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United States Surface Transportation Board
395 E St SW
Washington, DC 20423

Testimony for Public Hearing – Docket No. 775

Chairman Primus and Members Fuchs, Schultz, and Hedlund,

I come to you today wearing three different hats: As the CEO of Hum, a rail technology company that I founded in 2019, as a former grain shipper, and as an analyst of the rail industry. At Hum, we design, build, and sell wireless sensors for the onboard monitoring of railcars. I started Hum for two reasons based on my experience as a rail shipper: To keep workers from getting killed in the railyard and to fix chronic issues like lack of visibility into rail operations that shippers have struggled with for decades. Our mission is to help the rail industry become smarter and safer.

The products we offer at Hum are designed to provide rail shippers, railcar owners, and railroads with greater visibility of rail shipping. We make devices that provide basic functions, such as GPS tracking of a railcar or whether a door is open, along with state-of-the-art devices like our predictive wheel and bearing condition sensor or our scale replacement load sensor.

A healthy, growing rail industry means that my business is also healthy and growing. Hence, I have a vested interest in seeing that more freight shippers choose to move their goods by rail. To that end, I have taken up a second role as an amateur industry analyst. I have written extensively about some of the most pressing issues I see for the rail industry, namely the lack of volume growth for Class 1 railroads, the need for greater investment in safety, and the long history of how public policy has shaped this industry.

That the railroads have struggled to grow volume is of no surprise to anyone in the industry. Carloads peaked in 2006, even as key economic signals suggested they should have continued to rise. To illustrate this point, Chart 1 shows the monthly seasonally adjusted carload volume in the United States since 2000. Plotted alongside the carload volume is the US Bureau of Transportation Statistics’ “Truck Tonnage Index,” which we can use as a proxy for trucking volume growth since gross vehicle weight hasn’t changed since 1974.

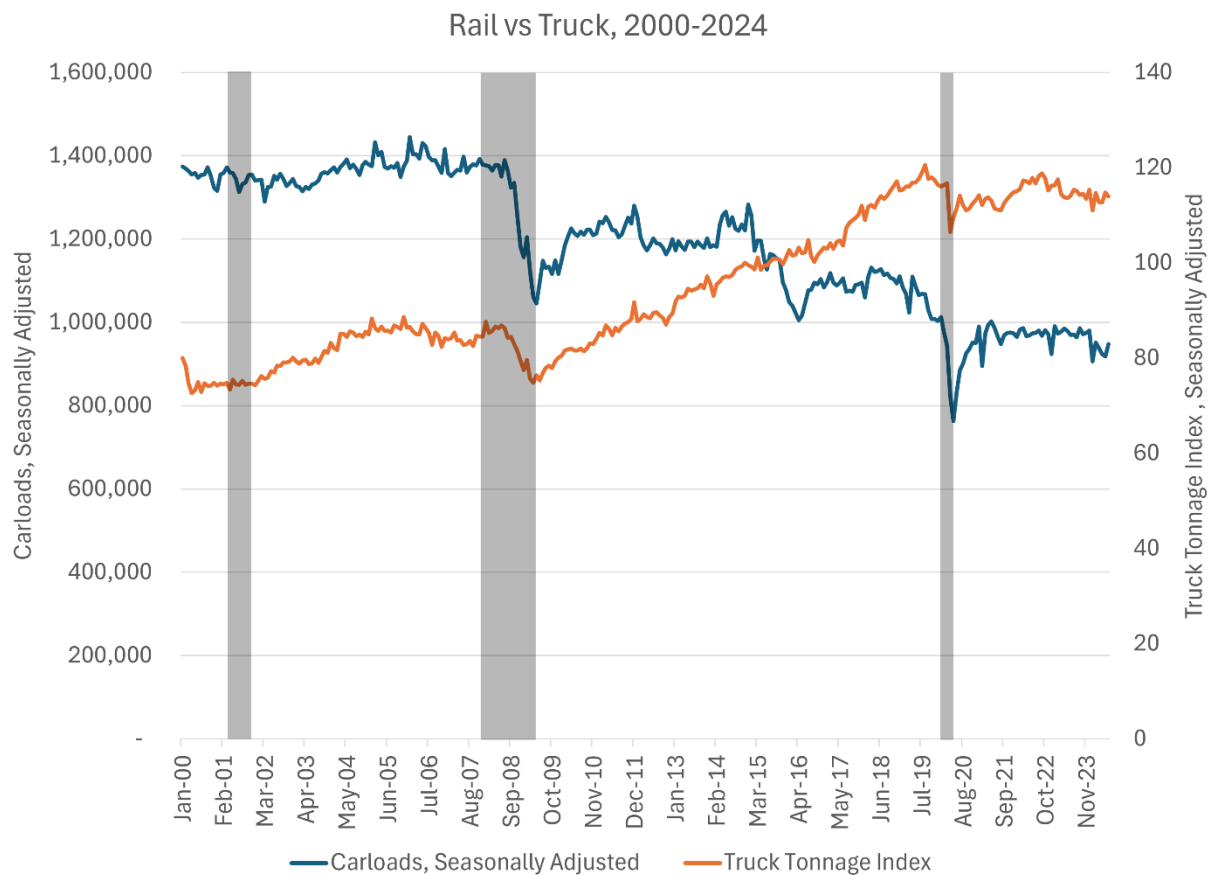


Chart 1 – Rail carload volume and US Bureau of Transportation Statistics Truck Tonnage Index, 2000-2024.
Source: FRED.

Coming out of the Global Financial Crisis in 2009, both truck and rail bottomed out at approximately the same time. Yet, while rail volumes quickly plateaued before taking another significant drop in 2015, trucking tonnage grew steadily from 2009 to 2019.

This period does coincide with the growth of Amazon and e-commerce. Perhaps this truck friendlier freight fueled growth in trucking while rail declined? Plotting the same carload volume against industrial production shows that wasn't the case. Chart 2 shows that the Industrial Production Index also grew steadily from the bottom of the Global Financial Crisis in 2009 until it peaked in January 2015.

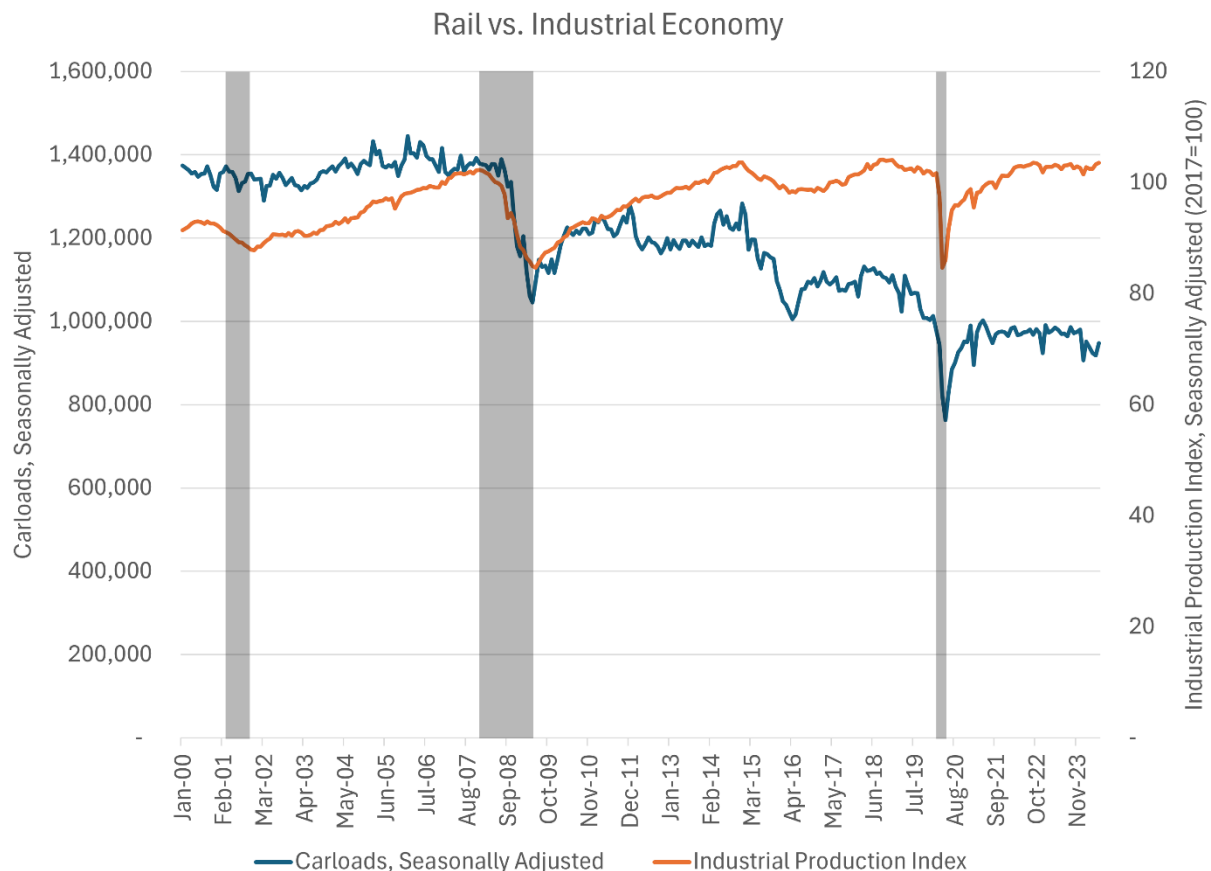


Chart 2 – Rail carload volume and Industrial Production Index, 2000-2024. Source: FRED.

We have been in a stagnant industrial period since 2015, yet in that time rail volumes have declined roughly 25%. Clearly, attributing volume loss to the state of the industrial economy does not explain why so much volume has left the rails and has not returned.

My thesis on why the rail industry has been unable to grow volume is made up of three key points:

1. All companies must choose between a strategy of profitability or growth.
2. For the past 20 years, railroads have chosen a profitability strategy at the expense of growth.

3. The incentives of public markets create structural barriers that prevent the Class 1 railroads from switching to a growth strategy.

I will elaborate on these three points.

First, railroad management teams must choose between pursuing a strategy of profitability or growth. These are, I believe, mutually exclusive choices and trying to do both results in an inability to do either strategy well. A profitability strategy is predicated upon driving down costs and increasing prices to squeeze more cents out of every dollar. A growth strategy prioritizes growing revenue by increasing volumes rather than increasing revenue solely through pricing. In fact, reducing prices or pricing below fair market value is a tool used in a growth strategy to meet the goal of increasing sales volumes.

Before continuing I want to point out that there is absolutely nothing wrong, in and of itself, with a business pursuing a profitability strategy. Examining your business for ways to reduce unnecessary costs, improve productivity, improve safety, and reduce chaos are all good things to do. To neglect to do so would be in violation of the fiduciary duty that company officers have to their shareholders.

However, the law of diminishing returns cannot be ignored. You can only wring so much water out of a wet towel. At some point, a profitability strategy can become *value destructive* in the long term rather than *value constructive* as companies give into short-term incentives at the expense of long-term gain.

Second, since at least 2004, Class 1 railroads have explicitly or implicitly chosen a strategy of profitability over growth. This is evident from the data. From the deregulation of the rail industry in 1980 until the end of the merger period in 2003, Class 1's grew through consolidation. Once that era was over, they were then able to enjoy their increased economies of scale and reduced competition to expand their profit margins far more effectively.

From 1980 to 2003, the cost of rail shipping increased at a steady rate of 2.2% annually. From 2004 until today, the rate of annual price increases for rail shipping nearly doubled to 3.8%. Chart 3 shows this inflection point in 2004.

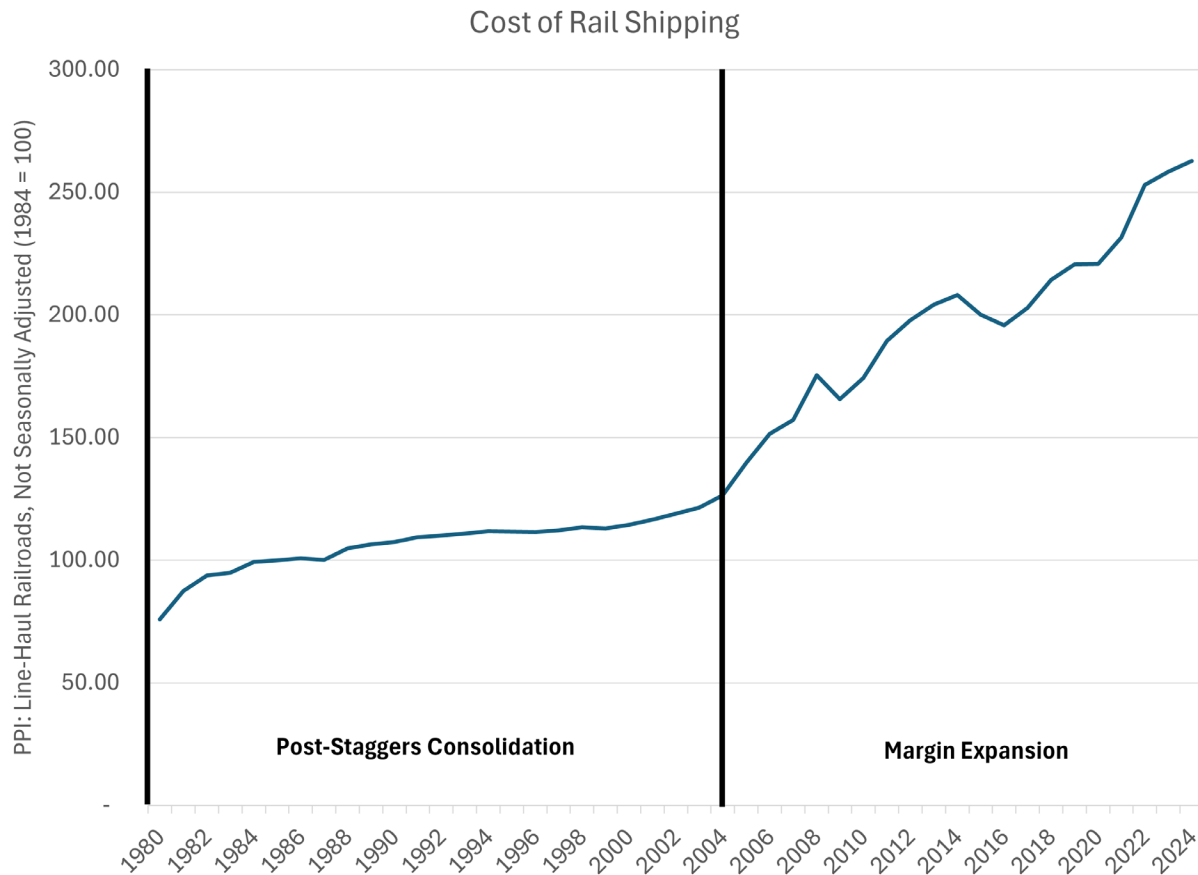


Chart 3 – Producers Price Index: Line-haul Railroads, not seasonally adjusted, 1980-2024. Source: FRED.

Not surprisingly, as the cost to ship by rail increased, freight volumes decreased. Yes, large macro events like the Global Financial Crisis in 2008 and COVID in 2020, the secular decline in coal, and cheap financing from the ZIRP era all played a part in the modal shift. But what is notable is that with each downturn in freight volumes, the freight that did come back shifted from rail to truck. When shippers who had the luxury to pick modes were given the chance to reevaluate their supply chains, they specifically chose trucks. This is shown in Chart 4.

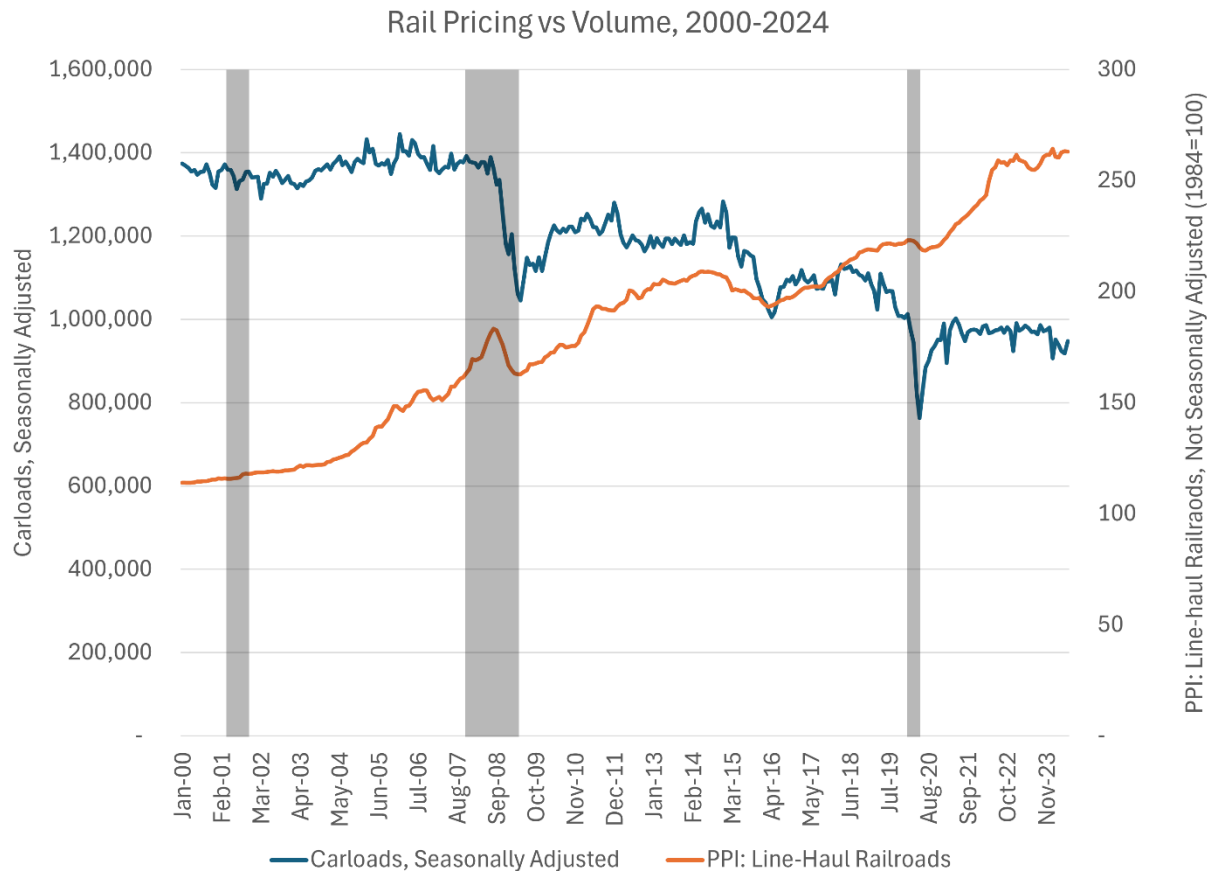


Chart 4 – Rail Pricing vs volume, 2000-2024. Source: FRED.

Third, Class 1 railroads are structurally incapable of switching to a growth strategy. Why? There are many reasons, but I will highlight the largest one: Wall Street. Class 1 railroads are held accountable for their ability to deliver inflation plus pricing while minimizing expenses. Growth is not expected, so it is not rewarded.

In fact, anything that leads to a larger operating ratio is viewed as heretical, thus restricting the amount of capital available to reinvest in growth-oriented initiatives and handcuffing railroads sales and marketing professionals from offering more competitive rates to shippers in an effort to increase their volumes shipped. The patience necessary to grow and mature new business opportunities is lost after a few quarters and projects are killed before they can bear fruit.

One salesperson at a Class 1 told me that they are heavily restricted from traveling to meet with customers while, unsurprisingly, a large shipper expressed their desire for the railroad to come meet with them one on one to talk about more opportunities to shift freight to rail. Instead, the shipper is



treated to a lavish dinner or party where, in the presence of their competitors who were also invited, very little is discussed about the specific opportunities for each business.

As Norfolk Southern discovered, Wall Street also has little patience for expanded headcounts and active locomotives that could provide essential slack in the operating capacity of the railroad. A business absolutely should be able to scale up and down as the market dictates. Yet if that reduced capacity in a down cycle means you miss out on the up cycle, it may be worth taking a bet on getting in the water before the next wave crests.

For the time being, railroads are stuck in this game of chicken where any deviation from a focus on minimized expenses, pricing above inflation, and returning all non-R&M cash to shareholders is punished. It is my belief, even as an optimist, that without radical change or significant external factors, the rail industry will continue to contract until it becomes nothing more than the transporter of low value, bulk commodities and railroads are sidelined to little more than dividend producing utilities.

I don't believe that there's a soul in this industry who wants that future. We all want shippers to choose rail and for railroads to continue their long, proud history as the backbone of this country. The Staggers Act saved the rail industry and put it on a path toward profitability. Now the industry needs to take the next step and make the radical changes necessary to embrace a growth mindset.

Rather than sink into obscurity and irrelevance, the railroads can do several things today to reverse this fate. Putting my tech company CEO hat back on, I will focus on the technology aspect.

My belief is that, rather than continuing to maintain or reduce the amount of value captured by their customers, railroads should seek to grow the services included in their offering. I call this concept, "Grow the Service Stack." There are additional services that railroads can and should offer, built on top of their core function of moving goods from point A to point B.

There are three ways the railroads can do this:

1. Upgrade the underlying data infrastructure to enhance network visibility and transparency.
2. Become more deeply integrated with operations "over the fence" from the railyard.
3. Reduce the regulatory burden for innovation.



First, as a rail shipper my life was thrown into turmoil on a regular basis because train ETAs were constantly rewritten. Having to continuously shuffle inventory around, reschedule the crew that was supposed to unload the train that wasn't going to show up again, and call the railroad to find out where our train was created a constant headache.

GPS-equipped railcars would provide tremendous benefits to shippers and assist railroads with informing their customers on the disposition of their freight. The inability to plan a real-time, 24/7 operation or make bets in a real-time, 24/7 global marketplace because you are stuck with sporadic CLM updates is as astonishing in 2024 as it is laughable.

I would even argue that the railroads would find a positive ROI in providing GPS-equipped railcars to their customers or reimbursing the investment through rate discounts. Increasing the car hire rate for railcars equipped with the latest sensor technology would be another positive incentive for private car owners to equip their fleets and share the data with the railroads.

I estimate the cost to equip and maintain GPS on the 1.6 million railcars in North America to be an extra \$6-14/car/month or \$120-260 million/yr. In 2023, the six Class 1 railroads earned revenues of \$95.4 billion on expenses of \$62.5 billion, or an industry OR of 65.5%. Assuming they took on the full cost of telematics adoption (which they wouldn't), the increased cost would be a whopping 0.2% to the industry OR.

There is a \$50-100 million/yr industry dedicated to providing rail shipping transparency services for rail shippers. Railroads could reclaim a large portion of this market simply through upgrading their underlying data infrastructure and making that information more easily accessible for their customers.

Second, using technology to more deeply integrate into a shipper's operation would provide benefits to both the railroad and the shipper. The railroad would be able to anticipate the needs of the shipper, while also reducing inefficiencies. Since shippers operate with a mindset of, "No one ever got fired for ordering too many railcars," railroads would be able to deliver just the right number of railcars at the right time.

I call this concept, "Railroad Managed Inventory" or RMI. Railroads would be able to see how quickly a shipper was loading or unloading railcars to create a modern forecasting tool to understand when a shipper would need a spot or a pull. Using modern data analytics and AI, railroads and shippers would be able to more accurately anticipate each other's operational capabilities in real-time. All digital, with



data available to both parties instantaneously and without picking up the phone or shooting off another email.

Third, it has been said that Silicon Valley will not save the railroads, meaning that technology companies are not going to build solutions for the rail industry. This is true. The rail industry is a small market, relatively speaking, is highly concentrated, and has a large number of regulations to contend with. This often leaves innovation to DIY industry players or squashed by dominant duopolistic suppliers.

However, rather than use this as a stick to beat away innovation, the rail industry should seek to reduce these barriers. One primary example is the laborious process of seeking approval through AAR committees and pseudo-committees. This can take years, cost hundreds of thousands of dollars, and significantly deter investment. If Hum wasn't committed to its mission of helping the rail industry become safer and smarter, we would have packed it in long ago.

Of course, safety is paramount, and equipment should be tested thoroughly before being broadly adopted. However, when it is determined that a wireless sensor on a lumber car needs to have the same hazardous certification as a sensor on a hydrochloric acid car, it would seem that we've lost the purpose of the regulation. Moreover, the cell phone in your pocket or the radio clipped to a worker's vest carry orders of magnitude more risk than a low-power wireless sensor.

Investing in and reducing the hurdles to greater innovation in the rail industry can usher in the next generation of technological benefits the rail industry desperately needs to attract shippers back to rail. The hard truth remains that while a shipper can expect trucking to deliver end-to-end transparency, real-time transactions, and seamless integration into their ERP and broader supply chain management tools, railroads cannot even offer a fraction of that value. Far more can and should be done.

There are certainly challenges to growth in the rail industry, some of which I've outlined here. Despite these obstacles, the industry can and should build upon its profitable operations to pull more and more freight onto the rail network. At Hum, we stand ready and willing to develop the technology to assist in that endeavor.

Thank you for the opportunity to share this perspective today.