

Good morning Chairman Primus, Vice Chair Hedlund, member Fuchs, and member Schultz for the opportunity to be here today.

My name is Rick Paterson and I represent Loop Capital, a Chicago-based private investment bank, and I've been a Wall Street analyst covering the railroads for 24 years.

I'll start by putting some numbers around the industry's lack of growth, and then I'll offer some reasons why, and what the future might hold.

This first slide, and the others that come after it, show consolidated volumes for Union Pacific, BNSF, CSX, and Norfolk Southern. It's annual data back to 2000, but if we focus on the 20-year track record, between 2003 and 2023, it's a depressing picture.

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Coal is now less than half of 2003 levels.

Agricultural products are 11% lower.

Intermodal is the bright spot, up 29% over the last 20 years.

Automotive has crashed by 37% as the rail-heavy Big 3 US automakers have struggled.

All other commodities are down 8%.

If you put it all together, the four major railroads hauled 7% fewer loads last year than they did in 2003.

Over that same 20-year period, US GDP grew by 50%, Industrial Production by 13%, and for-hire Truck Tonnage, as measured by the American Trucking Associations, was 43% higher.

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## The 20-Year Growth Picture

Consolidated, Originated, Loads for Union Pacific, BNSF, CSX and Norfolk Southern							Benchmarks			
Year	Coal	Agricultural	Intermodal	Automotive	All Other	TOTAL	Real GDP	Industrial Production	IP - Manufacturing	Truck Tonnage
2000	6,777,460	1,156,631	8,890,416	1,278,059	6,797,421	24,899,987	14,096	92.5	93.2	74.9
2001	7,130,941	1,151,236	8,657,572	1,193,812	6,481,733	24,615,294	14,231	89.7	90.0	74.5
2002	6,881,711	1,115,482	9,085,786	1,239,488	6,539,148	24,861,615	14,473	90.0	90.6	77.6
2003	6,962,698	1,158,712	9,850,328	1,218,657	6,744,871	25,935,266	14,877	91.1	92.0	79.9
2004	7,061,492	1,158,037	10,726,815	1,177,782	6,863,564	26,987,690	15,450	93.6	95.1	84.8
2005	7,161,778	1,157,996	11,400,956	1,150,676	6,885,225	27,756,631	15,988	96.7	99.2	86.3
2006	7,474,398	1,208,269	11,988,984	1,084,686	6,833,696	28,590,033	16,433	98.9	101.9	84.8
2007	7,397,689	1,195,638	11,719,160	1,025,721	6,616,999	27,955,207	16,762	101.5	105.2	83.8
2008	7,679,314	1,245,987	11,356,379	810,759	6,353,367	27,445,806	16,781	97.9	100.4	85.1
2009	6,681,350	1,041,959	9,621,891	534,049	5,011,556	22,890,805	16,349	86.8	86.7	77.4
2010	6,811,106	1,163,104	10,992,794	625,603	5,670,457	25,263,064	16,790	91.6	92.4	82.0
2011	6,843,097	1,133,763	11,586,805	684,939	5,919,102	26,167,706	17,052	94.5	95.4	86.5
2012	6,098,551	1,038,400	11,953,437	798,583	6,148,291	26,037,262	17,443	97.4	98.2	88.8
2013	5,834,397	945,737	12,485,991	839,047	6,375,211	26,480,383	17,812	99.3	99.3	94.3
2014	6,002,664	1,086,145	13,292,791	876,897	6,822,067	28,080,564	18,262	102.3	100.5	97.5
2015	5,205,780	1,103,928	13,304,652	901,368	6,457,171	26,972,899	18,800	100.9	100.1	100.0
2016	4,213,529	1,183,488	13,103,165	914,067	6,198,213	25,612,462	19,142	98.7	99.4	102.5
2017	4,548,773	1,146,646	13,622,740	854,075	6,319,782	26,492,016	19,612	100.0	100.0	106.4
2018	4,522,932	1,179,269	14,361,474	846,707	6,530,234	27,440,616	20,194	103.2	101.4	113.5
2019	4,112,031	1,098,233	13,617,836	820,348	6,371,943	26,020,391	20,692	102.4	99.5	117.3
2020	3,158,383	1,178,695	13,560,346	671,420	5,925,967	24,494,811	20,234	95.1	93.0	112.9
2021	3,426,075	1,182,918	14,014,261	660,784	6,179,386	25,463,424	21,408	99.3	97.7	112.9
2022	3,510,915	1,129,270	13,324,519	684,944	6,131,183	24,780,831	21,822	102.7	100.3	116.6
2023	3,496,363	1,026,120	12,667,421	769,456	6,210,977	24,170,337	22,377	102.9	100.0	114.6
2024E	2,981,005	1,121,264	13,854,953	783,278	6,199,071	24,939,571				

2003 to 2023 Growth						2003 to 2023 Growth			
-50%	-11%	29%	-37%	-8%	-7%	50%	13%	9%	43%

Source: AAR, St. Louis Fed, American Trucking Associations. Ag is 96% grain. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes. Real GDP in billions. IP and Truck Tonnage are index values.

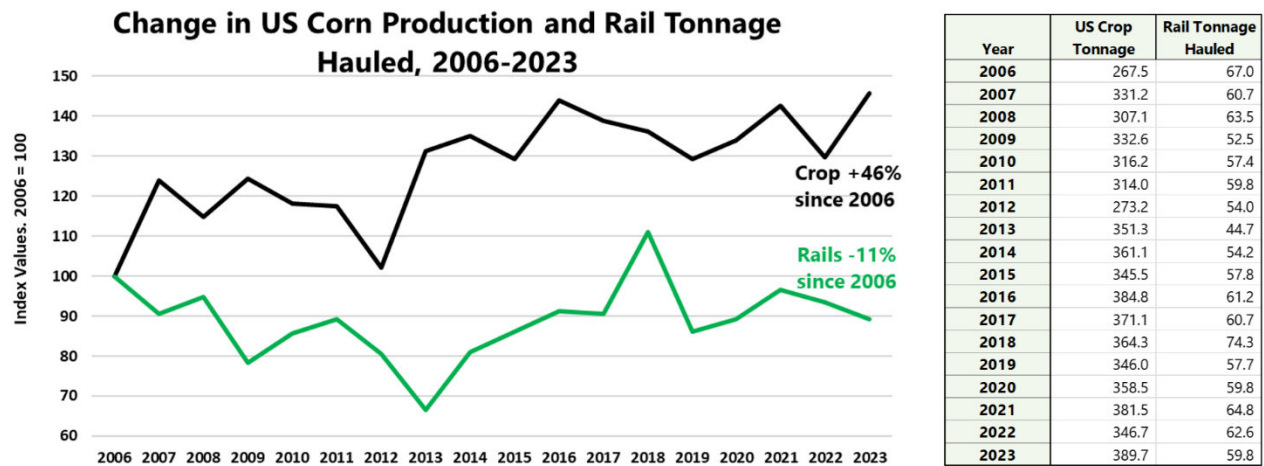
We can drill down further with tonnage data that's available from 2006.

Here's US corn production versus corn tonnage hauled by rail, with positive crop tonnage and negative rail tonnage.

2006 is an unusual base year, but if we start from 2007 the rail share loss is about 19%.

## Agricultural - Corn

Between 2006 and 2023 total US corn production increased 46% while tonnage hauled by the four Class I carriers declined 11%. This is exaggerated by an unusual 2006. From 2007, the increase in corn production was 18% versus a 1% decline in rail tonnage hauled, which is probably more representative.

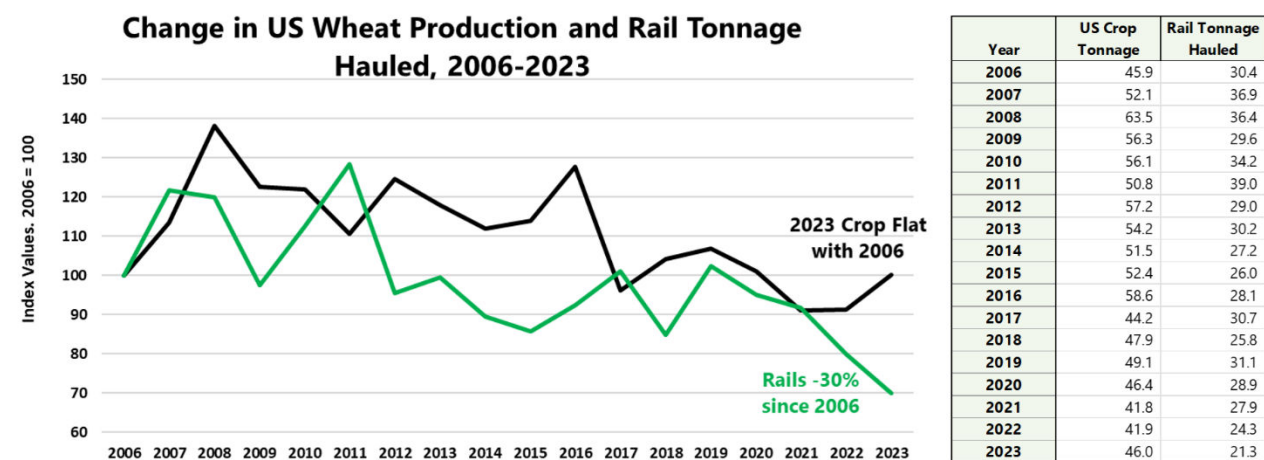


Source: USDA, STB, Loop Capital. Rail tonnage is the consolidated, originated, tonnage for Union Pacific, BNSF, CSX, and Norfolk Southern. STCC 01132. Table tonnage numbers in millions.

Another share loss in wheat, with last year's crop flat with 2006, while rail tonnage hauled was 30% lower.

## Agricultural - Wheat

Between 2006 and 2023 total US wheat production was flat, while the volume hauled by the four Class I carriers declined 30%.

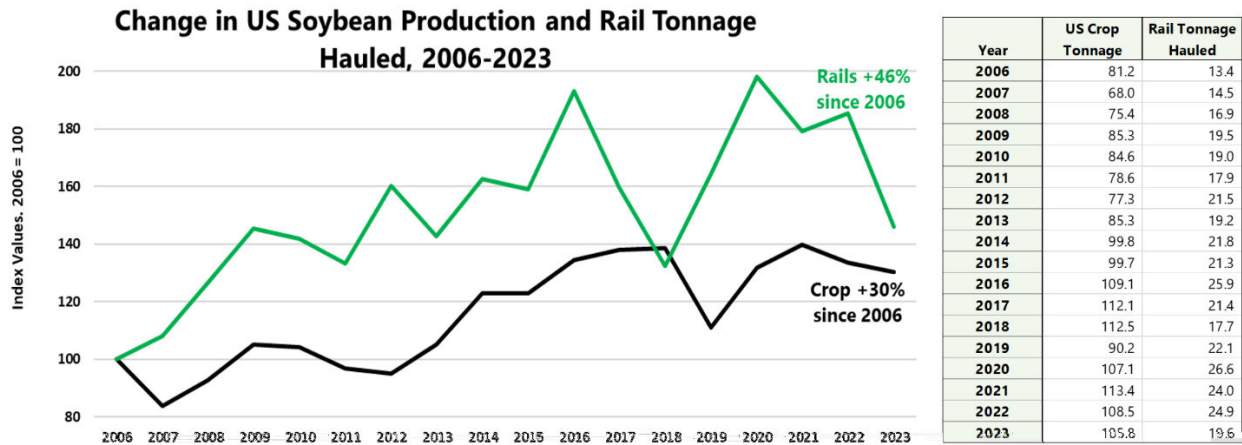


Source: USDA, STB, Loop Capital. Rail tonnage is the consolidated, originated, tonnage for Union Pacific, BNSF, CSX, and Norfolk Southern. STCC 01137. Table tonnage numbers in millions.

Soybeans is a better story, with tonnage hauled by the railroads outpacing crop tonnage by 16% since 2006.

## Agricultural - Soybeans

Between 2006 and 2023 total US soybean production increased 30% while the volume hauled by the four Class I carriers increased 46%.

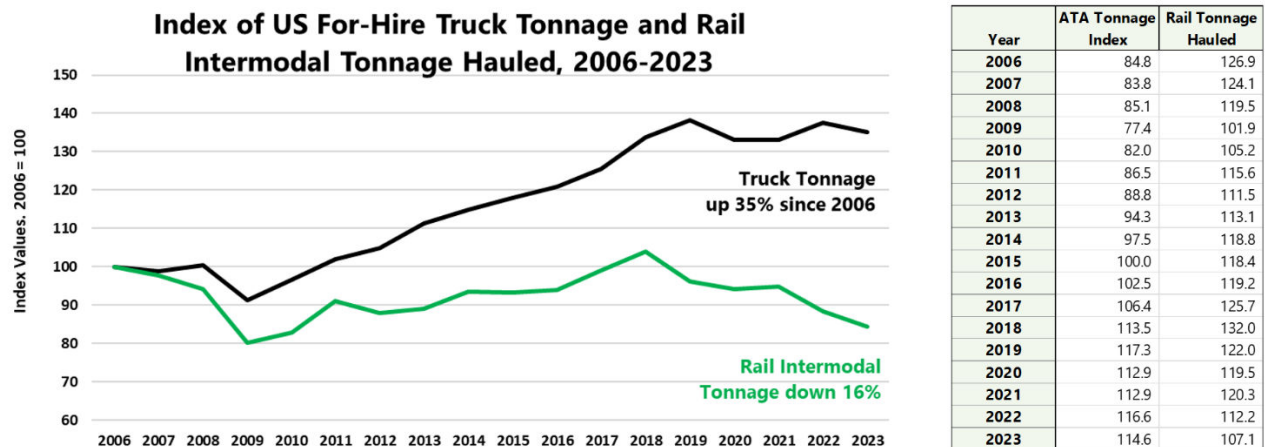


Source: USDA, STB, Loop Capital. Rail tonnage is the consolidated, originated, tonnage for Union Pacific, BNSF, CSX, and Norfolk Southern. STCC 01144. Table tonnage numbers in millions.

Here's a different view of intermodal, and the railroad's big success story isn't quite what it appears. Volumes last year were 6% higher than 2006, but if we ignore empties and compare the tonnage of customer freight with the truck tonnage index, to be more comparable, we have a 16% decline in rail tonnage versus truck growth of 35% over the last 17 years. That's a 51% underperformance on tonnage.

## Intermodal Isn't as Good as it Looks

Intermodal volumes, including empties, grew 6% between 2006 and 2023, but intermodal tonnage hauled—to be more comparable with the American Trucking Associations For-Hire Truck Tonnage Index—actually fell 16% and underperformed the ATA index by 51%.



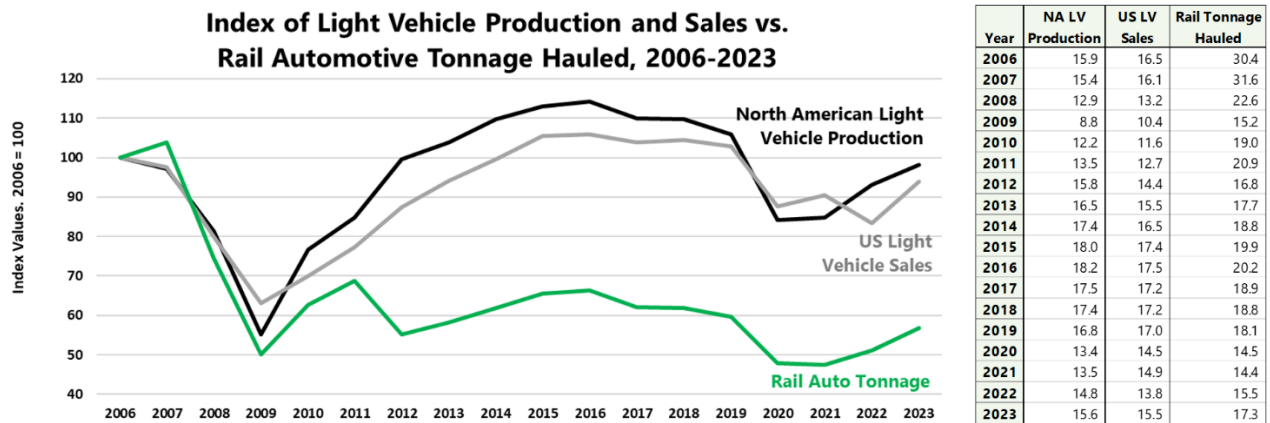
Source: American Trucking Associations, STB R1s, Loop Capital. Rail tonnage is the consolidated, originated, tonnage for Union Pacific, BNSF, CSX, and Norfolk Southern, excluding MTs. STCC 44, 45, 46, 47. 'Rail Tonnage Hauled' is in millions.

Here's automotive tonnage. This industry obviously took a big hit during the great recession, and since then rail tonnage has only recovered by 7%.

In contrast, North American light vehicle production is up 43% and US light vehicle sales were 31% above 2009 levels last year.

## Automotive

US rail automotive tonnage hauled last year was only 7% higher than where it bottomed during the 2008/2009 recession. In contrast, North American light vehicle production was up 43% and US light vehicle sales were 31% above 2009 levels. Gap exacerbated by the decline of the rail-heavy Big 3 US automakers.



Source: STB, FRED, Statista, Loop Capital. Rail tonnage is the consolidated, originated, tonnage for Union Pacific, BNSF, CSX, and Norfolk Southern. STCC 371. All numbers in the table are millions.

Here's a breakout of some of the smaller categories; most of which rely on local operations.

If we go back to using a 20-year timeframe on loads, chemicals have grown by 12% and construction aggregates by 18%, which is good, but it gets ugly after that.

Building materials are down 31%.

Metals are down 29%.

Waste and scrap is down 15%.

Food is down 25%; and

Paper and forest has been cut in half as print media continues to go digital.

## 'Other' Breakout; Commodities Primarily Reliant on Local Operations

Consolidated, Originated, Loads for Union Pacific, BNSF, CSX and Norfolk Southern								
Year	All Other	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest
2000	6,797,421	1,422,410	835,698	747,687	647,130	460,588	424,627	610,699
2001	6,481,733	1,345,902	874,848	726,179	583,107	428,797	440,950	547,001
2002	6,539,148	1,375,199	859,646	743,507	597,274	437,974	435,935	522,078
2003	6,744,871	1,432,122	896,799	774,897	599,655	472,841	436,124	541,871
2004	6,863,564	1,464,844	927,821	797,474	634,256	508,029	416,961	520,772
2005	6,885,225	1,441,901	981,454	807,037	617,870	491,465	428,946	505,915
2006	6,833,696	1,428,980	1,002,548	753,298	659,229	492,309	448,196	471,286
2007	6,616,999	1,486,532	936,052	662,287	609,843	493,182	444,854	431,083
2008	6,353,367	1,453,260	882,012	585,773	569,853	483,646	385,702	406,787
2009	5,011,556	1,281,200	679,804	437,541	310,073	353,289	329,510	314,510
2010	5,670,457	1,413,386	786,062	475,595	448,204	402,242	325,221	320,677
2011	5,919,102	1,461,731	840,128	503,463	503,668	393,909	325,893	324,425
2012	6,148,291	1,449,990	893,814	537,510	508,181	374,139	331,894	325,055
2013	6,375,211	1,458,695	970,261	557,292	501,681	377,481	327,471	332,872
2014	6,822,067	1,505,358	1,110,875	593,546	528,962	382,384	320,200	340,684
2015	6,457,171	1,482,241	1,086,259	553,953	448,232	339,128	311,734	324,453
2016	6,198,213	1,508,968	1,050,775	537,343	418,996	363,919	312,690	298,656
2017	6,319,782	1,525,578	1,195,808	541,171	441,501	377,318	305,855	293,975
2018	6,530,234	1,585,473	1,216,323	553,977	472,310	379,863	308,037	294,690
2019	6,371,943	1,570,421	1,110,760	550,305	435,662	353,662	298,776	286,546
2020	5,925,967	1,542,971	925,544	548,556	377,992	353,594	294,990	271,779
2021	6,179,386	1,601,262	931,053	565,315	446,583	401,285	305,600	296,133
2022	6,131,183	1,607,773	1,014,641	543,308	405,087	397,787	324,666	286,479
2023	6,210,977	1,603,550	1,058,592	534,895	424,594	403,946	327,776	273,948
2024E	6,199,071	1,674,448	954,691	537,450	408,209	404,299	327,669	284,530

**2003 to 2023 Growth**  

-8%
12%
18%
-31%
-29%
-15%
-25%
-49%

Source: AAR, Loop Capital. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes.

This is primarily non-unit train business that involves local operations, which adds complexity.

It's the railroads traditional bread 'n butter business, and it's struggling.

Within this selection, only chemicals and construction aggregates have grown over the last two decades, at CAGRs of 0.6% and 0.8%, respectively.

It's clear that in most of their markets the railroads are shrinking, while in a handful of others they're growing slower than the industries they serve.

In a nutshell, **THE RAILROADS ARE LOSING RELEVANCE**, and participate less in the US economy every year.

So, the question, and reason we're all here, is WHY?

### Exploiting Pricing Power, a Supply Chain Stuck in the 1980s, and Captive to Wall St.

- 1. Lack of rail-to-rail competition on the back of post-Staggers consolidation.**  
 The preference for price increases over volumes has had a long-term suppressive effect on the latter as rail simply gets more expensive. This is completely rational. Any for-profit company will prioritize price over volume, if it can get it, because, unlike volumes, price has no associated cost and falls straight to the pre-tax line. In the current environment, volumes have a 40% operating margin (assuming 60 OR) while the margin on price is 100%. So 1% price growth = 2.5% volume growth.  
  
 Pricing power emerged in 2004, so customers have now hit *20 years of price fatigue*. Happy anniversary.
- 2. Modern supply chains have two basic requirements:**
  - Consistent on-time performance; i.e., SERVICE.
  - Close to real-time tracking visibility for customers.

**The Railroads Have Neither**

This is why initiatives like RailPulse are so important because it could eventually solve the second.
- 3. Completely captive to Wall Street in a way that further handicaps service and growth.**  
 Let's dig into this piece...

In my view it boils down to three primary reasons.

The first is that the railroads, quite rationally, have exploited the opportunity from post-Staggers consolidation and a lack of rail-to-rail competition to extract above-inflation pricing starting in 2004.

Given the choice, a for-profit company will always prioritize price over volumes because, unlike volumes, price has no associated cost and drops straight to the pre-tax line.

A consequence of pulling on the pricing lever for 20 years, however, is that the rail product has become a lot more expensive, and customers have reacted by simply using less of it.

It's still been a no-brainer for the railroads, because price driven revenue growth and margin expansion has enabled the rail stocks to outperform the S&P 500 by 3.7-to-1 since 2004, despite a 10% loss of business.

The second reason is of course service, as we discussed here two years ago.

13 Class I meltdowns in the last ten years is a little hard to hide from customers; and the other required element of a modern supply chain is customer tracking visibility.

While service will remain a problem, tracking is solvable with emerging car telematics, and this is why initiatives like RailPulse are so important. We need everyone on board with RailPulse.

The final volume growth handicap is the fact that the railroads are completely captive to Wall Street, so let me take you down that rabbit hole and explain why that is, and how the Wall Street pressure points ultimately manifest themselves in terms of price, service, and growth.

Wall Street obviously likes growth, in any industry, but the railroads are unusual because volume growth has not been a component of the dramatic outperformance of the stocks over the last 20 years.

We remain skeptical of the railroads' ability to grow because we just haven't seen it, apart from sporadically in certain business units at certain times.

Wall Street still believes the railroads are primarily a pricing story, with the ability to raise prices above inflation on heavy weight and bulk shippers where trucking isn't a viable option.

Wall Street also wants to see operating ratios in every year that are lower than the year before.

Now, Wall Street nagging companies to do what it wants is completely normal; it happens in every industry.

What's different about the railroads is the fact that Wall Street, additionally, has a very effective *policing mechanism* to enforce its demands, and that's shareholder activism.

While activism is obviously not limited to the rail industry, we've seen an absurd amount of concentration, and success, of it here.

We've had four major activist battles since 2008.

*There's only six companies*, and one of those (BNSF) is protected from activism under the Berkshire Hathaway umbrella.

### **Wall Street Exerts ABNORMAL Influence on the Railroads**

Wall Street owns and controls the railroads to an unhealthy degree, and to an extent that the public interest is diminished more than it should be. There are two basic components to this:

#### **1. Wall Street likes and, ideally, wants volume growth, but:**

- Volume growth has not been a component of the dramatic outperformance of the stocks over the last 20 years (since pricing exploded in 2004).
- Wall Street is skeptical the railroads will be able to grow volumes meaningfully in the future because we haven't seen it in the past, apart from specific business units in specific periods.
- Wall Street still believes the railroads are primarily a pricing story based on leveraging market power (raising rates above inflation on captive shippers) and a related cost cutting operating ratio story.

#### **2. Wall Street has a very effective POLICING MECHANISM.**

- It's normal for Wall Street to nag companies to do what shareholders want. Prioritize price over volumes and minimize capex to maximize buybacks, for example. This is capital markets 101.
- However, what's different with the railroads is the recent history of enforcing these demands with shareholder activism. We've had four major activist battles since 2008. *There's only six companies!* This is an unusual concentration of activist attention (and success).

So the next question is - why are the railroads so frequently targeted?

The short answer is the scarcity and premium placed on a handful of operational change agents in networks that are extraordinarily difficult to manage.

What's unique about rail networks is the dedicated right-of-way.

If a plane, ship, or truck has a problem, the ones behind just go around it with little or no network-wide effects.

Not so on a rail network, where a derailment on BNSF's Southern Transcon, for example, will quickly back up 200 trains.

Domino effects and backlogs take at least two weeks to normalize if everything goes well.

The role of Class I Chief Operating Officer is therefore, in my view, the most difficult job in the transportation sector.

## Unpacking the Policing Mechanism

### Why do the railroads receive outsized attention from shareholder activists?

#### Short answer:

The scarcity and premium placed on a handful of operational change agents in networks that are extraordinarily difficult to manage.

#### Long answer:

The biggest differentiator of a rail network versus road, air, and ocean, is dedicated right-of-way, which makes these networks the most difficult to operate efficiently and consistently.

If a plane, ship, or truck has a problem, the ones behind just go around it with little or no network effects.

Not so on a rail network, where a derailment on BNSF's Southern Transcon, for example, will quickly back up *200 trains*. Domino effects and backlogs take at least two weeks to normalize.

The role of Class I COO is therefore, in my view, the most difficult job in the transportation sector.

We've then taken that hard job and made it even harder with PSR.

When PSR was originally sold to Wall Street there were supposed to be two huge benefits.

The first was much lower operating ratios because you're removing lanes, reducing complexity, and running fewer, longer, trains; reducing costs and capital intensity.

That piece *has* played out.

The second promise was better service.

In theory, by decongesting the system with hundreds fewer daily train starts, it should be easier to get what's left to run on time.

This worked at Illinois Central, then it worked at Canadian National, and then it worked at Canadian Pacific.

However, when we've tried to apply it to the more complex spiderwebs at Union Pacific, CSX, and Norfolk Southern it's proven much more challenging.

One example of the impediments is the "no-fitter" problem.

In order to run the longer trains, in some cases they're trying to build trains longer than the yards and pass trains that are longer than the sidings.

In other words, there's a mismatch between the operating plan and their infrastructure, which in most cases cannot be solved.

## Arguably PSR Has Made a Hard Job Even Harder

There are many aspects to "Precision Scheduled Railroading", but we'll focus on the primary end goal –

*It's designed to do the same with less.*

Hunter Harrison basically figured out a way to move the same amount of freight with dramatically fewer train starts, crews, and locomotives. This of course requires longer trains; a trend that was already in place but was accelerated with PSR.

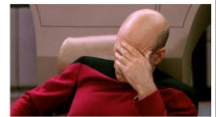
Fewer, longer, trains were easier to manage on simpler networks like the Illinois Central, Canadian National, and Canadian Pacific, but when you try to apply it to the spiderwebs at Union Pacific, BNSF, CSX, and Norfolk Southern it's more challenging.

In theory you're decongesting the network with fewer trains, aiding on-time performance, but a negative consequence of PSR has been the "no-fitter" problem. They're trying to build trains longer than the yards and trying to pass trains longer than the passing sidings. *There's a mismatch between the operating plan and their infrastructure*, which in most cases can't be solved (landlocked yards within cities, for example).

Proof point: When Ed Harris returned to CN in late 2022 and got it running better, what did he do? Shortened the trains so they'd once again fit in the sidings. Harris 2023 quote: *"It's not that hard is it"*.

## Other Aspects of PSR and Wall Street Pressure Compound the Growth Problem

- **Reducing headcount hasn't been limited to train crews**, as Wall Street's demands for operating ratio has cut into other growth-related personnel. Ask the railroads how many people are employed in sales, customer service, and business development now versus 10 years ago.
- **Railroads can't grow if they're reluctant to pursue business that's dilutive to the OR.**
- **The local operations death spiral.** It reinforces a pre-existing problem:



Railroad cuts local service at a customer facility from seven days per week to five.



Customer reacts by reducing rail share of volumes as assets and produce sit longer.



Railroad reacts to lower volumes by cutting local service from five days per week to three.



Customer reacts by reducing rail share of volumes as assets and produce sit longer.



Railroad gives up and rips up the spur. Customer is gone forever.



Image source: Reddit, Campaignlive.com

So we've now put these Class I operating departments in very difficult positions.

We've taken the most difficult transportation network to optimize, rail, and further starved it of critical resources under PSR.

In pursuit of operating ratio, operating teams are pressured to build trains that don't fit in yards, pass trains that don't fit in sidings, and deliver service with not quite enough crews, mechanics, and maintenance of way, and not quite enough capex.

Negative growth and periodic service chaos has been the result.

It's frankly a minor miracle these networks function at all, but a tiny handful of individuals have managed to figure out how to do it.

Out of a population of 370 million in the US and Canada there are, by my count, exactly *eight people* with a track record of being able to run these networks successfully.

Two of them are retired and one of them is dead.

Those that are left are the change agents that an activist like Ancora can pick up and use to persuade other investors that it's time to replace incumbent management.

In the case of Ancora, Norfolk Southern only prevailed because it countered Ancora's PSR change agent, Jamie Boychuk, with its own PSR change agent, John Orr.

### **The Networks Have Become Far Too Sensitive to Individual Talent**

We now have Class I operating departments put in extremely difficult positions:

- We've taken the most difficult transportation network to optimize—freight rail — and further starved it of critical resources under PSR.
- In pursuit of operating ratio, operating teams are pressured to build trains that don't fit in yards, pass trains that don't fit in sidings, and do it all with not quite enough crews, mechanics, maintenance of way, and capex. No growth and periodic service chaos has been the result, as we discussed here in 2022.
- It's a minor miracle these networks function at all, but a tiny handful of individuals have managed to figure out how to do it with reasonable efficiency; primarily the old Hunter sidekicks that keep getting unretired.
- These are also the change agents that an activist fund is able to pick up and pitch to other shareholders: *This one individual (among tens of thousands) can take this network from worst to first!*
- In the first three activist battles Hunter Harrison was the change agent, while it was Jamie Boychuk in this year's Ancora vs. Norfolk Southern battle. NS only "won" because it countered the Ancora PSR change agent with its own PSR change agent (John Orr). Yes, it's getting silly.
- We've become the NFL where you can't win without a superstar quarterback.

Technically, Norfolk Southern won the recent proxy battle, so the next question is whether that will discourage future activism in this industry, thereby removing the policing mechanism?

My view is yes, but only partially and temporarily.

What we also learned from the Ancora battle is that even when you win - you lose.

Norfolk Southern came out of the 2022 Service Crisis determined to focus on resiliency rather than operating ratio, yet in order to win the proxy contest, management had to issue aggressive operating ratio targets and reintroduce operating ratio as a management incentive compensation metric.

The proxy battle also got personal and nasty and cost the company \$50 million dollars in expenses.

No company wants to go through that, so activism as a policing mechanism, while diminished, has not been banished in my view.

### **Has Norfolk Southern's "Victory" Over Ancora Banished the Policing Mechanism?**

Partially and temporarily.

*But here's the problem:* even when you win you lose.

- Fighting off Ancora cost Norfolk Southern \$50 million in expenses, plus another \$25 million to hire John Orr away from CPKC.
- It's embarrassing for management when a subset of their shareholders effectively accuse them of incompetence.
- Norfolk tried to move past focusing on operating ratio after the 2022 Service Crisis, but they were pulled back in line during the activist battle. Specifically:
  - Pressured to issue aggressive operating ratio guidance during the proxy contest.
  - Reintroduced operating ratio as a management incentive compensation metric.

No company wants to go through this, so the activist threat—while diminished—is not banished.

I'll wrap up with three growth scenarios we could see going forward.

Scenario 1 is the most negative and the status quo:

The railroads will continue to grow slower than the market in a handful of commodities; most prominently intermodal.

They will stagnate in others, like grain, and continue to lose business in a lot of their merchandise traffic that entails local operations, plus of course coal.

At some point this will necessitate infrastructure rationalization or sharing if revenues become insufficient to justify maintenance and operating costs.

### **Looking Forward - What's Going to Change?**

On the current trajectory, the industry will continue to:

- Grow slower than the market in a handful of commodities, most prominently intermodal.
- Stagnate in others, like Ag and Auto.
- Shrink in many of the more complex merchandise businesses that entail local operations (plus of course coal). This could ultimately necessitate infrastructure rationalization or sharing if revenues become insufficient to justify maintenance and operating costs.

What's going to change to get the US railroads off this road to nowhere?

"Nothing" is unfortunately a significant probability, but there are a couple of better scenarios that have the potential to improve the industry's growth profile.

One is a long shot, the other is actually probable...

Scenario 2 is that the Wall Street pressure points on price and operating ratio do not change, but the railroads are able to manage their way out of their no-growth quagmire by improving service.

I basically said earlier that I regard these big US PSR networks as borderline unmanageable, so for this to work someone is going to have to take this PSR foundation and figure out a way to make these networks more manageable, resilient, and consistent, to the point that multi-year service track records can be established, and customer confidence is restored.

This might require a partial rollback of PSR.

We basically need a growth version of Hunter Harrison to emerge, but realistically I think this scenario is least likely.

### **The Long Shot: We Need One More “Legend”**

The first scenario is that the Wall Street pressure points don't change, but the railroads find a way to manage their way out of their no growth situation.

The prevailing PSR model was developed by Hunter Harrison and is being maintained by his former colleagues at four of the six Class I's that operate in the US (Creel, Vena, Cory, Orr). Adding (now consulting) Ed Harris, we have a group that has also been tasked in recent years with training the next generation but, frankly, evidence of success here is sparse. This is why most of them keep getting pulled back out of retirement.

Rather than trying to groom replacements for impossible to manage networks, I would argue we need new thinking or a new generation of operators that takes this PSR foundation and figures out a way to make the four big US networks more manageable, consistent, and resilient, to the extent that sustainably improved service can beget growth.

This may involve a partial rollback of PSR, incorporating more, shorter, trains and higher headcount and capex. The trick would be that the rollbacks are sufficiently modest not to trigger a Wall Street reaction.

It might not be possible, but if anyone wants their name in the history books, this is your opportunity.

Scenario 3 is, I think, how this ultimately plays out.

In this scenario the Wall Street pressure points do change.

After the 3.7-to-1 outperformance of the stocks over the last 20 years, there's an understandable reluctance to believe the rail pricing story is over.

But it is.

The glory days were 2004 through 2011, when annual price growth exceeded 5%.

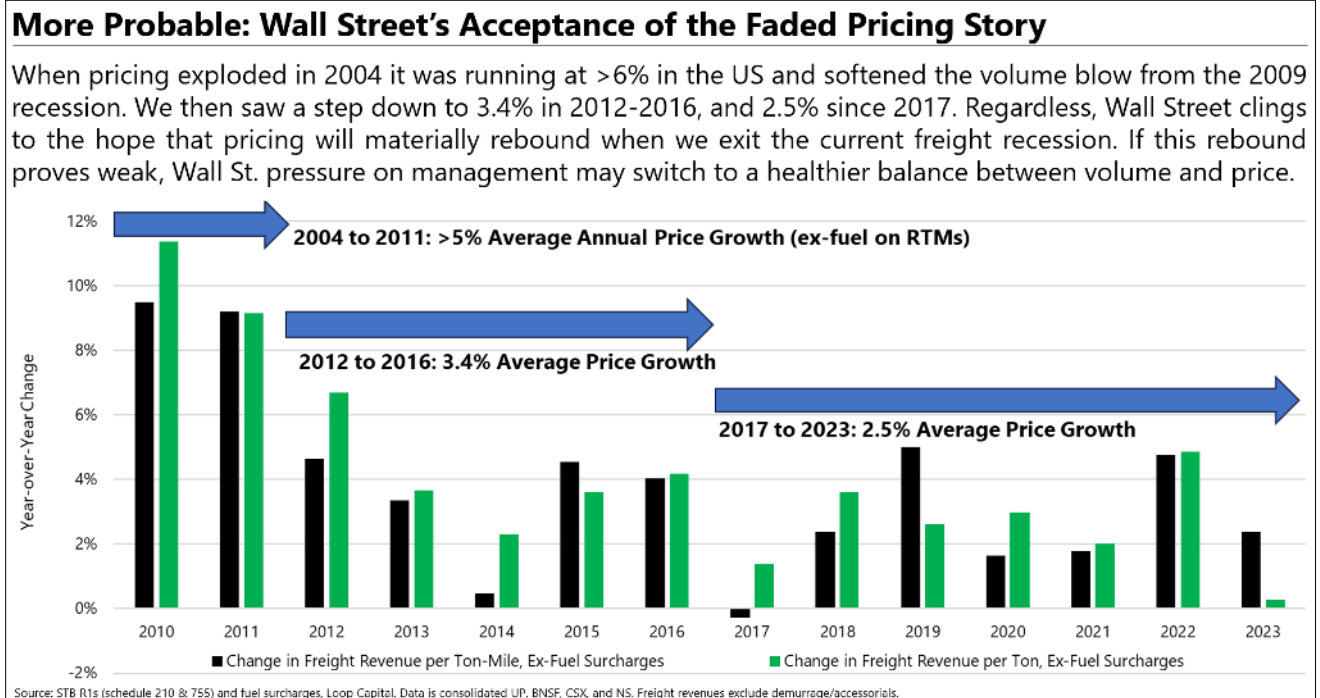
That throttled back to 3.4% between 2012 and 2016 and decelerated again to just 2.5% from 2017 through the present.

With the recent exception of intermodal, we've been in a freight recession for two years now, and the last piece of Wall Street hope is that when demand strengthens we'll see a significant increase in rail pricing.

If that proves underwhelming, which I think it will, that might be the last straw when Wall Street finally accepts the end of the pricing story, and pressure on management will rebalance into a healthier mix of volume and price.

You'll know when we reach that point, because someone will get on a quarterly earnings call and ask railroad management a question that goes something like this:

*"We all know the rail pricing story is over, so what are you doing to grow volumes?"*



Finally, for your reference, I've included tables showing the long-term volume growth profiles for the four US Class I's.

Thank you for your attention and I look forward to your questions.

# Union Pacific Long-term Volumes

Year	Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total
2000	1,921,060	453,584	2,812,342	578,831	798,047	312,991	376,514	128,178	133,649	206,204	192,060	939,692	8,883,152
2001	2,151,335	431,416	2,675,661	582,393	751,009	332,183	387,564	151,695	121,650	219,155	179,551	915,024	8,898,636
2002	2,154,979	431,369	2,782,471	641,726	766,921	342,443	405,559	145,941	127,198	221,768	182,678	900,414	9,103,467
2003	2,219,657	443,694	2,893,602	620,530	783,625	354,158	421,463	156,533	136,317	222,802	185,731	908,993	9,347,105
2004	2,156,272	429,465	2,972,953	613,072	807,281	340,836	438,276	168,007	141,126	221,342	176,066	954,125	9,418,821
2005	2,168,833	400,446	3,077,165	578,453	797,025	382,508	431,971	160,882	134,623	231,432	163,145	1,006,487	9,532,970
2006	2,286,454	402,373	3,266,046	597,789	783,441	384,936	403,615	169,419	125,603	250,399	143,802	1,023,994	9,837,371
2007	2,290,070	388,971	3,279,086	572,377	809,386	355,147	349,894	161,998	121,338	243,011	130,038	1,010,665	9,711,981
2008	2,375,801	418,978	3,077,165	438,999	798,018	347,157	296,549	176,800	114,835	276,050	123,449	996,843	9,341,184
2009	2,005,380	349,899	2,625,758	289,281	695,360	256,841	208,684	87,804	81,687	210,925	92,535	858,895	7,763,049
2010	2,039,772	378,051	3,126,545	396,975	773,405	318,475	212,983	137,806	85,157	212,422	98,673	1,020,412	8,800,676
2011	2,148,767	371,582	3,056,329	420,992	817,448	341,751	222,815	153,941	89,710	224,091	105,037	1,112,778	9,065,241
2012	1,851,945	334,361	3,113,548	465,455	819,160	407,182	239,836	151,193	83,569	229,838	103,042	1,216,987	9,016,116
2013	1,690,368	316,498	3,135,897	481,011	844,470	450,541	254,935	154,026	80,497	227,184	102,576	1,249,614	8,987,617
2014	1,789,182	400,300	3,406,420	490,006	894,198	556,486	279,496	154,108	85,973	235,656	104,016	1,308,648	9,744,489
2015	1,444,691	353,980	3,334,217	524,680	874,193	482,269	260,572	113,359	73,938	233,116	101,223	1,232,453	9,028,691
2016	1,152,072	390,893	3,134,474	501,868	870,941	410,421	261,147	102,801	71,336	233,980	96,141	1,195,725	8,421,799
2017	1,220,975	377,180	3,160,600	468,298	899,685	511,416	268,484	114,164	77,783	226,438	98,504	1,154,729	8,578,256
2018	1,151,827	349,089	3,413,418	468,904	942,977	513,915	272,457	137,902	75,228	229,632	103,386	1,277,233	8,885,963
2019	969,870	328,996	3,166,039	447,852	942,361	431,545	263,578	134,549	72,074	224,376	99,728	1,241,837	8,322,805
2020	775,460	372,517	3,114,485	354,135	918,242	351,753	265,056	120,322	74,305	222,281	100,876	1,159,484	7,828,916
2021	793,975	393,137	3,128,135	342,194	964,581	350,899	282,411	126,694	86,515	231,441	117,667	1,205,639	8,023,288
2022	858,873	371,930	3,050,485	385,003	1,002,132	415,993	284,823	142,116	91,097	236,480	116,653	1,207,271	8,162,856
2023	839,813	342,796	2,993,060	421,574	1,012,419	439,417	260,211	142,613	81,506	239,132	109,660	1,217,726	8,099,927
2024E	667,824	361,414	3,172,436	430,685	1,069,368	362,372	249,172	134,161	80,511	241,478	117,344	1,296,054	8,182,819
<b>2003 to 2023 Growth</b>													
Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total	
-62%	-23%	3%	-32%	29%	24%	-38%	-9%	-40%	7%	-41%	34%	-13%	

Source: Union Pacific. AAR. Loop Capital. Loads are total, not originated. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes. 'Other' includes crude oil, metallic ores, fertilizers, and grain mill products.

# BNSF Long-term Volumes

Year	Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total
2000	2,046,249	466,237	3,060,336	248,826	344,228	136,205	264,611	154,989	72,202	174,520	171,569	1,034,600	8,174,572
2001	2,159,120	493,789	3,034,164	193,296	324,757	152,139	250,354	140,116	65,262	178,719	156,247	990,867	8,138,830
2002	2,125,750	460,001	3,184,749	150,533	329,860	146,413	253,038	123,548	58,350	166,586	140,533	1,021,270	8,160,631
2003	2,114,653	492,830	3,627,559	152,030	342,087	144,674	265,114	127,227	57,296	172,694	142,443	1,109,307	8,747,914
2004	2,238,890	527,124	4,086,125	151,301	356,298	156,926	290,729	137,072	65,641	171,325	137,578	1,176,378	9,495,387
2005	2,267,959	546,178	4,497,487	170,276	356,091	157,116	305,033	125,942	69,435	171,268	137,333	1,208,194	10,012,312
2006	2,489,638	589,711	4,800,425	171,235	384,366	160,496	289,510	141,007	70,396	176,699	127,004	1,216,904	10,617,391
2007	2,499,988	606,692	4,593,899	165,919	428,484	170,534	243,864	147,402	69,164	177,245	108,380	1,086,933	10,293,504
2008	2,597,243	632,512	4,445,348	145,492	431,857	177,714	197,906	144,184	64,105	160,478	102,358	993,438	10,092,635
2009	2,416,077	522,796	3,622,282	98,928	370,009	135,430	145,810	79,233	46,787	136,860	75,087	737,844	8,387,143
2010	2,452,375	585,719	3,934,420	118,756	425,997	174,048	170,001	104,544	57,695	134,315	78,114	907,059	9,143,043
2011	2,341,529	584,031	4,254,604	125,035	428,627	199,642	182,603	122,509	63,338	132,045	78,381	936,745	9,449,089
2012	2,197,783	550,136	4,331,656	168,307	414,497	216,491	198,824	127,536	68,461	137,310	77,548	1,133,226	9,621,775
2013	2,259,579	491,431	4,552,998	182,947	405,553	247,597	200,159	127,056	59,592	135,792	79,122	1,316,484	10,058,310
2014	2,338,916	570,153	4,608,987	195,276	411,899	296,881	214,838	124,490	55,265	135,557	78,612	1,434,861	10,415,685
2015	2,303,685	572,612	4,619,616	200,251	418,571	269,749	198,516	97,434	46,468	134,123	77,735	1,294,171	10,232,931
2016	1,835,380	628,566	4,663,738	245,485	436,352	274,567	192,335	86,822	42,005	138,246	75,445	1,108,677	9,727,618
2017	1,952,559	611,980	4,919,719	267,687	441,414	361,497	196,620	98,563	50,790	143,828	74,389	1,141,387	10,260,433
2018	1,935,793	671,576	5,095,408	272,884	479,851	362,344	214,983	112,456	59,642	149,610	81,684	1,237,851	10,674,082
2019	1,821,169	603,754	4,859,079	262,457	478,255	289,764	204,698	102,116	56,518	147,770	78,662	1,288,272	10,192,514
2020	1,448,883	655,351	4,894,840	228,021	473,513	195,714	210,503	85,894	57,829	151,648	72,594	1,109,011	9,583,801
2021	1,555,594	651,597	5,167,972	225,139	476,931	222,795	216,776	98,865	72,092	154,142	73,753	1,195,971	10,111,627
2022	1,559,151	621,699	4,686,598	231,943	456,981	230,834	210,883	89,253	70,517	169,734	69,126	1,141,581	9,538,300
2023	1,494,196	551,244	4,271,150	278,536	447,563	232,991	204,396	93,738	78,282	182,633	65,510	1,086,925	8,987,164
2024E	1,176,924	641,622	4,994,504	277,495	474,680	202,168	204,559	91,970	78,928	180,553	62,541	1,114,293	9,500,239
<b>2003 to 2023 Growth</b>													
Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total	
-29%	12%	18%	83%	31%	61%	-23%	-26%	37%	6%	-54%	-2%	3%	

Source: BNSF. AAR. Loop Capital. Loads are total, not originated. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes. 'Other' includes crude oil, metallic ores, fertilizers, and grain mill products.

# CSX Long-term Volumes

Year	Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total
2000	1,743,402	205,282	1,963,518	592,225	634,686	277,918	270,655	212,951	212,951	135,082	368,981	660,592	7,271,740
2001	1,796,907	210,121	1,915,179	518,698	603,268	272,302	255,319	192,477	208,209	140,313	332,321	614,376	7,059,490
2002	1,639,212	200,884	2,026,473	539,167	607,411	264,442	255,473	196,587	209,157	136,888	324,932	636,395	7,037,021
2003	1,677,362	211,567	2,163,938	534,042	621,911	288,085	269,553	218,988	237,020	140,136	343,408	631,961	7,337,971
2004	1,706,220	199,819	2,197,266	503,909	617,673	301,988	278,061	229,521	251,043	132,096	326,068	632,107	7,375,771
2005	1,793,712	201,524	2,110,265	488,592	594,897	304,920	276,624	220,809	249,057	133,212	308,865	616,313	7,298,790
2006	1,871,829	224,495	2,131,643	462,209	576,911	316,369	261,983	232,662	244,190	137,909	285,646	565,645	7,311,311
2007	1,843,397	212,895	2,060,100	438,528	591,929	276,171	229,069	224,363	241,849	133,860	257,660	553,469	7,063,290
2008	1,884,602	205,150	2,031,822	344,591	581,630	229,995	198,395	211,669	232,981	132,745	241,539	550,384	6,845,503
2009	1,530,962	187,834	1,844,227	235,163	520,334	174,549	151,021	118,254	173,538	120,982	185,917	493,194	5,735,975
2010	1,511,633	196,256	2,175,364	336,337	563,740	187,507	161,462	148,785	177,724	120,842	184,510	513,130	6,277,290
2011	1,492,859	186,954	2,276,196	362,609	578,294	201,247	173,883	166,145	195,006	120,806	200,286	510,512	6,464,797
2012	1,245,141	174,395	2,444,515	427,060	557,947	195,504	175,125	165,158	186,953	120,078	200,311	511,297	6,403,484
2013	1,163,472	170,993	2,571,532	432,622	565,263	202,455	180,961	164,819	205,423	117,469	204,212	550,323	6,529,494
2014	1,238,139	189,895	2,757,100	439,253	589,672	223,572	189,518	184,370	208,326	116,445	211,478	675,325	7,023,093
2015	1,008,542	186,290	2,833,034	449,761	548,001	231,184	184,230	157,787	185,788	114,317	191,444	669,451	6,759,829
2016	816,117	167,955	2,757,503	478,343	536,751	238,122	180,197	133,299	205,867	111,507	171,628	574,115	6,371,404
2017	851,476	150,357	2,817,485	455,855	538,297	249,798	176,740	129,384	201,671	108,722	167,471	533,755	6,381,011
2018	882,764	159,379	2,878,584	464,589	509,181	248,088	189,292	144,645	205,943	110,645	181,299	504,952	6,479,361
2019	837,997	169,183	2,656,090	457,355	502,768	258,761	196,755	129,615	194,894	110,342	184,653	516,930	6,215,343
2020	642,244	163,616	2,738,385	347,542	517,807	245,369	186,520	126,461	191,245	111,594	183,240	507,841	5,961,864
2021	701,187	154,665	2,968,095	317,905	540,516	236,793	198,046	159,878	208,988	113,525	190,588	463,031	6,253,217
2022	695,772	159,642	2,957,419	338,106	530,802	249,715	194,169	144,381	205,777	117,646	189,580	442,101	6,225,110
2023	754,624	156,861	2,759,691	387,689	516,823	270,623	207,360	155,896	210,101	116,122	178,125	433,093	6,147,008
2024E	747,182	152,582	2,894,403	394,155	543,682	258,303	215,906	145,347	203,084	112,433	186,860	435,977	6,289,914
2003 to 2023 Growth													
Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total	
-55%	-26%	28%	-27%	-17%	-6%	-23%	-29%	-11%	-17%	-48%	-31%	-16%	

Source: CSX, AAR, Loop Capital. Loads are total, not originated. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes. 'Other' includes crude oil, metallic ores, fertilizers, and grain mill products.

70 Years

# Norfolk Southern Long-term Volumes

Year	Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total
2000	1,626,091	197,616	1,675,061	689,388	378,982	169,733	304,547	348,036	137,096	86,371	281,218	943,847	6,837,986
2001	1,657,189	205,002	1,639,582	620,711	351,894	172,831	290,580	315,197	118,483	86,910	253,328	909,743	6,621,450
2002	1,549,384	205,540	1,730,194	660,833	358,643	161,662	286,748	329,972	127,604	87,272	240,852	961,790	6,700,494
2003	1,580,676	218,208	1,810,089	644,554	372,178	164,876	290,814	318,533	138,319	90,721	253,764	1,050,973	6,933,705
2004	1,647,709	214,080	2,104,700	633,230	394,393	182,898	296,496	333,016	161,359	91,777	248,497	1,136,830	7,444,985
2005	1,707,903	210,412	2,327,639	614,846	402,091	192,453	295,223	339,872	154,795	91,927	260,692	1,181,399	7,779,252
2006	1,730,358	212,667	2,399,958	560,642	404,881	197,710	289,448	369,234	170,157	92,253	249,817	1,210,541	7,887,666
2007	1,674,562	211,625	2,353,218	532,878	418,180	194,699	256,892	332,140	169,594	95,574	235,972	1,107,137	7,582,471
2008	1,756,359	208,970	2,368,493	412,107	395,230	193,174	220,047	304,142	174,638	86,478	233,313	1,040,678	7,393,629
2009	1,406,356	187,211	1,996,709	290,708	343,803	160,256	158,670	180,601	135,425	76,344	187,322	815,999	5,939,404
2010	1,539,143	212,604	2,295,917	289,800	390,074	181,517	168,813	261,103	172,320	81,005	202,032	969,869	6,764,197
2011	1,603,510	198,761	2,540,326	332,536	384,536	196,590	162,874	284,348	137,349	83,763	193,203	992,511	7,110,307
2012	1,403,826	190,375	2,622,908	373,886	375,444	188,986	171,334	287,020	132,377	84,635	186,230	1,065,135	7,082,156
2013	1,346,695	195,356	2,812,120	400,276	387,644	192,695	184,639	279,667	125,014	87,292	189,204	1,115,869	7,316,471
2014	1,307,441	210,496	3,073,747	410,675	399,518	224,892	196,833	302,844	123,849	88,860	190,046	1,240,685	7,769,886
2015	1,077,658	202,748	3,067,725	426,970	404,774	222,263	188,467	259,651	109,703	87,581	185,988	1,218,527	7,452,055
2016	902,124	201,479	3,094,674	439,051	397,558	218,105	194,193	272,683	121,067	91,117	168,708	1,142,191	7,242,950
2017	1,047,333	198,435	3,259,888	421,748	403,881	235,982	190,786	291,756	124,719	89,311	166,120	1,171,113	7,601,072
2018	1,032,833	184,359	3,480,130	402,899	439,236	238,361	182,024	286,951	125,009	88,077	163,841	1,282,800	7,906,520
2019	916,114	185,561	3,361,215	393,499	418,702	241,357	176,828	261,287	122,792	86,743	154,634	1,218,768	7,537,500
2020	583,676	174,389	3,185,959	330,791	389,939	198,496	169,204	220,836	121,403	85,903	142,795	1,150,705	6,754,096
2021	658,852	165,769	3,200,299	343,959	407,717	201,757	176,587	269,848	147,234	90,918	145,083	1,204,286	7,012,309
2022	684,027	174,170	3,073,708	337,806	390,510	225,486	169,248	238,715	149,104	93,766	136,821	1,153,191	6,826,552
2023	677,354	176,443	3,058,381	360,947	394,779	225,767	163,852	244,324	157,026	93,664	127,569	1,054,166	6,734,272
2024E	685,304	178,820	3,302,814	367,749	394,928	229,022	171,002	245,678	163,020	88,153	130,962	1,107,142	7,069,593
2003 to 2023 Growth													
Coal	Ag	Intermodal	Autos	Chemicals	Aggregates	Building Mats	Metals	Waste & Scrap	Food	Paper & Forest	Other	Total	
-57%	-19%	69%	-44%	6%	37%	-44%	-23%	14%	3%	-50%	0%	-3%	

Source: Norfolk Southern, AAR, Loop Capital. Loads are total, not originated. 2024E applies the 2024 YTD growth rates through 9/7/24 to 2023 volumes. 'Other' includes crude oil, metallic ores, fertilizers, and grain mill products.

20 Years

## Disclosures

### Public Companies Mentioned in this Report

CSX Corporation (CSX:\$33.51-BUY)

Canadian National Railway Company (CNR-TSE:C\$158-HOLD)

Canadian Pacific Kansas City Limited (CP-TSE:C\$114-BUY)

Norfolk Southern Corp. (NSC:\$257-BUY)

Union Pacific Corporation (UNP:\$253-HOLD)

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**Buy** - The stock is expected to trade higher on an absolute basis or outperform relative to the market or its peer stocks over the next 12 months.

**Hold** - The stock is expected to perform in line with the market or its peer stocks over the next 12 months.

**Sell** - The stock is expected to trade lower on an absolute basis or underperform relative to the market or its peer stocks over the next 12 months.

### Ratings Distribution for Loop Capital Markets as of September 10, 2024

			IB Serv./Past 12 Mos.	
	Count	% of total	Count	% of total
BUY	138	58.47%	14	10.14%
HOLD	96	40.68%	4	4.17%
SELL	2	0.85%	0	0.00%

Source: Loop Capital Markets

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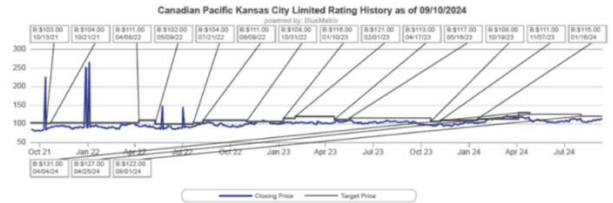
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