

June 30, 2021

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Via E-Filing

Ms. Allison Davis
Director, Office of Proceedings
Surface Transportation Board
395 E Street SW
Washington, DC 20423

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Office of Proceedings
June 30, 2021
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Re: Finance Docket No. 36496, *Application of the National Railroad Passenger Corp. Under 49 U.S.C. § 24308(e) – CSX Transportation, Inc. and Norfolk Southern Gulf Coast Passenger Service between New Orleans, LA and Mobile, AL*

Dear Ms. Davis:

Is the question at hand actually the minimum fixed infrastructure needed to efficiently support domestic industry under Common Carrier railroad freight service obligations not just passenger train incremental infrastructure?

Should the Board consider this minimum freight service quality question it might clarify what baseline fixed infrastructure should be expected from railroads for “transportation or service on reasonable request” before calculating the incremental costs to host passenger trains for the public good. Absent a determination of a minimum freight service metric, similar to Minimum Level of Service (MLOS) metrics for highway infrastructure, railroad capacity models may never converge on objective cost divisions as for the existing majority use freight operations required infrastructure additions for the No Build models to numerically function¹.

Perhaps the Board should set such a MLOS performance metric to measure obtainment of the Common Carrier Obligation of Railroads for interstate freight transportation. Such a metric might be a MLOS of less than 60 Daily Averaged Freight Train Minutes of Delay per 100 Train-Miles² on railroads found to be Revenue Adequate when

¹See generally - CSX TRANSPORTATION, INC. AND NORFOLK SOUTHERN RAILWAY COMPANY’S MOTION TO DISMISS, April 5, 2021, wherein is included the CSX Gulf Coast Passenger Rail report, dated August 11, 2016, hereafter known as the “HDR Report”, which states on page 108, “*To achieve a dispatchable (Ed. One thus even capable of junction priority?) No-Build case model, a limited amount of infrastructure was added to the No-Build case, compared to the Base Case, consisting of: 38 track-miles of second main track, new sidings, siding extensions, and yard bypasses...*” yet infrastructure costs to make a No Build model functional appear to have been included in the HDR Report costs to host passenger trains though excluded from a HNTB calculation.

² Conceptually an all-day average delay on fixed infrastructure even capable of junction priority of 60 Daily Averaged Freight Train Minutes of Delay per 100 Train-Miles is the difference between a free running average speed of 35 MPH and a delayed average due to meets and passes of 26 MPH typically seen in STB documentation; $[(100 \text{ Miles} / 35 \text{ MPH}) - (100 \text{ Miles} / 26 \text{ MPH}) = 60 \text{ Minutes}]$. 60 Minutes of delay also appears to be the inflection point observed in the parametric capacity curves reproduced in the appendix.

operating a mainline transporting more than 15 Million Gross Ton-Miles (MGT). This metric could apply to the entirety of the mainline run of through freight trains between off-mainline terminals, measuring daily averaged delay relative to a free-running speed while allowing for fungible tradeoffs between mainline free running time and terminal yard capacity. Terminals capacity must be considered based on my observations while briefly serving in railroad operations prior to the UP/SP merger where capacity modeling of the future merged networks occurred but with terminal capacity model simplifications.

Should the existing infrastructure not support service sensitive through interstate Carload/Merchandise and Expedited/Intermodal freight train operations meeting the MLOS metric, capacity modeling would first find any baseline fixed infrastructure or operational changes the railroad should provide to meet the freight MLOS. Only after this baseline infrastructure step might a net increase in daily averaged minutes of freight train travel greater than 15% from added passenger trains be deemed to “impair *unreasonably* freight transportation” as a possible discernable test,³ triggering modeling and costing of passenger train incremental infrastructure or operational changes to find the incremental cost until within the margin.

Thus the MLOS performance metric might protect industry shipper efficiencies, guard the remaining common carrier duties, and ultimately support the expansion of railroad freight and passenger volume carried with the economy.

Are thus not all other questions subsets of this Common Carrier minimum freight service quality question?

³ See STB Decision FD 46869, APPLICATION OF THE NATIONAL RAILROAD PASSENGER CORPORATION UNDER 49 U.S.C. § 24308(a)—CANADIAN NATIONAL RAILWAY COMPANY, August 9, 2019, Note [40] “While Amtrak argues for a temporal limit to incremental costs, it does not lay out a discernable test that the Board or the parties could use to determine whether a cost category could be included as an incremental cost under the “short-run avoidable” standard it proposes. Furthermore, as CN notes, Amtrak appears to concede that certain freight delay costs could be incremental costs, even under the method Amtrak proposes. (CN Reply Br. 75, Mar. 5, 2018 (citing Amtrak Rebuttal, V.S. Crowley & Mulholland 24, Sept. 14, 2017).) In other words, even under Amtrak’s own analysis, regardless of whether incremental costs were defined as short-run avoidable costs only, certain freight delay costs could be considered incremental costs.”

Namely:

1. While newer analytical capacity allows for the use of the Rail Traffic Controller (RTC) program for detailed analysis, do not parametric CTC Capacity Curves⁴ provide a framework to visualize tradeoffs, demonstrating less freight train delay⁵ in No Build conditions should such trains simply be shorter than most existing sidings and sufficient terminal and staging tracks be provided. It appears that the train delay starting point was set rather high in the Capacity Models, near the inflection point in the curve slope. Would it be more beneficial for mainline sidings to be used to support through interstate freight movement as a public good instead of queuing outside terminals?
2. Might the Board simply use in this case the Net Present Value (NPV) of the cost to the railroad to operate shorter freight trains that fit most existing sidings, perhaps requiring around (3) additional crews on an average day at around perhaps \$1.4 million annually over the Mobile, AL to New Orleans, LA segment, as a “discernible test” for the upper limit of public capital funding for “incremental cost” as this approach would increase available line capacity and likely reduce net Freight Train Minutes of Delay across the entire General Railway System?
3. Might not the Board require public data for the existing Freight Train Minutes of Delay per 100 Train-Miles before No Build infrastructure improvements are added to the capacity model as a means to check the level of public investment? Otherwise the net reduction from simple improvements, represented by No Build infrastructure added to both the HNTB and HDR capacity models and close to the FRA suggestions, might produce a net reduction in freight train minutes of delay even with the addition of passenger trains relative to existing conditions. Absent this should the Board require the No Build models

⁴ USDOT, Federal Railroad Administration, "Parametric Analysis of Railway Line Capacity," Figure 1: Train Volume – Average Delay Relationships for Alternate Configurations of 100-Mile Rail Line (Reproduced in Appendix), 1975, <https://railroads.dot.gov/sites/fra.dot.gov/files/fra_net/15031/FRA-OPPD-75-1%20Parametric%20Analysis%20of%20Railway%20Line%20Capacity.pdf>.

⁵ For year 2020, 12 through freight trains are noted in the HDR Report, a normalized capacity of 130 merchandise cars x (12) trains or 1560 carloads per day for 7000 foot trains that fit most sidings or alternately (9) 10,000 foot trains of 174 merchandise cars that clear less than half the sidings. In this simple example the effective siding spacing went from 10 miles to 20 miles (in actuality much longer) and the capacity decreased, based on CTC Capacity Curves from 23 to 12 trains per day per Figure 1 in the Appendix. So for shorter trains $(12)/23 = 52\%$ of mainline through capacity is used whereas with longer trains in this simplified example $(9)/12 = 75\%$ of mainline through capacity is used, likely resulting in greater net delay as the true siding spacing is greater.

to first converge to existing delay results and be publically verified without new infrastructure added to be deemed a numerically valid model?

4. Is it improbable to understand that when Congress reduced the passenger service common carrier duty of railroads in 1970 to services for compensation and hosting trains on their infrastructure it meant to combine the two concepts of “incremental cost” atop a fixed cost, shared use infrastructure so configured so as to even be reasonably capable of providing “junction priority” for which no incremental payment would be due?
5. Did not previous reports state that uncoordinated openings of drawbridges was the principal cause of expected passenger train delay⁶ in the previously submitted models yet is it not the case that the bridges might be scheduled for closures at certain times but no model has yet included this revision though quite simple to make?
6. What is to throttle railroad operations such that the public is not simply paying for infrastructure to account for less disciplined operations absent a MLOS metric as a capacity modeling and future performance baseline? Given the current period of rising freight rates and railroad Revenue Adequacy might the suggested MLOS guide the Board in judging if service quality for freight transportation is being reduced, yielding reduced cost without reduced price in an unbalanced manner only possible outside competitive remedies? At some point, should not the Board consider as well the net loss of efficiency to industry shippers from reduced speed and capacity mainline operations when such shippers are willing to pay rates reasonably above variable costs?
7. Have not such operational measures as up to an hour to re-crew trains⁷ on the mainline been included in the capacity models but without a metric to form the division between fixed infrastructure and incremental

⁶ HDR Report, page 109, “*The model cases were analyzed to determine why passenger train on-time performance was not meeting target despite the new infrastructure. Analysis showed that drawbridge openings were the principal cause of late-arriving passenger trains at final terminal.*”

⁷ HDR Report, page 75, “*Train dwells for crew changes were randomized up to an additional 1.0 hours, and train dwells for work events were randomized up to an additional 1.5 hours.*”

infrastructure what is to keep the next model iteration from say including randomly four hours per re-crew?

8. Has the Board studied reports that when operations are altered to run longer freight trains they consume through interstate mainline capacity, producing congestion and inducing railroads to de-market certain freight services whose price reasonably exceeded variable costs but at a lower rate than other traffic, depriving smaller domestic industries of efficiency?
9. Is any singular industry in a position during competitive negotiations to either recover the added cost of goods in transit on a corresponding greater trip time as a price reduction or any one shipper build a complete train at previous service levels?
10. Are not other partially regulated pipeline and power transmission carriers required to keep a certain peak infrastructure capacity available to meet seasonal and cyclical surges in demand or even to design their infrastructure for public welfare resiliency exceeding physical limits? Would such indicate that the Board could require a 30% reserve capacity relative to theoretical freight capacity modeling from Revenue Adequate railroad operating mainlines handling more than 15 MGT? Does not the record indicate that such reserve was a common industry practice for mainline operations at the time that the relevant “incremental cost” and “junction priority” legislation for passenger train access was passed? Should the absolute preference granted to railroads at grade-level road crossings be understood to mean that Congress, and the Board as empowered, may reasonably regulate priority and capacity upon railroad lines to provide for public welfare by ensuring stable operational parameters?

General Railway System Public Infrastructure Funding is Efficient when Improving Freight and Passenger Use

While the questions to the Board above point to a need for public scrutiny and public openness in the modeling of railroad operational changes as they relate to the functioning of a fixed infrastructure suitable for a certain Common Carrier freight and passenger service it is also true that public investment is warranted to ensure that railroad infrastructure Long-run Average Cost is adequately funded so the service may grow with the national economy.

This public investment is necessary in the long-term for shareholder owned railroad infrastructure as their primary competitor, truckload freight, use Interstate Highways, which have a very high publically funded financial gap⁸ between incremental fuel excise tax and fee revenue and the financial costs of construction, maintenance, and accidents upon such highways.

This Interstate Highway financial gap has in the past been filled by taxing the unrelated daily use of locally financed roads through the gas tax and then leveraging these funds to highways. It would be like taxing food purchases at all cafes, coffee houses, convenience stores, groceries, and restaurants to build a new restaurant, offering an inexpensive buffet, while just painting the walls elsewhere with the funds. Such a scheme could obliquely be called a “food user fee” for “food infrastructure” yet it obviously tilts the marketplace. However, of late funding is shifting further still to direct Federal General Fund transfers.

The general misunderstanding of this leveraged highway cost gap and the political messaging of “user fees” paying for all is why toll highway facilities seem rather overpriced relative to public expectations when proposed such as for the I-10 Mobile Bay toll bridge project. Perhaps some of the opposition is rooted in a misunderstanding of this question though certainly the railroads should be provided with a reasonable amount of capital found using the proposed MLOS.

However, in this case before the Board the public agencies appear to be offering to fund shared use railroad infrastructure capacity improvements at a rate near the level of recently proposed Tax Credits⁹ for railroad freight operations. Other national interests such as freight fuel conservation and industry production cost efficiency would be served if the segment was operated at a certain MLOS to support the intermodal transportation of truck trailers/containers by railroad so as to alleviate the worsening congestion conditions on I-10 in the region in a more efficient manner.

⁸ See generally - Payne, Virgil, “Reforming Surface Transportation for Long-Term Sustainability”, Competitive Enterprise Institute, Issue Analysis 2020 No. 10, November 2020. <https://cei.org/news_releases/report-urges-reforming-surface-transportation-for-long-term-sustainability/>

⁹ See generally - Payne, Virgil, "Renewed Consumer Relevance of the General Railway System," Railway Age 1 June 2021, <<https://www.railwayage.com/news/renewed-consumer-relevance-of-the-general-railway-system/>>

The public interests in providing efficiency to smaller industry shippers, timely passenger train operations, and increased interstate intermodal freight are actually aligned to a common goal of making the railroad line fluid. Ultimately, if the publicly funded level of investment noted by the Federal Railroad Administration essentially offsets the publically funded Interstate Highway cost gap would not that also serve the Board as another measure of an upper limit of the required infrastructure investment so as to promote competition between modes?

Should the Board elect to require further study using capacity models, the inputs and numerical methods should be open to the public and a full range of operational modifications and initial MLOS cases be presented that account for the true No Build operating conditions without adjustments and with full consideration of delays attributable to terminal congestion. These cases should include as well as an alternate analysis that explores the relative cost to simply operate shorter freight trains on the segment perhaps resulting in less mainline congestion, lower fuel burn, and more terminal throughput capacity.

However, it would seem reasonable for the Board to immediately approve access for passenger trains under the National Railroad Passenger Corporation's (NRPC) proposed terms with the knowledge that a subsequent \$95 some-million level of public infrastructure investment on the Mobile to New Orleans mainline is pledged for a later construction, similar to that suggested by the Federal Railroad Administration analysis in the Gulf Coast Working Group (GCWG) Report to Congress¹⁰.

Yet the Board might characterize the infrastructure investment as primarily related to enabling the timely interstate transport of freight traffic made necessary by the existing elevated levels of train delay, unfortunately caused by a failure in public policy that results in a long-term railroad cost reduction strategy so as to compete in the transportation marketplace against the publicly funded financial revenue to cost gap seen for Interstate Highways.

¹⁰ See generally – “Gulf Coast Working Group Report to Congress,” July 2017, at ES-1.

Thus, is it not true that in this instance, while awaiting a broader national policy that could provide amicable public investments in shareholder owned interstate railroad lines to incentivize fluid operations for the good of domestic industry, the proposed investment in the Gulf Coast Working Group Report to Congress is warranted as a matter of national policy for true resource efficiency and reasonable in cost for the services requested?

To our Mutual Prosperity,

V. G. Payne

Virgil G. Payne, PE

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cc: Service List for Finance Docket No. 36496 (By Email)

This comment is my personal opinion, not an engineered work, meant to suggest an amicable solution to the Board. I am a professional engineer supporting high volume manufacturing - where fixed and incremental cost functions must be understood - that is reliant on both highway and railway freight logistics. Previously I supported MDOT coordinating mostly highway projects, such as I-269 from planning, design, and construction to FHWA acceptance. This work followed a period of designing buildings, sites, and utilities and a brief stint in railroad operations, yielding a perspective from both sides of the fence on customer needs and transportation infrastructure centered on true financial and resource efficiency.

Appendix

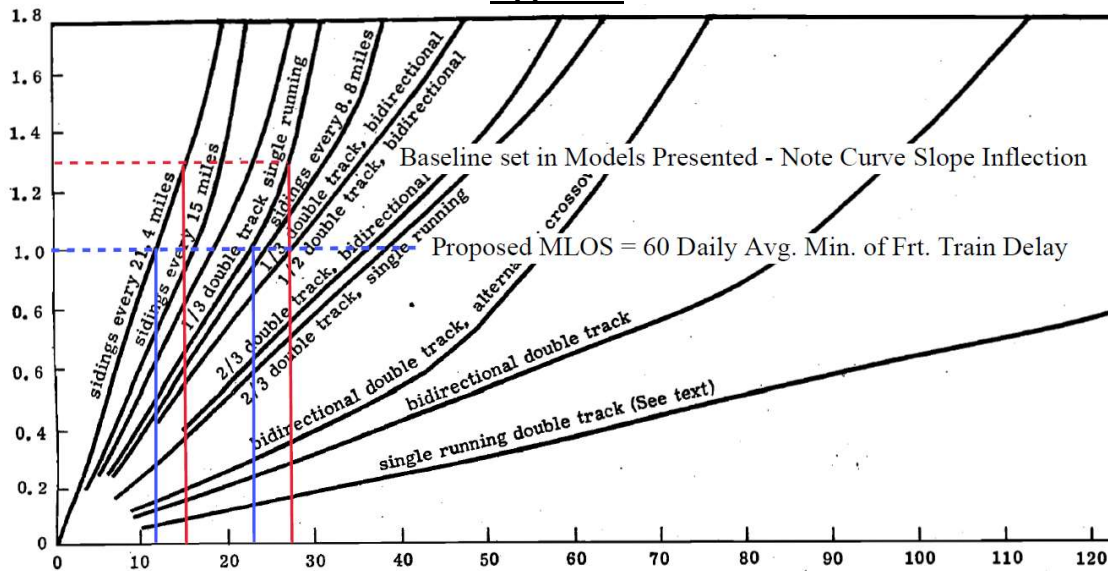


Figure 1: Train Volume – Average Delay Relationships for Alternative Configurations of 100-Mile Rail Line¹¹

Note: Parametrical capacity at the proposed MLOS metric (Blue Line) of 60 Daily Average Freight Train Minutes of Delay per 100 Train-Miles is approximately shown as 12 Trains per Day (TPD) at 21.4 mile siding spacing (8% Double Track) vs 23 TPD at around 10 mile siding spacing (16% Double Track). The 10 mile siding spacing approximately exists on the New Orleans, LA to Mobile, AL segment should shorter (7000 foot) trains be operated that fit most sidings whereas with longer (10,000 foot) trains the spacing is actually greater than 30 miles in the existing baseline so capacity would be less than indicated. From the delay curve geometry, at higher minimum allowed delay metrics or longer siding spacing the slope of the delay curve slope increases indicating near network lockup from freight traffic alone.

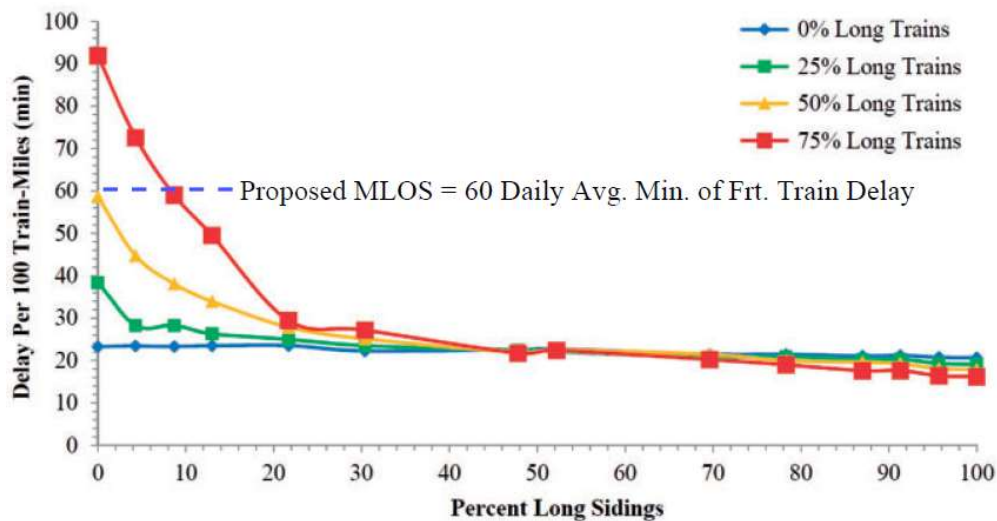


Figure 2: Average train delay for combinations of percent long trains and percent long sidings with 3:2 length ratio¹²

Note: The current infrastructure has almost no long sidings and is operating around 50% of trains of a 3:2 length ration (10,000 foot / 7000 foot) which intersects at the proposed MLOS metric of 60 Daily Average Freight Train Minutes of Delay per 100 Train-Miles. An alternate visualization would be various Train Volume vs Train Density per Mile curves, each run with differing percentages of trains longer than half the sidings, so as to illustrate the delayed average speed relative Capacity.

¹¹ USDOT, Federal Railroad Administration, "Parametric Analysis of Railway Line Capacity," Figure 1: Train Volume – Average Delay Relationships for Alternate Configurations of 100-Mile Rail Line, 1975

¹² Dick, et al, Relative train length and the infrastructure required to mitigate delays from operating combinations of normal and over-length freight trains on single-track railway lines in North America, Figure 1, Proc IMechE Part F: J Rail and Rapid Transit 0(0) 1–12, 2018, <<https://railtec.illinois.edu/wp/wp-content/uploads/Dick-et-al-2018-JRRT-0954409718809204.pdf>>