NATIONAL FREIGHT ADVISORY COMMITTEE

Proposed Recommendations to U.S. Department of Transportation for the Development of the National Freight Strategic Plan

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PART II

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Chapter 2: Recommendations Related to Best Practices for Improving the Performance of the Freight Network

Summary

The national freight strategic plan shall include "best practices for improving the performance of the national freight network".

The safe and efficient movement of goods on the Nation's multimodal freight network directly impacts the daily lives of every American. From necessities, such as food and fuel, to the full spectrum of specialized goods, every product consumed in this country is shipped through the Nation's highway network, airports, railways, ports and waterways. In addition, American manufacturers and businesses rely on the freight network to get their goods to domestic and international markets.

With this Chapter, the recommendations for improving the performance of the national freight network. These recommendations fall under five themes:

1. Streamlining
2. Funding
3. Data
4. Planning
5. Capacity Enhancements/Efficiency

The recommendations of the National Freight Advisory Committee (NFAC) prepared for the Secretary of Transportation for the purpose of improving the performance our national freight system are presented in the following sections.

Recommendations

FUNDING

A strong freight transportation network is critical to the Nation's long-term competitiveness. A continued deterioration in the condition of the Nation's infrastructure will affect the efficiency of goods movement and increase the overall costs associated with freight transportation. Without better management and increased public and private sector investments in the most critical freight infrastructure facilities, our Nation's long-term economic and business competitiveness will suffer.

These recommendations are proposed revisions to federal funding processes and key regulations to enable appropriate federal investments in alternatives to congested roadways, to streamline investments in intermodal freight projects, and to focus limited funds on critical investments.

Recommendation P1: Encourage intermodal freight activity through streamlined investment.

This streamlining process should align Federal and U.S. DOT modal programs (Maritime Administration (MARAD), Federal Highway Administration (FHWA), Federal Railroad Administration (FRA),), Federal Aviation Administration (FAA), and Water Resources Development Act) and their funding criteria so that they can work together more effectively to produce intermodal solutions at ports and airports. These streamlining opportunities include augmenting core U.S. DOT formula programs, expanding funding and access to Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance and Railroad Rehabilitation and Improvement Financing (RRIF), and expanding Private Activity Bonds.

This streamlined investment should seek the following outcomes:

- Give flexibility to invest in last mile and first mile projects outside freight gateways.
- Creates incentives to support communities in providing local investments along the multi-modal national freight system. Opportunities include provision of support facilities such as truck parking facilities and leveraging of passenger and freight rail investments.
- Encourage public and private partnerships including multi-jurisdictional actions to improve and harmonize the national freight system and its connectors to shippers and receivers.

Recommendation P2: Revise federal regulations in order to promote alternatives to congested roadways and incentivize the efficient and effective use of available funding. Specifically, expand National Highway System designation to include multiple modes, including domestic and feeder waterborne service routes, thereby increasing funding options.

Recommendation P3: **Address aging infrastructure, bridge weight limitations, accepted rail track; generally poor road pavement conditions within heavy-haul corridors, etc. with a funding for State of Good Repair and Asset Management.**

Recommendation P4: **Maintain and expand the Federal Section 130 program – funding for grade crossing improvements and separations.**

STREAMLINING

The Nation's regulatory system and many procedural barriers often impede the efficiency of project development, investment, and overall freight system operations. These barriers can delay the adoption of new technologies or products that could improve the efficiency, safety or sustainability of the freight system. Streamlining many processes and operations will improve the performance of the U.S. freight system by reducing project costs, accelerating implementation, and increasing operational efficiency.

These recommendations are proposals to encourage innovative project delivery methods, to address specific permitting and project delivery needs for emergency projects, and to develop safety standards to expedite project delivery.

Recommendation P5: Continue to encourage innovative project delivery methods such as design-build by providing incentives to States. Further, U.S. DOT should assess key methods and practices that have led to project acceleration during emergencies and extenuating circumstances and identify opportunities for application to existing programs. Additionally, dredging project completion should be measured when 100 percent of the dredging is complete, not the current practice of measuring when 100 percent of the funding allocation is saturated.

Recommendation P6: The Railroad Rehabilitation and Improvement Financing (RRIF) loan process should include early indications to a potential applicant of potential 'no-go' issues before the applicant spend substantial funds on developing the total application.

Recommendation P7: Develop a list of preapproved "On- Call Contractors" available for emergency dredging.

The U.S. Army Corps cannot respond quickly to dredging needs due to lengthy permitting and procurement processes. Should there be an emergency, the Corps does not have a response team. The Corps should go out to bid or pre-approve on-call dredge contractors who can respond to emergency situations.

Recommendation P8: FHWA's Every Day Counts (EDC) initiative should be applied to all modal Administrations within U.S. DOT.

Since its introduction in 2010, FHWA's Every Day Counts (EDC) initiative has united the collaboration and communication with State DOTs and Metropolitan Planning Organizations (MPO) on efforts toward accelerating project delivery, enhancing safety, and protecting the environment through administrative channels. Clearly, underlying tenants and efforts of the EDC should also be applied the other Administrations (FRA, FAA, etc.) so that streamlining efforts could work in unison.

Recommendation P9: To enhance project delivery, there should be an approved safety and performance standard for smaller, more compact pedestrian gate designs that are suitable for sidewalk environments. FRA should engage in a research and design project to develop the design standard.

DATA, RESEARCH, AND EDUCATION

Data management and utilization is critical for developing freight performance measures of the Nation's freight system. Freight performance measures guide planning, programming, and investment decisions, and help to implement effective operational and infrastructure improvements for both the public and private sectors. The Nation's freight system needs performance measures to assess deficiencies in the freight transportation systems and to improve the efficiency of investments and improvement to the systems.

These recommendations are proposals to promote data and information sharing, to develop a program to study better management of container flows, and to facilitate data agreements with the private sector.

Recommendation P10: The Freight Conditions and Performance Report and the National Freight Strategic Plan should be an interagency shared effort so that information and data sharing across the U.S. DOT agencies is facilitated more easily.

Recommendation P11: Data collection efforts should be tailored to performance measures that are in line with specific outcomes that the Department and Congress wants to obtain with the increased emphasis on the multimodal national freight system.

Recommendation P12: The movement of empty import International Standards Organization (ISO) containers should be studied to address the repositioning of empty containers, including those that return to their point of entry and those that are repositioned for export commodities.

Recommendation P13: U.S. DOT should partner with third party organizations to facilitate data collection agreements with private industry.

PLANNING

The effectiveness of the Nation's planning abilities is crucial for our transportation system. As both the global and the national economies have become increasingly integrated, the planning and delivery of large freight projects are of growing importance, and the process has become more complicated, because it can involve multiple jurisdictions and multiple modes. As the freight system evolves, the planning for the movement of freight and people require well-organized processes, tools and models.

These recommendations are the Committee's attempt to focus federal planning efforts, improve coordination among federal, state, regional and local entities, and coordinate public and private efforts.

Recommendation P14: Develop a comprehensive national freight transportation plan to improve network performance.

In developing the plan, U.S. DOT should take into consideration the following elements:

a. The need for a multi-modal approach that includes land as well as waterside connections, including navigation channels;
b. The best approach to improving network performance is the designation of highest priority/critical freight gateways and corridors, not taking a highway centric approach;
c. The system needs a consideration of end to end freight needs;
d. International gateways and corridors strategy: The national freight plan must include critical international freight gateways and corridors of national and regional economic significance;
e. Enhance U.S. competitive position of how freight flows; international bench marking should be part of the plan;
f. Resiliency is key, being responsive to dynamic freight system;
g. Support future growth and changes in commerce (i.e., e-commerce.)

Recommendation P15: In the development of a national freight network, U.S. DOT should fund the required development of State Freight Plans that will contribute to the national strategic freight plan: Set up mechanisms to ensure State DOT's interact with all transportation modes, users, regional and multi-state agencies, and MPOs. U.S. DOT should consider streamlining the planning reporting requirements from modal administrations so that multimodal planning is assured.

Recommendation P16: Encourage and support the creation of regional, statewide, and/or multi-state institutions as appropriate with a single mission, the specialized staffing expertise to handle freight projects, and the authority to oversee, finance, and implement key initiatives could be beneficial to the expedient delivery of freight transportation projects.

Recommendation P17: Establish a workgroup of NFAC members with U.S. DOT support to develop a set of recommendations designed to equip State DOT and MPO planners with the training and tools they need to be more effective partners with the private sector freight stakeholders and decision makers.

Critical areas that should be addressed include supply chain issues, multi-modal freight modeling, multi-state corridor, mega region and international freight movements, system sustainability, and data availability. In addition, while 20 year long-range planning is part of the national freight strategic plan, the ability to adapt quickly to changes in market conditions/trends is just as important as planning for the long-term. Identifying ways to incorporate greater flexibility into the planning process should be addressed as well.

Recommendation P18: The U.S. DOT in conjunction with the private sector should provide education and training programs for MPO and State DOT planning staff to expand their understanding of supply chain issues, modeling freight movements, the dynamics of multi-state corridors and the economics of mega regions and international trading patterns, among other issues.

CAPACITY ENHANCEMENTS/EFFICIENCY

The full utilization of the Nation's freight system's capacity and efficiency is the key for a strong future and economic success. Modifications to some existing programs and processes will improve the overall capabilities and effectiveness of the freight system, by making better use of the network, reducing congestion, and increasing border efficiencies.

These recommendations are the NFAC's proposals to expand the current network, create full utilization of the network by promoting off-peak usage, stimulate diversification across modes,(with an emphasis on better utilization of underused modes), reduce congestion on the system by promoting technology implementation that address capacity constraints, and support cross border freight movement efficiencies.

Recommendation P19: Identify and invest in ports of national significance to meet national trade objectives, including increased exports and creating a competitive trade environment.

Recommendation P20: Expand the capacity of the freight system by encouraging the further utilization of marine highways and by increasing the use of off-peak cargo movements, particularly at ports and intermodal facilities.

Recommendation P21: Expedite deployment of next gen technology to relieve air space congestion and reduce delays in air cargo delivery. Air cargo tends to be high value freight and pays a premium for fast and reliable delivery. Delay and uncertainty are serious concerns.

Recommendation P22: Increase efficiencies along the supply chain by promoting electronic communications among all logistics supply chain business segments.

Resources should be allocated towards implementing an adoption strategy for a common communication platform such as the U.S. DOT's Electronic Freight Management (EFM) solution. The adoption of a common communication platform with common standards, as part of a broader open source strategy, will enable the fluid electronic transfer of documents between and within modes, between various logistics providers, and to required government entities (U.S. DOT, Customs and Border Patrol (CBP), Department of Commerce (DOC), etc.).

Recommendation P23: Support programs and policies that improve efficiencies of cross border freight movement without jeopardizing safety. Specifically, border crossing inspection technology should be updated with proven, state-of-the-art technology that will speed up throughput at heavily congested locations.

Recommendation P24: The Department of Homeland Security (DHS) should establish detailed and uniform inspection procedures that use best technology. The DHS should develop better border staffing that is more responsive to freight traffic flows. CBP staffing at border crossings, airports and marine ports, as well as Transportation Security Administration (TSA) staffing at airports, should be increased to support the burgeoning requirements of cargo screening.

Chapter 3: Recommendations Related to Best Practices to Mitigate Community Impacts

Summary

The national freight strategic plan shall include "best practices to mitigate the impacts of freight movement on communities".

The following set of recommendations has been developed as a way to keep communities safe and healthy while ensuring the efficient flow of freight via all modes of transportation. The recommendations range from very specific to very broad, but the common denominator is the need for government incentives to encourage improved freight planning and the desire to work collaboratively with industry to develop voluntary programs to drive further environmental improvements.

The recommendations have been grouped into the following areas:

1. Safety
2. Environmental Sustainability
3. Funding
4. Harmonization, Standards and Institutional Arrangements
5. Data, Research, Education and Reporting
6. Infrastructure Design
7. Regulation and Enforcement
8. Technology Implementation (Development, Demonstrations, Deployment)

The recommendations of the National Freight Advisory Committee (NFAC) prepared for the Secretary of Transportation for the purpose of mitigating freight movement impacts on communities are presented in the following sections.

Recommendations

SAFETY

The U.S. freight transportation network is an evolving system that changes in response to the U.S. public's transportation and goods movement needs. U.S. DOT should more frequently update safety regulations to account for new information, new technologies, and new strains on our freight network.

Recommendation C1: The NFAC encourages U.S. DOT to move forward with efforts to ensure existing safety regulations are current, and to promulgate new safety regulations, for all modes to mitigate community impacts.

This includes ensuring that existing safety regulations address hazardous materials being safely transported through communities; these safety regulations should reflect current hazardous materials transportation issues, such as the need to require route safety assessments for large quantities of rail tank cars that contain flammables within a single train.

Recommendation C2: U.S. DOT and the modal agencies should adopt zero tolerance for fatalities resulting from the movement of freight as an ultimate vision.

A roadmap focusing on continuous improvement utilizing SMART goals will help narrow the gap between the current state and the ultimate vision. U.S. DOT should establish a workgroup with in the NFAC to assist in the development of SMART goals. (SMART – Specific, Measurable, Attainable, Relevant, Time-bound).

ENVIRONMENTAL SUSTAINABILITY

Recognizing the significant contribution of heavy-duty mobile sources to our nation's air quality and climate change challenges, the Unites States should strive to minimize greenhouse gas and other pollution from freight transportation by working collaboratively with industry to develop voluntary programs and incentives to drive further environmental improvements.

Recommendation C3: In order to address this environmental sustainability challenge, U.S DOT should incentivize holistic, multi-modal freight planning and operational strategies, risk assessment, and collaborative problem solving that involves multiple stakeholders.

This includes:

a. policies, including grants, that support rapid deployment of verified technological advancements that improve safety, security, health, quality of life, and the environment, as well as, the efficiency of the freight network;
b. policies that consider how government subsidies affect freight markets and the effect on local, regional, and national competitiveness including land-use, site selection, jobs, and both other directly affected items and externalities;
c. policies that identify and prioritize projects with performance measures that demonstrate improved safety, security, health, quality of life, and the environment, as well as, the efficiency of the freight network; and
d. publicly available research, data and tools to promote informed stakeholder engagement.

Encourage implementation of operational strategies that improve efficiency and reduce emissions of the freight system to minimize air quality impacts.

FUNDING

Freight transportation through communities, often called first and last mile transportation, includes both delivery networks and freight corridors between major intermodal connectors. While freight movement along first and last mile connectors is regionally and nationally significant, those connectors do not necessarily benefit the jurisdictions that manage and maintain them. This leads to underinvestment in connectors, resulting in them being in poorer physical condition than other infrastructure, and often increases travel time – which further impacts the communities.

Recommendation C4: In order to help address this issue, we suggest the development of federal programs that prioritize funding of first and last mile connectors of regional and national significance, including both urban and rural connectors.

Potential programs include:

a. A U.S. DOT discretionary and formula grant program that includes a set-aside for National Highway System first and last mile connector projects. This funding must have broad eligibility, including both rural and urban connectors, as well as non-NHS mileage. The U.S. DOT Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program is a good example of this type of funding. For example, in 2010 the Port of Miami received almost $23 million (out of about $47 million) to establish a first and last mile intermodal container rail service. Over the next 20 years, this service will facilitate 6 million first and last mile short-line rail trips between the port and the Hialeah Rail Yard.

b. A new federal credit program, similar to Transportation Infrastructure Finance and Innovation Act (TIFIA), which is targeted at smaller intermodal / first and last mile connector projects.

HARMONIZATION, STANDARDS AND INSTITUTIONAL ARRANGEMENTS

Freight and passengers share much of the same infrastructure (roads, railroads, airplanes). In metropolitan areas, freight and passengers compete for scarce road and rail capacity. In order to make the best use of our infrastructure, freight and passenger transportation planning should be integrated.

Recommendation C5: The U.S. should encourage integrated freight and passenger transport planning, and encourage investment and operational solutions that maximize utilization of resources while carefully considering local impacts.

This can be accomplished by broadening the focus of freight policy so that it includes all agents involved in supply chain, including shippers and receivers. Encourage collaboration between the freight industry and municipalities to optimize the first and last mile. Require Metropolitan Planning Organization (MPO)s and other regional planning organizations to include a freight component via a freight advisor in their processes and address freight in all short- and long-term plans.

DATA, RESEARCH, EDUCATION AND REPORTING

States, business, and local communities are implementing policies and practices to mitigate the negative community impacts of freight. These efforts represent a very broad range: from loading zone enforcement to constructing grade separated rail/highway crossings to alternative fuel delivery vehicles.

There is no comprehensive repository of these best practice efforts. Often locals look to neighboring cities, or seek information through their professional networks. As a result, local leaders may have limited information on how a given strategy has worked in other places, or may "re-invent the wheel." If effective practices do exist, it is wasteful to try to solve problems without knowing about effective practices.

Recommendation C6: The freight strategic plan should develop a set of criteria for defining best practices to be shared with freight stakeholders through the establishment of a clearinghouse of freight best practices and a program for disseminating best practices.

Recommendation C7: The Department of Transportation should continue to support the development of best practices toolkits available to rural and urban transportation planners and regulators seeking to reduce first and last mile related congestion, air emissions, and parking issues.

Recommendation C8: The U.S. DOT should support research on high priority national objectives of safety, efficiency and sustainability. The research should include demonstration and deployment of promising technologies.

High priority areas include:

a. Alternative fuels for the freight sector that exceed current Environmental Protection Agency (EPA) standards and meet cost and efficiency requirements of industry, possibly in partnership with DOE.

b. Better metropolitan and regional freight models, including supply chain based modeling approaches.

c. Future forecasting that considers changes in demographics, buyer behavior, manufacturing practices, and other factors that could restructure current freight supply and demand patterns.

d. Causal factors of accidents and crashes, including driver hours regulation.

e. Evaluate various compensation structures for transportation workers to determine whether there is a detrimental impact on safety.

f. Work with the States to collect and report data that will allow it to determine the classes of heavy-duty (Class 2b through 8) vehicles (commercial, non-commercial, and exempt) that are involved in fatal and non-fatal crashes.

g. The private sector conducts significant research, often in partnership with the public sector. The U.S. should facilitate public/private research efforts, and the implementation of the results of these efforts. Examples from the air transport sector include the CLEEN program aimed at developing more efficient engines and aircraft structures, and the CAAFI program to develop alternative jet fuels.

Recommendation C9: Improve effectiveness of various "whistleblower" act safety reporting protection mechanisms in all modes through improved awareness, education, and encouraging greater labor/management coordination in this area.

INFRASTRUCTURE DESIGN

When designing freight routes, there are many things to take into consideration from infrastructure to turning radii at intersections, adequate horizontal and vertical clearances, as well as bridge and pavement integrity to handle heavy loads. Operationally, signal timing plans on truck routes should account for the trucks' slower acceleration speeds to prevent repeated stopping once up to speed. Optimizing these and other factors improves the performance of the U.S. transportation system for all users.

Recommendation C10: Develop definite first and last mile delivery networks which clearly designate truck routes. New York City has had a designated truck route network for over 20 years - it is modified as needed to reflect changes in land use patterns and to optimize system performance.

REGULATION AND ENFORCEMENT

Transportation through first and last mile corridors is vital to the U.S. economy and commerce. However, while the benefits of transportation through those corridors are national or regional in scope, the negative impacts are most often concentrated locally. Much of the freight transportation infrastructure and land development projects were built without freight transportation in mind. The lack of integrated freight and land use policies can have unintended consequences such as first mile pick-ups and last mile deliveries that operate in congestion, with business inefficiencies, with risk of property damage, and air and noise impacts for residents and businesses.

Policies set by MPOs or local governments in an attempt to reduce the impact of freight transportation through first and last mile corridors often lead to freight system inefficiencies which further contribute to congestion issues and traffic through residential areas.

Freight volumes are anticipated to grow significantly in the future. However, we are confident that innovative planning, appropriate regulations, incentive programs, and the use of technology can help to mitigate any potential negative impacts, while increasing the safety of the system. The proposed recommendations are in this mindset.

Recommendation C11: Use transportation policies and operational best practices such as strategic zoning, street design, building design and comprehensive land use policies that plan for freight activities. The policies include economic development incentives and effective truck route planning to minimize the impacts of first and last mile freight transportation on surrounding communities.

Recommendation C12: Utilize policy best practices such as buffering freight activity centers from population centers. Freight generating land uses can potentially bring great benefits to a region by providing jobs, tax dollars, and proximity of goods to growing populations and businesses.

Planning now for freight transportation associated with this growth will enable freight to fit seamlessly into the community fabric, allowing freight to provide benefits to their region while minimizing adverse impacts to local residents and the environment.

Recommendation C13: Utilize operational best practices to encourage State and local authorities to employ a comprehensive approach to enhancing freight activity in First and Last Mile environments and corridors.

Recommendation C14: Enhance worker safety and training requirements for all freight workers, including wellness and fatigue management. This can be accomplished by supporting scientific and evidence based comprehensive fatigue reduction initiatives to reduce operator and worker fatigue. Further, to protect the health and welfare of transportation workers and those they interact with, regulations can insure effective minimum levels of training are required for all entry-level and new workers required to operate transportation equipment, if not already provided.

TECHNOLOGY IMPLEMENTATION (DEVELOPMENT, DEMONSTRATIONS, DEPLOYMENT)

In the near future, Intelligent Transportation Systems (ITS) will be a crucial element of an urban freight strategy. Today, use of ITS applications at the municipal traffic-management level or for interfacing with local truck drivers is still rather uncommon. There are different categories of ITS applications for transport supervision in an urban environment. The most common applications are automatic road enforcement (plate-reading cameras); real-time information provided by variable message signs; traffic-light management; and electronic toll collection. Many other types of applications exist but are not widely used yet, such as car-to-car or car-to-infrastructure communications.

GPS and other mapping GIS technology is not built with first and last might delivery vehicles and trucks in mind. This leads to these vehicles traveling through residential areas or getting stuck outside low tunnels and over-passes. These recommendations include the development of two systems to improve the movement of freight in and around communities.

Recommendation C15: Expand the use of Intelligent Transportation Systems, technology, and innovation to improve the flow of freight.

Recommendation C16: Use technological solutions to address truck parking. There are technology companies that provide information regarding parking availability, reservation system, cashless payment and navigation information directly to the driver using smart phone technology.

Recommendation C17: Promote adoption of advanced technologies and compliance methods that support and encourage ideal workforce safety practices.

Examples include:

a. Expand the use of effective technologies and methods for improving pre-employment screening of prospective new hires for substance and alcohol abuse problems, untreated mental illness, and untreated medical conditions that can cause instant incapacitation.
b. Promote the utilization of advanced compliance methods such as electronic logs, speed limiters, and telemetric monitoring, and establish a drug and alcohol clearinghouse for operators of all modes.
c. Improve pre-employment background checks to reduce security risks to the transportation network. Causal factors of accidents and crashes, including driver hours regulation.