

Diversifying Your Supply Chain Resources With Rail



Lineage[®]

Reimagining the World's Food Supply Chain



Contents

Introduction	3	High Visibility in Private Rail	6
Beyond the Freeway	4	Business Model Sustainability	6
Retail Boom and Labor Concerns	4	All the Options Rail Affords	7
Rail's Evolution	5	Solutions for Today and Tomorrow	8
Rail Can Help You Save	5		



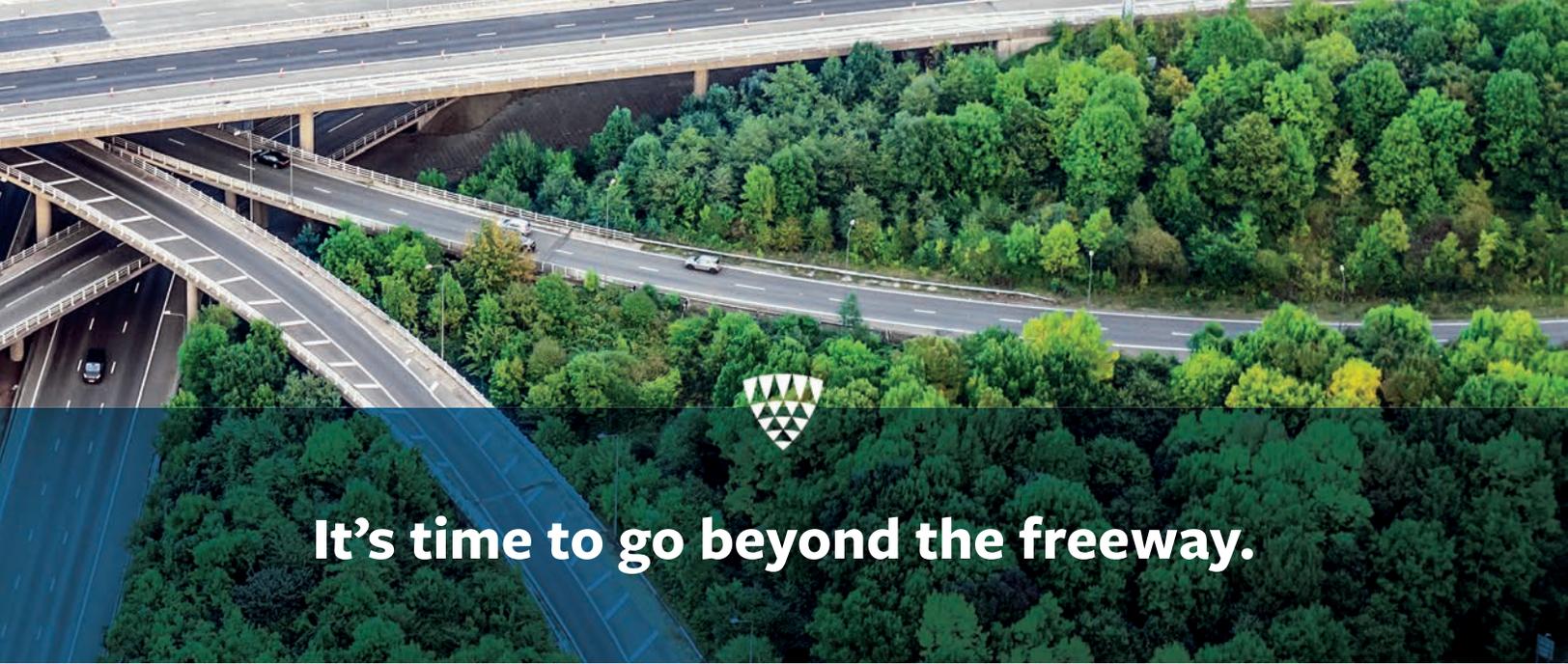
A flexible supply chain is a stronger supply chain.

Portfolio diversification is key to minimizing risk. Regardless of fluctuation in a particular segment of the market, diversification allows the investor to stay true to their business investment goals and to maintain long-term growth projections.

It's this same investment strategy that we should observe in the temperature-controlled transportation sector. As an industry, we're dependent on over-the-road (OTR) transportation, and it's time the food and beverage industry begins in earnest to explore different options. Understanding how the cold chain has arrived at this moment provides us with a road map to a more robust and durable transportation portfolio.

Understanding how the cold chain has arrived at this moment provides us with a road map to a **more robust and durable transportation portfolio.**





It's time to go beyond the freeway.

Labor shortages in the trucking industry have accelerated, as the Federal Motor Carrier Safety Administration has reduced the overall number of licensed drivers by more than 50,000 in the last year alone. The average age of OTR truck drivers is 46, and the industry isn't recruiting enough younger drivers to fill retiree positions. Industry analysts predict a driver shortage of over 105,000 by 2023.¹ And long-haul driving is unpopular among younger drivers.

While research and development teams across multiple industries continue to experiment with driverless vehicles, drones and other modes of transportation that may ease the burden of the shrinking driver supply one day, today's reality must focus on the labor shortage that confronts us as its trickle-down effect will influence all aspects of cold chain.

Responding to retail boom as labor and capacity become concerns.

The U.S. labor shortage arrives as food retail sales skyrocket. January saw a \$60 million year-over-year increase in same-month retail sales from 2020.² The acceleration of consumer demand for fresh and frozen foods, along with a sustained labor shortage, has created a cold chain logistics disruption. (These shortages were predicted before the COVID-19 pandemic. The U.S. Bureau of Labor Statistics³ points out that past recessions have almost always caused labor dips due to demand. The pandemic is an outlier because it has also disrupted the supply of labor.) These concerns, combined with capacity issues and escalating fuel costs, have caused OTR and intermodal rates to steadily climb. In an industry where more than 70% of supply chain costs go directly to transportation overhead, it is imperative that those in the supply chain seek diverse and financially prudent ways to transport their products.



The team at Lineage Logistics looked over the horizon at what's next in the world of cold chain transportation and acquired Cryo-Trans. We've analyzed predicted labor shortages, rising transportation costs for our customers and the environmental impact of lowering emissions, and determined that refrigerated and insulated railcars are a necessary diversification of temperature-sensitive transportation in our industry.





Rail's evolution meets today's cold chain needs.

Today's rail is a far cry from the inefficient, inflexible and outdated rail system of decades past. While decision makers across the supply chain still hold on to these perceptions, at Lineage we are improving cost savings, efficiencies, oversight and sustainability. With the technological advances in the rail system in recent years, rail has the ability to provide the timeliness and efficiencies that are crucial to shippers in today's marketplace. For customers who are concerned with rising shipping costs, time-sensitive deliveries of perishable items or the environmental impact of their transportation needs, implementing rail into your transportation mix offers flexibility in an ever-changing marketplace.

Understanding rail and how it can help you save.

Today's rail ironically provides a reverse of traditional OTR and intermodal transportation in that it provides additional savings with heavier and longer shipments.

Lineage Logistics President & CEO Greg Lehmkühl predicts that by augmenting some trucking capacity with rail, "Customers could reduce transport costs by 15% to 40%, depending on the shipment size and distance traveled."

A single railcar can hold up to four 53-foot truckloads of product, based on weight and refrigeration. The fuel cost per mile is four times more efficient than over the road.⁴ Then there's the labor element: A 160-car train hauling up to 18,000 tons, or 36 million pounds, requires only a two-person crew. Rail provides labor savings in addition to cost savings when compared to truck and intermodal, as both of the latter modes require one or two drivers per trailer.



A single railcar can hold up to **FOUR 53-foot** truckloads of product.

A **160-car train** hauling up to 18,000 tons, or 36 million pounds, requires only **a two-person crew.**



There's high visibility in private rail.

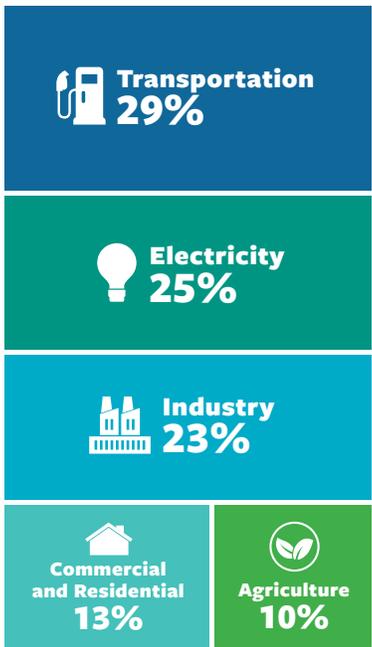
Supply chain optimization depends on visibility and predictability, and private railcars are designed with these needs front and center. Today's private railcars are equipped with door sensors, 24/7 temperature monitoring and GPS.

Lineage has dedicated customer support and technicians to keep railcars running as efficiently as possible. With our door sensors, shippers are immediately alerted if the railcar door to their shipment has been breached. In the OTR and intermodal sectors, customers will not discover such breaches until the driver reaches the destination location, potentially creating incremental costs and disruption for the shipper.

“**Customers could reduce transport costs by 15% to 40%, depending on the shipment size and distance traveled.**”

Greg Lehmkuhl, Lineage Logistics
President & CEO

**Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2019**



epa.gov

Increasing sustainability in your business model.

In an age of increased government focus on carbon emissions, rail is a far superior mode of transportation. With one railcar providing the capacity of up to four truckloads by weight, rail is the preferred mode for companies that desire to lessen their overall carbon footprint.

The single largest source of greenhouse gas emissions in North America is the transportation sector.⁵ As stewards of the supply chain, we must all do our part in improving our carbon footprint. If just 25% of the truck traffic moving at least 750 miles went by rail, annual greenhouse gas emissions would fall by approximately 13.1 million tons.

A great example of a real environmental impact: One of our national fast-food restaurant chain customers brought private railcars into its transportation mix and was able to reduce its carbon footprint by taking 15,000 diesel-fueled trucks off the road.



Explore all the options rail affords.

Not all rail is the same - it's important to understand what equipment is available and the right option(s) for your transportation needs.

System railcars, or railroad-owned assets, are the basic option available in the market today. The major benefit to system railcars is the theoretical “as needed” expectation for equipment supply. While system railcars for the refrigerated and insulated markets are limited in supply (due to the aging and retiring of railcars across the network), there are still opportunities with the railroad to start moving your product by rail immediately. A related drawback

“**We’re the experts in how to utilize this infrastructure – we’re the easy button for a modal shift.**”

Carl Fowler, Lineage Logistics Vice President, Strategic Logistics Solutions

Refrigerated Railcars

Standard Length: 72 ft.	Max Weight: 180,000 lbs.	When Thermal Precision Is a Must	Constant Remote Temperature Tracking
-------------------------	--------------------------	----------------------------------	--------------------------------------

Insulated Railcars

Standard Length: 68 ft.	Max Weight: 195,000 lbs.	Shield Against Major Temperature Variation	Provide Freeze Protection
-------------------------	--------------------------	--	---------------------------

to system railcars is that you’re completely at the mercy of the railroad’s ability to provide equipment. You may not get the equipment when you want it or the size you want. Additionally, system railcars are not as sophisticated as private railcars and do not offer the same features.

Private railcars make the most sense when moving large quantities of product. If your company ships more than 12 truckloads per month in a single lane, on multiple lanes or to a specific region, you’re likely to discover significant cost efficiencies with private railcars. Furthermore, system-refrigerated and insulated railcars

are not available in many lanes; to ship in those lanes, you’ll need a private railcar.

Lineage has dedicated customer support and technicians who constantly monitor all our private railcars. Plus, we provide tracking and tracing services, equipment maintenance in transit, and we proactively work to avoid service failures. We can also beneficially manage your private railcars the same way we do in the OTR sector by creating roundtrips or using triangulation (Memphis-Detroit-Chicago-Memphis) carload opportunities with the same cars to decrease the overall expense for the shipper.



Solutions for the challenges of today and tomorrow.

Moving even a portion of your traditional business away from OTR or intermodal may represent a sizable change in corporate philosophy. While a change can present challenges in any industry, it can be performed seamlessly when working with the right partner.

If the current status of the transportation industry has you considering the future of your company's bottom line or how you can gain transportation efficiencies, this is a great time to talk with Lineage, the industry leader in cold chain logistics.

MORE THAN
340 warehouses
& **80** connections to ports
NATIONWIDE



“Combining our leading facility footprint, a private railcar network and data-driven transportation management systems enables us to further optimize freight, create greater efficiencies, generate unprecedented supply chain visibility and provide a new ease of doing business for our customers.”

– Greg Lehmkuhl, Lineage Logistics President & CEO

In addition to owning the largest fleet of temperature-controlled railcars in the United States, Lineage also has the nation's largest team of rail management experts. These experts and our warehouse team oversee a network of more than 340 strategically located warehouses and connections to more than 80 ports nationwide. Ultimately, from transportation to storage, we offer a complete cold chain solution, with the ability to efficiently move food products from farm to table.

When we decided to invest in rail, it was with the goal of providing our customers with the most complete range of services in the industry. As the rest of the cold chain logistics world gravitates

toward rail, we're already looking ahead. Lineage is making strides in combining existing rail technology with other innovative, tech-based solutions, such as our own Lineage Link®. Pairing our technology with our strategically placed warehouses across the United States, Lineage is uniquely positioned to help your company integrate into the private rail sector.

Rediscovering and making the advantages of rail more accessible is just one more step in our mission to reimagine the world's food supply chain, to reduce waste and help feed the world. If you're considering how rail can enhance your supply chain, contact Lineage, and we'll show you how to take your next step forward.



Reimagining the World's Food Supply Chain

lineagelogistics.com

Sources

¹Costello, B. and Karickhoff, A., "Truck Driver Shortage Analysis 2019," American Trucking Associations, July 2019, <https://www.trucking.org/sites/default/files/2020-01/ATAs%20Driver%20Shortage%20Report%202019%20with%20cover.pdf>

²Leonard, M., "Inventory levels tumble, threatening retailers' spring and summer sales," Supply Chain Dive, March 2021, <https://www.supplychaindive.com/news/inventory-levels-tumble-threatening-retailers-spring-and-summer-sales/597127/>

³Handwerker, E.W.; Meyer, P.B.; Piacentini, J.; Schultz, M.; Sveikauskas, L., "Employment recovery in the wake of the COVID-19 pandemic," Monthly Labor Review, U.S. Bureau of Labor Statistics, December 2020, <https://doi.org/10.21916/mlr.2020.27>

⁴"Train vs Truck Transportation – Efficiency, Cost, Advantages & Disadvantages," Freightera Blog, <https://www.freightera.com/blog/train-vs-truck-transportation-efficiency-cost-advantages-disadvantages-infographic/>

⁵Greenhouse gas emissions, U.S. Environmental Protection Agency, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>