

February 10, 2020

Docket Management Facility  
U.S. Department of Transportation  
1200 New Jersey Avenue SE, Room PL-401  
Washington, DC, 20590-0001

Re: Docket No. DOT-OST-2019-0184

The American Society of Civil Engineers (ASCE) is pleased to submit the following comments to the U.S. Department of Transportation (DOT) Request for Information (RFI) to Docket No. DOT-OST-2019-0184 – *National Freight Strategic Plan*. ASCE applauds DOT’s efforts to address challenges facing our freight infrastructure network. Through these actions, ASCE is eager to provide input to ensure that improvements to our freight network enhance safety, strengthen our national infrastructure network, and improve economic competitiveness.

Founded in 1852, ASCE is the oldest engineering organization in the nation and represents more than 150,000 civil engineers in private practice, government, industry, and academia. ASCE members are dedicated professionals who hold paramount public health, safety, and welfare as they design, build, construct, operate, and maintain the built environment. It is through this commitment that ASCE supports a national intermodal freight mobility program that is flexible, efficient, and robust; provides a national foundation to support the nation's economic growth and global economic competitiveness; and moves goods in a safe, reliable, affordable and efficient manner.

The following input is provided based on each of the questions posed in the request for information:

**What are the three most important challenges facing the U.S. freight transportation system?**

- 1) *Ensuring appropriate funding from both the public and private sectors of a cost-effective, timely, reliable, environmentally responsive multimodal freight system for the future. This includes all freight and mode assets, including smaller, inland ports and waterways.*
- 2) *Providing guidance on future capacity, across modes, for reliable freight delivery. This includes making improvements to all modes within the freight network to ensure bottleneck reduction and transportation efficiency. We should consider the rapid pace of change in supply chain organization, especially with respect to retail logistics. While ecommerce represents a relatively small share of overall freight, its impacts in densely developed areas and in areas that are home to a growing network of warehouses/distribution facilities are considerable. Rapid changes in demand volumes, temporal and spatial distributions, and even vehicles are a major challenge in provision of adequate infrastructure and in managing impacts.*
- 3) *Connecting public and private sector traffic, commodity flow, and economic data sources to enable data-based decision-making that links transportation system performance metrics with economic flows in critical sectors at national, state, regional, and local scales.*

**What should be long- and short-term national freight system goals? How can States, local agencies, and private stakeholders most effectively advance these national goals?**

*The long and short-term national freight system goals should be to provide a cost-effective, reliable, safe, and environmentally responsible system funded through strong federal funding which enhances state/local funding and encourages private investment when appropriate. Long and short-term investment should not only focus on traditional freight modes such as roads, bridges, rail, and large port infrastructure. Further attention should include other assets important to moving goods along the supply chain, including but not limited to inland waterways, small inland waterway ports, airports that are playing an increasingly critical role for on-demand deliveries, and facilities that enable intermodal connectivity, consolidation. Steps should also be taken to ensure that freight is adequately considered in local and regional planning efforts such as long-range planning, zoning, urban street design, and curb management.*

*State, local, and private interests should support further research and development in technology and mode investment that enhances the freight system's performance and capacity. These stakeholders should support market-specific, including density metrics, shipping data to support a balanced approach to system development. Some specific examples include, but not limited to: evaluating applications of autonomous vehicles and unmanned aerial systems in variable environments, pilot testing of new last-mile approaches in dense environments, and establishing novel methods of data-sharing to improve communications among freight stakeholders and improve planning and real-time operations.*

**How should DOT measure freight transportation system performance?**

*In addition to implementing density metrics, DOT should define and report link and location-specific capacity utilization measures. Factors such as time, cost, commodity shipping reliability, and modal shipping options based on appropriate origin and destination basis would be ideal. This includes focusing on port performance freight statistics provided by DOT's Bureau of Transportation Statistics and ensuring adequate freight network funding is directed towards not only high volume terminals and metropolitan statistical areas, but communities of all population density.*

**What industry freight-specific knowledge is critical to understanding supply chains and how economic trends impact freight logistics and cargo movements? How can such data and/or knowledge be procured or shared amongst public and private sector partners? Are there technological innovations, such as Blockchain and the Internet of Things (IoT), that DOT should know about?**

*This question is not applicable to ASCE's membership.*

**What should be considered regarding vital operational or equipment innovations, emerging technology advances from research communities, as well as infrastructure or facility concepts in freight transportation?**

*The growing presence of automation within the freight transportation network should be seriously considered as a growing trend, and our freight network should account for this development. Automation is expected to have a considerable impact on freight transportation networks. Automation has the potential to drastically change the impact of regulatory restrictions and as a result the spatial and temporal organization of supply chain facilities and goods movements. A variety of on- and off-street concepts for managing last mile logistics have also been tested internationally and in the US, with*

*mixed successes. Better approaches are needed to investigate the transferability of these solutions and their applicability in varying contexts.*

**What approach should the federal government use to invest in the multimodal freight system? How would this approach apply to each transportation mode, for freight in general, for specific industries, or for freight assets owned by the private sector (i.e., rail, pipelines, maritime)? What are best practices for identifying projects that involve both public and private sector assets and for encouraging communication between the public and private sector to complete those projects?**

*The federal government should identify major freight traffic corridors that are capacity constrained or poorly performing and encourage as appropriate state/local funding and public-private partnerships for capacity investment. This added investment should continue to look at all freight modes to ensure preference is given not on specific mode type, but that investments are made to prioritize system reliability and to support critical trade flows.*

**What barriers (such as regulatory, technological, institutional, statutory) are critical to freight efficiency that DOT should better understand?**

*It would be beneficial to understand and effectively report on the impacts project delivery and the current patchwork state regulatory system can potentially cause unforeseen barriers. Some examples include, but not limited to: uncoordinated regulations or conflicting regulations inadequate consideration of freight needs in regional planning/zoning, local street design and curb management decisions due to lack of coordination within and between agencies, limited participation of freight industry in typical planning activities such as public meetings, and lack of information sharing between stakeholders.*

**What information is critical to understanding the unique infrastructure and operational freight impacts faced by local communities?**

*In addition to understanding basic time-of-day footprint requirements for 'last mile' freight delivery, it would also be beneficial to understand how the growth of e-commerce. This includes understanding its impact on the movement of goods and services, and the resulting need for adaptable freight systems on a national, regional and local scale.*

*Ultimately, better information is needed to understand the generators of freight activity, including both commercial businesses and the home as a generator of ecommerce freight trips. Emerging technologies offer new opportunities to capture segments of this type of information: weigh-in-motion systems provide detailed axle loading information useful to estimate pavement and bridge impacts; camera and character recognition technologies, enabled by machine learning, are improving to capture and classify vehicle types and parking duration data; vehicle probe data, sensors such as inductive loops, and open public data such as collisions records are also powerful for addressing data gaps – especially when combined with machine learning and other data science approaches.*

**How would you define a bottleneck in your industry?**

*A bottleneck is best defined as any location that requires excessive or unreliable travel time and/or cost to traverse that is usually caused by insufficient capacity or a lack of options in getting goods to market.*

**What else should DOT consider (including the eleven statutory criteria listed above) or do to improve freight transportation in the U.S.?**

*More funding is needed to keep pace with the demands on our freight network. Furthermore, DOT should assist state and local agencies in obtaining higher-resolutions data to understand local commodity flows. This may be through development of new data products from federal sources – such as the Commodity Flow Survey – or by providing leadership and guidance to establish public-private data sharing mechanisms. DOT should also conduct informational forums and invest in both university-based and professional development-focused educational programs to improve understanding of the unique requirements of shipping in local and regional planning and facility design. Education efforts focused on decision-makers are also needed. An improved understanding of the role that freight transportation systems play in supporting economic activity and quality of life will promote adequate prioritization of freight projects at all levels of government. Finally, education programs aimed at the general public could promote efficiency gains by enabling businesses and individuals to consider the impacts of their individual shopping/ordering behaviors on the transportation system and on surrounding communities.*

ASCE's 2017 *Infrastructure Report Card*, which gave our nation's bridges, ports, roads and inland waterways a "C+" and "D," respectively. Despite these subpar grades our infrastructure challenges remain significant, but solvable. We can address our infrastructure deficit through strategic and sustained investment, bold leadership, thoughtful planning, and careful preparation for the needs of the future. As we seek opportunities to rebuild our national freight infrastructure system, it is imperative that our nation increases its policy focus and priority in funding for strategic investments in freight mobility that can reduce congestion and grow the economy in a more sustainable manner.

ASCE supports the DOT's efforts to improve our national freight infrastructure system. Furthermore, the Society encourages DOT to address these needs through increased leadership and robust funding; promote sustainability, resiliency and innovation; as well as develop and prioritize plans to sustain and enhance infrastructure. As DOT reviews comments submitted for the RFI, ASCE urges thoughtful leadership and continued commitment for improving our freight network.