



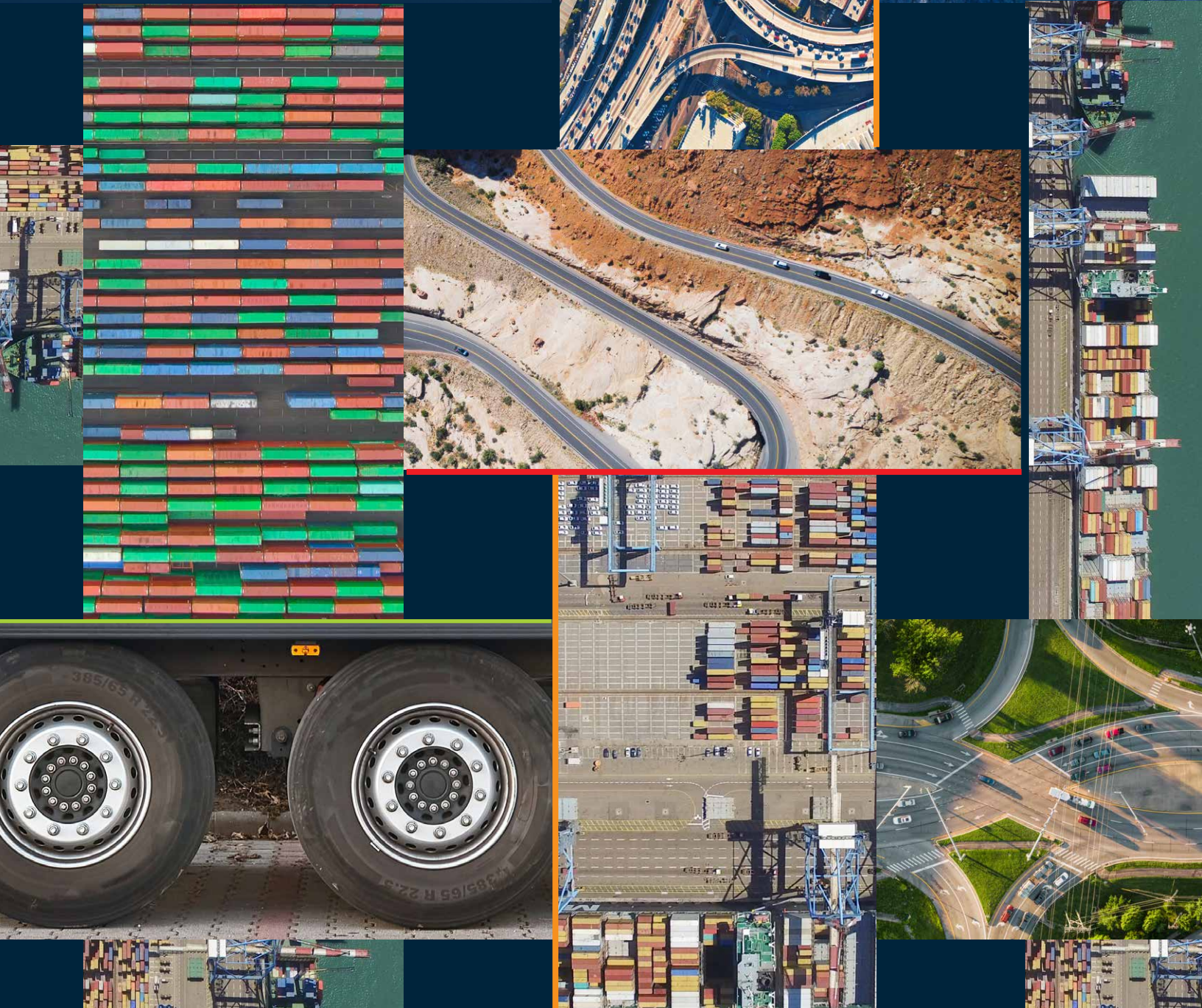
# Supply Chain Assessment of the Transportation Industrial Base: Freight and Logistics

## Executive Summary

February 2022



U.S. Department of Transportation





# Executive Summary

Our national economic strength and quality of life depend on the safe and efficient movement of goods throughout our nation's borders and beyond. Supply chains—the interconnected webs of businesses, workers, infrastructure processes, and practices that underlie the sourcing, manufacturing, transportation, and sale of goods—are vital to our everyday lives. In the past they have been invisible to consumers, but the pandemic and its consequences have made clear their vital importance to our daily lives, livelihoods, and basic day-to-day convenience and well-being.

To perform well, supply chains require success in transportation, in production, and in sourcing. Americans pay lower prices and face fewer disruptions when goods move efficiently and reliably and businesses and consumers have predictable access to goods and materials. Americans benefit when we bring manufacturing jobs, production, and sourcing to the United States rather than outsourcing them abroad. Onshoring can drive down prices, add resilience, and let America own the industries of the future. When supply chains are disrupted by events such as public health crises, extreme weather, workforce challenges, or cyberattacks, goods are delayed, costs increase, and Americans' daily lives are affected. While these disruptions cannot be avoided altogether, we can build supply chains that nimbly and effectively respond to minimize interruptions and keep goods moving under all conditions.

The Administration has taken aggressive action to respond to supply chain disruptions stemming from the current pandemic. But even before these disruptions worsened over the course of the past year, the President issued Executive Order 14017<sup>1</sup> calling for a review of the transportation and logistics industrial base. These recommendations are meant not only to respond to the current disruptions, but to stand the test of time by building supply chains resilient to future disruptions, in whatever form they take.



# Building Resilient Supply Chains to Address Disruptions

While the COVID-19 pandemic has highlighted and intensified challenges in global supply chains, this is not a new phenomenon. America's supply chains have faced mounting challenges for several decades, including:

- Growing freight demand.
- Changing consumer preferences, including demand for rapid delivery.
- Attracting, training, and retaining a qualified workforce.
- Increasingly complex, global supply chains where many products are manufactured abroad.
- Rising frequency of disruption caused by climate change.
- Adapting to new technology while maintaining security.

Over the past two years, the pandemic has compounded these issues and caused temporary port closures, worker and equipment shortages, increased levels of congestion and delay, and led to fluctuating prices. Significant progress has been made to address the disruptive effects of the COVID-19 pandemic, but many challenges remain. To guard against the impacts of future disruptions over the long term, we must enhance our nation's supply chain resilience.

*Resilience* refers to the ability of a system to adapt to changing conditions as well as withstand and rapidly recover from disruption (see Figure ES-1). Building the resilience of supply chains requires Federal leadership to coordinate efforts across a wide range of freight and logistics stakeholders. As these efforts progress, we must also recognize that more resilient supply chains should recognize and mitigate long-standing pollution and economic issues that negatively impact communities of color, low-income, and indigenous communities. The workforce on which a resilient supply chain is built is drawn heavily from these vulnerable communities.



**Figure ES-1: Properties of a Resilient System**



#### **Properties of Resilient Systems**

Resilient systems exhibit several key properties. They have access to **diverse** components (e.g., materials, suppliers, carriers, and routes) that provide **redundancy** in case one component in the system fails. They are also highly **connected** yet secure, **flexible**, and **adaptive** to enable easy transitions from one component to another when needed. Finally, they are capable of being quickly **repaired** or restored to limit the duration of any one disruption.

Source: USDOT John A. Volpe National Transportation Systems Center, (no date).

## **Responding to Current Supply Chain Disruptions**

The U.S. Department of Transportation (USDOT) developed this Freight and Logistics Supply Chain Assessment in response to Executive Order 14017: America's Supply Chains. The Biden-Harris Administration identified that the COVID-19 pandemic was putting America's supply chains to the test and issued this Executive Order in February 2021 to better understand this important issue and develop a coordinated Federal response.

The Administration has actively coordinated with private industry and State and local government to understand on-the-ground conditions and determine how best to employ Federal Government policy levers to address disruptions. The Administration created a Supply Chain Disruptions Task Force convening key stakeholders representing ports, labor, the trucking industry, and affected businesses, and assigned a Special Ports Envoy to help advance short-term actions. In recent months, Federal leadership has resulted in significant improvements, including:



- Achieving commitments from the Ports of Los Angeles and Long Beach—which handle 40 percent of our country’s containerized imports—labor, and our largest retailers to move toward a 24/7 supply chain system to unlock bottlenecks.
- Reducing the number of long-dwelling containers at the Ports of Los Angeles and Long Beach by 65 percent through a new fee on ocean carriers leaving import containers at the ports for too long.
- Working with the Georgia Ports Authority to address congestion at the Port of Savannah through a \$7 million investment in “pop-up” inland ports that help relieve capacity in Savannah and have led to decreases in container dwell times and the number of ships at anchor outside the port.
- Working with the U.S. Department of Agriculture (USDA) and the Port of Oakland to invest in pop-up container yards to help reduce congestion caused by empty containers and make it easier for agricultural exporters to utilize the empties.
- Launching a Trucking Action Plan to both recruit more truck drivers and improve the quality of existing jobs to retain more drivers in the profession. This includes partnering with the Department of Labor (DOL) on a Registered Apprenticeship Program, a pilot program for truck drivers between the ages of 18-21, which incorporates Registered Apprenticeships to ensure safety through rigorous training standards, driver compensation studies, a driver leasing task force, and more.
- Providing a toolkit to States detailing specific actions that can be taken to expedite the licensing of commercial drivers and announcing over \$30 million in funding to support this effort.
- Developing a “fast pass” system to expedite global transportation of essential medical products.

To complement these near-term actions, this Supply Chain Assessment addresses longer-term resilience challenges facing the American transportation industrial base and supply chains; it also makes policy recommendations to strengthen these systems. The Assessment draws on lessons from the Administration’s current efforts as well as extensive public and private stakeholder outreach. It also highlights ways in which the Administration is leveraging new resources made available through the historic [Bipartisan Infrastructure Law \(BIL\)](#) to make significant investments in ports and improve supply chain resilience.



The recommended policy responses described in detail in this report spotlight a range of actions that USDOT envisions as supporting a resilient 21<sup>st</sup>-century freight and logistics supply chain for America, including:

- Investing in freight infrastructure, such as ports, bridges, and railroads, to enhance capacity and connectivity.
- Providing technical assistance to support the planning and coordination of freight investments and operations and supporting the workers employed in this sector.
- Improving data and research into supply chain performance.
- Strengthening and streamlining governance to improve efficiency, build the workforce, increase competitiveness, and reduce safety and environmental risks.
- Partnering with stakeholders across the supply chain, including coordination with both the public and private sector.

## Roles of the Federal Government and Its Partners

The Federal Government, and USDOT specifically, must play a leadership role in building the long-term resilience of America's supply chains, but a robust response will require action by a wide range of Federal, State, and local agencies and the private sector. In some cases, robust action may take acts of Congress to reform laws and provide funding. In the near term, the Federal Government can provide leadership by convening stakeholders across the freight and logistics industry to coordinate actions in response to current congestion and build a foundation for long-term supply chain resilience.

The collective focus on ensuring a safe and efficient supply chain necessary to support the multiple goals articulated in this report must also include critical stakeholders in communities affected by the pollution that results from the movement of freight. Many communities, especially majority-minority and low-income communities, are already overburdened with health, environmental and quality of life impacts from pollution sources related to movement of freight through various transportation modes. The [Community Port Collaboration Toolkit](#) and other resources offered through the Environmental Protection Agency's (EPA's) Ports Initiative program can help support effective and meaningful communication and engagement between freight and logistics stakeholders and members of these impacted communities to promote environmental justice while developing a more resilient supply chain.

Table ES-1 describes policy roles to strengthen supply chain resilience. These roles include: infrastructure investment; planning and technical assistance; research and data; rules and regulations;



and coordination and partnership with non-Federal stakeholders. The roles are also paired with specific policy goals detailing how these elements support resilient supply chains.

**Table ES-1: Federal Role in Addressing Supply Chain Disruptions: Policy Roles and Goals**

Federal Policy Roles	Policy Goals
<b>Infrastructure Investment:</b> Identify and prioritize freight needs and provide funding for investments	<ul style="list-style-type: none"> <li>• Identify and fund freight system and capacity needs</li> <li>• Address supply chain bottlenecks</li> <li>• Reduce emissions and mitigate climate change impacts</li> </ul>
<b>Planning and Technical Assistance:</b> Support State and local agencies to address supply chain challenges	<ul style="list-style-type: none"> <li>• Strengthen public sector freight planning and knowledge</li> <li>• Mitigate freight impacts on communities</li> <li>• Improve supply chain security</li> <li>• Strengthen freight workforce and development</li> </ul>
<b>Research and Data:</b> Improve supply chain data and develop tools and best practices to quickly diagnose and address disruptions	<ul style="list-style-type: none"> <li>• Increase understanding of supply chain performance</li> <li>• Improve transparency of supply chain data</li> <li>• Improve data sharing capabilities</li> </ul>
<b>Rules and Regulations:</b> Streamline regulations, improve competition and fairness, and reduce health, safety, and environmental risks	<ul style="list-style-type: none"> <li>• Increase freight capacity and efficiency</li> <li>• Support domestic production of critical equipment</li> <li>• Reduce bureaucratic inefficiencies</li> <li>• Strengthen market competition and fairness</li> <li>• Speed disaster response and recovery</li> </ul>
<b>Coordination and Partnerships:</b> Support cross-sector, multijurisdictional, and multimodal coordination to address supply chain resilience	<ul style="list-style-type: none"> <li>• Convene supply chain stakeholders to enhance USDOT's supply chain work</li> <li>• Support the actions of non-Federal partners through continued coordination</li> </ul>

## Recommendations for Resilient Supply Chains

To address the supply chain challenges and vulnerabilities that this Assessment identified, USDOT has identified a host of policy recommendations to resolve current disruptions and build more resilient supply



chains for the future. Tables ES-5 through ES-9 summarize the Assessment's recommendations, which are also discussed in greater detail in Section 4 of this report. The recommendations are also characterized by their expected level of complexity and cost to implement, as well as the magnitude of their potential impact (see Tables ES-2, ES-3, and ES-4, below, for how these are defined). Each recommendation also notes the approximate time frame for completion (e.g., near-term (0-2 years), medium-term (3-5 years), and long-term (5+ years)). The table also identifies the Federal and other public and private sector parties that would be involved in implementing the recommendation, along with any transportation modes (trucking, rail, or maritime) or industry (logistics) that would be specifically affected by those actions.

**Table ES-2: Recommendation Implementation: Impact**

Moderate	High	Highest
<ul style="list-style-type: none"> <li>• Actions that are more targeted in scope to existing/near-term supply chain challenges</li> </ul>	<ul style="list-style-type: none"> <li>• Actions that address current challenges and are expected to address future supply chain and logistics challenges over the next 10 years</li> </ul>	<ul style="list-style-type: none"> <li>• Actions that have wide-ranging scope beyond the immediate supply chain challenges and will influence policymaking around supply chains and logistics for decades to come</li> </ul>

**Table ES-3: Recommendation Implementation: Cost**

\$ (Low)	\$\$ (Medium)	\$\$\$ (High)
<ul style="list-style-type: none"> <li>• One-time, low levels of funding and/or staff time required</li> </ul>	<ul style="list-style-type: none"> <li>• One-time, higher levels of funding and/or staff time</li> <li>• Recurring/sustained programming, low-medium levels of funding and/or staff time required</li> </ul>	<ul style="list-style-type: none"> <li>• Significant, recurring/sustained programming, medium-high levels of funding and/or staff time required</li> </ul>



**Table ES-4: Recommendation Implementation: Level of Complexity**

Low	Medium	High
<ul style="list-style-type: none"> <li>• One-off studies, plans, or reports</li> <li>• Actions that can occur under existing authorities and funding</li> <li>• Actions that can be taken by a single agency</li> <li>• Low-level coordination and communication efforts</li> </ul>	<ul style="list-style-type: none"> <li>• New policies, regulations, or processes</li> <li>• Sustained coordination efforts, working groups, etc.</li> <li>• Actions involving some interagency and inter-governmental coordination</li> </ul>	<ul style="list-style-type: none"> <li>• New datasets, tools, or systems</li> <li>• New data standards and/or harmonization</li> <li>• Congressional action required</li> <li>• Actions involving significant interagency and inter-governmental coordination</li> </ul>

**Table ES-5: Infrastructure Investment Policy Recommendations**

Policy Goal: Identify and fund freight system and capacity needs			
No.	Policy Recommendation	Impact	Actor(s)
1	<p>Use funds provided under the Bipartisan Infrastructure Law (BIL) to invest in projects (including identified projects of national and regional significance) that support supply chain resilience, promote domestic manufacturing, plan for future growth, and address intermodal and inland storage capacity needs while simultaneously reducing existing environmental justice issues that freight infrastructure may create on adjacent communities.</p> <p>Complexity: Medium</p> <p>Cost: \$ \$ \$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	Highest	USDOT, DOC



Policy Goal: Identify and fund freight system and capacity needs			
No.	Policy Recommendation	Impact	Actor(s)
2	<p>Invest in Intelligent Transportation Systems (ITS) infrastructure to enhance port and trucking operations.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): Trucking, Maritime</p>	High	USDOT
3	<p>Invest in the inland waterway system to enhance its performance and capacity.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): Maritime</p>	High	USDOT, USACE, USDA
4	<p>Coordinate with States, local governments, and port authorities, as well as Federal partners such as the Department of Defense (DoD), to identify temporary solutions to ease congestion, such as “pop-up” intermodal yards.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Rail, Trucking</p>	Moderate	USDOT, DoD, DOC, States, Local gov'ts, Port authorities



Policy Goal: Reduce emissions and mitigate climate change impacts			
No.	Policy Recommendation	Impact	Actor(s)
5	<p>Invest in battery electric, hybrid equipment, and zero-emission fueling infrastructure to combat climate change and further reduce emissions of dangerous pollutants such as diesel particulate matter in adjacent communities that suffer a disproportionate impact from goods movement related activities.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking, Maritime</p>	High	USDOT, DOE, EPA
6	<p>Invest in mitigating freight impacts on adjacent communities.</p> <p>Complexity: Medium</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	Highest	USDOT
Policy Goal: Address supply chain bottlenecks			
No.	Policy Recommendation	Impact	Actor(s)
7	<p>Explore the potential to increase U.S.-flagged ships, shipping companies, and shipbuilding.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): Maritime</p>	High	USDOT, DOC, Congress
8	<p>Support State DOTs and the private sector to develop and implement strategies that expand truck parking availability consistent with local land use considerations and address safety of rest areas.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking</p>	High	USDOT, State DOTs, Private sector



Policy Goal: Address supply chain bottlenecks			
No.	Policy Recommendation	Impact	Actor(s)
9	<p>Explore the feasibility of financial incentives to improve warehousing capabilities.</p> <p>Complexity: Medium</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Logistics</p>	Moderate	USDOT, Congress, Private sector

**Table ES-6:** Planning and Technical Assistance Policy Recommendations

Policy Goal: Strengthen public sector freight planning and knowledge			
No.	Policy Recommendation	Impact	Actor(s)
10	<p>Implement BIL's freight policy and planning provisions with an emphasis on supporting supply chain resilience in the United States consistent with/aligned with other Administration priorities surrounding climate, equity, etc.</p> <p>Complexity: Low</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Highest	USDOT
11	<p>Update USDOT's existing guidance on State Freight Plans.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, States



Policy Goal: Strengthen public sector freight planning and knowledge			
No.	Policy Recommendation	Impact	Actor(s)
12	<p>Work with States, Metropolitan Planning Organizations (MPOs), and municipal freight planners to strengthen freight planning and supply chain expertise across the United States. These efforts should include supporting meaningful community engagement in State and local decision-making with a focus on equitable and just outcomes from investments and improvements.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT, DOC, States, MPOs, Local gov'ts
13	<p>Provide guidance to States and local governments on implementing measures to protect freight routes and industrial lands.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	Moderate	USDOT, States, Local gov'ts
14	<p>Continue USDOT support of and investment in training, research, and other technical support initiatives to assist those seeking to plan, develop, and implement projects and programs that can facilitate efficient supply chains.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USDOT



Policy Goal: Strengthen freight workforce and development			
No.	Policy Recommendation	Impact	Actor(s)
15	<p>Support the unionized labor force to ensure maintenance and further development of the skills and expertise necessary to support the efficient flow of freight in the future as well as to work through labor-management partnerships to support talent development and retention.</p> <p>Complexity: Low</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOL
16	<p>Support workforce public health and public health protocols to minimize disruptions at key locations</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOL
17	<p>Undertake a review of current job training and Registered Apprenticeship programs, to identify how they can be leveraged and improved to advance the transportation industrial base workforce, especially with regard to connecting members of vulnerable communities to supply chain jobs.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOL, DOC
18	<p>Leverage the experience of military veterans to fill civilian logistics jobs.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USDOT, DOL, DoD



Policy Goal: Strengthen freight workforce and development			
No.	Policy Recommendation	Impact	Actor(s)
19	<p>Improve workforce's quality of life, including by improving workforce access to reliable, affordable, and safe transportation to access jobs.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Highest	USDOT, DOL
20	<p>Ensure all applicants for and recipients of Federal financial assistance (including subrecipients) comply with Federal civil rights laws, including Title VI of the Civil Rights Act of 1964, that prohibit discrimination on the basis of race, color, national origin (including limited English proficiency), and other civil rights laws that prohibit discrimination on the basis of disability, sex, and age.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USDOT
Policy Goal: Improve supply chain security			
No.	Policy Recommendation	Impact	Actor(s)
21	<p>Support public and private sharing of cyber-incident data to enhance supply chain cybersecurity, including providing supply chain stakeholders access to cybersecurity tools and education that allow them to improve their cybersecurity posture in concert with partners and freight facilities.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DHS/CISA, DOE, DoD



Policy Goal: Improve supply chain security			
No.	Policy Recommendation	Impact	Actor(s)
22	<p>Develop a National Transportation System Security and Resilience Plan.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	Highest	USDOT, DOC, DHS, States, Private sector
23	<p>Prioritize sea, land, and airport facilities and staffing to jointly consider resource needs between agencies to maintain CBP inspection facilities and adequate staffing levels.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): Trucking, Rail, Maritime</p>	High	USDOT, DHS
24	<p>Improve the security, resilience, reliability, and redundancy of Position, Navigation and Timing (PNT) services, including Global Positioning Systems (GPS)/Global Navigation Satellite Systems (GNSS), alternatives and complements to GPS/GNSS, and related navigation and tracking systems.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT, DoD, DOE
25	<p>Determine which elements of the transportation supply chain should be prioritized for domestic manufacturing, ally-shoring, or nearshoring, including cybersecurity elements of critical infrastructure.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Highest	USDOT, DOC



Policy Goal: Mitigate freight impacts on communities			
No.	Policy Recommendation	Impact	Actor(s)
26	<p>Coordinate Federal support for brownfield and superfund redevelopment to advance national transportation policies. Coordinate these efforts with impacted communities.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, EPA

**Table ES-7:** Research and Data Policy Recommendations

Policy Goal: Increase understanding of supply chain performance			
No.	Policy Recommendation	Impact	Actor(s)
27	<p>Invest in an applied freight research program.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): All</p>	Moderate	USDOT
28	<p>Invest in energy and transportation research and data to better understand the interplay of the energy sector and transportation.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT, DOE



Policy Goal: Increase understanding of supply chain performance			
No.	Policy Recommendation	Impact	Actor(s)
29	<p>Provide funding to restart, maintain, and expand existing programs that collect or provide supply chain data. Examples include the Commodity Flow Survey, Freight Analysis Framework, TransBorder Freight Data dashboard, and the Vehicle Inventory and Use Survey.</p> <p>Complexity: High</p> <p>Cost: \$ \$ \$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): All</p>	Highest	USDOT, DOC, USDA, USACE
30	<p>Work with Congress to update mandatory response authority for freight data collection.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, Congress, Private sector
Policy Goal: Improve data sharing capabilities			
No.	Policy Recommendation	Impact	Actor(s)
31	<p>Invest in and facilitate the use of communications systems to provide visibility into the location of products or next loads for truckers, terminal managers, and/or beneficial cargo owners (BCOs).</p> <p>Complexity: Medium</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): Trucking, Rail, Maritime</p>	High	USDOT, DOC



**Policy Goal: Improve data sharing capabilities**

No.	Policy Recommendation	Impact	Actor(s)
32	<p>Encourage greater standardization and foster interoperability of data among States and between the multimodal transportation networks and the private sector.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOC, OPM, USDA, CBP, States, Private sector
33	<p>Develop a national freight portal to share key data among stakeholders and an electronic information exchange standard for critical product flow tracking.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): All</p>	High	USDOT
34	<p>Partner and collaborate with government agencies and the private sector to establish a national supply chain forensics/monitoring program and develop analytical tools to monitor supply chains for impending threats or security issues.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): All</p>	High	USDOT, DOC, DHS, DoD/NGA, Private sector
35	<p>Invest in technology and information technology systems, in collaboration with labor organizations, to provide better insight and visibility into end-to-end supply chain movements to improve performance.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT, Labor orgs



Policy Goal: Improve the transparency of supply chain performance			
No.	Policy Recommendation	Impact	Actor(s)
36	<p>Develop national freight modeling and freight fluidity tools.</p> <p>Complexity: High</p> <p>Cost: \$ \$ \$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): All</p>	Moderate	USDOT
37	<p>Establish a dedicated freight and supply chain data performance program under the Bureau of Transportation Statistics (BTS) with support from the other modal administrations to develop and share data supporting both public and private sector stakeholders with supply chain resilience data.</p> <p>Complexity: High</p> <p>Cost: \$ \$ \$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	Highest	USDOT, Congress
38	<p>Support deployment of technology to track containers and chassis and coordinate with CBP on data collection efforts.</p> <p>Complexity: Medium</p> <p>Cost: \$ \$ (Medium)</p> <p>Timing: Medium-Term</p> <p>Mode(s): Trucking, Rail, Maritime</p>	Moderate	USDOT, CBP, Private sector
39	<p>Partner with Federal and non-Federal partners to collect data that describe flows of major commodities, raw ingredients, and finished products, and identify potential points of disruption, issues in common across sectors, reliance on transportation and other supply chain factors.</p> <p>Complexity: High</p> <p>Cost: \$ \$ \$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT, Federal agencies, Private sector, Academic partners



**Table ES-8:** Rule and Regulations Policy Recommendations

<b>Policy Goal: Speed disaster recovery response</b>			
No.	Policy Recommendation	Impact	Actor(s)
40	<p>Urge Congress to eliminate the Fair Labor Standards Act motor carrier exemption.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking</p>	Moderate	DOL, USDOT, Congress
41	<p>Work with Congress to grant FHWA additional emergency response special permitting and regulatory relief for supply chain emergencies.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking</p>	Moderate	USDOT, Congress
<b>Policy Goal: Strengthen market competition and fairness</b>			
No.	Policy Recommendation	Impact	Actor(s)
42	<p>In taking trade policy actions, consider the ways in which those actions might impact relevant supply chains, as appropriate and consistent with applicable legal authority.</p> <p>Complexity: Medium</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USTR, DOC



Policy Goal: Strengthen market competition and fairness			
No.	Policy Recommendation	Impact	Actor(s)
43	<p>Support the Federal Maritime Commission (FMC) in regulating ocean carriers to promote free and fair competition.</p> <p>Complexity: High</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Maritime</p>	High	USDOT, FMC
44	<p>Urge Congress to enact ocean shipping regulatory reform. The House has already passed legislation that would increase FMC resources and provide FMC with additional authorities to protect exporters, importers, and consumers from unfair practices.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Maritime</p>	Highest	USDOT, Congress
45	<p>Encourage the STB to require railroad track owners to provide rights of way to passenger rail and to strengthen their obligations to treat other freight companies fairly.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	STB



Policy Goal: Support domestic production of critical equipment			
No.	Policy Recommendation	Impact	Actor(s)
46	<p>Focus on increasing domestic manufacturing of new chassis, containers, zero-emission equipment, and gantry cranes, including consideration of enhanced price preference in Federal Acquisition Regulations (FARs) updates.</p> <p>Complexity: Medium</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Highest	DHS, DOC, OMB
47	<p>Consider opportunities to develop a domestic supply base for specialized cargo handling equipment and gantry cranes that are not currently available from a U.S. manufacturer.</p> <p>Complexity: High</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Maritime</p>	High	USDOT, DOC
Policy Goal: Increase freight capacity and efficiency			
No.	Policy Recommendation	Impact	Actor(s)
48	<p>Promote, incentivize, and facilitate alignment of operational hours at warehousing facilities, seaports, rail facilities, and intermodal transfer facilities, and other stakeholders, including labor, to help mitigate congestion. While coordinating with the relevant private stakeholders who control these processes, the Federal government should take steps to ensure supply chain efforts align with and advance civil rights compliance.</p> <p>Complexity: High</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking, Rail, Maritime, Logistics</p>	Moderate	USDOT, DOC, DOL, Private sector



Policy Goal: Increase freight capacity and efficiency			
No.	Policy Recommendation	Impact	Actor(s)
49	<p>Continue partnering with the regulated hazardous materials community to improve the efficiency of packaging design that can allow for greater quantities of hazardous materials goods shipped without additional physical shipping space.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): All</p>	High	USDOT
Policy Goal: Reduce bureaucratic inefficiencies			
No.	Policy Recommendation	Impact	Actor(s)
50	<p>Harmonize the appropriate roles of the Surface Transportation Board, Federal Maritime Commission, and DOT with respect to regulating and providing oversight for the freight and logistics industry.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): Rail, Maritime</p>	High	USDOT, STB, FMC
51	<p>Investigate ways to expedite the Transportation Security Administration's (TSA) Transportation Worker Identification Credential (TWIC®) approval process. As part of the development of the action plan, conduct outreach to relevant stakeholders and communities to receive input that informs the action plan.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USDOT, TSA



**Table ES-9:** Coordination and Partnerships Recommendations

<b>Policy Goal: Convene supply chain stakeholders to enhance USDOT's supply chain work</b>			
No.	Policy Recommendation	Impact	Actor(s)
52	<p>Develop an action plan to implement these policy recommendations and set up a comprehensive and inclusive interagency group to support their implementation.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT
53	<p>Collaborate with partners on the Motor Carrier Safety Advisory Committee Driver Subcommittee when implementing any proposals that will impact the nation's professional driver fleet.</p> <p>Complexity: Low</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking</p>	Moderate	USDOT
54	<p>Work with State DOTs and the private sector to develop a national inventory of available warehouse space to help plan and shape an ongoing transition of facilities.</p> <p>Complexity: High</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Logistics</p>	Moderate	DOC, USDOT, State DOTs, Private sector
55	<p>Continue coordination with freight industry stakeholders.</p> <p>Complexity: Low</p> <p>Cost: \$ \$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOC, States, Local gov'ts, Private sector



Policy Goal: Convene supply chain stakeholders to enhance USDOT's supply chain work			
No.	Policy Recommendation	Impact	Actor(s)
56	<p>Work with partner agencies to improve U.S. transportation infrastructure connections with Mexico and Canada, to help shorten supply chains, and promote domestic and near-shoring production shifts.</p> <p>Complexity: High</p> <p>Cost: \$\$ (Medium)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT
57	<p>Convene a Supply Chain Workforce Summit with the Departments of Labor, Transportation, Education, Commerce, Veterans' Affairs, and Defense and workers across the freight and logistics sector.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	High	USDOT, DOL, ED, DOC, VA, DoD, labor unions, private sector
58	<p>Improve communications with applicants on the status of Hazardous Materials Endorsement (HME) or TWIC® security threat assessments. As part of this, implement efficiencies to enhance equity, increase security, and reduce cost and time burdens associated with enrollment and credentialing.</p> <p>Complexity: Medium</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): All</p>	Moderate	USDOT, TSA



**Policy Goal: Support the actions of non-Federal partners through continued coordination**

No.	Policy Recommendation	Impact	Actor(s)
59	<p>Encourage all ports to create port stakeholder committees with wide representation, including residents of port-adjacent communities.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Maritime</p>	High	USDOT, Port authorities, USCG
60	<p>Explore standardization of 53-foot marine container sizes for international trade to support more efficient movement of goods.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Long-Term</p> <p>Mode(s): Maritime, Rail, Trucking</p>	Moderate	USDOT, DOC
61	<p>Encourage reciprocity among States related to obtaining truck driver credentialing and provide aid to State Departments of Motor Vehicles to hire more commercial driver's license test examiners.</p> <p>Complexity: Low</p> <p>Cost: \$ (Low)</p> <p>Approximate Timing: Near-Term</p> <p>Mode(s): Trucking</p>	High	USDOT, States
62	<p>Improve last-mile access to freight-oriented developments, use of near-dock cargo handling facilities, land-use strategies to support warehousing in appropriate locations, and goods movement integration into Smart Streets/Complete Streets development to increase safety.</p> <p>Complexity: High</p> <p>Cost: \$\$\$ (High)</p> <p>Approximate Timing: Medium-Term</p> <p>Mode(s): Trucking, Rail, Maritime, Logistics</p>	Highest	USDOT