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May 2017

# DEPARTMENT OF TRANSPORTATION

## Experts Identified Areas for Operational Improvements without Implementing Organizational Changes

# GAO Highlights

Highlights of [GAO-17-478](#), a report to the Committee on Transportation and Infrastructure, House of Representatives

## Why GAO Did This Study

DOT was established over 50 years ago, in part, to build, maintain, and oversee a vast national transportation system. Millions of Americans rely on this system every day to travel and receive goods and services. DOT is organized into nine modal administrations that are generally responsible for activities related to specific transportation modes, such as air, rail, public transit, and highways.

GAO was asked to examine how well DOT's organizational structure enables DOT to address today's transportation challenges. This report addresses (1) activities performed by multiple DOT administrations to fulfill their missions and how, if at all, DOT coordinates these activities, and (2) expert opinions on what, if any, organizational or operational changes could enable DOT to more efficiently and effectively carry out its missions. GAO reviewed documentation on DOT's missions, interviewed DOT officials, and worked with the National Academies of Science, Engineering, and Medicine to convene a meeting with transportation and organizational-change experts. Experts were selected for their experience working with multiple modes of transportation and expertise in organizational change, among other factors.

## What GAO Recommends

DOT should conduct a department-wide review of its current efforts to address issues in the areas experts identified for improvement and develop an action plan to implement improvements, as identified, in these areas. DOT concurred with these recommendations and cited new initiatives to improve the department.

View [GAO-17-478](#). For more information, contact Susan Fleming at (202) 512- 2834 or [FlemingS@gao.gov](mailto:FlemingS@gao.gov).

May 2017

## DEPARTMENT OF TRANSPORTATION

### Experts Identified Areas for Operational Improvements without Implementing Organizational Changes

## What GAO Found

The United States Department of Transportation's (DOT) nine modal administrations conduct a range of similar activities that are generally intended: (1) to achieve different goals (e.g., to protect consumers or improve motor vehicle efficiency); (2) to serve different recipients (e.g., airlines, railroads); or (3) to meet different requirements (e.g., grant and credit programs specified in statute). DOT has numerous efforts to coordinate similar activities across administrations, such as formal coordinating bodies that bring together staff from multiple modes on a variety of topics. DOT also has processes designed to coordinate regulations' development and to approve infrastructure projects.

Experts told GAO that DOT could make operational improvements but does not need to implement organizational changes, to help efficiently and effectively carry out its missions. Experts identified five areas:

- **Collaboration and coordination:** Additional efforts to collaborate among the nine modal administrations, state and local governments, and other federal agencies would better support the development of transportation projects. For example, experts stated DOT could improve the effectiveness of internal collaborative groups by including senior-level officials who could provide leadership and have the authority to make decisions.
- **Data quality and analytics:** Prioritizing which data to collect and improving analytic capabilities could help DOT ensure data are effectively used. Experts stated DOT could do a better job identifying and improving data quality to answer specific, transportation-related questions.
- **Regulation development:** Improving how regulations are developed could help DOT ensure the agency's priorities are addressed and coordinated among all stakeholders. Experts stated that DOT could improve the quality and timeliness of its regulations by seeking earlier input from stakeholders.
- **Project delivery processes:** Streamlining and making the project delivery processes more consistent across modal administrations could reduce barriers and challenges for state and local governments. For example, experts suggested creating a central position to help state and local governments navigate the environmental review process.
- **Addressing emerging issues:** Proactively focusing on how to address technological advancements (e.g., autonomous vehicles) and other emerging issues (e.g., safely transporting domestic oil and gas) could help DOT achieve its missions more efficiently and effectively. For example, experts were concerned that DOT was falling behind the private sector's need for research and specific regulations for autonomous vehicles.

DOT officials agreed improvements are needed across DOT within the areas identified by experts. However, DOT did not identify plans to conduct a department-wide review. The administration recently released documents requiring federal agencies, including DOT, to assess their ability to efficiently and effectively meet their missions. In addition, federal internal control standards require agencies to assess and, typically, develop an action plan to determine whether their policies are effective. Such an assessment could help DOT to improve how it implements programs across all of its modal administrations.

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Figure 1: Organizational History of the Department of Transportation

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**Abbreviations**

AATF	Airport and Airway Trust Fund
DHS	Department of Homeland Security
DOT	United States Department of Transportation
FAA	Federal Aviation Administration
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HTF	Highway Trust Fund
MARAD	Maritime Administration
National Academies	National Academies of Sciences, Engineering, and Medicine
NHTSA	National Highway Traffic Safety Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
OST	Office of the Secretary
OST-R	Office of the Assistant Secretary for Research and Technology
PHMSA	Pipeline and Hazardous Materials Safety Administration
SLSDC	St. Lawrence Seaway Development Corporation

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May 18, 2017

The Honorable Bill Shuster  
Chairman  
The Honorable Peter DeFazio  
Ranking Member  
Committee on Transportation and Infrastructure  
House of Representatives

Americans depend on the nation’s vast transportation system to go about their lives. Over 300-million individuals use this network every day, spending an average of more than 80 minutes per day traveling for a range of activities, including going to and from work, school, places of worship, and commercial businesses.<sup>1</sup> In addition, the nation’s freight transportation network is vital to the functioning of the economy, moving more than 20-billion tons in goods, valued at \$18 trillion, annually.<sup>2</sup> Americans rely on this system to gain access to goods and services every day and transportation-related purchases and investments account for close to 10 percent of the nation’s gross domestic product.

For over 50 years, Congress has tasked the United States Department of Transportation (DOT)

- with overseeing the safety of the transportation system,
- with distributing federal funds to state and local governments to build and maintain the transportation network, and
- with conducting research on ongoing and emerging transportation topics, among other activities.

In fiscal year 2016, DOT had a budget of approximately \$76 billion, which includes funding DOT distributes through grants, and had almost 51,000 employees. In March 2017, the Office of Management and Budget (OMB) released a blueprint that proposes, in part, a 13 percent reduction in DOT’s discretionary budget and suggests altering the way several DOT programs are funded and organized. In addition, a March 2017 Executive Order requires federal agencies to submit to OMB a proposed plan to

<sup>1</sup>DOT, Bureau of Transportation Statistics, *Passenger Travel Facts and Figures 2016*.

<sup>2</sup>DOT, Bureau of Transportation Statistics, *Freight Facts and Figures 2015*.

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reorganize the agency, if appropriate, in order to improve the efficiency, effectiveness, and accountability of that agency.<sup>3</sup>

You asked us to examine DOT's organizational structure consisting of nine administrations, each of which is generally responsible for activities related to a specific transportation mode (e.g., air, rail, public transit, highways, etc.). Specifically, you were interested in how well this structure equips DOT to efficiently and effectively address current and future transportation challenges, including rapid technological advancements, population and economic changes, an aging infrastructure that requires substantial investment, and continuously increasing congestion across all transportation modes. This report addresses: (1) activities performed by multiple DOT modal administrations to fulfill their missions and how, if at all, DOT coordinates these activities, and (2) expert opinions on what, if any, organizational or operational changes could enable DOT to more efficiently and effectively carry out its missions.

To identify activities performed by multiple DOT administrations and how they coordinate, we reviewed historical as well as current statutes pertaining to DOT's organization and documentation on DOT's overall mission and the missions of the nine modal administrations, including strategic plans, budget documents, and organizational manuals.<sup>4</sup> To collect expert opinion on organizational or other changes that could enable DOT to more efficiently and effectively carry out its missions, in September 2016, with the assistance of the National Academies of Sciences, Engineering, and Medicine (National Academies), we convened a GAO meeting with 18 experts. Our participants included former DOT officials, representatives from local and state transportation organizations, private businesses that use our nation's transportation system, and other experts in transportation policy and organizational

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<sup>3</sup>According to the order, agencies have 180 days from the date of the Executive Order to submit a proposed plan to OMB. OMB is also to accept public comments suggesting improvements in the organization and functioning of the executive branch. OMB is then to submit a proposed plan to reorganize the executive branch in order to improve the efficiency, effectiveness, and accountability of agencies. In developing that plan, OMB must consider a list of non-exhaustive factors. For example, OMB must consider the costs of shutting down or merging agencies and whether some or all of the functions of an agency or program are redundant or better left to state or local governments or to the private sector. Exec. Order No. 13781, *Presidential Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch*, 82 Fed. Reg. 13959 (Mar. 13, 2017).

<sup>4</sup>While we identified DOT activities, we did not evaluate how effective these activities are at fulfilling DOT's missions.

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change management. We used several criteria to select experts, including experience with multiple modes of transportation and DOT administrations, and expertise in organizational change, among others. We used a content analysis and follow-up questionnaire to analyze information obtained from these experts.<sup>5</sup> In addition, we reviewed prior work by GAO and the DOT Office of Inspector General (DOT OIG). This work discussed the areas for improvement experts identified. To address both of our objectives and gather background information, we interviewed DOT officials from the Office of the Secretary (OST) and all nine modal administrations, as well as former DOT officials, representatives from state and local transportation agencies, transportation stakeholders from consulting firms, non-profits and think tanks, and academics in the field of organizational change.<sup>6</sup> See appendix I for more detailed information on our scope and methodology, including listings of the experts we met with.

We conducted this performance audit from May 2016 to May 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Background

DOT and its administrations interact with all levels of government and the private sector. When Congress created DOT in 1966, it combined several existing federal transportation organizations with responsibility over aviation, waterways, railroads, and highways.<sup>7</sup> As shown in figure 1, Congress has taken action over the past 50 years to create and dissolve

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<sup>5</sup>The views represented by the experts from whom we gathered information are not generalizable to those of all experts on DOT's organizational structure and operations; however, we were able to secure the participation of a diverse, highly qualified group of experts and believe their views provide a balanced and informed perspective on the topics discussed.

<sup>6</sup>For the purposes of our work, the DOT Office of Inspector General (DOT OIG), which does not perform transportation-related functions, has been excluded. In addition, we did not include the Surface Transportation Board, which became an independent federal agency in 2015.

<sup>7</sup>President Lyndon Johnson proposed the creation of DOT in his 1966 State of the Union Address. Legislation was enacted creating DOT on October 15, 1966, and DOT's first official day of operation was April 1, 1967.



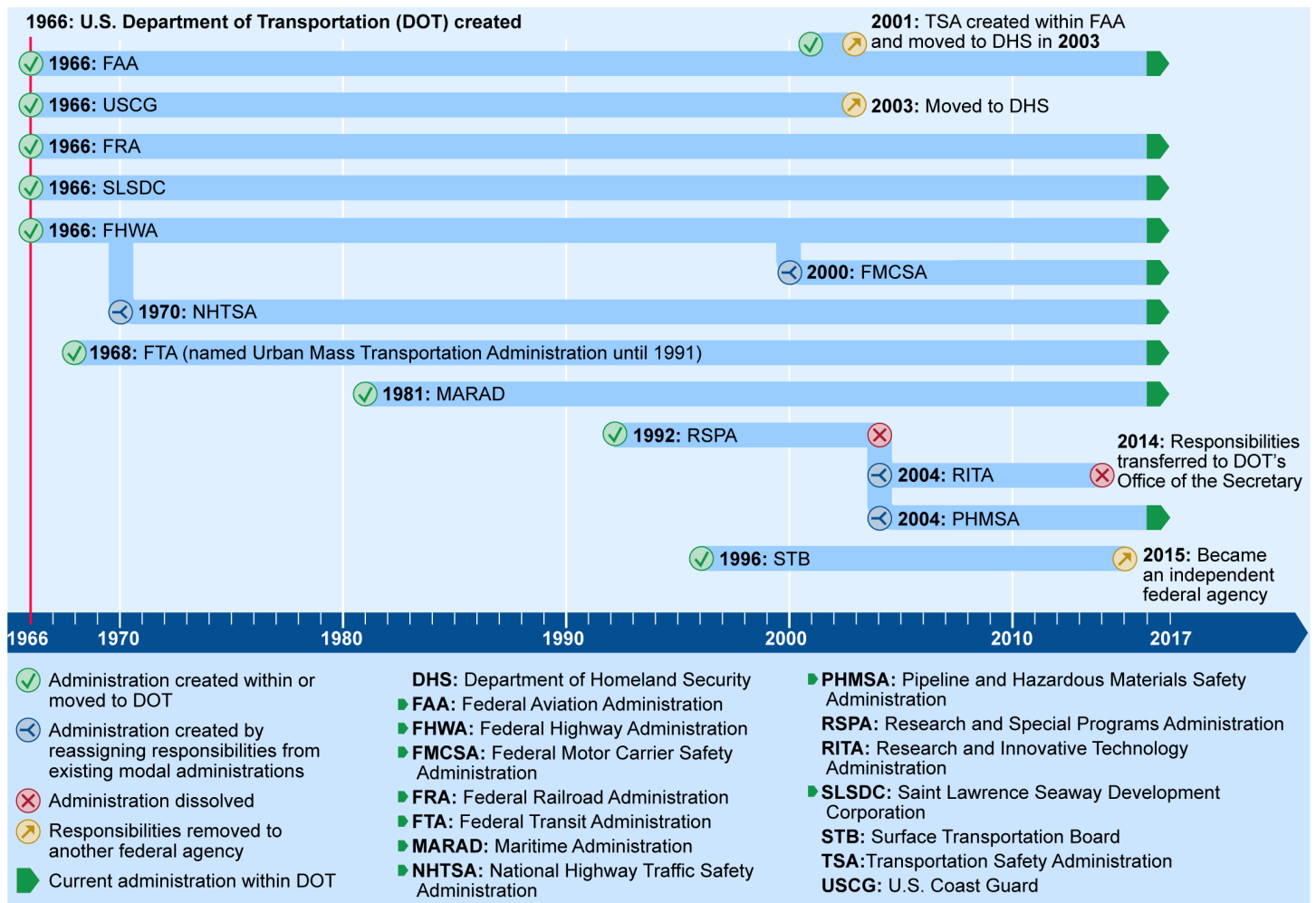
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administrations within DOT, and transfer some responsibilities to different administrations or federal agencies.<sup>8</sup> Despite changes like these over the years, DOT's organizational structure and activities have remained largely focused on transportation mode. DOT currently consists of nine modal administrations, four of which were established at the inception of the department.

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<sup>8</sup>Over the years, DOT has proposed organizational changes that Congress did not act upon. One of the most recent large-scale reorganization proposals was sent to Congress in 1995 and would have consolidated DOT into three modal administrations: FAA, the U.S. Coast Guard, and a new Intermodal Transportation Administration. Since the 1995 proposal, DOT has sent six pieces of proposed legislation to Congress that touch upon DOT's organizational structure, including proposals to create performance-based organizations within FAA and the St. Lawrence Seaway Development Corporation (SLSDC). None of these proposals have been enacted into law.

**Figure 1: Organizational History of the Department of Transportation**



Source: GAO. | GAO-17-478

Note: Several of these administrations were created within other government agencies and subsequently moved to DOT. This figure does not provide a complete history of each administration; rather, it is intended to indicate when administrations became a part of or left DOT.

DOT is made up of nine modal administrations and OST, each of which has its own mission—primarily focused on enhancing mobility and safety. OST is responsible: (1) for coordinating and overseeing the activities of DOT’s modal administrations; (2) for promoting intermodal transportation—in which multiple modes of transportation are used to move people or goods; (3) for formulating national transportation policy; (4) for negotiating and implementing international transportation agreements; and (5) for awarding multi-modal transportation grants,

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among other responsibilities. While OST is responsible for overseeing the modal administrations, each individual administration is headed by a political appointee and has its own missions, goals, and responsibilities, which are achieved through varying activities:

- *Federal Aviation Administration (FAA)*: FAA is responsible for overseeing the safety of civil aviation through the issuance and enforcement of regulations and standards related to (1) the manufacture, operation, certification, and maintenance of aircraft; (2) the certification of the aviation workforce; and (3) the maintenance and operations of airports. FAA also enforces hazardous material regulations for shipments by air, regulates the launch and reentry operations of commercial space-transportation companies, administers aviation-related grant programs, and operates a network of airport traffic-control towers, air-route traffic-control centers, and flight service stations.<sup>9</sup>
- *Federal Highway Administration (FHWA)*: FHWA is responsible for coordinating highway transportation programs in cooperation with states and other partners through the Federal-Aid Highway Program, which provides federal financial assistance to states to construct and improve highways, roads, and bridges, and to improve the safety of public roads.<sup>10</sup> FHWA also provides services through the Federal Lands Highway Program to improve access to public lands and manages a research, development, and technology program.
- *Federal Motor Carrier Safety Administration (FMCSA)*: FMCSA is responsible for enforcing safety and hazardous materials regulations on commercial motor vehicles (e.g., trucks for moving freight and household goods, and buses); improving commercial motor vehicle technologies and safety information systems; and increasing awareness of the importance of safely operating commercial motor vehicles. FMCSA also provides grants to state and local government agencies in a variety of areas, including for improving the safe operation of commercial motor vehicles, commercial drivers-licensing programs, and overseeing newly registered motor carriers.

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<sup>9</sup>In fiscal year 2016, officials responsible for operating the nation's air-traffic control system made up 58 percent (30,000) of all DOT employees.

<sup>10</sup>Funds distributed to states and local government agencies through the Federal-Aid Highway Program (\$42 billion) represented approximately half of DOT's fiscal year 2016 budget.

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- *Federal Railroad Administration (FRA)*: FRA is responsible for developing and monitoring railroad compliance with federally mandated safety standards on track maintenance, inspection standards, and operating practices. FRA also administers federal grant funds for passenger and freight rail infrastructure and services (including Amtrak), safety improvements, and congestion relief programs. In addition, FRA conducts research and development tests on projects to improve safe rail transportation, investigates rail accidents, provides training to and collaborates with the rail industry, and promotes public education campaigns on highway-rail grade crossing safety and the dangers associated with trespassing on rail property.
  - *Federal Transit Administration (FTA)*: FTA is responsible for promoting the development, improvement, and safety of public transportation systems, which include buses, rail, trolleys, and ferries, through a variety of federal grant programs to local transit agencies. FTA oversees these grants and evaluates whether grantees adhere to federal standards. FTA also oversees safety measures and helps develop next-generation technology research. Historically, FTA has not directly overseen the safety of transit systems, but was granted additional safety authorities under several recent surface transportation authorizations, including the ability to temporarily take over for an inadequate or incapable state-safety oversight agency.<sup>11</sup> FTA exercised this authority by taking temporary responsibility for safety oversight of the Washington Metropolitan Area Transit Authority in October 2015.
  - *Maritime Administration (MARAD)*: MARAD is responsible for promoting the development and maintenance of the United States merchant marine, which is sufficient to carry the nation's domestic waterborne commerce and may be called to serve as naval and military auxiliary in times of war or national emergency. As part of this responsibility, MARAD funds and operates the United States Merchant Marine Academy and provides funding to six state maritime academies. MARAD is also responsible for ensuring the United States maintains shipbuilding and repair service capabilities, efficient ports, effective intermodal water and land transportation systems, and reserve shipping capacity in times of national emergency.

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<sup>11</sup>These authorities were granted under the Moving Ahead for Progress in the 21st Century Act (Pub. L. No. 112-141 (2012)) and the Fixing America's Surface Transportation (FAST Act) (Pub. L. No. 114-94 (2015)).

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- *National Highway Traffic Safety Administration (NHTSA)*: NHTSA is responsible for setting and enforcing safety performance standards for motor vehicles and equipment and providing grants to state and local governments for conducting local highway safety programs. NHTSA also investigates safety defects in motor vehicles, sets and enforces fuel economy standards, helps states and local communities address impaired driving, promotes the use of safety technologies, and conducts research on driver behavior and traffic safety, among other activities. In addition, NHTSA promotes the use of safety belts, child safety seats, and motor cycle helmets; establishes and enforces vehicle anti-theft system regulations; and provides consumer information on motor vehicle safety.
  - *Pipeline and Hazardous Materials Safety Administration (PHMSA)*: PHMSA is responsible for overseeing the safe transportation of oil, gas, and other hazardous materials by all transportation modes, including pipelines, through the development and enforcement of regulations and standards, education, research, and assistance to the emergency response community. PHMSA also oversees the safety of the nation's oil and gas pipeline network by inspecting pipelines, collecting and analyzing data, and investigating accidents to identify potential safety improvements.
  - *St. Lawrence Seaway Development Corporation (SLSDC)*: SLSDC is a wholly owned government corporation within DOT that is responsible for working with the Canadian St. Lawrence Seaway Management Corporation to oversee operations for commercial and noncommercial vessels on the Great Lakes and the St. Lawrence Seaway. SLSDC coordinates with Canadian authorities on operational issues such as traffic management, navigation aids, safety, and environmental programs. SLSDC and Canadian authorities also work on trade development opportunities between port communities, shippers, and receivers.

While DOT is responsible for conducting a wide range of activities, many of DOT's program requirements are established in statute. For example, FRA, FHWA, and PHMSA, among other administrations, are responsible for enforcing statutory safety standards. In addition, DOT's modal administrations administer both discretionary and formula grant programs, both of which must be authorized in statute.

The majority of DOT's funding is provided from transportation related taxes and user fees, which are collected for specific purposes. The Highway Trust Fund (HTF), which was established by Congress in 1956, collects motor fuel and truck-related taxes for use on highway and mass

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transit programs. For example, Congress appropriates funds from the HTF to FHWA to distribute to states for construction, reconstruction, and improvement of highways and bridges. The Airport and Airway Trust Fund (AATF), which was established by Congress in 1970, collects airline ticket and aviation fuel taxes for use on airport and airway system programs administered by FAA. Congress appropriates funds from the AATF to FAA for use on technological improvements to the air traffic control system, research on issues related to aviation safety, grants for airport planning and development, and the operation of the air traffic control system. DOT also receives funds from the U.S. General Fund through the annual appropriations cycle.<sup>12</sup>

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## DOT's Administrations Conduct and Have Methods to Coordinate Similar Activities

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### DOT's Administrations Conduct Similar Activities That Generally Have Different Goals, Recipients, Requirements, or Funding Sources

DOT's administrations have similar missions and responsibilities and, therefore, perform similar activities related to helping the Department meet its overall mission of ensuring a fast, safe, efficient, accessible, and convenient transportation system. We have found that it is important to identify instances when multiple federal agencies or programs engage in similar activities in order to determine whether opportunities exist to reduce, eliminate, or better manage fragmentation, overlap, or duplication.<sup>13</sup> We identified a number of areas in which DOT performs activities and determined that multiple administrations perform activities in each area. Broadly, these areas fall into six functional categories:

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<sup>12</sup>In fiscal year 2016, DOT received approximately \$53.7 billion, \$14.3 billion, and \$6.5 billion from the HTF, AATF, and the U.S. General Fund, respectively. We have designated funding the nation's surface transportation system as a high risk area in part because motor fuel and other truck-related taxes, which support the HTF, have not increased since 1993. As a result, Congress transferred a total of about \$141 billion in general revenues to the HTF on eight occasions between 2008 and 2015.

<sup>13</sup>GAO, *Fragmentation, Overlap, and Duplication: An Evaluation and Management Guide*, [GAO-15-49SP](#) (Washington, D.C.: Apr. 14, 2015).

administrative, economic development and consumer protection, operating transportation systems, research, safety, and supporting infrastructure projects (see table 1).<sup>14</sup>

**Table 1: GAO Identified Functional Categories and Areas of Activities Performed by Department of Transportation’s (DOT) Administrations**

Functional categories	Activity areas
Administrative	Providing internal services that support DOT’s operations, such as information technology, financial and budgeting support, and human resources.
Economic development and consumer protection	Performing activities intended to provide economic development, protect U.S. industries, and protect consumers in areas including: <ul style="list-style-type: none"> <li>• Developing economic and consumer regulation,</li> <li>• Economic development assistance, and</li> <li>• Oversight and enforcement of economic and consumer regulation.</li> </ul>
Operating transportation systems	Operating, or providing for the operation of, transportation systems.
Research	Performing activities intended to further DOT’s research goals including: <ul style="list-style-type: none"> <li>• Data collection and oversight,</li> <li>• Research technical assistance, and</li> <li>• Sponsor and conduct research.</li> </ul>
Safety	Performing activities intended to improve the safety of the U.S. transportation system in areas including: <ul style="list-style-type: none"> <li>• Developing safety regulations,</li> <li>• International safety activities,</li> <li>• Safety certification, continuing oversight, and enforcement,</li> <li>• Safety grant programs,</li> <li>• Safety event response, and</li> <li>• Safety technical assistance.</li> </ul>
Supporting infrastructure projects	Performing activities intended to support infrastructure projects in areas including: <ul style="list-style-type: none"> <li>• Environmental impact mitigation,</li> <li>• Project environmental reviews,</li> <li>• Project grant and credit programs,</li> <li>• Project oversight, and</li> <li>• Project technical assistance.</li> </ul>

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

Note: These areas outline the primary areas of activities DOT undertakes to achieve its intended outcomes; they are not a comprehensive list of every area in which DOT performs activities.

<sup>14</sup>Appendix II provides more details on the activities performed by modal administrations in these areas.

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Multiple DOT administrations perform similar activities in each of the areas we identified. For example, FAA, FHWA, FRA, FMCSA, FTA, MARAD, NHTSA, PHMSA, and OST develop a variety of safety regulations for airports and airlines, railroads, pipeline construction, and the transportation of hazardous materials, among others. In addition, five modal administrations (FAA, FHWA, FRA, FTA, and MARAD) and OST support infrastructure projects by conducting grant-making activities for airport planning and development, highway projects, and multi-modal projects that cut across DOT administrations, among others. A different group of five modal administrations (FAA, FMCSA, FRA, MARAD, and NHTSA) and OST conduct activities related to overseeing economic and consumer regulations, including enforcing shipping laws designed to ensure federal projects use U.S.-flagged vessels, fuel-economy standards for automakers, and regulations governing household goods movers.

While we identified similar activities performed by multiple DOT administrations, we determined that there were important reasons why similar activities may be appropriate or necessary. Specifically, many of these activities have different purposes, including achieving different goals, serving different recipients, and meeting different statutory requirements. For example, DOT performs a number of economic and consumer-protection activities designed to achieve different goals and outcomes, including supporting the U.S. shipping industry, protecting the public from household goods movers that mislead or cheat them, and improving the efficiency of motor vehicles. Additionally, DOT carries out safety oversight of a number of different types of transportation operators including airlines, motor carriers, pipelines, railroads and public-transit operators, but the safety requirements and expertise necessary for determining whether these types of operators are adhering to federal regulations and operating safely can be very different. Further, DOT carries out a number of different project-grant and credit programs specified in statute with different requirements and conducts a number of programs that receive funding from different sources such as the HTF, the AATF, and general appropriations.

We also identified some general management activities conducted by multiple DOT administrations that have similar goals or intended recipients. Specifically, each DOT modal administration conducts administrative activities in the areas of information technology, human capital, and financial management, all of which have similar goals, strategies, and beneficiaries. For example, each modal administration and OST carry out human capital activities related to recruitment, hiring,



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benefits, payroll, security assessments, and employee appraisal and retention. Each administration also conducts some information technology activities, such as hardware and software acquisitions, maintaining networks, and troubleshooting. Finally, each administration also performs financial management activities such as funds disbursement, auditing, and reconciliation.

According to department officials, DOT has taken steps to better leverage these similar administrative activities across modal administrations, including adopting shared services, where services that multiple administrations need are consolidated within a smaller number of administrations. For example, DOT operates a single financial center in Oklahoma City, Oklahoma, to provide financial management services such as accounting and transaction processing for each DOT administration as well as for additional federal agencies.<sup>15</sup> Additionally, DOT has consolidated a number of human resources functions into a single division within FHWA, which posts vacancy announcements and collects employment applications, among other things.<sup>16</sup> DOT officials told us that consolidating these services has improved operational efficiency and purchasing power. For example, officials from one of DOT's smaller modal administrations told us that they are able to take advantage of DOT's purchasing power to obtain better rates when purchasing information technology hardware.

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## DOT Has a Variety of Methods to Coordinate Similar Activities

DOT has a variety of methods to coordinate similar activities and leverage resources and knowledge. Some of these coordination efforts are focused on individual projects that involve more than one administration, and others are focused on broad topics, such as safety, in which all administrations play a role. DOT has established some of these coordination methods administratively. Others have been mandated by law, such as the Fixing America's Surface Transportation Act (FAST Act) of 2015, which mandated changes to several areas of DOT operations including research, safety, and environmental reviews. Current and former DOT officials, state and local transportation officials, representatives from private industry, and former congressional staff we

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<sup>15</sup>The Enterprise Services Center is organized within FAA's Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. It provides services to DOT administrations as well as other government agencies in a number of areas including financial management, information technology, and travel management.

<sup>16</sup>Human resource functions conducted by FAA are not included in this initiative.

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interviewed, described several coordination and collaboration methods used by DOT and its administrations, including:

- **Formal Coordinating Bodies:** DOT has established a variety of types of formal coordinating bodies including councils that bring together staff from multiple administrations, centralized offices within OST that have decision-making authority for DOT activities, and cross-administration teams to handle individual multi-modal projects. For example, OST convenes a formal safety council intended to improve communication on safety-related issues. This council serves as a forum for executives at each modal administration to discuss emerging safety issues and coordinate responses. Additionally, recently enacted legislation authorizing surface transportation programs established a single office within OST—called the Build America Bureau—to act as a point of contact and coordination for entities seeking to use several DOT credit programs.<sup>17</sup> In an example of a cross-administration team, FMCSA and NHTSA established a project-specific team with staff from both administrations to produce a joint, proposed rulemaking on speed-limiting devices for large commercial vehicles.<sup>18</sup> The administrations' proposed complementary rules in September 2016 cover the areas of operation over which each has jurisdiction: NHTSA's rule would require manufacturers to install the speed-limiting devices on new large commercial vehicles, and FMCSA's rule would require interstate motor carriers to use and maintain the devices. DOT officials told us that participation in these

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<sup>17</sup>The FAST Act required DOT to establish a National Surface Transportation and Innovative Finance Bureau. This bureau is referred to as the Build America Bureau and is to provide assistance and communicate best practices and financing and funding opportunities to eligible entities for programs including the Transportation Infrastructure Finance and Innovation Act program, which provides direct loans, loan guarantees, and standby lines of credit to infrastructure projects; for the Railroad Rehabilitation and Improvement Financing program, which provides direct federal loans and loan guarantees to finance the development of railroad infrastructure; for the Private Activity Bonds program, which allows states and local jurisdictions to issue preferred-rate, tax-exempt bonds for transportation projects undertaken by private developers or operators; and for the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies grants program, which provides discretionary grants to infrastructure projects intended to improve the movement of freight.

<sup>18</sup>Speed-limiting devices govern the maximum speed that a vehicle can achieve on level ground. Studies have shown that crash severity increases with increased travel speed and that crashes involving heavy trucks are particularly sensitive to increases in speed due to the truck's relatively larger mass. According to NHTSA and FMCSA, this proposed rule is intended to improve overall highway safety by reducing the severity of highway crashes and the resulting number of fatalities. See 81 Fed. Reg. 61,942 (Sept 7, 2016).

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coordinating bodies and establishing cross-administration teams allows the modal administrations to utilize expertise from across DOT and has resulted in more consistent responses to issues. DOT officials and experts we spoke with also told us that operating coordinated multi-modal programs with centralized authority has allowed DOT to more efficiently provide services and assistance to a variety of projects using a consistent set of program rules and requirements.

- **Coordinated Processes:** DOT has coordinated processes for its administrations to use in some areas such as developing regulations and approving infrastructure projects. For example, DOT has an order containing general provisions for the environmental review process at all the modal administrations, and these requirements state that DOT should, where possible, coordinate reviews into a single process. Additionally, the FAST Act required DOT to apply existing environmental review processes to certain FRA projects.<sup>19</sup> DOT officials told us that they are currently working on rulemaking and guidance for the environmental review process as it applies to FRA. DOT officials told us that standardized processes can avoid duplicative work for projects requiring the approval of more than one DOT administration, which can shorten the length of the environmental review process and improve DOT's efficiency.
- **Informal Coordination:** DOT officials told us that while DOT has a number of formal coordination mechanisms, much of the coordination done by OST and the modal administrations occurs informally. Officials said that this type of coordination is primarily relationship-driven and can take many forms including verbal information requests, document sharing, or other methods. For example, FHWA officials noted instances when staff informally shared information on methods for conducting assessments of highway and railroad bridges with FRA, whose inspection program began more recently. DOT officials also said that they frequently use informal coordination to leverage DOT's multi-modal expertise when working on smaller projects that might not be large enough to merit a formal cross-administration team. DOT officials told us that informal coordination is flexible and easy to conduct, and enhances communication across the modal administrations.

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<sup>19</sup>Section 11503 of the FAST Act added 49 U.S.C. § 24201. This provision requires FRA to apply the environmental review process in 23 U.S.C. § 139 to certain railroad projects to the greatest extent feasible.

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## Experts Suggested Areas Where DOT Could Make Improvements without Organizational Changes to More Efficiently and Effectively Carry Out Its Missions

According to the experts in transportation and organizational change we met with, DOT could make operational improvements, but does not need to implement organizational changes to efficiently and effectively carry out its missions. Specifically, a majority of these experts told us that the potential benefits of implementing a large-scale change in DOT's organizational structure—such as reorganizing the modal administrations or restructuring the department to focus less on transportation modes—would probably not outweigh the costs of implementing these changes.<sup>20</sup> However, experts identified several areas in which they believe DOT could make operational improvements to help the department more efficiently and effectively carry out its missions: (1) collaboration and coordination; (2) data quality and analytics; (3) regulation development; (4) project delivery processes; and (5) addressing emerging issues.<sup>21</sup> Both we and the DOT OIG have repeatedly reported on challenges that DOT's individual modal administrations face in these areas.<sup>22</sup> (See app.

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<sup>20</sup>Our prior work also discusses the need to balance benefits and costs when considering changes to a federal agency's organizational structure. Specifically, we found that implementing large-scale change management initiatives—such as mergers and organizational transformations—are not simple endeavors, can be complex and potentially expensive, are not quick, easy, or automatic ways of producing desired change, and can have unintended consequences. As such, we reported that decision makers need to balance any potential benefits of consolidation against the physical, upfront financial, bureaucratic, and political costs, while considering alternatives such as increased cooperation or collaboration that may provide other paths to increased efficiency. GAO, *Government Efficiency and Effectiveness: Opportunities for Improvement and Considerations for Restructuring*, [GAO-12-454T](#) (Washington, D.C.: Mar. 21, 2012); *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2, 2003); and *Streamlining Government: Questions to Consider When Evaluating Proposals to Consolidate Physical Infrastructure and Management Functions*, [GAO-12-542](#) (Washington, D.C.: May 23, 2012).

<sup>21</sup>Experts mentioned several areas outside of DOT's control that were not included in the scope of this review, including challenges associated with the current funding environment and addressing statutory requirements. We have previously commented on these challenges, including designating funding the nation's surface transportation system as a high risk area because addressing it in a sustainable way requires both Congress and the administration to agree on a long-term plan to finance the HTF. GAO, *High-Risk Series: An Update*, [GAO-15-290](#) (Washington, D.C.: Feb. 11, 2015).

<sup>22</sup>The DOT OIG has reported on many of these issues. Most recently, the DOT OIG identified eight of DOT's top management challenges for fiscal year 2017. Our five areas for improvement are identified as part of their challenges. For example, the DOT OIG highlights the need for DOT to keep pace with rapidly evolving technology and strengthen its cybersecurity strategies, topics that directly relate to the issues experts identified in addressing emerging issues. DOT OIG, *Top Management Challenges for Fiscal Year 2017*, PT-2017-007 (Washington, D.C.: Nov. 15, 2016).

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IV for a list of relevant GAO and DOT OIG reports in each of these areas.)

**Expert opinion**

*“...there are definitely some operations that could be improved... there are opportunities for greater collaboration... especially in areas that are clearly intermodal or multi-modal, some form of... councils or other operating bodies that work across the modes... seems like an easy, maybe even a non-legislative sort of a fix that could really make a difference in certain areas.”*

Source: GAO-17-478

**Collaboration and coordination:** Efforts to support transportation projects and address concerns—such as driver or operator fatigue—often benefit from collaboration among DOT modal administrations, other federal agencies, state and local stakeholders, and private industry.<sup>23</sup> Experts we spoke to stated that DOT should improve collaboration and coordination efforts with these internal and external groups—efforts that neither require organizational or regulatory changes. We and the DOT OIG also have bodies of work suggesting ways to improve how DOT collaborates and coordinates.<sup>24</sup> For example, we recommended in 2012 that certain DOT modal administrations improve collaboration and communication activities designed to help state and local governments use intelligent-transportation system technologies to mitigate traffic congestion.<sup>25</sup>

Many of the concerns DOT is working to address impact multiple modes of transportation and experts noted that there are opportunities for DOT to improve how it coordinates internally across its modal administrations. For example, experts discussed several of DOT’s ongoing internal collaborative groups and noted that some groups could have been more effective if they consistently included senior-level officials to provide needed leadership and decision-making authority. Experts, as well as DOT officials, also believed that DOT could more effectively leverage existing expertise across administrations, such as in the area of safety, and ensure that all affected modal administrations are represented when discussing cross-modal issues. DOT officials we spoke with agreed that ongoing collaboration and coordination is critical and noted that the use of some internal coordination tools, such as crosscutting councils are helpful, but could be more effective. For example, officials indicated that coordination often occurs more informally, such as through individual

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<sup>23</sup>Driver and train operator fatigue may contribute to deadly traffic accidents and railroad crashes. Fatigue may be due to a lack of adequate sleep, extended work hours, strenuous work, or non-work activities, or a combination of other factors.

<sup>24</sup>See appendix IV for a list of relevant GAO and DOT OIG reports.

<sup>25</sup>GAO, *Intelligent Transportation Systems: Improved DOT Collaboration and Communication Could Enhance the Use of Technology to Manage Congestion*, [GAO-12-308](#) (Washington, D.C.: Mar. 19, 2012). DOT addressed these recommendations by facilitating learning exchanges among state and local officials and improving the availability of additional resources on its relevant websites.

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relationships which can result in some officials not always being aware of the collaboration efforts that are occurring outside of their own modal administration. Further, officials noted that the strength and efficacy of any DOT-wide or administration-level initiative is dependent on the leadership and often the Secretary's agenda.

Experts also discussed opportunities for DOT to improve how it coordinates externally with state and local governments and other federal agencies. Specifically, given the increase in projects that include multiple modes of transportation, some experts noted that better collaboration with state and local government agency partners is needed to provide consistent information and help facilitate project development and implementation. DOT officials we spoke with said a variety of methods are used to coordinate its activities with state and local agencies to help achieve DOT's missions, including the use of standard processes for developing regulations and approving infrastructure projects.

Lastly, experts discussed how decisions other agencies make can impact DOT and suggested there are opportunities for DOT to improve how it coordinates externally. Experts noted that strategies for addressing issues such as climate change are being discussed by several different agencies and that DOT could more effectively use existing interagency offices or positions to ensure it is part of the discussions. We have found that federal agencies have used a variety of mechanisms to implement interagency collaborative efforts, such as establishing interagency task forces.<sup>26</sup>

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<sup>26</sup>Our work shows that complex, crosscutting issues may involve many collaborative mechanisms and in order to be effective, also benefit from certain key features, such as having sustained leadership, clearly defined roles and responsibilities, and all relevant participants involved. GAO, *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, [GAO-12-1022](#) (Washington, D.C.: Sept. 27, 2012).

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**Expert opinion**

*"We believe the data has value. We have this enormous capability to generate so much data now. So the question really is... [how] to be more precise as to what data we want to keep, what data we want to collect, and what questions we want to answer."*

Source: GAO-17-478

**Data quality and analytics:** DOT collects and uses data to carry out most of its activities, including developing safety regulations, identifying emerging safety issues, and conducting oversight. For example, FMCSA uses inspection data to conduct oversight on specific motor carriers, and NHTSA uses crash data to identify and implement policies to address issues such as pedestrian and bicycle safety. As such, there may be unintended consequences of not using data effectively. Experts we spoke with raised concerns about the accuracy of transportation data and believe there are opportunities within DOT's current organizational structure to do a better job collecting complete, relevant, consistent, and reliable transportation data, which DOT and stakeholders need to make decisions. Experts also discussed the need to focus on prioritizing the data DOT collects to ensure they are of high quality and can be used to answer specific transportation-related questions. We and the DOT OIG have issued a number of reports expressing concern with the quality of DOT's data and how they are used.<sup>27</sup> For example, in 2012, we identified limitations in how FMCSA was using data to target new applicants suspected of fraudulent activity for further investigation and recommended FMCSA develop a data-driven tool.<sup>28</sup> DOT officials from the modal administrations agreed that improving data quality is important and would allow DOT to leverage limited resources for identifying new and emerging safety issues. The officials described several ongoing data initiatives, such as a transportation data forum within DOT and efforts to streamline existing data systems. However, officials also noted challenges with addressing data quality, in part due to the number of stakeholders involved in and responsible for transportation-related data collection, including local and state officials and private entities. For example, DOT officials noted that the responsibility of data collection often falls to local and state officials who may not have the necessary expertise to accurately report certain types of safety events. DOT officials also cited challenges in establishing common definitions and measures for collecting and using the data, and dealing with large volumes of data that often come from numerous sources. Lastly, DOT officials noted that

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<sup>27</sup>See appendix IV for a list of relevant GAO and DOT OIG reports.

<sup>28</sup>GAO, *Motor Carrier Safety: New Applicant Reviews Should Expand to Identify Freight Carriers Evading Detection*, [GAO-12-364](#) (Washington, D.C.: Mar. 22, 2012). (Washington, D.C.: Mar. 22, 2012). FMCSA addressed this recommendation by developing a risk-based data-driven screening methodology that allows DOT to screen all new motor carriers applying for operating authority and helps identify suspicious motor carriers for additional investigation.

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statutes and regulations may also constrain DOT from collecting certain types of data to support its mission.

Experts also emphasized the importance of having improved analytic capabilities to ensure these data are used effectively. In particular, experts noted that DOT could be a leader in providing analytical tools to state and local government agencies that do not always have the necessary expertise or resources to conduct data-driven evaluations. Along those lines, we recently recommended, for example, that DOT should identify appropriate freight data sources, information, and analytic tools for transportation modes involved in the freight network and supply chains.<sup>29</sup> DOT officials agreed that data analytics are important, and noted that a number of modal administrations have specific departments or programs designed to maintain and analyze data on transportation incidents and on federal inspection and enforcement actions. DOT officials also noted that despite resource constraints, DOT has prioritized the collection, maintenance, and management of data for several grant programs.

**Regulation development:** Annually, DOT undertakes around one-hundred rulemakings—some of which, according to DOT officials, have become more complex and technical in recent years—that range from vehicle-to-vehicle communication safety standards (by NHTSA) to entry-level commercial driver training (by FMCSA) to underground storage facilities for natural gas (by PHMSA).<sup>30</sup> According to experts, DOT could evaluate and consider changes to how it develops regulations that do not require organizational changes to ensure that the department's priorities are coordinated and addressed. For example, experts suggested that DOT consider methods for ensuring the timely review of rulemakings across the modal administrations and noted that seeking stakeholder input early in the regulation development process would save both time and money, as well as improve the quality of the regulation itself. Standards for internal control in the federal government state that federal

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<sup>29</sup>GAO, *West Coast Ports: Better Supply Chain Information Could Improve DOT's Freight Efforts*, [GAO-17-23](#) (Washington, D.C.: Oct. 31, 2016). DOT concurred with our recommendation.

<sup>30</sup>A recent Executive Order requiring that for every one new regulation issued, at least two existing regulations be identified for elimination, may require additional regulatory coordination across federal departments and agencies. Exec. Order No. 13771, *Presidential Executive Order on Reducing Regulation and Controlling Regulatory Costs*, *82 Fed. Reg.* 9339 (Feb. 3, 2017).



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agencies should review policies and procedures to determine their effectiveness in achieving their objectives and to determine if efforts—such as a regulation—are designed and implemented appropriately. These standards also state that relevant, reliable, and timely information should be used to make informed decisions.<sup>31</sup> We also have found that some DOT rulemakings developed by individual modal administrations could benefit from additional data, and may not be completed in a timely manner.<sup>32</sup> For example, in 2014, we found that, despite acknowledging the risks of federally unregulated pipelines, PHMSA had not taken timely action on a rulemaking for addressing this risk and recommended that PHMSA move forward with the rulemaking process it started in 2011.<sup>33</sup>

DOT officials agreed that changes in the regulation development process could offer a number of benefits. For example, according to FHWA officials, increased coordination during the rulemaking process could provide the affected modal administrations an opportunity to review documents and more time to offer comments. According to FHWA officials, this process could potentially reduce the number of revisions needed to address and incorporate internal comments received. Other DOT officials also noted that many of its rulemaking efforts have been successful and well coordinated across DOT, as well as with other stakeholders, including subject-matter experts and the private sector. Specifically, officials from FAA discussed a number of processes and tools that they use, including rulemaking advisory committees and councils, a data tool that prioritizes upcoming rulemaking efforts, and a comprehensive database that collects data from almost 200 sources across government and industry. Other administrations also use similar tools and several recent initiatives have offered officials from these administrations the opportunity to learn more about FAA's rulemaking processes.

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<sup>31</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: September 2014).

<sup>32</sup>See appendix IV for a list of relevant GAO and DOT OIG reports.

<sup>33</sup>*Oil and Gas Transportation: Department of Transportation Is Taking Actions to Address Rail Safety, but Additional Actions Are Needed to Improve Pipeline Safety*, [GAO-14-667](#) (Washington, D.C.: Aug. 21, 2014). PHMSA has drafted proposed regulations for both gas and hazardous liquid gathering pipelines, which partly address our recommendation, but has determined that it needs one year's worth of data before it can begin assessing what regulations are needed to fully address the risks of hazardous liquid pipelines.

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**Expert opinion**

*“And the research under-pinning of policy [in rulemaking] is an absolute prerequisite to its implementation... there have to be sound economic cost-benefit studies that are not politically motivated.”*

Source: GAO-17-478

Experts also noted the importance of using data to drive regulatory activity in a proactive manner, rather than conducting regulatory activity in reaction to current events, such as an oil spill or a railway accident. We have noted some of the challenges DOT modal administrations face in developing and issuing regulations. For example, we recently found that stakeholders in the commercial space industry have mixed opinions on what, if any, legislative or regulatory changes are appropriate to accommodate certain technologies.<sup>34</sup> We have also noted that data limitations, uncertainties, and lack of transparency may contribute to a lack of confidence by important stakeholders in the implementation of a rulemaking.<sup>35</sup> DOT officials stated that it is challenging to expeditiously move forward in the traditional regulatory process because of the established procedures built-in to allow appropriate time for consultation, public input, and coordinating across government stakeholders. We have also found that there are risks to implementing rules too quickly, especially when a rulemaking is controversial or technical.<sup>36</sup> According to experts, developing regulations may be even more challenging when dealing with emerging issues and new technologies, such as automation within passenger and commercial vehicles (see discussion below). These technologies are developing rapidly, do not fit neatly within a single modal administration’s current regulatory framework, and may require additional coordination across administrations. One approach several DOT administrations, including FAA and PHMSA, are using to address these types of challenges is to rely on performance-based rules or consensus standards—as opposed to prescriptive rules that dictate a specific method for mitigating risk—for new regulations. According to FAA officials, such an approach offers the private sector the flexibility to address issues as they emerge, but also ensures safety is not compromised as new technologies are introduced.

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<sup>34</sup>GAO, *Commercial Space: FAA Should Examine How to Appropriately Regulate Space Support Vehicles*, [GAO-17-100](#) (Washington, D.C.: Nov. 25, 2016). FAA did not comment on the recommendation.

<sup>35</sup>GAO, *Train Braking: DOT’s Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency*, [GAO-17-122](#) (Washington, D.C.: Oct. 12, 2016).

<sup>36</sup>[GAO-17-122](#).

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#### Expert opinion

*“So it’s not a one-size fits all... there are places where uniformity makes sense. And maybe that should be elevated up outside of the modes. But in other places you need flexibility. And that should remain down within the modes so that they can be more responsive to their stakeholders and taking into consideration the impacts within that particular mode.”*

Source: GAO-17-478

**Project delivery processes:** In the current fiscal environment, in which federal resources are scarce, it is critical that the processes DOT uses to annually distribute billions of dollars in federal transportation funds for projects are clear, efficient, and effective. According to the experts we spoke with, DOT could reduce barriers and challenges facing state and local governments in the project delivery processes (e.g., funding, financing, and environmental review) without organizational changes. Experts believe that project delivery processes could be streamlined and made more consistent across modal administrations to achieve cost and time savings for state and local agencies.<sup>37</sup> Further, experts suggested creating a position within OST to help states and local agencies navigate through the federal processes. We and the DOT OIG have bodies of work on potential improvements to DOT’s project delivery processes within the modal administrations, including ways to help address deficiencies in adherence to key discretionary grant practices, strengthen processes for overseeing grants, and improve guidance designed to ensure the process for selecting grant awardees is consistently applied.<sup>38</sup> For example, we recommended in 2011 that FRA do more to document grant awards decisions.<sup>39</sup>

DOT officials acknowledged that there are differences in project delivery processes between modal administrations, but noted that this is often the result of requirements in statute or regulation. For example, the “Buy America” provisions for FTA, FRA, and FHWA are specific to each administration. Officials also noted several provisions in recent acts that require DOT to streamline some project delivery processes, including the previously discussed Build America Bureau, which is to provide assistance and communicate best practices and financing and funding opportunities to grant programs. Congress has passed numerous provisions to accelerate the delivery of federal-aid highway and transit

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<sup>37</sup>Under the current surface transportation authorization, the FAST Act, there are provisions aimed at ensuring the timely delivery of transportation projects to improve efficiency in the development of projects, through the planning and environmental review process to project delivery. For example, allowing for one National Environmental Policy Act document, to the maximum extent practicable and consistent with federal law, for multimodal projects. Pub. L. No. 114-94, 129 Stat. 1312 (2015).

<sup>38</sup>See appendix IV for a list of relevant GAO and DOT OIG reports.

<sup>39</sup>GAO, *Intercity Passenger Rail: Recording Clearer Reasons for Awards Decisions Would Improve Otherwise Good Grantmaking Practices*, GAO-11-283 (Washington D.C.: Mar. 10, 2011). FRA addressed this recommendation by changing its guidance to include more explicit requirements for documenting the rationale behind funding selections.

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projects since 2005 by streamlining the environmental review process for state and local agencies, most recently in the FAST Act.<sup>40</sup> According to DOT officials, DOT is working to implement these changes and is updating its department-wide guidance for conducting environmental reviews. Lastly, the officials noted that DOT recently created a centralized office within OST to be a resource for the modal administrations and help accelerate the delivery of all DOT projects. However, DOT officials cautioned that there may be unintended consequences associated with implementing the suggestion from experts to create a new position within OST, including adding a layer of bureaucracy that could create inefficiencies.

#### Expert opinion

*“...the rapid pace of technology is impacting our traditional planning processes, in that, when we look out 25 years, generally, we see old technology embedded at 25 years, and we see population growth, we see pollution growth... but it's hard [to plan] because the rules haven't kept up... and there's really no guidelines ...”*

Source: GAO-17-478

**Addressing emerging issues:** The transportation world is quickly evolving and DOT has been and likely will continue to be challenged to proactively address emerging or anticipated issues to account for rapid technological advancements, climate change, and intermodal issues, among other concerns. Experts highlighted many of these challenges and were concerned that DOT was not prepared to address them. For example, experts frequently mentioned that DOT is falling behind the private sector's need for research and specific regulations for autonomous vehicles and intelligent transportation systems. Experts also mentioned the importance of considering environment and climate change impacts of transportation in order to make wise decisions on how to move freight, for example. We and the DOT OIG have issued a number of reports on a range of emerging transportation issues that impact several DOT modal administrations, including the need for DOT to address new vehicle and aviation technologies—such as dealing with cybersecurity and privacy concerns—and the changing trends in how and where freight moves through our nation's transportation system.<sup>41</sup> For example, in 2014, we recommended that DOT include a written statement in its national freight strategic plan articulating the federal role in helping to mitigate the impacts of projected increases in local-freight congestion.<sup>42</sup>

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<sup>40</sup>We have ongoing work and DOT OIG recently issued a report examining several legislative changes to DOT's project delivery processes. DOT, OIG, *Vulnerabilities Exist in Implementing Initiatives Under MAP-21 Subtitle C to Accelerate Project Delivery*, ST2017029 (Washington, D.C.: Mar. 6, 2017).

<sup>41</sup>See appendix IV for a list of relevant GAO and DOT OIG reports.

<sup>42</sup>GAO, *Freight Transportation: Developing National Strategy Would Benefit from Added Focus on Community Congestion Impacts*, [GAO-14-740](#) (Washington, D.C.: Sept. 19, 2014). DOT has been working to address this recommendation and officials stated that it plans to release a final national freight strategic plan by the end of 2017.

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We have also reported on emerging issues that individual DOT modal administrations need to address, such as for PHMSA to ensure the safe transportation of domestically produced oil and gas, which has increased more than five times in recent years.<sup>43</sup>

DOT officials also told us that they believe that as an agency, DOT is having difficulty quickly identifying and reacting to emerging issues. While officials from some modal administrations highlighted efforts—such as performance plans and policy meetings—to regularly and strategically discuss new areas in need of DOT’s attention, officials noted that DOT is not always nimble enough to respond to emerging issues. Officials cited the rapid pace of technology development, data and coordination challenges, and the overall size and diversity of the transportation system as a few of the reasons DOT cannot always react quickly.

While DOT officials noted ongoing initiatives within its modal administrations intended to address challenges in the five areas identified by experts, they agreed that more could be done but did not identify plans to conduct a department-wide review in these areas. The current administration, however, recently released an Executive Order and the *Budget Blueprint* indicating that federal agencies, including DOT, are expected to continue to assess their ability to efficiently and effectively meet their missions.<sup>44</sup> In addition, standards for internal control in the federal government highlight the need for federal agencies to periodically review, particularly as changes develop, whether their policies and procedures are relevant, effective, and address risks.<sup>45</sup> We have noted that a review of this type should include an action plan to implement corrective measures.<sup>46</sup> Such an evaluation could help DOT to leverage the success of initiatives within the modal administrations and define root causes and solutions, including identifying necessary steps, to address

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<sup>43</sup>[GAO-14-667](#).

<sup>44</sup>Exec. Order No. 13781, *Presidential Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch*, 82 *Fed. Reg.* 13959 (Mar. 13, 2017); and Office of Management and Budget, Exec. Office of the President, *America First: A Budget Blueprint to Make America Great Again, Fiscal Year 2018* (2017).

<sup>45</sup>[GAO-14-704G](#).

<sup>46</sup>GAO, *High-Risk Series: Key Actions to Make Progress Addressing High-Risk Issues*, [GAO-16-480R](#) (Washington, D.C.: Apr. 25, 2016) and *Determining Performance and Accountability Challenges and High Risks*, [GAO-01-159SP](#) (Washington, D.C.: November 2000).

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the areas discussed and more effectively implement programs within and across its modal administrations.

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## Conclusions

As DOT considers potential reorganization plans to improve its efficiency, effectiveness, and accountability as required by the recent Executive Order, as well as how it will implement the administration's *Budget Blueprint*, it will be important for DOT to take a holistic look at the department. Having considered the costs and benefits of restructuring how DOT is organized, experts told us that DOT can fulfill its many missions through its existing organizational structure. Yet, experts also recognize that DOT faces a growing number of challenges, including adapting quickly to new technological innovations, which they said will continue to blur the lines between the modes. DOT is undertaking a number of efforts to address these challenges within its modal administrations, but operational improvements could be achieved in several broad areas: (1) collaboration and coordination; (2) data quality and analytics; (3) regulation development; (4) project delivery processes; and (5) emerging issues. While DOT must work with many transportation stakeholders—including Congress, state and local governments, and the private sector—to address challenges in these areas, it is important that DOT take the lead in efforts to ensure a safe and efficient transportation system. Undertaking a department-wide review of the areas experts identified, particularly as they relate across the modal administrations, provides an opportunity for DOT to assess how it can more effectively achieve its missions and how best to position the department to proactively address the challenges it faces.

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## Recommendations for Executive Action

To leverage and build upon the ongoing efforts within individual DOT modal administrations and to address concerns raised by experts regarding collaboration and coordination, data quality and analytics, regulation development, project delivery processes, and addressing emerging issues, we recommend that the Secretary of Transportation: (1) conduct a department-wide review of DOT's current efforts to address these concerns; and (2) develop an action plan with specific steps to implement improvements, as identified, in these areas.

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## Agency Comments and Third-Party Views

We provided a draft of this report to the DOT and OMB for their review and comment. We also provided copies of this report to the 18 experts who participated in our meeting in September 2016.

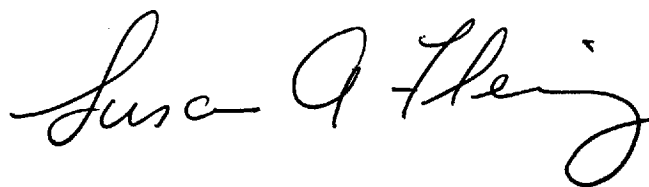
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In written comments, reproduced in appendix III, DOT agreed with our recommendation and provided several recent examples of actions taken to improve the department's operational performance, including the creation of a centralized permitting center, establishing a regulatory-reform task force, and hiring new employees in leadership positions with expertise in data analytics. DOT officials also indicated that following the conclusion of our audit work, several new planning efforts had begun in response to the recently released executive order, including two working groups intended to identify efficiencies in DOT's mission as well as efforts to solicit employee feedback on ways to improve DOT's efficiency and effectiveness. We did not have the opportunity to evaluate these initiatives. DOT and experts also provided technical comments, which we incorporated as appropriate. OMB did not comment on this report.

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We are sending copies of this report to interested congressional committees, the Secretary of the Department of Transportation, the Director of the Office of Management and Budget, and other interested parties. In addition, this report will be available at no charge on GAO's website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or [flemings@gao.gov](mailto:flemings@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.



Susan Fleming  
Director,  
Physical Infrastructure Issues

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# Appendix I: Objectives, Scope, and Methodology

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This report addresses the following objectives: (1) what activities multiple Department of Transportation (DOT) modal administrations perform to fulfill their missions and how, if at all, DOT coordinates these activities, and (2) according to experts, what, if any, organizational changes or operational changes could enable DOT to more efficiently and effectively carry out its missions.

To identify activities performed by multiple DOT administrations and how those activities are coordinated, we reviewed DOT's organizing statutes and amendments, and documentation on DOT's overall mission and the missions of the nine modal administrations, including strategic plans, budget documents, and organizational manuals. We identified the nine DOT modal administrations to include in our work by reviewing DOT's public website and relevant laws and statutes.<sup>1</sup> We identified the missions of DOT as a whole and the modal administrations by reviewing mission statements and organizing statutes. In those cases in which we were not able to find the missions of an administration in statute, we identified the missions by reviewing their strategic plans or publicly available mission statements. We identified the activities conducted by each DOT administration and Office of the Secretary of Transportation (OST) by reviewing their organizational manuals, if available, and fiscal year 2016 budget requests. We also used these sources to identify the program offices contained within each administration and the missions and activities of each of those offices.<sup>2</sup> While we identified DOT activities, we did not evaluate how effective these activities are at fulfilling DOT's missions. We identified areas of similarity within the list of activities by reviewing DOT's strategic plan to select general outcomes related to DOT's missions and objectives that more than one DOT administration intends to achieve. We identified 19 of these activity areas, which broadly related to administrative functions, economic development and consumer protection, operating transportation systems, research, safety, and supporting infrastructure projects. Finally, we grouped each of the activities we identified into one of these functional categories. For example, as part of our analysis of documentation from multiple modal administrations websites and missions statements, we identified numerous activities related to developing rulemaking, guidance, and

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<sup>1</sup>We excluded the Surface Transportation Board because it became an independent federal agency in December 2015 and excluded the DOT Office of Inspector General (DOT OIG) because it does not perform transportation-related functions.

<sup>2</sup>We excluded activities that did not directly and specifically relate to the office's or administration's mission statement.



policy intended to improve the safety of the transportation system. We then noted that one of DOT’s mission priorities in its strategic plan is to develop transportation safety regulations. Based on this evidence, we determined this was an area in which multiple DOT administrations performed activities, which we named Developing Safety Regulations.

To collect expert views on organizational or other changes that could enable DOT to more efficiently and effectively carry out its missions, in September 2016, with the assistance of the National Academies of Sciences, Engineering, and Medicine (National Academies), we convened a one and a half day GAO meeting with 18 experts. Participants were identified and recommended by the National Academies and approved by us using several criteria, including experience with multiple modes of transportation and DOT administrations, and expertise in organizational change, among others. Experts included former DOT officials, representatives from local and state transportation agencies, private businesses that use our nation’s transportation system, and other experts in transportation policy and organizational change management (see table 2).

**Table 2: Experts Who Participated in GAO’s Meeting on the Department of Transportation’s Organizational (DOT) Structure**

Name	Relevant experience
Linda Bailey	<ul style="list-style-type: none"> <li>• Executive Director, National Association of City Transportation Officials</li> </ul>
Robert Bertini	<ul style="list-style-type: none"> <li>• Director, Center for Urban Transportation Research; Professor, University of South Florida</li> <li>• Deputy Administrator, Research and Innovative Technology Administration, DOT (2009-2011)</li> <li>• Acting Director, Intelligent Transportation Systems Joint Program Office, DOT (2010-2011)</li> </ul>
Carlos Braceras	<ul style="list-style-type: none"> <li>• Acting Director, Utah Department of Transportation</li> </ul>
Stacey Gerard	<ul style="list-style-type: none"> <li>• Safety consultant</li> <li>• Assistant Administrator/Chief Safety Officer, Pipeline and Hazardous Materials Safety Administration, DOT (2005-2008)</li> </ul>
Jennifer Hall	<ul style="list-style-type: none"> <li>• General Counsel and Executive Vice President for Legal Affairs, American Trucking Associations</li> <li>• Attorney, Transportation and Infrastructure Committee, U.S. House of Representatives</li> </ul>
Randy Iwasaki	<ul style="list-style-type: none"> <li>• Executive Director, Contra Costa Transportation Authority (California)</li> </ul>
Howard Jennings	<ul style="list-style-type: none"> <li>• Managing Director, Mobility Lab (Virginia)</li> </ul>
Janet Kavinoky	<ul style="list-style-type: none"> <li>• Director of Federal and State Governmental Affairs, Vulcan Materials Company</li> </ul>
K. Denise Rucker Krepp	<ul style="list-style-type: none"> <li>• Owner, KDRKrepp Consulting</li> <li>• Chief Counsel, Maritime Administration, DOT (2009-2012)</li> </ul>
Peter McLaughlin	<ul style="list-style-type: none"> <li>• Commissioner, Hennepin County (Minnesota)</li> </ul>
Beryl Radin	<ul style="list-style-type: none"> <li>• Professor, Georgetown Public Policy Institute of Georgetown University</li> </ul>

**Appendix I: Objectives, Scope, and Methodology**

Name	Relevant experience
Joyce Rose	<ul style="list-style-type: none"> <li>• Principal Consultant, WSP/Parsons Brinkerhoff</li> <li>• President/Chief Executive Officer, Operation Lifesaver, Inc.</li> <li>• Professional Staff, Transportation and Infrastructure Committee, U.S. House of Representatives and Transportation, Housing, and Urban Development, and Related Agencies Subcommittee, Appropriations Committee, U.S. Senate</li> </ul>
Jeffrey Runge	<ul style="list-style-type: none"> <li>• Executive Director, National Collaborative for Bio-Preparedness at the University of North Carolina at Chapel Hill</li> <li>• Administrator, National Highway Traffic Safety Administration, DOT (2001-2005)</li> <li>• Assistant Secretary for Health Affairs (2007-2008) and Chief Medical Officer (2005-2007), U.S. Department of Homeland Security</li> </ul>
Robert E. Skinner, Jr. (moderator)	<ul style="list-style-type: none"> <li>• Former Executive Director, Transportation Research Board</li> </ul>
C. Michael Walton	<ul style="list-style-type: none"> <li>• Professor of Civil Engineering, University of Texas at Austin</li> <li>• Founding member and former Chair of the Board of Directors, Intelligent Transportation Society of America</li> </ul>
Sarah Wells	<ul style="list-style-type: none"> <li>• Executive Director, Transportation Association of Canada</li> </ul>
John Wetzel	<ul style="list-style-type: none"> <li>• Vice President for Congressional affairs, Association of American Railroads</li> </ul>
Frederick "Bud" Wright	<ul style="list-style-type: none"> <li>• Executive Director, American Association of State Highway and Transportation Officials</li> <li>• Executive Director and Chief Operating Officer, Federal Highway Administration, DOT (2001-2008)</li> </ul>

Source: GAO. | GAO-17-478.

We asked the expert meeting participants to comment on DOT's organizational structure and potential areas for improvement in the six functional categories in which DOT performs activities identified in objective 1: administrative functions, economic development and consumer protection, operating transportation systems, research, safety, and supporting infrastructure projects. Following the meeting, two analysts conducted a content analysis of the expert meeting transcript using NVivo software to identify the areas for improvement that were discussed most frequently during the expert meeting.<sup>3</sup> Each analyst independently reviewed one half of the transcript to identify instances where the areas were discussed. Once each analyst had completed going through their respective sections, the other analyst verified the coding of the other analyst. If there was a disagreement, the analysts discussed their assessment and would come to a final determination on the categorization. Based on the results of our content analysis, we determined 15 areas for improvement were the most frequently

<sup>3</sup>NVivo is a qualitative data analysis software system that allows organization and analysis of information from a variety of sources including complex nonnumeric or unstructured data.

discussed. The 15 areas were used to develop a brief follow-up questionnaire for the experts to verify what was discussed at the meeting. We conducted pretests with two of the experts before emailing the finalized PDF questionnaire form to all 18 experts who attended the meeting. We received 17 out of 18 responses from our experts (94 percent response rate). Additionally, we developed a list of follow-up questions for DOT officials from OST and all nine modal administrations, similar to the questions we asked experts in the questionnaire. We reviewed the responses received from experts and DOT officials to determine which of the 15 areas were considered to be the most important to address or as having the biggest potential payoff in helping DOT more efficiently and effectively carry out its missions. Based on this analysis, we identified five areas to discuss in greater detail in our report—(1) collaboration and coordination; (2) data quality and analytics; (3) regulation development; (4) project delivery processes; and (5) addressing emerging issues.<sup>4</sup> The views represented by the experts from whom we gathered information are not generalizable to those of all experts on DOT's organizational structure and operations; however, we were able to secure the participation of a diverse, highly qualified group of experts and believe their views provide a balanced and informed perspective on the topics discussed.

In addition, we reviewed GAO reports issued in the past five years and DOT OIG reports that discussed the areas for improvement experts identified, many of which included recommendations for DOT. We identified the most relevant prior GAO work in the 5 areas identified by experts and DOT officials.

To address both of our objectives, we interviewed DOT officials from OST and all nine modal administrations. To gather background information, we also interviewed additional stakeholders with a range of transportation experience including former DOT officials, representatives from state and local transportation agencies, transportation stakeholders from consulting firms, non-profits and think tanks, as well as academics in the field of organizational change (see table 3).

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<sup>4</sup>Additional areas identified by experts included: crosscutting councils; data standards and accessibility; DOT workforce development; federal policy role; leadership within DOT; livability; performance goals; and research prioritization. For the purposes of our report, we combined three similar areas into collaboration and coordination—interagency collaboration, modal administration collaboration, and state and local collaboration.

**Table 3: Transportation and Other Stakeholders Interviewed**

<b>Name</b>	<b>Relevant Experience</b>
Alex Bond	<ul style="list-style-type: none"> <li>• Director, Center for Transportation Leadership, Eno Center for Transportation</li> </ul>
Grace Crunican	<ul style="list-style-type: none"> <li>• General Manager, San Francisco Bay Area Rapid Transit (California)</li> <li>• Deputy Administrator, Federal Transit Administration, U.S. Department of Transportation (DOT) (1993-1996)</li> </ul>
Jeff Davis	<ul style="list-style-type: none"> <li>• Senior Fellow, Eno Center for Transportation</li> </ul>
Mortimer Downey	<ul style="list-style-type: none"> <li>• President, Mort Downey Consulting, LLC</li> <li>• Deputy Secretary, DOT (1993-2001)</li> </ul>
Tyler Duvall	<ul style="list-style-type: none"> <li>• Partner, McKinsey &amp; Co.</li> <li>• Acting Under Secretary and Assistant Secretary for Transportation Policy, DOT (2006)</li> </ul>
Emil Frankel	<ul style="list-style-type: none"> <li>• Senior Fellow, Eno Center for Transportation</li> </ul>
Deborah Hersman	<ul style="list-style-type: none"> <li>• President &amp; Chief Executive Officer, National Safety Council</li> <li>• Chairman, National Transportation Safety Board (2009-2014)</li> </ul>
John Kamensky	<ul style="list-style-type: none"> <li>• Senior Fellow, IBM Center for the Business of Government</li> </ul>
Don Kettl	<ul style="list-style-type: none"> <li>• Professor and Former Dean, University of Maryland School of Public Policy</li> </ul>
Geraldine Knatz	<ul style="list-style-type: none"> <li>• Professor, Practice of Policy and Engineering, University of Southern California</li> <li>• Managing Director, Port of Los Angeles (2006-2014)</li> </ul>
Ray LaHood	<ul style="list-style-type: none"> <li>• Policy Advisor, DLA Piper</li> <li>• Secretary of Transportation, DOT (2009-2013)</li> </ul>
Admiral James Loy	<ul style="list-style-type: none"> <li>• Commandant, U.S. Coast Guard, U.S. Department of Homeland Security (DHS) (1998-2002)</li> <li>• Deputy Secretary, DHS (2003-2005)</li> </ul>
Donna McLean	<ul style="list-style-type: none"> <li>• President, Donna McLean Associates, LLC</li> <li>• Board Member, Amtrak (2006-2011)</li> <li>• Assistant Secretary, Budget and Programs, DOT (2001-2006)</li> </ul>
John Porcari	<ul style="list-style-type: none"> <li>• President of U.S. Advisory Services, WSP/Parsons Brinkerhoff</li> <li>• Deputy Secretary, DOT (2009-2013)</li> </ul>
Robert Puentes	<ul style="list-style-type: none"> <li>• President, Eno Center for Transportation</li> </ul>
Hal Rainey	<ul style="list-style-type: none"> <li>• Professor, Department of Public Administration and Policy, School of Public and International Affairs, University of Georgia</li> </ul>
Jack Shenendorf	<ul style="list-style-type: none"> <li>• Counsel, Covington &amp; Burling LLP</li> <li>• Chief of Staff, Transportation and Infrastructure Committee, U.S. House of Representatives</li> </ul>
Polly Trottenberg	<ul style="list-style-type: none"> <li>• Commissioner, New York City Department of Transportation</li> <li>• Under Secretary for Policy, DOT (2012-2013)</li> </ul>
Stephen Van Beek	<ul style="list-style-type: none"> <li>• Director and Head of North American Aviation, Steer Davies Gleave</li> <li>• Associate Deputy Secretary and Director, Office of Intermodalism, Office of the Secretary, DOT (1999)</li> </ul>

Source: GAO. | GAO-17-478.

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We conducted this performance audit from May 2016 to May 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Activities Performed by the Department of Transportation's Administrations

We identified 19 areas in which more than one administration within the United States Department of Transportation (DOT) performs activities (see table 1). Broadly, these areas fall into six functional categories: administrative, economic development and consumer protection, operating transportation systems, research, safety, and supporting infrastructure projects. These areas outline the primary areas of activities that DOT undertakes to achieve its intended outcomes; the areas are not a comprehensive list of every area in which DOT performs activities. We identified the DOT administrations that perform activities in these areas, and tables 4 to 22 show examples of these activities.

One of the categories we identified, as shown in table 4, is related to conducting administrative activities:

**Table 4: Department of Transportation's (DOT) Activities in the Administrative Activities Area**

<b>Administrative Activities:</b> Providing internal services that support DOT's operations, such as information technology, financial and budgeting support, and human resources	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Provides internal services supporting agency operations, including information technology, financial management, human capital, external relations, legal services, organizational management, and internal policy setting.
Federal Aviation Administration	
Federal Highway Administration	
Federal Motor Carrier Safety Administration	
Federal Railroad Administration	
Federal Transit Administration	
Maritime Administration	
National Highway Traffic Safety Administration	
Pipeline and Hazardous Materials Safety Administration	
St. Lawrence Seaway Development Corporation	

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

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Three of the categories we identified, as shown in tables 5 to 7, are related to economic development and consumer protection:

**Table 5: Department of Transportation's (DOT) Activities in the Developing Economic and Consumer Regulation Area**

<b>Developing Economic and Consumer Regulation:</b> Developing rulemakings, guidance and policies to regulate transportation-related economic activity, protect U.S. industries, or to protect consumers	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Develops air travel consumer and aviation economic licensing regulations, and develops regulations for the Essential Air Services and Small Community Air Service Development Program, which together provide subsidies to airlines for providing service at small airports.
National Highway Traffic Safety Administration	Develops fuel economy regulations for passenger cars and light trucks through the Corporate Average Fuel Economy program, and for medium and heavy trucks.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 6: Department of Transportation's (DOT) Activities in the Economic Development Assistance Area**

<b>Economic Development Assistance:</b> Providing financial support to transportation operators in order to improve their economic competitiveness	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Operates the Essential Air Services and Small Community Air Service Development programs, which together provide subsidies to airlines for providing service at small airports.
Federal Aviation Administration	Manages the Aviation Insurance Program, which provides insurance to air carriers that cannot obtain comparable insurance in the private market.
Federal Transit Administration	Provides capital, planning and operating assistance grants to states and other jurisdictions in order to support public transportation in rural communities.
Maritime Administration	Manages the federal ship financing program, which provides loan guarantees for the purpose of promoting the growth and modernization of the U.S. Merchant Marine and U.S. shipyards.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

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**Table 7: Department of Transportation's (DOT) Activities in the Oversight and Enforcement of Economic and Consumer Regulation Area**

**Oversight and Enforcement of Economic and Consumer Regulation:** Providing oversight and enforcement of regulations intended to protect U.S. industries or consumers, and certifying economic operating authority for transportation system operators

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Reviews and approves applications for airline economic operating authority, and enforces airline consumer protection regulations, such as those regarding damaged or lost baggage.
Federal Aviation Administration	Reviews applications for airport authorities wishing to issue passenger facility charges used to fund airport improvements.
Federal Motor Carrier Safety Administration	Operates the Household Goods Enforcement Program, which is intended to protect consumers from unscrupulous household goods movers.
Federal Railroad Administration	Reviews and approves state railroad development plans, which show the state's plan for freight and passenger rail infrastructure and service development.
Maritime Administration	Enforces cargo preference laws requiring federally funded projects to use U.S.-flagged vessels.
National Highway Traffic Safety Administration	Enforces federal fuel economy standards for automakers, and enforces odometer fraud regulations designed to protect consumers from fraudulent auto sales.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

One of the categories we identified, as shown in table 8, is related to operating transportation systems:

**Table 8: Department of Transportation's (DOT) Activities in the Operating Transportation Systems Area**

**Operating Transportation Systems:** Operating, or providing for the operation of, transportation systems

<b>Administration</b>	<b>Examples of activities performed</b>
Federal Aviation Administration	Operates the U.S. air traffic control system, including providing for system operation, maintenance, and capital investment.
Maritime Administration	Manages the U.S. Strategic Sealift and National Defense Reserve Fleet programs, which provide for emergency shipping capability during wartime and other national emergencies, and operates the U.S. Merchant Marine Academy, which is a service academy that trains and certifies mariners.
St. Lawrence Seaway Development Corporation	Operates the U.S. portion of the St. Lawrence Seaway, including providing for system and lock operation, maintenance, and capital investment.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

Note: A number of other DOT administrations also provide operating subsidies to transportation systems operated by other entities. We limited this area to those administrations that are directly responsible for the operation of transportation systems and thus did not include those administrations in this area.



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Three of the categories we identified, as shown in tables 9 to 11, are related to research:

**Table 9: Department of Transportation's (DOT) Activities in the Data Collection and Oversight Area**

<b>Data Collection and Oversight:</b> Collecting transportation-related data and providing oversight of data collection efforts	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Operates the Bureau of Transportation Statistics, which collects and analyzes data on the U.S. transportation system, including aviation traffic and airline financial conditions, multi-modal freight movements, and maritime ferry operations.
Federal Aviation Administration	Collects, manages, and analyzes data on the U.S. airspace system and maintains the Civil Aviation Registry, which tracks U.S.-registered aircraft and the aviation workforce.
Federal Highway Administration	Collects safety data on federal-aid highways, including that required by the National Bridge and Tunnel Inspection Standards programs, which require states to perform safety inspections on bridges and tunnels and report results.
Federal Motor Carrier Safety Administration	Collects and maintains motor carrier safety data, and maintains a registry of motor carriers and shippers subject to federal motor carrier safety regulations and hazardous materials shipper regulations.
Federal Transit Administration	Maintains the National Transit Database, which collects data on public transit operators, including financial performance, safety, ridership, operating statistics, and asset conditions.
National Highway Traffic Safety Administration	Operates the National Center for Statistics and Analysis, which collects and analyzes motor vehicle traffic crash and safety data.
Pipeline and Hazardous Materials Safety Administration	Collects incident and operations data for pipelines, and the transportation of hazardous materials.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

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**Table 10: Department of Transportation's (DOT) Activities in the Research Technical Assistance Area**

**Research Technical Assistance:** Providing technical assistance regarding DOT research programs and providing deployment support to transportation stakeholders for new technologies

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Manages pilot programs, and provides deployment assistance for transportation technologies such as intelligent transportation systems.
Federal Aviation Administration	Provides technical assistance to industry stakeholders in the deployment and implementation of the Next Generation Air Transportation System program, which is intended to modernize U.S. air traffic control and communications systems
Federal Highway Administration	Provides technology deployment technical assistance for highway stakeholders in a number of areas, including intelligent transportation systems and emergency management.
Federal Motor Carrier Safety Administration	Manages motor carrier vehicle safety technology pilot programs.
Federal Railroad Administration	Provides technology development technical assistance for the railroad industry including for Positive Train Control technologies.
Federal Transit Administration	Performs technical assistance for transit operators, states, local jurisdictions, and other transit stakeholders in deploying, demonstrating, and evaluating new public transit technologies.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 11: Department of Transportation's (DOT) Activities in the Sponsor and Conduct Research Area**

**Sponsor and Conduct Research:** Directly operating research facilities, sponsoring research by providing grants, or other means of support for research directly or through research facilities

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Manages the Volpe National Transportation Systems Center, which conducts transportation research for DOT administrations and other entities, and coordinates research activities at each DOT administration through the Office of the Assistant Secretary for Research and Technology (OST-R).
Federal Aviation Administration	Conducts research and provides grants to research institutions on a number of aviation topics, including human factors such as operator fatigue, airport technology, commercial space technology, and aviation meteorology.
Federal Highway Administration	Manages the Turner Fairbank Highway Research Center, which conducts research on highway topics, including driver and pedestrian safety, congestion management, and highway construction.
Federal Motor Carrier Safety Administration	Provides grants to research institutions to perform research on motor carrier safety topics, such as driver fatigue, commercial driver licensing requirements, and maintenance.
Federal Railroad Administration	Conducts research, and provides grants to research institutions on a number of railroad topics, such as grade crossing safety, train control mechanisms, and human factors.
Federal Transit Administration	Provides grants to research institutions to perform public transit research on topics, including urban development, service quality, asset and infrastructure maintenance, environmental impact, and transit safety.

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<b>Administration</b>	<b>Examples of activities performed</b>
National Highway Traffic Safety Administration	Manages the Vehicle Research and Testing Center, which conducts safety testing and other research on motor vehicles and equipment, and conducts other behavioral safety research directly and by contract with research institutions.
Pipeline and Hazardous Materials Safety Administration	Provides grants to research institutions to perform research on pipeline safety and the transportation of hazardous materials.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

Six of the categories we identified, as shown in tables 12 to 17, are related to safety:

**Table 12: Department of Transportation's (DOT) Activities in the Developing Safety Regulations Area**

<b>Developing Safety Regulations:</b> Developing rulemakings, guidance, and policies intended to improve the safety of the transportation system	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Oversees the development of safety regulations in all of the modal administrations.
Federal Aviation Administration	Develops the Federal Aviation Regulations which cover airports, air carriers, air traffic control, the aviation workforce, and medical standards, among other things.
Federal Highway Administration	Develops highway-related regulations, rulemakings and guidance, such as construction standards and requirements for safety performance metrics, for state and local transportation agencies.
Federal Motor Carrier Safety Administration	Develops the Federal Motor Carrier Safety Regulations, which include medical certification, commercial driving license certification, and operating requirements.
Federal Railroad Administration	Develops regulations to improve railroad safety, including those related to railroad operations, infrastructure, and emergency communications.
Federal Transit Administration	Develops regulations on the management and maintenance of public transit assets, including regulations for safety management plans at public transit providers and the National Transit Asset Management System.
Maritime Administration	Participates in international maritime safety standard setting through the International Maritime Organization, a specialized agency of the United Nations that governs international shipping, and provides technical assistance to the U.S. Coast Guard in developing regulations to implement those standards.
National Highway Traffic Safety Administration	Develops the Federal Motor Vehicle Safety Standards and other regulations, which describe manufacturer requirements for new motor vehicles and equipment, among other things.
Pipeline and Hazardous Materials Safety Administration	Develops the Federal pipeline safety regulations, which govern the construction and operation of pipelines, and the Federal hazardous materials regulations, which govern the transportation of hazardous materials.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

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**Table 13: Department of Transportation's (DOT) Activities in the International Safety Activities Area**

<b>International Safety Activities:</b> Coordinating safety standards, regulations, and enforcement with other countries	
<b>Administration</b>	<b>Examples of activities performed</b>
Federal Aviation Administration	Coordinates international aviation safety issues with the International Civil Aviation Organization, a specialized agency of the United Nations that governs civil aviation.
Federal Highway Administration	Acts as the United States' representative to the World Road Association, an intergovernmental organization intended to improve information sharing on highway transportation topics, such as safety.
Federal Motor Carrier Safety Administration	Provides technical assistance to Canada and Mexico to develop consistent regulations, driver licensing, inspection procedures, and safety programs.
Federal Railroad Administration	Coordinates with foreign governments and international entities to promote international rail safety and standards.
National Highway Traffic Safety Administration	Coordinates DOT activities at the United Nations World Forum for the Harmonization of Vehicle Regulations, which develops international standards for vehicle safety.
Pipeline and Hazardous Materials Safety Administration	Participates in international forums on hazardous materials regulations, such as the United Nations Sub-Committee of Experts on the Transport of Dangerous Goods and the International Maritime Organization.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 14: Department of Transportation's (DOT) Activities in the Safety Certification, Continuing Oversight, and Enforcement Area**

<b>Safety Certification, Continuing Oversight, and Enforcement:</b> Ensuring compliance with federal transportation laws and regulations by providing direct oversight of operators, conducting legal enforcement actions, and providing safety certification of operators	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Conducts civil penalty hearings regarding improper shipment of hazardous materials, inspections, and maintenance, and coordinates criminal hearings.
Federal Aviation Administration	Enforces aviation safety regulations for operators, manufacturers, and other industry stakeholders, and provides safety certification for the aviation workforce and airspace systems.
Federal Highway Administration	Administers the National Bridge and Tunnel Inspection Program, which enforces compliance with the national bridge and tunnel inspection standards, and enforces federal size and weight standards for commercial vehicles.
Federal Motor Carrier Safety Administration	Conducts oversight and enforcement of motor carriers by performing on-site inspections, roadside inspections, off-site reviews, and safety audits of new motor carriers.
Federal Railroad Administration	Monitors and enforces industry compliance with railroad regulations by conducting inspections of railroad operators, infrastructure, and equipment, and provides safety certification of railroad systems and infrastructure.
Federal Transit Administration	Provides oversight of transit operators' inspection and auditing mechanisms, reviews and approves required state-level public transit safety oversight systems, and provides direct safety oversight of the Washington Metropolitan Area Transit Authority <sup>a</sup>

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<b>Administration</b>	<b>Examples of activities performed</b>
National Highway Traffic Safety Administration	Enforces vehicle safety regulations through testing of new vehicles and equipment, and the identification and monitoring of safety defect and noncompliance recalls, and approves state highway safety plans.
Pipeline and Hazardous Materials Safety Administration	Enforces pipeline safety regulations through pipeline inspections, evaluations of pipeline integrity, and compliance reviews, and enforces hazardous materials safety regulations through permitting, inspections, and registrations.
St. Lawrence Seaway Development Corporation	Performs safety inspections of foreign vessels operating on the U.S. portion of the St. Lawrence Seaway.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

<sup>a</sup>The Washington Metropolitan Area Transit Authority provides bus and rail public transportation services to the greater Washington, D.C., area. In October 2015, the Secretary of Transportation directed the Federal Transit Administration to assume temporary direct safety oversight of Washington Metropolitan Area Transit Authority's rail operations. This was the first time that DOT has used the direct oversight authority granted to the Federal Transit Administration under the Moving Ahead for Progress in the 21st Century Act of 2012.

**Table 15: Department of Transportation's (DOT) Activities in the Safety Grant Programs Area**

**Safety Grant Programs:** Providing funds to other entities such as states or local jurisdictions to complete projects intended to improve the safety of the transportation system

<b>Administration</b>	<b>Examples of activities performed</b>
Federal Aviation Administration	Administers the Airport Improvement Program, which provides grants for, among other things, safety-specific improvements to airports.
Federal Railroad Administration	Administers grants to organizations that promote railroad safety including those that promote safety at highway-rail grade crossings.
Federal Highway Administration	Administers the Highway Safety Improvement Program, which provides funding to states to address highway safety problems such as hazardous road features.
Federal Transit Administration	Administers grants to states for development and operation of oversight programs for rail transit systems.
National Highway Traffic Safety Administration	Administers the Highway Safety Grant Program, which provides grants to states for highway safety programs including those intended to counteract impaired and distracted driving.
Pipeline and Hazardous Materials Safety Administration	Administers grants to states including Pipeline Safety Grants, which support state pipeline safety enforcement activities, and the Hazardous Materials Grants Program, which support state training and emergency preparedness activities.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

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**Table 16: Department of Transportation's (DOT) Activities in the Safety Event Response Area**

**Safety Event Response:** Responding to safety events in the transportation sector, including assisting other entities in providing incident response, and investigating the causes of safety events

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Manages the Crisis Management Center, which monitors transportation crises and hosts a DOT emergency response team; oversees DOT technical support to the National Transportation Safety Board.
Federal Aviation Administration	Investigates aircraft incidents and accidents, and supports investigations conducted by the National Transportation Safety Board.
Federal Railroad Administration	Monitors and investigates railroad accidents, safety events, and incidents to determine probable cause and identify related areas of regulatory non-compliance.
Federal Transit Administration	Performs investigations of certain public transportation accidents, and supports investigations conducted by the National Transportation Safety Board.
Pipeline and Hazardous Materials Safety Administration	Participates on the National Response Team, which coordinates oversight of oil and hazardous substance pollution prevention requirements and provides training to emergency responders.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 17: Department of Transportation's (DOT) Activities in the Safety Technical Assistance Area**

**Safety Technical Assistance:** Providing assistance to other entities such as states, local jurisdictions, or operators related to safety and compliance with federal safety regulations

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Develops and conducts safety training programs in a number of areas, such as safety management, through the Transportation Safety Institute.
Federal Aviation Administration	Conducts safety-related outreach to aviation industry stakeholders in a number of areas, including airport planning, operations, and hazardous materials.
Federal Highway Administration	Offers road safety training and peer information exchange programs to states and local jurisdictions.
Federal Motor Carrier Safety Administration	Provides outreach, cooperation, and technical assistance to states, local officials, and other industry stakeholders regarding motor carrier safety programs.
Federal Railroad Administration	Provides training and certification to safety inspectors employed by states to enforce federal railroad regulations.
Federal Transit Administration	Develops safety assistance, guidance, demonstrations, and training programs for public transit operators and stakeholders.
National Highway Traffic Safety Administration	Provides technical support to states in developing, implementing, and evaluating safety programs and plans.
Pipeline and Hazardous Materials Safety Administration	Provides technical support to end users for implementing and evaluating safety and security programs.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Appendix II: Activities Performed by the  
Department of Transportation's  
Administrations**

Five of the categories we identified, as shown in tables 18 to 22, are related to supporting infrastructure projects:

**Table 18: Department of Transportation's (DOT) Activities in the Environmental Impact Mitigation Area**

<b>Environmental Impact Mitigation:</b> Providing funding or direct action to mitigate the impact on the environment of transportation activities	
<b>Administration</b>	<b>Examples of activities performed</b>
Federal Aviation Administration	Develops air traffic routing procedures to reduce the impact of airport noise, and directs funds from the Airport Improvement Program, which provides grants to airports for development projects to insulate homes located near airports from noise.
Federal Highway Administration	Provides funding for environmental mitigation related to highway projects.
Federal Transit Administration	Develops environmental management training for public transit system operators.
Maritime Administration	Disposes of surplus merchant ships by contracting with ship dismantling and recycling firms.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 19: Department of Transportation's (DOT) Activities in the Project Environmental Reviews Area**

<b>Project Environmental Reviews:</b> Reviewing and approving environmental reviews required for projects that receive assistance from DOT project delivery programs	
<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Manages required environmental reviews for projects receiving agency assistance, including reviewing documentation and granting approvals.
Federal Aviation Administration	
Federal Highway Administration	
Federal Railroad Administration	
Federal Transit Administration	
Maritime Administration	

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Appendix II: Activities Performed by the  
Department of Transportation's  
Administrations**

**Table 20: Department of Transportation's (DOT) Activities in the Project Grant and Credit Programs Area**

**Project Grant Programs:** Providing grants, formula funding, and credit financing to infrastructure projects administered by other entities such as states or local jurisdictions

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Manages the Build America Bureau, which administers DOT credit programs, including the Railroad Relocation and Improvement Financing program, the Transportation Infrastructure Finance and Innovation Act program, and the allocation of Private Activity Bonds.
Federal Aviation Administration	Administers aviation-related grant programs, such as the Airport Improvement Program and the Space Transportation Infrastructure Matching Grants program.
Federal Highway Administration	Administers the Federal-aid highway program and other highway grant programs, such as the Surface Transportation System Funding Alternatives grant program.
Federal Railroad Administration	Administers railroad grant programs, including the Amtrak and Alaska Railroad capital grants programs and the High Speed Intercity Passenger Rail Program.
Federal Transit Administration	Administers public transit grant programs, including the Urbanized Area Formula Grant program, the Capital Investment Grant program, and the Metropolitan Planning Grants program.
Maritime Administration	Administers maritime grant programs, including the Marine Highway Program and the Small Shipyard Grant Program.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

**Table 21: Department of Transportation's (DOT) Activities in the Project Oversight Area**

**Project Oversight:** Providing oversight of participants in DOT programs to ensure compliance with federal laws and program rules, policies, and best practices

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Oversees participants in agency programs and recipients of agency assistance for compliance with program rules and regulations, as well as federal laws and policies, including Title VI of the Civil Rights Act of 1964, the Americans with Disability Act, the Disadvantaged Business Enterprise program, and the Equal Employment Opportunity program.
Federal Aviation Administration	
Federal Highway Administration	
Federal Motor Carrier Safety Administration	
Federal Railroad Administration	
Federal Transit Administration	
Maritime Administration	
National Highway Traffic Safety Administration	
Pipeline and Hazardous Materials Safety Administration	

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.



**Appendix II: Activities Performed by the  
Department of Transportation's  
Administrations**

**Table 22: Department of Transportation's (DOT) Activities in the Project Technical Assistance Area**

**Project Technical Assistance:** Providing assistance to participants in DOT project delivery programs, such as help with applications, program rules and regulations, project design, and project funding

<b>Administration</b>	<b>Examples of activities performed</b>
Office of the Secretary of Transportation	Provides technical assistance and outreach for DOT programs, including those conducted by the Build America Bureau, which provides support for and selects recipients of certain DOT grant and credit programs.
Federal Aviation Administration	Provides technical assistance to airports and aviation authorities on participating in agency assistance programs.
Federal Highway Administration	Provides technical assistance to states and local jurisdictions for highway projects, including planning, design, asset management, finance, and cost estimating.
Federal Railroad Administration	Provides technical assistance to rail industry stakeholders on railroad grant programs
Federal Transit Administration	Provides technical assistance to state and local jurisdictions on agency project delivery programs and the required metropolitan transportation planning process.
Maritime Administration	Provides expertise on financing, operations, and infrastructure for port infrastructure and intermodal freight movement projects.

Source: GAO analysis of DOT organizational manuals, budget requests, and websites. | GAO-17-478.

# Appendix III: Comments from the Department of Transportation



U.S. Department of  
Transportation

Office of the Secretary  
of Transportation

Assistant Secretary  
for Administration

1200 New Jersey Ave., SE  
Washington, DC 20590

MAY 02 2017

Susan Fleming  
Director, Physical Infrastructure Issues  
U.S. Government Accountability Office (GAO)  
441 G Street NW  
Washington, DC 20548

Ms. Fleming:

The Department of Transportation (DOT) is committed to using its statutory authorities to efficiently and effectively carry out its missions. DOT consistently looks for opportunities to improve its operational performance to better address today's transportation challenges. Several recent examples of actions DOT has taken include the following:

- creating the Infrastructure Permitting Improvement Center as a central resource for accelerating project delivery of all DOT projects, overseeing implementation of permitting reforms, and managing the Federal Permitting Dashboard;
- establishing a Regulatory Reform Task Force to evaluate existing regulations and make recommendations regarding their repeal, replacement, or modification. The Task Force will also consider how to improve implementation of regulatory reform initiatives and policies;
- evaluating the Department's committees, such as the Advisory Committee on Automation in Transportation, and other programs and projects involved in the continued development and deployment of automated transportation, an emerging issue for federal policymakers;
- establishing an Office of the Secretary (OST) led multimodal working group that explores freight issues and collaboratively develops freight products required by the FAST Act, such as the National Freight Strategic Plan; and
- investing in senior data leaders at several Operating Administrations, including the FAA and OST, to advance the quality, availability, and use of data and analytics across the Department.

DOT also has several planning efforts underway in response to the Presidential Executive Order on a Comprehensive Plan for Reorganizing the Executive Branch. In April, we established two working groups to identify efficiencies in the Department's mission. In addition, we are soliciting employee feedback on DOT programs, organizations or services that should be restructured, merged or eliminated to improve the Department's efficiency and effectiveness.

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**Appendix III: Comments from the Department  
of Transportation**

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Upon review of the draft report, we concur with the recommendation to conduct a department-wide review of current efforts to address concerns relating to the areas identified by experts and develop an action plan to implement improvements in these areas. The Department will provide a detailed response to the recommendation within 60 days of the final report's issuance.

We appreciate the opportunity to respond to the GAO draft report. Please contact Madeline M. Chulumovich, Director, Audit Relations and Program Improvement, at (202) 366-6512 with any questions or if you would like to obtain additional details.

Sincerely,



Bryan Slater  
Assistant Secretary for Administration

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# Appendix IV: Relevant Reports from GAO and Department of Transportation's Office of Inspector General

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GAO and the Department of Transportation's Office of Inspector General (DOT OIG) have bodies of work related to topics the experts we spoke with most frequently cited as being important for DOT to address. Below are reports issued by GAO and DOT OIG in each of these areas: (1) collaboration and coordination; (2) data quality and analytics; (3) project delivery processes; (4) regulation development; and (5) addressing emerging issues.

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## Collaboration and Coordination

GAO. *Train Braking: DOT's Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency.* [GAO-17-122](#). Washington, D.C.: October 12, 2016.

GAO. *Air Traffic Control: FAA Needs a More Comprehensive Approach to Address Cybersecurity as Agency Transitions to NextGen.* [GAO -15-370](#). Washington, D.C.: April 14, 2015.

GAO. *Drug-Impaired Driving: Additional Support Needed for Public Awareness Initiatives.* [GAO-15-293](#). Washington, D.C.: February 24, 2015.

GAO. *Managing for Results: Implementation Approaches Used to Enhance Collaboration in Interagency Groups.* [GAO-14-220](#). Washington, D.C.: February 14, 2014.

GAO. *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms.* [GAO-12-1022](#). Washington, D.C.: September 27, 2012.

GAO. *Transportation-Disadvantaged Populations: Federal Coordination Efforts Could be Further Strengthened.* [GAO-12-647](#). Washington, D.C.: June 20, 2012.

GAO. *Pipeline Safety: Collecting Data and Sharing Information on Federally Unregulated Gathering Pipelines Could Help Enhance Safety.* [GAO-12-388](#). Washington, D.C.: March 22, 2012.

GAO. *Intelligent Transportation Systems: Improved DOT Collaboration and Communication Could Enhance the Use of Technology to Manage Congestion.* [GAO-12-308](#). Washington, D.C.: March 19, 2012.

OIG, DOT. *FHWA Needs to Strengthen Its Oversight of State Transportation Improvement Programs*. ST2017019. Washington, D.C.: January 5, 2017.

OIG, DOT. *Insufficient Guidance, Oversight, and Cooperation Hinder PHMSA's Full Implementation of Mandates and Recommendations*. ST-2017-002. Washington, D.C.: October 14, 2016.

OIG, DOT. *FAA Lacks a Clear Process for Identifying and Coordinating NextGen Long-Term Research and Development*. AV-2016-094. Washington, D.C.: August 25, 2016.

OIG, DOT. *Improvements Needed in FMCSA's Plan for Inspecting Buses at the United States-Mexico Border*. MH-2014-007. Washington, D.C.: November 26, 2013.

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## Data Quality and Analytics

GAO. *Train Braking: DOT's Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency*. [GAO-17-122](#). Washington, D.C.: October 12, 2016.

GAO. *Motor Carriers: Better Information Needed to Assess Effectiveness and Efficiency of Safety Interventions*. [GAO-17-49](#). Washington, D.C.: October 27, 2016.

GAO. *West Coast Ports: Better Supply Chain Information Could Improve DOT's Freight Efforts*. [GAO-17-23](#). Washington, D.C.: October 31, 2016.

GAO. *Freight Transportation: Developing National Strategy Would Benefit from Added Focus on Community Congestion Impacts*. [GAO-14-740](#). Washington, D.C.: September 19, 2014.

GAO. *Federal Motor Carrier Safety: Modifying the Compliance, Safety, Accountability Program Would Improve the Ability to Identify High Risk Carriers*. [GAO-14-114](#). Washington, D.C.: February 3, 2014.

GAO. *Cargo Tank Trucks: Improved Incident Data and Regulatory Analysis Would Better Inform Decisions about Safety Risks*. [GAO-13-721](#). Washington, D.C.: September 11, 2013.

GAO. *Pipeline Safety: Better Data and Guidance Needed to Improve Pipeline Operator Incident Response*. [GAO-13-168](#). Washington, D.C.: January 23, 2013.

GAO. *Pipeline Safety: Collecting Data and Sharing Information on Federally Unregulated Gathering Pipelines Could Help Enhance Safety*. [GAO-12-388](#). Washington, D.C.: March 22, 2012.

GAO. *Motor Carrier Safety: New Applicant Reviews Should Expand to Identify Freight Carriers Evading Detection*. [GAO-12-364](#). Washington, D.C.: March 22, 2012.

OIG, DOT. *FRA's Oversight of Hazardous Materials Shipments Lacks Comprehensive Risk Evaluation and Focus on Deterrence*. ST-2016-020. Washington, D.C.: February 24, 2016.

OIG, DOT. *Inadequate Data and Analysis Undermine NHTSA's Efforts to Identify and Investigate Vehicle Safety Concerns*. ST-2015-063. Washington, D.C.: June 18, 2015.

OIG, DOT. *Program and Data Limitations Impede the Effectiveness of FAA's Hazardous Materials Voluntary Disclosure Reporting Program*. AV-2015-034. Washington, D.C.: March 13, 2015.

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## Regulation Development

GAO. *Train Braking: DOT's Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency*. [GAO-17-122](#). Washington, D.C.: October 12, 2016.

GAO. *Commercial Space: FAA Should Examine How to Appropriately Regulate Space Support Vehicles*. [GAO-17-100](#). Washington, D.C.: November 25, 2016.

GAO. *Federal Aviation Administration: Commercial Space Launch Industry Developments Present Multiple Challenges*. [GAO-15-706](#). Washington, D.C.: August 25, 2015.

GAO. *Oil and Gas Transportation: Department of Transportation Is Taking Actions to Address Rail Safety, but Additional Actions Are Needed to Improve Pipeline Safety*. [GAO-14-667](#). Washington, D.C.: August 21, 2014.

GAO. *Cargo Tank Trucks: Improved Incident Data and Regulatory Analysis Would Better Inform Decisions about Safety Risks*. [GAO-13-721](#). Washington, D.C.: September 11, 2013.

GAO. *Aviation Rulemaking: Further Reform Is Needed to Address Long-standing Problems*. [GAO-01-821](#). Washington, D.C.: July 9, 2001.

OIG, DOT. *Top Management Challenges for Fiscal Year 2017*. PT-2017-007. Washington, D.C.: November 15, 2016.

OIG, DOT. *Insufficient Guidance, Oversight, and Cooperation Hinder PHMSA's Full Implementation of Mandates and Recommendations*. ST-2017-002. Washington, D.C.: October 14, 2016.

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## Project Delivery Processes

GAO. *DOT Discretionary Grants: Problems with Hurricane Sandy Transit Grant Selection Process Highlight the Need for Additional Accountability*. [GAO-17-20](#). Washington, D.C.: December 14, 2016.

GAO. *Rail Grant Oversight: Greater Adherence to Leading Practices Needed to Improve Grants Management*. [GAO-16-544](#). Washington, D.C.: May 26, 2016.

GAO. *Public Transit: Updated Guidance and Expanded Federal Authority Could Facilitate Bus Procurement*. [GAO-15-676](#). Washington, D.C.: September 10, 2015.

GAO. *Intercity Passenger Rail: Recording Clearer Reasons for Awards Decisions Would Improve Otherwise Good Grantmaking Practices*. [GAO-11-283](#). Washington, D.C.: March 10, 2011.

OIG, DOT. *Vulnerabilities Exist in Implementing Initiatives Under MAP-21 Subtitle C to Accelerate Project Delivery*. ST2017029. Washington, D.C.: March 6, 2017.

OIG, DOT. *Top Management Challenges for Fiscal Year 2017*. PT-2017-007. Washington, D.C.: November 15, 2016.

OIG, DOT. *FHWA Does Not Effectively Ensure States Account for Preliminary Engineering Costs and Reimburse Funds as Required*. ST-2016-095. Washington, D.C.: August 25, 2016.

OIG, DOT. *FTA Monitored Grantees' Corrective Actions, but Lacks Policy and Guidance to Oversee Grantees with Restricted Access to Federal Funds*. ST-2016-058. Washington, D.C.: April 12, 2016.

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OIG, DOT. *Weak Internal Controls for Collecting Delinquent Debt Put Millions of DOT Dollars at Risk*. FI-2015-065. Washington, D.C.: July 9, 2015.

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## Addressing Emerging Issues

GAO. *Train Braking: DOT's Rulemaking on Electronically Controlled Pneumatic Brakes Could Benefit from Additional Data and Transparency*. [GAO-17-122](#). Washington, D.C.: October 12, 2016.

GAO. *West Coast Ports: Better Supply Chain Information Could Improve DOT's Freight Efforts*. [GAO-17-23](#). Washington, D.C.: October 31, 2016.

GAO. *Vehicle Cybersecurity: DOT and Industry Have Efforts Under Way, but DOT Needs to Define Its Role in Responding to a Real-world Attack*. [GAO-16-350](#). Washington, D.C.: March 24, 2016.

GAO. *Vehicle Safety: Enhanced Project Management of New Information Technology Could Help Improve NHTSA's Oversight of Safety Defects*. [GAO-16-312](#). Washington, D.C.: February 24, 2016.

GAO. *Unmanned Aerial Systems: FAA Continues Progress toward Integration into the National Airspace*. [GAO-15-610](#). Washington, D.C.: July 16, 2015.

GAO. *Air Traffic Control: FAA Needs a More Comprehensive Approach to Address Cybersecurity as Agency Transitions to Next Gen*. [GAO-15-370](#). Washington, D.C.: April 14, 2015.

GAO. *Freight Transportation: Developing National Strategy Would Benefit from Added Focus on Community Congestion Impacts*. [GAO-14-740](#). Washington, D.C.: September 19, 2014.

GAO. *Oil and Gas Transportation: Department of Transportation Is Taking Actions to Address Rail Safety, but Additional Actions Are Needed to Improve Pipeline Safety*. [GAO-14-667](#). Washington, D.C.: August 21, 2014.

GAO. *Rail Safety: Improved Human Capital Planning Could Address Emerging Safety Oversight Challenges*. [GAO-14-85](#). Washington, D.C.: December 9, 2013.

GAO. *Intelligent Transportation Systems: Vehicle-to-Vehicle Technologies Expected to Offer Safety Benefits, but a Variety of*



*Deployment Challenges Exist.* [GAO-14-13](#). Washington, D.C.: November 1, 2013.

GAO. *Intelligent Transportation Systems: Improved DOT Collaboration and Communication Could Enhance the Use of Technology to Manage Congestion.* [GAO-12-308](#). Washington, D.C.: March 19, 2012.

OIG, DOT. *FAA Lacks a Risk-Based Oversight Process for Civil Unmanned Aircraft Systems.* AV-2017-018. Washington, D.C.: December 1, 2016.

OIG, DOT. *Top Management Challenges for Fiscal Year 2017.* PT-2017-007. Washington, D.C.: November 15, 2016.

OIG, DOT. *DOT Cybersecurity Incident Handling and Reporting is Ineffective and Incomplete.* FI-2017-001. Washington, D.C.: October 13, 2016.

OIG, DOT. *FAA Faces Significant Barriers to Safely Integrate Unmanned Aircraft Systems Into the National Airspace System.* AV-2014-061. Washington, D.C.: June 26, 2014.

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# Appendix V: GAO Contact and Staff Acknowledgments

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## GAO Contact

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## Staff Acknowledgments

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