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## Supporting the Recovery of U.S. Supply Chains

Supply chain issues persist and threaten to further impact every aspect of the U.S. public and private sectors, most notably the National economy and defense capabilities. Many analysts predict that such challenges will continue in some form for years. How did we get here, and how do we recover?

Several trends have made us vulnerable to supply chain disruption. For more than 50 years, economic globalization has led to the development of international supply chains spanning the globe. Imports and exports funnel through America's inland waterways, seaports, airports, railway, and highway border crossings.

Since 1970, trade relative to the U.S. gross domestic product (GDP) has more than doubled, growing from 10.7 percent to 26.3 percent of GDP by 2019.<sup>1</sup> A significant proportion of these goods arrive and depart in 40-foot containers on enormous cargo ships. Nearly forty (40) percent of all containers handled in the U.S. flow through just two ports—Los Angeles and Long Beach.<sup>2</sup> Not surprisingly, a disproportionate dependence on these ports poses significant risk for disruption.

In addition, U.S. manufacturers and retailers have moved to keeping inventories low and freight delivered "just in time." This management practice, while designed to maintain organizational competitiveness, requires dependable, predictable flows of freight through global networks of freight carriers and logistics facilities.

We now know that public and private organizations alike must evolve to recover and prosper from the unprecedented events of recent years:

- A spike in demand as Americans shifted their spending from services (e.g., entertainment, travel) to goods (e.g., home office and exercise equipment) – causing a traffic jam of container ships waiting to offload at the Ports of L.A. and Long Beach, as well as other U.S. ports.
- Temporary closures of ports and factories across the world due to COVID-19 outbreaks or lockdowns to prevent the spread of the virus.
- Labor shortages at manufacturers, freight carriers (e.g., trucking companies), and warehouses due to workers becoming sick, increased absenteeism, disruption to 24/7 operations, and employees leaving the workforce.



As well, longstanding public policy issues have positioned our freight transportation system for reduced resilience or failure under stress. For example, decades of underinvestment in our transportation infrastructure has forced us to move an ever-increasing volume of goods on infrastructure that was not built to accommodate it. Increased funding from the recently enacted Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act) will help on this front, but significant impact will likely not be realized for years.

Even outside the traditional purview of government, problems within the freight industry contribute to the logjam of goods. Manufacturers and retailers need to re-think their “just-in-time” practices and perhaps begin to hold larger inventories to increase real-time flexibility in adapting to disruptions. They are also likely to re-think sourcing decisions and consider suppliers closer to home.

To address these challenges, President Biden signed [Executive Order](#) (E.O.) 14017, America’s Supply Chains. As a result, several agencies have completed 100-day reviews of supply chain risks. Changeis provides ongoing support of this Order through various client partnerships.

One such effort is recent Changeis support of the Volpe Center as it assisted the U.S. Department

of Transportation (USDOT) in preparing analyses and the corresponding report, *Supply Chain Assessment of the Transportation Industrial Base: Freight and Logistics*. This report to the White House is available [here](#).

The freight expertise that Changeis staff applied to this report was built on past contributions to Federal freight plans and analyses. For instance, Changeis staff analyzed state freight plans and geospatial data in support of the Volpe Center's development of the December 2020 report titled *The Importance of Highway to U. S. Agriculture*.<sup>3</sup> Produced for the U.S. Department of Agriculture, this report identified key highway corridors used to move agricultural goods and documented notable practices for addressing the infrastructure needs of the U. S. agriculture industry. Reliable and cost-effective transportation of agricultural goods helps keep food prices low for American consumers and improves the competitiveness of U. S. agricultural exports.

Changeis staff also supported the development of U.S. DOT's *National Freight Strategic Plan*.<sup>4</sup> Published in September 2020, this plan provides a vision for a national freight system and describes the steps that the U.S. Department of Transportation will take to maintain and improve America's freight transportation network. Among other tasks, Changeis staff analyzed hundreds of public comments and catalogued the policy recommendations offered by commenters.

Through understanding, partnership, and data exchange, agencies are setting the stage for timely solutions. Furthermore, new and evolving modeling simulations and analysis tools will continue to advance data-rich designs for improved understanding and ultimately resolution of supply chain gaps and bottlenecks.

Now, to move from trends to traction, we must continue to segue understanding into measurable action. What can you do within and beyond your organization to advance these efforts? *We are interested in hearing how your organization is advancing supply chain resilience.*

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<sup>1</sup> World Bank, World Development Indicators, <https://databank.worldbank.org/source/world-development-indicators/>.

<sup>2</sup> U.S. Army Corps of Engineers, U.S. Waterborne Container Traffic by Port/Waterway, Waterborne Commerce of the United States, 2020, <https://usace.contentdm.oclc.org/digital/collection/p16021coll2/id/7439>.

<sup>3</sup> U.S. Department of Agriculture, "The Importance of Highways to U. S. Agriculture, December 2020, [https://www.ams.usda.gov/sites/default/files/media/Main\\_Highway\\_Report.pdf](https://www.ams.usda.gov/sites/default/files/media/Main_Highway_Report.pdf).

<sup>4</sup> U.S. Department of Transportation, National Freight Strategic Plan, September 2020, <https://www.transportation.gov/freight/NFSP/fullreport>.

## Changeis' Core Capabilities

### Enterprise Technology Solutions

In the age of digital business, organizations need highly flexible and responsive IT capabilities. This often means modernizing their legacy technology.

Changeis realizes large-scale IT transformation projects from conception to implementation — resulting in efficiency, automation and streamlined workflows through digital operations.

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