



U.S. Department of Transportation
Bureau of Transportation Statistics

Tracking Supply Chain Challenge through Collaboration

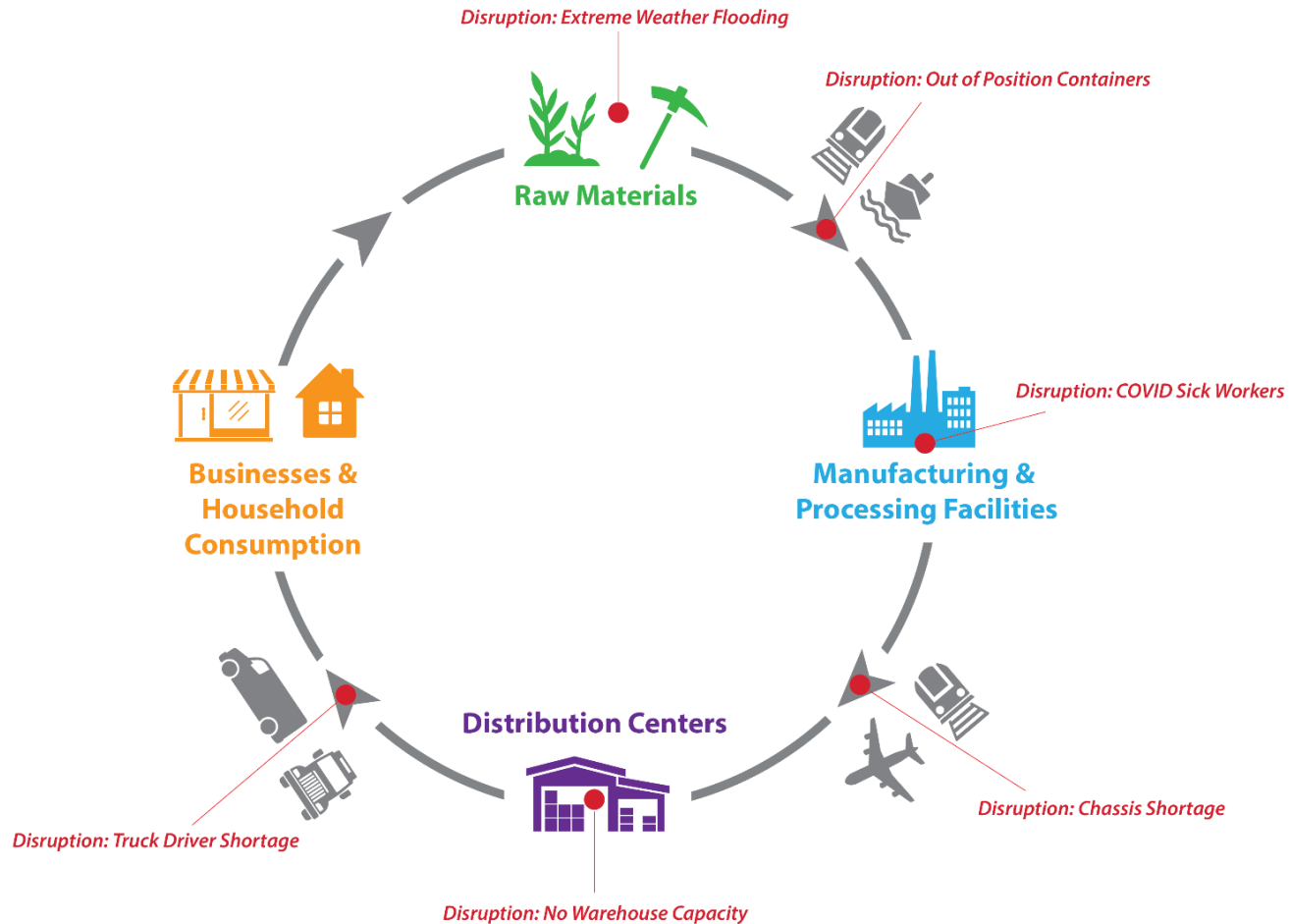
**Patricia Hu, Director
Bureau of Transportation Statistics**

December 3, 2021

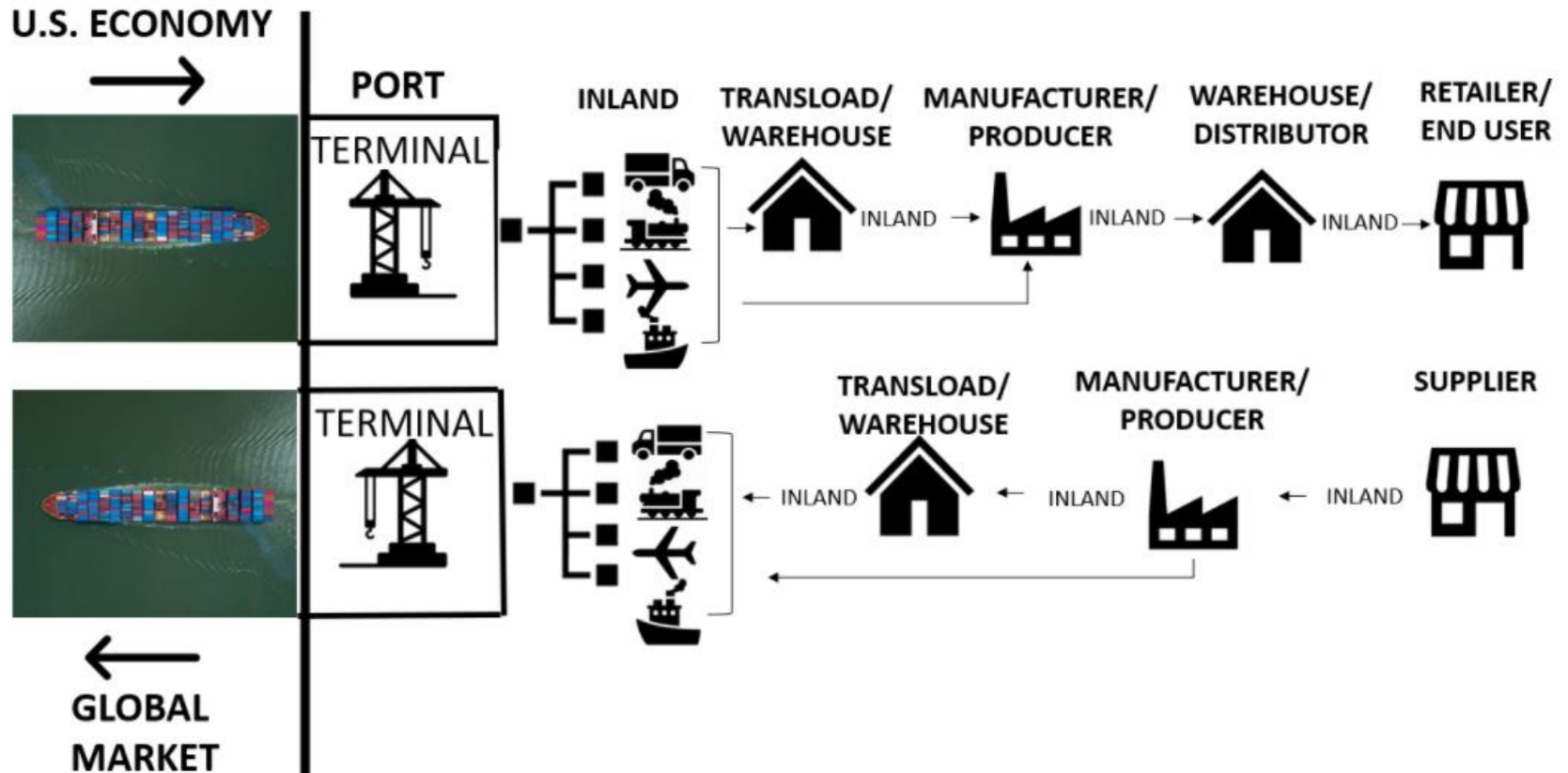
Timeline

- February 4, 2021. The President signed an [Executive Order](#) to strengthen the resilience of America's supply chains.
- June 8. the Administration announced Supply Chain Disruptions Task Force to address supply chain discontinuities and tasked USDOT to develop data to shed light on supply chains.
- June 9. An interagency working group was convened.
- June 15. The first Supply Chain Indicator Report was submitted, with 9 indicators.
- Today. The weekly report continues, now with more than 40 indicators.

Supply Chains are complicated and involve multiple stakeholders, private and public.



Complexity of Port Supply Chains



Source: International Trade Administration

Collaboration is crucial for rapid response and complete coverage



- MARAD
- FHWA
- FMCSA
- FRA
- BTS

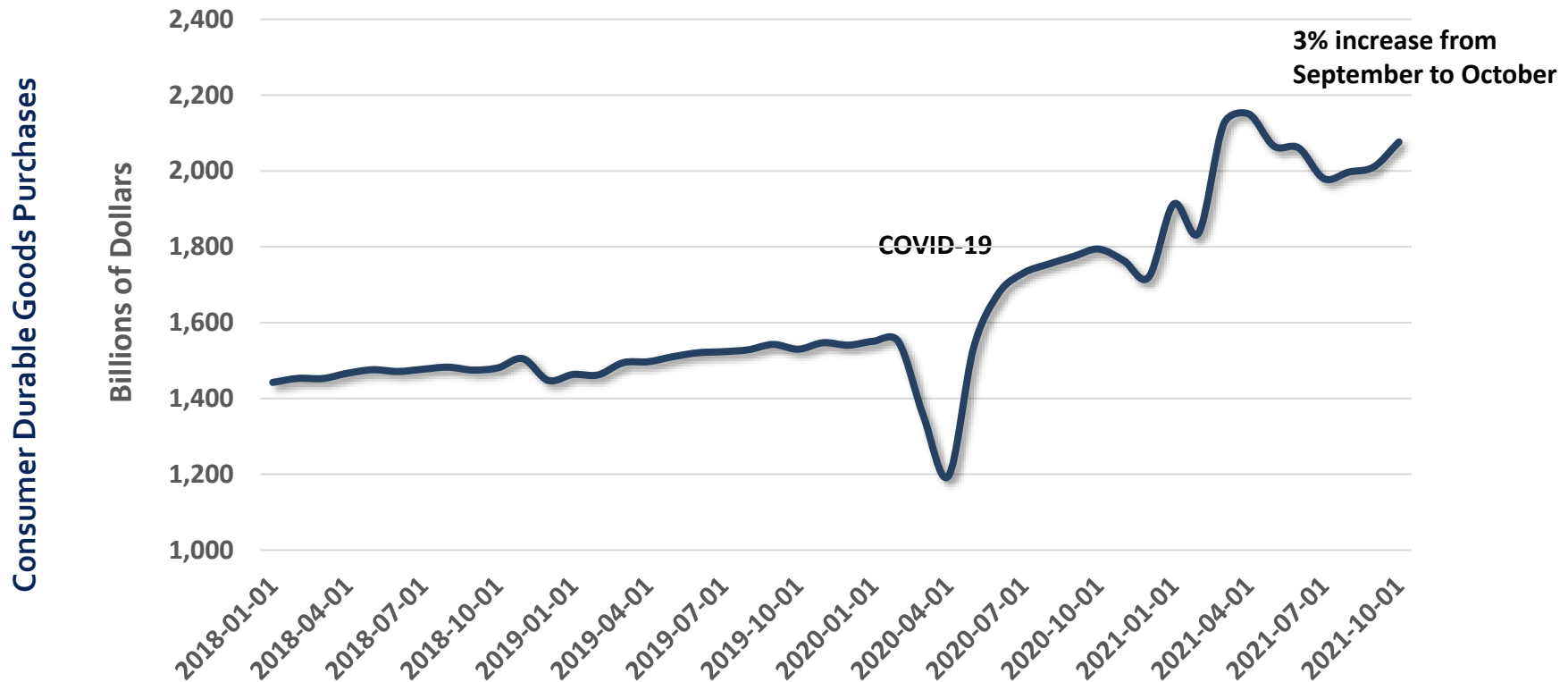
The Interagency Working Group

- Brainstormed to identify pertinent and meaningful supply chain indicators
- Shares responsibility of developing and updating indicators
- Continues to fill data gap from public and private sources
- Coordinates efforts across departments/agencies

Supply Chain Indicators

- **Five indicator categories to understand supply chain challenges:**
 1. Overall Goods Demand and Freight Movement
 2. Port Congestion – Inside Gate
 3. Transportation Congestion – Outside Gate
 4. Labor Shortage
 5. Market Tightness
- **Weekly update and publication**

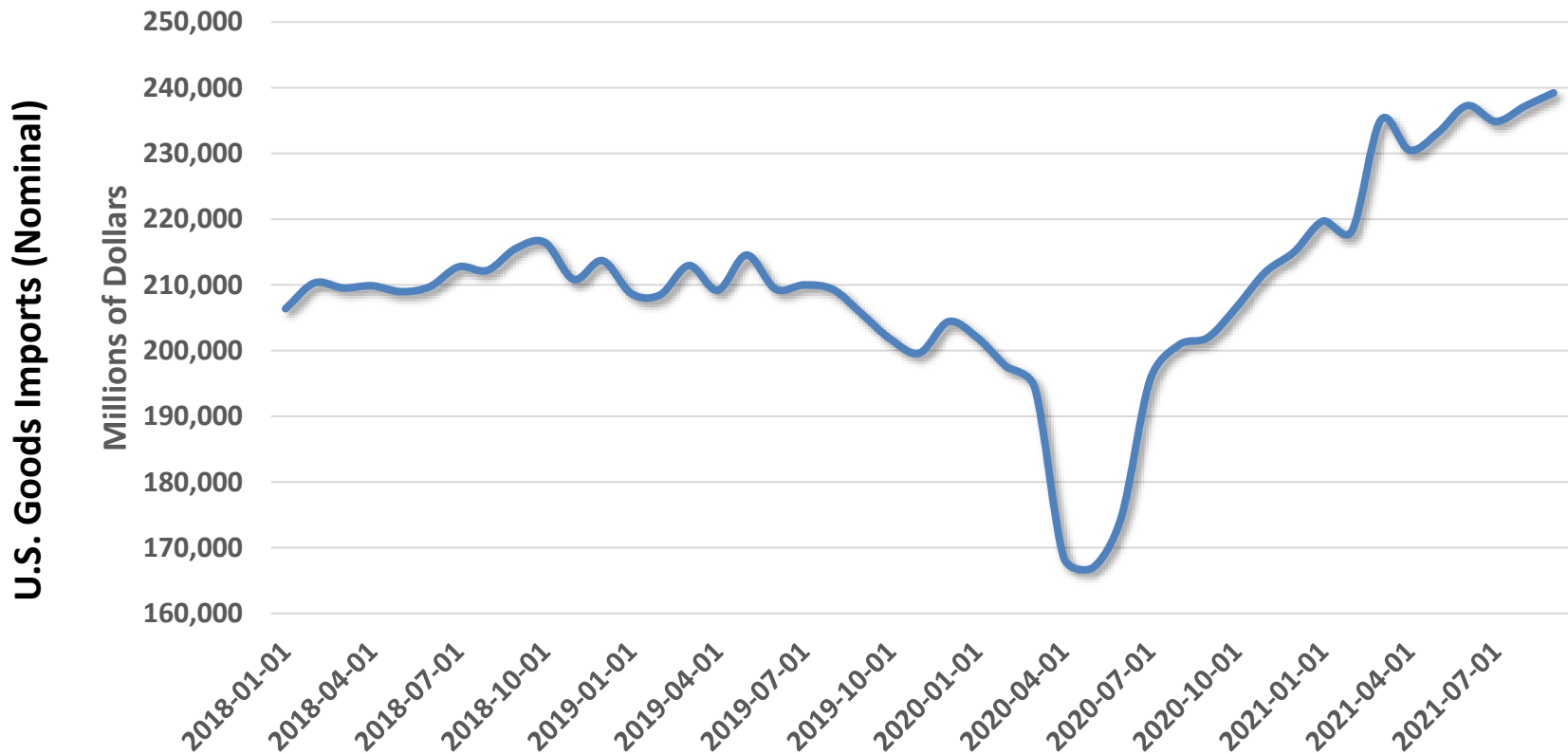
Multiple factors contribute to supply chain challenges, including (1) the higher demand on consumer goods



Source: U.S. Bureau of Economic Analysis, Personal Consumption Expenditures: Durable Goods

Contributing factors (cont'd):

(2) the higher demand on imported goods, greater stress on ports.



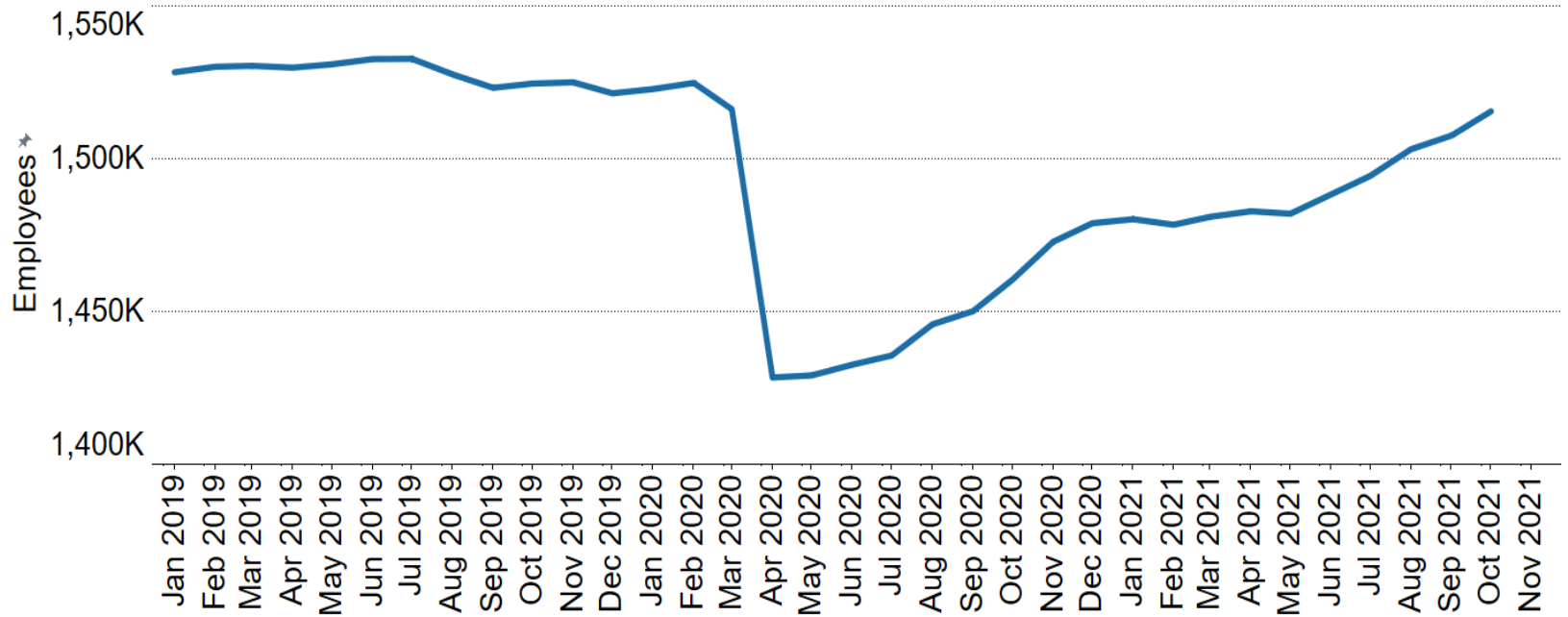
Source: U.S. Census Bureau and U.S. Bureau of Economic Analysis, U.S. Imports of Goods by Customs Basis from World

Contributing factors (cont'd):

(3) workforce shortage, including truck driver

Truck Transportation Employees on Non-Farm Payroll (Seasonally Adjusted)

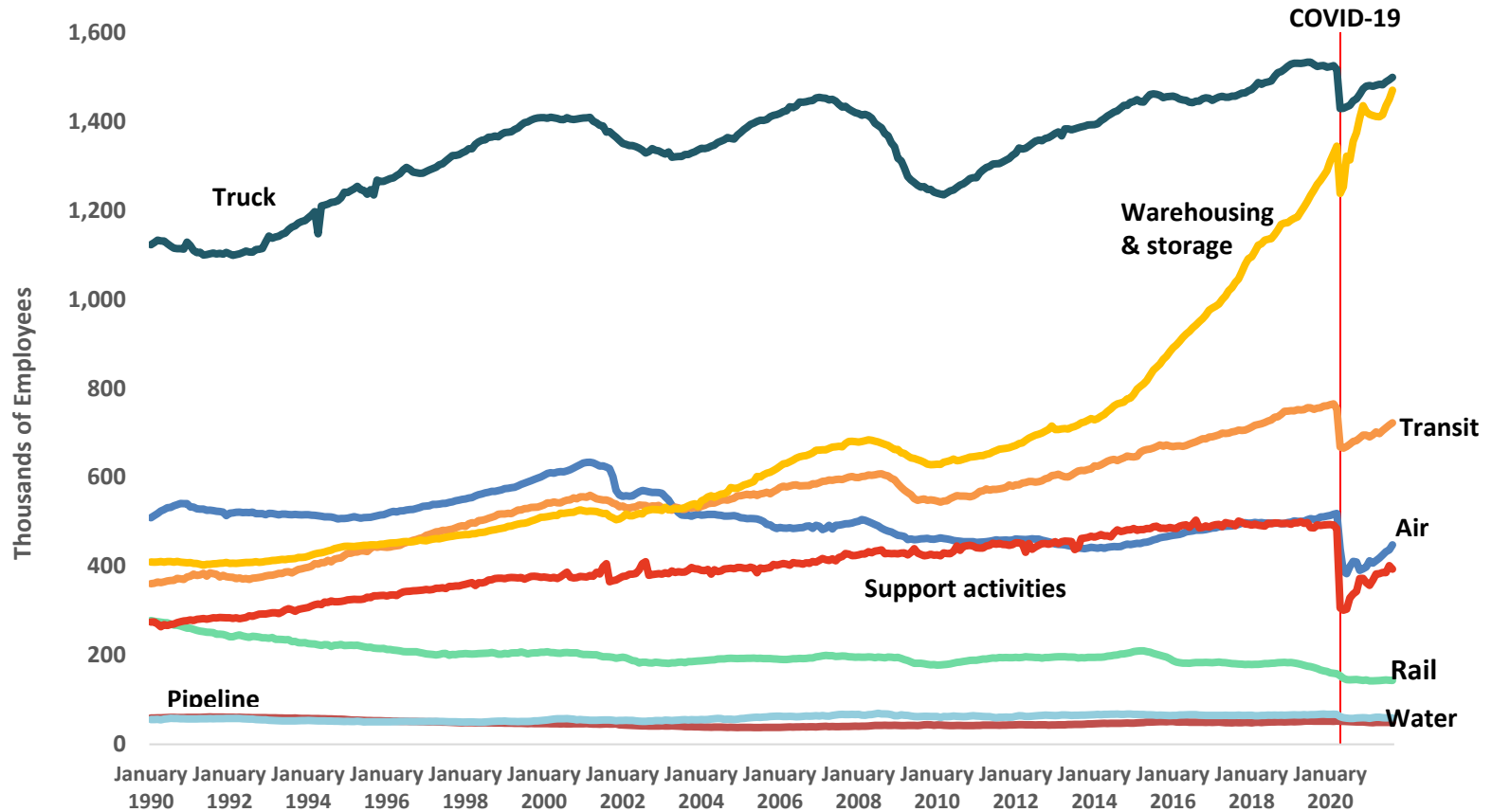
October 2021



Note: Data in this chart represent wage and salary workers only, and exclude owner operators and independent contractors.

Source: U.S. Bureau of Labor Statistics - Current Employment Statistics (CES)

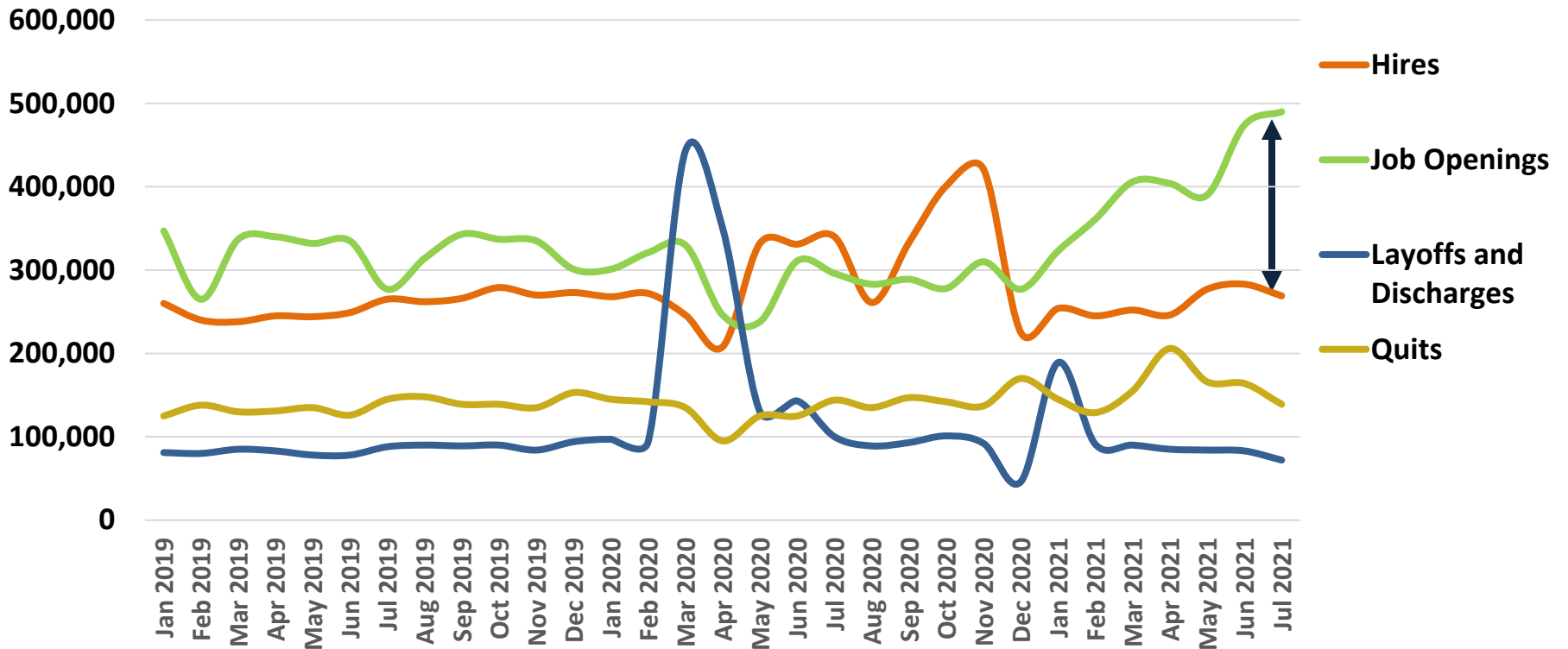
Transportation and Warehousing Sector employs 3-4% ($\approx 6M$) of total U.S. employment. About 10% drop in the first month of COVID-19.



Source: <https://data.bts.gov/stories/s/Employment-Transportation-and-Warehousing-Sector-T/2z63-wprv>

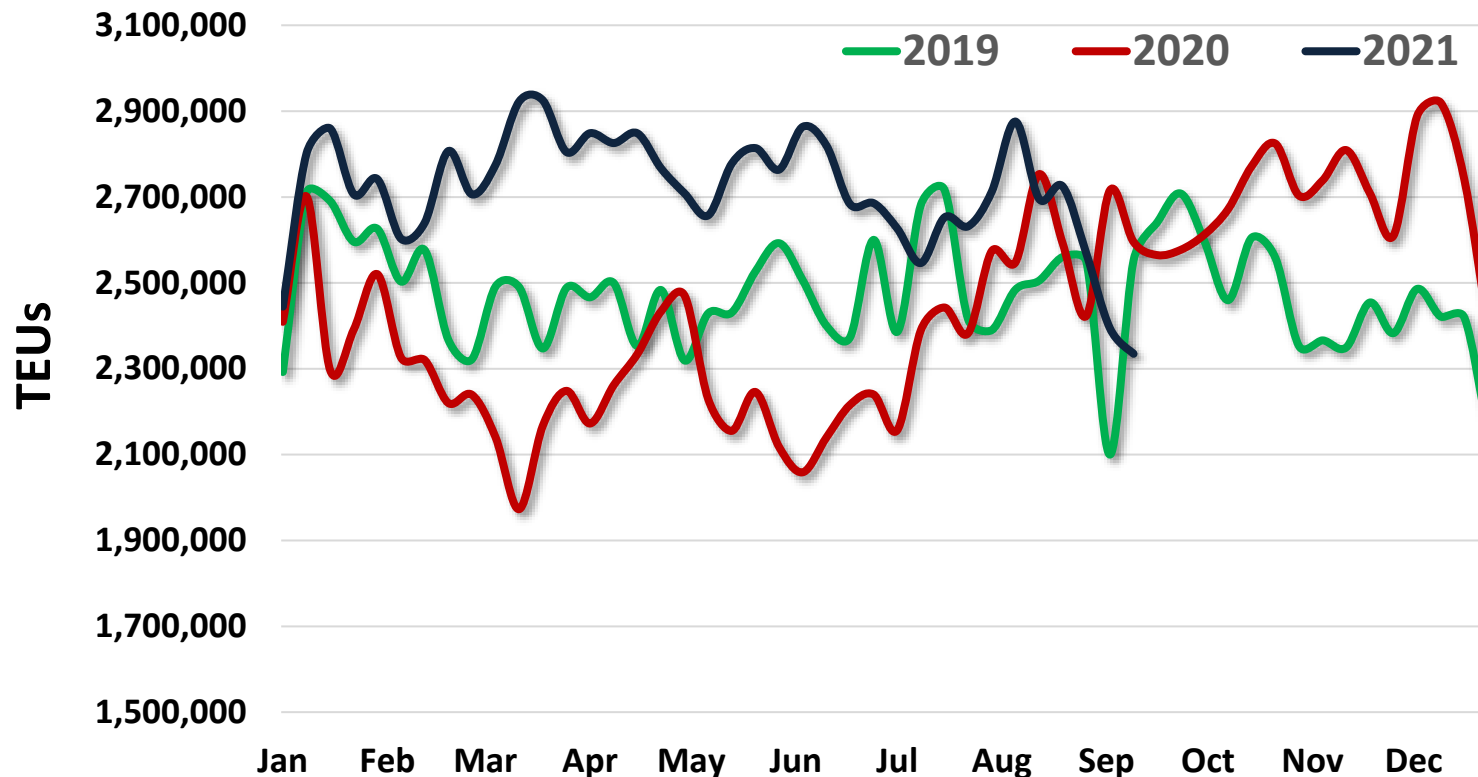
Many factors contribute to the gap between number of job openings and number of hires

Job Openings and Labor Turnover: Transportation, Warehousing, and Utilities Sector (Seasonally Adjusted)



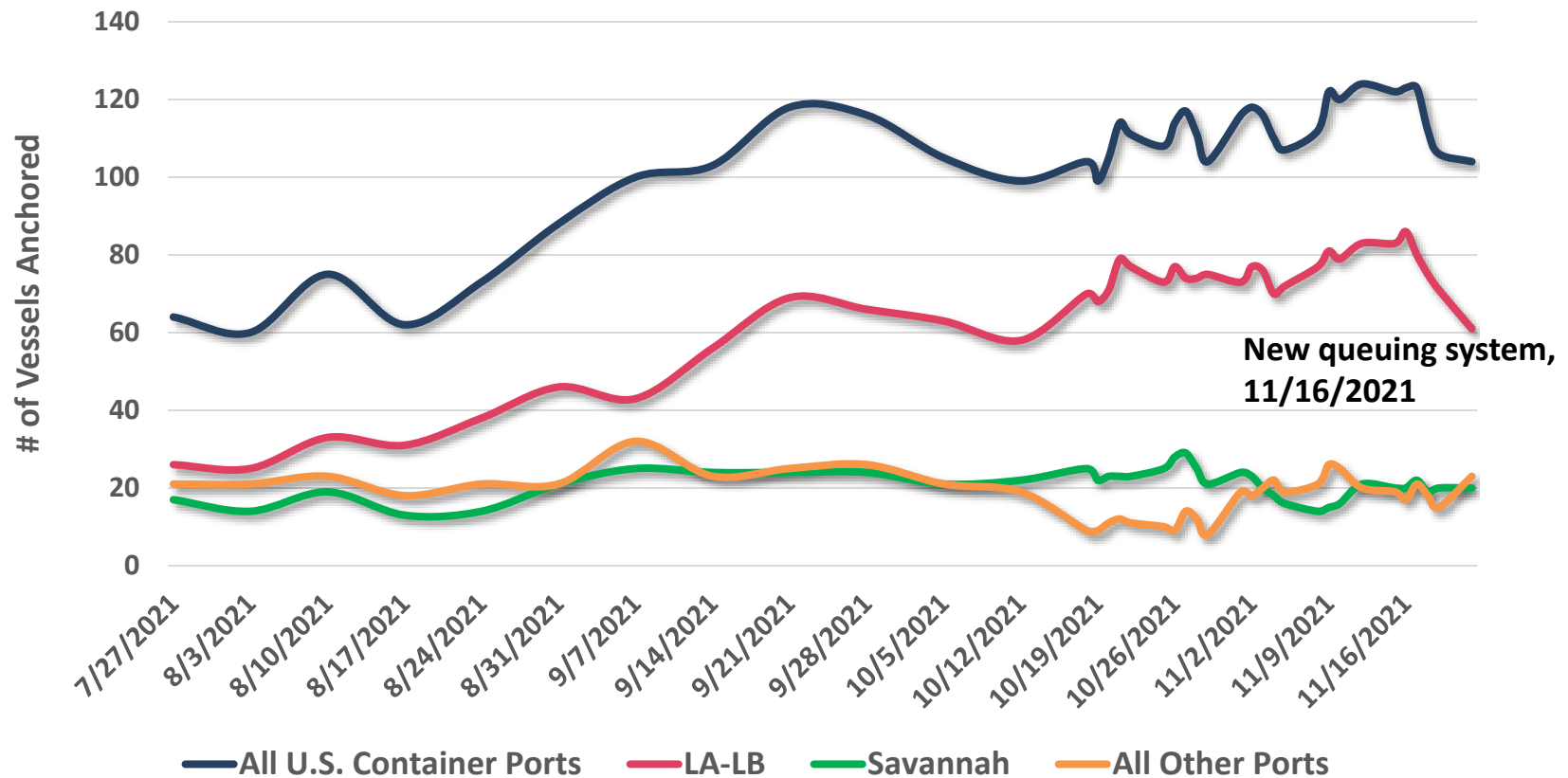
Source: Bureau of Labor Statistics. Job Opening and Labor Turnover Survey (JOLTS)

The capacity of containerships calling U.S. ports in 2021 was significantly higher than those in previous years



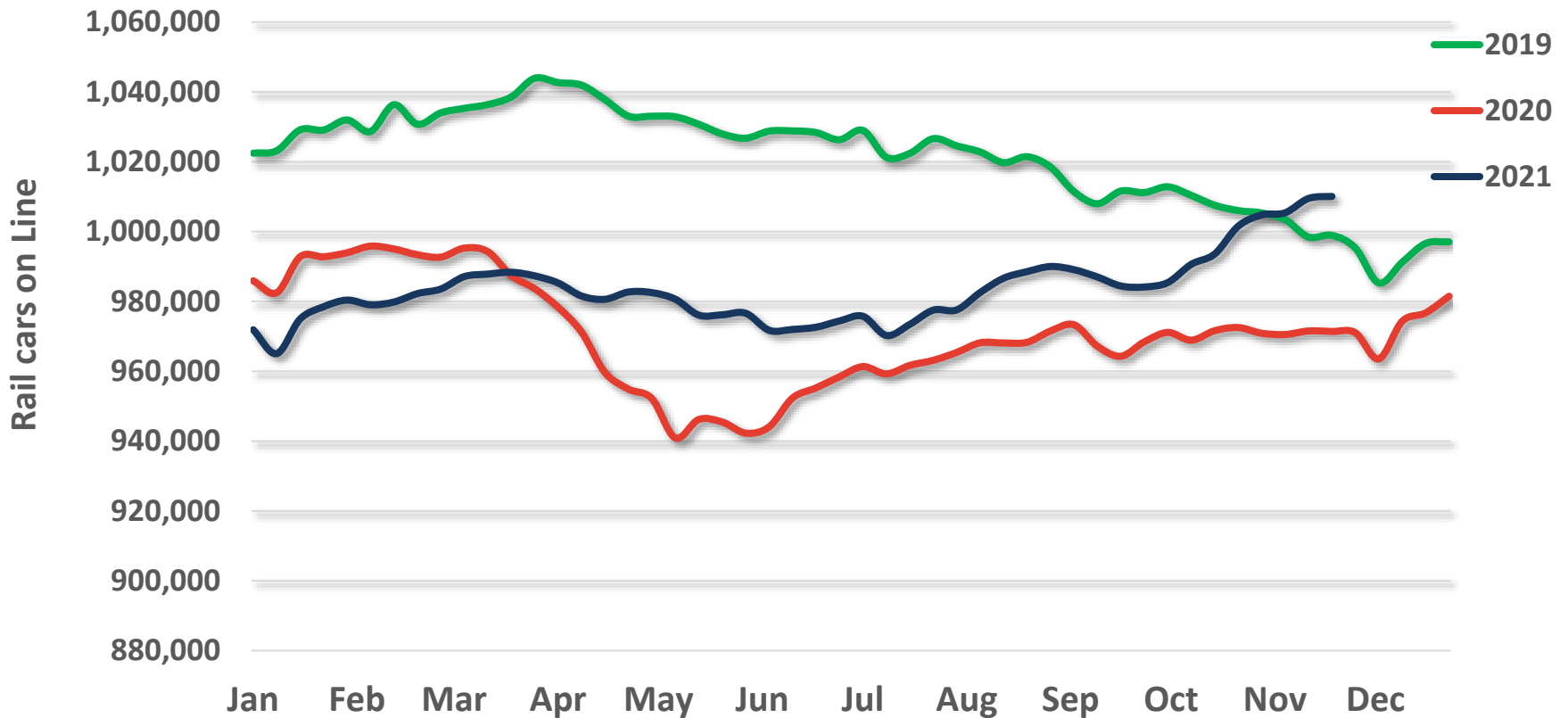
Source: MARAD Office of Policy and Plans analysis of AIS data

During the last 4 months, the number of containerhips anchored off US ports almost doubled when at its peak.



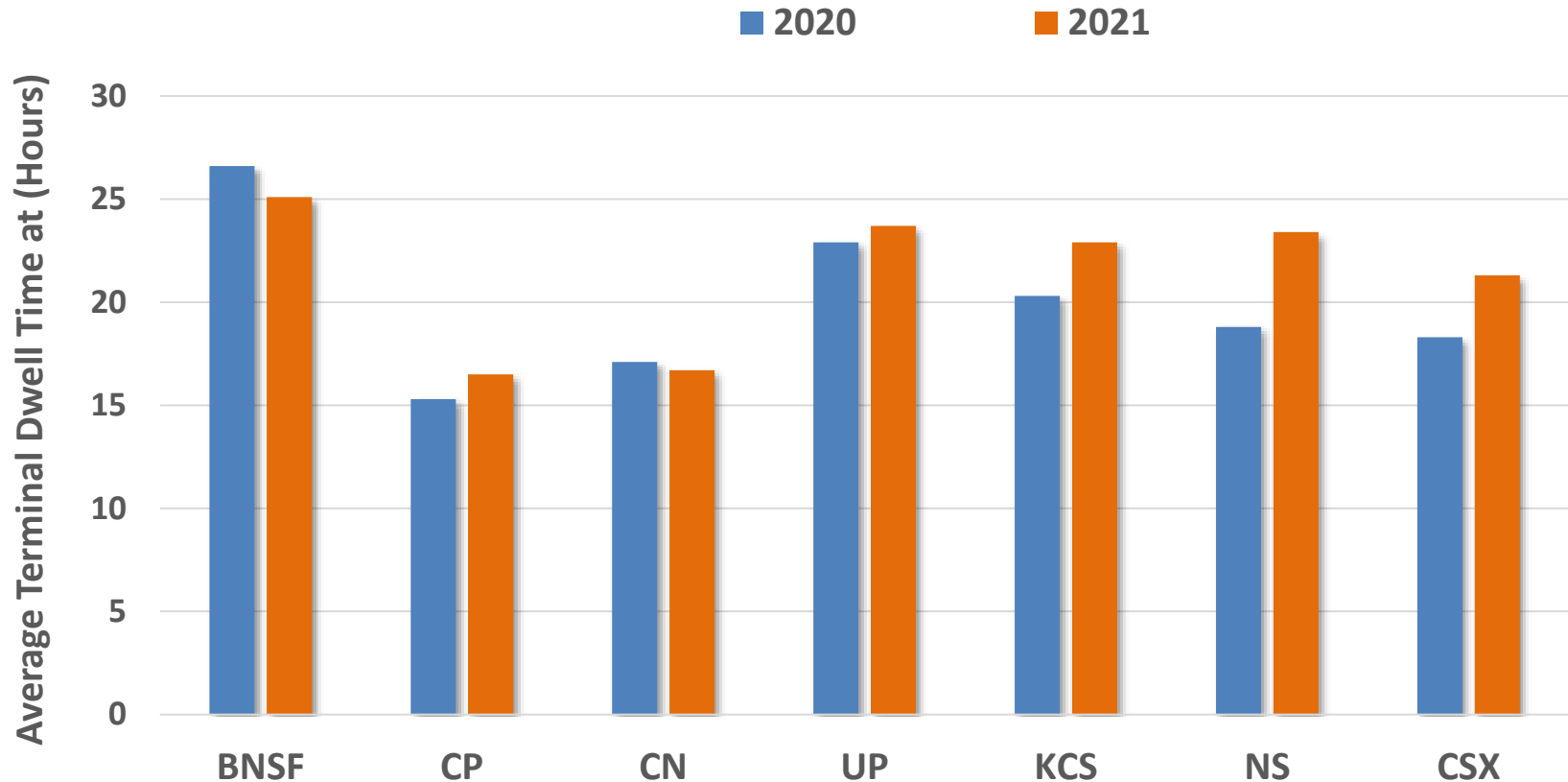
Source: MARAD Office of Policy and Plans analysis of AIS data. USDOT

Ports are not alone. Demand on freight railroads also increased, 2021 average surpassing 2019's.



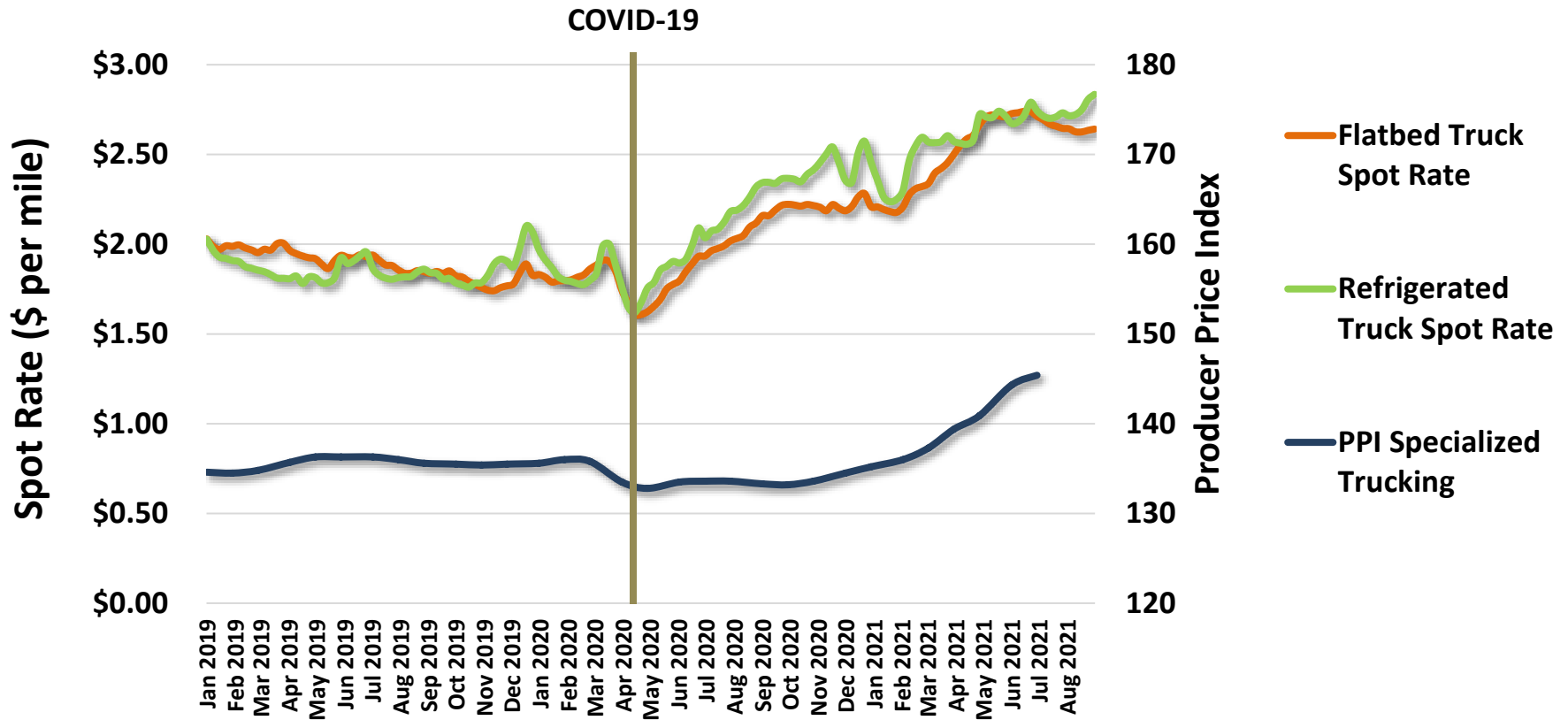
Source: Surface Transportation Board (STB)

System-wide Comparison of Average Terminal Dwell Time by Railroads



Source: Surface of Transportation Board.

Since the outbreak, per-mile freight costs have increase by 75%.

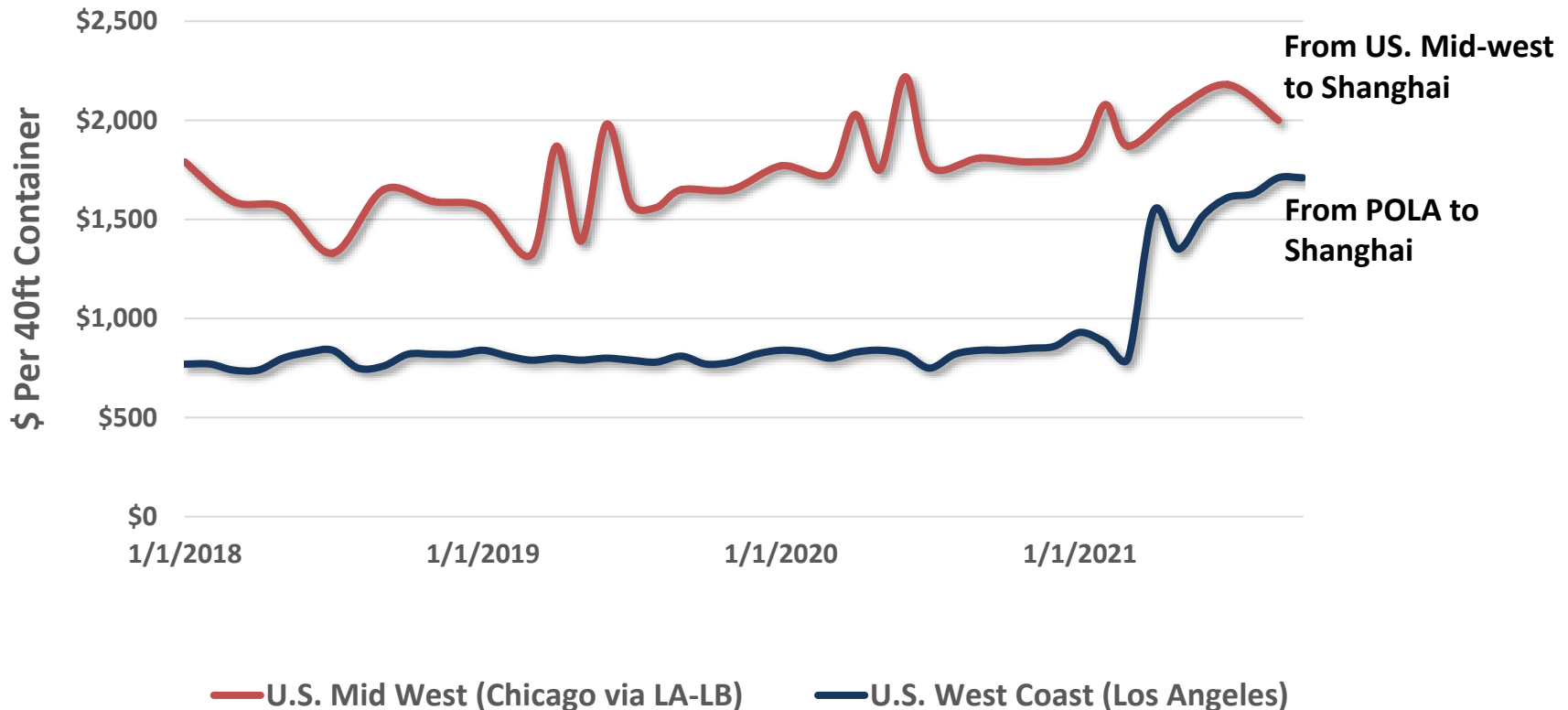


Notes: This data is for spot market trucking loads, which is approximately one-tenth of the overall common carrier trucking market. The data provider (DAT) is the largest clearinghouse for shipments that are not part of a pre-existing hauling contract. PPI Data are survey data collected monthly and indexed to 12/2003=100. Respondents provide data on Tuesday of the week containing the 13th of the month.

Sources: Spot Rates - DAT Freight and Analytics. PPI - Bureau of Labor Statistics.

Increases on ocean container freight rate vary by trade routes.

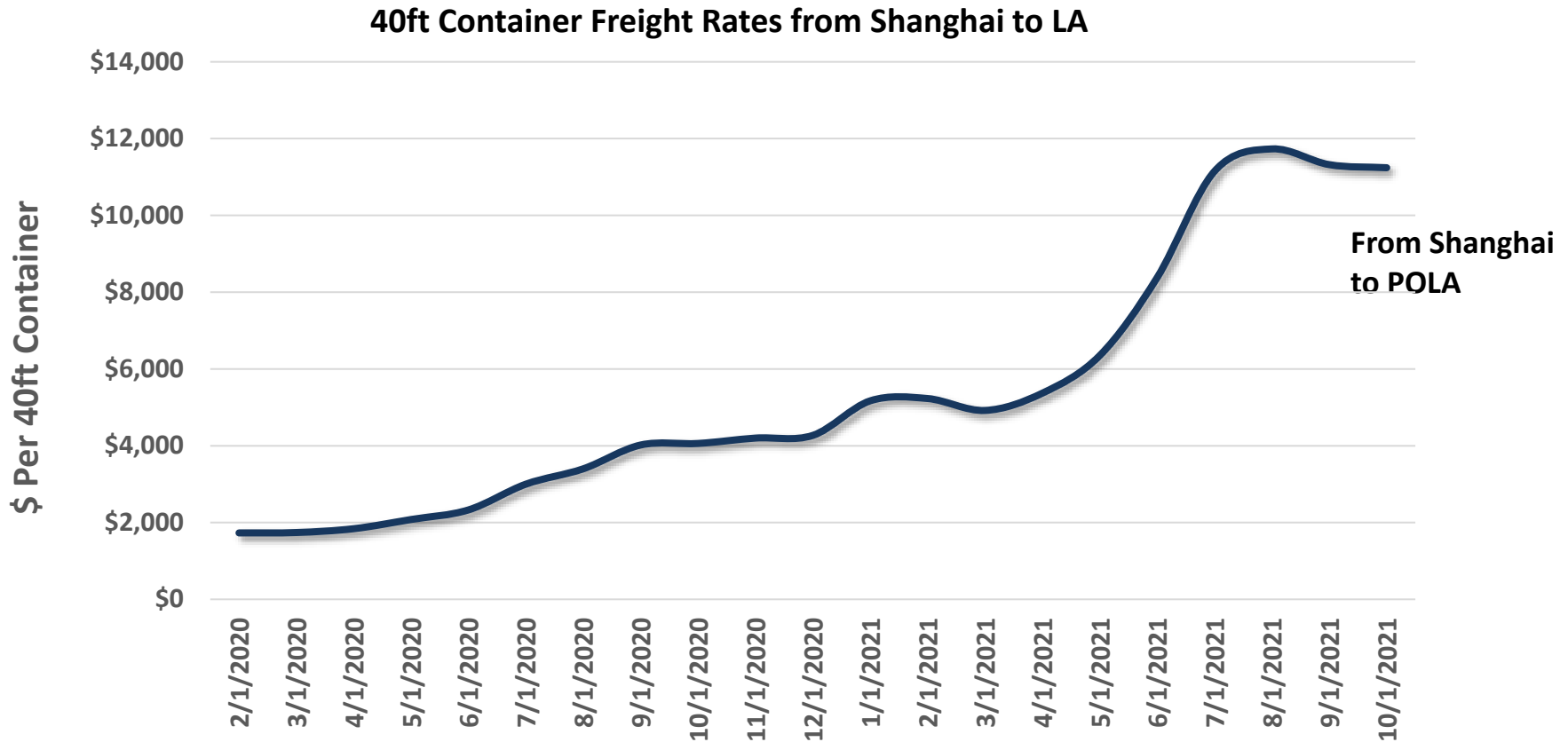
40ft Container Freight Rates to Central China (Shanghai)



Note: Spot ocean freight rates for a single container transaction in the selected westbound transpacific trade routes

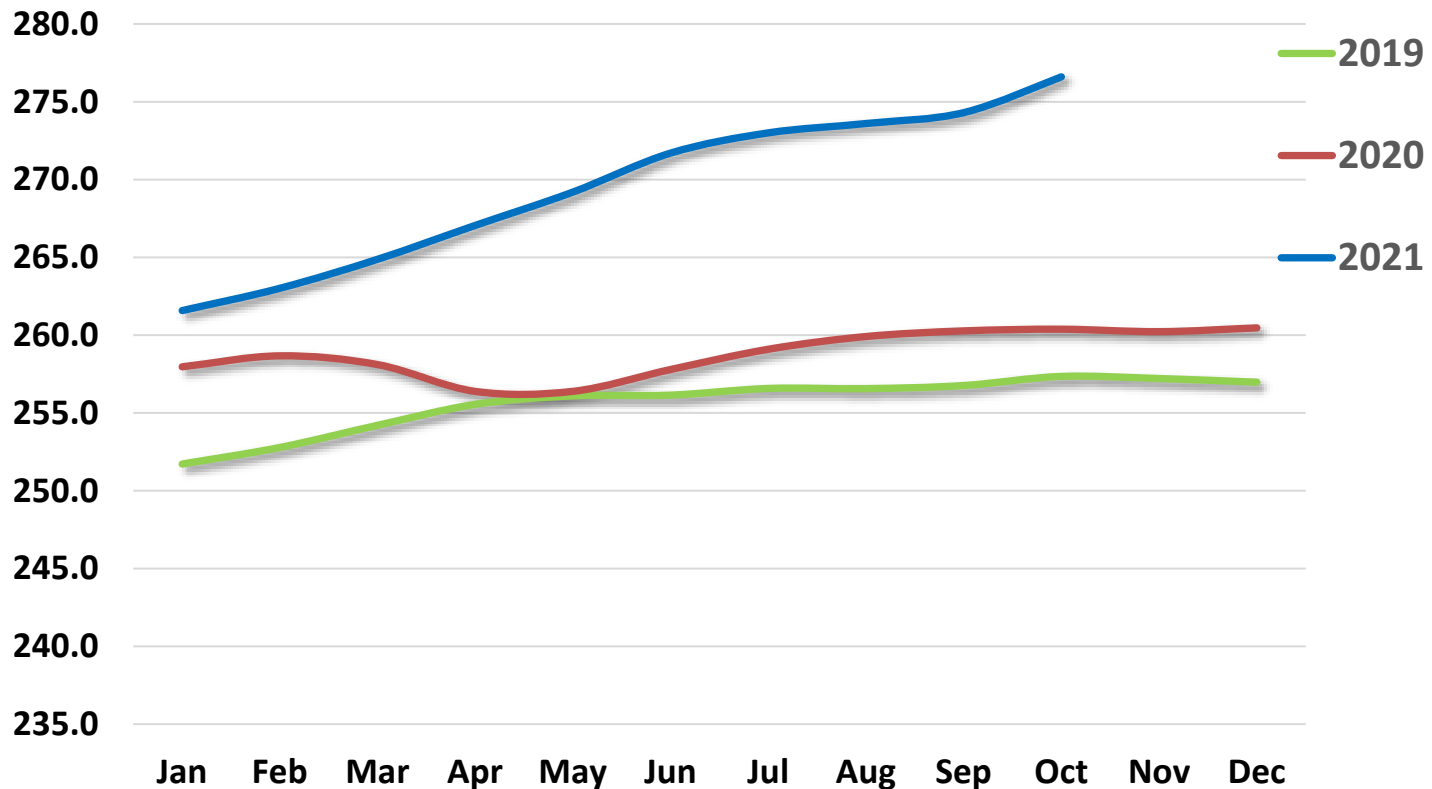
Source: U.S. Department of Agriculture, Agricultural Market Service, Container Ocean Freight Rates from Drewry Supply Chain Advisors' Container Freight Rate Insight

Increases on ocean container freight rate vary by trade lanes (cont'd).



Source: U.S. Department of Agriculture, Agricultural Market Service, Container Ocean Freight Rates from Drewry Supply Chain Advisors' Container Freight Rate Insight

Freight cost increases impacts consumers through consumer price increase, 15 points since January.



Sources: <https://www.bls.gov/cpi/data.htm>, CPI for All Urban Consumers (CPI-U). Data extracted on: November 30, 2021.

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