No. 1430, 96th Cong., 2d Sess. 3 (1980), reprinted in 1980 U.S.C.C.A.N. 4110, 4111 (Conference Report) ("The Congress hereby finds that . . . (2) the enactment of the Interstate Commerce Act was essential to prevent an abuse of monopoly power by railroads and to establish and maintain a national railroad network.").

[4] *See* the Findings in section 2 of the Staggers Act: "(6) earnings by the railroad industry are the lowest of any transportation mode and are insufficient to generate funds for necessary capital improvements; (7) by 1985, there will be a capital shortfall within the railroad industry of between $16,000,000,000 and $20,000,000,000; [and] (8) failure to achieve increased earnings within the railroad industry will result in either further deterioration of the rail system or the necessity for additional Federal subsidy."

[5] Pub. L. No. 94-210, 90 Stat. 31 (1976).

07]), and it weaned railroads away from collective ratemaking, under which the industry overtly (but lawfully) would collude on the prices its members charged (49 U.S.C. § 10706). Moreover, to encourage railroads to compete and to act more like unregulated businesses, Congress enacted provisions allowing railroads and shippers to enter into contracts establishing the rates and terms governing specific movements and providing that transportation pursuant to such railroad/shipper contracts would be exempt from most regulation (49 U.S.C. § 10713 [now § 10709]).

Finally, because rail carriers have high fixed costs that would not be recovered if they had to price their competitive and captive traffic at the same level, Congress expected them to engage in some degree of "differential pricing." Under differential pricing, railroads generally price their services in inverse relation to "demand elasticity" (the price sensitivity of the traffic), charging captive shippers higher "markups" over costs than they charge shippers with competitive alternatives. *See Burlington N. R.R. v. ICC*, 985 F.2d 589, 595-96 (D.C. Cir. 1993); *Coal Rate Guidelines, Nationwide*, 1 I.C.C.2d 520, 526-27 (1985), *aff'd sub nom. Consol. Rail Corp. v. United States*, 812 F.2d 1444 (3d Cir. 1987).[6]

The ability to price differentially, however, was never intended to be unfettered. Thus, to ensure that individual captive shippers would not have to pay more than their fair share of the carriers' differentially priced services, Congress gave the ICC (and now the Board) the authority to determine whether challenged rates on captive traffic are unreasonably high, 49 U.S.C. § 10701a [now § 10701], and, if so, to prescribe a maximum reasonable rate for future shipments, 49 U.S.C. § 10704(a)(1), and award reparations for past shipments, 49 U.S.C. § 11704(b).

B. Revenue Adequacy and Rate Regulation

At the core of the rate reasonableness discussion is the concept of "revenue adequacy." The Staggers and 4R Acts directed the agency to establish, and revise as necessary, procedures for determining whether rail carriers are earning adequate revenues. Adequate revenues are defined as those needed "under honest, economical, and efficient management," to cover expenses, earn a profit, continue prudent capital outlays, and attract sufficient capital for maintenance

[6] Railroads carry a mix of competitive and captive traffic, and the thinking was that if a railroad were required to sell all of its services at a uniform markup above full costs, it would lose the more competitive portion of its traffic base (and the revenue contribution from that traffic), and/or be unable to recoup its total costs, as Congress expected railroads to do.

and improvement of the rail network. 49 U.S.C. § 10704(a)(2). The agency has adopted, and periodically revised, its revenue adequacy procedures, and each year it determines which of the Class I rail carriers are revenue adequate.[7]

Early on, as it was developing its revenue adequacy standards pursuant to the 4R Act, the ICC found that a carrier's revenue adequacy status was a relevant factor in individual rate proceedings. *Standards & Procedures for the Establishment of Adequate R.R. Revenue Levels*, 358 I.C.C. 844, 853-54 (1978). The ICC's finding that a carrier's revenue adequacy is a consideration in rate cases was explicitly incorporated into the Interstate Commerce Act in section 201 of the Staggers Act, now codified at 49 U.S.C. § 10701(d).

C. Development of Constrained Market Pricing and SAC Principles

Before 1980, there was no clearly established process for reviewing rail rates. The ICC conceptualized a "zone of reasonableness" under which railroads had flexibility to set rates that were neither too high nor too low.[8] One of the approaches the ICC used to determine whether a rate was outside that magic zone was to compare the challenged rate to rates for other similarly situated customers. That approach was approved in court. *See Burlington N., Inc. v. United States*, 555 F.2d 637, 641-42 (8th Cir. 1977). In some cases, however, the ICC used a review process that tied reasonableness to the cost of providing the service. In the "7% solution" cases, the ICC found that a rail rate could be found unreasonably high if its revenues returned more than 7% of its fully allocated costs.[9] The reviewing court, however, found that approach to be arbitrary and capricious—why 7% and not "1%, 21%, 45%, or even [] 99%?,"[10]—and so the agency began searching for another approach that would be both defensible and consistent with the statutory objectives described above.

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[7] Currently, a railroad is considered revenue adequate when its rate of return on net investment equals or exceeds the industry cost of capital. *Standards for R.R. Revenue Adequacy*, 364 I.C.C. 803, 807 (1981).

[8] As hard as it may be to fathom now, "minimum reasonable rates" were sometimes an issue in that era. *See* 49 U.S.C. § 10701a(c)(1) (1981) (rail rate "may not be established below a reasonable minimum").

[9] Fully allocated costs include not only direct costs (costs that are incurred providing a particular product or service) but also an assignment of indirect costs, such as overhead costs or joint and common costs that cannot be attributed to a particular shipment, product, or service.

[10] *San Antonio, Tex. v. United States*, 631 F.2d 831, 852 (D.C. Cir. 1980).

After "several years of research and effort to develop an economically efficient and equitable methodology for determining the reasonableness of rates charged to coal shippers," 1 I.C.C.2d at 521, the ICC adopted *Coal Rate Guidelines*. *Coal Rate Guidelines* established a set of constraints under "constrained market pricing" (CMP) principles pursuant to which a shipper could show that the rate set by a "market dominant" carrier[11] was too high. Under CMP, a rate is to be found reasonable if it (1) reflects the amount a captive shipper would have to pay to receive efficient service, (2) affords the railroad adequate revenues, and (3) does so without cross-subsidizing any service or facility from which the shipper receives no benefit. *Coal Rate Guidelines*, 1 I.C.C.2d at 523-24. To make its case that a rate is not reasonable, a shipper could opt to examine the railroad's entire network for revenue adequacy or management efficiency, or alternatively, to examine only a subset of the network using the "stand-alone cost" (SAC) test—the option followed by nearly all shippers that file a rate case.

A SAC presentation simulates a "stand-alone railroad" (SARR), a fully efficient hypothetical competitor railroad, with no barriers to entry, that serves the complainant and other traffic sharing common facilities. *BNSF Ry. v. STB*, 453 F.3d 473, 477 (D.C. Cir. 2006). Under SAC, a challenged rail rate is unreasonable to the extent it exceeds the costs (including a reasonable profit) of running the SARR. *Id.* A SAC presentation thus furthers CMP principles by promoting efficiency and eliminating cross-subsidization. It accomplishes the former by forcing the railroad to bear the cost of any inefficiencies, and the latter by preventing the shipper from paying for any facilities from which it receives no benefit.

With the prospects of substantial relief, early SAC cases, although too expensive for most shippers to bring, were relatively manageable and affordable for large shippers with the wherewithal to engage a team of lawyers, economists, and consultants. The decisions, while not simple, were modest in scope; they amounted to a form of "rough justice"; and both railroads and large shippers of commodities such as coal were satisfied that the process worked.

Over time, however, as each side sought to maximize its advantage by developing more and more complex ways of modeling an efficient SARR and of

[11] Market dominance refers to an "absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies." 49 U.S.C. § 10707(a).

showing the costs that a SARR might incur, the process spiraled in complexity and cost to the parties. As opposed to the early SAC cases, in which the agency was required to resolve a handful of issues, the SAC cases of late presented the agency with hundreds of "calls" to make on the conflicting evidence presented by each side. *See, e.g., Consumers Energy Co. v. CSX Transp., Inc.*, NOR 42142 (STB served Jan. 11, 2018). Twelve years ago, the Board found that each Full-SAC case can cost a shipper up to $5 million to litigate. *Simplified Standards for Rail Rate Cases*, EP 646 (Sub-No. 1), slip op. at 5, 30-31 (STB served Sept. 5, 2007), *aff'd sub nom. CSX Transp., Inc. v. STB*, 568 F.3d 236 (D.C. Cir. 2009), *vacated in part on reh'g*, 584 F.3d 1076 (D.C. Cir. 2009). Litigation in more recent cases—including the market dominance process, which itself is quite complex, notwithstanding that it was established simply to serve as a gatekeeper[12]—have reportedly cost as much as $10 million.

In the past, the Board has acknowledged SAC as the "gold standard"—and we believe SAC principles are still appropriate and consistent with CMP—but we are deeply worried that SAC as it is currently practiced promotes a sense of false precision. The acknowledged benefits of SAC can be obtained in a more simplified process, such as the Board's Three-Benchmark test. If the rate reasonableness provisions are to be meaningful to any but a limited number of the largest rail shippers, they must be changed to provide avenues of relief for other shippers.

D. Other Rate Methodologies

SAC has proven useful for coal shippers, which are large businesses that can bear the high litigation costs associated with SAC. SAC works particularly well for coal shippers because they tend to ship large quantities of a single commodity between a single origin and a single destination, often over a single high-density line. However, most rail customers, shipping smaller quantities over multiple

[12] A carrier can be found market dominant only if the rate at issue returns more than 180% of variable costs. For rates above that 180% threshold, the Board applies longstanding flexible evidentiary guidelines adopted by the ICC in 1981. *See Mkt. Dominance Determinations & Consideration of Prod. Competition*, 365 I.C.C. 118 (1981). The flexibility of the Board's processes, however, while it may contribute to accuracy, can also contribute to the expense and delays of litigating a case, as the parties submit more and more detailed presentations to show whether particular services face "an absence of effective competition." *See* 49 U.S.C. § 10707. The market dominance showing can make a large case more difficult and time-consuming, and it can make a smaller case—in which less money is at stake and in which a complainant may not have the resources to keep up with a railroad's filings—prohibitive.

routes, would generally not qualify for relief in a SAC case even if they could afford to bring one. Thus, soon after the adoption of *Coal Rate Guidelines*, the ICC began searching for a simplified alternative. *See, e.g., Rate Guidelines—Non-Coal Proceedings*, EP 347 (Sub-No. 2) (ICC served May 21, 1986). The ICC adopted two such rate methodologies, but it abandoned both of them after cases were litigated in whole or in part.[13] After rejecting several further proposals, including a computerized model from the Association of American Railroads (AAR) that would have found reasonable a rate set at 5000 percent of the railroad's variable costs, the Board issued a set of simplified guidelines introducing the Three-Benchmark test, which, at bottom, compared the challenged rate to similar rates. *Rate Guidelines—Non-Coal Proceedings*, 1 S.T.B. 1004, 1041 (1996).

After hearing concerns from shippers about eligibility for the procedures, and about their vagueness, the Board proposed, and ultimately adopted, (1) the retention of a slightly modified Three-Benchmark test for the smallest cases, (2) the creation of a Simplified-SAC procedure, more complicated than the Three-Benchmark test but simpler than Full-SAC, for use in medium-size cases, and (3) clear eligibility thresholds for each procedure. To channel larger cases to the more accurate methods, the rule limited the relief available to $1 million over five years for Three-Benchmark cases.[14] *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 5, 27-28. This limit, which has been raised to $4 million, applies to whatever combination of retrospective and prospective relief the Board imposes.

Under the Three-Benchmark approach, the reasonableness of the challenged rate is addressed by examining the R/VC ratio produced by the challenged rate in relation to three benchmark figures, each of which is also expressed as an R/VC ratio. The first benchmark, the Revenue Shortfall Allocation Method (RSAM), measures the average markup over variable cost that the defendant railroad would need to charge all of its "potentially captive" traffic (traffic priced above the 180% R/VC level) in order for the railroad to earn adequate revenues as measured by the Board under 49 U.S.C. § 10704(a)(2). The second benchmark, $R/VC_{>180}$, measures

[13] *See Rate Guidelines—Non-Coal Proceedings*, EP 347 (Sub-No. 2) (ICC served Apr. 8, 1987); *South-West R.R. Car Parts Co. v. Mo. Pac. R.R.*, NOR 40073 (ICC served Mar. 16, 1988); *McCarty Farms v. Burlington N. Inc.*, 3 I.C.C.2d 822 (1987); *Burlington N. R.R. v. ICC*, 985 F.2d 589 (D.C. Cir. 1993); *McCarty Farms, Inc. v. Burlington N. Inc.*, NOR 37809 (ICC served July 22, 1993).

[14] Simplified-SAC initially had a relief limit of $5 million, but the Board later removed that limit. *Rate Regulation Reforms*, EP 715, slip op. at 3 (STB served July 18, 2013).

the average markup over variable cost currently earned by the defendant railroad on its potentially captive traffic. The third benchmark, R/VC_{COMP}, is used to compare the markup being paid by the challenged traffic to the average markup assessed on other comparable potentially captive traffic.

The Board's Simplified-SAC procedure is similar to the Full-SAC method, but with a crucial difference. In a Full-SAC presentation, the SARR is hypothetical and optimally efficient. In a Simplified-SAC presentation, the SARR is instead in most respects a portion of the actual railroad, with whatever inefficiencies currently exist. Notwithstanding criticism from rail interests that eliminating the "optimal efficiency" requirement—one aspect of SAC that makes it so expensive—would undermine part of the rationale for SAC, the Board found it a fair tradeoff because the reduction in precision would be modest, as "rail capacity and traffic conditions ha[d] changed," and "[r]ailroads are no longer burdened by substantial excess capacity." *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 14. Thus, Simplified-SAC focuses on cross-subsidization by looking, with various simplifying assumptions and standardization measures, at whether the rate charged is more than a hypothetical SARR would need to cover operating expenses and a reasonable return on investment for replicating the facilities and services used in the actual operations and services provided to haul the complainant's traffic. *Rate Regulation Reforms*, EP 715, slip op. at 1 n.2 (STB served Mar. 13, 2015); *see also Simplified Standards*, EP 646 (Sub-No 1), slip op. at 5.

Finally, out of a concern that even Three-Benchmark was too expensive for certain agricultural and other small shippers, the Board initiated proceedings to look at ways to simplify the process still further. *Rail Transp. of Grain, Rate Regulation Review*, EP 665 (Sub-No. 1) (STB served Dec. 12, 2013); *Expanding Access to Rate Relief*, EP 665 (Sub-No. 2) (STB served Aug 31, 2016). Various suggestions in those proceedings included benchmarking approaches, procedural streamlining, or doing nothing at all. *See* Alliance for Rail Competition et al. Opening Comments 17-20, June 26, 2014, Docket No. EP 665 (Sub-No. 1); USDA Reply Comments 5-7, Dec. 19, 2016, Docket No. EP 665 (Sub-No. 2); AAR Opening Comments 2, Nov. 14, 2016, Docket No. EP 665 (Sub-No. 2).

E. Summary of the Meetings with Interested Persons and Entities

The Task Force reached out to the transportation community through informal meetings with representatives of shippers and carriers, as well as academics, practitioners, and other interested parties. In addition to meeting with dozens of groups in Washington, D.C., members of the Task Force also attended a

variety of shipper conferences. Stakeholders were encouraged to share their experiences, views, and ideas regarding the current regulatory environment. Their comments generally addressed their experiences in rate negotiations, non-Full-SAC methodologies, Full-SAC methodologies, other potential methodologies, and revenue adequacy. The Task Force owes a debt of gratitude to all of the participants in this process; without their help, this report could not have been completed.

Experiences in Rate Negotiations: An alarming number of shipper interests said that the railroads were "demarketing" their shipments, offering take-it-or-leave-it deals that unreasonably squeezed them.[15] They felt the railroads offered rate increases without any justification for those increases. Stakeholders expressed the view that the availability of a viable rate reasonableness process—even if it was rarely used—would give them some leverage in those negotiations. Others said they were wary to bring any rate cases against the railroads, fearing a reduction in service as a reprisal more than a further increase in rates.

Non-Full-SAC Methodologies: Many of the smaller shippers told us that not only are Full-SAC cases too costly, but even the Three-Benchmark and Simplified-SAC methodologies are too complex and costly to bring before the Board.[16] In particular, the "other relevant factors" aspect of Three-Benchmark cases increases the cost of bringing a case and decreases the ability to predict a regulatory outcome of a case. Some agricultural interests had concerns with their standing to bring cases given the nature of the grain business, where the grain elevators usually pay for the transportation.[17] Several shipper interests told us that a methodology such

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[15] Some of those deals, we were told, bundled contract rates with regulated rates and required shippers to accept unfavorable tariff rates in order to be able to participate in contracts on high-frequency traffic.

[16] *See also, e.g.*, Nat'l Grain & Feed Ass'n Opening Comments 14-15, June 26, 2014, *Rail Transp. of Grain, Rate Regulation Review*, EP 665 (Sub-No. 1) (Simplified-SAC would provide relief well below the cost of bringing a case, particularly given the Board's action increasing the complexity of RPI analyses in Docket No. EP 715; Three-Benchmark is ineffective where rates are uniformly high for certain commodities or groups of commodities, and voluminous "other relevant factors" presentations have increased complexity, cost, and uncertainty).

[17] *See Rail Transp. of Grain, Rate Regulation Review*, EP 665 (Sub-No. 1) et al., slip op. at 8 (STB served Dec. 29, 2016) ("Given that agricultural producers have previously been found to have standing to challenge the rail transportation rate for their grain, the Board expects that other producers would be able to establish standing as well . . . . Grain producers should be able to establish standing because, as various commenters acknowledge, the price the producers are paid by elevators for their grain is generally

(continued . . .)

as Three-Benchmark would be unsuccessful for them, as their carriers tend to charge their entire group of similar shippers uniformly high rates (higher than 800% of variable costs in some cases). In the shippers' view, this defeats the purpose of the Three-Benchmark test, which is designed to find a shipper singled out for market abuse. Agricultural interests also thought the Three-Benchmark methodology is unworkable because their shipments are not static or predictable. These interests are concerned that rate relief from a winning case may therefore not be applicable for any other time period, thus reducing the benefits of winning that case. Some suggested there is no need to have a shorter prescription period for Simplified-SAC cases than for Full-SAC cases because the simplifications result in higher prescribed rates, as efficiencies cannot be removed to the same extent.

Full-SAC Methodologies: Both coal shippers and railroads were generally happy with SAC and argued that it should not be changed. Notwithstanding a general opposition to standardization, they (and others) did make suggestions about how things could be simplified and about particular technical modifications that could expedite SAC cases. Some suggested that the Board could hold a rulemaking to provide guidance regarding various aspects of rate cases. This would eliminate the need to re-litigate these issues in individual cases. One possible approach raised by these interests is to standardize the traffic group and routing. That would force each party's evidence to be more similar to the other's, which would reduce differences in any issues based on the traffic group. Another suggestion by these entities was to employ a matrix of unit costs for road property investments by density. These would be used in all subsequent cases. These entities also suggested that a standard matrix could be developed for unit costs of operating expenses. Other matters that these interests suggested could be decided once and for all by rule include equity flotation costs and indices. Another recommendation was to require parties to come to agreement on a single subject matter expert rather than having "dueling experts" on a multitude of issues. Some rail carrier stakeholders argued that, if the Board would articulate and adhere to its rules regarding past issues, complexity would be reduced because there would not be as many novel issues raised. Stakeholders also recommended identifying mandatory disclosure requirements to automate and expedite portions of the discovery process. Discovery disputes were viewed as greatly adding to the cost of litigation. Administrative law judges were also recommended to resolve any other discovery disputes.

(. . . continued)
affected at least to some extent by the transportation rate the railroad charged to the grain elevators.").

Other Methodologies: Some participants in our meetings pointed to the Canadian regulatory system as a model, with its mandatory arbitration and its "interswitching" and "competitive line haul rates." Nearly all shipper interests favored the use of "benchmarking" (comparing the challenged rate to other, similar rates) as a way of regulating rates. Some of the academic attendees thought price caps were a better solution than rate-of-return regulation because they encourage the railroads to reduce costs in order to increase their profits.

Revenue Adequacy: Many shipper participants felt the railroads are revenue adequate and that the regulatory environment should change in some manner as a result. They generally asserted that the railroads' ability to differentially price traffic should be restricted once revenue adequacy is achieved. Some felt the burden of proof should shift to the railroads to justify any rate increases, rather than the shippers having to prove those rates are unreasonable. Some also felt the Board should provide guidance regarding a revenue adequate rate methodology via a rulemaking.

F. Recommendations

Railroading today has changed dramatically since the period just before the 4R and Staggers Acts. The ICC's implementation of those laws, the railroads' own business decisions, and an improved business climate have transformed the railroad industry, which is now safer, more productive, and in better financial health. As a result of mergers, there are now only seven Class I railroads, and they have rationalized their routings and increased rates (*see* Appendix A). Although not every large railroad has been found "revenue adequate" year after year under the Board's regulations, many have, and all are financially healthy; indeed, as shippers have pointed out for years, Wall Street finds the railroad industry one of the more attractive investment opportunities in the market. But all is not well for everyone: many shippers find railroads largely uninterested in their business; many shippers feel that they have little bargaining power with respect to the contracts they are offered; and while intermodal and intramodal competition for much traffic remains vibrant, many captive shippers have no realistic avenue for relief from what they view, as their ancestors did in 1887, as abusive practices by powerful, dominant railroads.

The Task Force does not want to do anything to jeopardize railroad revenue adequacy. Yet we believe that there are many steps the Board could take to remedy this situation without undermining the industry's financial health. Following is a summary of each:

1. **Provide a cost-appropriate way of resolving small rate disputes**. We recommend legislation that would permit the Board to require arbitration of small rate disputes. We also suggest an administrative approach that would take advantage of procedural limitations, rather than substantive limitations, to constrain the cost and complexity of a rate reasonableness case. This process, Final Offer Decision-Making, would draw features from the final offer arbitration process used in Canada, but would not involve an arbitrator and would culminate in a decision by the Board. Finally, as an alternative, we suggest modifications to the comparison group procedure described in Docket No. EP 665 (Sub-No. 2), although we recognize the substantial concerns that have been raised regarding this proposal.

2. **Fix SAC**. The Task Force continues to believe that the theory underlying CMP in general, and SAC in particular, is sound, and for certain shippers and railroads it is still the preferred way of litigating rate reasonableness cases. However, SAC has become too complicated, costly, and time consuming, and in its current form it cannot be completed by the parties and the Board within the new, shorter timelines mandated by the Reauthorization Act. One way to speed things up would be by standardizing several of the components of a SAC case. Standardizing would address the problem of SAC analyses that are far too complex and detailed to complete within the time available.

3. **Offer a different rate methodology, which we are calling the Incumbent Network Cost Analysis (INCA), for large disputes**. In addition to or instead of Full-SAC, the Board could offer the INCA methodology, which assesses rate reasonableness based on the incumbent carrier's assets and operating expenses, rather than those of a hypothetical entrant.

4. **Provide different remedies for cases involving revenue adequate carriers**. A fundamental goal of rail regulation is to allow railroads to price differentially to achieve revenue adequacy. But from the beginning, Congress expected the agency to put limits on the railroads' use of differential pricing. Thus, we suggest for the Board's consideration that certain remedies be tied to a finding of long-term revenue adequacy. In doing so, we recommend a new definition of the revenue adequacy constraint, which would supersede the definition in *Coal Rate Guidelines*.

a. Define what constitutes long-term revenue adequacy: *the shortest period of time, not less than five years, that includes both a year in which a recession began and a year that follows a year in which a recession began*.[18]

b. Apply a rate increase constraint that would identify a point beyond which further application of differential pricing would be unwarranted.

c. Suspend the bottleneck protections for rates of revenue adequate carriers that are above the RSAM level. That is, shippers could be allowed to direct their carrier to deliver their cars to a feasible interchange point with a second carrier, both carriers would be required to quote a tariff rate, and shippers could challenge the rates associated with either or both portions of the rate if they believe those rates are unreasonable.

d. When the defendant carrier is long-term revenue adequate, reinstate the simplification of Road Property Investment in the Simplified-SAC test.

5. **Improve the Three-Benchmark process**.

a. Remove the limit on aggregation of claims.

b. Allow the comparison group to include traffic with R/VC ratios below 180%, as long as they are also above the defendant carrier's RSAM figure.

c. Set the RSAM/R/$VC_{>180}$ ratio (the revenue need adjustment factor) at 1 for carriers that are revenue adequate, to avoid double counting the impact of a carrier's revenue adequacy.

[18] Under such an approach, each of the benchmarks in the Three-Benchmark test would need to be recalculated to comport with the long-term revenue adequacy test period.

d. Modify the Waybill sample rates, increasing the sampling rates for some categories of traffic and reducing the sampling rates for other traffic.

e. Impose page limits on "other relevant factors" presentations, which have added substantial volume and complexity to Three-Benchmark cases.

6. **Limit the time and cost of market dominance analyses**. We propose two alternative solutions: either set a list of criteria that would support a prima facie finding of market dominance, or impose a very short timeline on market dominance analyses to discipline the process directly.

II. Small Rate Dispute Methodology

The Board has recognized that, for small disputes, the litigation costs required to bring a case under the Board's existing rate reasonableness methodologies can quickly exceed the value of the case. *Expanding Access to Rate Relief*, EP 665 (Sub-No. 2), slip op. at 10 (STB served Aug. 31, 2016). Accordingly, the Board's ANPRM in Docket No. EP 665 (Sub-No. 2) proposed a new comparison group methodology, intended to reduce the litigation burden on parties even more than the simplest existing rate methodology and create a more accessible process for small disputes. *Id.*, slip op. at 11.

Here, we recommend legislation that would permit mandatory arbitration of small rate disputes. We then consider an analogous approach that the Board might take, making use of procedural limitations to constrain the cost and complexity of the process. Finally, we present analysis of possible changes to the proposal in Docket No. EP 665 (Sub-No. 2).

A. Legislative Recommendation

The National Grain and Feed Association (NGFA) has had rail arbitration rules in place for about 20 years. Those rules apply to many non-rate matters, such as demurrage, routing, bills of lading, contracts, equipment, and others. The information the Board has received suggests that the rules have worked well. NGFA, several of whose members were involved in discussions with the Task Force, has long suggested that the Board try to adopt similar procedures to apply in rail rate cases. The Board has not moved forward on those suggestions because of its lack of authority.

Specifically, the Board has had a *voluntary* arbitration process in place for more than 20 years, and the Reauthorization Act required adjustments to this process (including the addition of rate disputes to the types of matters eligible for arbitration), but parties have never agreed to arbitration of a dispute brought before the Board. *See Arbitration of Certain Disputes*, 2 S.T.B. 564 (1997) (adopting voluntary arbitration program); *Revisions to Arbitration Procedures*, EP 730 (STB served Sept. 30, 2016) (making adjustments required by Reauthorization Act).

Mandatory arbitration would resolve this issue, but the Board has held that the statute does not permit it to mandate arbitration of a dispute. *See Arbitration—Various Matters*, EP 586, slip op. at 3 n.7 (STB served Sept. 20, 2001); *see also* 49 U.S.C. § 10704(a)(1) (rate prescriptions require an order from the Board); 49 U.S.C. § 11704(c)(2) (reparations require an order from the Board).

We recommend legislation that would permit mandatory arbitration of small rate cases. Final offer arbitration has been a longstanding remedy under the Canadian regulatory system, and as noted below, there are few such cases in Canada, as the carriers and their shippers seem able to work out most of their rate issues privately. The Task Force sees no reason a similar positive outcome is not possible in the United States for smaller cases.

B. Final Offer Decision-Making

1. Concept

In its reply comments in Docket No. EP 665 (Sub-No. 2), the United States Department of Agriculture (USDA) suggests that the Board consider procedural limitations to streamline and expedite its rate reasonableness review, as an alternative to substantive limitations. *See* USDA Reply Comments 5-6. USDA specifically recommends a short procedural timeline as a way to make rate reasonableness review accessible for smaller disputes. *See id.* As a way of implementing this recommendation, USDA suggests that the Board adopt a final offer procedure for the entire case, including market dominance evidence and rate reasonableness evidence. *See id.* at 6-7. USDA proposes that the Board could weigh the market dominance and rate reasonableness evidence against each other, for example, accepting a lesser showing of market dominance when the unreasonableness of the rate is apparent. *Id.* at 7.

While this specific proposal is not feasible—because the Board must make a finding of market dominance before adjudicating a rate dispute[19]—there is substantial merit to USDA's general recommendation (i.e., to improve access using procedural limitations). USDA points out that, in addition to reducing the length and cost of litigation, "[a] limited amount of time to collect and present evidence forces parties to focus their time on only the clearest and most important evidence," and "the decision of what evidence to use or leave out is contextualized within each case." USDA Reply Comments 6. As USDA notes, Dr. Richard L. Schmalensee, chair of the Committee for a Study of Freight Rail Transportation and Regulation of the Transportation Research Board (TRB), made similar observations at a roundtable of economists held by the Board. Dr. Schmalensee recommended that the Board seek process improvements based on the final offer arbitration procedure used for rail rate regulation in Canada. *See* Tr. 24, Public Roundtable, Oct. 25, 2016.[20] The TRB committee's report makes analogous recommendations to use strict timelines for market dominance inquiries, "disciplining the process directly through deadlines." Nat'l Acads. of Sciences, Eng'g, & Med., *Modernizing Freight Rail Regulation* (*TRB Report*) 197 (2015), http://nap.edu/21759.

Except as to market dominance, we also agree with USDA's suggestion that a final offer process could be an effective way to implement procedural limitations. *See* USDA Reply Comments 5-7. Dr. Schmalensee raised a similar idea at the roundtable of economists, and the *TRB Report* outlined several advantages of the Canadian system. *See* Tr. 24-25, Public Roundtable, Oct. 25, 2016 (the Board might consider "tweaking the Canadian procedures" to make them usable under U.S. law); *TRB Report* 136-40.[21] For example, "[t]he imposition of time limits is intended to bring economy to the process and to ensure that shippers are not precluded from access to rate relief as a consequence of slow processing and high litigation costs,"

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[19] *See* 49 U.S.C. § 10707(c).

[20] The transcript is available at https://www.stb.gov/stb/docs/eLibrary/InterVISTAS%20Economic%20Roundtable%20Transcript.pdf.

[21] The Canadian system relies on an outside arbitrator or arbitrators to conduct the final offer procedure. The use of an outside arbitrator can provide certain advantages, such as confidentiality of decisions, which encourages settlements or stipulations of issues, and reduced formality of the proceedings. However, as discussed above, in reference to the recommended legislative proposal, arbitration of rate disputes is not a viable option for the Board under current law, because the Board can only provide voluntary arbitration and parties have never agreed to arbitration of a dispute brought before the Board.

and "the time limit in conjunction with the final-offer rule injects uncertainty into the process, which limits the likelihood that any one party will take an extreme position and encourages the settlement of disputes." *TRB Report* 138. As the Board stated in *Simplified Standards*, with respect to the final offer process for choosing a comparison group in the Three-Benchmark test: "[a] final offer procedure for determining the comparison group is in the public interest because it will encourage both parties to submit a reasonable comparison group. Any final tender that is skewed too far in one direction might well result in the selection of a more reasonable final tender presented by the opposing party." *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 18.

2. Process

Based on these proposals, we describe below a rate reasonableness process in which the Board chooses between the parties' final offers, subject to fast, non-flexible timelines.

In contrast to USDA's proposal, the market dominance presentation would be separate from the rate reasonableness offer, although it would be submitted at the same time. If the evidence did not demonstrate market dominance, the Board would not consider the parties' final offers. *See* 49 U.S.C. § 10707(c) (a finding of market dominance is a prerequisite to evaluating rate reasonableness). Submissions of market dominance evidence would be subject to the same strict timelines as the rest of the procedure. Because time constraints would limit the volume of market dominance inquiries, this process appears not to require the substantive limitations on market dominance raised in the ANPRM in Docket No. EP 665 (Sub-No. 2) and discussed elsewhere in this report. If the market dominance analysis turns out to be voluminous and complex notwithstanding the strict timelines, the Board could revisit the idea of substantive streamlining measures.

Before the process begins, the complainant would be required to serve the defendant with a notice of intent to initiate a case. The process would begin with the filing of a complaint, which would also mark the beginning of discovery. No litigation over discovery disputes would be permitted. Instead, if a party unreasonably withholds information, the opposing party could note this conduct in its final offer, and the Board would take it into account in choosing between the offers. *See* Canada Transp. Act, S.C. 1996, c. 10, as amended, § 163(5) (Can.) ("If a party unreasonably withholds information that the arbitrator subsequently deems to be relevant, that withholding shall be taken into account by the arbitrator in

making a decision."). The Board could inform parties that they should not expect to receive the volume or even necessarily the types of discovery that parties have received in SAC cases, because the time limits do not provide for it. Parties would instead submit discovery requests based on the information that the other side could reasonably be expected to provide in a short period of time. If a party limited its requests in such a way, and the other side still did not comply, the Board would take that failure into account in choosing between the offers.

Following discovery, parties would simultaneously submit their market dominance presentations and final offers.[22] As in the Canadian procedure, the choice of rate methodology would belong to the party submitting an offer. This choice would be relatively confined, however, because the Board's criteria for choosing between the offers would include the Rail Transportation Policy,[23] the Long-Cannon factors in 49 U.S.C. § 10701(d)(2), and sound principles of rail regulation economics. Thus, as in the Reauthorization Act's arbitration provisions, the decision-maker would "giv[e] due consideration to the need for differential pricing to permit a rail carrier to collect adequate revenues." *See* Reauthorization Act, section 13. If a party adopts a position that is contrary to these guiding principles, it risks the likelihood that the Board will choose the other party's offer. With its final offer, each party would be required to submit an explanation of the methodology it used.

Shortly after submitting market dominance presentations and final offers, the parties would simultaneously submit replies to one another's presentations. On reply, parties would not be permitted to alter their market dominance presentations or final offers, but would have an opportunity to argue against the other side's submission.

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[22] Given the recommendation of very short timelines, we do not suggest imposing page limits initially. If short timelines prove insufficient to control the scope of the issues presented, the Board could introduce page limits later.

[23] For example, the Board would take into account the policy "to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail," the policy "to maintain reasonable rates where there is an absence of effective competition and where rail rates provide revenues which exceed the amount necessary to maintain the rail system and to attract capital," and the policy "to promote a safe and efficient rail transportation system by allowing rail carriers to earn adequate revenues, as determined by the Board." 49 U.S.C. § 10101(1), (3), (6).

If the Board found market dominance, it would then choose between the offers. As in the final offer process used as part of the Three-Benchmark test, this would be an "either/or" selection, with no modifications by the Board. *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 18. This approach would work as intended only if the parties know that the agency will not attempt to find a compromise position somewhere in the middle. *Id.* The Board could not preserve the incentives created by a final offer selection process and retain the discretion to formulate its own "offer." *Id.* Pursuant to the Administrative Procedure Act, "the proponent of a rule or order has the burden of proof." 5 U.S.C. § 556(d). In a rate complaint proceeding, the complainant is the proponent of an order and bears the burden. Accordingly, if the Board finds that the parties' offers have equal merit, the complainant has failed to carry its burden, and rate relief would be denied.

The following is a possible timeline for this procedure.

Day -5	Complainant serves notice of intent to initiate case on defendant
Day 0	Complainant files complaint
Day 0	Discovery begins
Day 10	Discovery ends
Day 20	Simultaneous filing of market dominance presentations and final offers
Day 30	Simultaneous filing of replies
Day 90	Board decision

To preserve the effects of the procedural limitations described above, requests for extension of time would be strongly disfavored, even if both parties consented to the request. Therefore, the Board could encourage parties not to spend the scarce time available under this procedure on preparing extension requests. Joint requests to allow time to negotiate a settlement, including joint requests for mediation, are an exception and would be considered by the Board.

The Board would issue a decision no later than 60 days after the parties submit replies. If the Board finds market dominance and chooses the complainant's offer, it could award relief based on the difference between the issue rate and the rate in the complainant's offer. The process would be subject to a relief cap in the form of a two-year limit on rate prescriptions, as in Canada, unless the parties agree to a different limit on relief. *See* Canada Transp. Act, S.C. 1996, c. 10, as amended, § 165(2)(c) (Can.). The Board has previously capped reparations for some of its other procedures based on the cost of bringing the next more complicated procedure. *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 28. Given that

this Final Offer Decision-Making proposal does not fall within the ascending levels of complexity of the Board's other procedures, we recommend that the Board explore through rulemaking whether there should be a cap on reparations.

Unlike the comparison group approach proposed in the Docket No. EP 665 (Sub-No. 2) ANPRM, there would be no eligibility screening aside from market dominance, because the process is not mechanical. If there is a flood of cases, repeated cases by the same complainant, or other concerns, we recommend that the Board hold proceedings in abeyance and consider adding an eligibility screen based on prior litigation. *See Expanding Access to Rate Relief*, EP 665 (Sub-No. 2), slip op. at 16. For purposes of comparison, "only on rare occasions do parties avail themselves of [Canadian final offer arbitration] in successive years," and "about 30 decisions in total have been rendered since the process was instituted in 1988." *TRB Report* 138.

C. Possible Modifications to the Proposal in Docket No. EP 665 (Sub-No. 2)

The Board's recent effort to propose procedures for the smallest rate cases, in Docket No. EP 665 (Sub-No. 2), was not well received. *See, e.g.*, Nat'l Grain & Feed Ass'n et al. (NGFA) Opening Comments 1-2, 7-8; Mont. Wheat & Barley Comm. et al. (MWBC) Opening Comments 13-14; Am. Chemistry Council (ACC) Opening Comments 1-5, 14; MWBC Reply Comments 1-2. For example, ACC argues that certain core elements of the proposed methodology could actually *increase* the time and cost of litigation compared to the Three-Benchmark test. *See* ACC Opening Comments 7-9.

Accordingly, we believe that the Board could reasonably set aside the comparison group process proposed in Docket No. EP 665 (Sub-No. 2) if another approach appears viable—such as the Final Offer Decision-Making process outlined above. If the Board chooses to also proceed with the new comparison group methodology, it could consider several changes to mitigate some of the problems identified by commenters.

First, the Board could adopt certain changes discussed in the Three-Benchmark section of this report: (1) allowing the comparison group to include similar traffic with R/VC ratios below 180%, as long as they are above the carrier's RSAM figure; and (2) setting the revenue need adjustment factor at 1 when the carrier is long-term revenue adequate.

Two proposed features of the test would be unnecessary if the Board modifies waybill sampling rates, as recommended elsewhere in this report. Specifically, the Board could eliminate the "common carrier adjustment" (which should be limited, in any event, to cases where the waybill sample is primarily contract traffic[24]) and exclude non-defendant carrier traffic (which would likely add substantial time and cost to a proceeding, e.g., due to the need for third-party discovery, and which raises substantive concerns about comparing R/VC ratios among different railroads[25]).

The Board could eliminate the revenue per ton-mile screen, which creates the untenable requirement that a complainant bear the costs of preparing and filing a case with no way of knowing whether it is even eligible to file a case. *See* AAR Opening Comments 14-15.[26] The Board could exclude "other relevant factors" presentations, which add enough cost and complexity (as discussed in another section of this report) that they are difficult to reconcile with a procedure intended to address very small disputes. Rather than requiring an evidentiary hearing, which may increase costs rather than reducing them,[27] the Board could provide for a smaller number of written filings, shorter deadlines, or both. The Board could also consider eliminating the confidence interval drawn from the Three-Benchmark test, absent evidence that the test cannot be reasonably applied without a confidence interval. *See* MWBC Opening Comments 22. Finally, the Board could establish a $500,000 cap on relief, which, with rounding, appears to be the most recent evidence of the cost to litigate a Three-Benchmark case. *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 28 (basing relief limits on the cost to

[24] *See* NGFA Opening Comments 16-18; *US Magnesium, L.L.C. v. Union Pac. R.R.*, NOR 42114, slip op. at 18-19 (STB served Jan. 28, 2010).

[25] *See, e.g.*, *Expanding Access to Rate Relief*, EP 665 (Sub-No. 2), slip op. at 14-15; *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 82-83; *see also* BNSF Ry. Opening Comments 8-10, July 26, 2016, *Review of Commodity, Boxcar, & TOFC/COFC Exemptions*, EP 704 (Sub-No. 1).

[26] Removing the revenue per ton-mile screen would also eliminate the re-application of initial eligibility screens at the end of the proceeding, following changes to the comparison group based on the parties' arguments. *See Expanding Access to Rate Relief*, EP 665 (Sub-No. 2), slip op. at 21; ACC Opening Comments 5 (noting that re-application of screens at the end of the case could disqualify a complainant after it incurs the time and expense of litigating the entire case). The other potential eligibility screens do not depend on the comparison group. *See Expanding Access to Rate Relief*, EP 665 (Sub-No. 2), slip op. at 16.

[27] *See* ACC Opening Comments 8-9.

pursue relief under the next more complicated method); U.S. Magnesium Opening Comments, V.S. Kaplan 4, Oct. 23, 2012, *Rate Regulation Reforms*, EP 715.

III. SAC Standardization and Streamlining

A SAC decision requires the Board to resolve hundreds of disputes, often involving small details raised by the parties. Over the years, the Board's SAC decisions have become more and more complex as the parties continue to increase the number of issues they bring to the Board's attention. In the most recent SAC case, as in all recent proceedings under this methodology, the Board spent countless hours addressing minutiae that had very little impact on the outcome of the case. For example, the Board was required to resolve a dispute about the viability of a single occupancy restroom versus separate restrooms for men and women for the SARR. *Consumers Energy Co. v. CSX Transp., Inc.*, NOR 42142, slip op. at 251 (STB served Jan. 11, 2018). If anything, these disputes grow in number and depth as the SAC case evolves.

The effect of this ever-increasing complexity has been to pull the current process far away from the agency's initial vision for SAC. In *Bituminous Coal—Hiawatha, Utah to Moapa, Nevada*, 6 I.C.C.2d 1 (1989), the ICC needed just three decision pages to address the parties' traffic and revenues evidence; the road property investment (RPI) appendix was 12 pages long; the operating expenses appendix was six pages long; and the discounted cash flow (DCF) appendix was 11 pages long. In *E.I. DuPont de Nemours & Co. v. Norfolk Southern Railway*, NOR 42125 (STB served Mar. 24, 2014), addressing the parties' traffic and revenues evidence required 18 decision pages; the RPI appendix was 114 pages long; the operating expenses appendix was 68 pages long; and the DCF appendix was 18 pages long.

The Reauthorization Act imposed new, shorter timelines for the litigation and adjudication of SAC cases. *See* Reauthorization Act, section 11. The SAC process has expanded so much over the years that, in its current form, it cannot be completed by the parties or the Board within the new statutory timelines. Significant changes to SAC are therefore necessary in order to comply with the Reauthorization Act, and we propose such changes below.

Since the adoption of *Coal Rate Guidelines*, the Board has gained vast experience in the resolution of SAC cases. We believe that the time has come to leverage the Board's SAC experience and to standardize certain aspects of the SAC analysis. "The pursuit of precision in rate proceedings, as in most things in life,

must at some point give way to the constraints of time and expense, and it is the agency's responsibility to mark that point." *BNSF Ry. v. STB*, 453 F.3d 473, 482 (D.C. Cir. 2006). This is not a novel approach. In the *Xcel* matter, the Board relied on its past experience to standardize engineering costs. "The Board finds that a 10% estimate is appropriate here and in future cases for the aggregate of all engineering cost components." *Pub. Serv. Co. of Colo. v. Burlington N. & Santa Fe Ry.* (*Xcel*), 7 S.T.B. 589, 697 (2004), *pet. for reconsideration granted in part & denied in part*, NOR 42057 (STB served Jan 19, 2005), *aff'd sub nom. BNSF Ry. v. STB*, 453 F.3d 473 (D.C. Cir. 2006). Similarly, we believe that the Board would be justified in standardizing other SAC components when the record demonstrates that they do not excessively vary from case to case.

For example, we propose that the Board standardize the SAC presentation in three expense areas: General and Administrative (G&A); Maintenance of Way (MOW); and Buildings and Facilities. Our research indicates that these areas do not vary significantly from case to case. Moreover, standardizing the calls in these areas based on the findings in past cases will save the Board from having to make numerous individual calls. Based on recent SAC cases, we propose standardizing these elements in the following fashion.

Traditionally, complainants have been coal shippers who designed SARRs to carry primarily coal traffic. In recent cases, some of the complainants have been chemical shippers who have designed SARRs that have been different in geographic scope, size, and traffic mix than in past SAC cases.

Table 1
Comparison of Traffic Mix by Revenue

Case	Complainant Commodity	Coal	Non-Coal
Consumers, NOR 42142	Coal	56%	44%
TPI, NOR 42121	Chemical	19%	81%
Sunbelt, NOR 42130	Chemical	3%	97%
DuPont, NOR 42125	Chemical	19%	81%
AEPCO, NOR 42113	Coal	41%	59%
AEP Texas, NOR 41191 (Sub-No. 1)	Coal	95%	5%
WFA, NOR 42088	Coal	100%	0%
Xcel, NOR 42057	Coal	100%	0%

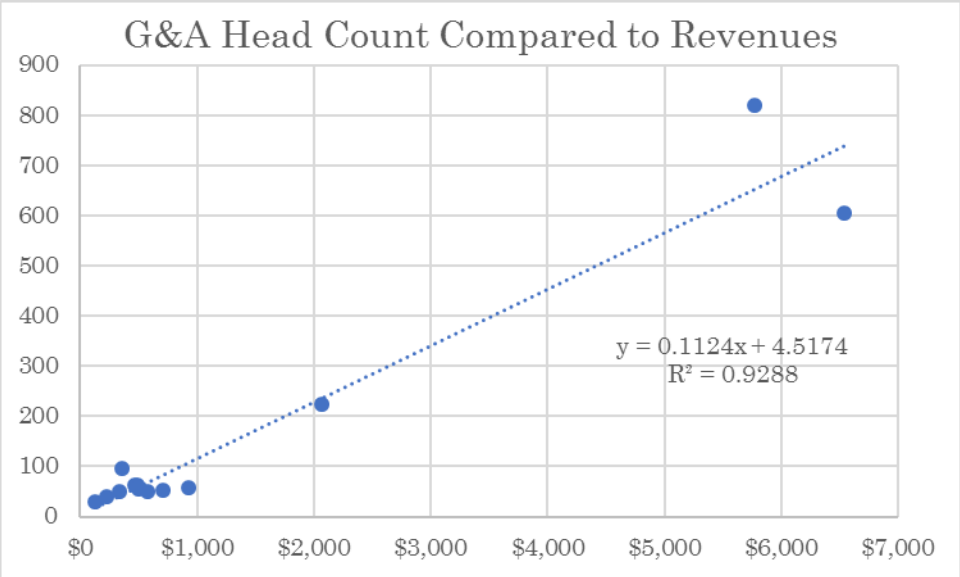
With these additional cases and their variety of crossover traffic, there is enough data from past cases to use as benchmarks or as inputs in the standardized development of a SARR's G&A expenses in any future cases.

In most cases, G&A staff and their associated salaries (including fringe benefits) comprise the majority of a SARR's G&A expenses. G&A staffing and expenses are related to the amount of traffic handled by the SARR, but doubling the SARR's revenue does not double the necessary G&A staff. Parties can determine the relationship between the SARR's revenues and G&A headcounts using a regression analysis of revenues and G&A headcounts from past SAC cases. Table 2 below shows the relationship between revenues and SARR G&A headcounts.

Table 2
G&A Head Count and Revenues

Case	Year (First Year)	G&A Staff	Full Year Revenues ($mm)
Consumers, NOR 42142	2015	29	$131.6
TPI, NOR 42121	2010	604	$6,540.5
DuPont, NOR 42125	2009	820	$5,768.4
Sunbelt, NOR 42130	2011	96	$363.6
AEPCO, NOR 42113	2009	225	$2,069.1
AEP Texas, NOR 41191 (Sub-No. 1)	2000	53	$711.1
WFA, NOR 42088	2004	40	$232.5
Xcel, NOR 42057	2001	51	$341.5
Duke/CSX, NOR 42070	2002	54	$499.5
TMPA, NOR 42056	2001	59	$926.9
CP&L, NOR 42072	2002	63	$468.1
Duke/NS, NOR 42069	2002	63	$491.6
Otter Tail, NOR 42071	2002	51	$581.7

Figure 1



Using the derived total headcount from the regression analysis, parties would then distribute the total G&A staff count among the different Wage Form A&B wage categories and develop salaries based on the corresponding wage categories. The data from Wage Form A&B has traditionally been used by parties to develop staff salaries. The fringe benefit ratio, which is used to calculate fringe benefits, would be based on the one-year average of Class I carriers. This is in line with the methodology adopted by the Board in the most recent two SAC cases.[28]

To develop the non-wage-related part of G&A expenses, there are two options for the parties. One option is to use the rolling average of non-wage-related G&A expenses as a percentage of revenues and apply that percentage to the revenues of the SARR. A second option would be to use a regression analysis that compares the non-wage-related G&A expenses to revenues of past SAC cases.

MOW staffing is another area that can be further simplified based on the data from past SAC cases. Overall staff counts can be derived by using the average number of track miles per MOW employee from past SAC cases. Table 3 below shows the average number of track miles per employee for 13 cases.

[28] *See Total Petrochems. & Ref. USA, Inc. v. CSX Transp., Inc.*, NOR 42121, slip op. at 65-66 (STB served Sept. 14, 2016); *Consumers Energy Co.*, NOR 42142, slip op. at 105-06.

Table 3
MOW Head Count and Track Miles

Case	Track Miles	MOW Staff	Track Miles per MOW Employee
AEP Texas, NOR 41191 (Sub-No. 1)	1,665	488	3.4
WFA, NOR 42088	444	116	3.8
AEPCO, NOR 42113	3,326	565	5.9
DuPont, NOR 42125	10,723	2,165	5.0
Sunbelt, NOR 42130	714	185	3.9
TPI, NOR 42121	10,266	1,536	6.7
Consumers, NOR 42142	212	48	4.4
Duke/CSX, NOR 42070	1,423	351	4.1
Duke/NS, NOR 42069	1,262	393	3.2
Otter Tail, NOR 42071	1,485	483	3.1
Xcel, NOR 42057	551	179	3.1
CP&L, NOR 42072	956	343	2.8
TMPA, NOR 42056	2,244	1,016	2.2

To develop the total MOW head count, parties would divide the SARR's total track miles by the computed average number of track miles per MOW employee. Then parties would distribute the total number of MOW employees to the individual MOW departments using a regression analysis that accounts for staffing levels from previous decisions and track miles. Salaries would then be derived using Wage Form A&B and fringe benefits calculated using the fringe benefit ratio described above.

Buildings and Facilities is another area with components that can be streamlined or standardized. Specifically, a standard square footage per employee based on job function would be developed. The standard square footage per employee would consider items such as needed workspace, bathrooms/lockers rooms, break rooms, and IT facilities. From there, the parties can develop a required square footage requirement for the total building or facility and then apply the appropriate unit costs to it.

These three areas are examples of expenses that could be standardized. In order to bring SAC litigation and adjudication within the time periods now permitted under the Reauthorization Act, we recommend standardizing other categories as well. Further possible candidates for standardization include Roadbed Preparation, Track, Bridges, Signals and Communications, Drainage, Lighting,

Wages, Locomotive Maintenance, Locomotive Fuel, Loss and Damage, and Freight Car Costs.[29] Stakeholders noted a number of other candidates for standardization (e.g., traffic group rules) that might merit consideration. The ultimate goal, as in *Xcel*, is to find an appropriate balance between precision and timeliness. In light of the new, shorter deadlines established by the Reauthorization Act, we recommend that the Board continue to assess these and other candidates for standardization.

IV. Incumbent Network Cost Analysis

Over the years, the SAC analysis first announced in *Coal Rate Guidelines* has become too complicated and time consuming. In the most recent SAC case reviewed by the Board, the parties' submissions included thousands of pages of narrative debate, numerous expert reports and hundreds of spreadsheets and supporting exhibits. *Consumers Energy Co. v. CSX Transp., Inc.*, Docket No. NOR 42142. Unfortunately, the incentives exist for the parties and their attorneys and consultants to make the SAC analysis more involved going forward as they continue to test the boundaries of what is acceptable.

In our view, this complexity arises in part because of disputes centering around the investment and operations of the hypothetical entrant. As a theoretical exercise, the SAC analysis is only constrained by the limits of the parties' imagination: shippers in an effort to cut the SARR's costs, and railroads in an effort to increase them. For example, shippers have started modeling their SARR to include a large percentage of hook-and-haul traffic, where the hypothetical carrier only picks up traffic after it has been assembled into unit trains and drops that traffic off before it needs to be broken up and delivered to its final destination. Arguably, the shipper is seeking efficiencies not available to any existing Class I railroad. Typical of the railroads' efforts to add costs, on the other hand, is the pleading in the *Consumers* matter, proposing real estate transaction costs five times higher than the highest figure accepted by the Board in any prior case. *Consumers Energy Co. v. CSX Transp., Inc.*, NOR 42142, slip op. at 36 (STB served Aug. 2, 2018).

Accordingly, we propose simply doing away with the metaphor of a hypothetical entrant while retaining *Coal Rate Guidelines'* primary intent of judging a shipper's rate against a SARR. *Coal Rate Guidelines*, 1 I.C.C.2d at 521

[29] To avoid the anomalous situation in which Simplified-SAC is less simplified than Full-SAC, any standardization of Full-SAC should also be applied to Simplified-SAC.

("First, a coal shipper could not be charged more than the 'stand-alone cost' of providing service to it."). This process—which we will call the Incumbent Network Cost Analysis (INCA)—severs the link between SAC and the hypothetical world, and instead judges the issue rate against a proper cost allocation centered on the operations of the actual railroad. As such, the Board would establish a just and reasonable rate based on the assets and operating expenses the incumbent employs (not those of the hypothetical entrant).

The point of contestability theory in *Coal Rate Guidelines* was to simulate the competitive price standard that would emerge in a contestable market, one in which entry is "absolutely free and exit absolutely costless," and compare this price to the actual rate. Critics of *Coal Rate Guidelines* pointed out the obvious—that the railroad industry, in fact, faces significant entry costs and heavy sunk costs—costs that cannot be recovered at exit. Yet, the ICC brushed past these criticisms by pledging "[t]he costs and other limitations associated with these entry and exit barriers ***must be omitted*** from SAC analysis in order to approximate the cost structure of a contestable market." *Coal Rate Guidelines*, 1 I.C.C.2d at 529 (emphasis added).

But entry and exit barriers are the subjects of substantial debate in the antitrust world. Our concern is that, over time, the Board may have created a series of precedents in which, at least under some points of view, it did not really omit entry and exit barriers, but rather in a sense recognized them and incorporated them into the SAC analysis. One might argue that the presence of these costs is distorting SAC from its original purpose, biasing the results in the favor of the defendant carriers, and making the SAC test ever more complicated.

Of course, railroads are not alone in stretching SAC to the breaking point. Shippers, too, have advanced ever-more complicated arguments in favor of the efficiencies that their hypothetical carriers should be able to capture. Here, too, these arguments may be inapposite to the original vision of *Coal Rate Guidelines*. The purpose of efficiency-seeking in SAC was to find an appropriate configuration and traffic group. According to the ICC, using the SAC constraint "[t]he parties will have broad flexibility to develop the least costly, most efficient ***plant***. The ***plant*** should be designed to minimize construction (or acquisition) and operating costs and/or maximize the carriage of profitable traffic." *Coal Rate Guidelines*, 1 I.C.C.2d at 543 (emphasis added). It was in the discussion of management efficiency, not SAC, that the ICC discussed operating efficiency and stated that "[c]aptive shippers should not be responsible for eliminating any portion of the revenue need shortfall associated with demonstrated operating inefficiencies." *Id.* at 537. Yet, as the

Board created a body of precedents in its SAC cases, it recognized and incorporated arguments that might better have been addressed under the management efficiency constraint.

Thus, arguments advanced by both shippers and carriers have enhanced the complexity of SAC cases, as well as the burden on parties and the Board. The page lengths associated with SAC decisions have increased dramatically, because there seems to be no limiting principle to the arguments parties can advance. Moreover, the ever-growing ability of commercial organizations (like railroads) to capture and analyze large data sets suggests that the complexity that already bedevils this process will only grow in the future. Given the dramatically shortened timeline within which the Board has to decide these cases, a radical simplification of the SAC test that is consistent with the original vision of *Coal Rate Guidelines* seems appropriate.

INCA would start from SAC, with changes along the following lines. First, we would focus the inquiry not on a hypothetical entrant, but on the defendant carrier. There would be no hypothetical SARR, and the Board would instead look to the property and operations of the defendant carrier. A shipper with a rate complaint would identify those portions of the network that are employed to transport its goods—the lines and yards which its goods touch. We will call this "the footprint" of the SARR going forward. This can be done on a predominant-route-of-movement basis, and the footprint the Board would be looking at would be the entire route—not just the straight-line path from origin to destination.

To capture expenses for INCA, parties would value the assets uniquely associated with the footprint (rail, signals, culverts, bridges, ballast, etc.) at one-half of replacement cost to reflect the expectation that each asset is halfway through its useful life. One-half of replacement cost is an estimate of the average depreciable life of the assets. The expenses of other assets, things like repair shops, fueling locations, offices, things that are needed to run a railroad but may or may not be located along the footprint (called "Overhead" for simplification), would also be valued at one-half replacement cost, and would be apportioned to the footprint based on a system-average cost per ton-mile. The land associated with the footprint would be valued at full replacement cost, because land does not depreciate. The full replacement cost of land associated with overhead items would be apportioned to the footprint on a system-average cost per ton-mile.

Parties would use the same approach—identifying both direct operating expenses on the footprint (labor, fuel, depreciation, materials, supplies, etc.) and

overhead expenses located elsewhere, apportioning these overhead expenses using the same system-average cost per ton-mile.

There would thus be no equity flotation costs, though payment on debt and dividend distributions would be included as an overhead item. There would be no land acquisition costs and no costs associated with building a new SARR. Parties would have plenty of arguments to make regarding replacement costs of the existing assets, as well as arguments about the amount of overhead expenses.

One question that arises is what the appropriate test period should be. We propose looking at all available data back to two years prior to the date of complaint (the standard reparations period). Thus, there would be no forecasts or indexing and no 10-year operating horizon. To calculate relief, the Board would sum up all the direct operating expenses (including depreciation), apportion all overhead expenses (G&A, taxes, etc.), and provide for an economic return on capital assets attributed and assigned to the footprint. The Board would compare the totality of these expenses to the revenues the carrier obtains from the traffic group that operates over the footprint, using the existing cross-over revenue allocation method. If there is an overage, the Board would apply the "Maximum Markup Methodology" (MMM).[30] If the defendant's rate is greater than MMM, rate relief is ordered.

This approach is a dramatic simplification, but it is not simple. There is much work to do to identify and assign all appropriate cost and revenue streams. Litigation expenses would be greatly reduced, because there is no iterative process where traffic is tested to see whether it should be included in the traffic group. No Rail Traffic Controller (RTC)[31] demonstration is required, nor do parties need to justify or oppose various efficiency arguments. Yet, the Board's task would be

[30] The MMM begins with the actual distribution of R/VC ratios in the traffic group, which reflects the ability (or inability) of the railroad to recover its costs from this traffic due to the presence of competitive alternatives and real market forces. The MMM rank-orders these R/VC ratios and then, starting with the highest R/VC ratio, reduces the maximum R/VC ratio to the R/VC ratio of the next highest shipper, and repeats this process until it reaches the point at which the SARR recovers its costs and earns an adequate return on the capital investments required to serve the traffic group. *See Major Issues in Rail Rate Cases*, EP 657 (Sub-No. 1), slip op. at 14-15 (STB served Oct. 30, 2006), *aff'd sub nom. BNSF Ry. v. STB*, 526 F.3d 770 (D.C. Cir. 2008).

[31] The RTC program simulates certain aspects of a railroad's operations, and it has been used in SAC cases to test the adequacy of the configuration and provide transit times and mileage-based service units. *See, e.g., Total Petrochems. & Ref. USA, Inc. v. CSX Transp., Inc.*, NOR 42121 (STB served May 18, 2015).

fundamentally the same as in SAC, only using the existing carrier not a hypothetical entrant. INCA would attempt to identify all the costs (direct and overhead) associated or assignable to the existing railroad operations along the footprint. Those costs would be compared to the revenue stream generated by the complainant and *all* the traffic that uses the footprint, using the same cross-over revenue allocation the Board currently does. There is no need to develop an operating plan or RTC model because carriers have already done that.

Moreover, the threshold *PPL* test[32] would be unnecessary under INCA, as all lines are presumed to be economically viable. However, the *Otter Tail* test[33] would be appropriate.

In the lead-up to the adoption of Constrained Market Pricing, the ICC briefly considered and then abandoned a maximum rate formula designed to permit a carrier to charge the fully allocated cost of its traffic, including the cost of capital. *Coal Rate Guidelines*, 1 I.C.C.2d at 522-23. Now, 35 years removed from *Coal Rate Guidelines*, the Board's experience with the SAC process informs us that there is as much uncertainty with estimating the costs associated with a hypothetical new entrant as there is with estimating the contribution of joint and common costs. The Task Force recognizes that this proposal departs from the demand-based differential pricing principles that railroads used to increase their profitability. As discussed further in this paper, however, in an era where the Class I railroads are all at or near revenue adequacy, the preservation of the carriers' ability to differentially price is less of a concern.

Finally, INCA would be consistent with the "Long-Cannon" factors set out in the statute. At 49 U.S.C. § 10701(d)(2), the Board in its rate reasonableness determinations is charged with giving consideration to:

> (A) the amount of traffic which is transported at revenues which do not contribute to going concern value and the efforts made to minimize such traffic;

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[32] *See PPL Mont., LLC v. Burlington N. & Santa Fe Ry.*, NOR 42054 (STB served Aug. 20, 2002) (threshold cross-subsidy analysis).

[33] *See Otter Tail Power Co. v. BNSF Ry.*, NOR 42071, slip op. at 10-11 (STB served Jan. 27, 2006), *aff'd sub nom. Otter Tail Power Co. v. STB*, 484 F.3d 959 (8th Cir. 2007) (cross-subsidy analysis limiting potential rate relief).

(B) the amount of traffic which contributes only marginally to fixed costs and the extent to which, if any, rates on such traffic can be changed to maximize the revenues from such traffic; and

(C) the carrier's mix of rail traffic to determine whether one commodity is paying an unreasonable share of the carrier's overall revenues.

The Board must do this all the while recognizing that rail carriers shall earn adequate revenues. *See* 49 U.S.C. § 10701(d). INCA addresses the concerns raised by these Long-Cannon factors by establishing the break-even point for any given traffic movement. It accomplishes this goal by accounting for the fully-attributable costs of the movement. Because the fully-attributable costs include a return on the cost of investment equal to the cost of capital, INCA will never drive a carrier below its revenue adequacy level.

V. Revenue Adequacy

A. Define Long-Term Revenue Adequacy

The Board has been directed by statute to assist rail carriers in attaining revenues that are:

> adequate, under honest, economical, and efficient management, for the infrastructure and investment needed to meet the present and future demand for rail services and to cover total operating expenses, including depreciation and obsolescence, plus a reasonable and economic profit or return (or both) on capital employed in the business.

49 U.S.C. § 10704(a)(2). On the basis of this standard, "the Board shall annually determine which rail carriers are earning adequate revenues." 49 U.S.C. § 10704(a)(3). The Board meets this statutory requirement in its annual EP 552, *Railroad Revenue Adequacy Determination*.

This annual determination of railroad revenue adequacy under 49 U.S.C. § 10704(a)(3) is made in accordance with the standards and procedures developed in *Standards for Railroad Revenue Adequacy*, 364 I.C.C. 803 (1981); *Standards for Railroad Revenue Adequacy*, 3 I.C.C.2d 261 (1986); and *Supplemental Reporting of Consolidated Information for Revenue Adequacy Purposes*, 5 I.C.C.2d 65 (1988). Pursuant to those procedures, which are essentially mechanical, a railroad is considered revenue adequate under 49 U.S.C. § 10704(a) if it achieves a rate of

return on net investment (ROI) equal to at least the current cost of capital for the railroad industry.

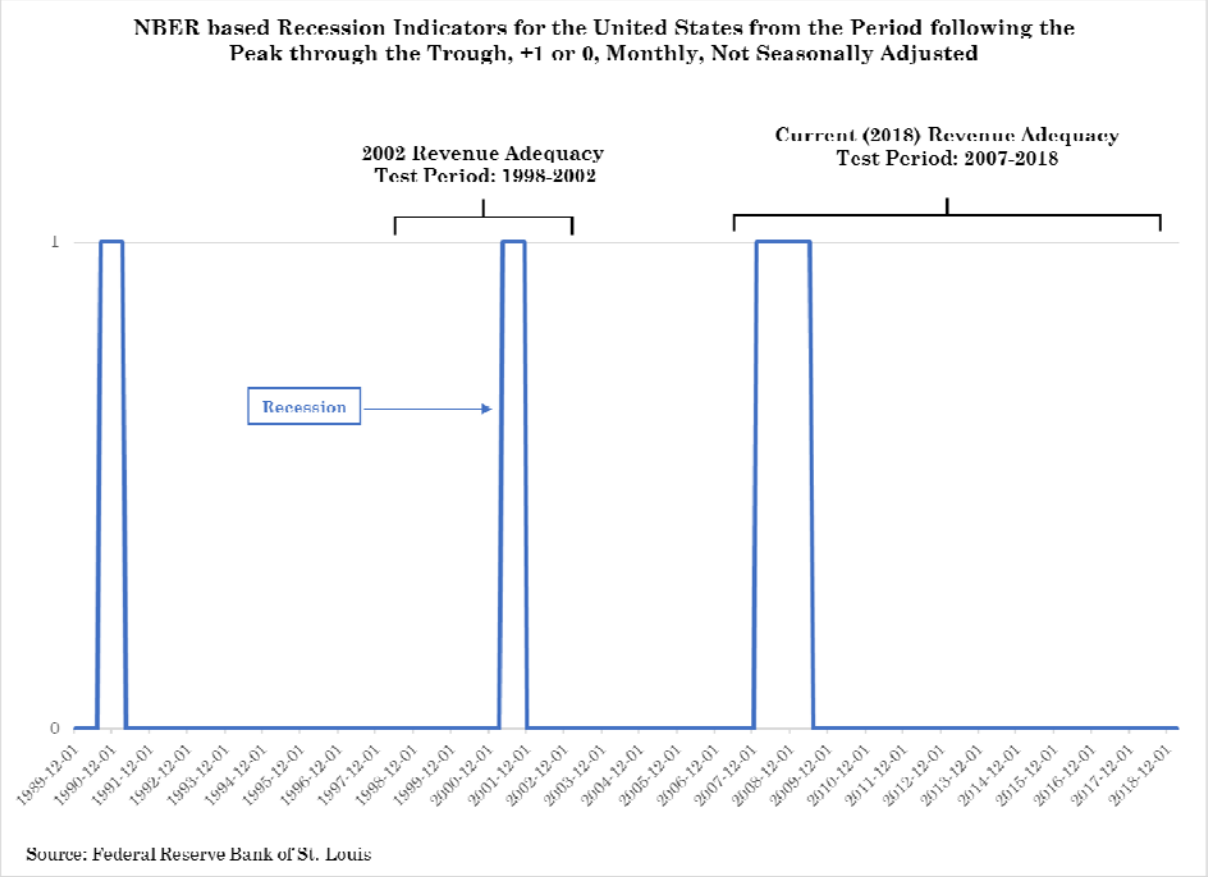
The Board's annual EP 552 determination is simply a one-year snapshot and was never intended to identify whether rate relief is available under the revenue adequacy constraint announced in *Coal Rate Guidelines*. There, the agency found that "revenue adequacy is a long-term concept that calls for a company, *over time*, to average return on investment equal to its cost of capital." *Coal Rate Guidelines*, 1 I.C.C.2d at 536. The agency emphasized that in any industry there are business cycles producing years in which a company's profitability will either exceed or fall short of its earnings projections. *Id.*

Moreover, there is a reason why the single-year snapshot used in EP 552 and the long-term revenue adequacy constraint announced in *Coal Rate Guidelines* are not the same. Railroad profits are *pro-cyclical*—they rise during good times and fall during recessions. Therefore, a single-year snapshot might be an outlier and indicate a misleading conclusion. In other words, a carrier might pass the Board's annual determination even though it is *not* long-term revenue adequate, and a carrier might fail the Board's annual determination even though it *is* long-term revenue adequate.

The Board has not previously announced a working definition of what it means to be long-term revenue adequate. Since the era when *Coal Rate Guidelines* was released, the railroads have now entered a period where a number of them routinely clear the Board's annual comparison of return on investment with the industry cost of capital. And that revenue-adequacy status may be fortified, depending on how carriers implement the bottom-line-focused "precision scheduled railroading" models that most Class Is are now following. As such, the time is ripe for the Board to pronounce a working definition of long-term revenue adequacy for use in applying the revenue adequacy constraint articulated in *Coal Rate Guidelines*.

We recommend that the Board measure long-term revenue adequacy over the length of an entire business cycle. This would ensure that the Board's long-term revenue adequacy calculations always include the negative effects of a recession. Our specific recommendation for determining long-term revenue adequacy is to look at ***the shortest period of time, not less than five years, that includes both a year in which a recession began and a year that follows a year in which a recession began***. We would rely on the National Bureau of Economic Research, the official arbiter of dating recessions, for our dates.

Figure 2
Example of Revenue Adequacy Test Periods



The present business cycle—the longest on record—began when the economy entered a recession in December 2007. The year that follows a year in which a recession began would thus be 2008, and we would measure long-term revenue adequacy from 2007 through the present. We would average the return on investment and the cost of capital figures over this time period. By that standard, Norfolk Southern Railway Company (NS) became revenue adequate in 2006 and remained so throughout the Great Recession of 2007-2009. Though its returns have exceeded the cost of capital for 11 consecutive years, NS has never been too far above the cost of capital threshold. Union Pacific Railroad Company (UP), by contrast, only became long-term revenue adequate in 2012, but it has substantially exceeded the cost of capital threshold in the past few years. BNSF Railway Company (BNSF) became long-term revenue adequate in 2014 and remains only slightly above the target value.

Table 4

Year	Revenue Adequacy Test Period	Average Cost of Capital	Average Return on Investment						
			BNSF	CN[34]	CP[35]	CSX[36]	KCS[37]	NS	UP
2017	2007-2017	10.70%	***11.44%***	9.49%	8.86%	9.46%	8.28%	***11.12%***	***13.01%***
2016	2007-2016	10.77%	***11.51%***	9.67%	8.68%	9.53%	8.40%	***11.23%***	***12.90%***
2015	2007-2015	10.98%	***11.67%***	9.79%	8.58%	9.63%	8.64%	***11.45%***	***12.84%***
2014	2007-2014	11.15%	***11.52%***	9.67%	7.84%	9.70%	8.82%	***11.76%***	***12.51%***
2013	2007-2013	11.22%	***11.33%***	9.43%	9.02%	9.64%	8.91%	***11.77%***	***11.82%***
2012	2007-2012	11.21%	10.88%	9.03%	8.52%	9.58%	8.95%	***11.72%***	***11.22%***
2011	2007-2011	11.22%	10.36%	8.80%	9.19%	9.33%	8.83%	***11.76%***	10.53%
2010	2006-2010	10.90%	10.17%	8.94%	10.09%	8.65%	8.54%	***12.06%***	9.55%
2009	2005-2009	11.13%	10.07%	8.72%	10.26%	7.73%	7.76%	***12.51%***	8.51%
2008	2004-2008	11.06%	9.50%	8.70%	9.66%	7.15%	8.12%	***13.30%***	7.69%
2007	2001-2007	10.42%	8.10%	6.59%	7.36%	5.75%	7.15%	***11.32%***	7.36%
2006	2001-2006	10.26%	7.79%	6.00%	6.05%	5.44%	6.78%	***10.95%***	7.10%
2005	2001-2005	10.33%	7.06%	5.30%	4.93%	4.89%	6.28%	10.27%	6.88%
2004	2000-2004	10.10%	6.87%	4.87%	4.28%	4.37%	6.36%	8.73%	6.99%
2003	1999-2003	10.23%	7.60%	8.76%	4.12%	4.24%	5.98%	7.44%	7.44%
2002	1998-2002	10.48%	8.30%	8.46%	4.92%	5.06%	7.06%	7.72%	6.56%

It should be noted that by using the shortest period, not less than five years, we emphasize the significance of recessions in our analysis. This feature adds a confidence factor that railroads will achieve and maintain long-term revenue adequacy. Picking an arbitrary five- or seven-year period might mean not including a recessionary period, thereby exaggerating the long-term health of the carriers.

We recommend that the annual EP 552 proceeding be augmented to include the calculations of long-term revenue adequacy, and as discussed *infra*, we would tie certain remedies to the finding of long-term revenue adequacy. These remedies would be consistent with constrained market pricing principles and would not hinder the goal of having all railroads achieve long-term revenue adequacy. The goal is not to deprive the railroad of the ability to earn economic profits—rather, our goal is to constrain the exercise of market power on the part of a long-term revenue-

[34] Canadian National Railway Company.

[35] Canadian Pacific Railway Company.

[36] CSX Transportation, Inc.

[37] Kansas City Southern Railway Company.

adequate railroad. The remedies proposed here are robust—as they prove effective (as a railroad is moved closer to the break-even point), they automatically loosen. Indeed, if they prove too effective and a railroad ceases to be long-term revenue adequate, the constraints are eliminated altogether. By contrast, should the constraints prove too weak, and a railroad continues to earn rising profits even though it is long-term revenue adequate, the constraints tighten further.

B. Rate Increase Constraint

1. Purpose

This section describes a possible rate increase constraint (RIC) applicable to carriers that are long-term revenue adequate. As with the other possible constraints suggested in this report based on a railroad's long-term revenue adequacy, the purpose of this proposal is "to maintain reasonable rates where there is an absence of effective competition and where rail rates provide revenues which exceed the amount necessary to maintain the rail system and to attract capital." 49 U.S.C. § 10101(6); *see also Coal Rate Guidelines*, 1 I.C.C.2d at 535-36 ("the logical first constraint on a carrier's pricing is that its rates not be designed to earn greater revenues than needed to achieve and maintain this 'revenue adequacy' level. In other words, captive shippers should not be required to continue to pay differentially higher rates than other shippers when some or all of that differential is no longer necessary to ensure a financially sound carrier capable of meeting its current and future service needs.").

2. Concept

This constraint is an identification of the point at which the existing application of differential pricing is enough. Although there is some possibility this could be viewed as a rate cap, with attendant consequences, no money would be rebated to shippers, and shippers currently paying beyond the level identified would not have their rates reduced. Carriers could continue to charge their existing rates to their existing customers; the constraint would impose no change whatsoever on their existing rate structure. For shippers whose rates exceed the RIC, carriers would be forbidden from raising non-contract, non-exempt rates by more than the rate of inflation (as measured by RCAF-U). Long-term revenue adequate carriers would be free to raise non-contract, non-exempt rates below the threshold, but only up to the threshold, not beyond it. No constraint would be enforced as to commodities or services that are exempt or pursuant to a contract as described in 49 U.S.C. § 10709(a). The threshold level would vary based on the category of

transportation, described further below, and would rise and fall each year as the carrier's revenue above the long-term revenue adequacy threshold rises or falls.

Specifically, for each carrier determined to be long-term revenue adequate, we would calculate its net surplus. That is, for each year in the analysis period (currently 2007-2016), we would subtract the required return on investment from its operating income. We would take these nominal dollars and index them to the present year using the GDP implicit price deflator. Then, we would sum the series and divide through by the number of years in the analysis period (currently 11). This is the average annual real surplus. The average annual real surplus would then be allocated to a defined set of commodity-service characteristic combinations based on that category's share of total revenues with R/VCs exceeding 180%.[38] Thus, if shipments of coal moving for a distance of 500 to 1000 miles accounted for 10% of all revenues that exceed 180%, then that category would be assigned 10% of the average annual real surplus. The purpose of this assignment is to ensure that all commodities derive benefit from the rate increase constraint and that this benefit is proportionate to their contribution.

After allocating the average annual real surplus among the various categories, we would apply a process similar to the Maximum Markup Methodology,[39] reducing each category's R/VC ratio until we exhaust the surplus assigned to that category. The resulting figures, calculated for each category, would be the RIC level. Similar to the "zone of rate freedom" established in the Staggers Act for rate increases that simply tracked costs, rates could be raised to this level without challenge, but a long-term revenue-adequate carrier raising rates over this level would be subject to challenge. This constraint would only be enforced: (a) on complaint, (b) if the railroad is found to be market dominant, and (c) if the issue movement is non-exempt and non-contract.

For illustration, we calculated the RIC for a small set of commodities, based on R/VC ratios.

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[38] For example, the Office of Economics identified 67 distinct categories in its *Study of Railroad Rates: 1985-2007* (Jan. 16, 2009), https://www.stb.gov/stb/industry/1985-2007RailroadRateStudy.pdf. Here, we might need to add additional categories, particularly with respect to specific commodities, to ensure an appropriate amount of precision.

[39] *See Major Issues in Rail Rate Cases*, EP 657 (Sub-No. 1), slip op. at 14-15 (STB served Oct. 30, 2006), *aff'd sub nom. BNSF Ry. v. STB*, 526 F.3d 770 (D.C. Cir. 2008).

Table 5
Illustration of the Rate Increase Constraint for NS

Commodity	Distance	Service Type	R/VC Constraint
Coal	0-500 miles	50+ Cars	374%
Corn	500-1000 miles	50+ Cars	211%
Wheat	500-1000 miles	6-49 Cars	220%
Soybeans	0-500 miles	50+ Cars	471%
Crude Petroleum	0-500 miles	1-5 Cars	243%
Chlorine	500-1000 miles	1-5 Cars	639%
Anhydrous Amm.	500-1000 miles	1-5 Cars	632%
Plastic Materials	500-1000 miles	1-5 Cars	418%

Table 6
Illustration of the Rate Increase Constraint for BNSF

Commodity	Distance	Service Type	R/VC Constraint
Coal	1000-1500 miles	50+ Cars	180%
Corn	>1500 miles	50+ Cars	180%
Wheat	500-1000 miles	50+ Cars	248%
Soybeans	>1500 miles	50+ Cars	182%
Crude Petroleum	1000-1500 miles	50+ Cars	180%
Chlorine	1500+ miles	1-5 Cars	256%
Anhydrous Amm.	0-500 miles	1-5 Cars	433%
Plastic Materials	>1500 miles	1-5 Cars	180%

Table 7
Illustration of the Rate Increase Constraint for UP

Commodity	Distance	Service Type	R/VC Constraint
Coal	0-500 miles	50+ Cars	206%
Corn	>1500 miles	50+ Cars	180%
Wheat	500-1000 miles	50+ Cars	283%
Soybeans	>1500 miles	50+ Cars	180%
Crude Petroleum	>1500 miles	50+ Cars	180%
Chlorine	0-500 miles	1-5 Cars	437%
Anhydrous Amm.	1000-1500 miles	1-5 Cars	385%
Plastic Materials	>1500 miles	1-5 Cars	187%

We acknowledge the possibility that, faced with a constraint on rate increases, a carrier might respond by reducing the quality of service. If a reduction in service quality is carried out in retaliation for the effects of the RIC, it may be the basis for an unreasonable practice complaint. Specifically, such a complaint might proceed if the complainant were covered by the RIC and could show that (1) service quality was reduced for the complainant in particular, a group of customers covered by the RIC (including the complainant), or all customers covered by the RIC, and (2) service quality was not reduced for customers who are not covered by the RIC. In other words, if service quality deteriorated more generally, regardless of whether the customers affected were covered by the RIC, it would not support a complaint for RIC-related retaliation.

C. Bottleneck Changes

Several of the larger shipper participants in our meetings suggested that their rate concerns could be mitigated by new competitive remedies such as those provided under the Canadian regulatory statute. One competitive remedy that might be effective would be to open up "bottleneck" relief (somewhat similar to "competitive line haul rates" under the Canadian system) for revenue adequate carriers. The Task Force's thoughts on that question follow.

1. Background

A rail bottleneck arises when more than one railroad may be involved in providing service from an origin to a destination, but only one—the bottleneck carrier—can serve either the origin or the destination. In the late 1990s, the Board handled three "Bottleneck" cases,[40] in which a utility company sought to require the bottleneck carrier to establish a "local rate" for the segment of the through movement that was served by that carrier so that the utility could combine that local rate with a rate for the remainder of the movement by another carrier.[41] The idea was that, rather than having to challenge the full origin-to-destination rate in

[40] *See Cent. Power & Light Co. v. S. Pac. Transp. Co.*, 1 S.T.B. 1059 (1996), *clarified*, 2 S.T.B. 235 (1997), *aff'd sub nom. MidAmerican Energy Co. v. STB*, 169 F.3d 1099 (8th Cir. 1999).

[41] The Bottleneck cases contemplated two scenarios: "same-source," in which the bottleneck carrier can serve both the origin and the destination, but another carrier can also provide service from an intermediate point to either the origin or destination; and "new-source," which would typically involve two separate origins, one of which the bottleneck carrier could not serve.

its entirety, as generally required by *Great Northern Railway v. Sullivan*, 294 U.S. 458, 463 (1935),[42] the utility could create competition for the bulk of the movement and separately challenge the reasonableness of the local (bottleneck) rate, presumably resulting in lower charges overall.

In its decisions, the Board found that, in same-source cases, a shipper cannot force a bottleneck carrier to use a routing over the line of the non-bottleneck carrier without making a full-blown "competitive access" case, even if such a routing could result in lower rates. Otherwise, the Board found that a shipper could direct a bottleneck carrier that could provide origin-to-destination rail service to "short-haul" itself by routing traffic over the lines of the non-bottleneck carrier if it obtained a rail contract under 49 U.S.C. § 10709 for the non-bottleneck segment. The Board's decisions were affirmed in *MidAmerican*.

2. Discussion

Concluding that they reflected a "permissible" reading of the statute, the *MidAmerican* court found that the Board's Bottleneck decisions "grappled with the tension between two competing policies expressed in the Interstate Commerce Act": carrier discretion in setting rates and routing traffic (49 U.S.C. § 10701(c)) so that railroads could "achieve revenue adequacy by competing on a free-market basis," on the one hand; and the requirement that market-dominant carriers charge only reasonable rates (49 U.S.C. § 10701(d)), on the other. 169 F.3d at 1104-05. The reviewing court's decision was based in part on the Board's conclusion that permitting the maximum differential pricing at bottlenecks would "assist[] carriers in achieving revenue adequacy." *Id.* at 1107. Given the significant improvement in the rail industry's finances, a change making it easier to require revenue-adequate carriers to short-haul to promote competition for a portion of a movement might well be another permissible reading of the statute.

To be sure, the statutory language of 49 U.S.C. § 10705 has generally been construed as protecting an originating carrier's routing prerogatives in general and its long haul in particular. But the long-haul protection has never been absolute: even the Bottleneck decisions themselves held that they could be overcome under

[42] *Great Northern*, which involved proportional rates (similar to the "Rule 11" rates common in the industry today), held that because "the shipper's only interest is that the [total charges paid for a through movement] shall be reasonable as a whole," the reasonableness of through rates should be evaluated on an origin-to-destination rather than a segment-by-segment basis.

the Board's competitive access rules, or if a shipper entered into a transportation contract with a connecting railroad. Moreover, § 10705(a)(2)(C) itself permits the agency to direct a short-haul if it concludes "that the proposed through route is needed to provide adequate, and more efficient or economic, transportation." A finding that a different routing from that offered by the carrier would promote efficient or economic transportation by resulting in greater competition and lower rates would appear to meet the express terms of § 10705, particularly given the robust health of the industry, and the limitation of the policy to revenue adequate carriers. Indeed, the *MidAmerican* court found that permitting the maximum differential pricing at bottlenecks would assist carriers in "achiev[ing] revenue adequacy by competing on a free-market basis." *See* 169 F.3d at 1105-07. That rationale loses its force for carriers that have already achieved long-term revenue adequacy and for a part of an industry that is viewed as quite profitable.

The statutory rate review provisions anticipate that competition will keep rates down for most movements, but that Board intervention limiting the carriers' ability to price differentially is appropriate where market forces are unable to constrain rates. *See* Conference Report 89 ("Conferees intend that competition be recognized as the best control on the ability of railroads to raise rates."). The many shipper groups talking to the Task Force have complained that market forces are in fact not constraining their rates. And although the rate reasonableness procedures in general are supposed to give captive shippers remedies, this Task Force was convened precisely because of the sense among large segments of the transportation community that current rate review procedures are not adequate. For that reason, and because the law contemplates that competition is the best regulator of rail rates, reversing the Bottleneck decisions as to revenue-adequate carriers could be seen as advancing, rather than upsetting, the statutory objectives.

D. Simplified-SAC for Long-Term Revenue Adequate Carriers

As discussed above, the Board established Simplified-SAC to assess whether the complainant is forced to cross-subsidize other parts of the defendant railroad's rail network or whether the defendant carrier is abusing its market power. Using various simplifying assumptions and standardization measures, Simplified-SAC determines whether the rate charged is more than a hypothetical SARR would need to cover operating expenses and a reasonable return on investment for replicating the facilities and services used in the actual operations and services provided to haul the complainant's traffic. *Rate Regulation Reforms*, EP 715, slip op. at 1 n.2 (STB served Mar. 13, 2015); *see also Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 5.

Simplified-SAC initially had a relief limit of $5 million, but the Board later removed that limit. *Rate Regulation Reforms*, EP 715, slip op. at 3 (STB served July 18, 2013). When it removed the relief limit, the Board also removed the simplification of Road Property Investment (RPI) from Simplified-SAC. *Id.*, slip op. at 19-21. The Board reasoned that, without a limit on relief, "a more exact methodology" supported by "detailed expert testimony" was necessary. *See id.*

Notwithstanding the removal of the relief limit, no complainant has brought a case under Simplified-SAC. Shipper interests have indicated that the Board's decision to require a full RPI analysis in Simplified-SAC is among the reasons this methodology has not been used.[43]

Accordingly, we propose to reinstate the simplification of RPI in Simplified-SAC when the defendant is long-term revenue adequate. We would limit this recommendation to long-term revenue adequate carriers to mitigate the impact of changing the RPI treatment after already having removed the relief caps.

Tables and further explanation regarding this proposed adjustment to Simplified-SAC are in Appendix B to this report. In another section, we propose that the Board standardize elements of Full-SAC; any such standardizations should also be applied to Simplified-SAC.

With respect to non-revenue adequate defendants, we recommend eliminating Simplified-SAC. This process has never been used, and we have proposed an alternative—the Incumbent Network Cost Analysis—that would fill Simplified-SAC's intended role.

VI. Three-Benchmark

For some shippers who have smaller disputes with a carrier, even the Board's Simplified-SAC method has apparently proven too expensive, given the smaller value of their cases. At present, the limit on relief for a Three-Benchmark case is set at $4 million, the approximate cost of litigating a Simplified-SAC case. *Rate Regulation Reforms*, EP 715 (STB served Mar. 13, 2015). The Board has found that these shippers must also have an avenue to pursue rate relief. *See Simplified Standards for Rail Rate Cases*, EP 646 (Sub-No. 1) (STB served Sept. 5, 2007).

[43] *See, e.g.*, Nat'l Grain & Feed Ass'n Opening Comments 14, June 26, 2014, *Rail Transp. of Grain, Rate Regulation Review*, EP 665 (Sub-No. 1); Hr'g Tr. 229-30, July 23, 2015, *R.R. Revenue Adequacy*, EP 722.

A. The Current Process

Under the Three-Benchmark method, the reasonableness of the challenged rate is addressed by examining the R/VC ratio that is produced by the challenged rate in relation to three benchmark figures, each of which is also expressed as an R/VC ratio. The first benchmark, the Revenue Shortfall Allocation Method (RSAM), measures the average markup over variable cost that the defendant railroad would need to charge all of its "potentially captive" traffic (traffic priced above the 180% R/VC level) in order for the railroad to earn adequate revenues as measured by the Board under 49 U.S.C. § 10704(a)(2). The second benchmark, $R/VC_{>180}$, measures the average markup over variable cost currently earned by the defendant railroad on its potentially captive traffic. The third benchmark, the R/VC_{COMP}, is used to compare the markup being paid by the challenged traffic to the average markup assessed on other comparable potentially captive traffic.

Once we select the appropriate comparison group for the R/VC_{COMP} benchmark, each movement in the comparison group is adjusted by the ratio of RSAM ÷ $R/VC_{>180}$. We then calculate the mean and standard deviation of the resulting R/VC ratios (weighted in accordance with the appropriate sampling factors). If the challenged rate is above a reasonable confidence interval around the estimate of the mean for the adjusted comparison group, it is presumed unreasonable and, absent any "other relevant factors," the maximum lawful rate is prescribed at that boundary level.

B. Modify the Three-Benchmark Calculation

1. Aggregation of Claims

When the Three-Benchmark methodology was first adopted, the Board restricted access to this test to only the smallest of disputes. Accordingly, an initial requirement of the Three-Benchmark methodology (later removed) was a showing that a Full-SAC presentation was not available to the shipper due to cost constraints. *See Rate Guidelines—Non-Coal Proceedings* (*Non-Coal Proceedings*), 1 S.T.B. 1004, 1048-49 (1996) ("a complaining shipper wishing to use the simplified procedures must demonstrate, at the outset of a proceeding, that CMP is not available.").

Because the methodology is less precise than SAC, the Board imposed a $1 million cap on rate relief for Three-Benchmark cases. *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 27-29. "[B]y placing limits on the relief available, we

encourage shippers with larger disputes to pursue relief under the more appropriate methodology without the Board itself trying to determine the likely value of a case." *Id.*, slip op. at 28. The Board was clear that the Three-Benchmark methodology should not be used to divide a large claim into a number of smaller claims. *Id.*, slip op. at 32-33 ("The Board has ample discretion to protect the integrity of its process from abuse, and we should be able to readily detect and remedy improper attempts by a shipper to disaggregate a large claim into a number of smaller claims, as the shipper must bring these numerous smaller cases to the Board.").

Since the Board put its initial limits on use of the methodology in its *Non-Coal Proceedings* decision, there have only been a handful of Three-Benchmark cases filed. And even agency efforts to make the process more usable have apparently failed: no Three-Benchmark cases have been filed since the Board raised the relief limit to $4 million in *Rate Regulation Reforms*. We believe that one way to make the Three-Benchmark methodology more accessible is to remove the limitation on the aggregation of claims.

Under the Board's current approach, a shipper wishing to pursue relief on two origin/destination pairs would be forced to bring a Full-SAC or a Simplified-SAC case. We believe this is an overly restrictive threshold for when a Three-Benchmark case can be brought. The $4 million limit on relief serves as a check against any concern over the less exacting standards of a Three-Benchmark methodology. *See, e.g., Consumers Energy Co. v. CSX Transp., Inc.*, NOR 42142, slip op. at 44 (STB served Aug. 2, 2018) (awarding approximately $95 million in rate relief under a Full-SAC analysis).

While retaining the constraint that the rate relief limit applies to each individual complaint, we recommend not placing a limit on the number of complaints that a shipper may bring. Given the dearth of cases brought so far under the Three-Benchmark methodology, we do not anticipate a flood of new cases. Indeed, during our meetings, carload shippers informed us that even a Three-Benchmark case under our current methodology (including, e.g., a required showing of market dominance) is still too expensive and time-consuming. But removing the limit on the number of complaints might at least make the process more accessible to some shippers.

2. Comparison Group R/VC Ratios

The purpose of the R/VC_{COMP} benchmark is to use the R/VC ratios of other traffic as evidence of the reasonable R/VC levels for traffic of that type. In making

this comparison, the Board has limited the comparison group to traffic over which the carrier has market power. In other words, the Board has focused on "potentially captive traffic" (i.e., traffic priced above the 180% R/VC level). "The rates available to traffic with competitive alternatives would provide little evidence on the degree of permissible demand-based differential pricing needed to provide a reasonable return on the investment." *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 17.

As we have already noted, however, promoting differential pricing is less of a concern when dealing with revenue-adequate carriers. The long-term revenue adequacy metric proposed in this report represents a reasonable level of profitability for a healthy carrier. The return on investment judged against the industry cost of capital standard fairly rewards the carrier's investors and assures shippers that the carrier will be able to meet their service needs for the long term. Any constraint on a carrier's rate setting authority must preserve that carrier's ability to achieve and maintain revenue adequacy. At the same time, "captive shippers should not be required to continue to pay differentially higher rates than other shippers when some or all of that differential pricing is no longer necessary to ensure a financially sound carrier capable of meeting its current and future service needs." *Coal Rate Guidelines,* 1 I.C.C. 2d at 535-36.

The Task Force, of course, does not want to drive carrier revenues down below a level needed for revenue adequacy. Fortunately, the Board has a ratio to measure a carrier's revenue adequacy needs. The RSAM benchmark is intended to measure the average markup above variable cost that the carrier would need to charge to meet its own revenue needs:

$$RSAM = (REV{>}180 + REVSHORT/OVERAGE)/VC{>}180$$

As a general rule, when a carrier is not revenue adequate under the Board's determination, its RSAM figure should be greater than its $R/VC_{>180}$ figure. Conversely, when a carrier is revenue adequate, its RSAM figure should be lower than its $R/VC_{>180}$ figure.

Accordingly, we propose allowing the comparison group to include similar traffic with R/VC ratios below 180%, as long as they are also above the carrier's RSAM figure. In this way, we would be limiting a revenue adequate carrier's ability to differentially price, while at the same time preserving its status as long-term

revenue adequate.[44] Also, because the Board is not authorized to provide rate relief below an R/VC ratio of 180%, there is little threat that including comparison group traffic with R/VC ratios below 180% will drive a revenue adequate carrier below that level.

3. Revenue Need Adjustment Factor

When the Board first introduced the Three-Benchmark methodology, it included what it termed a "revenue need adjustment factor." *Non-Coal Proceedings*, 1 S.T.B. at 1042. The R/VC ratios of the comparison group were all multiplied by the RSAM/R/VC$_{>180}$ ratio to ensure that a carrier's revenue adequacy efforts were not thwarted. Where the carrier's RSAM/R/VC$_{>180}$ is greater than 1, the carrier is not achieving sufficient differential pricing to meet the revenue need standard represented by RSAM. The greater the difference between the two benchmarks, the greater the upward adjustment on the comparable traffic is needed to ensure revenue adequacy.

At the same time the Board introduced its concept of a revenue need adjustment factor, it also envisioned a downward adjustment to the comparable traffic R/VC ratios when the RSAM figure was less than the R/VC$_{>180}$ ratio. *Id.* We now interpret this as a less than elegant way to account for a carrier's long-term revenue adequacy. The R/VC$_{COMP}$ benchmark was a way in which the Board allowed the market to set the reasonable rate for the issue traffic. The revenue need adjustment factor preserved a carrier's effort to achieve long-term revenue adequacy. Driving comparable rates below market says nothing as to whether the carrier has achieved long-term revenue adequacy based on the rates it is charging the issue traffic.

We believe that the best way to account for long-term revenue adequacy is our proposal to allow the comparison group to include rates below 180% as long as they remain above RSAM. To also allow rates to be driven down further below market when RSAM is below the R/VC$_{>180}$ ratio would be a double count of the impact of a carrier's revenue adequacy and an unnecessary additional restriction on its differential pricing. We propose leaving the revenue need adjustment factor in place for carriers still trying to achieve long-term revenue adequacy. For carriers

[44] RSAM and R/VC$_{>180}$ would be recalculated based on the new definition of long-term revenue adequacy proposed above.

that have achieved long-term revenue adequacy, we would set the RSAM/R/$VC_{>180}$ ratio at 1 and allow the market itself to dictate what represents a reasonable rate.

C. Modify Waybill Sampling Rates

A robust sample size is a critical component of the Three-Benchmark methodology. If parties are to select a comparison group that adequately represents the issue traffic, then there must be enough observations in the Waybill sample to select a group of traffic that reflects the nuances of the traffic in dispute. Toward that end, we propose to modify the sampling rates used to create the STB Waybill sample. This proposal would increase the sampling rates for some categories of traffic, while reducing the sampling rates for other traffic.

Through this proposal, we hope the Board could avoid the scarcity issue that has plagued some past Three-Benchmark cases and forced the parties to rely on comparison groups containing less than representative samples. *See, e.g.*, *US Magnesium, L.L.C. v. Union Pac. R.R.*, NOR 42114, slip op. at 9 n.12 (STB served Jan. 28, 2010) ("We acknowledge that the failure of either party to submit a comparison group more similar to the traffic at issue here is likely due to limitations in the number of comparable movements in the Waybill Sample.") Moreover, a robust sample size should alleviate the need for the parties to delve into "other relevant factors" when those factors can be eliminated in the comparison group selection. For example, a larger sample size should remove the need for a contract rate versus a tariff rate adjustment.

The rules for creating the Waybill sample are set forth in 49 C.F.R. § 1244.4, and distinguish between those manually preparing their Waybill sample and those using a computerized system. Manual systems are likely used by small carriers and are not the focus of this proposal. The current sampling rates for the computerized system are as follows (*see* 49 C.F.R. § 1244.4(c)(2)):

Table 8
Current Sampling Rates

Numbers of carloads on waybill	**Expected Sample Rate**
1 to 2	1/40
3 to 15	1/12
16 to 60	1/4
61 to 100	1/3
101 and over	1/2

In this proposal, we would increase the sampling rates for all small, carload shipments, while in the aggregate reducing the sampling rates for all large movements.[45] We propose to use different sampling rates for carload shipments versus intermodal shipments. These two categories of shipments are generally billed differently by the railroads. Carload shipments usually are billed on a single waybill regardless of how many cars are being shipped. Intermodal shipments usually have separate waybills for each container or trailer.

For carload shipments, we propose to reduce the five sampling rates into a single sampling rate.

Table 9
Proposed Carload Sampling Rate

Numbers of carloads on waybill	**Expected Sample Rate**
1 or more carloads	1/10

This would *increase* the number of waybills sampled for smaller shipments of one to 15 carloads. We believe that should provide a larger group of traffic from which to select comparable traffic for parties wishing to bring a Three-Benchmark case.

This would also *decrease* the number of waybills sampled for larger shipments of 16 or more cars. We believe that these shipments occur with enough frequency such that even with a reduced sampling rate we would continue to capture a representative sample of this traffic. Reducing the sampling rate of these larger shipments would also offset any potential burden on the railroads of sampling more of the smaller shipments.

For intermodal shipments, we propose to reduce the five sampling rates into two categories.

[45] Previously, the Board initiated a rulemaking to increase the Waybill sampling rate for Toxic Inhalation Hazard (TIH) shipments. *See Waybill Data Reporting for Toxic Inhalation Hazards*, Docket No. EP 385 (Sub-No. 7). The Board discontinued that proceeding in response to concerns raised by the railroads over the security of that information. With respect to TIH data, we firmly believe that the confidentiality agreements entered into by parties to a Three-Benchmark case are more than adequate to protect this data from disclosure.

Table 10
Proposed Intermodal Sampling Rate

Numbers of carloads on waybill	Expected Sample Rate
1 to 2	1/40
3 and over	1/10

This makes no change to the sampling rate for the majority of intermodal shipments, which are generally billed as single containers/trailers.

This would *decrease* the number of waybills sampled for larger intermodal shipments of three or more containers/trailers. Again, we believe that these shipments occur with enough frequency such that reducing the sampling rate would not fail to capture a representative sample of this traffic.

Based on the 2016 Waybill sample, the number of records sampled would increase by almost 90% (from 649,722 records to 1,227,410 records), while the number of shipments represented would be unchanged. Of the records currently sampled, 40% are carload shipments and 60% are intermodal. Our proposal would increase the number of carload shipments sampled to 70%—this would be an improvement because the Board regulates carload shipments, while intermodal shipments are exempted.

D. Limit Other Relevant Factors

1. Background

As discussed above, the Board's Three-Benchmark test allows either party to submit evidence of "other relevant factors" to demonstrate that the maximum reasonable rate should be higher or lower than the presumed maximum reasonable rate determined using the three benchmarks. *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 21-22. Parties must quantify the impact of these "other relevant factors" on the presumed maximum reasonable rate. *Id.*, slip op. at 22. The burden of rebutting the presumed maximum reasonable rate by proposing "other relevant factors" is on the party seeking the change. *Id.*, slip op. at 77.

The Three-Benchmark test was intended to be an "expedited and simplified" process, and it "must be relatively simple and inexpensive to have any value." *Id.*, slip op. at 22, 78. Accordingly, as a limitation on the use of "other relevant factors," the Board prohibited parties from using evidence of product and geographic competition associated with particular movements or evidence of movement-specific

adjustments to URCS. *Id.*, slip op. at 22. The Board expressly reserved the right to prohibit other categories of evidence if experience demonstrates that the introduction of such evidence unduly complicates this process. *Id.*

The Board also emphasized that it would limit discovery addressing "other relevant factors," and "[e]ven if the information sought is relevant, we may not permit discovery if the burden is considerable." *Id.*, slip op. at 78. A party seeking discovery regarding "other relevant factors" would "have to show how the information requested is consistent with the expedited and simplified nature of this process." *Id.*

Board decisions have provided clarification as to which arguments constitute "other relevant factors," as opposed to arguments regarding the choice of comparison group. For example, the Board analyzed the following as potential "other relevant factors": a "common carrier adjustment" to the presumed maximum reasonable rate to account for differences between tariff and contract rates; an adjustment to the R/VC ratios used in calculating the three benchmarks to address regulatory lag; and an adjustment to the presumed maximum reasonable rate to account for the Long-Cannon factors at 49 U.S.C. § 10701(d)(2)(A)-(C). *See US Magnesium, L.L.C. v. Union Pac. R.R.*, NOR 42114, slip op. at 17-19 (STB served Jan. 28, 2010); *E.I. du Pont de Nemours & Co. v. CSX Transp., Inc.*, NOR 42099, slip op. at 17-19 (STB served June 30, 2008) By contrast, when a proposed comparison group comprised mostly movements of a different product than the issue movement, the Board evaluated this divergence in choosing between the parties' proposed comparison groups—not as an "other relevant factor." *See US Magnesium, L.L.C.*, NOR 42114, slip op. at 7-12. These examples suggest, for example, that the "liability risk adjustment" proposed for chlorine traffic in *Canexus* would be assessed as a potential "other relevant factor," as the defendant classified it. *See* BNSF Opening 78-82, Feb. 13, 2012, *Canexus Chemicals Canada, L.P. v. BNSF Ry.*, NOR 42132.

2. Cost and Complexity Introduced by "Other Relevant Factors"

In *Simplified Standards*, the Board declined "at this time" to impose a page limit on "other relevant factors." *Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 78. Instead, as noted, the Board focused on limiting discovery relating to "other relevant factors." Cases litigated after the Board issued *Simplified Standards* have indicated that discovery is not the only way in which "other relevant factors" may inhibit the use of the Three-Benchmark test as an "expedited and simplified" process. In particular, defendants' "other relevant factors" proposals have constituted nearly half of their evidentiary presentations in some cases, extending to around 60 pages.[46]

Our conversations with shippers confirmed that a potential complainant, faced with the prospect of having to respond to an open-ended, voluminous collection of arguments and evidence proposing "other relevant factors"—including attorneys' and consultants' fees for reviewing and responding to these arguments and evidence—would not find the Three-Benchmark test to be "relatively simple and inexpensive." *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 22; *see also* Nat'l Grain & Feed Ass'n Opening Comments 15, June 26, 2014, *Rail Transp. of Grain, Rate Regulation Review*, EP 665 (Sub-No. 1) (citing the cost of responding to "other relevant factors" arguments in previous Three-Benchmark cases as a source of uncertainty for complainants who might consider using this methodology); USDA Opening Comments 3, Nov. 14, 2016, *Expanding Access to Rate Relief*, EP 665 (Sub-No. 2) ("even the ostensibly simplified procedures still require expensive expert guidance and high cost lawyers to litigate . . . the railroads' 'other relevant factor' arguments impose costly burdens on shippers who cannot expect to recover their costs.").

3. Possible Limits

Page limits could help to rein in litigation over "other relevant factors." If parties had, for instance, a maximum of 10 pages on opening, 10 pages on reply, and five pages on rebuttal to address "other relevant factors" (including counsel's

[46] *See* UP Opening 31-65, Aug. 24, 2009, *US Magnesium, L.L.C. v. Union Pac. R.R.*, NOR 42114; UP Rebuttal 35-61, Oct. 22, 2009, *US Magnesium, L.L.C. v. Union Pac. R.R.*, NOR 42114; BNSF Opening 56-83, Feb. 13, 2012, *Canexus Chemicals Canada, L.P. v. BNSF Ry.*, NOR 42132; BNSF Reply 17-28, Mar. 13, 2012, *Canexus Chemicals Canada, L.P. v. BNSF Ry.*, NOR 42132; BNSF Rebuttal 19-42, Apr. 12, 2012, *Canexus Chemicals Canada, L.P. v. BNSF Ry.*, NOR 42132.

argument and verified statements), there would be substantially less room to introduce arguments and evidence that are not commensurate with an "expedited and simplified" process, in terms of their scope and complexity. This limitation would also reduce the need for expert-intensive responses to such arguments and evidence. As a possible collateral benefit, page limits could help to enforce the requirement that parties quantify their proposed "other relevant factors." *See Simplified Standards*, EP 646 (Sub-No. 1), slip op. at 22; *E.I. du Pont de Nemours & Co. v. CSX Transp., Inc.*, NOR 42100, slip op. at 15 n.48 (STB served June 30, 2008) (declining to consider a proposed "other relevant factor" without quantification). A prudent opposing party would presumably spend resources responding to a proposed "other relevant factor" even without quantification, but with page limits, parties would have an incentive not to spend their limited pages on an item that the Board is likely to disregard.

In sum, the open-ended question presented by "other relevant factors" could swallow a procedure that was intended to be "relatively simple and inexpensive." The Board's ability to reject a proposed "other relevant factor" does not resolve this concern, because the parties would still have litigated that issue, and would likely have engaged in discovery relating to it. Thus, the presence of an open-ended "other relevant factors" element could discourage the filing of meritorious complaints, due to the burden of litigation over this element. Instituting page limits on "other relevant factors" could help the Board mitigate this concern.

VII. Market Dominance

The market dominance inquiry for rate reasonableness cases is a costly and time-consuming undertaking. For example, in the most recent rate reasonableness case, *Consumers Energy Co. v. CSX Transp., Inc.*, Docket No. NOR 42142, the market dominance presentations alone exceeded 200 pages of narrative discussion and included multiple expert reports. The expense associated with the market dominance inquiry is particularly troubling for small rate cases where the investment required is out of balance with the reward being sought. An effort to streamline the market dominance inquiry is a necessity to making rate relief available for small rate disputes.

It has long been a hallmark of rate cases that the burden is on the complainant in demonstrating the lack of competitive alternatives. "In the qualitative market dominance inquiry, the complainant bears the burden of establishing the absence of effective competition from other rail carriers or modes of transportation for the traffic to which the challenged rate applies." *Total*

Petrochems. & Ref. USA, Inc. v. CSX Transp., Inc., NOR 42121, slip op. at 28 (STB served May 31, 2013). In this context, we do not necessarily need to shift the burden of the market dominance inquiry to streamline the process. Rather, the Board can provide a standard for pleading market dominance that will reduce the cost and time of bringing a rate case.

It is established precedent that the Board has the authority to reduce the burden of filing a rate case by reducing the breadth of the market dominance inquiry. *See Mkt. Dominance Determinations—Prod. & Geographic Competition*, 3 S.T.B. 937 (1998) (eliminating the consideration of product and geographic evidence from market dominance determinations). Accordingly, it is well within the Board's authority, based on its experience with market dominance issues in rate cases, to streamline the market dominance inquiry further. We propose setting a list of criteria that once pled will lead to a finding by rule that the complainant has made its prima facie case of market dominance over the issue traffic. These criteria would be particularly helpful in small rate disputes.

Naturally, a shipper must have an R/VC ratio of greater than 180% to be eligible for rate relief. 49 U.S.C. § 10707(d)(1)(A). Moreover, we believe that trucking is only effective up to a certain distance, and over that threshold does not present a competing alternative to rail. As a general rule, an average daily run for trucks is approximately 500 miles. Cal. Trucking Ass'n, *Begin A Career As A Driver*, http://www.caltrux.org/driver-faqs/. The 500-mile threshold is an effective benchmark to identify when trucking no longer becomes effective. *See Review of Commodity, Boxcar, & TOFC/COFC Exemptions*, EP 704 (Sub-No. 1), slip op. at 7 n.12 (STB served Mar. 23, 2016) ("Trucking becomes less viable when the length of haul exceeds 500 miles because over that threshold, in many instances, could not be completed in one day."); *see also Rail Gen. Exemption Auth.—Exemption of Grease or Inedible Tallow*, 10 I.C.C.2d 453, 461 (1994) (finding that movements over 500 miles "were thus less likely to be the subject of direct truck competition."). As such, in order to make its prima facie case of market dominance a shipper would have to show:

- The movement exceeds 500 miles by rail;
- There is no intramodal competition;
- There is no barge competition; and
- Any truck movements are used only in rare situations, at times of supply chain duress.

Any movement where trucks are a regular and routine presence would not be considered market dominant, no matter how long the distance.

A shipper that cannot meet the prima facie criteria may still be able to prove market dominance with other evidence following a traditional presentation. In other words, movements of goods 500 miles or less could qualify for market dominance, but the complainant would need to demonstrate a lack of both intermodal and intramodal competition. Notwithstanding a prima facie showing, railroads could continue to defend themselves by presenting evidence of alternative competition (e.g., build-outs). The complainant would have the chance to respond to the railroad's evidence in its rebuttal submission.

As an alternative to the substantive changes outlined above, another possibility would be to limit the scope and complexity of market dominance analyses by instituting procedural constraints—in particular, a very short timeline. TRB referred to "disciplining the process directly through deadlines," specifically in relation to market dominance. *TRB Report* 197. We believe this is also a promising approach, which could improve the process without raising some of the concerns that might be implicated by substantive limitations. The procedure could resemble the market dominance portion of the Final Offer Decision-Making proposal above, at least in general terms, with adjustments to make it usable with the Board's other rate reasonableness approaches.

VIII. Conclusion

The Rate Reform Task Force raises the ideas described above as a range of possibilities from which the Board could choose, modifying them as appropriate, or using them as a starting point to craft approaches not described here.

The proposals in this report, developed using the public input we obtained in meetings with stakeholders, are intended to address problems and concerns with the Board's current rate review processes for both large and small disputes, as well as to offer new alternatives. We appreciate stakeholders' willingness to meet with us and share their views, and we encourage them to participate in notice and comment procedures addressing any Board proposals that emerge from this report.

Finally, we recognize that the task at hand involves the same reconciliation of statutory goals that "do not all point in the same direction"[47] that has faced the

[47] *Baltimore Gas & Elec. Co. v. United States*, 817 F.2d 108, 115 (D.C. Cir. 1987).

agency since the enactment of the 4R Act and the Staggers Act—for example, how to ensure that, to the maximum extent possible, competition and the demand for services establish rates, while simultaneously protecting shippers with fewer transportation options from paying unreasonable rates. *See* 49 U.S.C. § 10101(1), (6). Balancing between rates set by market forces and rates limited by government regulation is not a new challenge; the ICC observed, in 1995, that "[w]e have been striving to meet these objectives for almost 10 years." *Rate Guidelines—Non-Coal Proceedings*, EP 347 (Sub-No. 2) (ICC served Dec. 1, 1995). What has changed, as discussed above, is the financial health and competitive landscape of the railroad industry. Our proposals attempt to account for these changes while continuing to carry out the objectives enacted by Congress four decades ago.

APPENDIX A

Figure A-1
Rail Rate Index 1985 to 2017
Real Revenues per Ton-Mile, 1985=100

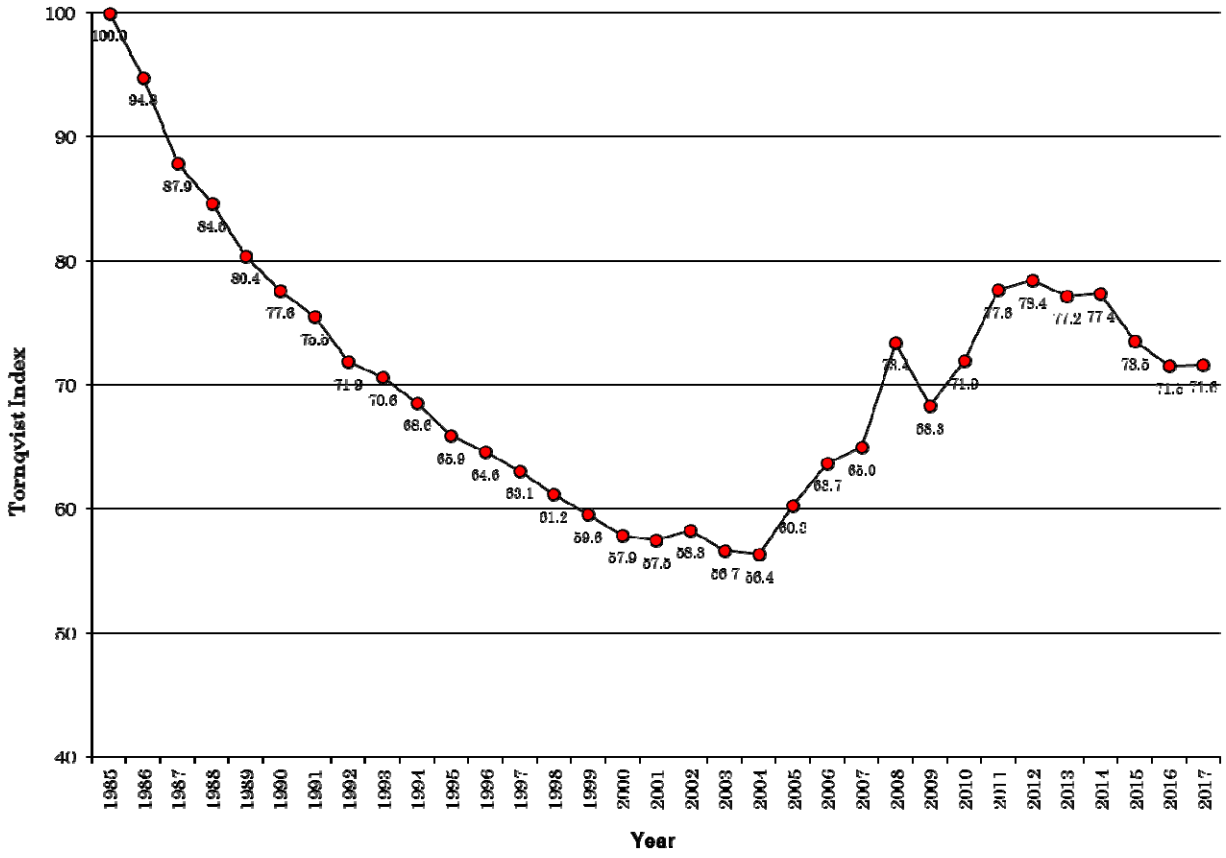
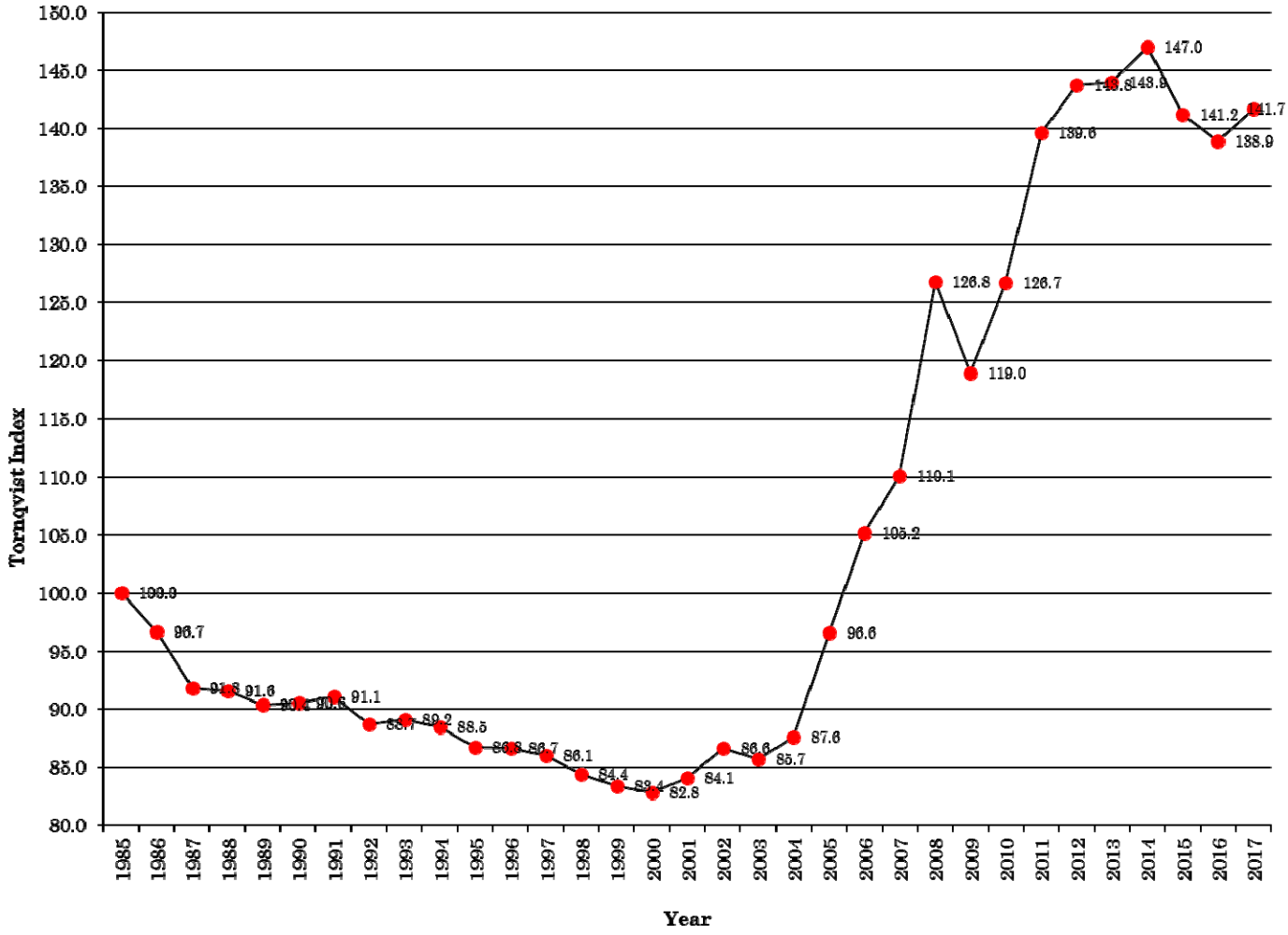


Figure A-2
Rail Rate Index 1985 to 2017
Nominal Revenues per Ton-Mile, 1985=100



Source: Office of Economics, Surface Transportation Board

APPENDIX B

This appendix provides details regarding the proposed simplification of the Road Property Investment (RPI) analysis in Simplified-SAC when the defendant carrier is long-term revenue adequate. To simplify the RPI presentation, we propose using a similar methodology to that presented at the time Simplified-SAC was originally adopted in *Simplified Standards*. For example, a review of recent cases demonstrates that the RPI analysis can be streamlined in the following fashion. The tables below have been updated to reflect the Board's most recent decisions in SAC cases.

Land

Under our proposal, parties would use a rolling-average cost per acre from prior rate cases. Table A-2 below shows the Board's land cost per acre findings, by category of land.

The year noted is not the year of the decision, but rather the year for which the RPI cost data was submitted, which would then be used to index the Board's findings in that particular case to current dollars. The years set forth in Table B-1 apply to all tables in this appendix.

Table B-1
Comparison of Per Acre Land Costs by Category[48]

Case	Year	Agricultural	Residential	Industrial	Commercial
TMPA	2001	$4,932	$24,709	$47,234	$74,344
Duke/NS	2002	$4,088	$3,853	$76,611	$204,849
CP&L	2002	$3,932	$4,913	$83,253	$130,900
Duke/CSX	2002	$4,141	$6,982	$39,842	$94,656
Xcel	2001	$446	$22,157	$13,797	$42,549
Otter Tail	2002	$533	$13,006	$14,844	$32,423
AEP Texas	2000	$597	$11,733	$93,408	$51,602
WFA	2004	$620	$4,225	$10,385	$10,385
AEPCO	2009	$4,884	$85,000	$26,859	$40,422
TPI	2010	n/a	n/a	n/a	n/a
DuPont	2009	$14,450	$9,868	$16,349	$35,994
Sunbelt	2011	n/a	n/a	n/a	n/a
Consumers	2015	$18,084	$214,413	$120,612	$175,164

Roadbed Preparation

This is a significant category of RPI that is less subject to simplification on a route-mile basis than the others, as it can be affected by both the terrain and makeup of the route being replicated.

Under our proposal, parties would continue to use the ICC Engineering Reports as the basis for determining the underlying quantities of material for line segments where that data has been reported. The parties would be responsible for collecting and analyzing the ICC data. The parties would convert the ICC quantities to current engineering standards using the methodology currently in use in Full-SAC cases.[49] For line segments for which there is no ICC data, the parties would need to present evidence on the quantities of material needed under current engineering standards. Following current Board precedent in Full-SAC cases, the Board would assume that ditches should be 2 feet by 2 feet in size, that the ROW

[48] Commercial property is designed for use by retail, wholesale, office, hotel, or service users (e.g., shopping centers, office buildings, hotels and motels, resorts or restaurants). Industrial property is used for industrial purposes (e.g., factories, heavy manufacturing buildings, or research and development parks). Residential property is owner occupied housing. Agricultural property is used for farming or mining.

[49] The Board would need to provide sample spreadsheets from prior Full-SAC cases for parties to use upon request.

would be 100 feet across, that adequate access roads are reflected in the current quantities, and that side slopes would be 1.5 to 1 for Simplified-SAC cases.

Once the parties have undertaken this analysis, the unit costs for earthwork—by far the largest component of roadbed preparation—would then be based on the rolling average from past Full-SAC cases. The Board has been consistent in the mix of required equipment to perform roadbed preparation. These costs can be expressed in unit cost per cubic yard of material for excavation, loose rock, solid rock, borrow, and in some cases, fine grading. Table B-2 below shows the Board's roadbed preparation unit cost findings from prior Full-SAC cases.

Table B-2
Comparison of Earthwork Unit Costs (per cubic yard)

Case	Common	Loose	Solid	Borrow	Fine Grading
TMPA	$3.19	$4.51	$7.15	$10.46	n/a
Duke/NS	$3.32	$8.75	$9.09	$9.84	n/a
CP&L	$3.34	$8.81	$9.20	$9.89	n/a
Duke/CSX	$3.29	$8.67	$9.09	$9.81	n/a
Xcel	$3.43	$8.00	$9.57	$12.26	$0.15 slope $0.32 subgrade
Otter Tail	$3.90	$6.57	$9.22	$12.35	$0.33
AEP Texas	$3.42	$6.85	$8.89	$12.10	$0.33
WFA	$2.17	$8.69	$10.55	$13.69	n/a
AEPCO	$3.41	$11.32	$14.95	$14.50	n/a
TPI	$1.79	$13.62	$17.52	$16.82	$0.46 (square yard)
DuPont	$5.04	$10.64	$17.50	$15.59	$0.42
Sunbelt	$5.31	$11.21	$14.83	$26.90	n/a
Consumers	$2.75	$13.40	$16.96	$10.35	$0.50

The remaining miscellaneous earthwork costs (such as seeding and topsoil) could be estimated on a route-mile basis.

Table B-3
Comparison of Other Earthwork Unit Costs

Case	Total Cost ($ Millions)	Route Miles	Cost per Route Mile
TMPA	$54.3	1,629	$33,303
Duke/NS	$91.6	1,108	$82,643
CP&L	$79.1	818	$96,555
Duke/CSX	$93.8	1,197	$78,399
Xcel	$21.7	367	$59,027
Otter Tail	$43.8	1,208	$36,260
AEP Texas	$34.9	1,169	$29,904
WFA	$13.2	301	$43,623
AEPCO	$84.9	2,205	$38,508
TPI	$877.2	6,912	$126,918
DuPont	$957.2	8,112	$117,998
Sunbelt	$103.0	581	$177,323
Consumers	$9.5	169	$56,338

Track

Under our proposal, parties would use the rolling average track cost per track mile from prior rate cases. Table B-4 below shows the Board's total track cost per track mile findings.

Table B-4
Comparison of Track Construction Costs[50]

Case	Total Cost ($ Millions)	Track Miles	Cost per Track Mile
TMPA	$1,271.2	2,403	$528,999
Duke/NS	$693.9	1,382	$502,087
CP&L	$508.3	1,073	$473,693
Duke/CSX	$712.4	1,510	$471,816
Xcel	$358.1	678	$528,123
Otter Tail	$744.5	1,563	$476,342
AEP Texas	$889.5	1,730	$514,097
WFA	$250.2	444	$563,987
AEPCO	$2,384.2	3,599	$662,535
TPI	$7,852.2	12,479	$629,255
DuPont	$7,672.9	12,825	$598,255
Sunbelt	$543.8	870	$624,875
Consumers	$175.1	234	$748,525

Tunnels

Under our proposal, if there is a tunnel on the ROW replicated by the SARR, the parties would have to submit evidence on the current replacement cost of that tunnel. There have been only a few Full-SAC cases dealing with the cost of tunnels, the costs of which are specific to each individual tunnel.

Bridges and Culverts

Under our proposal, parties would use a rolling average bridge cost per linear foot from prior rate cases. As all bridges are not the same, parties would use the bridge cost for the appropriate type of bridge. The parties would need to submit evidence on the total length (by type) of the bridges along the ROW being replicated but could then use the rolling-average unit costs from prior cases. Type 1 bridges are pre-stressed concrete girder bridges. Type 2 bridges are steel deck plate girder bridges. Type 3 bridges are steel through plate girder bridges. Inclusion of assets in the ICC Engineering Reports is adequate proof of bridge ownership. Tables B-5

[50] Note: Ballast and sub-ballast costs are excluded from Table B-4.

and B-6 below show the Board's prior bridge cost per linear foot findings, by type of bridge.

Table B-5
Comparison of Eastern Bridge Construction Costs
(Cost per linear foot per track)

Case	Type 1	Type 2	Type 3
Duke/NS	$6,044	$3,405	$3,813
CP&L	$5,790	$3,967	$3,701
Duke/CSX	$4,892	$3,924	$3,993
TPI	$3,121	$2,868	$2,443
DuPont	$2,352	$2,317	$2,771
Sunbelt	$2,508	$2,705	$2,562
Consumers	$7,282	$9,270	$9,228

Table B-6
Comparison of Western Bridge Construction Costs
(Cost per linear foot per track)

Case	Type 1	Type 2	Type 3
TMPA	$2,225	$3,862	$4,409
Xcel	$1,793	$2,690	$4,427
Otter Tail	$2,315	$2,552	$4,300
AEP Texas	$5,976	$4,019	$3,150
WFA	$3,216	$2,591	$3,721
AEPCO	$3,527	$3,086	$3,062

Table B-7
STB Derived Trend Curve for Western Bridges
(Through 2009)

	x = bridge length {feet} y = $/linear ft per track
Western SAC Cases	$y = -0.0075x^3+6.3024x^2+2566.9x+14488$

Under our proposal, for culverts, parties would use the rolling average culvert cost per linear foot from prior rate cases. As all culverts are not the same, the culvert cost for the type of culvert involved will be used: corrugated metal pipe (CMP-pipe), reinforced concrete pipe (RCB-pipe), and structural steel plate (SSP-pipe). As all of the types of culverts are utilized on railroads in many different sizes, most of the culvert evidence that has been submitted in previous Full-SAC cases includes a linear equation that correlates the cross-sectional area of the

culvert opening with the unit cost of the culvert. Parties would utilize these linear regressions to determine the cost per foot of all the various sizes of culverts that will be utilized in our simplified analysis. The parties would have to submit evidence on the total length (by type) of culverts along the ROW being replicated, but could then use the rolling-average unit cost (from the regression equations) from prior cases. Table B-8 below shows the Board's findings on the regression equations for culvert cost per linear foot by type of culvert.

Table B-8
Comparison of Culvert Construction Costs

Input units:	Pipe cross-sectional area for Corrugated Metal Pipe & Structural Steel Plate; x {sq. in.} for Reinforced Concrete Box; x {sq. ft.}
Output units:	y {$/LF}

Case	Corrugated Metal Pipe	Reinforced Concrete Box	Structural Steel Plate
TMPA	y=0.0237x+14.695	y=3.726x+266.77	y=0.0127x+145.201
Duke/NS	y=0.0277x+8.89	y=8.681x+134.609	y=0.0162x+146.59
CP&L	y=0.025x+11.322	y=4.563+198.47	y=0.0161x+163.875
Duke/CSX	y=0.0276x+8.89	y=8.671x+134.295	y=0.0161x+145.66
Xcel	y=0.0304x+26.399	y=3.886x+286.052	y=0.00934x+155.158
Otter Tail	y=0.0392x+17.606	y=4.017x+172.3	y=0.0171x+72.524
AEP Texas	y = 0.0185x + 48.0701	y = 6.2711x + 335.3920	y = 0.0220x + 0
WFA	y = 0.0205x + 53.056	y = 8.0125x + 364.32	y = 0.007x + 257.16
AEPCO	y = 0.0222x + 214.47	y = 1.1105x + 14.329	n/a
TPI	y = 0.0245x + 49.573	n/a	n/a
DuPont	y = 0.0242x + 54.202	n/a	n/a
Sunbelt	y = 0.025x + 56.789	n/a	n/a
Consumers	y = 0.0289x + 32.88	y = 7.6275x + 231.79	n/a

For example, assume the SARR in a Simplified-SAC presentation would replicate 2,000 feet of CMP-pipe culverts with a diameter of 10 square inches. First, the parties would use the 13 equations above to calculate the CMP-pipe culvert construction cost per linear foot. The parties would then index those unit costs by the appropriate index. We would then use the rolling average of those (indexed) costs per linear foot, multiplied by 2,000 feet, to derive the culvert construction costs for the SARR.

Signals and Communications

The Board in *Simplified Standards* noted that complainants in Full-SAC cases have used centralized traffic control (CTC) signaling as their signals and communications system. In recent cases, complainants have installed Positive Train Control (PTC) to handle TIH traffic moving over the SARR. Where CTC or PTC signaling is used by the railroad along the ROW replicated by the SARR, parties would use the rolling average signals and communications cost per route mile from appropriate prior rate cases.

If, however, the railroad instead uses another type of signaling system along the selected route of the issue movement, the parties would have to submit evidence on the replacement cost of facilities needed for that signaling technology. If a complainant were satisfied that the cost per mile from the Board's prior findings would be a suitable surrogate or would not be material to the outcome, it could elect to use the rolling-average cost per mile from prior Full-SAC cases for the entire SARR. Parties electing not to use the rolling average costs for signaling would also have to present evidence on the communications costs. Table B-9 below shows our findings on signals and communications costs per route mile.

Table B-9
Comparison of Signaling & Communications Costs

Case	Signal System	Total Cost ($ Millions)	Route Miles	Cost per Route Mile
TMPA	CTC	$133.4	1,629	$81,883
Duke/NS	CTC	$154.8	1,108	$139,689
CP&L	CTC	$138.7	818	$169,578
Duke/CSX	CTC	$187.8	1,197	$156,914
Xcel	CTC	$76.8	367	$209,142
Otter Tail	CTC	$203.8	1,208	$168,669
AEP Texas	CTC	$145.9	1,169	$124,783
WFA	CTC	$61.7	301	$204,797
AEPCO	CTC	$372.8	2,205	$169,041
TPI	PTC	$1,943.4	6,912	$281,174
DuPont	PTC	$2,049.8	8,112	$252,681
Sunbelt	PTC	$180.1	581	$310,198
Consumers	CTC	$45.8	169	$270,846

Buildings and Facilities

In traditional, predominantly coal-hauling SARRs, the cost of buildings and facilities increases with more traffic (reflecting the larger workforce of the SARR), but the cost per ton falls. As such, doubling the size of the SARR does not double the size and cost of buildings and facilities needed to support the staff. Complainants in recent cases have chosen a more diverse traffic mix, causing a change in the types of buildings and facilities replicated by the SARR. This in turn has led to an increase in the cost per ton for buildings and facilities in these cases, which have 50% more tonnage than the largest case used in the Board's *Simplified Standards* analysis.

The Board proposed in *Simplified Standards* that the parties estimate the relationship between cost per ton and tonnage using a simple regression analysis of the costs from prior rate cases. Once this relationship is estimated using the data from the most recent cases, the parties would use this estimated relationship, combined with the total tons flowing over the SARR in the Test Year, to develop the buildings and facilities costs. Table B-10 below shows the Board's findings regarding buildings and facilities cost per ton (in the base year of those SAC presentations), which the parties would use to perform the regression analysis.

Table B-10
Comparison of Building & Facilities Costs

Case	Total Cost ($ Millions)	Year 1 Volume (Tons Millions)	Cost per Ton
TMPA	$53.2	179	$0.30
Duke/NS	$39.0	78	$0.50
CP&L	$37.9	72	$0.52
Duke/CSX	$62.0	105	$0.59
Xcel	$41.2	105	$0.39
Otter Tail	$51.3	220	$0.23
AEP Texas	$49.4	199	$0.22
WFA	$36.6	63	$0.58
AEPCO	$190.8	233	$0.82
TPI	$1,414.4	443	$3.19
DuPont	$1,710.3	341	$5.02
Sunbelt	$115.9	30	$3.84
Consumers	$12.8	30	$0.43

Public Improvements

Under our proposal, parties would use the rolling-average public improvement cost per route mile from prior rate cases. Public improvements less separations is the smallest cost category within road property investment—averaging approximately $25,000 per route mile. The large disparity between case unit costs is primarily due to fencing costs as well as geographic differences between eastern and western cases. Although there is a variance from case to case, we note that the Board's most recent decisions estimate unit costs very close to the overall average.

Grade separations, however, are a large and location-specific cost item within public improvements.[51] Therefore, we would calculate a rolling average cost for public improvements (without grade separation costs) on a route mile basis and calculate a separate rolling average cost for grade separations, weighted by the number of separations. The Board has accepted 10% of the cost of constructing grade separations in past Full-SAC cases where the railroad shows some level of investment and would do so under our proposal in a revenue adequacy Simplified-SAC proceeding. Tables B-11 and B-12 show those findings.

[51] A grade separation involves a situation where a rail line crosses a road using either an overpass or underpass.

Table B-11
Comparison of Public Improvement Costs (Without Grade Separations)

Case	Total Cost ($ Millions)	Route Miles	Cost per Route Mile
TMPA	$75.8	1,629	$46,521
Duke/NS	$17.3	1,108	$15,575
CP&L	$7.6	818	$9,313
Duke/CSX	$3.7	1,197	$3,549
Xcel	$12.3	367	$33,597
Otter Tail	$29.5	1,208	$24,391
AEP Texas	$42.9	1,169	$36,706
WFA	$11.5	301	$38,194
AEPCO	$59.7	2,205	$27,087
TPI	$135.7	6,912	$19,634
DuPont	$165.4	8,112	$20,392
Sunbelt	$11.5	581	$19,832
Consumers	$11.1	169	$65,361

Table B-12
Comparison of Grade Separation Costs

Case	Total Cost ($ Millions)	Number of Separations	Cost per Separation
TMPA	$23.3	28	$832,437
Duke/NS	$16.9	8	$2,117,957
CP&L	$3.3	6	$554,317
Duke/CSX	$3.7	8	$469,857
Xcel	$8.8	16	$539,225
Otter Tail	$9.6	17	$561,877
AEP Texas	$25.3	41	$613,229
WFA	$14.9	19	$783,872
AEPCO	$71.1	167	$425,961
TPI	$2,284.9	1,447	$1,579,091
DuPont	$127.8	151	$846,440
Sunbelt	$8.2	1	$8,159,769
Consumers	$81.3	32	$2,542,049

Mobilization, Engineering, and Contingencies

Mobilization would be fixed at 3.5% of the cost of road preparation, track, tunnels, bridges and culverts, signals and communications, buildings and facilities, and public improvements. Engineering would be fixed at 10% of the same RPI expense categories. Contingencies would be fixed at 10% of road preparation, track, tunnels, bridges and culverts, signals and communications, buildings and facilities, public improvements, mobilization, and engineering. This would follow Board practice in Full-SAC proceedings.