# HAS US TRANSPORTATION ENTERED AN ERA OF DISRUPTION AND TRANSFORMATION?

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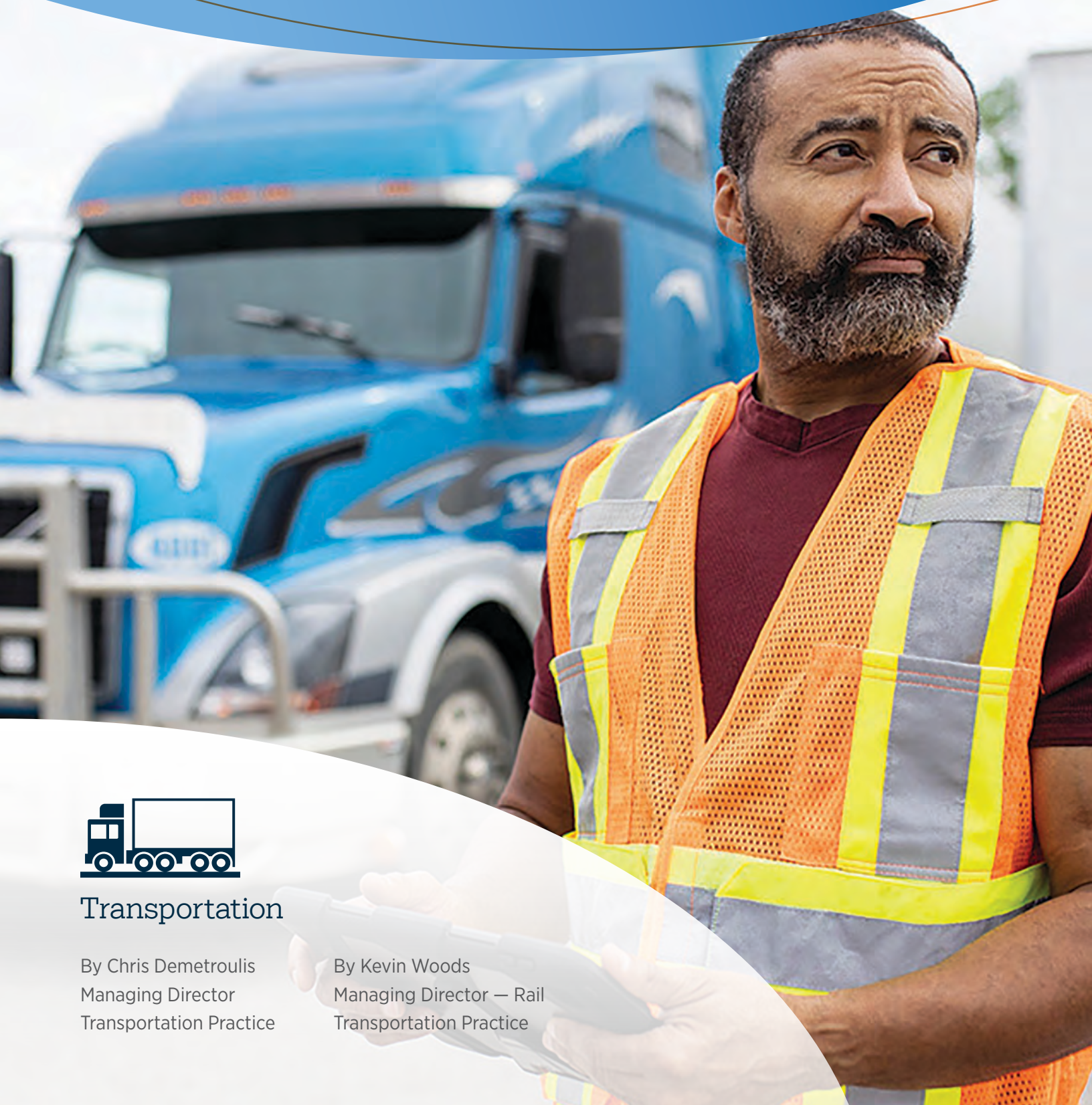

Transportation

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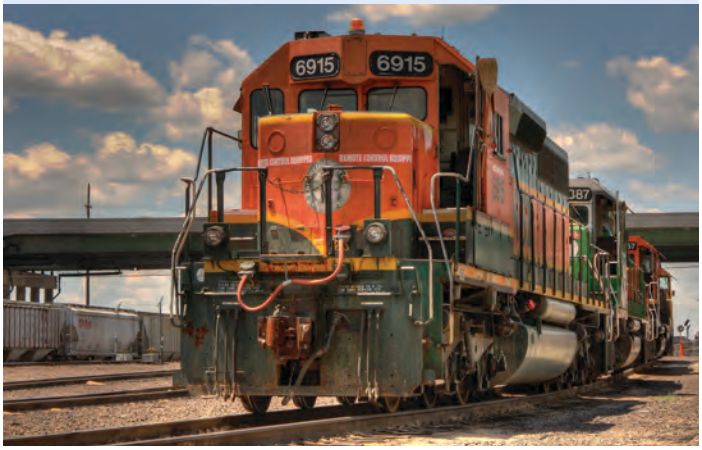
## IN BRIEF

- **Disruption and transformation are not new trends for the US transportation sector.** In reality, the sector has evolved and changed over multiple decades reflecting economic headwinds and market/customer expectation shifts. Disruption and transformation are interrelated in a number of cases, and examples exist where a disruptor leads to a transformational benefit.
- **Manufacturers and supporting industries onshoring to the US or nearshoring in countries offering closer proximity to the US market** — Mexico, Central and South America — are disrupting historic operating models and driving transformation. Railroad operators are diversifying into port operations, building rail spurs to service industrial hubs, and large warehousing operations to remain competitive and grow market share.
- **The pace of transformation has accelerated in the past three to five years**, driven by ideation, entrepreneurship, and innovation as new market entrants and longstanding operators look to tap into new revenue streams and capitalize on emerging opportunities to capture a share of the market.
- **Disruption and transformation involve a lot of "unknowns."** It's arguably impossible at this time to accurately predict the way the transportation sector will travel over the next 12 months, given the heightened levels of unpredictability and uncertainty in the global and US market at this time.




# Transformation through disruption

The US freight transportation sector has continued to evolve over the past decade. Shaped by market dynamics and consumer demand, the ongoing transformation of the industry and disruption of operating models have enabled capacity strategies and an ability to adapt to the times.

The global trade map is being redrawn, partly to rebalance the flow of products and materials coming into, and out of, the US market, and also in response to political tensions and the Russia/Ukraine war, which have disrupted the conventional market cycle. The COVID-19 pandemic demonstrated the transportation sector's ability to navigate through a challenging period marked by supply chain bottlenecks, impounded cargo, and businesses switching to remote working patterns. It was also a reminder of the risk of overdependence on global trade flow during a crisis period. The pandemic exacerbated preexisting disruptions and accelerated the transformation path.

Uncertainty and unpredictability caused by inflation and turbulent capital markets have further compounded challenges. Fluctuations in trade agreements, tariffs, and economic conditions have impacted supply chains and influenced investment decisions.[1] In response to a more challenging trading environment, transportation operators have diversified sourcing strategies, seeking to reduce dependency on a single region and spread risk more evenly across their supply chain.

This whitepaper will aim to answer two questions:

1. Are disruption and transformation interconnected, and a driving force of change for the sector?
2. Is disruption a short-term driver, and what does this mean for the sector in the long term?

## INFRASTRUCTURE INVESTMENT AND LEGISLATIVE CHANGE

Infrastructure gaps and the need for deeper investment are a longstanding point of concern. The 2021 Bipartisan Infrastructure Law introduced a range of initiatives targeting public funding for repairs, improvements, and funding to support cleaner energy transportation options, including electric vehicles (EVs) and green hydrogen. With "$50 billion in an 'all hazards' approach to protect infrastructure and communities from physical, climate, and cybersecurity-related threats,"[2] government-led action emphasized safety measures, and resolving the challenges currently impacting commercial transportation operators.

Legislative changes[3] have prompted transportation companies to enhance safety protocols, invest in training programs, and adopt advanced technologies for compliance.[4] Through active engagement and partnership with regulatory bodies, the longer-term ambition is to transform and future-proof the transportation sector so that it remains fit for purpose and resilient.[5]

Transformation is being seen through consolidation, integration, and connectivity.

**Kevin Woods, Managing Director — Rail, Transportation practice** provides more context, "We're seeing a growing number of port operators branching out into the railroad transportation space. Infrastructure is being built to serve a variety of industries, and short-line railroads are being contracted to run the railroad within port terminals. It should be noted that they are not looking to become traditional railroad operators, so the endeavors are more about diversifying their processes to resolve infrastructure gaps and to tap into a revenue stream, particularly as car loads continue to go up."

## TECHNOLOGICAL ADVANCEMENTS AND INNOVATION

Technology, AI, and digital platform innovation have disruptive and transformational benefits, enabling greater connectivity between transportation modes, lifting productivity, and efficiency, while improving supply chain transparency and the ability of operators to identify risks and respond to emerging opportunities.

Predictive maintenance, route optimization, and data-driven decision-making[6] are examples of a broader range of innovations revolutionizing the way goods are transported, stored, and distributed. Process automation is streamlining logistics, including sorting, packaging, loading, and unloading, while increased digitization of freight operations has improved supply chain visibility and the flexibility to adapt to changing trade flow dynamics.

Reprioritization of vehicle/fleet maintenance is one area where technology can deliver a significant net benefit. In an effort to minimize the costs associated with downtime and repair, and to ensure optimal vehicle performance, transportation operators are placing a stronger emphasis on maintenance. Predictive maintenance technologies, powered by AI and IoT anticipate maintenance needs and prevent unexpected breakdowns.

**Chris Demetroulis, Managing Director — Transportation practice** "One of the problems we see from a freight transportation and trucking perspective is where you have a chassis that is being traded between companies every day. The maintenance of that chassis can sometimes be blamed on the transportation operator, who is holding the keys on the day an out-of-service issue arises. Increased access to G-Force technology is helping business operators to pinpoint (ad geo-locate) routes and specific locations, such as a truck moving from a loading bay to a staging area, where there may be a pothole or uneven road surface that causes a problem."

By identifying points of risk using technology and analytics, business operators, third-party contractors, and underwriters are able to work together to remediate the situation and hold companies accountable for appropriately maintaining facilities and ground conditions.

## INVESTMENT APPETITE

Reduced access to investment capital and higher borrowing costs have disrupted (or otherwise rescheduled) longer-term plans for the transportation sector. With some business operators choosing to ride out the challenging market, using capital reserves to offset rising operating costs, others are tentatively viewing the market and questioning priorities and timing. Labor and payroll costs are up, insurance premiums are generally seeing marginal upticks year-on-year, and the volume of goods transported and carloads is also going up. Despite immediate-term challenges, investment continues to be made in new equipment, rolling stock, and digitizing business processes. A sense of optimism is steadily growing as the sector responds to short-term disruptions by reframing the opportunity to tap into new pockets of revenue and growth.

## CAPACITY IS KING

With ongoing supply constraints on critical materials and manufacturing components, focus has switched to building onshore operations to ease some of the challenges and spread supply chain risks more evenly. This may signal a shift to supply chains being vertically integrated by country. Recent insolvencies have seen a number of operators exit the market; stable rates and minimal disruption to supply chains suggest there is sufficient capacity available to absorb short-term shocks.

As freight forwarding brokerage rates rocketed following the pandemic, transportation operators questioned the viability of significantly increasing cargo loads to provide more inventory US-side. This involved taking an up-front hit on cost and the attached risk of holding more stock. As rates started to fall in 2023, the capacity model adjusted to the new market norm.

Precision scheduled railroading (PSR) created capacity on the railway networks — more cars, more cargo, and reduced labor. Viewed in some quarters as a short-term strategy with a disproportionate focus on profitability, at the expense of railroad safety, PSR does offer benefits including industry-leading margin, less rolling stock sitting idle in terminals, and railways able to operate their newest and most efficient equipment.

With the average rail car length increasing by up to 40%, the East Palestine accident highlights the critical need for reevaluation and tightening up of safety requirements. Technology will play an important role in counterbalancing efficiency with track safety, utilizing x-track and wheel analysis, and other risk detection platforms. As load capacity needs to step up, a growing expectation is consolidation. This will see smaller, independent operators being snapped up by larger operators looking to scale up and increase market breadth, given the scope of investment required to introduce sophisticated technology and compliance with new legislation and regulation.

**Kevin adds,** "PSR appears to be an integral part of railroad transportation's future. The current focus is taking on historic learning, identifying key priorities, and plotting out how to improve efficiency in order to make railroads an economical and preferred option to move more goods. Safety will be at the top of the priority list, as well as refining the list of operational requirements for railroad employees to work within the evolving compliance guidelines."

## TECHNOLOGY: DISRUPTION AND TRANSFORMATION WORKING TOGETHER

Established freight transportation and logistics firms are optimizing digital innovations to enhance efficiency and operational effectiveness. Deploying sensors, telematics, and benefiting from real-time data analytics enables proactive decision-making and reduces operating costs by enabling operators to monitor cargo, routes, and vehicle performance.[7] Artificial intelligence (AI), the Internet of Things (IoT), and data analytics can be leveraged to optimize operations, enhance route planning, and improve overall efficiency.[8]

New market entrants and innovators are introducing disruptive business models and approaches, injecting fresh thinking into the industry,[9] challenging traditional norms, and removing barriers for new players to enter the market. Partnership and collaboration between established players and new business startups are steadily fostering a culture of innovation.

**Chris Demetroulis,** adds, "Port operations are increasingly AI-powered. Trucks drive up to the gate; number plate recognition identifies the truck number and connects it with the cargo order number. Technology is steadily transforming physical operations across transportation modes, presenting the option to outsource certain aspects, reducing cost, and improving efficiency. The wave of technology-led change coming through the US transportation sector is exponential, and the ability to grasp new technology creates issues and also opportunity. The change curve historically was relatively flat, whereas now it's vertical, and we're seeing an explosion of ideas and change coming through exploring different avenues and fresh thinking on how to do things better."

This extends into market restructuring. Digital freight marketplaces, route optimization, vehicle analysis, and risk detection have brought entrepreneurial thinking into the sector, streamlining process, and adapting the operating model. Connectivity and convergence are central to the new era of transportation sector growth and transformation.

## OPERATING MODEL CHANGES

**Outsourcing non-core functions** to streamline operations and improve cost efficiency,[10] enables specialized service providers to support sections of the transportation and distribution cycle — including security, cargo handling, and inventory management. Onshoring manufacturing operations will adjust the traditional operating model further as supply chains move closer to home, and distribution involves short-line, hub-to-hub, and last-mile journeys.

**Driver and workforce expectations** are also changing in the truck/road transportation space, with a higher preference for shorter-haul jobs and reduced time away from home. This has led to manufacturing and warehousing sites being moved closer to the transportation network and a "hub and spoke" style operating model, which is also influencing increased convergence between road, rail, and port. It could also create an increased appetite in the labor market to bring in the next generation of transportation operatives. As the onshoring trend continues, we may start to see inventory levels growing again and a transition from a "just in time" format. Railroad operators are leveraging the opportunities coming from this move, presenting competitive options for freight distribution and building additional spurs for new customers.

**Adapting vehicle loads and last-mile journeys.** Rethinking vehicle loads and last-mile delivery[11] strategies. Railroad companies are introducing longer carriages with increased capacity to optimize cargo transportation and reduce costs per ton-mile.[12] Moreover, innovative approaches to last-mile deliveries, including the use of localized distribution centers and autonomous delivery vehicles, are being explored to enhance efficiency and meet the growing demands of e-commerce.

Insurance planning and underwriting criteria are also responding to change. Transloading (moving cargo shipments from one transportation mode to another) is one example of where the underwriter is responding to a moving picture, and being tasked with anticipating risk exposure based on a combination of modes, commodity values, and residual tasks such as railroad car cleaning and decontamination.

**Kevin explains further**, "Taking a railroad operator as a case study, the underwriter has to wrap their heads around the big questions, How do we underwrite this risk because they're all different? What are the commodities being transported? What are the environmental considerations? How is the cleaning and rolling stock maintenance being managed, and what products are being used? This has added another level to the underwriting process; however, it is generally understood why railroads are drilling into the granular detail to ensure everything is covered and understood by the underwriter."

## MEETING INCREASED DEMAND FOR RAIL TRANSPORTATION

Railroad operators are proactively expanding their networks and capabilities to meet the increasing demand for rail transportation. Building rail spurs and/or sidings, and investing in technology[13] to improve rail operations are key strategies to enhance capacity and efficiency. In September, for instance, the Federal Railroad Administration (FRA) announced a $1.4 billion investment for 70 projects across 35 states and the District of Columbia through the Consolidated Rail Infrastructure and Safety Improvements (CRISI) program.[14]

## DECARBONIZATION AND GREEN ENERGY SOLUTIONS

The transition to net zero and the pressing need for greener transportation solutions are parts of a measured transition towards electric vehicle (EV) fleets and alternative fuel technologies, including green hydrogen. The transportation sector is steadily investing in electric and alternative fuel technologies to reduce its carbon footprint and contribute towards a greener future,[15] aligning with global efforts to decarbonize and the sector achieving its broader sustainability goals.

# Connected risks

### Convergence and connectivity

The digital transformation has delivered structural and operating model changes to the sector. As transportation supply chains become interconnected across a range of technology platforms and software, risk exposure grows and becomes more complex. Insurance providers are developing tailored policies to accommodate new risks,[16] such as cyber threats targeting digital infrastructure, ensuring transportation operators have appropriate coverage to safeguard against emerging vulnerabilities.

### Vehicle and rolling stock maintenance

A heightened focus on operational efficiency and predictive maintenance also brings about associated risks. Depending heavily on technology for maintenance[17] schedules increases vulnerability to potential system outages, inaccuracies and/or cyber attacks, underscoring the importance of frequent checks and servicing, along with frequent checks and servicing, along with cybersecurity measures to protect critical systems.

Transportation companies are overhauling redundant systems in an effort to mitigate some of these risks and ensure the reliability of their operations.

### Outsourcing

Ports are increasingly outsourcing tasks such as cargo handling, security, and inventory management to third-party contractors. This can help reduce costs, but it also introduces the potential for labor disputes and other sources of disruption and supply chain interruption. As one example, the 2022 Port of Los Angeles, labor dispute[18] disrupted operations for several weeks, causing delays and congestion at the port, and rippled through the entire US transportation sector.

### Infrastructure challenges

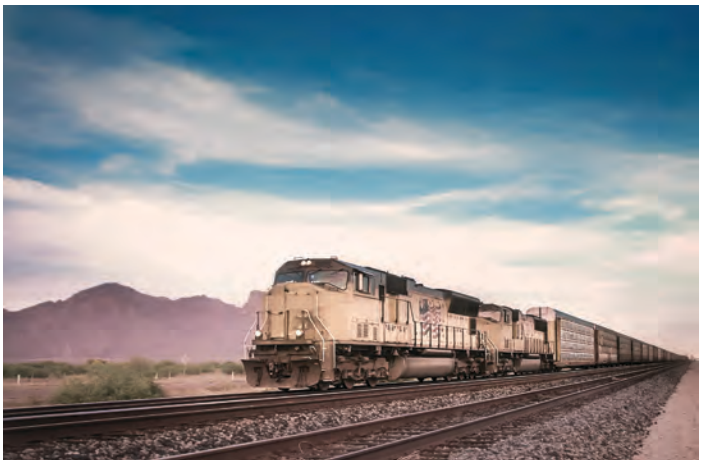
Infrastructure failures or disruptions, whether due to natural disasters, strikes and labor disputes, geopolitical issues, and/or cyber attacks, can have cascading effects on transportation operations, leading to delays, loss of revenue, and damage to reputation. Proactive risk assessments, contingency planning, and investments in resilient infrastructure are critical steps to mitigate these risks and ensure a reliable and resilient transportation network.

# Changing lanes

Embracing uncertainty and responding to a call for increased agility, the transportation sector is well equipped through hands-on experience to respond to ongoing waves of change and disruption while championing innovation and continuous improvement. In this context, short-term disruptions generally flow into transformation with longer-term benefits.

Resilience, partnership, and collaboration are key to transforming the sector. The ability to bounce back from disruptions, learn from challenges, and proactively prepare by planning for different scenarios. Industrywide partnerships, knowledge sharing, and a collective commitment to overcoming challenges will accelerate progress and ensure a sustainable and prosperous future for the transportation sector as a whole.

**Chris concludes**, "It's impossible for any one person to accurately predict the path of transformation over the next three to five-year period. Entrepreneurs are taking advantage of a changing market during a phase of disruption, finding ways to make money and service a demand efficiently and profitably. The sector has demonstrated its ability to adapt and evolve with the times, and, while the COVID-19 pandemic created disruption, it ultimately accelerated preexisting trends, including those that will benefit business operator's in the long term. There's more resilience and capacity to absorb demand shocks, and from crisis comes opportunity."



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Gallagher, as a trusted insurance and risk management advisor to transportation sector operators across the US and internationally, is well-positioned to develop strategic insurance programs and tools to support risk management practices tailored to meet a specific set of needs. Working closely with our insurance carrier partners, Gallagher is committed to the sustainability of transport and logistics businesses — road, railroad, air, and port — while they continue to adapt to evolving market and customer needs over time.


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