

U.S. Department of Transportation  
Strategic Plan for FY 2018-2022  
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## DOT Mission, Organization and Key Legislation

### Mission

The mission of the U.S. Department of Transportation (DOT) is to ensure our nation has the safest, most efficient and modern transportation system in the world, which improves the quality of life for all American people and communities, from rural to urban, and increases the productivity and competitiveness of American workers and businesses.

### DOT Organization

Established in 1967 by Congress, DOT consolidated more than 30 transportation agencies and functions under the first Secretary of Transportation Alan S. Boyd. For half a century, DOT employees have brought innovation and integrity to their work improving the safety and performance of our multimodal transportation system. Today, almost 55,000 DOT employees work across the country, in the Office of the Secretary of Transportation (OST), the Office of the Inspector General, the Surface Transportation Board, and 9 operating administrations and bureaus, each with its own management and organizational structure.

The Operating Administrations are listed below.

Federal Aviation Administration (FAA)

Federal Highway Administration (FHWA)

Federal Motor Carrier Safety Administration (FMCSA)

Federal Railroad Administration (FRA)

Federal Transit Administration (FTA)

Maritime Administration (MARAD)

National Highway Traffic Safety Administration (NHTSA)

Pipeline and Hazardous Materials Safety Administration (PHMSA)

Saint Lawrence Seaway Development Corporation (SLSDC)

## Key Legislation

Several key pieces of transportation legislation provide authorities and funding for DOT programs, many of which are codified under U.S. Code titles 23, 46, and 49. They include:

- **The Fixing America’s Surface Transportation (FAST) Act** is five-year legislation to improve the Nation’s surface transportation infrastructure, including our roads, bridges, transit systems, and rail transportation network. The bill reforms and strengthens transportation programs, refocuses on national priorities, provides long-term certainty and more flexibility for States and local governments, streamlines project approval processes, and maintains a strong commitment to safety.
- **The FAA Modernization and Reform Act of 2012** authorized appropriations to the FAA from Fiscal Year 2012 through Fiscal Year 2015. The legislation seeks to improve aviation safety and capacity of the national airspace system, provide a framework for integrating new technology safely into our airspace, provide a stable funding system, and advance the implementation of the Next Generation Air Transportation System (NextGen). The FAA is currently operating under an extension, the **FAA Extension, Safety, and Security Act of 2016**. The Act extends the agency's authority and provides funding at current levels through September 2017.

# 1. INTRODUCTION

## Overview

The establishment of the United States Department of Transportation in 1967 combined 31 disparate elements of the Federal Government with transportation responsibilities under one Department. The purpose of establishing the Department was to coordinate and manage transportation programs, provide leadership in the resolution of transportation problems, and develop national transportation policies and programs.

Today the DOT is responsible for overseeing and administering a wide range of transportation programs, policies and regulations for both aviation and surface transportation. The top priorities at DOT are to keep the traveling public safe and secure, increase their mobility, and have our transportation system contribute to the nation's economic growth.

## FY2018-2022 Strategic Goal Framework

This Strategic Plan establishes the strategic goals and objectives for the DOT for FY2018 through FY2022. The GPRA Modernization Act of 2010 (GPRA) aligns strategic planning with the beginning of each new term of an Administration, requiring every Federal agency to produce a new Strategic Plan by the first Monday in February following the year in which the term of the President commences. The Strategic Plan, therefore, presents the long-term objectives an agency hopes to accomplish at the beginning of each new term of an Administration by describing general and long-term goals the agency aims to achieve, what actions the agency will take to realize those goals, and how the agency will deal with challenges and risks that may hinder achieving results.

Under GPRA, the Office of Management and Budget (OMB) has established guidance that defines the content and framework for agency strategic plans. This DOT Strategic Plan meets this guidance. It includes the following key elements as defined by OMB.

- **Strategic Goals** are general, outcome-oriented, long-term goals for the major functions and operations of DOT. They address the broad impacts desired by DOT.
- **Strategic Objectives** reflect the outcomes DOT is trying to achieve and are tied to performance goals and indicators.
- **Management Objectives** are a type of strategic objective that communicates improvement priorities for management functions such as strategic human capital management, information technology (IT), or financial stewardship.
- **Strategies** describe how DOT plans to make progress towards the strategic objectives.

Each DOT Operating Administration is responsible for developing its own strategic plan that aligns with the DOT Strategic Plan and their own legislative and statutory requirements. These

strategic plans describe in greater detail how each Operating Administration will carry out its responsibilities in achieving the Departmental goals established in this document.

## Strategic Goals

Our strategic goals are presented below:

- **SAFETY: Reduce Transportation-Related Fatalities and Serious Injuries Across the Transportation System.**

Safety has consistently been DOT's top strategic and organizational goal. To improve transportation safety, DOT seeks to work effectively with State, local, and private partners; address human behaviors that increase safety risks; improve safety data analysis to guide decisions; ensure automation brings significant safety benefits; and pursue performance-based rather than prescriptive regulations.

- **INFRASTRUCTURE: Invest in Infrastructure to Ensure Mobility and Accessibility and to Stimulate Economic Growth, Productivity and Competitiveness for American Workers and Businesses.**

The DOT seeks to guide investments that stimulate economic growth, maintain and improve the conditions of infrastructure, and enable the more efficient movement of people and goods. To achieve this goal, DOT will provide guidance, technical assistance, and research that leverages Federal funding, accelerates project delivery, reduces project lifecycle costs, and optimizes the operation and performance of existing facilities. By using innovative forms of financing and project delivery, encouraging partnerships between the public and private sectors, and strategically balancing investments across various modes to promote greater efficiencies, DOT can maximize the returns to the Nation's economy and people.

- **INNOVATION: Lead in the Development and Deployment of Innovative Practices and Technologies that Improve the Safety and Performance of the Nation's Transportation System.**

Emerging technologies are transforming our transportation system. The DOT seeks to continue its leadership role guiding research investments and facilitating the deployment of beneficial transportation technologies. By engaging with the private sector, DOT can leverage Federal resources to support technology transfer (T2) and ensure the safety and security of new technologies.

- **ACCOUNTABILITY: Serve the Nation with Reduced Regulatory Burden and Greater Efficiency, Effectiveness and Accountability.**

The DOT will streamline regulations and improve organizational effectiveness of the Department. The DOT will raise accountability standards that improve the efficient use of taxpayer funds. By streamlining business processes and investing in workforce development, DOT will enhance its responsiveness and adaptability to the demands of a rapidly evolving industry.

**Table. DOT Goals, Strategic Objectives, and Strategies**

<b>Goals</b>	<b>Strategic Objectives</b>	<b>Strategies</b>
<b>SAFETY</b>	Strategic Objective 1: Systemic Safety Approach	<ul style="list-style-type: none"> <li>• Improve the collection, management, and integration of data on transportation-related fatalities and serious injuries, and their precursors, to enhance risk analysis</li> <li>• Identify the risk factors that contribute to fatalities and serious injuries and implement evidence-based risk elimination and mitigation strategies</li> <li>• Collaborate with stakeholders to foster behavior and infrastructure changes that improve safety</li> <li>• Address the disproportionate transportation safety risks in rural communities</li> <li>• Establish a Departmental commitment to continually improve transportation safety by fostering a positive transportation safety culture across the transportation sector</li> <li>• Evaluate the effectiveness of risk management strategies in reducing risk</li> <li>• Promote the use of performance-based safety standards and measures</li> </ul>
<b>INFRASTRUCTURE</b>	Strategic Objective 1: Project Delivery, Planning, Environment, Funding and Finance	<ul style="list-style-type: none"> <li>• Streamline the environmental review process to deliver transportation projects more quickly and efficiently to provide timely benefits to users while safeguarding our communities and maintaining a healthy environment</li> <li>• Target Federal investments toward transportation projects that address high priority infrastructure needs</li> <li>• Leverage State and local funding and private sector investment</li> <li>• Build partnerships with stakeholders to facilitate the financing, development and implementation of multimodal transportation projects that improve connectivity, accessibility, safety, and convenience for all users</li> </ul>
	Strategic Objective 2: Life Cycle and Preventive Maintenance	<ul style="list-style-type: none"> <li>• Restore transportation infrastructure and assets to a state of good repair through asset management planning and innovative maintenance strategies that take into account long-term operational and financial considerations</li> <li>• Provide research, technical assistance, and targeted funding to ensure that transportation infrastructure is planned, constructed, and maintained using best operational and risk management practices</li> </ul>
	Strategic Objective 3: System Operations and Performance	<ul style="list-style-type: none"> <li>• Improve the reliability of travel and freight movement on the Nation’s transportation systems by working with State DOTs and other stakeholders to identify data sources and models to assess overall system reliability</li> <li>• Measure the performance of transportation systems and target investments accordingly to improve the experience of the travelling public</li> </ul>
	Strategic Objective 4: Economic Competitiveness and Workforce	<ul style="list-style-type: none"> <li>• Make targeted investments to increase freight mobility and reliability in support of economic competitiveness</li> <li>• Increase international market access for America’s products and services by eliminating transportation and international trade barriers</li> <li>• Support the development of appropriately skilled and prepared transportation workers, and develop strategies to meet emerging workforce challenges</li> <li>• Encourage transportation investments that promote economic revitalization and job growth in rural communities</li> </ul>
<b>Goals</b>	<b>Strategic Objectives</b>	<b>Strategies</b>

<b>INNOVATION</b>	Strategic Objective 1: Development of Innovation	<ul style="list-style-type: none"> <li>• Strengthen coordination across modes, stakeholders, jurisdictions, institutions, sectors, and international boundaries</li> <li>• Conduct research on advanced technology to promote transportation safety and efficiency</li> <li>• Partner with the private sector to encourage technology innovation</li> <li>• Facilitate development of data systems to support data-driven technologies, decision making in real time, and data sharing</li> <li>• Develop modal cyber threat models for transportation critical infrastructure to enhance integrated cybersecurity and safety research priorities</li> </ul>
	Strategic Objective 2: Deployment of Innovation	<ul style="list-style-type: none"> <li>• Advance the integration of new transportation technologies into transportation systems to improve safety and performance</li> <li>• Facilitate private sector and multimodal stakeholder collaboration to improve transportation safety and performance</li> <li>• Update Departmental regulations, policies, and guidance to support advancements in technology and innovation</li> <li>• Strengthen the technology transfer process to facilitate adoption</li> </ul>
<b>ACCOUNTABILITY</b>	Management Objective 1: Regulatory Burden	<ul style="list-style-type: none"> <li>• Reduce regulations and control regulatory costs</li> </ul>
	Management Objective 2: Mission Efficiency and Support	<ul style="list-style-type: none"> <li>• Attract, develop, and retain employees who have the capabilities and competencies to help the Department achieve its goals</li> <li>• Improve administrative programs by streamlining processes, improving systems, and maximizing employee performance, development, and engagement to make efficient and effective use of the Department's resources</li> <li>• Improve the performance of financial systems</li> <li>• Improve the performance of procurement systems</li> <li>• Promote small business development opportunities</li> <li>• Ensure sustainable facilities and efficient internal operations</li> <li>• Advance the modernization of information technology solutions that will enhance mission performance and promote efficient operations</li> </ul>



## 2. GOALS

### 2.1. SAFETY

#### Reduce Transportation-Related Fatalities and Serious Injuries across the Transportation System

Safety has consistently been DOT's top Strategic and Organizational goal. Each mode has its own safety posture, but common themes cross all modes. These include the need to work effectively with State and local partners, address human behaviors, employ lifesaving infrastructure countermeasures, improve safety data analysis, ensure automation brings significant safety benefits, and pursue performance-based rather than prescriptive regulations.

In 2015, 36,982 lives were lost in transportation.<sup>i</sup> The majority of transportation fatalities are on highways. Motor vehicle traffic crashes in 2016 resulted in 37,461 fatalities, representing a 5.6-percent increase from the previous year. Among those killed in traffic crashes were 1,430 children, 5,286 motorcyclists, and 6,827 pedestrians and bicyclists.<sup>ii</sup> Traffic fatalities increased in both 2015 and 2016 after several years of decline. Deaths among pedestrians, bicyclists, and motorcyclists increased in 2016. The causes of the recent significant increase in traffic fatalities are unclear.<sup>iii</sup> Increases in driving are one factor, but without additional understanding of the underlying causes, these increases will be difficult to address through policy making.

While the vast majority of transportation deaths are motor-vehicle related, safety is a primary issue for all transportation modes. About 230 to 260 people die each year in train-related crashes at public highway-railroad crossings.<sup>iv</sup> In 2015, 846 people died in rail, vessel, and pipeline accidents; the number of fatalities has declined in nearly all modes.<sup>v</sup> Finally, while commercial aviation crash rates have declined dramatically since the 1960s, the annual average number of lives lost in general aviation crashes between 2010 and 2015 has remained above 400 fatalities per year.<sup>vi</sup>

Rural road safety is a particular concern because a disproportionate share of highway fatalities occur on rural roads. While 19 percent of the U.S. population lives in rural areas, rural road fatalities account for 49 percent of all traffic fatalities.<sup>vii</sup> The fatality rate, as measured by fatalities per vehicle miles traveled, is 2.6 times higher in rural areas than in urban areas.<sup>viii</sup>

Multiple factors contribute to transportation-related fatalities and serious injuries. Successfully addressing such complex, multifaceted safety challenges requires a comprehensive and system-wide approach to deploy safety countermeasures, programs, and activities in a coordinated manner with transportation stakeholders. This approach must be informed by verifiable transportation system data that document transportation crashes, serious injuries, and even near-misses when available. As public agencies begin to collect more data about their own operations and about users of their systems, standards and policies must be in place to assure data security and protect the privacy of the traveling public.

Transportation services and data are increasingly being provided by private companies and service providers. Regulatory agencies must reimagine existing regulations and develop flexible

regulations that do not create unnecessary barriers while promoting safe and efficient deployment of private transportation service. For instance, unmanned aircraft systems and commercial space flights pose new and poorly understood hazards into the national air space, requiring more collaborative, data informed and risk-based safety management approach to emerging safety risks. Public agencies need to find avenues for collaboration that benefit both parties, and integrate this data with traditional data sources in meaningful, constructive ways.

#### 2.1.1.1. STRATEGIC OBJECTIVE 1: Systemic Safety Approach

Mitigate risks and encourage infrastructure and behavior change by using a data-driven systemic safety approach to identify risks, enhance standards and programs, and evaluate effectiveness.

The DOT has adopted a systemic, safety management system (SMS) approach to improving transportation that supports the adoption and evaluation of data-driven strategies to identify and address priority safety risks. The DOT will take steps to advance the integration and improvement of SMS to guide the identification and implementation of effective safety strategies. In particular, DOT will use data-driven approaches to address safety challenges in rural areas, including with Native American tribes, which account for a disproportionate number of traffic fatalities.

The DOT will integrate traditional data sources with new, external data sources; grow data analysis capabilities; and promote the use of safety and cyber security data to enable evidence-based policy-making. In addition, data will be used to inform how DOT sets safety standards across the modes to prevent fatalities and serious injuries through regulations, guidance, and policies without undue costs or burdens. The DOT plans to promote the use of performance-based standards that will advance transportation toward zero fatalities, and will support States and local communities as they implement these standards. The DOT will continue to provide leadership to integrate safety throughout the entire infrastructure project development process, including planning, design, engineering, environmental management, construction, and operations and maintenance.

Human error and related human factors are responsible at least in part for a significant portion of motor vehicle crashes and other transportation incidents that result in fatalities or serious injuries; accordingly, DOT's Operating Administrations will shorten the learning curve by studying appropriate performance-based best practices of international partners who are making the greatest strides in improving transportation safety and collaborate with stakeholders to promote safety through several programs. The DOT will work cooperatively with stakeholders to apply resources to support compliance with safety laws and standards and promote effective evidence-based safety countermeasures, infrastructure and technologies to prevent or mitigate the severity of crashes and their negative consequences on communities and the economy.

Automation holds tremendous promise to reduce transportation-related fatalities related to human error. The DOT will work closely with stakeholders in the public and private sector to advance the development and adoption of automated technologies across each mode while

ensuring their safety. Strategies to advance automation are important contributors to DOT's Safety and Innovation goals. In this document, they are addressed under the Innovation goal.

## **STRATEGIES**

### **Data: Improve the collection, management, and integration of data on transportation-related fatalities and serious injuries, and their precursors, to enhance risk analysis**

The effectiveness of safety programs is directly linked to the availability of sound data analysis for informed decisions. The DOT is committed to increasing the effective use of safety data by improving data quality, quantity, types, storage, maintenance, and accessibility. The DOT will enhance the analytical processes and procedures used to identify safety problems and select countermeasures to achieve optimal returns on safety investments. To support effective policy and informed decision-making, DOT will increase internal capacity to perform data analysis, promote the innovative use of safety data, and establish data integration to address transportation safety risks.

### **Identify Risks: Identify the risk factors that contribute to fatalities and serious injuries and implement evidence-based risk elimination and mitigation strategies**

The DOT will pursue initiatives to improve data-driven systemic investments in transportation safety and ensure that the countermeasures promoted are proven and evidence-based.

### **Collaboration: Collaborate with stakeholders to foster behavior and infrastructure changes that improve safety**

The DOT will work closely with transportation agencies, safety advocacy groups, law enforcement and other emergency responders to better understand safety issues and promote strategies that encourage behavioral change.

### **Rural: Address the disproportionate transportation safety risks in rural communities**

The DOT will work with State DOTs and local road agencies to build their capacity to address critical safety issues, delivering innovative and timely technical assistance, safety data analysis, and investments to efficiently allocate limited funding resources and address disparities in rural transportation safety outcomes.

### **Leadership: Establish a Departmental commitment to continually improve transportation safety by fostering a positive transportation safety culture across the transportation sector**

Safety culture within an organization is exemplified by the shared values and behaviors that demonstrate a top-down commitment to safety over completing goals. The DOT will foster a safety culture by pursuing programs and initiative that increase the valuation of safety and encourages proactive safety reporting and risk management to achieve safety goals.

**Evaluation: Evaluate the effectiveness of risk management strategies in reducing risk**

DOT will engage in rigorous evaluations of safety programs and strategies to ensure their efficiency and effectiveness.

**Performance: Promote the use of performance-based safety standards and measures**

Each of DOT's operating administrations have adopted a systemic approach to safety oversight and management. This approach uses data and performance measures to determine priorities, evaluate risk mitigation strategies, guide safety standards, and ensure the effective integration of those standards into organizational structures and business process.

## 2.2. INFRASTRUCTURE

### Invest in Infrastructure to Ensure Mobility and Accessibility and to Stimulate Economic Growth, Productivity and Competitiveness for American Workers and Businesses.

Targeted transportation investments are needed to preserve mobility and accessibility of the traveling public and freight movements. Investment in maintaining, repairing and rehabilitating infrastructure has not kept pace with needs. As a result, our highways, bridges, transit assets, ports and waterways, and passenger rail facilities face growing maintenance and modernization needs. The failure to modernize our infrastructure to keep up with a growing population and economy and technological advances compromises the safety, capacity, and efficiency of the U.S. transportation network. The declining condition of our infrastructure reduces our Nation's economic competitiveness and the quality of life of all Americans. Repair and modernization of our transportation infrastructure must be a national priority, to ensure continued economic growth in the United States and preserve our freedom of movement and quality of life.

The effects of underinvestment are evident to all who depend on our transportation system. The situation is particularly acute for highways and transit systems. Highway travel time reliability in urban areas has gotten worse. Sixty-four percent of U.S. highways are in less than good condition, and 25 percent of U.S. bridges need significant repair or can't handle today's traffic.<sup>ix</sup> Of all classifications of bridges, rural local bridges have the highest percentage of structural deficiencies, 17.2 percent.<sup>x</sup> Interstate bridges in rural areas had the highest share of functionally obsolete rural bridges at 11.6 percent.<sup>xi</sup> Transit systems across the U.S. support 7.6 million commuters<sup>xii</sup> but face a \$90 billion maintenance backlog.<sup>xiii</sup> Approximately 35 percent of transit system guideway elements are not in a state of good repair.<sup>xiv</sup>

Freight bottlenecks and chokepoints across our multimodal transportation system raise the cost of freight shipments and reduce our economic competitiveness. The navigation locks on our inland waterways, key corridors for moving bulk commodities, are in need of rehabilitation and modernization.<sup>xv</sup> Freight tonnage is forecast to increase by 40 percent by 2045 further straining our Nation's roads, railways, ports, inland waterways, and intermodal facilities.<sup>xvi</sup>

The environmental review and permitting process in the United States is fragmented, inefficient, and unpredictable. Existing statutes have important and laudable objectives, but the lack of cohesiveness in their execution make the delivery of infrastructure projects more costly, unpredictable, and time-consuming, all while adding little environmental protection. The median time to complete an environmental impact statement (EIS) is approximately four years or more. The full environmental review process on complex projects can exceed 10 years. More efficient and effective Federal infrastructure decisions can transform our economy, so the Federal Government, as a whole, must change the way it processes environmental reviews and authorization decisions. DOT will be a leader in implementing

Executive Order 13807 and other White House directives on speeding the permitting process, meeting a two-year deadline for Federal infrastructure projects.

To stimulate growth and retain economic competitiveness, DOT must guide strategic investments that enable the more efficient movement of people and goods. To achieve this goal, DOT will provide guidance, technical assistance and research that leverages Federal funding, accelerates project delivery, reduces project lifecycle costs, and optimizes the operation and performance of existing facilities. By using innovative forms of financing and project delivery, encouraging partnerships between the public and private sectors, and strategically balancing investments across various modes to promote greater efficiencies, DOT can help its public and private partners maximize the returns to the Nation's economy and people.

#### 2.2.1. [STRATEGIC OBJECTIVE 1: Project Delivery, Planning, Environment, Funding and Finance](#)

[Facilitate expanded infrastructure development and construction in both rural and urban communities by fostering more efficient and collaborative planning and construction techniques, accelerating project approval, leveraging all sources of funding, and promoting innovative financing while maintaining environmental stewardship.](#)

DOT provides Federal transportation funding to support construction and rehabilitation of infrastructure and is committed to helping State and local agencies leverage public and private investments to restore the Nation's infrastructure in rural and urban areas. The DOT's Build America Bureau strengthens financing and funding opportunities and provides access to credit and grant programs with more speed and transparency. The DOT's Operating Administrations also provide technical assistance and encourage the use of innovative best practices in project planning, financing, development, delivery, and monitoring. The DOT is committed to streamlining environmental reviews, institutionalizing use of the Permitting Dashboard to improve accountability and transparency, and increasing opportunities for private sector investment, in order to upgrade our transportation infrastructure for the benefit of all communities, from rural to urban. This includes administering programs designed to efficiently connect small and rural communities to the national air transportation system. The DOT will engage with our international partners to acquire and adopt innovative infrastructure development and financing approaches to U.S. needs. The DOT has a long history of working to reduce transportation-related air, water and noise pollution and impacts on the natural and human environment, and this work will continue within the project development process.

### **STRATEGIES**

Departmental strategies to achieve this objective include:

**[Streamlining and Stewardship: Streamline the environmental review process to deliver transportation projects more quickly and efficiently to provide timely benefits to users while safeguarding our communities and maintaining a healthy environment](#)**

To reduce the timeframe for delivering infrastructure projects, DOT will accelerate and improve environmental reviews and permitting processes by employing a range of strategies including: improving interagency coordination, reducing duplication of reviews, and enhancing transparency and accountability.

**Prioritize: Target Federal investments toward transportation projects that address high priority infrastructure needs**

Through competitive, discretionary grant programs DOT will support projects of national significance that support DOT goals, leverage Federal funds, transform how infrastructure is delivered, and promise a high rate of social and economic return.

**Leverage Funding: Leverage State and local funding and private sector investment**

Through competitive and formula grants and innovative finance programs, DOT will leverage Federal funds, incentivize State and local funding, and support private investment in transportation infrastructure.

**Partnerships: Build partnerships with stakeholders to facilitate the financing, development and implementation of multimodal transportation projects that improve connectivity, accessibility, safety, and convenience for all users.**

Public-private partnerships (P3) can allow public agencies to leverage private sector capital and expertise to deliver projects more quickly and efficiently by introducing greater market discipline to project delivery and management. The DOT programs will support the use of P3s to deliver infrastructure projects.

2.2.2. [STRATEGIC OBJECTIVE 2: Life Cycle and Preventive Maintenance](#)

[Keep the Nation's transportation infrastructure secure and in a state of good repair by maintaining and upgrading existing systems in rural and urban communities.](#)

The DOT supports lifecycle management and preservation of infrastructure by providing Federal transportation funding and targeted programmatic asset management guidance to support the rehabilitation and preservation of existing transportation infrastructure to keep these important assets in good condition for the benefit of all communities, from rural to urban. The DOT has increasingly emphasized a risk-based strategy of infrastructure asset management to efficiently build, preserve, and maintain infrastructure. For instance, FHWA is working closely with State DOTs on asset management requirements under MAP-21. Going forward, DOT will increase its effectiveness in ensuring that infrastructure is resilient enough to withstand extreme weather and security events (including cybersecurity events), which could otherwise disrupt the transportation network and require major reconstruction. Beyond this, innovative improvements will be aligned with needed preservation to reduce costs and foster continuous modernization and improvement. Finally, DOT expects recipients of

Federal funds to incorporate future operations and maintenance costs associated with a project's life-cycle into the planning and preparation of a project.

## **STRATEGIES**

Departmental strategies to achieve this objective include:

### **Rebuild: Restore transportation infrastructure and assets to a state of good repair through asset management planning and innovative maintenance strategies that take into account long-term operational and financial considerations**

The DOT provides leadership and technical assistance to support State and local governments to strategically manage their assets to improve infrastructure conditions, address risks, maximize the return on investment, and improve system performance. To support cost effective asset management, DOT will support approaches and tools that support the consideration of asset lifecycle costs and management strategies in project design, delivery and maintenance. This includes consideration of the potential benefits of leveraging private sector expertise and discipline for long-term asset management.

### **Risk Management: Provide research, technical assistance, and targeted funding to ensure that transportation infrastructure is planned, constructed, and maintained using best operational and risk management practices**

Infrastructure across the country faces risks from natural disasters, extreme weather, and security risk events that can damage and destroy infrastructure, disrupt travel and regional economies, and cost large sums to repair.

#### **2.2.3. STRATEGIC OBJECTIVE 3: System Operations and Performance**

Enhance reliable and efficient movement of people and goods by promoting effective management and ensuring leadership in securing data and in sharing information across the transportation system.

The DOT will support development and operation of transportation systems to ensure that they are connected, compatible, integrated, managed effectively, and responsive to new services and technologies to encourage efficient mobility and access for people and goods. The DOT will increase its use of performance measures to provide transparency and to help target the cost-effective use of Federal, State, local and private funding and financing where they are needed most.

## **STRATEGIES**

Departmental strategies to achieve this objective include:



**System Reliability: Improve the reliability of travel and freight movement on the Nation's transportation systems by working with State DOTs and other stakeholders to identify data sources and models to assess overall system reliability**

The DOT seeks to address congestion on our Nation's transportation systems through targeted, data-driven investments in projects to enhance capacity and the development and promotion of effective operational strategies and technologies to optimize existing capacity.

**Performance: Measure the performance of transportation systems and target investments accordingly to improve the experience of the travelling public**

Transportation agencies in all modes and at all levels are increasingly using performance measures and data to inform decisions and increase accountability. Federal surface transportation performance measures and outcome-based regulatory structures in other modes offer the prospect of increasing the focus on maintaining a state of good repair.

**2.2.4. STRATEGIC OBJECTIVE 4: Economic Competitiveness and Workforce**

Promote transportation policies and investments that bring lasting economic benefits to the Nation by ensuring multimodal infrastructure connectivity to foster efficient movement of people and goods at home and abroad; increasing foreign market access and opportunities for American businesses and services; and by meeting the Nation's transportation workforce needs.

The DOT supports strategic, multimodal investments and policies that reduce costs, increase reliability and competition, and satisfy consumer preferences to advance U.S. economic growth and American transportation interests worldwide. The DOT will leverage strategic investments in infrastructure, services, and workers to promote economic growth, opportunity, and competitiveness for the benefit of American workers and businesses, and the traveling public. The DOT will support investments that improve the efficiency of freight movements and increase business competitiveness by improving freight planning and freight data and identifying and addressing freight bottlenecks that hinder the reliable movement of freight. The DOT will also work to improve passenger travel modes, which are a major contributor to both national and local economies.

To promote economic competitiveness the Department will adopt policies that promote U.S. transportation industry exports and foster the development of the transportation workforce. The DOT will promote exports by providing technical assistance to encourage international adoption of U.S. transportation standards and regulations. To meet the Nation's transportation workforce needs, the DOT will collaborate with Federal partners, universities and industry stakeholders to develop and implement strategies that will foster the training and development of a workforce able to meet the needs of the transportation industry. In this effort, DOT will encourage approaches that effectively address the impact of technology on the transportation industry workforce.

## STRATEGIES

Departmental strategies to achieve this objective include:

### **Freight: Make targeted investments to increase freight mobility and reliability in support of economic competitiveness**

The DOT supports freight planning, freight infrastructure funding and development, and freight data collection and maintenance. The DOT recently developed a National Freight Policy for the first time and establishing a National Multimodal Freight Program and a National Highway Freight Program. In addition, to support enhanced freight investment decision-making, the Department is developing data sources to aid in freight-related planning and project evaluation efforts. The DOT also works to ensure adequate capacity and quality of international and cross-border trade corridors that support American jobs and reduce our trade deficits by engaging intermodal freight infrastructure planning and coordination with foreign partners.

### **Global Competitiveness: Increase international market access for America's products and services by eliminating transportation and international trade barriers**

The DOT seeks to advance American transportation interests worldwide by creating opportunities for American businesses to sell goods and services abroad and by working with foreign partners to improve the safety, efficiency, and sustainability of global transportation systems. The DOT increases foreign market access and opportunities for American business overseas by eliminating barriers to trade in transportation-related goods and services; and spurs the development of export-related jobs through Federal transportation investments, international transportation initiatives, and cooperative research efforts.

### **Workforce Development: Support the development of appropriately skilled and prepared transportation workers, and develop strategies to meet emerging workforce challenges**

The DOT is committed to educating current and future workers on the knowledge and skills to be a part of a world-class workforce for the transportation sector in order to achieve the nation's transportation priorities. Specific initiatives are already underway at FAA, FHWA, FMCSA, FTA, and MARAD.

### **Rural: Encourage transportation investments that promote economic revitalization and job growth in rural communities**

Well-planned, multimodal freight systems will provide opportunities for companies to locate and grow in rural regions due to efficient and reliable connections with major markets and ports. Intermodal facilities and logistics centers located in rural areas can benefit from lower costs than urban areas and may be strategically located at a key transfer point in a freight corridor. The DOT will prioritize policies and programs connecting rural communities to economic opportunities.

## 2.3. INNOVATION

### Lead in the Development and Deployment of Innovative Practices and Technologies that Improve the Safety and Performance of the Nation's Transportation System.

The transportation sector is rapidly evolving to become one of the most innovative and dynamic areas of the Nation's economy. Significant developments and convergence of robotics, artificial intelligence, sensors, mapping, data and communications are driving innovation in the transportation space. Emerging technologies such as Automated Driving Systems (ADS), unmanned aircraft systems (UAS), the Internet of things (IoT), Mobility-as-a-Service (MaaS), autonomous ships, automated ports, and others represent examples of where these technologies are aiming to transform the future use, operation, and development of the transportation system.

These emerging technologies can offer benefits in safety and efficiency, thus advancing the DOT's mission of providing safe, clean, accessible, and efficient transportation. Automation has already assisted in making aviation safer; it now holds the potential to significantly improve safety on our highways. Automated systems perform more of the driving task and reduce opportunities for human error, which contributes to the vast majority of crashes. These systems can also enhance operational efficiency and provide tremendous societal benefits.

Accelerated market penetration of UAS is expected to generate substantial economic and workforce impacts.<sup>xvii</sup> Today, unmanned aircraft are used for a variety of applications in areas like environmental monitoring and scientific research, precision agriculture and crop maintenance, safe infrastructure inspection, firefighting, search and rescue operations, and education. UAS will enable high-impact research, create new jobs and industries, save lives, and provide scientific, economic, and social benefits that public and private entities are only beginning to explore.

Along with the potential benefits of these transportation innovations, there are also new policy and regulatory challenges that will need to be addressed. The existing regulatory structure may not address or be flexible enough to adapt to rapidly advancing technologies and may result in significant barriers to adoption. Also, the full implications of emerging technologies to infrastructure, the workforce, and public agencies remain unclear. The DOT must be prepared to respond to challenges posed by emerging technologies, while accelerating their development and deployment to realize potential benefits.

Innovative technologies and practices are key drivers for improving the safety and performance of the Nation's transportation system. To achieve this goal, DOT will support development and deployment of these innovative technologies by investing in targeted research, facilitating coordination and information sharing, partnering with industry and other stakeholders, assessing existing regulatory approaches to address potential barriers, and providing opportunities to expedite the testing and adoption of these beneficial technologies.

### 2.3.1. STRATEGIC OBJECTIVE 1: Development of Innovation

Encourage, coordinate, facilitate, and foster world class research and development to enhance the safety, security, and performance of the Nation's transportation system.

Innovation development requires research and active transfer of relevant technologies and practices to and from private and public sectors, academia, and State and local agencies. Accordingly, DOT funds and facilitates research that supports the development and deployment of innovative practices and technologies in the transportation system. Going forward, DOT will work with research institutions and the private sector to develop and enhance new technological tools capable of improving safety, security and performance of the transportation system. Priority areas include: improving cybersecurity; improving transportation infrastructure durability, resilience, and cost effectiveness; and, improving the movement of goods and people of all abilities. One of the greatest potential benefits of technology will be in improving safety, and research will focus on innovations that will mitigate or reduce the factor human error plays in crashes and other safety incidents. In this effort, the Department will emphasize technologies and practices with the greatest potential to strengthen economic competitiveness and reduce congestion.

Where appropriate, DOT will promote cooperative research with strategic partners to reduce overall research cost and benefit from their technical strengths. The DOT will engage with international stakeholders to maintain awareness of advances in transportation technology, identify opportunities for international research collaboration, and ensure U.S. involvement in the development of global standards and regulatory best practices.

## STRATEGIES

Departmental strategies to achieve this objective include:

### **Coordination: Strengthen coordination across modes, stakeholders, jurisdictions, institutions, sectors, and international boundaries**

Coordination and information sharing is critical for advancing the development of emerging technologies. The DOT aims to continue coordination and collaboration with public agencies, industry, international partners and other stakeholders to ensure that the nation's transportation research enterprise moves forward in a coherent fashion and optimizes the use of limited research resources.

### **Research: Conduct research on advanced technology to promote transportation safety and efficiency**

Federal research and investment are catalysts for supporting innovative practices and furthering the development of emerging technologies. The DOT will continue to fund exploratory research and pilot new technologies to improve safety and efficiency of the

transportation system. In general, the research should be conducted for specific use cases or instances where private industry will not conduct research in that specified area or where research would help policy development. USDOT-conducted research should enable technology transfer wherever possible to try to mainstream applications quickly into revenue service.

#### **Partnerships: Partner with the private sector to encourage technology innovation**

The DOT is committed to engaging with the private sector to support data sharing and the development, commercialization, and adoption of emerging transportation technologies that have the potential to contribute to DOT's strategic goals.

#### **Data: Facilitate development of data systems to support data-driven technologies, decision making in real time, and data sharing**

The DOT will encourage the use of data to identify and evaluate strategies and technologies to improve the performance of the transportation system. Transportation agencies and service providers are increasingly using digital technologies to collect and analyze data on the use and performance of the transportation system. The DOT will explore novel strategies to develop data sources and systems for research, reporting, and decision-making.

#### **Cybersecurity: Develop modal cyber threat models for transportation critical infrastructure to enhance integrated cybersecurity and safety research priorities**

As components of transportation systems are increasingly connected with the Internet of Things (IoT), cybersecurity risks that could impact safety, economy, and emerging technology adoption are increasing. To reduce this risk, the DOT will encourage the adoption of the National Institute of Standards and Technology Cybersecurity Framework by transportation ecosystem stakeholders. The DOT will also develop strategies for the integration of cybersecurity risk management into safety management programs.

#### **2.3.2. STRATEGIC OBJECTIVE 2: Deployment of Innovation**

**Accelerate and expand the deployment of new technologies and practices by reducing barriers to innovation and actively promoting innovations that enhance the safety and performance of the Nation's transportation system.**

Innovative technology applications – such as UAS, commercial space systems, ADS, MaaS, autonomous ships, automated ports, and shared mobility – have the potential for significant positive impact. Realizing this potential will require a research, policy, and regulatory framework that encourages the safe introduction of innovative practices and technologies. The DOT will encourage industry to promote public awareness efforts of new technologies. DOT strategies will involve technology transfer programs, promoting best practices, policy development in consultation with stakeholders, and a consistent and clear regulatory framework which thoughtfully reduces deployment barriers. The DOT

will administer existing programs to foster new economic opportunities and encourage competition and market entry by new business models, through research, engagement in international fora on market access and best practices, and more flexible implementation of the Department's regulatory responsibilities. The DOT will encourage the deployment of U.S. innovations in foreign markets to enhance U.S. economic competitiveness, strengthen the U.S. industry and grow jobs at home.

## **STRATEGIES**

Departmental strategies to achieve this objective include:

### **Technology Integration: Advance the integration of new transportation technologies into transportation systems to improve safety and performance**

The DOT will act to accelerate the integration of emerging transformative technologies into the transportation system by providing opportunities for pilot and demonstration programs and adapting systems and regulations to accommodate and deploy new, beneficial technologies.

### **Collaboration: Facilitate private sector and multimodal stakeholder collaboration to improve transportation safety and performance**

Collaboration between the different modal stakeholders is important for sharing research, information, and best practices to support innovation deployment. The DOT is committed to facilitating multimodal stakeholder collaboration throughout the Department and with national and international stakeholders.

### **Updated Regulation: Update Departmental regulations, policies, and guidance to support advancements in technology and innovation**

The DOT will streamline regulatory processes, adopt technologies to minimize the negative impacts of regulatory oversight, and improve the responsiveness of the regulatory system to emerging technologies. The DOT will assess and potentially identify new measures to evaluate safety and efficiency of new technologies. The DOT will also identify opportunities to facilitate, improve, and expedite the exemption and special permit processes to support deployment of innovative technologies and practices.

### **Technology Transfer: Strengthen the technology transfer process to facilitate adoption**

The DOT will work closely with the transportation industry to accelerate the commercialization and adoption of market ready transportation technologies.

## 2.4.ACCOUNTABILITY

### Serve the Nation with Reduced Regulatory Burden and Greater Efficiency, Effectiveness and Accountability.

The DOT seeks to improve the efficiency, effectiveness and accountability of the Department through the reduction in low-value, obsolete, or duplicative regulations and the streamlining and improved coordination of business processes. We must also build a Departmental workforce that meet the challenges of today and tomorrow by improving employee engagement, investing in workforce development and training, and enhancing the tools and technologies our employees rely on to meet our Department's mission.

In the past, the Federal government has all too often focused on creating new programs instead of eliminating or reforming programs which are no longer operating effectively. The result is ineffective, redundant and outdated programs, rules and processes that are not responsive to the needs of the transportation industry or the American public. Overly burdensome rules and regulations impair the performance of the Federal workforces, impede the development and deployment of beneficial technologies, and slow the implementation of urgently needed infrastructure projects.

We need to reevaluate the role for the Federal Government in infrastructure investment by seeking long-term reforms on how infrastructure projects are regulated. The environmental review and permitting process in the United States is fragmented, inefficient, and unpredictable. Existing statutes have important and laudable objectives, but the lack of cohesiveness in their execution make the delivery of infrastructure projects more costly, unpredictable, and time-consuming, all while adding little environmental protection. The inefficiencies of the current process result in too much time and too many resources dedicated to time-intensive analyses that do not necessarily improve the environment.

#### 2.4.1. MANAGEMENT OBJECTIVE 1: Regulatory Burden

Reduce current regulatory burdens and bureaucracy while focusing on better environmental and community outcomes to ensure a safe, efficient, accessible, and convenient transportation system for people and commerce.

Improvement of regulations is a continuous focus for the Department. There should be no more regulations than necessary, and those regulations should be straightforward, clear, and designed to minimize burdens. Once issued, regulations and other agency actions should be reviewed periodically and revised to ensure that they continue to meet the needs for which they originally were designed, remain cost-effective and cost-justified. Among other actions seeking to achieve these means, the President issued Executive Order 13771, "Reducing Regulation and Controlling Regulatory Costs." OMB has issued guidance on implementing this Executive Order, and DOT has established a Regulatory Reform Task Force to evaluate existing regulations and make recommendations to the Secretary regarding their repeal, replacement, or modification. Other activities to reduce

regulatory burdens also fit into this area, such as the review required by Executive Order 13783, “Promoting Energy Independence and Economic Growth”, and the subsequent burden reducing efforts that will result from the review.

## **STRATEGIES**

Departmental strategies to achieve this objective include:

### **Regulation: Reduce regulations and control regulatory costs**

The DOT will take steps to eliminate obsolete or duplicative regulations and streamline regulatory processes to improve government efficiency and reduce impediments to innovation, project delivery, and program implementation. To achieve this the DOT will establish a Regulatory Review Officer (RRO) and a Regulatory Reform Task Force (RRTF) to evaluate existing regulations and to make recommendations for their repeal, replacement, or modification. To achieve the mandate of Executive Order 13771, the Department will offset, to the greatest extent permitted by law, any new incremental costs associated with new regulations by the elimination of existing costs associated with at least two prior regulations. The Department will seek input from external transportation stakeholders in the public and private sector for recommendations on how best to achieve this goal.

#### **2.4.2. MANAGEMENT OBJECTIVE 2: Mission Efficiency and Support**

**Support mission requirements by efficiently and effectively planning for and managing human capital, finances, procurement, sustainable operations, information technology and other mission support services.**

DOT will actively pursue improvement of its efficiency, effectiveness, and accountability. Strategies will address the implementation of an approved reorganization plan, as required under Executive Order 13781. Other strategies will include: investment in ongoing development and strengthening of DOT’s internal workforce; improvement of financial performance and reduction of costs; increased capacity, efficiency and security of systems; and more efficient resource and energy use in its own operations and those of its grantees.

## **STRATEGIES**

Departmental strategies to achieve this objective include:

### **Workforce: Attract, develop, and retain employees who have the capabilities and competencies to help the Department achieve its goals**

To improve the efficiency and effectiveness of the organization, DOT will hire and retain employees with the right skills, and provide the training and professional development opportunities they need to help DOT successfully achieve its goals. DOT will continue to



foster improved safety performance by enhancing the appropriate workforce’s capability to set safety performance standards and by increasing overall safety awareness through training and communication. DOT will also attract employees with the appropriate knowledge, skills, and abilities to help DOT develop and deploy new innovations and technologies and address cybersecurity threats to DOT’s information technology systems and to the security of the Nation’s critical transportation infrastructure.

**Employee Performance: Improve administrative programs by streamlining processes, improving systems, and maximizing employee performance, development, and engagement to make efficient and effective use of the Department’s resources**

Promoting a culture of continuous process improvement includes implementing service delivery models that enhance business processes and improve the efficiency and effectiveness of mission support programs, resulting in stronger organizational performance and employee engagement within DOT. Fostering an organizational culture of engagement and inclusion will ensure that employees at all levels of the organization are responsible for mission outcomes, objectives, and improved organizational results.

**Financial Management: Improve the performance of financial systems**

DOT will manage its financial systems in an effective and efficient manner by leveraging a highly skilled workforce to develop and deploy technology to enhance the efficiency of our business processes, using reliable data and metrics to make sound business decisions. This will be accomplished by utilizing the existing Federal financial shared service systems that enable operating administrations to focus on and excel at their core mission.

**Procurement: Improve the performance of procurement systems**

The DOT will manage its procurement and financial assistance agreement programs in an effective, efficient, and ethical manner by leveraging a highly skilled workforce to develop and deploy sound acquisition/financial assistance strategies, adopting technology to enhance the efficiency of our business processes, and using reliable data and metrics to make sound business decisions. This will be accomplished by establishing acquisition and financial assistance agreement programs reflecting appropriate government-wide policies, promoting best practices, encouraging innovation, and driving the efficient use of taxpayers’ dollars.

**Small Business: Promote small business development opportunities**

The Department will provide opportunities for small businesses to compete for federally funded projects and programs.

**Operational Efficiency: Ensure sustainable facilities and efficient internal operations**

The Department owns and/or leases more than 10,000 facilities and air traffic control assets with a total floor space of over 30 million square feet and maintains a fleet of over 6,000 owned and leased vehicles. DOT strives to enhance efficiency and minimize environmental

risks in its buildings and its operations by promoting innovative and cost effective energy, water, and vehicle fuel use practices. As a result, DOT has made significant progress in saving taxpayer dollars through efficiency enhancements and will pursue future actions to avoid costs, manage risks, and address the needs of the American public.

**Information Technology: Advance the modernization of information technology solutions that will enhance mission performance and promote efficient operations**

The Office of the Chief Information Officer (OCIO) will deliver mission-enabling IT services that improve the cybersecurity posture of the Department, deliver greater efficiency, and do so in a way that presents a strategic advantage to the mission of the Department.

## END NOTES

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