

# COVID-19 Series

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## Navigating Unprecedented Disruption

### COVID-19's Impact on Global Supply Chains



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At the start of a new decade, the world is facing a daunting challenge: how to effectively manage a global health crisis in an interconnected economic and commercial environment. While globalization has many economic benefits, including access to new markets and affordable goods, the vulnerability of international supply chains is exposed when sourcing goods from places beyond America's doorstep. **How companies respond to this unprecedented disruption in the global supply chain could permanently change the way goods are exchanged around the world. What does this mean to our industry?** It is incumbent on us as engineers, scientists, and planners to re-think transportation systems and infrastructure in tandem with global supply chain business. The ramifications of COVID-19's impact on trade provides an opportunity to re-assess how, together, we efficiently move people and goods across neighborhoods and across the globe.

#### Impacts across Transport Modes

**Consumer demand is a key driver of change to supply chains.** Since the first COVID-19 case was reported in Wuhan, China, in December 2019, supply chains from Europe to Africa to North and South America have been tested, modified, or shut down entirely. Basic commodities, such as food, energy, consumer goods, and—most importantly—medical supplies like personal protective equipment (PPE) are increasingly difficult to procure and ship to areas of the

globe experiencing an outbreak. Freight transportation service providers, including freight forwarders that move international freight, and third-party logistics providers (3PL) that manage multiple parts of the supply chain for companies, were forced to quickly identify new modes of transportation to ship their goods or face shutdown. Some have weathered the storm better than others.

**Air Cargo:** In recent years, air cargo is increasingly transported via the belly-hold of passenger aircraft along with travelers' luggage. Due to stay-at-home orders, and fear of contracting COVID-19, passenger travel demand plummeted at home and abroad. To save transportation costs, airlines reduced the number of flights available for passenger travel. Businesses that relied on belly-hold capacity to export or import goods were forced to use freight-only aircrafts with steeper shipping rates. According to [Flight Global](#), typical freight rates for transatlantic air cargo have increased on average by 300 percent, enticing several passenger airlines to begin operating cargo-only flights. The Air Freight Index Company (TAC) reported cancellations of air freight out of China removing roughly 5,100 tons of export capacity per day, leading to a 36 percent decline in air freight capacity between 2019 and 2020 out of mainland China. Learn more about COVID-19 impacts on the aviation industry [here](#).



Air freight companies are taking advantage of empty cargo bellies on sparse passenger flights.

**Maritime Cargo:** The supply chains that carry maritime freight across both the Atlantic and Pacific oceans, between Europe, North America, and Asia, have been similarly impacted. Waterfront industries are often the economic engines of their regions. Major ocean carriers, such as Maersk and Mediterranean Shipping Company (MSC), cancelled [more than 400 scheduled sailings](#) across the world due to the decrease in consumer demand for basic goods. **The reduction in shipping activity due to these “blank sailings” has major implications for America’s sea terminals.**



Maritime freight operators are scrutinizing their delivery systems to address factors that undermine supply chain performance during COVID-19.

Ports are responding differently to the crisis based on their own unique supply chains and relationships with regional shippers. Large east coast ports like the Port of New York and New Jersey and the Port of Savannah are seeing steady activity, receiving regular vessel calls. The Port of New York and New Jersey saw 53,000 containers delivered to its terminals in one week during mid-March 2020, and the Port of Savannah saw more than 540,000 containers in all of February. Smaller ports may experience larger impacts. For example, Seagirt Marine Terminal at the Port of Baltimore temporarily closed in April as a result of an employee testing positive for the virus.

**Rail Cargo:** Freight rail in the U.S. was hit hard when consumer spending plummeted—down more than 20 percent by mid-May 2020. Union Pacific, one of the seven major railroads that span North America, cancelled its “Cold Connect” service, which transports refrigerated food from farms in California and Washington to the East Coast. Grocery shoppers now relegated to home are watching their wallets. This comes as a shock to a rail sector which previously invested in refrigerated trains to meet the demands of online shopping. Prior to cancelling Cold Connect, Union Pacific moved roughly 60-percent of all refrigerated cargo across the country. Railroads are in constant competition with trucks to move the same freight. Given the decline in consumer spending, rates to transport goods have also decreased, something trucking companies with more nimble operations are weathering with varying success.



Rail freight is a critical mover of food supplies & PPE across the U.S during the pandemic.

**Trucking Cargo:** Truck transport has its own COVID-19 challenges. The grueling nature of the work—long hours of service regulations and lack of adequate parking facilities and rest stops—had already led to an existing shortage of truck drivers. Losses in cargo were felt first at the ports, then transport slowed when demand for non-essential goods abated. Trucks are not transporting new automobiles off the line when auto manufacturers are closed, nor do shuttered schools need to stock pantries. According to the [Bureau of Labor Statistics](#), more than 88,000 jobs were lost in the trucking sector in April 2020, a 5.8 percent drop in employment from the previous month. The loss can also be attributed to layoffs and anxious trucking employees uncertain about safety conditions and social distancing at the workplace. Most goods continue to flow across the country in trucks, especially in the grocery industry for necessities and medical supplies, and via online retail supporting the big box stores.



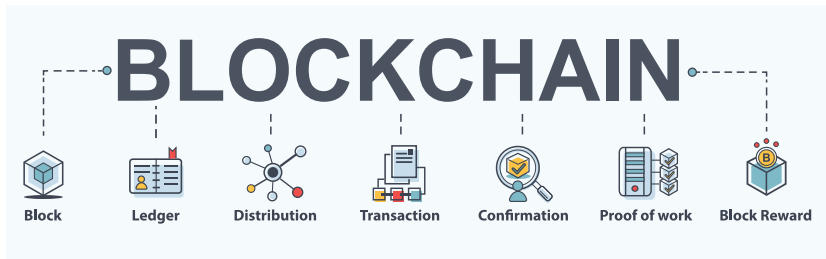
A shortage of drivers threatens the trucking industry's response.

## Global Supply Chains Post-COVID-19

These supply chain setbacks have industries across the globe preoccupied with the same questions: what will a post-COVID-world look like? Are we approaching a new era of globalization? If so, how will this affect trade across borders? No matter the transformation, it is imperative that global supply chains adapt to the economic, manufacturing, and technological changes sure to come. Companies can prepare for the future by keeping the following in mind.

**Increase Resiliency:** To mitigate future disruptions, supply chains will need to become more resilient. Shippers will look for alternative or additional modes of freight transport to reduce risk from previous reliance on one mode of transportation. Companies of all sizes should invest in strengthening business continuity plans, as they provide an opportunity to assess internal supply chain systems and outline recovery scenarios from unplanned disruptions.

**Increase Transparency:** Expect a push for greater transparency into existing and future supply chains, likely led by technology companies. **Blockchain technology, a digital platform shared by all participants in a supply chain, could be the solution.** Blockchain was



Blockchain technology has exciting implications for global supply chains, including accuracy and transparency among all members.

originally devised for Bitcoin currency and proposes to lessen costs for businesses by reducing paperwork, streamlining contracting, and improving invoicing. [Blockchain](#) helps companies instantly understand, continuously reconcile, and track their product data end-to-end through the mix of manufacturers, distributors, warehouses, and retailers.

A [consortium](#) made up of large, multinational companies like Home Depot, Daimler, and FedEx Solutions, is working to rapidly establish blockchain standards for supply chains that could be adopted across the globe. How quickly industries can adopt and adapt remains to be seen, but its impact could be substantial.

**Increased Contract Reviews:** Businesses involved in global shipping will likely revisit and clarify contracting provisions, including force majeure (“acts of God” such as hurricanes or pandemics) that relieve the owner of liability. Parcel companies like DHL Global Forwarding are facing billion-dollar losses due to the drop in demand from China exports alone. **Force majeure gives companies the flexibility to alter existing shipping agreements during unforeseen global disruptions.** Expect an influx of insurance implications because of the virus, including new provisions about cargo delays due to hold-ups, longer storage times, and re-routing goods to alternative ports.

**Increased Partnerships:** What seems inevitable is an increase in public and private partnerships moving forward. Neither group will want to be caught off-guard again. **Expect public offices of emergency management across the U.S. to enter into agreements with transportation service providers to establish firm and flexible contingency plans for the delivery of public goods.** While many large cities have plans in place to coordinate a unified response, others may not. Close coordination among all the stakeholders in a supply chain, including the producers and consumers, will be a crucial step in mitigating the next great supply chain disruption.

## How VHB Can Help

The global coronavirus pandemic is a turning point for how public and private supply chain stakeholders will plan and respond to future disruptions. Anticipating disruption and developing comprehensive plans for an agile and resilient response will minimize impacts and maximize the ability of supply chain partners to bounce back. VHB works alongside cities and private businesses to address existing barriers and help streamline freight planning response no matter the disruption: inclement weather, failed infrastructure, or a global pandemic.

**Are you faced with supply chain challenges, including infrastructure, technology, and sustainability? We can help!** Our integrated, strategic approach to supply chain management means companies will be stronger and better prepared to weather the next disruption, via land, air, rail, or sea. Contact [Ryan White](#) today to start planning for tomorrow.