FY 2022
Annual Performance Plan

FY 2020
Annual Performance Report

U.S. Department of Transportation

TABLE OF CONTENTS

ACRONYMS & ABBREVIATIONS

ADC	Average daily capacity
ADS	Automated Driving System
AMR	Accelerating Market Readiness
APG	Agency Priority Goal
APR	Annual Performance Report
AV TEST	Automated Vehicle Transparency and Engagement for Safe Testing
BIC	Best in Class
CAP	Cross-Agency Priority
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CDA	Cooperative Driving Automation
CDL	Commercial driver's license
CDM	Collaborative Decision Making
CFR	Code of Federal Regulations
CIF$	Center for Innovative Finance Support
CIG	Capital Investment Grant
CMESC	Category Management Executive Steering Committee
CMLSC	Category Management Leadership Steering Committee
CMV	Commercial motor vehicle
CY	Calendar year
DLRW	Dynamic Launch/Reentry Windows
DoD	U.S. Department of Defense
DOT	Department of Transportation
EDC	Every Day Counts
EIS	Environmental impact statement
ELD	Electronic Logging Device
EMS	Emergency medical services
EO	Executive Order
EPRC	Executive and Political Resources Center

ERAM	En Route Automation Modernization
FAA	Federal Aviation Administration
FAASTeam	Federal Aviation Administration Safety Team
FAF	Freight Analysis Framework
FARS	Fatality Analysis Reporting System
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FMVSS	Federal Motor Vehicle Safety Standards
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal year
GLS	Great Lakes St. Lawrence Seaway Development Corporation
GPRA	Government Performance and Results Act of 1993
GPRAMA	Government Performance and Results Act Modernization Act of 2010
HPMS	Highway Performance Monitoring System
ICAO	International Civil Aviation Organization
IT	Information technology
LAANC	Low Altitude Authorization and Notification Capability
LTCCFS	Large Truck Crash Causal Factors Study
MARAD	Maritime Administration
MCMIS	Motor Carrier Management Information System
MPO	Metropolitan Planning Organization
MSP	Maritime Security Program
MY	Model year
NAC	NextGen Advisory Committee
NAR	Non-accident release
NAS	National Airspace System
NBIS	National Bridge Inspections Standards
NCAP	New Car Assessment Program
NEC	Northeast Corridor

NEPA	National Environmental Policy Act
NextGen	Next Generation Air Transportation System
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NPIAS	National Plan of Integrated Airport Systems
NTL	National Transportation Library
OA	Operating Administration
OCIO	Office of the Chief Information Officer
OIG	Office of the Inspector General
OMB	Office of Management and Budget
OST	Office of the Secretary of Transportation
OST-R	Office of the Assistant Secretary for Research
OTP	On-time performance
PHMSA	Pipeline and Hazardous Materials Safety Administration
PTASP	Public Transportation Agency Safety Plan
R&D	Research and development
RRF	Ready Reserve Force
SAT	Safety Assessment Team
SGR	State of Good Repair
STEP	Safe Transportation for Every Pedestrian
T2	Technology transfer
TAM	Transit Asset Management
TBFM	Time-Based Flow Management
TBLP	Time-Based Launch/Reentry Procedures
TFMS	Traffic Flow Management System
TIM	Traffic Incident Management
TTTR	Truck Travel Time Reliability
UAS	Unmanned Aircraft System
VISA	Voluntary Intermodal Sealift Agreement
VMT	Vehicle miles traveled

INTRODUCTION

The United States Department of Transportation (DOT) ensures our Nation has the safest, most efficient, and modern transportation system in the world, which boosts our economic productivity and global competitiveness and enhances the quality of life in communities both rural and urban.

In accordance with the Government Performance and Results Act of 1993 (GPRA), as amended by the GPRA Modernization Act of 2010 (GPRAMA), the Department is pleased to present the Fiscal Year (FY) 2022 Annual Performance Plan, and FY 2020 Annual Performance Report. Further information detailing DOT's performance is available at https://www.performance.gov.

This year, DOT is embarking on a new era of data-driven decision making. This effort depends on the information and data contained in this document. The Department's key principles include: safety as the foundation of all we do; economic strength and creating good-paying jobs; equitable access to opportunity; resilience and addressing climate change; and transformative infrastructure. This process starts by each of DOT's nine Operating Administrations (OAs), the Office of the Secretary of Transportation (OST), and the Office of the Inspector General (OIG) sharing details of their work with the American public. The information reported here is critical to identifying issues and raising the right questions for increasing understanding around the key issues facing the Department and the public.

The Annual Performance Report evaluates the Department's success in meeting its performance targets in FY 2020. Each strategic goal is linked to one or more strategic objectives, and progress in each objective is measured by performance metrics. A limited number of these performance metrics are aligned to Agency Priority Goals (APG), which are near-term results or achievements that leadership wants to accomplish within approximately 24 months and that rely predominantly on agency implementation. The performance information included in this document is used to inform Departmental budget, policy, and legislative reauthorization proposals.

The Annual Performance Plan provides an overview of the Department's performance goals and the strategies used to achieve these goals. The performance goals listed in the Annual Performance Plan align with the Department's current Strategic Plan and include annual numerical targets. A limited number of these performance goals are designated as APGs.

Note that, following GPRAMA, this edition of the Annual Performance Plan and Annual Performance Report contains measures that tie to the Department's multi-year Strategic Plan for FY 2018 – 2022. As such, this document describes historical data and other information that reflect the priorities of the previous Administration. The Department is currently developing its Strategic Plan for FY 2022 – 2026, which will be published in early FY 2022 and will become the basis for future editions of this document. In concert with this new Strategic Plan, the Department plans to identify opportunities for transforming the ways in which it collects and reports performance information.

MISSION STATEMENT

The United States Department of Transportation (DOT) ensures our Nation has the safest, most efficient, and modern transportation system in the world, which boosts our economic productivity and global competitiveness and enhances the quality of life in communities both rural and urban.
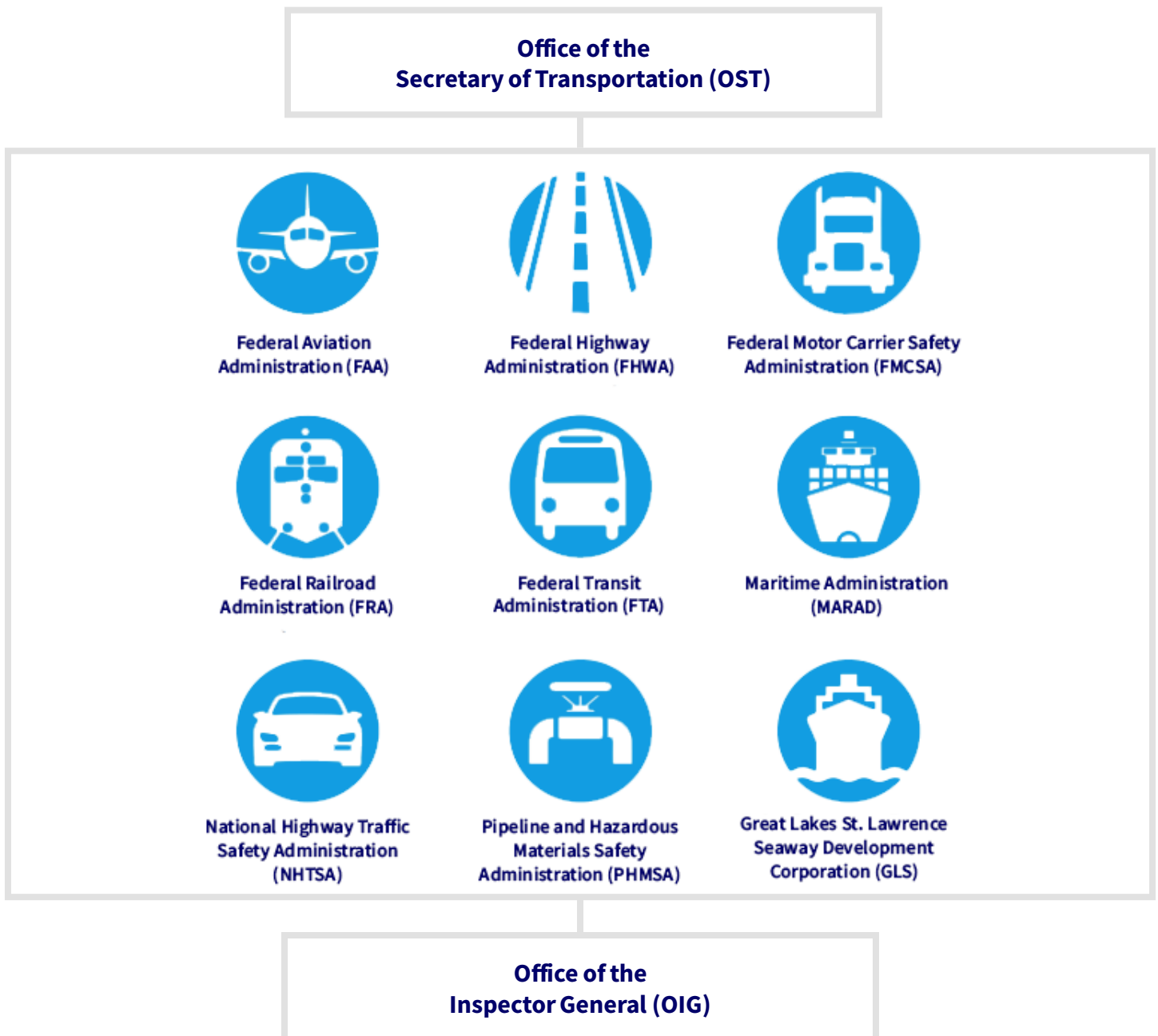
LEGISLATIVE AUTHORITIES

Congress provides the funding and legislative authorities needed to carry out the Department's mission. The Department's authorities are substantially codified under Titles 23 (highways), 46 (maritime), and 49 (aviation, railroads, and other surface modes) of the United States Code. The following are significant authorization acts for DOT's programs:

- **Fixing America's Surface Transportation Act** (Public Law No. 114-94: December 4, 2015): Authorized appropriations to the Department from FY 2016 through FY 2020 to improve the Nation's surface transportation infrastructure, including roads, bridges, transit systems, and rail transportation network. The Act reforms and strengthens transportation programs, refocuses National priorities, provides long-term certainty and more flexibility for State and local governments, streamlines project approval processes, and maintains a strong commitment to safety. Congress extended the FAST Act through FY 2021 and approved a $13.6 billion General Fund transfer to maintain Highway Trust Fund solvency through the end of FY 2021.

- **Federal Aviation Administration Reauthorization Act of 2018** (Public Law No. 115-254: October 5, 2018): Provides a five-year authorization of the Federal Aviation Administration (FAA), the first significant, multi-year reauthorization since the FAA Modernization and Reform Act of 2012 (Public Law 112-95), and the first five-year reauthorization in over a decade. The Act authorizes appropriations to FAA through FY 2023 and includes important changes related to increasing the safety and pace of Unmanned Aircraft Systems (UAS) integration, expediting the financing and development of airport capital projects, directing FAA to advance leadership in the field of international supersonic aircraft policies, reforming the aircraft certification process, addressing aircraft noise, and ensuring safe lithium battery transport.

- **Protecting our Infrastructure of Pipelines and Enhancing Safety Act of 2020** (Public Law No. 116-260: December 27, 2020): Authorized the continued oversight of the Nation's more than 2.8 million miles of oil, gas, and hazardous liquid pipelines, set forth mandates for publication of new and revised safety standards for leak detection and gas distribution pipelines, and authorized research, grants, programs, and the related appropriations from FY 2021 through FY 2023. It includes several mandates to issue regulations to improve safety of the Nation's pipelines and reduce leaks and methane emissions from pipeline facilities. The Act provides PHMSA with new authority to establish pilot programs to evaluate innovative technologies and operations practices designed to enhance pipeline safety. The Act also directs PHMSA to conduct several studies, including a study on resources needed to establish a National Center of Excellence for Liquefied Natural Gas Safety to further U.S. government expertise in operations, management, and regulatory practices of Liquefied Natural Gas facilities and a study on the costs and benefits of establishing an independent pipeline safety testing facility under DOT.

- **National Defense Authorization Act for Fiscal Year 2021** (Public Law No. 116-283): Authorized appropriations for MARAD's programs, including Federal and State Maritime Academies, ship operations, the Maritime Security Program, grants to small U.S. shipyards, and loan guarantees for ships constructed or reconditioned in the United States. While the National Defense Authorization Act is an annual authorization, the Department anticipates that Congress will reauthorize it for the fiscal years referred to within this report for programs overseen by MARAD.
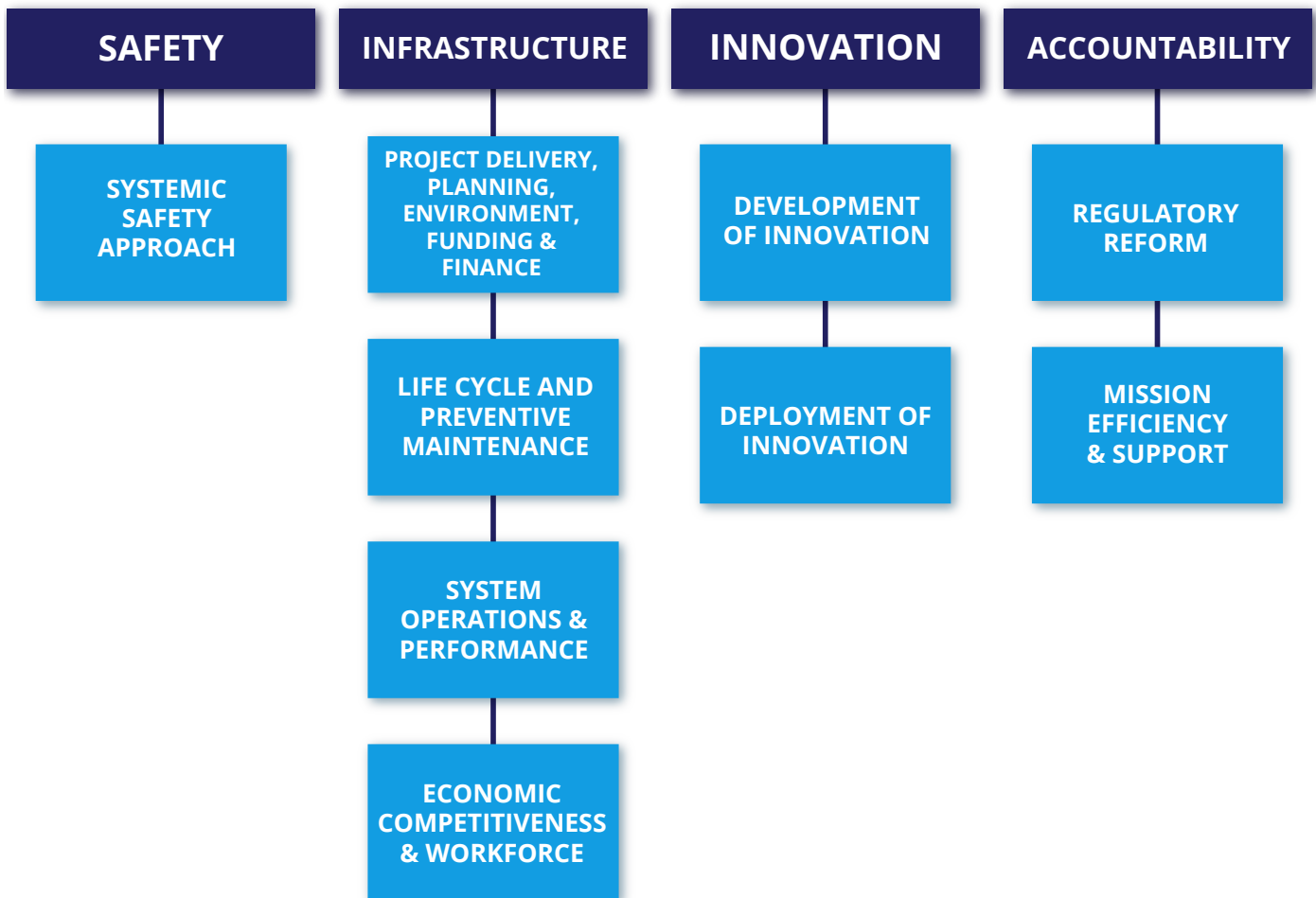
ORGANIZATIONAL STRUCTURE

Congress established DOT in 1967, consolidating 31 transportation agencies and functions under the first U.S. Secretary of Transportation, Alan S. Boyd. Over the past half-century, DOT employees have brought innovations and integrity to the work of improving the safety and performance of our multi-modal transportation system. Today, approximately 54,000 employees work in the Department.

**Office of the
Secretary of Transportation (OST)**

**Federal Aviation
Administration (FAA)**

**Federal Highway
Administration (FHWA)**

**Federal Motor Carrier Safety
Administration (FMCSA)**

**Federal Railroad
Administration (FRA)**

**Federal Transit
Administration (FTA)**

**Maritime Administration
(MARAD)**

**National Highway Traffic
Safety Administration
(NHTSA)**

**Pipeline and Hazardous
Materials Safety
Administration (PHMSA)**

**Great Lakes St. Lawrence
Seaway Development
Corporation (GLS)**

**Office of the
Inspector General (OIG)**

STRATEGIC GOALS AND OBJECTIVES

The Department has four strategic goals aligned to nine strategic objectives, according to the Strategic Plan for FY 2018 – 2022. Within each strategic objective, the Department set numerous performance goals. Some goals were managed by a single OA, while others were shared among two or more OAs. The graphic below depicts how the Department's strategic goals and objectives were organized.

SAFETY	INFRASTRUCTURE	INNOVATION	ACCOUNTABILITY
SYSTEMIC SAFETY APPROACH	PROJECT DELIVERY, PLANNING, ENVIRONMENT, FUNDING & FINANCE	DEVELOPMENT OF INNOVATION	REGULATORY REFORM
	LIFE CYCLE AND PREVENTIVE MAINTENANCE	DEPLOYMENT OF INNOVATION	MISSION EFFICIENCY & SUPPORT
	SYSTEM OPERATIONS & PERFORMANCE		
	ECONOMIC COMPETITIVENESS & WORKFORCE		

CROSS-AGENCY PRIORITY GOALS

Per GPRAMA, agencies must address Cross-Agency Priority (CAP) Goals in the Annual Performance Report. While DOT does not have any current CAP Goals, you can refer to https://www.performance.gov for more information.

AGENCY PRIORITY GOALS

Agency Priority Goals reflect leadership priorities, set outcomes, and measure results. These include goals that can be achieved within about 25 months and depend predominantly on agency implementation. The Department had four APGs that spanned the FY 2020 through FY 2021 cycle:

1. Reduce Surface Transportation-Related Fatalities
2. Reduce Aviation-Related Fatalities
3. Improve America's Transportation-Related Infrastructure
4. Enhance Commercial Space Innovation

APG 1: REDUCE SURFACE TRANSPORTATION-RELATED FATALITIES

Reduce overall surface transportation-related fatalities.

By September 30, 2021, the Department will reduce the rate of motor vehicle fatalities to 1.01 per 100 million vehicle miles traveled.

FMCSA, FHWA, and NHTSA play leading roles in achieving this APG, while FRA, FTA, and PHMSA also track progress on this goal. Progress toward this APG is tracked through the following performance measures:

- Total Motor Vehicle-Related Fatalities
- Motor Vehicle-Related Roadway Fatalities per 100 Million Vehicle Miles Traveled
- Passenger Fatalities per 100 Million Vehicle Miles Traveled
- Large Truck and Bus Fatalities per 100 Million Vehicle Miles Traveled
- Non-Occupant Fatalities (Pedestrian, Bicycle) per 100,000 Population
- Motorcycle Fatalities per 100,000 Motorcycle Registrations
- Total Transit Fatalities

- Transit-Related Fatalities per 100 Million Vehicle Revenue Miles
- Total Rail Transit Collisions with Persons
- Highway-Rail Grade Crossing Incidents
- Rail Right-of-Way Trespass Incidents
- Confirmed Fatalities Caused by the Release of Hazardous Materials Transported Via Pipeline or Surface Transportation Conveyance

Detailed information on each of these measures can be found in the Objective 1.1: Systemic Safety Approach section of this report.

FY 2020 PROGRESS UPDATE

Surface Safety: In calendar year (CY) 2019, motor vehicle fatalities constituted 97 percent of all surface transportation fatalities. Rail and transit fatalities combined represented the other three percent.[1] NHTSA's traffic fatality data show slight decreases in deaths across the Nation in CY 2019 for drivers (three percent), passengers (four percent), motorcyclists (one percent), pedestrians (three percent), and bicyclists (three percent) as compared to CY 2018.[2] The number of drivers aged 65 and older involved in fatal crashes also saw a slight increase by approximately one percent. This increase may be related to the growing number of Baby Boomers entering this age cohort (the

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[1] At this time, CY 2020 data on surface transportation-related fatalities are statistical projections, as the data are on a two-year lag. Finalized data are expected to be available in the spring of CY 2022.

[2] 2019 Traffic Safety Facts, NHTSA, DOT HS 813 060

population of people 65 and older increased by 32 percent from CY 2009 to CY 2018).[3] Fatalities in crashes involving at least one large truck increased slightly by one percent.

In CY 2020, the data show increased risky driving behaviors such as excessive speeding reported by law enforcement during the COVID-19 pandemic. Early projections from the first nine months of CY 2020 show that motor vehicle-related fatalities increased by 4.6 percent compared to CY 2019, but vehicle miles traveled (VMT) decreased by 14.5 percent over the same time period. In December 2020, NHTSA issued a special supplementary report on monthly traffic fatalities in first half of CY 2020. There is a projected increase in the proportion of fatalities that occurred on rural local/collector, arterial, and interstate roadways. NHTSA continues to monitor the data and work with its State and local partners to address these concerns.

In FY 2020, NHTSA administered $562 million in grants for highway safety programs to Offices of Highway Safety in all 50 States, the District of Columbia, U.S. territories, and the U.S. Department of the Interior's Bureau of Indian Affairs. These highway safety grants will help save lives by addressing impaired driving, promoting seat belt use, improving pedestrian and bicyclist safety, and funding other important traffic safety efforts.

The Safe Transportation for Every Pedestrian (STEP) initiative focuses on proven treatments to make crossing the street safer. As part of this initiative, FHWA distributed numerous resources on proven safety solutions to address the most common type of pedestrian fatalities, including new case studies, informational videos, podcasts, webinars, articles, and social media messaging. FHWA also commenced the STEP UP pedestrian safety awareness campaign, encouraging agencies to get involved, and developed a pedestrian safety toolbox known as the STEP Studio.

FHWA notified the 50 States, the District of Columbia, and Puerto Rico of the results of their FY 2018 safety performance target determinations. This is the first time that safety assessments have been made under the requirements of 23 U.S. Code § 150(d). A total of 27 States met or made significant progress toward their FY 2018 safety performance targets.

In FY 2020, FMCSA provided more than $391 million in annual grant dollars for the States' motor carrier investigations, roadside driver and vehicle safety inspections, and the identification and apprehension of traffic violators. FMCSA provided this competitive grant

funding to spur innovative ideas and support technological advancements through high-priority safety initiatives, commercial driver's license (CDL) program improvements, and driver training facilities. The agency's State partners conduct approximately 3.4 million inspections, more than 39,000 new entrant safety audits, and more than 13,000 carrier investigations annually.

FMCSA began conducting a Large Truck Crash Causal Factors Study (LTCCFS) in FY 2020 that will provide an estimate of the number of potentially non-preventable crashes that occur annually involving commercial motor carriers. This assessment of State crash data systems' effectiveness in identifying crashes that meet the criteria for consideration under the Crash Preventability Demonstration Program will inform possible changes to the Demonstration Program.

Rail: In FY 2020, FRA planned to host six two-day summits to raise awareness about the dangers and impacts of rail trespassing, seek low-cost solutions to local trespassing issues, and discuss practicable ideas for technological improvements at grade crossings. FRA is seeking to reschedule these sessions as soon as is practical and is exploring alternatives to in-person summits, such as virtual meetings or blended in-person and virtual engagements.

In FY 2020, FRA began awarding targeted grants to support local efforts to prevent trespassing and campaigns by mental health organizations to reduce rail-related suicides. In June 2020, FRA announced the availability of $293,000 in competitive grants for railroad trespassing suicide prevention projects, requesting applications from eligible organizations that focus on suicide prevention or mental health assistance.

In July 2020, FRA announced $528,028 for 11 projects in six States (California, Florida, Massachusetts, Montana, North Carolina, and New Jersey) to deter people from taking unnecessary risks around railroad tracks, with an emphasis on specific populations that are at a higher risk around tracks.

Transit: FTA's top safety priority in FY 2020 has been responding to the COVID-19 pandemic. The agency suspended its enforcement activities until FY 2021 in order to provide administrative relief to impacted transit operators. More than 700 transit providers are now required to complete a Public Transportation Agency Safety Plan (PTASP) by July 21, 2021. This deadline was extended in April 2020 from its original date of July 20, 2020 to December 31, 2020, and then was further extended

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[3] 2018 Traffic Safety Facts Older Population, NHTSA, DOT HS 812 982

in December 2020 to July 21, 2021. FTA continues to carry out its 2019-2021 PTASP Implementation Plan, which includes training, guidance, workshops, and webinars. To date, FTA has held more than 50 events involving more than 7,000 participants.

COVID-19 has dramatically reduced transit ridership across the country, with an estimated reduction in ridership in the last months of FY 2020 of 63 percent from pre-pandemic levels. In response to declines in ridership and fare revenue, many transit providers have reduced services.

Despite these reductions, FTA projects that neither the number of transit-related fatalities nor the transit-related fatality rate per 100 million passenger miles traveled decreased during FY 2020. FTA is investigating the underlying causes of rising transit fatalities.

Pipeline and Hazardous Materials: PHMSA analyzes safety performance and improves data quality and analytic capabilities to identify, assess, and manage safety risks. The agency uses data to track the frequency of failures, incidents, and accidents and analyze the causes and resulting consequences. Based on the incident report data from FY 2020, PHMSA saw a decrease in the number of fatalities resulting from the transport of hazardous materials by all modes (including pipelines) as compared to FY 2019. In FY 2020, there were a total of 17 fatalities, as compared to 25 in FY 2019. Eleven fatalities were pipeline-related and six were related to the transport of hazardous materials by other modes. PHMSA continues to assess incident data and advance safety through education and outreach, promulgation of needed and sensible regulations, safety inspection and enforcement, research and development (R&D), and grant programs.

APG 2: REDUCE AVIATION-RELATED FATALITIES

FAA leads the Department in achieving a safe airspace. Aviation safety is measured across two dimensions: U.S. commercial aviation safety and U.S. general aviation safety. Progress toward this APG is tracked through the following performance measures:

- U.S.-Owned Commercial Carrier Aviation Fatalities per 100 Million Persons on Board
- Total U.S.-Owned Commercial Carrier Aviation Fatalities
- U.S. General Aviation Fatal Accidents per 100,000 Flight Hours
- Total U.S.-Owned General Aviation Fatal Accidents

Detailed information on these measures can be found in the Objective 1.1: Systemic Safety Approach section of this report.

FY 2020 PROGRESS UPDATE

Commercial Aviation: As of March 31, 2021, the U.S. commercial air carrier fatality rate target is on track. Year-to-date, there have been zero fatalities, resulting in an actual rate of 0.0 (compared to the not-to-exceed rate of 5.4). This equates to zero fatalities against a not-to-exceed of 57 for the year.

General Aviation: As of March 31, 2021, the general aviation fatal accident rate target is on track. Year-to-date, there have been 76 fatal accidents, resulting in an actual rate of 0.79 versus a not-to-exceed rate of 0.96 (compared

> **Increase aviation safety for the flying public.**
> By September 30, 2021, FAA's range of programs will contribute to the commercial air carrier fatality rate remaining below the target of 5.4 fatalities per 100 million persons on board and contribute to reducing the general aviation fatal accidents to no more than 0.96 fatal accidents per 100,000 flight hours.

to a not-to-exceed of 92 fatal accidents for the first half of FY 2021). These 76 fatal accidents resulted in a total of 118 fatalities. Of the total number of general aviation fatal accidents through March 31, 2021, 23.7 percent were fatal experimental aircraft accidents. An experimental aircraft accident involves an aircraft that is on an experimental airworthiness certificate and operated under the limitations and regulatory constraints of Title 14 of the Code of Federal Regulations (CFR) § 91.319. The experimental designation is defined as an aircraft that is used for non-commercial, recreational purposes such as education or personal use.

APG 3: IMPROVE AMERICA'S TRANSPORTATION-RELATED INFRASTRUCTURE

Improve the conditions of the Federally funded portions of the Nation's transportation systems.

By September 30, 2021, the percentage of interstate pavement in good or fair condition will be maintained at 95 percent. The percentage of deck area on National Highway System (NHS) bridges in good or fair condition will be maintained at or above 95 percent. The decrease in the reliability of interstate person-miles traveled will be no more than 0.7 percent from the FY 2018 baseline. The percent of paved runways in the National Plan of Integrated Airport Systems (NPIAS) in excellent, good, or fair condition will be maintained at 93 percent.

FHWA, FTA, and FAA lead the Department's efforts to improve the Nation's transportation infrastructure. Progress toward this APG is tracked through the following performance measures:

- Percentage of Interstate Pavements, in Line Miles, in Good or Fair Condition
- Percentage of National Highway System Bridge Deck Area in Good or Fair Condition
- Interstate Travel Time Reliability, as a Percentage of Person-Miles Traveled that are Reliable
- National Transit Infrastructure State of Good Repair Backlog, in Current Dollars
- Grant Dollars Allocated to Rural and Small Urban Areas
- Maintain Percent of Paved Runways in the National Plan of Integrated Airport Systems in Excellent, Good, or Fair Condition

Detailed information on these measures can be found in the Objective 2.2: Life Cycle and Preventive Maintenance and Objective 2.3: System Operations and Performance sections of this report.

FY 2020 PROGRESS UPDATE

Roads and Bridges: Since 1971, National Bridge Inspection Standards have required the inspection of all highway bridges located on public roads and the submission of bridge inventory and inspection data to FHWA for inclusion in the National Bridge Inventory (NBI). FHWA monitors the condition of the Nation's bridges, which includes identifying those bridges that are in poor condition. FHWA division offices annually evaluate the quality of each State and agency's bridge inspection programs using 23 different metrics, two of which pertain to data quality and timely submission. A written annual assessment is provided to each State and agency to document problems and recommend corrective actions.

Travel time reliability is also a key measure of transportation system performance. State DOTs and Metropolitan Planning Organizations (MPO) set targets for interstate system performance that are reviewed biennially. At the Federal level, FHWA tracks interstate system reliability through the measure, *Interstate Travel Time Reliability, in Person-Miles Traveled*. The baseline measure for FY 2018 was calculated using data submitted by State DOTs in June of each year. The percentage of person-miles traveled on the interstate system that was reliable was calculated to be 83.7 percent. In FY 2019, the average was 83.4 percent, indicating that reliability had declined slightly. For FY 2020, the average was 83.8 percent, indicating an improvement in reliability.

Transit Infrastructure: Public transit systems have faced a growing backlog of transit capital assets in need of replacement or refurbishment for decades. FTA currently tracks the condition of transit infrastructure through State of Good Repair (SGR) reporting in the biennial *Conditions and Performance Report* to Congress. The *23rd Edition of the Conditions and Performance Report* estimates the SGR backlog to be $98 billion based on FY 2014 data, with 40 percent of buses and 23 percent of rail transit assets in marginal or poor condition. The *24th Edition of the Conditions and Performance Report,* which is expected to be published in Q3 of FY 2021, estimates the SGR backlog to be $105 billion based on FY 2016 data. FTA published the first Transit Asset Management (TAM) dataset on transit capital asset condition in FY 2019. Data are collected annually from transit agencies through the National Transit Database.

Airport Runways: Data are collected through visual inspections of runway pavement in accordance with existing FAA guidance. As part of airport inspections conducted annually to triennially by FAA, States, or contractor personnel, FAA updates master records for public-use airports and reports the results through the Airport Safety Data Program. This information is reported in the biennial NPIAS report, which was published September 30, 2020.

APG 4: ENHANCE COMMERCIAL SPACE INNOVATION

Launch and reentry operations in the National Airspace System (NAS) have historically operated out of Federal Ranges and were managed by the U.S. Department of Defense (DoD) and/or the National Aeronautics and Space Administration (NASA). This airspace management structure led to a model in which launches and reentries were largely segregated from other NAS stakeholders, leading to inefficiencies and delays in the aviation community.

Using existing capabilities in combination with available safety information, airspace efficiency improvements are possible. By identifying and routing only the aircraft directly affected by the Aircraft Hazard Area while it is active, the number of aircraft affected and the NAS delay can both be reduced. Efficiency gains are derived from procedural and process changes that move from permission-based airspace management to time-based airspace management. Specifically, Flow Constrained Area-based reroutes avoid the use of permission-based airspace management by using time-based airspace management. Further efficiencies may be achieved through the introduction of DLRW, which rely on launch/reentry operators providing timely information on triggers within their launch and reentry sequences to facilitate the adjustment of TBLP.

As this APG was added in FY 2020, the following two targets were used to establish a baseline in FY 2020. Subsequent targets will be developed based on the results of these targets:

- **Target 1:** Develop TBLP to efficiently manage air traffic affected by launch/reentry activity.
- **Target 2:** Develop DLRW, based on launch/reentry operator triggers, to gain additional efficiencies.

FY 2020 PROGRESS UPDATE

Time-Based Launch/Reentry Procedures: FAA has initiated TBLP implementation at Cape Canaveral Air Force Station/Kennedy Space Center. The establishment of launch hotlines is a key component of TBLP/DLRW implementation, which allow for the exchange of real-time information between FAA Air Traffic facilities, launch/reentry operators, and range operators. Mission hotlines were recently established and are in use at Cape Canaveral Air Force Station/Kennedy Space Center. In June 2020, FAA completed the development of TBLP to more efficiently manage air traffic affected by launch/reentry activity by completing the following milestones in conjunction with its partners:

> **Develop and implement Time-Based Launch/Reentry Procedures and Dynamic Launch/Reentry Windows at the Cape Canaveral Air Force Station/Kennedy Space Center.**
>
> By September 30, 2021, FAA will develop and implement Time-Based Launch/Reentry Procedures and Dynamic Launch/Reentry Windows procedures at two additional U.S. launch/reentry sites, further integrating commercial space launches and reentries into the National Airspace System, using lessons learned in the FY 2020 Cape Canaveral Air Force Station/Kennedy Space Center pilot.

- Completed and distributed the TBLP briefing video for Air Traffic Controllers and dispatchers;

- Briefed the New York Air Route Traffic Control Center on TBLP;

- Began training New York Air Traffic Controllers on Flow Controlled Area rerouting;

- Provided training materials via the Collaborative Decision Making (CDM) website. The CDM is a joint FAA and industry team responsible for addressing long-term (12 to 24 months) integration of CDM and Traffic Flow Management capabilities and applying them to an operational environment;

- Conducted aviation industry briefings, including the CDM Spring Session, National Customer Forum, Air Traffic Control Association Annual Conference, New York Delay Initiative Meeting, and Airlines for America Executive group;

- Completed FAA facility briefings to Washington, Jacksonville, and Miami Air Route Traffic Control Centers;

- Completed briefing to the Air Force Space Command (45th Space Wing); and

- Developed preliminary metrics for determining airspace impacts for launch activity from Cape Canaveral Air Force Station/Kennedy Space Center, based on data derived from the previous five years of launch activity. FAA will monitor metrics during upcoming launches to further refine and validate them.

Dynamic Launch/Reentry Windows: FAA made progress in several areas related to DLRW in FY 2020, in conjunction with its government and industry partners:

• Conducted an industry forum for input on DLRW concept development;

• Funded a work effort through the MITRE Corporation for the development of DLRW;

• Conducted industry engagement interviews with nine launch/reentry operators and range operators to determine triggers within launch/reentry mission timelines that can be used to dynamically manage the airspace; and

• Began developing preliminary metrics for DLRW to measure the time amount of time saved in launch/reentry airspace. FAA will monitor metrics during upcoming launches to further refine and validate them.

STRATEGIC GOAL 1: SAFETY

The Department's top priority is to make the U.S. transportation system the safest in the world. The Nation has made progress in reducing overall transportation-related fatalities and injuries over the past two decades, even as the U.S. population and travel rates increased significantly. Over the past 15 calendar years (CY 2005 to CY 2019), the number of fatalities on the Nation's roadways has dropped by 17 percent, from 43,510 to 36,120, but began to climb again in CY 2020.

OBJECTIVE 1.1: SYSTEMIC SAFETY APPROACH

» **Reduce Motor Vehicle-Related Fatalities Overall (FHWA, NHTSA, FMCSA)**[APG]

» **Reduce Motor Vehicle-Related Fatalities by Type (FHWA, NHTSA, FMCSA)**[APG]

» **Reduce High-Risk Motor Carriers (FMCSA)**

» **Reduce Fatal Motor Carrier Crashes (FMCSA)**

» **Reduce Rail-Related Fatalities (FRA)**[APG]

» **Reduce Train Accidents (FRA)**

» **Improve Safe Transport of Hazardous Materials by Rail (FRA)**

» **Reduce Transit Collisions Involving Persons (FTA)**[APG]

» **Reduce Transit-Related Fatalities (FTA)**[APG]

» **Reduce Transit-Related Fatalities per 100 Million Passenger Miles (FTA)**[APG]

» **Reduce Transit-Related Fatalities per 100 Million Vehicle Revenue Miles (FTA)**[APG]

» **Reduce Serious Injuries (NHTSA)**

» **Improve Safety of Fleet on U.S. Roadways (NHTSA)**

» **Improve Timeliness of Data (NHTSA)**

» **Reduce Fatalities Caused by Pipelines and Hazardous Materials (PHMSA)**

» **Improve Safe Delivery of Pipeline Products and Hazardous Materials (PHMSA)**

» **Prevent Accidental Damage to Gas and Hazardous Liquid Pipelines (PHMSA)**

» **Reduce Commercial Aviation Fatalities (FAA)**[APG]

» **Reduce General Aviation Fatalities (FAA)**[APG]

» **Reduce Runway Incursions (FAA)**[APG]

» **Exert Global Leadership at the International Civil Aviation Organization (FAA)**[APG]

[APG] Performance goal aligns to a FY 2020 – FY 2021 Departmental APG.

OBJECTIVE 1.1 SUMMARY OF PROGRESS*

TRENDS IN TRANSPORTATION-RELATED FATALITIES BY TYPE (FY)

	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total Transit Fatalities	246	260*	259	245	254	311*
Highway-Rail Grade Crossing Incidents	2,160	2,016	2,115	2,162	2,281	1,951**
Rail Right-of-Way Trespass Incidents	831	889	977	955	1,045	1,056**
Confirmed Fatalities Caused by the Release of Hazardous Materials Transported via Pipeline or Surface Transportation Conveyance	N/A	N/A	N/A	18	25	17*
U.S.-Owned Commercial Carrier Fatalities per 100 Million Persons on Board	0.1	0.6	0.3	0.1	0.5	0.6
U.S. General Aviation Fatal Accidents per 100,000 Flight Hours	0.99	0.89	0.83	0.89	0.95	0.93***

N/A: Not available

* Data as of January 2021. Transit fatalities are reported to the National Transit Database on a two-month delay, but the data may change in the future due to late reporting. Slight corrections were made to prior-year data due to late reported data.

** Data as of February 28, 2021 (subject to revision for up to five years).

*** Data as of March 31, 2021. FY 2020 data will be finalized in Q1 of FY 2022.

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* Under the previous Administration, the Department determined that performance toward this objective was making noteworthy progress.

TRENDS IN TRANSPORTATION-RELATED FATALITIES BY TYPE (CY)

	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Total Motor Vehicle-Related Fatalities	35,484 (r)	37,806 (r)	37,473	37,560	36,096	28,190*
Motor Vehicle-Related Fatality Rate per 100 Million Vehicle Miles Traveled	1.15	1.19	1.17	1.13	1.10	1.35*
Large Truck and Bus Fatalities per 100 Million Vehicle Miles Traveled	1.46	1.52	1.6	1.6	1.6	Available CY 2022

(r): Revised totals due to updated data received from the States

* Projected based on preliminary data through September 30, 2020. CY 2020 actuals are expected to be available in Q1 of CY 2022.

The Department continues to make progress in reducing motor vehicle-related fatalities. Department-wide efforts to improve safety in infrastructure, advanced vehicle design and defects investigations, commercial motor carrier safety oversight, and road user behavior are on track to provide additional gains in the coming years.

Early estimates for motor vehicle fatalities for the first nine months of CY 2020 (January through September) show that motor vehicle-related fatalities increased by about 4.6 percent compared to CY 2019, from 26,941 to 28,190.[4] However, the unique circumstances of the COVID-19 pandemic will likely affect the fatality rate and other metrics during this time period. Early projections for the first nine months of CY 2020 show that the fatality rate increased by nearly 23 percent compared to the same time period in CY 2019, from 1.1 per 100 million VMT to 1.35 in CY 2020. FHWA's VMT estimates for the first six months of CY 2020 show that VMT decreased by 355.5 billion miles, or about a 14.5 percent decrease. The increased fatality rate for the first six months reflects the fact that VMT decreased at a much steeper pace than the number of fatalities.

Given the unprecedented nature of COVID-19 and the limited data collected thus far, it is unclear what conclusions or broader trends can be extrapolated at this point. This uncertainty underscores the need to increase efforts to improve the safety of the Nation's transportation system. The Department plans to do this by helping States implement proven safety countermeasures, conducting behavioral and vehicle safety research and testing on new and emerging vehicle designs and advanced vehicle safety technologies, and adopting a Safe Systems approach to road safety infrastructure and development. The Department will continue to study this issue and will pursue strategies to address any unique challenges associated with COVID-19 that are identified.

Hours of Service: FMCSA published an Hours of Service of Drivers Final Rule on June 1, 2020 to allow additional flexible operations for CMV drivers. The rule allows operators to shift their work and drive times to mitigate the effects of certain variables (e.g., weather, traffic, detention times). The rule provides $274 million in annualized cost savings for motor carriers and is effective as of September 29, 2020.

Commercial Driver's License Drug and Alcohol Clearinghouse: FMCSA administers the Commercial Driver's License Drug and Alcohol Clearinghouse, which helps keep roads safer for all drivers by identifying drivers prohibited from performing safety-sensitive functions due to a drug and violation program violation. The Commercial Driver's License Drug and Alcohol Clearinghouse Final Rule established central database requirements for CDL holders who have verified positive test results for controlled substances and/or alcohol or who have refused to submit to testing. This rule will ensure that such CDL holders complete the return-to-duty process before driving a truck. The compliance date was January 6, 2020. As of March 31, 2021, 64,705 violations were reported. State, local, and tribal stakeholder engagement is an essential element in the success of the Department's strategic safety initiatives. NHTSA, FHWA, and FMCSA have partnered to support

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[4] Early Estimates of Motor Vehicle Fatalities for the First Half of 2020, NHTSA, DOT HS 813 004

the development of a coalition that has brought together more than 800 State and local organizations to focus on developing short- and long-term strategies for reducing crashes and fatalities.

Transit: FTA administers the transit safety program to advance safe, reliable, and equitable transit service throughout the Nation. The Public Transportation Agency Safety Plan Final Rule requires certain recipients and sub-recipients of FTA grants who operate public transportation to develop and implement safety plans. In light of the extraordinary challenges presented by COVID-19, FTA issued a Notice of Enforcement Discretion in April 2020 that extended the PTASP compliance deadline from July 20, 2020 to December 31, 2020. In December 2020, FTA further extended the deferred enforcement to July 21, 2021. The purpose of the State Safety Oversight (SSO) program, which is administered by eligible rail transit systems in their jurisdiction, is to oversee safety at rail transit systems.

Rail: To save lives, prevent injuries, and maintain freight and passenger mobility near grade crossings and railroad property, FRA's focus areas include funding safety projects and outreach, technical assistance and partnerships, and research and data analysis to understand causes of and solutions to rail accidents. In FY 2020, FRA began awarding targeted grants to assist local efforts to prevent trespassing and to support mental health organizations' campaigns to reduce rail-related suicides. FRA launched an animated social media campaign targeting 16- to 34-year-old males, the demographic most likely to trespass or be involved in grade crossing collisions. Other FRA social media efforts include the Stop. Trains Can't. public service announcements (developed in collaboration with NHTSA) and YouTube rail safety training videos for first responders. FRA developed web-based tools, such as the Highway-Rail Grade Crossing Safety and Trespass Prevention website, that facilitate review of data and identification of trends. FRA also created the Trespasser Casualty Map, which enables users to visualize trespasser casualty location data that can be overlaid onto geographic information system maps that show community features such as homeless shelters, schools, and bars.

Pipeline and Hazardous Materials: PHMSA continued to advance the safe transportation of hazardous materials across all modes through the development and enforcement of safety regulations, including the Safety of Underground Natural Gas Storage Facilities Final Rule and the Harmonization with International Standards Final

Rule. In response to congressional mandates and safety recommendations, PHMSA successfully published three significant Final Rules in early FY 2020 to address the safe transportation of hazardous liquids in pipelines, safety of gas transmission pipelines, and enhanced emergency order procedures. Together, these rules will help strengthen the safety of more than 500,000 miles of onshore gas transmission and hazardous liquid pipelines throughout the Nation. The rules will also enhance PHMSA's authority to issue an emergency order to address unsafe conditions or hazards that pose a threat to pipeline safety.

In FY 2020, PHMSA awarded $63.3 million in formula grants to support pipeline and Underground Natural Gas Storage safety programs at the State level. Pipeline Safety State Base Grants and Underground Natural Gas Storage grants reimburse up to 80 percent of a State's annual operating costs based on State estimates and the most recent program performance scores. PHMSA-certified State pipeline safety programs inspect more than 80 percent of the Nation's more than 2.8 million miles of gas and liquid pipelines. An additional $34.3 million was awarded to nine pipeline and hazardous materials safety programs for research and emergency preparedness.

Aviation: Throughout FY 2020, FAA provided air traffic control services to 16 million flights that transported 77 million passengers across more than 29 million square miles of airspace. During this time, the agency continued to make strides in passenger safety through the seamless implementation of safety-enhancing technology upgrades to the NAS and bilateral cooperation with the International Civil Aviation Organization (ICAO). Notable safety achievements during FY 2020 include implementing the Commercial and Non-Commercial Safety Risk Index to track runway safety and implementing several helicopter safety enhancements.

COVID-19 Impact: FMCSA quickly adjusted the way it operates during the pandemic to accomplish its mission. In response to the COVID-19 National Emergency, FMCSA issued interim policy guidance on March 23, 2020, which expanded the use of Offsite Investigations to keep staff safe while allowing them to continue critical work.[5] FMCSA released additional guidance on May 22, 2020 that enabled investigators to perform Remote Onsite Investigations on high-risk carriers.[6] Other notable trends during the COVID-19 pandemic included:

- Use of Offsite Investigations increased significantly.

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[5] FMCSA's March 23, 2020 Guidance on Conducting Investigations during the COVID-19 National Emergency.

[6] FMCSA's May 22, 2020 Investigative Procedures During the COVID-19 Health Emergency.

- Offsite and Remote Onsite Investigations enabled FMCSA to conduct a similar number of investigations each month, even as the COVID-19 response took effect.
- FMCSA's COVID-19 guidance allowed Safety Investigators to investigate many carriers that would not normally be eligible for Offsite or Remote Onsite Investigations (Vehicle Maintenance BASIC and high-risk carriers).
- Fewer unsafe motor carrier complaints were reported.
- Federal Inspections at U.S. border crossings increased.
- Timeliness of reporting State inspection and crash records decreased, which affects their overall State rating.

COVID-19 has significantly impacted the health of the transit workforce. Since the start of the pandemic, FTA has worked with transit systems to track data on the number of workers who tested positive or whose deaths have been attributed to COVID-19. Transit systems have used Coronavirus Aid, Relief, and Economic Relief Act (CARES Act, Public Law No. 116-136) grant funds for operating expenses, including to cover costs of Personal Protective Equipment for workers, enhanced cleaning and sanitizing of stations and vehicles, installation of protective barriers for train and bus operators, and other COVID-19 mitigation measures. FTA has distributed millions of face masks to transit agencies and plans to continue working with transit agencies to promote techniques for social distancing, enhancing worker health protection, and decreasing the spread of COVID-19 on transit systems.

OBJECTIVE 1.1 PERFORMANCE GOALS AND MEASURES

REDUCE MOTOR VEHICLE-RELATED FATALITIES OVERALL (FHWA, NHTSA, FMCSA)

		CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Total Motor Vehicle-Related Fatalities per 100 Million Vehicle Miles Traveled	**Target**	1.02	1.02	1.02	1.02	1.01	1.01	**
	Actual	1.19	1.17	1.13	1.10	1.35*	N/A	N/A

Early estimate for the first nine months of CY 2020 (January through September) only. Full-year estimates are expected to be available in Fall 2021.

*** Under review by OST*

The motor vehicle fatality rate includes fatality data from NHTSA's Fatality Analysis Reporting System (FARS) and VMT from FHWA's Highway Performance Monitoring System (HPMS). The FARS is a census of fatal traffic crashes in the 50 States, the District of Columbia, and Puerto Rico. To be included in the FARS, a crash must involve a motor vehicle traveling on a roadway and result in the death of at least one person (occupant or non-occupant of a vehicle) within 30 days of the crash. The HPMS includes VMT by all types of vehicles, including passenger vehicles, motorcycles, buses, and large trucks and buses.

CY 2020 PROGRESS UPDATE

The COVID-19 pandemic had an impact on the fatality rate for the first nine months of CY 2020, resulting in a nearly 23 percent increase in the fatality rate. This increase can be attributed to both the increase in number of deaths and the decrease in VMT. However, progress was made on other fronts that hold much promise for future gains in safety. The R&D around Automated Vehicle Safety technology and deregulatory rules to remove unnecessary barriers to innovation continued to advance. NHTSA also introduced a new "Q3" crash test dummy, representing a three-year-old child, specifically to test child seats in side impact crash tests. At the same time, NHTSA proposed new regulatory updates to Federal Motor Vehicle Safety Standard (FMVSS) No. 213 to make testing more representative of real-world child seat use in modern vehicles. In the proposed rule, NHTSA presented amendments to the standard seat assembly to make it more closely resemble a "single representative motor vehicle rear seat." The updated seat would have a seat cushion stiffness, seat geometry, and seat belt system (lap/shoulder belt) that better represents the rear seats of current passenger vehicles where children

often sit.[7] In addition, NHTSA proposed the requirement that labels on child seats encourage that young children remain in rear-facing child seats until they outgrow the rear-facing height and weight limits of the seat.

NHTSA also launched an updated version of its SaferCar app in CY 2020 that allows consumers to enter their Vehicle Identification Number to determine if there are any outstanding recalls on their vehicle. The launch received more than 900 million media impressions. The app also provides parents and caregivers with a child safety seat selection tool and access to the Nationwide network of certified child safety inspection sites. Consumers can also look up vehicle recalls on NHTSA website, which receives on average more than one million monthly Vehicle Identification Number lookups.

CY 2022 PLANS

The Department strives to reduce crashes and fatalities through a multifaceted approach that involves data collection and analysis, research, and program implementation. In CY 2022, the Department will work to increase adoption of proven, evidence-based strategies, and will engage with State, tribal, and local agencies; law enforcement; safety advocacy groups; public health organizations; and other stakeholders to address the most pressing traffic safety risks. Pedestrian safety will be an area of focus and will include developing a National Pedestrian Safety Partnership Plan with stakeholder involvement to reduce pedestrian fatalities over the next 10 years. The Department will continue to conduct research on and facilitate the development and deployment of advanced technology in vehicles and infrastructure, which have the potential to save thousands of lives in the coming years. The Department has also created a formal platform for Federal, State, and local governments to coordinate and share standardized information on Automated Driving Systems (ADS) through the Automated Vehicle Transparency and Engagement for Safe Testing (AV TEST) Initiative.

NHTSA's strategies to reducing motor vehicle related fatalities include promoting a systemic safety approach that uses data to identify risks, enhance standards, develop new programs and countermeasures, and assess effectiveness. Key focus areas include:

- Supporting the safe testing, development, and deployment of ADS, fostering public engagement, and continuing to address cybersecurity issues through Cybersecurity Best Practices for Modern Vehicles;

- Identifying and amending regulations that present unnecessary and unintended barriers to the roll-out of higher-level ADS across the Nation;

- Boosting implementation of proven safety countermeasures and addressing risks that impact vulnerable road users and rural communities;

- Developing and disseminating injury prevention programs and tools to combat alcohol- and drug-impaired driving, as well as addressing other behavioral risk areas such as speeding or distracted driving;

- Conducting National safety campaigns to promote safe driving practices; and

- Administering State Highway Safety Grant programs and providing technical assistance to State and local agencies, law enforcement, and other safety partners.

To achieve the goal of reducing motor vehicle-related fatalities in CY 2022, FHWA will continue to promote the adoption of proven safety solutions by:

- Improving and implementing FHWA Safety Programs' legislative requirements by communicating the laws, regulations, and funding eligibility for the Highway Safety Improvement Program (HSIP). FHWA will ensure oversight and stewardship for the HSIP while working alongside modal partners and continue to implement Transportation Performance Management as a tool for monitoring progress in the number of lives saved and serious injuries prevented.

- Advancing safety data and analysis by tracking State-collected roadway data inventories to the Fundamental Data Elements. FHWA will continue strengthening States' ability to implement data-driven safety programs by sharing information, training, and assistance, and providing National leadership to States and agencies as they design, operate, and maintain roadways.

- Advancing the Focusing on Reducing Rural Roadway Departures Fatalities initiative through the systemic application of proven roadway departure countermeasures. For example, rumble strips, friction treatments, and clear zones help keep vehicles in their travel lanes, reduce the potential for crashes, and reduce the severity of those crashes that do occur.

- Encouraging widespread implementation of Proven Safety Countermeasures to increase the use of infrastructure-oriented treatments and strategies that address speeding and other significant safety issues.

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[7] https://www.federalregister.gov/documents/2020/11/02/2020-21477/federal-motor-vehicle-safety-standards-child-restraint-systems-incorporation-by-reference

- Advancing the Roadway Safety Professional Capacity Building Program to improve the technical capacity of transportation safety professionals at all levels of government. FHWA will continue supporting professionals through the Roadway Safety Fundamentals Textbook Training and provide technical assistance to help State and local agencies effectively manage and administer the HSIP, Strategic Highway Safety Plans, Safety Performance Management, High-Risk Rural Roads Program, and Railway-Highway Crossing Program, among others.

- Promoting the National Center for Excellence for Rural Road Safety to facilitate training and educational outreach. FHWA will provide technology transfer (T2) and deployment to rural practitioners to improve the overall understanding of roadway safety data and analysis, safety effectiveness assessments, and investment decision-making for rural road safety.

To achieve the goal of reducing large truck and bus fatalities, FMCSA will continue to perform high-risk carrier investigations, implement safety regulations (such as those requiring the use of Electronic Logging Devices), and conduct safety research.

One such research activity, the LTCCFS, will provide vital data on the role of pre-crash factors like driving behaviors and novel technologies that might have prevented crashes. The LTCCFS expands upon the Large Truck Crash Causation Study that was completed in 2003. Since then, there have been many changes in technology, vehicle safety, driver behavior, and roadway design. This new study will provide valuable insights into the factors contributing to the increase in large truck crashes since 2009. FMCSA is continuing a project of merging available data sets to gain a more comprehensive understanding of prior crashes. However, existing data cannot determine causal factors. The upcoming LTCCFS will fill this gap, allowing FMCSA to identify, develop, and deploy countermeasures to prevent large truck crashes from occurring.

The Electronic Logging Devices (ELD) Final Rule is intended to help create a safer work environment for drivers and make it easier to accurately track, manage, and share records of duty status data. Motor carriers had to be in full compliance by December 16, 2019. The Final Rule is estimated to save 26 lives and prevent 562 injuries resulting from crashes involving large commercial motor vehicles per year.

FMCSA investigates carriers that, based on roadside performance data and investigation results, pose the greatest safety risk. A carrier is considered high-risk when there has not been an onsite investigation in the previous 18 months and two or more of the four Behavior Analysis and Safety Improvement Categories (BASICs) are at or above the 90th percentile for two consecutive months. The crash rate for the high-risk carrier group is four times the National average crash rate. To improve surface transportation safety in FY 2022, FHWA will focus on reducing highway-related fatalities and serious injuries on the Nation's roadways by continuing to research and advance effective safety solutions, build capacity, and promote innovation in safety analysis and action. To this end, FHWA will:

- Research and develop new methodologies and tools to reduce fatalities and serious injuries. The Phase 1 proof of concept studies in the areas of safety, planning, and operations using the Strategic Highway Research Program safety data will be used to develop and conduct full-scale studies that will yield implementable results. Data collection sites and agreements will be in place to begin field implementation of the motorcycle countermeasures identified in the Motorcycle Crash Causation Study.

- Improve understanding of the benefits of data-driven decision-making related to safety. Low-cost evaluations of countermeasures will focus on pedestrian and bicycle improvements at intersections and other enhancements based on the direction of FHWA's State and local partners.

- Implement the Focused Approach to Safety initiative that addresses the Nation's most critical safety challenges in roadway departures, intersections, and pedestrian and bicycle crashes – the three main areas that encompass approximately 90 percent of traffic fatalities in the United States.

- Promote numerous resources on proven safety solutions to address the most common type of pedestrian fatalities. This could include implementation of STEP, the Department's Pedestrian Safety Action Plan, and other initiatives. FHWA will provide technical assistance to States through workshops, peer exchanges, webinars, case studies, videos, and other outreach materials.

REDUCE MOTOR VEHICLE-RELATED FATALITIES BY TYPE (FHWA, NHTSA, FMCSA)

		CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Passenger Vehicle Occupant Fatalities per 100 Million Vehicle Miles Traveled	**Target**	0.75	0.75	0.75	0.74	0.74	0.74	0.73
	Actual	0.75	0.74	0.70	N/A	N/A*	N/A	N/A
Large Truck and Bus Fatalities per 100 Million Vehicle Miles Traveled	**Target**	0.114	0.114	0.114	0.114	0.114	0.114	0.114
	Actual	0.152	0.160	0.162	0.161	N/A*	N/A	N/A
Non-Occupant Fatalities (Pedestrian, Bicycle) per 100,000 Population	**Target**	2.19	2.15	2.15	2.10	2.10	2.10	2.10
	Actual	2.19	2.15	2.25	N/A	N/A*	N/A	N/A
Motorcycle Fatalities per 100,000 Motorcycle Registration	**Target**	62	62	62	62	61	61	61
	Actual	60.9	59.34	57.5	N/A	N/A*	N/A	N/A

N/A: Not available

* Actuals are expected to be available in CY 2021 (two -year lagging indicators)

Passenger vehicles include cars and light trucks (SUVs, pickup trucks, vans, and other light trucks) that weigh less than or equal to 10,000 pounds. They represent more than 90 percent of the vehicle fleet in the United States. A large truck is defined as a vehicle with a gross vehicle weight rating greater than 10,000 pounds. A bus is defined as any motor vehicle designed primarily to transport nine or more persons, including the driver. Non-occupants include pedestrians, bicyclists, joggers, skateboard riders, and people riding on animals who are in a crash with a motor vehicle. The motorcycle fatality rate includes fatalities on scooters, minibikes, and mopeds in addition to motorcycles.

Each category has a different set of issues that impacts its fatality rates. For example, increasing seat belt use rates can have a significant impact on reducing fatalities and injuries in passenger vehicles and large trucks. Programs and laws that promote seat belt use contribute toward that success. Advanced and innovative vehicle safety technology has the potential to greatly reduce crashes and fatalities, particularly as its use becomes more widespread throughout the National vehicle fleet. Educating the public

about its advantages, capabilities, and limitations will help accelerate adoption and increase potential benefits.

Non-occupants are the most vulnerable road users, as they face increased risk in crashes involving speeding, distraction, and impaired driving. Encouraging States to implement leading practices on roadway design for vulnerable road users can better protect pedestrians and bicyclists. Motorcyclists also are impacted by risk areas such as speeding, impaired driving, and lack of motorcycle helmets. In CY 2019, motorcycle helmet use was 70.8 percent. Helmet use in States with universal helmet laws that require all riders and passengers to use a DOT-compliant helmet was 89.2 percent, compared to 56.5 percent in other States.[8]

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[8] Motorcycle Helmet Use in 2019 - Overall Results, NHTSA DOT HS 812 936

REDUCE HIGH-RISK MOTOR CARRIERS (FMCSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Average Number of Days to Investigate "High-Risk" Designated Carriers	**Target**	55	55	55	55	55
	Actual	49.6	50	66	N/A	N/A

N/A: Not available

High-risk carriers are the FMCSA's top investigative priority. Passenger carriers are identified as high risk if they have not received an onsite investigation in the previous 12 months and if two or more of the following BASICs rank at or above the 90th percentile for one month: Unsafe Driving, Crash Indicator, Hours of Service Compliance, and Vehicle Maintenance. These are the BASICs most closely correlated with crash risk.

The average crash rate for this population is four times the National average. Investigative outcomes show that 45 percent of high-risk carrier investigations result in enforcement actions, compared to the 15 percent enforcement rate observed on non-high-risk carriers.[9]

The high-risk carrier population is identified monthly, and FMCSA policy is to investigate high-risk carriers within 90 days of being identified. FMCSA measures the average number of days from when a high-risk identification is made to when an investigation is conducted. In addition to the strategies listed in the APG 1: Reduce Surface Transportation-Related Fatalities section of this document, FMCSA will continue to prioritize high-risk carrier investigations to work towards this target.

FY 2020 PROGRESS UPDATE

FMCSA conducted 2,014 high-risk carrier investigations in FY 2020. Remote on-site investigations have begun, and the agency is working to reduce the high-risk carrier investigation backlog. The COVID-19 restrictions impacted average days to investigate high-risk carriers for FY 2020. FMCSA did not meet the FY 2020 target, as it took an average of 66 days to investigate high-risk carriers. In FY 2019, 2,462 high-risk carriers were investigated. The average time from identification to investigation was 50 days. The number of high-risk carriers identified as in need of an investigation has increased 43 percent from FY 2016 to FY 2019.

FY 2022 PLANS

FMCSA will continue to make investigating high-risk carriers a priority. Section 5305 of the FAST Act requires FMCSA to complete a review of each motor carrier that demonstrates, through performance data, that it poses the highest level of safety risk. At a minimum, a review will be conducted whenever a motor carrier is among the highest-risk carriers for four consecutive months.

FMCSA will identify the high-risk carriers in need of an investigation by determining which carriers have not received an onsite investigation in the previous 12 months. Next, FMCSA safety investigators will determine if two or more of the following BASICs rank are at or above the 90th percentile for one month: Unsafe Driving, Crash Indicator, Hours-of Service Compliance, and Vehicle Maintenance. These are the BASICs most closely correlated with crash risk. Per FMCSA policy, these carriers will be investigated within 90 days of identification as a high-risk carrier.

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[9] More information about high-risk carriers is available at https://www.fmcsa.dot.gov/mission/policy/high-risk-carriers-investigation-report.

REDUCE FATAL MOTOR CARRIER CRASHES (FMCSA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Number of Motor Carrier Incidents	**Target**	4,352	4,308	4,264	4,220	4,176	4,132
	Actual	4,588*	4,660	4,706	4,247**	N/A	N/A

N/A: Not available

* Beginning with data for FY 2016, NHTSA implemented changes to revise vehicle classification based on gross vehicle weight rating, which reclassified 329 light pickup trucks as large trucks. Due to this methodology change, comparisons of the FY 2016 (and later) FARS large truck data with prior years should be performed with caution.

** FMCSA Motor Carrier Management Information System data snapshot as of February 26,2021, including crash records through October 31, 2020. These data are considered preliminary for 22 months to allow for changes. The combined large truck and bus counts may not equal the sum of the individual truck and bus counts if some crash events involved both types of vehicles.

This performance metric is a two-year lagging indicator. By FY 2022, the performance target is a five percent reduction from the FY 2016 baseline. In addition to the strategies listed in the APG 1: Reduce Surface Transportation-Related Fatalities section of this document, FMCSA will carry out the following strategies:

- **Our Roads, Our Safety:** With over 12 million CMVs on the road, the Our Roads, Our Safety program helps raise awareness among the driving public about sharing the road and operating safely around large trucks and buses. The program's outreach efforts focus on educating passenger vehicle drivers, CMV drivers, bicyclists, and pedestrians about CMV blind spots or No Zones. FMCSA is running a campaign with Facebook and Instagram to raise more awareness.

- **New Entrant Safety Audits:** FMCSA will continue to conduct New Entrant Safety Audits. During their initial 18 months of operation, new entrants will continue to be monitored and new entry safety audits will be conducted. A new entrant may be a motor carrier that applies for a U.S. DOT number to initiate interstate commerce operations or to transport hazardous materials within State boundaries. Carriers remain in the new entrant safety assurance program until they pass the safety audit and have been in business for 18 months.

- **Commercial Driver's License Drug and Alcohol Clearinghouse:** The Commercial Driver's License Drug and Alcohol Clearinghouse Final Rule established requirements for a central database for verified positive controlled substances and/or alcohol test results for CDL holders and refusals by such drivers to submit to testing. Implementation of this rule will ensure

that CDL holders who have tested positive or have refused to submit to testing complete the return-to-duty process before operating a CMV. The compliance date was January 6, 2020. As of March 1, 2021, 64,705 violations were reported.

FY 2020 PROGRESS UPDATE

In FY 2019, there were an estimated 5,244 fatalities (14.5 percent of total fatalities) in crashes involving a large truck or bus, resulting in a fatality rate of 0.16. The large truck or bus fatality rate remained unchanged from FY 2017 to FY 2019. According to the Motor Carrier Management Information System, which has slightly different criteria for reporting crashes than FARS, it is estimated that there were 4,729 fatalities in crashes involving a large truck or bus in FY 2020. Due to the COVID-19 pandemic, preliminary data indicate a decrease of 10 percent in the number of large truck or bus fatalities during FY 2020, as compared to FY 2019.

FY 2022 PLANS

To achieve the goal of reducing fatal motor carrier crashes, FMCSA will continue to implement programs and procedures to ensure the safe operation of motor carriers, commercial vehicles, and drivers. These will include:

- **Addressing stakeholder-raised safety issues:** FMCSA will provide enhanced tools to regulated entities to assist them in proactively tracking and improving their own safety performance management, while working with States and other DOT agencies to apply safety countermeasures at roadway locations identified as having the highest potential for CMV fatalities.

- **Reducing the incidence of unsafe, high-risk behaviors.** FMCSA will identify high-risk behaviors and apply interventions to address them within the CMV industry by focusing on operational accountability and responsibility, overseeing agency medical programs, and conducting outreach and education that impacts highway safety.

- **Ensuring that only qualified drivers operate CMVs.** FMCSA will improve the safety of CMV drivers through improved access to driver resources and training, eliminating fraud in the CDL testing processes, and preventing drivers who have tested positive for drugs or alcohol from driving CMVs.

- **Improving safety oversight efficiency and effectiveness.** FMCSA will identify and share the primary contributing factors of motor carrier crashes. FMCSA will prioritize countermeasures and solutions to improve the quality and consistency of investigations and audits.

- **Preventing unsafe carriers from reestablishing operations.** FMCSA seeks to prevent carriers that have been deemed unsafe from reestablishing as new entities. These carriers present extreme safety risks and are three times more likely than other carriers to be involved in severe crashes.

REDUCE RAIL-RELATED FATALITIES (FRA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Highway-Rail Grade Crossing Incidents	**Target**	N/A	N/A	2,165	2,057	1,954
	Actual	2,162*	2,281*	1,951*	N/A	N/A
Rail Right-of-Way Trespass Incidents	**Target**	N/A	N/A	1,015	964	916
	Actual	955*	1,045*	1,056*	N/A	N/A

N/A: Not available. FRA did not set targets for this measure until FY 2020.

* Preliminary data as of February 28, 2021 (subject to revision for five years), and might differ from prior-year data based on the latest information available.

Highway-rail grade crossing and trespass incidents account for almost all rail-related deaths. A highway-rail incident is any impact between rail and highway users at a public or private crossing. A trespass incident is any event that causes a death or injury in a rail right-of-way, other than at a highway-rail grade crossing.

Trespassing on railroad rights-of-way is the leading cause of rail-related fatalities, accounting for 69 percent of such fatalities in FY 2020. Approximately 546 people died (a 16 percent increase compared to five years earlier, FY 2016) and 534 were injured while trespassing on railroad property other than grade crossings. If a State or local authority finds the cause of death to be suicide, FRA no longer includes it as a trespass fatality ton railroad rights-of-way. For that reason, the number of fatalities tends to go down as more data are confirmed. An average of 470 trespassers died each year between FY 2011 and FY 2020.

Collisions at highway-rail grade crossings are the second leading cause of rail-related fatalities, accounting for approximately 28 percent of all such fatalities. Each of the 209,000 highway-rail grade crossings across the Nation carries the potential for a collision between a train and highway vehicle, bicycle, or pedestrian. Since FY 1997, more people have been killed each year while trespassing than in motor vehicle collisions with trains at highway-rail grade crossings. Preventing trespassing will not only save lives but will improve the efficiency of the transportation network and reduce economic disruptions.

Collisions at highway-rail grade crossings are the second leading cause of rail-related fatalities, accounting for approximately 28 percent of all such fatalities. Each of the 209,000 highway-rail grade crossings in the United States carries the potential for a collision between a train and highway vehicle, bicycle, or pedestrian.

FY 2020 PROGRESS UPDATE

The number of trespass incidents on railroad rights-of-way was one percent higher in FY 2020 than in FY 2019 and 11 percent higher than FY 2018. By contrast, the number of FY 2020 grade crossing incidents was 14 percent below FY 2019 and 10 percent below FY 2018. Major efforts executed by FRA in FY 2020 to reduce fatalities include:

- Collaborated with NHTSA to develop and implement a National public awareness campaign about safety around railroad tracks. The *Stop! Trains Can't* campaign works to remind many people to stop taking unnecessary risks with their lives. In the spring of 2020, FRA ran a 15-week targeted social media campaign to raise public awareness and discourage risky behavior around railroad tracks.

- Issued its revised *Grade Crossing and Trespasser Prevention Compliance, Procedures, and Programs Manual* for district teams and inspectors, which promotes uniform interpretation and enforcement of pertinent FRA regulations.

- Developed web-based tools, such as the railroad trespassing resource website, to facilitate review of data and identification of trends. The resource website also serves as a repository for the most recent versions of the compliance manual and reporting forms.

FY 2022 PLANS

FRA focuses on five strategies to save lives, prevent injuries, and maintain freight and passenger mobility near grade crossings and railroad property:

1. Funding safety projects and outreach;

2. Providing technical assistance and forming partnerships;

3. Conducting research and data analysis to understand causes of and solutions to rail-related safety incidents;

4. Developing safety technologies; and

5. Developing safety standards and overseeing compliance.

FRA plans to increase the use the Consolidated Rail Infrastructure and Safety Improvements grant program to support the construction of trespass prevention capital projects and enforcement of State and local trespass laws. During FY 2022, FRA plans to extend its outreach to more communities, based on analysis of trespassing trends. FRA will continue to study the causes of and contributing factors to trespass incidents and to collaborate with Federal, State, and local governments, railroads, and community advocates. FRA will also collaborate with the railroad industry to leverage Federal investments in developing innovative technologies and practices. Finally, FRA will continue to oversee regulatory compliance through inspections, audits, and other activities.

REDUCE TRAIN ACCIDENTS (FRA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Highway-Rail Grade Crossing Incidents	**Target**	N/A	N/A	1,906	1,810	1,720
	Actual	1,934	2,017	1,615	N/A	N/A

N/A: Not available. FRA did not set a target for this measure until FY 2020.

* Actual data as of February 28, 2021 (subject to revision for five years), and might differ from prior-year data based on the latest information available.

Train accidents involve damage to on-track rail equipment above the annual reporting threshold of $10,700 for FY 2020 and exclude grade crossing and trespass incidents. FRA will accomplish the goal of reducing train accidents through its comprehensive safety program that targets inspections and other oversight activities to railroads and regions with below-average performance. FRA subject matter experts provide ongoing technical assistance to railroads and field personnel to address challenges.

FY 2020 PROGRESS UPDATE

Data indicate that the number of train accidents in FY 2020 was 20 percent lower than in FY 2019 and 16 percent lower than in FY 2018. FRA is increasing its analytical capabilities and working with participating railroads through the Confidential Close Call Reporting System to understand and mitigate root causes of train accidents. The Confidential Close Call Reporting System is a partnership between the National Aeronautics and Space Administration, FRA, and participating railroad carriers and labor organizations. The program is designed to improve railroad safety by collecting and analyzing reports which describe unsafe conditions and events in the railroad industry. Employees may report safety issues or "close calls" voluntarily and confidentially. As railroads implement positive train control systems and adopt risk reduction programs, FRA expects to see improvement in this performance measure.

FY 2022 PLANS

FRA plans to continue its Confidential Close Call Reporting System to understand root causes of accidents and develop countermeasures. In addition, FRA will complete pilot testing of the Rail Information Sharing Environment, a voluntary railroad data sharing and analysis program to develop safety risk mitigations. Collecting data across multiple railroads has the potential to provide insights that could not be identified by a single stakeholder and offers the potential to advance railroad safety. FRA will also continue implementing the statutory expansion of its drug and alcohol regulatory program to cover additional rail industry employees, including construction and maintenance workers, and other impairing substances.

IMPROVE SAFE RAIL TRANSPORT OF HAZARDOUS MATERIALS (FRA)

		CY 2017	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Rate of Non-Accident Releases of Hazardous Materials (per 10,000 Tank-Car Originations)	**Target**	---	2.30	2.28	1.59	1.52	1.44
	Actual	2.42	2.47	1.67	1.67*	N/A	N/A

N/A: Not available.

* Projected rate. Actuals expected to be available in fall 2021.

A non-accident release (NAR) is the unintentional release of a hazardous material while in transport (including loading and unloading while in railroad possession) not caused by derailment, collision, or other rail-related accident. NARs consist of any amount of product (liquid, solid, or vapor) released from improperly secured or defective valves, fittings, and tank shells. These include undesired venting of non-atmospheric gases from safety relief devices. Most NARs involve small quantities of material. Data are derived from multiple sources, which moderates their timeliness.

FRA's tank car program conducts inspections and oversight activities of tank car facilities and tank car fleet owners to ensure compliance with regulations and to ensure that tank car owners take necessary measures to reduce risks. In addition, FRA is focusing on ensuring that processes and technologies implemented by hazardous materials shippers and receivers in recent years are accurate and consistent with regulatory requirements. FRA works with the Association of American Railroads' Tank Car Committee to understand emerging issues, improve safety, and enhance oversight of tank car facilities and owners. Moreover, FRA continues to work with PHMSA to implement regulatory and other changes as recommended through processes such as the Rail Safety Advisory Committee and the Tank Car Committee.

CY 2020 PROGRESS UPDATE

The CY 2020 NARs rate is projected higher due to lower projected shipping volumes caused by the COVID-19 pandemic-related economic downturn. The NARs rate will likely exceed the CY 2020 goal. Sources of most rail tank car NARs were liquid valves, hinged and bolted manway, bottom outlet valves, vapor valves, and pressure relief devices.

CY 2022 PLANS

FRA will continue to conduct inspections, investigations, and oversight activities focused on the reduction of NARs of hazardous materials transported by rail. Focus areas include ensuring hazardous materials shippers and receivers implement processes and technologies that are consistent with regulatory requirements and designed to prevent NARs. Concurrently, FRA will conduct inspections and oversight activities of tank car facilities and tank car fleet owners to ensure compliance with regulations and fleet service reliability to ensure implementation of measures to reduce risks.

FRA will continue to work with the AAR and other industry stakeholders to understand emerging issues, improve safety, and enhance oversight of rail transportation of hazardous materials. Additionally, FRA will continue to work with PHMSA to implement regulatory and other changes as recommended by stakeholders such as the AAR Tank Car Committee, Rail Safety Advisory Committee, and others.

IMPROVE RAIL TRANSIT COLLISIONS INVOLVING PERSONS (FTA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Rail Transit Collisions with Persons	**Target**	450	420	430	430	430
	Actual	425	482	426*	N/A	N/A

N/A: Not available

Note: Rail transit collisions with persons include suicides. Targets for FY 2020 were revised based on FTA exceeding its target in FY 2019.

* Data through February 28, 2021 (subject to revision)

REDUCE TOTAL TRANSIT-RELATED FATALITIES (FTA)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Total Rail Transit Collisions with Persons	**Target**	---	---	278	260	255	255	255
	Actual	260*	259*	245	254	311*	N/A	N/A

N/A: Not available

Note: New measure established in FY 2018.

* Data through February 28, 2021 (subject to revision). Small corrections were made to prior-year data due to corrections in reported data.

DISCONTINUED: REDUCE TRANSIT-RELATED FATALITIES PER 100 MILLION PASSENGER MILES (FTA)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Total Rail Transit Collisions with Persons	**Target**	---	0.607	0.607	0.601	0.596	0.596
	Actual	0.582	0.597	0.586	0.630*	1.228**	N/A

N/A: Not available

Note: The transit fatality rate is calculated by dividing FY fatalities from all transit modes (excluding FRA-regulated transit systems) by 100 million passenger miles traveled. The fatality rate provides a way of examining transit deaths relative to the average passenger trip length (exposure). The fatality rate measure is benchmarked using FTA's National Transit Database, which collects monthly data for safety events and annual data for passenger miles traveled.

* Revised due to late reporting to the National Transit Database.

** Data through February 28, 2021 (subject to revision). Passenger miles decreased dramatically beginning in March 2020 due to the COVID-19 pandemic, causing an increase in the computed fatality rate.

REDUCE TRANSIT-RELATED FATALITIES PER 100 MILLION VEHICLE REVENUE MILES (FTA)

		FY 2019	FY 2020	FY 2021	FY 2022
Total Transit Fatalities per 100 Million Vehicle Revenue Miles	**Target**	---	---	6.3	6.25
	Actual	6.68	9.56*	N/A	N/A

N/A: Not available

* Data through February 28, 2021 (subject to revision)

Public transit is one of the safest modes of transportation, and FTA is committed to making it even safer. FTA collects data on injuries, fatalities, and other safety events in its National Transit Database from transit systems receiving or benefiting from Federal funds. During Q1 and Q2 of FY 2020, FTA implemented its planned initiatives to improve the safety performance of the transit industry. Beginning at the end of Q2 and through Q4 of FY 2020, FTA engaged with the transit industry to document the spread of COVID-19 on transit systems and among industry workers. FTA provided relief to the transit industry through prompt distribution of CARES Act funds for cleanliness and sanitization, assistance with Personal Protective Equipment distribution, and other solutions, such as back door entry and glass barriers for transit operators. In FY 2020, FTA determined that the safety performance measure *Transit-Related Fatalities per 100 Million Passenger Miles* was not an appropriate measure because only five percent of transit-related fatalities involve passengers, and increased passenger miles are not associated with any increased risk of transit-related fatalities. Steep declines in transit ridership resulting from the COVID-19 pandemic have significantly impacted this measure. This measure has risen approximately 170 percent during FY 2020 (reflecting a rate increase from 0.63 percent to 1.65 percent), despite there not being any commensurate change in actual industry safety performance.

FY 2020 PROGRESS UPDATE

- **State Safety Oversight Programs:** During FY 2020, FTA began its first audit cycle under the SSO new regulation. The 31 SSO agencies submitted their 2019 Annual Reports on time in FTA's newly developed SSO Reporting system. This web-based tool streamlines reporting and interfaces with FTA's National Transit Database to increase the accuracy of reports.

- **Public Transportation Agency Safety Plan Rule Implementation:** In October 2019, FTA launched the PTASP Technical Assistance Center to support the transit industry in developing safety plans and meeting the compliance deadline. FTA has engaged with all 755 grantees that are subject to the PTASP regulation, about 94 percent of which have already certified compliance as of May 1, 2021. FTA and the Technical Assistance Center conducted 46 PTASP webinars with more than 7,800 attendees, held 20 PTASP workshops with approximately 1,200 attendees, published 65 resources available through the PTASP Resource Library, responded to 1,500 questions, and conducted voluntary reviews of 382 draft safety plans. The PTASP rule requires recipients and sub-recipients of FTA financial assistance to have a safety plan in place by July 20, 2020, but due to the COVID-19 pandemic, FTA deferred enforcement of the regulation through a Notice of Enforcement Discretion until July 21, 2021. The plans will be based on the Safety Management Systems approach to identifying and mitigating risks, including those related to rail transit collisions with persons. The plan must include safety performance targets and must be updated and certified by the transit agency annually.

- **Public Transportation Safety Training:** FTA has issued 78 certifications to transit safety professionals enrolled in the Public Transportation Safety Certification Training Program. FTA is in the process of converting four in-person courses to virtual live training to support certification during the COVID-19 public health emergency. FTA has directly delivered 87 in-person, online, and virtual safety-related courses to more than 2,980 course participants. The Public Transportation Safety Training Certification Rule requires safety oversight personnel in the transit

industry to complete initial program training within three years of enrollment into the program, but due to the COVID-19 public health emergency, FTA deferred enforcement of the regulation through a Notice of Enforcement Discretion until August 21, 2022.

- **Safety Assessment Team:** FTA's cross-functional Safety Assessment Team (SAT) completed its first assessment of inward- and outward- facing cameras. FTA's Executive Safety Review Board approved the recommendation that FTA conduct additional outreach and collect more data on the implementation of inward- and outward-facing cameras. The SAT reviewed roadway worker protections, stop signal overruns, and signal system safety.

FY 2022 PLANS

FTA will continue to provide technical assistance to support transit agencies in complying with the PTASP and Public Transportation Safety Certification Training Program regulations. FTA will continue to deliver safety training but will focus on developing virtual training equivalents of the required courses in the Public Transportation Safety Certification Training Program training curriculum.

FTA's SAT will continue to identify, assess, and prioritize transit safety risk for potential mitigation, including risk identified through National Transportation Safety Board recommendations. FTA will also implement a new charter for the Transit Advisory Committee for Safety and continue to audit Drug and Alcohol Compliance and SSO Programs.

REDUCE SERIOUS INJURIES FROM MOTOR VEHICLE CRASHES (NHTSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Occupants Ejected from Passenger Vehicles per 100 Emergency Medical Services Motor Vehicle Crash Dispatches	**Target**	1.2	1.1	1.0	1.0	1.0
	Actual	0.75	0.76	0.87	N/A	N/A

N/A: Not available

Motor vehicles have become much safer over time, due in part to the FMVSS promulgated by NHTSA. These technologies save lives and reduce serious injuries because they help prevent occupants from being ejected from vehicles, which is one of the most dangerous consequences of a crash. Seat belts are the single most effective vehicle safety technology in reducing vehicle ejection and injuries. Research shows that they can reduce moderate-to-critical injury to front-seat occupants by 50 percent for passenger cars and 65 percent for light trucks (including SUVs, pick-ups, and vans). By reducing ejections and serious injuries, seat belts saved an estimated 14,955 lives in FY 2017. NHTSA conducts an annual National seat belt enforcement and media campaign to increase belt use and works with its emergency medical services (EMS) partners to track occupant ejections in vehicle crashes through the National EMS Information System.

FY 2020 PROGRESS UPDATE

In FY 2019, the National seat belt use rate reached an all-time high of 90.7 percent. For individual States, the seat belt use rate ranged from 70.7 percent in New Hampshire to 97.1 percent in Hawaii. Twenty-seven States and the

District of Columbia achieved seat belt use rates of 90 percent or higher. The occupant ejection rate increased in FY 2020 compared to FY 2019, from 0.76 to 0.87 occupants ejected per 100 EMS motor vehicle crash dispatches. More research and analysis is needed to determine the factors involved. However, the impact of the COVID-19 pandemic likely played a significant role. Early reports suggest that traffic enforcement was scaled back and that risky driving increased starting in March 2020.

FY 2022 PLANS

In FY 2022, NHTSA will continue the *Click It or Ticket* initiative, a National seat belt enforcement mobilization to promote seat belt use. This major initiative will engage approximately 10,000 law enforcement agencies Nationwide in a coordinated seat belt enforcement campaign. NHTSA will also work to enhance real-time reporting of EMS responses to traffic crashes, including initial patient condition, indicators of alcohol and drug impairment, and patient outcomes, and provide access to this information through the National EMS Dashboard: Traffic Crashes.

IMPROVE SAFETY OF FLEET ON U.S. ROADWAYS (NHTSA)

		MY 2018	MY 2019	MY 2020	MY 2021	MY 2022
Percentage of Fleet Crash Tested	**Target**	86%	85%	85%	85%	85%
	Actual	87%	90%	89%	N/A	N/A

N/A: Not available

Note: In the U.S., manufacturers traditionally release new model year vehicles in the previous year (i.e., 2018 model years are released in 2017). Therefore, the model year often predates the calendar year. NHTSA tests new vehicles by model year.

NHTSA's New Car Assessment Program (NCAP) provides comparative new vehicle safety information to assist with consumers' vehicle purchasing decisions and encourage motor vehicle manufacturers to make vehicle safety improvements. NHTSA periodically updates the program to keep pace with advancements in occupant protection and the introduction of advanced technologies.

MY 2020 PROGRESS UPDATE

The NCAP exceeded its target of crash testing 85 percent of new vehicles for model year (MY) 2020 by testing 89 percent of the fleet. Given the growing importance of advanced safety technology, NHTSA continued to expand the focus of the NCAP to include information for consumers on forward collision warning, lane departure warning, crash imminent braking, and dynamic brake support. When consumers review the crash test ratings on the NHTSA website, they will now see which vehicles include each of the safety technologies listed above for new vehicles and models going back to MY 2011.

As new technology is developed and deployed, it will be equally important to help consumers make more informed choices on safety performance when purchasing new vehicles.

MY 2022 PLANS

The automotive industry continues to undergo unprecedented transformations in vehicle automation, and successful deployment of these technologies promises a new level of safety. One way to facilitate such safety advances is to provide consumers with information on vehicle safety performance. The NCAP provides a reliable, transparent, and unbiased assessment of the safety performance of passenger cars and light trucks sold in the United States to empower Americans to research and select the vehicles that best meet their families' needs. It also taps into the power of the marketplace to incentivize manufacturers to implement additional safety enhancements that Americans demand by educating consumers about new advanced and innovative safety technology. NHTSA will continue to crash test new vehicle models in MY 2022 and modernize the NCAP by assessing consumer information improvements to the Five-Star Safety Ratings section of the Monroney Label (the window sticker required on all new vehicles). NCAP will test 45 MY 2021 vehicles for crashworthiness, as well as the MY 2020 Tesla Model Y. NHTSA will also assess advanced driver assistance systems in 19 additional vehicles. The technologies that will be tested are lane departure warning, forward collision warning, crash imminent braking, and dynamic brake support.

IMPROVE TIMELINESS OF DATA (NHTSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of States that Meet the Quarterly Timeliness Benchmark for Reporting	**Target**	80%	82%	84%	86%	86%
	Actual	90%	85%	N/A	N/A	N/A

N/A: Not available. FY 2020 estimates are expected to be available in Q3 of FY 2021.

Motor vehicle crash data provide the foundation for understanding and quantifying the causes of crashes and injuries, identifying evidence-based countermeasures, establishing emerging trends, and evaluating program effectiveness. Relevant and timely data reporting helps government agencies make more informed policy, program, and regulatory decisions that lead to improved motor vehicle safety.

NHTSA works closely with States to develop and implement crash data collection systems and meet quarterly reporting benchmarks. As part of this effort, NHTSA provides coordinated guidance, outreach, best practices, training, and technical assistance designed to improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of State data.

FY 2020 PROGRESS UPDATE

NHTSA is on track to meet its FY 2020 target. States have continued to collect crash data during the COVID-19 pandemic; however, the data collection process has been slowed down due to various COVID-19 restrictions at the State level. The agency continues to implement its ongoing data modernization efforts and its research projects to increase the use of electronic data transfer from the States.

FY 2022 PLANS

In FY 2022, the National Center for Statistics and Analysis (NCSA) will continue to work closely with State entities and law enforcement agencies to obtain the information necessary to produce timely and high-quality data for NHTSA's data collection systems. NCSA collaborates with NHTSA's Regional Offices, the State Highway Safety Offices, and the State FARS Units via bi-annual working meetings to discuss data collection operations. In addition, NCSA has renewed efforts to encourage interaction between State Traffic Records Coordinating Committees, the State FARS Units, and the Regional Offices to improve intra-State collaboration, enhance partnerships, and promote the development of innovative data-sharing solutions. These outreach efforts will continue to serve as the impetus for more comprehensive data quality enhancements.

REDUCE FATALITIES CAUSED BY PIPELINES AND HAZARDOUS MATERIALS (PHMSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Confirmed Fatalities Caused by the Release of Hazardous Materials Transported via Pipeline or Surface Transportation Conveyance	**Target**	---	25	24	22	22
	Actual	18	25	17*	N/A	N/A

N/A: Not available

* Preliminary estimate. FY 2020 actuals are expected be available in October 2021.

PHMSA tracks incidents involving death or major injury, evacuations, fires, and explosions to determine whether any fatalities or injuries were related to the transport of hazardous materials by pipeline or other modes. For pipelines, these data are derived from pipeline operators' reports.[10] PHMSA requires incidents to be reported online through the PHMSA Portal. For all other modes, hazardous materials transportation incident data are derived from reports submitted to PHMSA and through other sources (e.g., State and local law enforcement and first responder reports).[11] These data are maintained in the Hazardous Materials Information System.

In FY 2019, PHMSA refined its performance goal and metric to account for the number of fatalities caused by the release of hazardous materials transported via pipeline or surface transportation. PHMSA determined its target through an exponential regression analysis of past year data. These targets project a general declining trend into the near future.

FY 2020 PROGRESS UPDATE

In FY 2020, PHMSA continued to account for fatalities caused by the release of hazardous materials by all modes, including pipelines. PHMSA determined that there were 25 fatalities in FY 2019, based on available incident report data. In FY 2020, however, PHMSA saw a decrease in the number of hazardous materials-related fatalities, despite an increase in the number of shipments of hazardous materials and an increase in the mileage of the Nation's pipeline system.

FY 2022 PLANS

Among the activities planned for FY 2022, PHMSA will continue to collaborate with its modal and State partners to ensure that hazardous materials are transported safely and securely through the Nation's pipelines and other transportation systems. PHMSA also plans to expand 49 CFR § 191 incident reporting requirements and data and adjust incident reporting criteria pursuant to two pipeline safety rulemakings: the Pipeline Safety: Safety of Gas Transmission Pipelines: MAOP Reconfirmation, Expansion of Assessment Requirements, and Other Related Amendments Final Rule and the Pipeline Safety: Gas Pipeline Regulatory Reform Final Rule.

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[10] PHMSA Forms F-7100.1, F-7100.2, F-7100.3, and F-7000.1

[11] DOT Form F-5800.1

IMPROVE SAFE DELIVERY OF PIPELINE PRODUCTS AND HAZARDOUS MATERIALS (PHMSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Incidents Involving Death or Major Injury Resulting from the Transport of Hazardous Materials by All Modes Including Pipelines	Target	63	62*	61*	61	61
	Actual	52	49	42**	N/A	N/A
Pipeline Hazardous Liquid Spilled, Gross Volume (Barrels)	Target	---	55,800	53,900*	52,600*	51,300
	Actual	37,875*	53,120*	71,625*	N/A	N/A
Pipeline Hazardous Liquid Spilled, Net Volume (Barrels)	Target	29,300*	23,500*	22,900*	22,500*	22,200
	Actual	4,594*	20,323*	16,176*	N/A	N/A
Hazardous Materials Incidents Reported Annually	Target	18,000	17,000	16,000	15,000	14,000
	Actual	19,150	22,036*	20,000**	N/A	N/A

N/A: Not available

* Revised

** Preliminary estimate. FY 2020 actuals are expected be available in October 2021.

PHMSA invests in programs that prevent incidents before they occur. These include safety standards that assist shippers and carriers in preparing and transporting hazardous materials safely and programs that prepare communities and first responders for the threats these hazardous materials and pipelines pose. PHMSA supports several State and local activities, such as State inspection grants and training of State inspectors, that help prevent leaks, spills, and other incidents. PHMSA also provides direct outreach and education to communities for the prevention of pipeline accidents. To achieve further gains in safety, PHMSA will continue to focus on safety rulemakings, safe transportation of energy products, risk-based inspections, and enforcement and outreach activities. PHMSA will also encourage operators to be vigilant in their operating practices. Pipeline operators and other industries have demonstrated success in improving safety through safety management systems. Therefore, PHMSA will continue to engage with regulated industries to implement safety management systems and improve safety cultures to further improve safety outcomes.

FY 2020 PROGRESS UPDATE

For pipelines, the gross volume spilled may be above the target for FY 2020 due to two accidents, one in Texas that involved the release of about 11,500 barrels and another in North Carolina, which released about 28,600 barrels of refined petroleum product. Despite several large volume spills, PHMSA expects net barrels spilled (gross volume spilled less amount recovered by operator spill recovery efforts) to meet the FY 2020 target as operators recovered the spilled volume and minimized the negative environmental impacts through several remediation and recovery measures.

For the *Hazardous Materials Incidents Reported Annually* measure, PHMSA believes the overall increase in Form 5800.1 filings paired with low levels of serious filings is the result of an aggressive outreach campaign focused around PHMSA's new online filing tool and not an indication of increased risk from hazardous materials transportation.

FY 2022 PLANS

PHMSA's FY 2022 targets are determined using a rolling five-year average of the past years' data. To achieve its FY 2022 performance goals, PHMSA plans to implement the recently enacted PIPES Act of 2020, including promulgating improved safety standards, hiring additional inspection engineers and regulatory professionals, and

standing up new grant programs for first responders. In addition, PHMSA plans to implement enhanced programs to respond to emerging risks from the transport of hazardous materials such as liquefied natural gas and lithium batteries. PHMSA also will continue to develop leaders for its unique and complex operating environment, through its leadership development programs.

PREVENT ACCIDENTAL DAMAGE TO GAS AND HAZARDOUS LIQUID PIPELINES (PHMSA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Damages per 1,000 One-Call Tickets for Gas Distribution Pipelines (National Average)	**Target**	---	3.0	3.0	3.0	3.0
	Actual	2.8	2.7	2.6	N/A	N/A

N/A: Not available

The performance measure *Damages per 1,000 One-Call Tickets for Gas Distribution Pipelines* is widely used as an indicator of the success of damage-prevention efforts. PHMSA considers this to be an effective measure because the desired outcome focuses on reducing the number of excavation-related incidents.[12] This measure is influenced by 811 education and awareness, State enforcement of one-call laws, and technology improvements. The source of the data for damages per 1,000 tickets is PHMSA's gas distribution operator annual report submissions. Pipeline operators are required to submit annual reports to PHMSA and its State partners no later than March 15 of each year.[13]

FY 2020 PROGRESS UPDATE

Although this measure was implemented in FY 2019, PHMSA has been tracking damages per 1,000 one-call tickets for gas distribution pipelines, and the National average for FY 2013 through FY 2020 ranges between 2.6 and 3.1.

FY 2022 PLANS

PHMSA will seek to drive excavation damage rates lower through financial assistance to States and non-profit organizations (in support of preventing excavation damage to pipelines) as well as ongoing 811 and safe digging outreach to stakeholders. It will also promote the States' ability to enforce their own excavation damage prevention laws and support State regulators in enforcing relevant pipeline excavation damage prevention regulations. Finally, PHMSA will continue to form and strengthen partnerships with excavation damage prevention professional organizations.

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[12] This measure replaces a previous one (*Increase Awareness of Calling 811 before Digging*) because it better reflects PHMSA's efforts to reduce the number of excavation-related incidents. Additionally, the data for the new measure come from operator reports, whereas the previous measure's data came from a survey.

[13] Aggregated information is available at https://www.phmsa.dot.gov/data-and-statistics/pipeline/data-and-statistics-overview.

REDUCE U.S.-OWNED COMMERCIAL CARRIER AVIATION FATALITIES PER 100 MILLION PERSONS ON BOARD (FAA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
U.S.-Owned Commercial Carrier Fatalities Per 100 Million Persons on Board	**Target**	6.2	5.9	5.7	5.4	5.2
	Actual	0.10	0.50	0.60	0.0*	N/A

N/A: Not available

* Actual as of March 31, 2021

Commercial aviation continues to be the safest form of transportation. While rare, however, commercial aviation accidents have the potential to result in large loss of life. FAA measures commercial fatalities, which includes passengers, crew, ground personnel, and the uninvolved public, using data from the National Transportation Safety Board's Aviation Accident Database. FAA continues to work with aviation industry stakeholders to establish and implement safety management systems to address and reduce risk within their operations and the NAS. With these systems in place, FAA and the aviation industry agree that partnership is critical to aviation safety and work together to address these risks. FAA's strategies to meet the target for this performance measure include:

- Working with stakeholders to establish and implement safety management systems to reduce risk within their operations and the NAS;

- Collaborating with the aviation community to encourage voluntary investment in safety enhancements that reduce fatality risk; and

- Ensuring that safety risk is systematically considered in decision-making at FAA.

FY 2020 PROGRESS UPDATE

This target was met in FY 2020, during which there were six fatalities. Therefore, the actual rate is 0.6 versus a not-to-exceed rate of 5.7, or 58 fatalities for FY 2020. The COVID-19 pandemic dramatically impacted domestic U.S. air travel operations in FY 2020. The Bureau of Transportation Statistics reports that in FY 2020, there were 336 million U.S. domestic airline passengers, a decrease of 59 percent from 2019's level of 812 million passengers. The number of domestic scheduled flights, declined to 5.4 million, a 40 percent drop from FY 2019 with 8.6 million flights. Scheduled cargo operations are included in the commercial aviation target. Those operations have not experienced a similar decline.

FY 2022 PLANS

FAA will continue to work with the aviation community to encourage voluntary implementation of safety enhancements by analyzing safety data on the proactive identification of current and future risks that reduce the overall fatality risk.

FAA will implement a number of changes to enhance and promote the use of safety management systems and human factor considerations to ensure holistic, proactive assessments of hazards and support improvements in safety performance. Additionally, the Aircraft Certification, Safety, and Accountability Act (Public Law 116-68, Division V) includes several changes to existing law intended to improve the process for certifying aircraft. Improvements include reforming oversight of the Organization Designation Authorization program, enhancing aircraft pilot interfaces to account for human factors and human systems integration, and improving domestic and international pilot training.

REDUCE GENERAL AVIATION FATAL ACCIDENTS PER 100,000 FLIGHT HOURS (FAA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
General Aviation Accidents per 100,000 Flight Hours	**Target**	1.0	0.98	0.97	0.96	0.95
	Actual	0.89	0.95	0.93*	N/A	N/A

N/A: Not available

* Actual as of March 31, 2021. FY 2020 data will be finalized in Q1 of FY 2022.

FAA's strategies to meet the target for this performance measure included:

- Supporting the installation of new safety-enhancing technology in general aviation aircraft by streamlining the certification and installation processes and encouraging aircraft owners to install such equipment;

- Continuing to implement new Airman Testing and Training Standards to establish an integrated and holistic airman certification system that clearly aligns testing with certification standards, guidance, and reference materials;

- Working in partnership with industry on a data-driven approach to understanding fatal accident causes and developing safety enhancements to mitigate risks;

- Reducing pilot deviations (e.g., runway incursions) caused by a lack of English language proficiency;

- Working with the general aviation community to educate pilots and stakeholders on the benefits of sharing safety data in a protected, non-punitive manner and utilizing data in daily operations; and

- Leveraging FAA Safety Team (FAASTeam) program products and outreach systems. National FAASTeam initiatives include safety articles in the FAA Safety Briefing magazine; FAASTeam Blast emails; aviation safety courses through FAASafety.gov; runway safety educational posters; and live safety seminars on weather, ADS, UAS, Loss of Control, and aeronautical decision-making.

FY 2020 PROGRESS UPDATE

In FY 2020, the FAA continued to work with the General Aviation Joint Steering Committee on improving general aviation safety with positive achievements, including improved education and training for both pilots and mechanics and information on overall general aviation community coordination on Loss of Control and engine issue topics. FAA continues to partner with industry (e.g., the General Aviation Joint Steering Committee and the United States Helicopter Safety Team) to analyze and develop strategies using a non-regulatory, collaborative, proactive, and data-driven approach to improve safety. There were 22 helicopter safety enhancements approved, targeting the top three occurrence categories (loss of control-in flight, unintended flight in instrument meteorological conditions, and low altitude operations) and the top four industries (personal/private, helicopter air ambulance, commercial operations, and aerial application).

The FY 2020 target was met. Fiscal year-end, there were 211 fatal accidents, making the rate 0.93 versus a not-to-exceed rate of 0.97. These 211 fatal accidents compare against a not-to-exceed of 218. Those 211 fatal accidents resulted in a total of 377 fatalities. Of the total number of general aviation fatal accidents through FY 2020, 20.9 percent were fatal experimental accidents.

FY 2022 PLANS

In FY 2022, FAA will continue the work of the General Aviation Joint Steering Committee in collaborating with industry on a data-driven approach to understanding fatal accident causes and developing safety enhancements to mitigate risks. FAA will also continue collaborating stakeholders and the general aviation community to promote the data sharing and to identify and mitigate systemic risks.

REDUCE RUNWAY INCURSIONS (FAA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Weighted Surface Safety Risk Index per Million Operations for Commercial Aviation	**Target**	---	---	0.35	0.35	0.35
	Actual	---	---	0.053	N/A	N/A
Weighted Surface Safety Risk Index per Million Operations for Non-Commercial Aviation	**Target**	---	---	0.60	0.60	0.60
	Actual	---	---	0.201*	N/A	N/A

N/A: Not available

* Actual as of March 31, 2021

The FAA draws safety data from a number of internal and external data sources to augment our primary internal reporting and tracking system, the Comprehensive Electronic Data Analysis and Reporting (CEDAR). National Transportation Safety Board database is the primary source of runway accident data used for the Surface Safety Risk Index. Runway excursion data is supplemented by the Office of Accident Investigation and Prevention's Aviation System Analysis and Sharing database. Once received, preliminary incident reports may take up to 90 days to complete. Data from the Aviation System Analysis and Sharing databases are then combined with CEDAR and our internal Operations Network data to produce the final results. In FY 2019, FAA implemented the Commercial and Non-Commercial Surface Safety Risk Indexes, which take an improved, risk-based approach to runway safety by monitoring all types of relevant safety events that occur in the runway environment. These include events involving runway excursions, incursions, and surface incidents.[14,15]

FY 2020 PROGRESS UPDATE

The Commercial Surface Safety Risk Index metric measures the overall safety performance of the NAS in the runway environment, including all commercial flight operations and any incidents involving aircraft, vehicles and pedestrians that occur in that environment. It includes runway collision accidents, runway excursion accidents, taxiway collision accidents, runway incursion incidents, runway excursion incidents, and taxiway surface incidents.

Operations are defined as total takeoffs and landings. Commercial operations are considered those operating under Federal Aviation Regulations Parts 121, 129, and 135; all other operation types are considered non-commercial. FAA met its target of maintaining the weighted surface safety risk index at or below 0.35 per million operations for Commercial Aviation.

The Non-Commercial Surface Safety Risk Index metric measures the overall safety performance of the NAS in the runway environment, including all non-commercial flight operations and any incidents involving aircraft, vehicles and pedestrians that occur in that environment. This measure includes runway collision accidents, runway excursion accidents, taxiway collision accidents, runway incursion incidents, runway excursion incidents, and taxiway surface incidents. Operations are defined as total takeoffs and landings. Non-Commercial operations are considered those operating under Federal Aviation Regulations Part 91. In FY 2020, FAA met its target of maintaining the weighted surface safety risk index at or below 0.60 per million operations for Non-Commercial Aviation.

FY 2022 PLANS

In FY 2022, FAA will continue to collaborate across its lines of business and with the aviation industry and labor organization stakeholders to develop innovative programs and techniques to reduce the risk of surface events to the NAS.

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[14] An excursion is an incident involving only a single aircraft, where it makes an appropriate exit from the runway.

[15] An incursion is any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.

EXERT GLOBAL LEADERSHIP AT THE INTERNATIONAL CIVIL AVIATION ORGANIZATION (FAA)

FY	MILESTONE	PROGRESS UPDATE
2019	Identify priority issues or outcomes from the 13th Air Navigation Conference. Implement an action plan for regional and bilateral outreach to promote, advance, and secure FAA's top three objectives relating to safety, air navigation, and emerging issues from the ICAO 40th Assembly.	FAA submitted all U.S. working papers to ICAO. Work began on the communications plan. Arrangements for the U.S.-hosted event were ongoing.
2020	Establish a multi-year FAA International Strategy including objectives and data-informed metrics to improve international system safety and efficiency Initiate at least two enhanced global leadership activities in support of the new strategy to promote strategic partnerships in training and technical assistance.	In spite of challenges related to the COVID-19 pandemic, FAA completed planned international aviation safety, efficiency, and sustainability initiatives with both bilateral and multilateral partners. Some of these efforts included addressing aviation safety matters related to BREXIT, promoting safety and efficiency improvements with strategic partners in the Caribbean and Southeast Asia, and leading interagency participation in the ICAO Council Aviation Recovery Task Force (CART). The FAA International Strategy was also finalized, which reaffirms the agency's strategy and methods to ensuring U.S. global leadership and influence, and to safely and efficiently integrate U.S. innovative and emerging technologies in the global aviation system.
2021	Work effectively with international partners and private industry to create standards that stimulate frameworks for harmonization and economic growth, improving efficiency of the global aviation infrastructure, and enabling the safe movement of people and goods.	Through its leadership of the U.S. Government's interagency team on the ICAO CART, FAA continues to influence the development of international approaches to ensure the safe and sustainable pandemic recovery of the aviation sector. By the end of Q2 of FY 2021, CART concluded Phase III, which includes recommendations and technical guidance to address the specific needs and challenges of stakeholders in the aviation industry to facilitate restart and recovery. FAA is influencing the development of the agenda for the High-Level COVID Conference to be hosted by ICAO in October 2021 in order to ensure an appropriate focus on safety standards as the international community emphasizes the recovery of the aviation sectors.
2022	Represent FAA and the United States in the 41st Assembly of the ICAO.	N/A

FAA strives to increase global awareness and compliance with international standards to improve aviation safety and efficiency. FAA collaborates with government agencies, industry, international organizations, and bilateral and regional international partners to set international safety and efficiency standards, as well as to develop bilateral agreements on the exchange of aviation products, services, and information. FAA also works closely with the ICAO, a specialized agency of the United Nations based in Montreal, Canada, of which the United States is a member state.

Since its inception, FAA has faced global competition from other standards-setting organizations. For example, the European Aviation Safety Agency announced a multi-million-dollar effort to establish new training, recruiting, and safety arrangements in Central America and the Caribbean. This followed a sizable investment by China in Latin America over the past three years. These regions of the Western Hemisphere are of critical importance to the United States. Not only does FAA provide air traffic services to a sizable portion of Caribbean airspace, the region is also a top destination of the American traveling public. While foreign entities seek dominance in the areas nearest to the United States, they are also seeking to seize leadership roles in the growing Asia-Pacific and African markets. It is imperative for the United States to make a strong presence at ICAO to drive U.S. safety standards, practices, and policies, as well as to counter those that facilitate, protect, and enhance foreign aviation businesses.

FAA's responsibility, working with ICAO, is to achieve safety and efficiency within the global network, focused on the safety of the domestic traveling public and the interoperability of U.S. air carrier equipment and standards.

To remain the foremost authority on aviation standards, FAA must continue to maximize opportunities to engage and redouble its efforts with its international partners to improve safety standards. FAA conducts certain functions for safety inside and outside of the United States, such as performing air traffic control hand-offs and assessing whether a foreign civil aviation authority complies with international aviation standards. FAA also inspects repair stations, oversees navigation and infrastructure, sets safety standards, and provides oversight around the world for air traffic. FAA strives to remain the "gold standard" to ensure U.S. aviation safety and security priorities are met around the world.

FY 2020 PROGRESS UPDATE

In spite of challenges related to the international public health emergency, FAA completed planned international aviation safety, efficiency, and sustainability initiatives with both bilateral and multilateral partners. Some of these efforts included addressing aviation safety matters related to BREXIT, promoting safety and efficiency improvements with strategic partners in the Caribbean and Southeast Asia, and leading interagency participation in the ICAO CART. The FAA International Strategy was also finalized, which reaffirms the agency's strategy and methods to ensure U.S. global leadership and influence, and to safely and efficiently integrate U.S. innovative and emerging technologies in the global aviation system.

FY 2022 PLANS

FAA will represent itself and the United States at the 41st Assembly of the ICAO.

STRATEGIC GOAL 2: INFRASTRUCTURE

OBJECTIVE 2.1: PROJECT DELIVERY, PLANNING, ENVIRONMENT, FUNDING, AND FINANCE

» **Maintain Accountability for Permitting Projects (FHWA, FTA, FAA)**

» **Reduce the Time to Complete an Environmental Impact Statement (FHWA, FTA, FAA, FRA)**

» **Reduce the Time to Complete a Major Infrastructure Project (FHWA, FTA, FAA, FRA)**

» **Increase the Number of States and Local Agencies Using a Federal Innovative Finance Tool (FHWA)**

» **Improve Major Project Performance in FHWA Portfolio (FHWA)**

» **Improve Major Project Performance in FTA Portfolio (FTA)**

» **Increase Grants to Rural and Small Urban Areas (FTA)**

» **Decrease Grant Processing Time (FTA)**

» **Increase Percentage of Grants Identified as Inactive at the Beginning of the Fiscal Year that are Either Closed or Returned to Active Status (FTA)**

OBJECTIVE 2.1 SUMMARY OF PROGRESS

The Department has developed several policy documents to increase efficiency and produce better outcomes related to environmental review and authorizations. Over the past several years, the Department has seen increased efficiencies in its environmental review processes. The Department's previous average completion time for an environmental impact statement (EIS) was six and a half years. Comparatively, EISs for major infrastructure projects that started after August 2017 are currently averaging just over two years per the project schedules on the Federal Infrastructure Permitting Dashboard. The Department identified nine major infrastructure projects

that are undergoing environmental analyses in FY 2020. Major infrastructure projects must have an agency average time frame of no more than 24 months.

The Department and FHWA developed an inter-agency working agreement with Federal resource and permitting agencies to accelerate and coordinate the planning, environmental review, permitting, and decision-making processes for major infrastructure projects. The Department saw progress toward meeting this goal with more projects being tracked on the Federal Infrastructure Permitting Dashboard and a higher percentage of those projects remaining on schedule in FY 2019 and FY 2020.

FHWA currently contributes Federal funds to more than 100 major projects – or projects that cost more than $500 million – that are near or under construction. The development and delivery of these projects is often complex and challenging. Of the 70 annual updates to major project financial plans submitted to FHWA between July 2018 and June 2019, 79 percent reflected a two percent or less increase in costs, and 66 percent were found to have less than a two percent increase in schedule.

FTA continues to prioritize the award of funds to rural and small urban areas: in FY 2020, FTA awarded $6.07 billion in grant dollars to these areas. FTA also provides other services to rural and small urban transit systems, such as financial assistance to rural grantees and transit agencies through its four Technical Assistance Centers. The Technical Assistance Centers provide operational and

planning guidance to rural transit agencies in areas such as delivering demand-response transit, route planning, transit operator training, and Americans with Disabilities Act compliance.

COVID-19 Impact: To encourage infrastructure development, FHWA facilitated the use of innovative financing tools in 16 States. FHWA's Center for Innovative Finance Support provided on-site instruction to two State DOTs and now offers web-based training to States in response to the COVID-19 pandemic. Innovative finance training for State DOTs, MPOs, and tribal governments has likewise shifted from on-site to web-based instruction, with high levels of participation. For example, a series of webinars in FY 2020 on the concept of using value capture to finance highway projects had more than 3,000 attendees.

In FY 2020, FAA successfully shifted to large-scale telework with minimal disruptions in response to the COVID-19 pandemic and developed enhanced health precautions for airport workers who must be physically present at work. Despite the challenges of the pandemic, FAA continued to implement emerging technologies, such as Trajectory-Based Operations, that will eventually culminate in NAS 2035. While air traffic in FY 2020 has been significantly lower than in previous years, the NAS has only experienced a fatality rate of 0.6 per 100 million persons on board thus far. In addition, FAA maintained its operational efficiency, evidenced by the fact that 90.4 percent of arrivals have been on time.

OBJECTIVE 2.1 PERFORMANCE GOALS AND MEASURES

MAINTAIN ACCOUNTABILITY FOR PERMITTING PROJECTS (FAA, FHWA, FRA, FTA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of DOT Environmental Impact Statements Posted on Permitting Dashboard that are On Schedule	**Target**	90%*	90%*	90%*	N/A	N/A
	Actual	70%	82%	95%	N/A	N/A
Percentage of DOT Major Infrastructure Projects Posted on Permitting Dashboard that are On Schedule	**Target**	90%*	90%*	90%*	N/A	N/A
	Actual	100%	100%	100%	N/A	N/A

N/A: Not available

* DOT's Office of Policy Sets this overall number. It is 100 percent for FHWA and FTA, but FAA has a lower target of 65 percent.

REDUCE THE TIME TO COMPLETE AN ENVIRONMENTAL IMPACT STATEMENT (FAA, FHWA, FRA, FTA)

		FY 2020	FY 2021	FY 2021
Average Months to Complete an Environmental Impact Statement	**Target**	---	24 months	24 months
	Actual	N/A	N/A	N/A

N/A: Not available

Title XLI of the Fixing America's Surface Transportation Act (FAST Act) created the Federal Permitting Improvement Steering Council, which is comprised of Deputy Secretary-level agency members and chaired by an Executive Director appointed by the President. It also established new procedures to standardize inter-agency consultation and coordination, including the use of the Federal Infrastructure Permitting Dashboard to track project timelines. The dashboard requires the development of a project schedule at the initiation of the project and tracks throughout the environmental review and authorization periods. Currently, the Department is tracking nine major infrastructure projects on the Federal Infrastructure Permitting Dashboard.

In August 2017, Executive Order (EO) 13807, which was rescinded in January 2021, set a goal to complete all Federal environmental reviews and authorization decisions for major infrastructure projects within 24 months. Although this standard only applies to a subset of EISs, the Department applied this goal to all its EISs. However, due to the lag between the initiation of a project to when the Record of Decision is published for a project, the Department only posted the percent of EISs that remained on schedule from FY 2017 through FY 2020 on the Federal Infrastructure Permitting Dashboard. As EO 13807 was rescinded in January 2021, DOT will no longer track major infrastructure projects separately.

FY 2020 PROGRESS UPDATE

The Department exceeded its target, increasing the percentage of projects that are on schedule from 70 percent in FY 2018 to 95 percent in FY 2020.

FY 2022 PLANS

In FY 2022, the Department will no longer monitor the percent of projects that remain on schedule but will shift to tracking the average time it takes to complete an EIS from Notice of Intent to Record of Decision. For projects that are completed in the fiscal year, the Department will report the total length of time needed for completion of those projects that were initiated after August 2017.

REDUCE THE TIME TO COMPLETE A MAJOR INFRASTRUCTURE PROJECT (FAA, FHWA, FRA, FTA)

		FY 2020	FY 2021	FY 2022
Average Months to Complete an Environmental Review for Major Infrastructure Projects for which DOT is the National Environmental Policy Act Lead	Target	24 months	24 months	24 months
	Actual	N/A	N/A	N/A

N/A: Not available

This two-year performance goal aligns with EO 13807. The Department's strategies for meeting the target for this performance goal include:

- Using provisions in the Moving Ahead for Progress in the 21st Century Act and the FAST Act, the two most recent surface transportation reauthorizations, to accelerate environmental review for major transportation projects. For example, using a combined EIS/Record of Decision eliminates the 30-day public notification period prior to issuance of a Record of Decision;

- Using One Federal Decision processes and policies outlined in the Memorandum of Understanding Implementing One Federal Decision Under Executive Order 13807 to coordinate with agencies on major infrastructure projects to expedite environmental review and coordination time frames;

- Using the Department's Federal Infrastructure Permitting Dashboard to track large or complex projects throughout each stage of environmental review and permitting. This enhanced transparency will encourage agencies to work concurrently, rather than sequentially. Sharing environmental documents and information will reduce duplicative environmental reviews and identify challenges early in the process, expediting resolutions and accelerating project delivery;

- Institutionalizing best practices across the Department, including programmatic agreements, liaison positions, and quality environmental documentation;

- Working closely with the Federal Permitting Improvement Steering Council and the Council on Environmental Quality to identify inefficiencies, clarify lines of authority, and streamline Federal, State, and local procedures; and

- Exploring ways to make the review process more flexible to ensure that it is as efficient as possible while improving environmental and community outcomes.

FY 2020 PROGRESS UPDATE

The Department developed an inter-agency working agreement with Federal resource and permitting agencies to accelerate and coordinate the planning, environmental review, permitting, and decision-making processes for major infrastructure projects. The agreement provides guidelines for conducting concurrent environmental reviews with the processing of relevant environmental permit application materials. FHWA created a process chart that synchronizes the National Environmental Policy Act (NEPA) (Public Law No. 91-190) and permitting towards One Federal Decision for major infrastructure projects that includes timetables for projects with and without planning and environmental linkages.

FY 2022 PLANS

FHWA encourages States to review and update their list of active projects requiring an EIS and take proactive steps during the permitting process to reduce delay between the Notice of Intent and the Record of Decision. Ongoing activities include:

- Working with the U.S. Army Corps of Engineers to establish a process that integrates the procedural requirements of NEPA with the substantive Section 404 Clean Water Act process in a manner that facilitates synchronized reviews and decision-making; and

- Updating the eNEPA project collaboration tool to allow Federal and State agencies to collaborate concurrently in real time on environmental reviews and permits.

In addition, the Department published its update to DOT NEPA Implementing Regulations to modernize NEPA and increase coordination across modes. Provisions include helping modes utilize categorical exclusions for more projects and identify and resolve issues at the start of a project to reduce delays.

**INCREASE THE NUMBER OF STATES AND LOCAL AGENCIES
USING FEDERAL INNOVATIVE FINANCE METHODS (FHWA)**

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Number of States and Local Agencies that have Used Federal Innovative Finance Methods for Highway Projects (in the Current Year)	**Target**	---	18	20	20	21	18
	Actual	15	17	17	16	N/A	N/A

N/A: Not available

This measure is a count of the number of States in which a public project sponsor has used one of the following finance tools to assist a Title 23-eligible project, regardless of whether the project receives regular Federal-aid highway funds:

• Transportation Infrastructure Finance and Innovation Act credit assistance;

• Private Activity Bond issuance;

• Grant Anticipation Revenue Vehicle bond issuance;

• Availability Payment reimbursement agreement; or

• State Infrastructure Bank credit assistance.

In FY 2020, FHWA facilitated the use of innovative financing tools in 16 different States. Each State faces its own circumstances regarding financing opportunities, and even the most active may use these tools only once every three to four years.

FY 2020 PROGRESS UPDATE

To encourage infrastructure development, FHWA facilitated the use of innovative financing tools in 16 States during FY 2020. FHWA's Center for Innovative Finance Support (CIF$), shifting its public-private partnership training to the platform of the National Highway Institute, provided on-site instruction to two State DOTs and now offers web-based training to States in response to the COVID-19 pandemic. Innovative finance training for State DOTs has likewise shifted from onsite to web-based instruction, with States, MPOs, and tribal governments all participating. A series of webinars on using value capture to finance highway projects, for instance, attracted more than 3,000 attendees in FY 2020.

FY 2022 PLANS

In FY 2022, FHWA will continue to support State and local transportation agencies that apply innovative revenue generation, procurement, and project finance strategies to enable infrastructure projects.

The CIF$ offers training and technical assistance to State DOTs and local public agencies seeking to apply their Federal-aid dollars to debt financings. When appropriately used, these financings enable more highway projects to be delivered faster. Given recent annual totals, the Department has adjusted the FY 2022 target downward from previous years.

The CIF$ also supports highway projects seeking Transportation Infrastructure Finance and Innovation Act loan assistance and/or Private Activity Bond allocation. Because Private Activity Bonds are used by public-private partnerships, the CIF$ will continue to offer public-private partnership training and technical assistance to public agencies, in coordination with the Department's Build America Bureau. To further assist States considering public-private partnerships, the CIF$ and the Build America Bureau will collaborate to develop performance benchmarks for major highway projects delivered via alternate contracting methods.

IMPROVE MAJOR PROJECT PERFORMANCE IN FHWA PORTFOLIO (FHWA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of FHWA-Funded Projects Over $500 Million within Two Percent of Schedule	**Target**	---	80%	80%	80%	80%	80%
	Actual	70%	64%	66%	67%	N/A	N/A
Percentage of FHWA-Funded Projects Over $500 Million within Two Percent of Cost	**Target**	---	80%	80%	80%	80%	80%
	Actual	84%	80%	79%	80%	N/A	N/A

N/A: Not available

FHWA currently contributes Federal funds to more than 100 major projects (i.e., projects that cost $500 million or more) that are near or in construction. The development and delivery of these projects are often complex and challenging. Project sponsors submit a project management plan and an initial financial plan to FHWA for each major project prior to authorization of Federal funds for construction. Updates to financial plans are submitted annually and updates for project management plans are submitted to FHWA as needed based on changes to the project.

To assess the performance of each project in the portfolio of major projects, FHWA monitors financial plans annually to determine the percentage that are within two percent of the prior year cost estimates and project completion dates. The goal is for at least 80 percent of the financial plans approved each fiscal year to be within two percent of the prior year cost estimate and completion date. This target was set based on historical trends and represents what is believed to be achievable through effective Federal involvement in project delivery. FHWA uses this target to monitor performance and determine when corrective action is necessary to help project sponsors better control cost increases and schedule delays. To monitor and improve oversight and stewardship practices, FHWA:

- Works with State and local partners to create more flexibility in the review process to ensure that transportation projects are completed in a timely manner; and

- Institutionalizes and implements best practices across the Department, including those related to programmatic agreements, liaison positions, and quality environmental documentation.

FY 2020 PROGRESS UPDATE

Of the 64 annual updates to financial plans submitted to FHWA between October 2019 and September 2020, 51 (80 percent) reflected a two percent or less increase in costs. In 13 projects, the estimated costs increased by two percent or more due to scope changes (e.g., addition of interchanges) from the initial plan, increases in labor and materials, and other costs, such as an increase in right-of-way costs. Schedules for 43 (67 percent) of the 64 projects met less than a two percent increase, while schedule increases exceeded two percent in 21 of the projects. Schedule delays resulted from changes in design criteria, poor or unanticipated field conditions, and errors of omission.

FY 2022 PLANS

In FY 2022, FHWA plans to continue using a risk-based approach to project involvement to identify and plan for variabilities in construction that could impact cost and schedule early in the delivery of the project. FHWA will evaluate the factors that could impact successful delivery annually for each of the active and planned major projects and use the results of this assessment to provide project support and oversight. FHWA also plans to continue its efforts to advance best practices in accelerating project delivery, consolidate IT systems for reporting and monitoring, take appropriate actions to streamline and delegate program requirements, enhance tools to evaluate project risks, build on the existing "lessons learned" program, and improve the cost and schedule estimating methodologies for high-risk projects.

IMPROVE MAJOR PROJECT PERFORMANCE IN FTA PORTFOLIO (FTA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of FTA-Funded Projects Over $500 Million Within or Minus 10 Percent of Cost	Target	---	85%	85%	85%	85%	85%
	Actual	93.3%	93.3%	100%	100%	N/A	N/A

N/A: Not available

This measure is calculated based on the number of Capital Investment Grant (CIG) projects over $500 million with full funding grant agreements that have had cost increases of 10 percent or more over the most recent baseline estimate. It should be noted that FTA's CIG program awards grants for dollar amounts that are fixed upon entering the engineering phase of the project. Local project sponsors are required by the terms of the grant agreement to cover all cost overruns and ultimately deliver the project specified in the grant agreement.

FY 2020 PROGRESS UPDATE

Of the 16 projects over $500 million funded by CIGs, all remained within 10 percent of the current project cost baseline throughout FY 2020.

FY 2022 PLANS

In FY 2022, FTA plans to continue to track CIG projects over $500 million to ensure that they remain within 10 percent of project cost baseline. To monitor and improve oversight and stewardship practices, FTA will also:

- Continue facilitating its robust project management oversight program; and

- Continue ensuring that the Federal interest in FTA-funded projects is protected and that grantees deliver the projects they committed to in their grant agreements.

INCREASE GRANTS TO RURAL AND SMALL URBAN AREAS (FTA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
FTA Grant Dollars Allocated to Rural and Small Urban Areas	Target	$1.56B	$1.59B	$1.62B	$1.62B	$1.62B
	Actual	$1.79B	$1.60B	$6.07B*	N/A	N/A

N/A: Not available

* Includes CARES Act funds

This metric measures the extent to which FTA has successfully allocated grant funds, including discretionary and formula grant awards, to rural and small urban areas during the current fiscal year. For apportionment purposes, small urban areas are defined as areas with populations of less than 200,000, while rural areas are those with populations less than 50,000. FTA also supports the National Rural Transit Assistance Program, which funds the design and implementation of training and technical assistance projects and other support services tailored to meet the needs of transit operators in non-urban areas.

FY 2020 PROGRESS UPDATE

In FY 2020, FTA allocated more than $38 billion, an unprecedented figure more than double the prior record. $6.07 billion of these funds were allocated to rural and small urban transit agencies. The Rural Opportunities to Use Transportation for Economic Success initiative has been included in all competitive grant solicitations.

FY 2022 PLANS

FTA will continue to prioritize the allocation of funds to rural and urban areas through its funding programs.

DECREASE GRANT PROCESSING TIME (FTA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Average Number of Days from Grant Application Submission to Grant Award	**Target**	36	32	32	32	32
	Actual	22	22	15	N/A	N/A

N/A: Not available

FY 2020 PROGRESS UPDATE

FTA's average grant processing time was 15 days in FY 2020, due it part to the extraordinary efforts FTA made to obligate CARES Act grants quickly. The fast pace at which FTA obligated CARES Act funds contributed to the increased performance in FY 2020, as grant processing time was prioritized over other FTA business. CARES Act grants are providing vital funds to the transit industry to sustain transit service during the public health emergency.

FY 2022 PLANS

FTA is currently processing grants within 15 days, as compared to 22 days in previous years. FTA lowered this target from 36 to 32 in recent years and is not aware of any concerns from its grantees regarding processing time. Due to the unique circumstances of individual grants and factors outside of FTA's control, some regional offices occasionally end up with higher average processing times. At this time, FTA has not identified further actions that could significantly improve average processing time across all modes in a consistent manner. As such, the FY 2022 performance target for this performance measure will remain at 32 days.

INCREASE PERCENTAGE OF GRANTS IDENTIFIED AS INACTIVE AT THE BEGINNING OF THE FISCAL YEAR THAT ARE EITHER CLOSED OR RETURNED TO ACTIVE STATUS (FTA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Grants Identified as Inactive at the Beginning of the Fiscal Year that are Either Closed or Returned to Active Status	**Target**	90%	95%	95%	95%	95%**	95%
	Actual	100%	99.5%	99%	100%*	N/A	N/A

N/A: Not available

* Percentage calculated by adding inactive awards closed to the open inactive awards with draw-downs. The sum was divided by the number of inactive awards. Amount excludes operating and preventive maintenance awards.

** FTA requested to adjust the FY 2021 target from 95% to 50% in anticipation that grantees would need administrative relief due to the COVID-19 pandemic. However, as explained below, the active status definition for grants was redefined in June 2020, and FTA currently expects to be able to meet the initial 95% target for FY 2021.

FTA identifies grants that are potentially inactive at the start of the fiscal year. A grant can later be removed from the cadre over the course of the fiscal year by one of the following actions:

- The grantee makes a draw down against the grant;
- The grant is closed; or
- The grantee provides an approved explanation for why the grant should remain active, despite the absence of any recent draw downs of funds.

FTA's goal is to have at least 95 percent of grants in the identified cadre addressed by one of these resolutions.

FY 2020 PROGRESS UPDATE

FTA met its performance target in FY 2020. In response to the COVID-19 pandemic, FTA identified additional factors in determining grant inactivity that reduced the number of inactive grants to be closed. FTA worked with the Office of the Assistant Secretary for Budget and Programs and Internal Control auditors to redefine "active status" in June 2020. The 51 remaining grants were closed or returned to active status by the end of the fiscal year.

FY 2022 PLANS

FTA plans to continue the normal process of closing inactive grants in FY 2022.

OBJECTIVE 2.2: LIFE CYCLE AND PREVENTIVE MAINTENANCE

- Maintain Roadway Pavement Condition (FHWA)
- Maintain Bridge Condition in the National Highway System (FHWA)
- Maintain Good Runway Condition (FAA)[APG]
- Monitor Condition and Performance of Transit Systems (FTA)[APG]

OBJECTIVE 2.2 SUMMARY OF PROGRESS*

Roads and Bridges: FHWA met the annual performance target associated with APG 3: Improve America's Transportation-Related Infrastructure, with 99.1 percent of interstate pavement remaining in good or fair condition through FY 2019 and FY 2020. The percentage of NHS bridges in good or fair condition by deck area improved from 91.6 percent in FY 2010 to 95.4 percent in FY 2019.

The 50 States, the District of Columbia, and Puerto Rico submitted TAM Plans documenting their compliance with the requirements of Title 23 CFR § 515.1. FHWA published the National Tunnel Inspection Program Compliance Review Manual in FY 2019, which provides guidance on performing compliance reviews of tunnel safety inspection programs.

Runways: FAA incorporates views and suggestions for airport system-wide development from all its stakeholders, including individual airport owners, FAA's Airports Regional and District Offices, the Air Traffic Organization, the Flight Standards Office, Congress, State aeronautical agencies, State and local governments, and other aeronautical user groups. Throughout the majority of FY 2020, FAA maintained 97.9 percent of runways in excellent, good, or fair condition.

Transit: FTA is currently monitoring and documenting the transit SGR. The *23rd Edition of the Conditions and Performance Report* was delivered to Congress in November 2019, documenting transit SGR funding needs at $98 billion. FTA is working with transit agencies on collecting TAM data to improve the management of transit assets. FTA collected the first TAM dataset in September 2019 and the second TAM dataset in November 2020.

[APG] Performance goal aligns to a FY 2020 – FY 2021 Departmental APG.

* Under the previous Administration, the Department determined that performance toward this objective was a focus area for improvement.

OBJECTIVE 2.2 PERFORMANCE GOALS AND MEASURES

MAINTAIN ROADWAY PAVEMENT CONDITION (FHWA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Interstate Pavement in Good or Fair Condition	**Target**	---	---	---	95.5%	95%	95%
	Actual	---	---	99.1%	99.1%	N/A	N/A

N/A: Not available

In FY 2019, the 50 States, the District of Columbia, and Puerto Rico began reporting on pavement conditions per the requirements for National Performance Management measures. The *Percentage of Interstate Pavements in Good or Fair Condition* measure now serves as an indicator of trends for pavements on the interstate system and replaces the previous indicator, *Percentage of Vehicle Miles Traveled on the National Highway System in Good Condition*. This new metric is based on a classification system of good, fair, and poor, and identifies pavements that are open, drivable, and acceptable to the public.

Data used to determine the measure include mainline lane-miles of interstate system, full-extent International Roughness Index, and distress data (i.e., cracking, rutting, and faulting) that are reported by States in the HPMS. The information in the HPMS contains pavement condition and inventory data items for 0.1-mile sections of the entire NHS inclusive of the interstate, as required by the HPMS Field Manual. From the data provided, FHWA monitors the condition of the Nation's pavements, which includes identifying those pavements that are in good and fair condition.

FY 2020 PROGRESS UPDATE

FHWA met the performance target for maintained pavement condition. The total interstate mileage of pavement condition measured for FY 2020 performance reporting was 132,490 lane-miles. The FY 2020 data show that the percentage of interstate pavement in good or fair condition remained consistent at 99.1 percent. This included an 0.1 percent increase in the percentage of pavements in good condition, from 61 percent in FY 2019 to 61.1 percent in FY 2020, which reflects an additional 1,016 lane-miles in such condition.

This fiscal year's results demonstrate the States' commitment to increasing the number of pavements in good condition given current funding levels. However, they struggle to prevent overall deteriorating pavement conditions without adequate investment for preservation and maintenance activities. In FY 2020, 0.9 percent, or 1,980 lane-miles, of interstate pavements are in poor condition and need significant, immediate investment.

FY 2022 PLANS

The FY 2022 target for this measure will be 95 percent of interstate pavements in good or fair condition. To maintain pavement condition, FHWA will work with State DOTs to implement pavement preservation strategies and other pavement technologies to help ensure that they meet the requirements of the National Performance Management measures.

MAINTAIN BRIDGE CONDITION IN THE NATIONAL HIGHWAY SYSTEM (FHWA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Deck Area on National Highway System Bridges in Good or Fair Condition	**Target**	---	---	---	95%	95%	95%
	Actual	---	95.5%	95.4%	95.7%	N/A	N/A

N/A: Not available

FHWA assesses bridge condition using a classification system of good, fair, and poor. This performance measure reflects the lowest National Bridge Inspection component (i.e., deck, superstructure, substructure, and culvert) condition rating for a bridge, weighted by the deck area.

FY 2020 PROGRESS UPDATE

FHWA met the target for this performance measure in FY 2020. The percentage by area of NHS bridges in good or fair condition has increased from 91.6 percent in FY 2010 to 95.47 percent in FY 2020. There are 141,399 bridges on the NHS that are classified as being in good or fair condition. In FY 2020, FHWA set aside funds for four States that exceeded the 10 percent threshold for NHS bridge deck area in poor condition. An internally tracked metric, *Percentage of States with National Bridge Inspection System Bridge Load Rating Compliance Assessed as Satisfactory*, indicates progress in maintaining an appropriate level of safety for the traveling public. At the end of March 2021, 60 percent of the States were in satisfactory compliance.

The Department and FHWA are implementing the Competitive Highway Bridge Program and the Bridge Replacement and Rehabilitation Program to add additional funds to replace or rehabilitate bridges in poor condition. This program awarded a total of $225 million to 20 projects in 18 States in FY 2019. FHWA is monitoring the awardees to ensure all funding is obligated before it expires at the end of FY 2021.

All States provided documentation demonstrating that they have developed and implemented their Transit Asset Management Plans (TAMPs), meeting the requirements of 23 U.S. Code § 119: National Highway Performance Program and 23 CFR § 515: Asset Management Plans. FHWA has developed a series of case studies focused on various TAM topics for stakeholders to learn about processes and practices that could be applied in their States. The topics include: Asset Management Practices and Benefits, Linking Asset Management to Planning and Programming, Life Cycle Planning Practices, Financial Planning and Investment Strategies, Communicating Asset Management Strategies, and Managing Assets Beyond Pavements and Bridges. In addition, FHWA has provided technical assistance and conducted four Peer Exchanges for State DOTs to share information on their TAM practices.

FY 2022 PLANS

FHWA has multiple ongoing and new activities that are significant contributors to system-wide bridge performance goals. Some are directly associated with assessing bridge performance and responding to deficiencies and needs, such as the recent roll-out of a Critical Findings Database to Division Offices. Offices will populate the database as inspection findings are reported to them by States. FHWA will use the database to assess the cause of deficiencies and seek opportunities to minimize their occurrence. Subsequent to the updating of the National Bridge Inspections Standards (NBIS) and the specification for the National Bridge Inventory, FHWA will begin the multi-year implementation. Among other things, these data reporting procedures will facilitate a risk-based approach to establishing the inspection frequency for each bridge, update training and certification requirements, and refine and improve bridge data and reporting methods. Once the NBIS is revised, implementation will include a roll-out to agencies and an update to related FHWA reference manuals, training, and oversight procedures, including the data-driven compliance assessment process for the NBIS.

The load rating of bridges remains the most challenging NBIS compliance metric. FHWA will continue to monitor States' corrective action plans to ensure progress towards full compliance. FHWA has several ongoing activities to solve technical problems in the load rating of bridges and improve load rating efficiency and consistency. FHWA will also continue to conduct outreach and trainings to support agency programs, including a load rating webinar

series, workshops, peer exchanges, and National Highway Institute training. FHWA will also continue to conduct the assessment of the impact of truck platooning on bridges, which will inform future automated vehicle technology innovations.

The National Tunnel Inspection Program compliance assessment process, implemented in FY 2019, has had a data-driven assessment of all 15 metrics. FHWA will ensure that each State implements a corrective action plan to address non-compliant metrics, after which FHWA will identify focus areas for further stewardship and oversight.

System condition and performance is also affected by extreme events. FHWA's seismic bridge program has activities underway to aid in system-level assessment of bridges to support relative prioritization of mitigation actions. For example, FHWA initiated a study to determine how seismic risks can be quantified and included within the framework of a multi-hazard enterprise risk assessment process. FHWA is also advancing the practice of using fragility curves, based on National Bridge Inventory data, to estimate the damage levels of bridges subjected to seismic events of varying magnitudes.

MAINTAIN GOOD RUNWAY CONDITION (FAA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Runways in FAA's National Plan of Integrated Systems in Excellent, Good, or Fair Condition	**Target**	93%	93%	93%	93%	93%	93%
	Actual	97.7%	97.9%	97.9%	97.9%	N/A	N/A

N/A: Not available

FAA ensures that runways are maintained in good condition through a system of planning, inspection, reporting, analysis, and enforcement. The agency conducts scheduled and surveillance safety inspections at airports to assess runway pavement condition. Scheduled safety inspections are defined as regularly scheduled and detailed studies of runway surfaces, while surveillance is the persistent, remote review of runway surfaces. This combination of methods provides the highest assurance of runway condition. FAA's strategies to meet the target for this measure include:

• Collecting safety and pavement condition data under a contract program to inspect non-certificated public-use airports every three years;

• Maintaining a five-year analysis of airport capital requirements, including runway rehabilitation, to be published in the biennial NPIAS report; and

• Enforcing requirements for pavement preventive maintenance programs at Federally obligated airports.

FY 2020 PROGRESS UPDATE

FAA reviewed airport capital requirements and ensured that adequate funds were allocated toward maintaining runways in excellent, good or fair condition. For FY 2020, the actual percentage of runways maintained in such condition was 97.9 percent, exceeding the target for FY 2020.

FY 2022 PLANS

The FY 2022 target of 93 percent of runways in excellent, good, or fair condition remains unchanged. Through partnerships with State and local governments, FAA seeks to create a safe ground surface environment for commercial and general aviation travelers. Data are collected through visual inspection of runway pavement in accordance with existing FAA guidance. As part of airport inspections (conducted annually to triennially by FAA, State, or contractor personnel), FAA updates airport master records for public-use airports and reports the results through the Airport Safety Data Program. This information will be reported in the biennial NPIAS report.

MONITOR CONDITION AND PERFORMANCE OF TRANSIT SYSTEMS (FTA)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
State of Good Repair Backlog (Current-Year Dollars)	**Target**	$96B	$105B	$109B	$109B	$109B	$109B**	$109B**
	Actual	$105B*	$105B*	$105B*	$105B*	$105B*	N/A	N/A

N/A: Not available

* This estimate is from the 24th Edition of the Conditions and Performance Report, which is expected to be published in Q3 of FY 2021.

** FTA is planning to discontinue this measure in FY 2023 because the underlying data source is not available in a timely manner. FTA is planning to replace this measure with a new measure of SGR based on TAM data that are collected directly from transit agencies through the National Transit Database. The TAM data are reported annually and are not subject to clearance, so they will be timelier. As such, FTA is not establishing future year targets for the State of Good Repair measure beyond FY 2022.

FTA monitors and reports on the transit SGR backlog by publishing results from the Transit Economic Requirements Model in the biennial *Conditions and Performance Report* to Congress. FTA's strategies to meet the target for this performance measure include:

- Implementing the National TAM system, including agency asset management plans and SGR performance targets;[16]

- Provide TAM technical assistance to grantees;

- Transmitting the *24th Edition of the Conditions and Performance Report* to Congress, with new SGR backlog funding estimates; and

- Implementing the SGR Formula Grant Program.

FY 2020 PROGRESS UPDATE

In FY 2020, FTA published the *23rd Edition of the Conditions and Performance Report*, which documents SGR, asset conditions, current funding levels, and funding scenarios. FTA submitted this report to Congress in November 2019.

FTA expects to publish the *24th Edition of the Conditions and Performance Report* in FY 2021. It will forecast future capital needs, provide an assessment of the condition of National transit assets, and estimate the cost of rehabilitation of assets that are not included in the SGR backlog.

FY 2022 PLANS

In FY 2022, FTA anticipates publishing the *25th Edition of the Conditions and Performance Report*, which will be based on FY 2018 data. In FY 2022 FTA anticipates writing the *26th Edition of the Conditions and Performance Report*, which will be based on FY 2020 data.

Unlike the *Conditions and Performance Report*, TAM data are reported annually. In FY 2023, FTA plans to replace its current infrastructure performance measure (based on the SGR) with a new performance measure that tracks transit infrastructure conditions based on TAM data.

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[16] Transit Asset Management is a model that prioritizes funding based on the condition and maintenance of transit assets, such as vehicles, equipment, and facilities. Under the TAM plan, a transit agency should consider the results of its condition assessments while performing safety risk management and safety assurance activities. Transit Asset Management plans must include, at a minimum, an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the SGR of capital assets.

OBJECTIVE 2.3: SYSTEMS OPERATIONS AND PERFORMANCE

» **Decrease Average Wait Time (FAA)**

» **Maintain Airport Capacity (FAA)**

» **Increase the Integration of Drones into the Airspace without Sacrificing Safety (FAA)**

» **Alleviate Urban Congestion (FHWA)**[APG]

» **Improve Passenger Rail On-Time Performance (FRA)**

» **Provide Sustainment Sealift to the U.S. Armed Forces (MARAD)**

OBJECTIVE 2.3 SUMMARY OF PROGRESS

FHWA partnered with States to adopt new measures for travel time reliability using the recently acquired National Performance Management Research Data Set. The percentage of reliable person-miles traveled on the interstate system decreased slightly, from 83.7 percent in FY 2017 to 83.4 percent in FY 2018. Results for the Truck Travel Time Reliability (TTTR) Index, which is a measure of the average reliability for truck movement over the full extent of the interstate system, also showed a slight decline, from 1.38 in FY 2019 to 1.39 in FY 2020. While reliability varies between States, the actual results for both measures suggest that there has been an increase in traffic congestion Nationwide.

In FY 2020, FHWA continued to promote States' use of tools to identify freight bottlenecks; provided technical assistance in the designation of critical urban and rural freight corridors; shared best practices in prioritizing National Highway Freight Program funding for investment in freight solutions; developed a summary of State Freight Plans for greater awareness and to support corridor-based planning; and encouraged the use of State Freight Advisory Committees for engagement with the private sector.

On-time performance (OTP) for intercity passenger rail in FY 2020 exceeded FY 2019 levels and met three of four performance targets. For example, system-wide on-time performance in FY 2020 was 79.7 percent, more than seven percent higher than the FY 2019 level of 74.3 percent. Long-distance performance improved by over 27

percent in FY 2020 compared to FY 2019, at 58.7 percent and 46.2 percent, respectively. Nevertheless, long-distance performance did not meet the target of 80 percent.

COVID-19 Impact: In FY 2020, FAA successfully shifted to large-scale telework with minimal disruptions in response to the COVID-19 pandemic and developed enhanced health precautions for airport workers who must be physically present at work. Despite the challenges of the pandemic, FAA continued to implement emerging technologies, such as Trajectory-Based Operations, that will eventually culminate in NAS 2035. While air traffic in FY 2020 was significantly lower than in previous years, the NAS only experienced a fatality rate of 0.6 per 100 million persons on board. In addition, FAA maintained its operational efficiency by facilitating on-time arrivals of 90.4 percent.

Operations of the Government-owned and commercial sealift fleets were severely impacted by COVID-19, requiring a concerted effort by MARAD and industry stakeholders to support U.S. DoD requirements. In FY 2020, vessels enrolled in MARAD's Maritime Security Program (MSP) and the Voluntary Intermodal Sealift Agreement (VISA) program continued to meet sustainment sealift goals, despite the economic impacts of the COVID-19 pandemic. The MSP remained fully enrolled, with 60 U.S.-Flag, internationally sailing merchant marine vessels ready to support the global commercial sealift needs of the Nation. The MSP fleet saw a net increase of 80,000 square

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[APG] Performance goal aligns to a FY 2020 – FY 2021 Departmental APG.

feet of militarily useful roll-on/roll-off deck space with the completion of three vessel replacements in October 2019. In addition, the MSP Expedited Reflag program brought four additional vessels into the internationally sailing U.S.-Flag merchant marine fleet. However, the economic effects of the COVID-19 pandemic negatively impacted the commercial trades of all MSP vessels and operators, particularly the strategically critical roll-on/roll-off and multi-purpose vessels. MARAD coordinated the distribution of 2.3 million face coverings to essential maritime transportation industry workers employed by more than 550 maritime entities, including ports and terminals, shipyards, vessels, and pilot organizations.

MARAD's ability to meet all DoD shipping capacity requirements within the mobilization timelines in FY 2020 was degraded due to a lack of readiness and availability of the Ready Reserve Force (RRF) vessels. Out-of-readiness conditions were frequently extended as regulatory inspection findings for significant repairs on the aging fleet were identified. Additionally, planned maintenance activities were impacted by National, State, and local COVID-19 controls. In late FY 2020, MARAD saw a slight increase in readiness and will continue its efforts to recapitalize the aging RRF fleet, monitor industry hurdles, and liaise with the Centers for Disease Control and other Federal partners to sustain operations throughout the COVID-19 pandemic.

OBJECTIVE 2.3 PERFORMANCE GOALS AND MEASURES

DECREASE AVERAGE WAIT TIME (FAA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
National Airspace System On-Time Arrival at Core Airports	**Target**	88%	88%	88%	88%	88%	88%
	Actual	91.25%	89.80%	88.31%	93.03%*	N/A	N/A

N/A: Not available

* Data as of April 2, 2021

Core airports are defined as the Nation's 30 busiest airports. Each core airport has one or more percent of total U.S. passenger enplanements or handles 0.75 percent or more of total U.S. non-military flights. NAS commercial on-time arrival at these core airports is measured by dividing the number of flights arriving on or before 15 minutes of flight plan arrival time by the total number of completed flights for the core airports. This calculation uses the latest carrier flight plan filed with FAA and excludes minutes of delay attributed by air carriers to extreme weather, carrier action, security delay, and prorated minutes for late arriving flights at the departure airport as defined by DOT Airline Service Quality Performance.

FY 2020 PROGRESS UPDATE

The FY 2020 on-time arrival rate was 93.03 percent, exceeding the target of 88 percent. FAA continues to improve the planning and tactical managing of traffic, which results in more accurate arrival time estimates. This continuous improvement has facilitated the achievement of on-time arrival goals for the past five fiscal years.

FY 2022 PLANS

FAA is continuing programs that affect the NAS on-time arrival rate while monitoring and adjusting based on unforeseen events such as the COVID-19 pandemic. FAA continues to discuss these programs on a monthly basis at the National Consumer Forum to work collaboratively with industry and other stakeholders on a data-driven approach to understanding impacts on the NAS on-time arrival rate.

MAINTAIN AIRPORT CAPACITY (FAA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Average Daily Capacity of Arrivals and Departures at Core Airports	**Target**	---	59,136	59,303	56,771*	56,771*	56,771*
	Actual	60,492	60,448	59,446	60,755**	N/A	N/A

N/A: Not available

* Target lowered from 59,388 to 56,771 in May 2020

** Data as of April 2, 2021

Average daily capacity (ADC) is used to facilitate projected traffic flow management. It is calculated by dividing the sum of core airports' called arrivals and departure rates during reportable hours for each month by the number of days in the month. Called rates are determined by each airport facility and represent the number of arrivals and departures the facility can handle for each hour of the day. Reportable hours capture periods when at least 90 percent of an airport's operations take place. The overall ADC for the fiscal year is computed as the weighted sum of the monthly ADC values. Annual targets are set using historical data for the previous three years, data on upcoming construction impacts and procedure changes, and inputs from individual air traffic control facilities.

FAA lowered the ADC target from 59,388 to 56,771 in May 2020. Capacity in the NAS was reduced as a result of the COVID-19 pandemic. For example, many runways were rendered unavailable due to parked aircraft and construction projects were expedited to take advantage of the reduced air traffic. On several rare occasions, FAA was unable to safely provide air traffic control services due to employees testing positive for COVID-19. Given the reduced demand for air travel during the pandemic, these reductions in capacity did not have significant impacts on operations.

FY 2020 PROGRESS UPDATE

The FY 2020 ADC was 58,755, exceeding the of 56,771. To improve the accuracy of the capacity target, FAA has been identifying and strategically mitigating the impacts of capacity loss events earlier by using ADC data to prioritize mitigation activities. The ADC goal has been met for the past seven fiscal years.

FY 2022 PLANS

Fiscal year 2021 and FY 2022 ADC targets will be set by factoring in the continued effects of the COVID-19 pandemic, if applicable. FAA tracks major construction projects for the core airports and evaluates the anticipated impact on capacity. Upcoming construction projects are discussed on a monthly basis at the National Consumer Forum to increase awareness and collaboratively identify ways to mitigate the impacts on airport capacity and delays. FAA continues to monitor changes in actual ADC closely.

INCREASE THE INTEGRATION OF DRONES INTO THE AIRSPACE WITHOUT SACRIFICING SAFETY (FAA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Manual Part 107 Airspace Authorizations Processed Within the 90-Day Timeline Mandated by Congress	**Target**	---	---	---	95%	95%	95%
	Actual	---	---	---	99.9%	N/A	N/A
Average Time to Process Unmanned Aircraft System Part 107 Operational Waivers	**Target**	---	50 days	45 days	40 days	N/A	N/A
	Actual	50 days	21 days	17 days	15 days	N/A	N/A

N/A: Not available

There is increasing demand from commercial and private users of UAS for access to airspace, which drives FAA's effort to decrease the processing time for access authority. Part 107 of the Federal Aviation Regulations covers a broad spectrum of commercial uses for drones weighing less than 55 pounds. Part 107 waivers allow drone pilots to deviate from certain rules by demonstrating that they can safely fly using alternative methods. This measure is calculated as the average number of processing days for Part 107.41 authorizations completed cumulatively through the end of FY 2019. Processing days are calculated as the number of days from when a Part 107.41 request is received to when an approval or denial is provided through either the Low Altitude Authorization and Notification Capability (LAANC) or the FAA DroneZone.

FY 2020 PROGRESS UPDATE

FAA set a goal of 45 days for the cumulative average processing time for both manual and automated LAANC Part 107 UAS airspace authorization requests by the end of FY 2019. This is a 10 percent decrease from the baseline metric of 50 days. FAA greatly exceeded this goal with a cumulative average processing time for a Part 107 UAS airspace authorization of 6.5 days. The cumulative average processing time for manual (non-LAANC) authorizations alone was 78 days, a 19 percent reduction from the baseline of 96 days. The current manual authorization time is 33 days.

This reduction in authorization processing time is largely credited to the progressive expansion of LAANC. As LAANC was deployed to more facilities throughout the year, there was a rapid decrease in the average number of days required to process an authorization. LAANC enables an operator to receive automated approval of an authorization request within seconds if the request is within the parameters of the UAS Facility Maps. As FAA continues to encourage applicants to use LAANC where available, the processing rate continues to accelerate. Due to these improvements, FAA's resources shifted to clearing the backlog of authorization requests requiring manual processing in FY 2019 so they could be processed more quickly. Another factor decreasing the average processing time was shifting the processing of authorizations from FAA Headquarters to the service centers, which reduced the processing workload on FAA Headquarters staff. Further, FAA has done extensive outreach and education to the flying public to improve the quality of requests for airspace authorizations and thereby reduce the time spent on processing incomplete or insufficiently justified requests.

For FY 2020, the average processing time (approve or deny) for Part 107 operational waivers was 16.9 days. Individually, the average processing time was 22.1 days for approvals and 14.4 days for denials. In FY 2020, 5,177 waivers were processed. Average processing time and approval processing time decreased from FY 2019, and the disapproval processing time was the same. Processing time improvements reflect efforts at multiple levels. FAA created an Executive Review Board to provide direction and guidance on risk tolerance regarding UAS operations

and to approve complex waivers. To improve the quality of initial applications received (which will reduce processing time), as well as reduce the number of requests for information (which can lengthen processing time), FAA is developing streamlined DroneZone Portal processing tools as well as educational application assistance products, which will begin implementation the first quarter of FY 2021.

FY 2022 PLANS

As UAS operations increase, FAA continues to expand the tools and processes used to respond to requests for UAS authorizations. FAA continues to reevaluate measures to ensure they reflect the needs of UAS operators.

ALLEVIATE URBAN CONGESTION (FHWA)

		CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Percentage of Person-Miles Traveled on the Interstate that are Reliable	**Target**	83.7%	83.7%	83.1%	82.8%	82.8%
	Actual	83.7%	83.4%	83.8%	N/A	N/A

N/A: Not available

Travel time reliability is a key indicator of transportation system performance. A DOT Final Rule, effective January 2017, established a new measure, *Interstate Travel Time Reliability, as a Percentage of Person-Miles Traveled that are Reliable*, to monitor performance on the interstate system.[17] The measure is based on travel time data from the National Performance Management Research Data Set. The level of travel time reliability is the ratio of longer travel times (i.e., the 80th percentile of the travel time distribution) to normal travel time (i.e., the 50th percentile) over the course of a year. The 80th percentile is roughly equivalent to the worst travel times for one day during a week of commuting times. To determine whether a segment or length of interstate roadway is reliable, calculated travel times are compared for four different time periods. If the level of travel time reliability is greater than or equal to 1.5 during any time periods, the segment is deemed unreliable. The threshold means that travel times are 50 percent longer than normal (e.g., a 15-minute vs. 10-minute trip).

The percentage of person-miles traveled on the interstate portion of the NHS that are reliable is determined based on observed travel and estimates of vehicle occupancies. A higher percentage means that travel is more reliable. States' actuals are reviewed biennially for significant progress towards target achievement. The average result for all States in CY 2019 was 83.4 percent, which was slightly lower than the baseline of 83.7 percent that was determined using data submitted in June 2018. The final measure for CY 2020 is 83.8 percent, an improvement over CY 2019.[18] To alleviate or minimize urban congestion, FHWA:

- Demonstrates innovative practices that reduce construction duration and quickly and safely clear incidents, thereby reducing traffic delays;

- Works with State and local partners to strengthen routine traffic emergency operations and control practices to advance the collection of safety and operations data, and to proactively manage transportation systems during disruptions such as traffic incidents, work zones, adverse weather, special events, and emergency situations; and

- Helps State and local partners investigate and implement ride sharing, parking demand management, congestion pricing, and integration of crowdsourcing transportation data.

CY 2020 PROGRESS UPDATE

The Traffic Incident Management (TIM) Responder training curriculum continues to grow, with more than 507,000 responders trained or 43.8 percent of the 1,158,265 total responders in the target group to be trained. Twenty-four States have trained more than 45 percent of their responder

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[17] Measure referred to as *Interstate Travel Time Reliability, as Percentage of Person-Miles Traveled that are Reliable* in prior reports.

[18] The data displayed for each calendar year were collected in the previous calendar year. Therefore, data collected during CY 2020 will not be available until later in CY 2021.

population. States continue to expand the collection and use of TIM performance data to support improved clearance times and reduced secondary crashes. Strong partnerships, facilitated through approximately 150 local committees, between the transportation, public safety, and towing and recovery communities help to reduce disruptions to travel time and increase roadway safety and reliability. The annual Capability Maturity Model Self-Assessment continues to show growth by these committees throughout the country. As part of the sixth round of the Every Day Counts (EDC-6) initiative, which was launched in 2020, next generation TIM will increase the focus on local agency TIM programs while integrating new and emerging technology, tools, and training to improve incident detection and reduce safety response and clearance times on all roadways.

States continued to work on improving mobility performance measurement in work zones by collecting and analyzing mobility and operational data. Virginia, California, Utah, Ohio, and other State DOTs established a systematic approach to work zone performance measurement that includes setting mobility thresholds (i.e., speed and queue length) and work zone capacity standards, establishing lane closure maps, using probe data to monitor performance before and during construction, and conducting bottleneck analyses. State DOTs use the information gained from these efforts to improve project-level work zone management practices and broader agency, district, and corridor work zone policies and procedures. This approach helps State DOTs plan and design work zones with reduced impacts, as well as ensure the desired performance during construction. As part of EDC-5, the fifth round of the EDC initiative, 23 States signed up to implement weather-responsive management strategies and 31 States signed up for the *Crowdsourcing for Operations* innovation. A number of States have already implemented and institutionalized these strategies:

- Minnesota DOT reported improvements in salt usage practices;

- Colorado DOT integrated mobile observations into their maintenance decision support system for more efficient snow and ice control; and

- Wyoming DOT improved traveler information and traffic control during adverse weather conditions.

Other technology advancements in weather-responsive management strategies include snowplow route optimization efforts in Delaware, mobile weather sensor deployment in West Virginia, and the use of UAS for flood response and recovery in North Dakota. Together, these weather-responsive management strategies help DOTs prepare, adapt, and respond to adverse weather conditions on the Nation's transportation system.

Fifteen States have advanced to higher implementation stages in the *Crowdsourcing for Operations* innovation under EDC-5. Some examples include:

- Arizona DOT implemented a probe vehicle-based travel time system that automatically updates messages on Dynamic Message Signs throughout the entire State;

- Maine DOT developed a system interface to feed crowdsourced data, such as roadway crashes or traffic jams, into its Map Viewer application, which enables operators to make timely response decision; and

- Colorado DOT launched a new, map-based traffic operations dashboard displaying crowdsourced data to help operators implement more proactive operations strategies.

The *Crowdsourcing for Operations* innovation will continue with EDC-6 to help agencies transform crowdsourcing from single-source, single-purpose data use into a system that gathers multiple streams of crowdsourced data, integrates it, and uses it in multiple areas to improve real-time operations and operational systems planning.

FHWA's Travel Monitoring and Analysis System provides preliminary VMT information through its monthly Traffic Volume Trends (TVT) report. The TVT data includes all vehicles traveling on public roads. Based on the December 2020 report, VMT for CY 2020 dropped more than 13 percent from the pre-pandemic CY 2019 level. Since May 2020, VMT has been on the recovery path to its pre-pandemic condition on a month-by-month basis. The latest March 2021 report shows that VMT jumped 19 percent from the CY 2020 level. The latest weekly Interstate VMT for the beginning of May increased 56 percent from the CY 2019 level, but remained four percent lower than the pre-pandemic level. The overall highway travel demand as is approaching the CY 2019 demand level.

CY 2022 PLANS

FHWA plans to acquire a new contract for the NPMRDS, which at a minimum will cover CY 2022 through 2025, the second Transportation Performance Management reporting period. FHWA is working on two research projects identifying the Influence of Operational Strategies on PM3 Measures – the third performance measure rule includes the Interstate Reliability measure reported herein. The first study focuses on recurring congestion strategies (bottlenecks, ramp meters, signal systems) and the second on non-recurring strategies (i.e., TIM, work zone management, road weather management). The goal of

these studies is to provide State DOTs and MPOs with the project evaluation information needed to better understand the benefits of operational strategy implementations and how they influence the PM3 measures, so that achieving targets will be more directly related to investment decision making, one of the primary goals of Transportation Performance Management.

FHWA is coordinating with the Bureau of Transportation Statistics on the development of the Transportation Disruption and Disaster Statistics tool to analyze congestion. The tool will help States identify and quantify the causes of congestion to aid in better addressing the root issues in any given corridor. This effort is intended to modernize a decade-old reporting mechanism that broke down the causes of congestion based mostly on modeling and average conditions Nationwide. The new tool will be interactive and site-specific, use recent data, and provide a range of output formats.

IMPROVE PASSENGER RAIL ON-TIME PERFORMANCE (FRA)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
On-Time Performance System-Wide	Target	N/A	N/A	80%	80%	80%
	Actual	72.9%	74.3%	79.7%	N/A	N/A
On-Time Performance for the Northeast Corridor	Target	84%	85%	80%	80%	80%
	Actual	79%	83.7%	86.9%	N/A	N/A
On-Time Performance for State-Supported Routes	Target	84%	85%	80%	80%	80%
	Actual	79.9%	74.6%	80.9%	N/A	N/A
On-Time Performance for Long-Distance Routes	Target	N/A	N/A	80%	80%	80%
	Actual	44.1%	46.2%	58.7%	N/A	N/A

N/A: Not available. FRA did not set a target for this measure until FY 2020.

On-time performance is an indicator of rail infrastructure performance. In FY 2019, Amtrak began merging ridership and train performance data to report customer on-time performance (the percentage of customers who arrive at their detraining stations on time). An Acela train is late when it arrives at a station more than 10 minutes after its scheduled time; all other trains are late when they arrive more than 15 minutes after their scheduled times. Prior to and including FY 2018, OTP was measured as the percentage of total train arrivals on-time at each station, with every train arrival weighted equally.

FY 2020 PROGRESS UPDATE

On-time performance for intercity passenger rail exceeded FY 2019 levels and met three of four performance targets. For example, system-wide OTP in FY 2020 was 79.7 percent, more than seven percent higher than the FY 2019 result of 74.3 percent. Long-distance OTP improved by more than 27 percent in FY 2020 compared to FY 2019, at 58.7 percent and 46.2 percent, respectively. Nevertheless, long-distance OTP did not meet the 80 percent on-time target. On November 16, 2020, FRA published the Metrics and Minimum Standards for Intercity Passenger Rail Service Final Rule setting one minimum standard to measure the performance and service quality of Amtrak intercity passenger train operations, and other metrics relating to OTP and train delays, customer service, financial, and public benefits.[19] The rule requires Amtrak and its host railroads to certify schedules and sets an OTP minimum standard of 80 percent for any two consecutive calendar quarters.

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[19] Federal Register, Vol. 85, No. 221, pages 72971 to 73002, November 16, 2020.

FY 2022 PLANS

FRA is implementing a range of activities to strengthen Amtrak's long-term operational capacity, reliability, and OTP. Federal grants to States and Amtrak have funded projects to improve operational performance. FRA also meets individually with Amtrak service line leadership and representatives of host freight railroads to determine service quality and identify delay issues and potential remedies. Implementation of the enforceable metrics and on-time performance standard, which became effective December 16, 2020, will also assist in improving OTP.

PROVIDE SUSTAINMENT SEALIFT TO THE U.S. ARMED FORCES (MARAD)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Number of U.S.-Flagged Vessels	**Target**	---	81	82	83	84	85
	Actual	81	83	81	86	N/A	N/A
Percentage of D0D-Required Shipping Capacity Complete with Crews Available within Mobilization Timelines	**Target**	94%	94%	94%	94%	94%	94%
	Actual	97%	94%	92%	90%	N/A	N/A

N/A: Not available

MARAD tracks the number of large, internationally trading, oceangoing commercial vessels operating under the U.S. flag. These U.S.-flagged vessels are crewed by skilled, qualified U.S. Merchant Mariners, and are available and capable of meeting DoD requirements for sealift support during National contingency operations. MARAD estimates that at least 125 internationally trading, U.S.-flagged commercial ships of 1,600 gross tons or higher are required to maintain a sufficient force of unlimited credentialed mariners to meet the Nation's sealift needs in a major contingency situation.

Surge sealift is provided by Federally owned and operated vessels, which includes MARAD's 41 RRF vessels berthed at various U.S. ports and vessels.[20] Sustainment sealift is provided by large, oceangoing ships of the U.S. flag that are internationally sailing.[21] The majority of these commercial vessels participate in MARAD's VISA program, which is a partnership between the Federal government and the maritime industry to provide commercial sealift and intermodal capacity (i.e., dry cargo ships, equipment, terminal facilities, and intermodal management services) to support emergency deployment and sustainment of U.S. military forces. All commercial ships in MARAD's MSP are required to participate in the VISA program. For MSP, MARAD is authorized to maintain a fleet of 60 U.S.-flagged and crewed and internationally trading vessels to meet contingency requirements. In exchange for a fixed annual Federal retainer payment, participating carriers in MSP provide DoD with assured access to ships, as well as the global, multi-billion-dollar networks of intermodal facilities, services, and transport systems maintained by those carriers.

MARAD's goal for shipping and crew availability is to ensure that the level of shipping capacity (both commercial and government-owned) is sufficient to meet current and projected DoD requirements for cargo transport to support U.S. military forces during times of National emergency. Targets are based on readiness levels that have historically met DoD requirements. The readiness represented by the RRF, MSP, and the VISA program provides the desired capability to support National security interests, as well as employment for U.S. citizen mariners to crew the commercial and government-owned fleets.

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[20] Surge sealift is the initial movement of troops, equipment, and supplies to a designated location to satisfy time-critical war fighting requirements. Surge sealift is also provided by government-owned vessels to support routine operations when commercial assets are not available or suitable.

[21] Sustainment sealift provides continuous, ongoing support to U.S. military operations for the transport of troops, equipment, and supplies over an extended period in times of conflict. Sustainment sealift operations are almost exclusively conducted by internationally sailing, U.S.-flagged merchant vessels, while also maintaining commercial sea trade.

FY 2020 PROGRESS UPDATE

MARAD continued to see an increase in the number of U.S. flagged vessels in FY 2020. The agency reported 86 U.S.-flagged, internationally sailing vessels, which was three ships above the target. During FY 2020, MARAD engaged with senior U.S. flag carrier executives and the U.S. Transportation Command to discuss ways to increase the U.S.-flagged commercial fleet in international trade. MARAD is researching concepts aimed at achieving this. The agency is also working with the U.S. Coast Guard and U.S. flag carriers to identify ways to reduce the costs of registering and operating ships under the U.S. versus foreign registry. Additionally, a requirements study mandated by the FY 2021 National Defense Authorization Act (Public Law No. 116-92) is being conducted by DoD in consultation with MARAD to assess U.S. flag tanker capacity requirements needed in a major contingency.

In FY 2020, MARAD reported an overall 90 percent availability of DoD-required shipping capacity complete with crews within mobilization timelines, not meeting the annual goal. While readiness levels for MARAD's commercial U.S. flag MSP and VISA programs were operating at 100 percent, there was a decrease in RRF vessel readiness as a result of extended shipyard periods, replacement of significant steel, and emergent repairs of obsolete systems and equipment for the aging fleet. MARAD also experienced significant delays in planned maintenance activity due to National, State, and local COVID-19 restrictions in the workplace. MARAD has taken significant steps to recapitalize the RRF fleet through a DOT-approved acquisition strategy using a commercial ship operator as a Vessel Acquisition Manager for the search, purchase, and modernization of used sealift ships.

FY 2022 PLANS

In FY 2022, MARAD will continue its efforts to ensure that the Nation has enough government-owned surge and commercial sustainment sealift capacity to meet projected DoD contingency requirements. MARAD will continue to work with the Navy and Congress to achieve RRF recapitalization and maintenance goals, while conducting periodic activations of RRF vessels to test the readiness of ships and crews.

The FY 2022 target for increasing the number of U.S.-flagged ships is 85 ships. MARAD will research concepts and engage with senior U.S. flag carrier executives and the U.S. Transportation Command on ways to increase the number of U.S.-flag vessels in international trade. MARAD will also work to further increase capacity within the MSP

fleet by seeking out the most modern and militarily useful ships for entry into the program. Of special concern to MARAD is expanding the U.S.-flagged fleet to support the shortage in the number of U.S.-flag product tankers sailing internationally to meet the urgent and critical fuel requirements of deployed United States military forces in times of crisis. To address this, the FY 2022 President's Budget requests funding to implement the Tanker Security Program, which will provide for 10 militarily useful, commercially viable, product tankers sailing in international trade. In addition, Congress has authorized (46 U.S. Code § 532) and provided funding in the FY 2021 Appropriations for the Cable Security Fleet program to support emergency undersea cable repairs required to support National global communication capabilities.

The FY 2022 target for the *Percentage of DoD-Required Shipping Capacity Complete with Crews Available Within Mobilization Timelines* measure is 85 percent. This target reflects the planned reductions in the size and composition of the force, the first reductions since FY 2010, with three ship types and five vessels affected in FY 2022. The Nation's organic surge sealift capability is facing large-scale reductions due to planned downgrades directed by DoD based on years-long deferment of costly maintenance and accepted delays in recapitalization.

Recapitalization of the RRF is more than 10 years overdue, and the average age of vessels in the fleet is 46 years. DoD's recapitalization effort is complex, and Navy is simultaneously retiring their own sealift vessels, which are ten years younger than the RRF fleet. The readiness and availability of ships within the MSP and VISA commercial sealift fleets are expected to remain at or close to 100 percent through FY 2022. Appropriations for the Cable Security Fleet program will support expanding the U.S.-flag fleet to include two cable repair vessels for emergency undersea cable repairs required to provide National global communication capabilities. MARAD's RRF and MSP programs will further support climate resiliency as aging vessels are replaced or recapitalized with newer vessels that have modern state of the art technology, and consume far less fuel per ton/mile while emitting fewer greenhouse gases. Additionally, MARAD will continue to seek ways to expand the number of trained, skilled U.S.-citizen mariners available to crew the United States surge and commercial fleets in any emergency. MARAD's RRF, MSP, Cable Security Fleet, and Tanker Security programs support and contribute to the expansion of the merchant mariner base to meet National defense requirements, while also supporting jobs in the maritime industry.

OBJECTIVE 2.4: ECONOMIC COMPETITIVENESS AND WORKFORCE

» **Alleviate Freight Congestion (FHWA)**

» **Reduce Time to Issue Hazardous Materials Transportation Permits (PHMSA)**

» **Provide a Safe, Reliable, and Efficient U.S. Portion of the St. Lawrence Seaway to its Commercial Users (SLSDC)**

OBJECTIVE 2.4 SUMMARY OF PROGRESS

Freight: In response to industry concerns about the ability to fill highway construction jobs with qualified workers, FHWA completed a two-year, 12-location pilot in partnership with Associated General Contractors of America, American Road and Transportation Builders Association, and the U.S. Department of Labor's Employment and Training Administration. This program allowed participants to explore partnership opportunities to more effectively identify, train, and place skilled craft and labor positions in highway construction jobs. The partnership resulted in the release of a lessons-learned playbook in FY 2019. The playbook enables a city or State to coordinate on activities and leverage established connections to apply successful practices and lessons learned. To date, the 12 original locations are still pursuing these relationships; the partnership was chosen as an EDC-6 initiative as Strategic Workforce Development with 26 States moving forward with Deployment. Also, a Highway Construction Workforce Partnership Notice of Funding Opportunity for $4 million closed on March 9, 2021 receiving 21 applications requesting over $8.1 million. Funding options are currently being discussed with FHWA leadership. Ensuring that highway constructions jobs are staffed with qualified workers helps to improve the efficiency and reliability of the Nation's highways.

Pipelines and Hazardous Materials: PHMSA works collaboratively within its Office of Hazardous Materials Safety and its modal partners to process special permits in an effective and efficient manner. It has also taken steps to address impediments to application processing by updating the system to allow for automated processing of routine applications. As a result, more time can be allocated to processing applications for new or modified special permits in a timely manner. PHMSA will continue to pursue these efforts in the future.

Maritime Commerce: The GLS operates and maintains a major international waterway for the safe and efficient movement of commercial goods to and from the Great Lakes-St. Lawrence Seaway region of North America. Recent technological advancements have further enhanced the safety and efficiency of commercial transits. The GLS's programs and activities are responsible for more than 35 million metric tons of global trade annually, valued at more than $7 billion and nearly 150,000 U.S. jobs.

OBJECTIVE 2.4 PERFORMANCE GOALS AND MEASURES

ALLEVIATE FREIGHT CONGESTION (FHWA)

		CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Interstate Truck Travel Time Reliability Index	**Target**	1.36	1.38	1.41	1.43	1.46
	Actual	1.36	1.38	1.39	N/A	N/A

N/A: Not available

Freight reliability is critical to industry for ensuring on-time deliveries. The TTTR Index is a measure of the average reliability for truck movement over the full extent of the interstate system. The TTTR Index is calculated as the ratio of longer truck travel times (i.e., the 95th percentile) and normal truck travel times (i.e., 50th percentile) using truck Global Positioning System probe data from the National Performance Management Research Data Set. The TTTR Index is measured for five different time periods during the day and averaged over the full extent of the interstate system to determine a National TTTR Index. A higher TTTR Index, such as 1.8, indicates a large variation in travel times from day-to-day, making the system unreliable. A lower TTTR Index, such as 1.05, indicates more consistent or predictable travel times from day-to-day and a more reliable system. State DOTs and MPOs set targets for these indicators in CY 2018 based on CY 2017 data.[22] Going forward, State targets will be reviewed biennially for significant progress towards target achievement. The baseline measure was calculated based on CY 2017 data reported by State DOTs in CY 2018. The National TTTR Index increased from 1.36 in CY 2017 (reported in CY 2018), to 1.38 in CY 2018 (reported in CY 2019), to 1.39 in CY 2019 (reported in CY 2020).

In many cases, the value of reliability is more important to freight than the value of time. Manufacturers rely on just-in-time and lean manufacturing practices to maximize efficiency.[23,24] However, this requires time-certain delivery targets to provide the right material, at the right time, in the right place, and in the exact amount needed in the production cycle. If a truck cannot make a delivery to a manufacturer or supplier due to unexpected traffic delays, this can have a costly ripple effect on production. Other common shipments that require a high degree of OTP include expedited or high-value shipments, perishable products, and cargo that need to be transferred to another mode.

FHWA seeks to improve the institutional capability and business processes of public agency partners so they can more effectively manage their systems. Enhancing operational roles and responsibilities ensures a greater ability to effectively use resources to address recurring traffic problems and system disruptions due to incidents, work zones, or adverse weather over the long term.

FHWA also promotes States' use of tools to identify freight bottlenecks; provides technical assistance in the designation of critical urban and rural freight corridors; shares best practices in prioritizing National Highway Freight Program funding for investment in freight solutions; and summarizes State Freight Plans for greater awareness and to support corridor-based planning. Many State DOTs, in coordination with FHWA, industry, and other stakeholders, have established freight advisory committees to discuss these important issues, improve coordination, and identify freight infrastructure needs and investments.

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[22] The data displayed for each calendar year were collected in the previous calendar year. Therefore, data collected during CY 2020 will not be available until later in CY 2021.

[23] Just-in-time manufacturing is a workflow methodology aimed at reducing flow times within production systems, as well as response times from suppliers and to customers. Just-in-time manufacturing helps organizations control variability in their processes, allowing them to increase productivity while lowering costs.

[24] Lean manufacturing practices refers to the application of Lean practices, principles, and tools to eliminate waste, optimize processes, cut costs, and boost innovation in a volatile market.

CY 2020 PROGRESS UPDATE

All State DOTs established TTTR performance targets and submitted baseline performance reports in October 2018, which reported on CY 2017 through CY 2019 data and included identification of truck freight bottlenecks. State baseline performance reports and two additional years of data were analyzed for conditions and performance characteristics. States submitted their Year Two performance reports on October 1, 2020, which reported on CY 2017 through CY 2019 data. Year Two performance reports were analyzed for progress in meeting performance characteristics.

FHWA completed a Freight Mobility Trends analysis tool that presents National freight statistics and identifies freight highway bottlenecks on the interstate system, NHS, the National Highway Freight Network, and the Strategic Highway Network. The Freight Mobility Trends analysis tool provides indicators and performance trends to assess freight movement based on truck travel data at the National, State, and metropolitan level. The tool also identifies major highway freight bottlenecks and assessed freight mobility around airports, border areas, intermodal facilities, and ports. This information will help inform policy decisions that respond to the needs of the transportation system and support freight planning by State DOTs and MPOs.

Nationally significant highway bottlenecks have been mapped, identifying the most congested locations on the interstate. National freight mobility measures, freight significant corridors, and bottlenecks were identified for tracking long-term trends, with the goal of assisting State DOTs and MPOs in addressing freight mobility as part of the performance-based transportation planning and project programing. Using the Freight Mobility Trends analysis tool FHWA was able to evaluate freight mobility trends between 2019 and 2020, which reflects reduced travel, congestion, and delay during the COVID-19 pandemic. Nationwide, there was a reduction in total truck delay on the Interstate system of 21 percent between CY 2019 and CY 2020. For the top 100 bottlenecks, which represent some of the most congested corridors in major metropolitan areas, there was reduction in total truck delay of 45 percent.

The number of States that manage a Freight Advisory Committee, which is encouraged under the FAST Act, increased from 35 in CY 2017 to 37 in CY 2018. Between 80 to 90 percent of States have had a State Freight Advisory Committee (some were prior to the FAST Act), though the number that met over a six-month period declined from 25 States in October 2018 to 23 States in June 2019. This decline is related to the fact that most States completed their State Freight Plans in CY 2017 and CY 2018.

CY 2022 PLANS

The FY 2022 interstate TTTR Index target is 1.46. FHWA is developing a Freight Mobility Trends Report that will provide high-level, National trends in freight mobility between CY 2017 and CY 2020 and assesses freight movement at the national, State, regional, or corridor level. The Report will provide information to aid in understanding and responding to growing freight demand on the national transportation system. This information can be used in conjunction with economic and infrastructure condition indicators to understand how to keep freight moving throughout the Nation. Freight Mobility Trends Report will provide information on the performance of the freight system and insights into needs for planning and coordinating investments to improve freight mobility.

Additionally, FHWA is developing a multi-modal freight primer that will describe how States, MPOs, and local jurisdictions can prioritize multi-modal projects, develop multi-modal programming, and identify Federal and non-Federal funding mechanisms to support development of their multi-modal freight networks. The primer will include best practices for identifying, prioritizing, and delivering multi-modal infrastructure and strategies for incorporating these concepts into State Freight Plans during the next round of required updates.

In partnership with the Bureau of Transportation Statistics, FHWA is working on a full update of Freight Analysis Framework (FAF) data to Version 5 (FAF5). The FAF provides a multi-modal, National picture of freight movement among States and major metropolitan areas, as well as freight truck flows on the NHS. In CY 2022, FHWA will publish various products relating to the FAF5 update, including FAF5 forecasts, estimates of trucks flows on highway networks, maps, charts, and ready-to-use pre-populated summary tables. Updated information will provide the most accurate and up-to-date National freight statistics to support strategic allocation of freight transportation resources and to support regional and State freight transportation decision making.

REDUCE TIME TO ISSUE HAZARDOUS MATERIALS TRANSPORTATION PERMITS (PHMSA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Number of Days to Resolution of Hazardous Materials Special Permit Applications	**Target**	---	120	115	110	105	100
	Actual	120	92	107	83*	N/A	N/A

N/A: Not available

* Preliminary estimate. FY 2020 actuals are expected be available in October 2021.

PHMSA is committed to facilitating the use of innovative safety products and methods and responding quickly to assistance requests by approving special permit applications from hazardous materials shippers and packagers. PHMSA is responsible for issuing Departmental special permits and approvals for the Hazardous Materials Regulations. Special permits authorize a person to perform a function outside of PHMSA regulations or to not perform a function currently required under the PHMSA regulations. Federal hazardous materials transportation law authorizes PHMSA to issue such variances in a way that achieves a safety level that is at least equal to the safety level required under the law or that is consistent with the public interest if a required safety level does not exist.

Each year, PHMSA processes thousands of special permit applications, ranging widely in scope and complexity. PHMSA measures its success by reducing the number of days to render a decision that ultimately brings products to market safely and efficiently.

FY 2020 PROGRESS UPDATE

In FY 2020, PHMSA processed special permits more quickly and efficiently and met its annual target for average number of days to resolve a new hazardous materials special permit application. PHMSA continued to improve the online application tool for special permits and works closely with each of its modal partners so that special permit processing is efficient and supports safety. PHMSA also continued to incorporate long-standing special permits into the regulations to further reduce the administrative burden on industry and the government. Although the COVID-19 pandemic brought about several special permit applications that required expedited processing, PHMSA was able to meet and exceed its permit application processing target.

FY 2022 PLANS

In FY 2022, PHMSA will continue reducing the time needed to resolve a new hazardous material special permit application. Efficiencies from the online application tool and anticipated changes to the regulatory language will enable PHMSA to serve its customers more readily.

**PROVIDE A SAFE, RELIABLE, AND EFFICIENT U.S. PORTION OF THE
ST. LAWRENCE SEAWAY TO ITS COMMERCIAL USERS (GLS)**

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Time the U.S. Portion of the St. Lawrence Seaway is Available to Commercial Users	Target	99%	99%	99%	99%	99%	99%
	Actual	98.7%	96.2%	99.3%	99.1%	N/A	N/A

N/A: Not available

The GLS operates and maintains the U.S. infrastructure and waters of the St. Lawrence Seaway, while promoting trade development to drive economic activity for the Great Lakes-St. Lawrence Seaway System. The GLS operational and capital infrastructure activities support 147,500 U.S. jobs and generate $26 billion in economic activity, $11 billion in personal income and local consumption expenditures, and $5 billion in Federal, State, and local tax revenue annually.

SLSDC improves system reliability by providing safer and more efficient vessel traffic control and passage through the U.S. locks and waters. The GLS works to ensure that the U.S. portion of the St. Lawrence Seaway remains safe, reliable, and efficient for its commercial users by:

- Maintaining, rehabilitating, and modernizing the infrastructure of the U.S. portion of the St. Lawrence Seaway;

- Performing safety inspections and ballast water examination of all foreign-flagged vessels;

- Coordinating with the Canadian St. Lawrence Seaway Management Corporation in all aspects of Seaway operations; and

- Utilizing technology to more efficiently manage vessel traffic control and lock transits.

FY 2020 PROGRESS UPDATE

The system reliability rate for the U.S. portion of the St. Lawrence Seaway in FY 2020 was 99.1 percent, surpassing the annual goal by 0.1 percent. Obstacles to maintaining that system reliability include weather, vessel, and lock-related delays. Vessel and weather-related delays accounted for 86 percent of total system delays. Total delays in FY 2020 were 58 hours, 27 minutes.

The GLS has the most control over the proper functioning of its two locks in Massena, New York. The GLS's lock availability rate (a subset of the system reliability rate) was 99.9 percent in FY 2020, with delays of eight hours and six minutes, or 14 percent of total system delays.

In June 2019, GLS fully implemented hands-free mooring technology that provides safety, transit, and efficiency improvements for commercial users. The new technology allows commercial ships to transit safely and efficiently without the use of mooring lines, while also enhancing workplace safety and improving operational efficiency. The GLS experienced even greater results in FY 2020, with a compatibility rate for usage at greater than 99 percent and a transit time savings of approximately seven minutes per lock each direction.

FY 2022 PLANS

In FY 2022, GLS will continue to develop new innovations to improve the Seaway transit experience for its commercial users. Working with the John A. Volpe National Transportation Systems Center (Volpe Center), the Canadian St. Lawrence Seaway Management Corporation, and external stakeholders, GLS will continue to lead the development of a new traffic flow management system to improve the safety and efficiency of Seaway vessel traffic management, including transits and lockages. The system could be further enhanced to incorporate port, carrier, and pilot data to better inform and improve efficiencies for those extended Seaway stakeholder groups, similar to existing systems in European port regions.

STRATEGIC GOAL 3: INNOVATION

OBJECTIVE 3.1: DEVELOPMENT OF INNOVATION

» **Increase the Development of Innovations in Transportation (OST)**

OBJECTIVE 3.1 SUMMARY OF PROGRESS

In FY 2020, the Office of the Assistant Secretary for Research and Technology (OST-R) collaborated with modal research directors to align commonly used terms and definitions to improve performance measurement data quality. OST-R also launched the Performance Management Data System to facilitate research coordination across the Department, help streamline the transfer of information to the Research Hub, and identify potentially duplicative research.

OST-R is continuing the process of transitioning approximately 48,500 publications on the National Transportation Library (NTL) to a new platform. More than 47,000 publications have been transitioned to date, and approximately 2,000 publications were migrated in FY 2020. The new platform offers benefits such as the ability to use digital object identifiers to better manage publications.

OBJECTIVE 3.1 PERFORMANCE GOALS AND MEASURES

INCREASE THE DEVELOPMENT OF INNOVATIONS IN TRANSPORTATION (OST)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Research Outcomes Made Publicly Available in Research Hub	**Target**	N/A	54	10% increase	10% increase	70
	Actual	N/A	54	60	N/A	N/A
Reports Made Publicly Available in the National Transportation Library	**Target**	N/A	42,500	44,500	46,500	50,500
	Actual	N/A	42,500	47,500*	N/A	N/A

N/A: Not available

* Ongoing data cleaning efforts may uncover duplicate publications. Therefore, actuals may be revised in future years.

The Department provides funding to an array of laboratories that engage in advanced transportation research, including:[25]

- FAA's William J. Hughes Technical Center;
- FHWA's Turner-Fairbank Highway Research Center;
- FRA's Transportation Technology Center, and
- The John A. Volpe National Transportation Center.

In addition to the laboratories listed above, the Department provides funding to research facilities at a variety of University Transportation Centers. The Department is committed to increasing the efficiency and influence of its research investments by collaborating with external stakeholders early in the R&D process. The Department plans to increase the utility and overall pace of transportation innovation by making R&D activities and results easy to locate. The Department plans to increase the visibility of its research results with stakeholders by connecting them to the NTL and the Research Hub.[26,27] This should enhance cross-modal collaboration within the Department, as well as between the Department and its external stakeholders by providing a full view of the Department's research portfolio to transportation researchers around the world.

FY 2020 PROGRESS UPDATE

The metric for the utilization rate of DOT laboratories was

removed due to the data quality obtained to perform the measurement. The utility data between labs was difficult to use as a rate because the labs differ in nature and multiple processes are needed to assess utility. The Department will continue to explore ways to assess such rates. For this reason, the metric was discontinued in 2020. The Department's NTL continued transitioning publications from an older system to a new platform in FY 2020. The new platform was leveraged from the National Institutes of Health and the Centers for Disease Control and Prevention. The data for FY 2019 served as the baseline year and the Department exceeded its target in FY 2020, transitioning 47,500 publications to the new platform.

FY 2022 PLANS

To foster innovation across the Department, OST-R will maintain working groups across topical research areas (e.g., Automation, Human Factors). The working groups will raise awareness around ongoing research and identify cross-modal research needs. The Volpe Center will also continue to facilitate research coordination and collaboration, partnering with OAs on a wide range of research topics. To foster innovation from external stakeholders, OST-R will continue migration of NTL publications to the new platform for enhanced searchability.

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[25] The Department also conducts research at the Vehicle Research and Test Center, where it rents space.

[26] The NTL provides National and international access to transportation information, coordinates information creation and dissemination, and offers reference services for the transportation community.

[27] The Research Hub is a web-based, searchable database of DOT-sponsored research, development, and technology project records. The database acts as a central repository for information on active and recently completed projects from the Department's OAs, providing a comprehensive account of the Department's research portfolio at the project level.

OBJECTIVE 3.2: DEPLOYMENT OF INNOVATION

» **Increase Effectiveness of Technology Transfer (OST)**

» **Monitor Safety of Vehicles Equipped with Automated Driving Systems (NHTSA)**

» **Complete Annual NextGen Advisory Committee Recommendations for the Northeast Corridor (FAA)**

» **Maintain Major System Investment Efficiency (FAA)**

OBJECTIVE 3.2 SUMMARY OF PROGRESS

Technology Transfer: The Department recently updated its strategic approach to deploying innovative technology, as described in the November 2020 publication of the RD&T Strategic Plan. The purpose of this plan is to improve the coordination of transportation RD&T, minimize redundancy, and guide the development of Annual Modal Research Plans by each of the Department's OAs. It also describes the processes used for planning, reporting, conducting, and assessing RD&T across the Department. Advances in technology, engineering, and human factors research are providing new insights into how the Department can address transportation safety issues. Rapidly advancing connected and automated vehicle technologies, for example, have the potential to dramatically reduce the number of crashes with fatalities or serious injuries. In aviation, the Next Generation Air Transportation System (NextGen) is improving the safety of aviation by digitizing communication and navigation systems of the National airspace. The deployment of Positive Train Control is helping to improve the safety of rail transportation. In addition, across all modes, improvements in safety data and analysis support better safety management.

Automated Driving Systems: In FY 2020, NHTSA continued to implement an ambitious research plan to accelerate the potential benefits of ADS. NHTSA advanced four high-priority research projects, including work on Functional Safety of ADS, ADS Crashworthiness, On-Road Assessment Methods for ADS Vehicles, and Driver Engagement Strategies for Level 3 and Level 4 Dual-Use ADS Vehicles.[28] Additionally, a separate project was initiated to address the potential human factors associated with ADS-equipped vehicles and vulnerable or disabled road users.

In March 2020, NHTSA published a Notice of Proposed Rulemaking: Occupant Protection for Automated Driving Systems. This is a historic first step for the agency to remove unnecessary barriers to motor vehicles equipped with ADS. It seeks to adapt safety requirements to vehicles with ADS that lack traditional manual controls by revising the requirements and test procedures to account for the removal of manually operated driving controls. In April 2020, NHTSA released FMVSS Considerations for Vehicles with Automated Driving Systems: Volume 1, which addresses unnecessary and unintended barriers to innovation while maintaining a focus on safety. Research findings include considerations to modify existing FMVSS and/or test procedures, while ensuring the Department's continued focus on safety is maintained. This represents an important research input, but any changes to regulations will proceed pursuant to established rulemaking processes.

The Automated Vehicle Test (AV TEST) initiative was launched in June 2020 with several virtual events. AV TEST is a voluntary initiative involving the Department, States, local governments, and private-sector stakeholders in the ADS community that will provide an online, public-facing platform for sharing ADS testing activities and safety, technical, and other pertinent information between participants and with the public. The initiative will improve public visibility and awareness of ADS developments and activities while building better and more informed relationships among participants to enhance safety.

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[28] As defined in SAE Standard J3016 20186, Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, 2018.

National Airspace System Innovation: The COVID-19 pandemic has not prevented FAA from promoting the most innovative aerospace technology in the world. During FY 2021, FAA has been working with the National Aeronautics and Space Administration to further mature the concept of UAS Traffic Management to safely integrate UAS into the NAS. Unmanned Aircraft Systems Traffic Management is targeted toward operations of UAS at flight levels below 400 feet and will enable UAS to operate harmoniously alongside manned aircraft. FAA is now also conducting concept exploration of safely accommodating new types of aircraft (e.g., balloons, supersonic, and/or hypersonic aircraft) that operate above 60,000 feet. FAA continues to regulate the rapid innovation in the commercial space sector. In May of 2020, FAA facilitated SpaceX's commercial launch of a manned crew into orbit, which was a global first for a private company. Moving forward, FAA will regulate an average of 42 commercial space launches per year through 2027. FAA has been testing remote towers at Leesburg Executive Airport in Virginia and Northern Colorado Regional Airport in Fort Collins/Loveland. Remote Towers include a series of camera sensors located on the surface and display screens located on or off the airport in a Remote Tower Center. Controllers utilize the information displayed on the screens to replace the direct visual presentation provided from a traditional tower cab. Air Traffic Control Tower services are provided using the information presented by the Remote Tower system in conjunction with existing items on the tower minimum equipment list. FAA is evaluating existing vendor Remote Tower systems and developing standards for use at airports in the NAS.

OBJECTIVE 3.2 PERFORMANCE GOALS AND MEASURES

INCREASE EFFECTIVENESS OF TECHNOLOGY TRANSFER (OST)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Technologies Toward Implementation	**Target**	---	---	75	100	125
	Actual	---	Baseline	100	N/A	N/A
Success Stories (Evidence of Societal Benefits)	**Target**	10	10	12	12	14
	Actual	8*	9	12	N/A	N/A

N/A: Not available

* Actual value for FY 2018 was changed from 13 to eight after a more rigorous assessment process was used.

The Department has developed guidance to help OAs "develop and implement stakeholder-informed action plans, which may include improved Federal practices and policies, regulatory reform, and legislative proposals; increase interactions with private sector experts; identify, share, and adopt best practices for technology transfer; and increase the transfer of Federally funded innovations from lab to market."[29] The Department will leverage resources and coordinate and partner with both internal and external technology deployment experts.

Additionally, the Department will condition the awarding of funds for relevant R&D-funded agreements and deployment partnerships on steps that transfer technology. The Department's T2 activities will focus on establishing a collaborative platform between internal and external stakeholders. The Department will also focus on the development of T2 practices that are useful for stakeholders and determine how best to facilitate the adoption and implementation of innovative technology. The Department will increase T2 awareness through Departmental representation with stakeholders. This will foster research through stakeholder coordination, knowledge transfer, and information dissemination, which will in turn lead to the practical application of research through pilots, demonstrations, and related activities.

Tracking these activities will yield data and stories describing societal benefits realized throughout the transportation community.

FY 2020 PROGRESS UPDATE

The Department's T2 working group reviewed the Department's current T2 activities and is looking for ways to include them as a part of the R&D scope. For example, the Department has made T2 a part of the revised RD&T Strategic Plan and has implemented practices that support parallel work streams for R&D and T2. It also identified ways to include deliverables in relevant R&D-funded agreements that address the transfer of their research results. These activities align R&D and T2 to work in parallel, as opposed to focusing on T2 after the research has already been completed. In late FY 2020, FHWA launched the EDC-6 initiative, which extends through FY 2022.

Every Day Counts is the primary FHWA technology deployment program. FHWA works with partner agencies to identify and rapidly deploy proven, yet underused, innovations to shorten the project delivery process, enhance roadway safety, reduce traffic congestion, and integrate automation. The fifth round of EDC, in which there were 10 innovations, concluded in December 2020. Every State explored at least three of these innovations and seven of the 10 innovations are being advanced in 30 or more States. In EDC-5, collectively States achieved 98 percent of their self-identified goals to reach demonstration, assessment or institutionalized implementation. That is the highest implementation attainment since the program began.

In late FY 2020, FHWA launched EDC-6, which runs from January 2021 through December 2022. There are seven

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[29] https://trumpadministration.archives.performance.gov/CAP/lab-to-market/

innovations in EDC-6 (see https://www.fhwa.dot.gov/innovation/everydaycounts/edc_6/). FHWA also launched the Accelerating Market Readiness (AMR) Program. While EDC advances proven, market-ready innovations, AMR bridges the gap between research and practice to operationally test and evaluate emerging transformative innovations to see if they can advance to being market ready. AMR provides funding to States to field test these emerging innovations, documents the results, and makes the evaluation available at the State and local level. FHWA made $3 million available and solicited for innovations in FY 2019. FHWA anticipates announcing the award recipients in May 2021.

FY 2022 PLANS

In FY 2022, OST-R will continue implementation of internal guidance of its new data collection process. This process will track T2 and identify when research is planned, active, and completed. It will also track long-term impacts and return on investment of T2 efforts. OST-R will continue to facilitate a T2 Working Group to share leading practices with the OAs. OST-R will also maintain its Developing and Executing your Technology Transfer Plan: A 10-Point Checklist for its external stakeholders.

MONITOR SAFETY OF VEHICLES EQUIPPED WITH AUTOMATED DRIVING SYSTEMS (NHTSA)

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Automated Driving Systems Safety	This measure is being monitored from FY 2018 to FY 2022. Progress information will be reported as it becomes available.				

Note: NHTSA is responsible for monitoring this measure. No data collection is involved.

While nascent in their development, ADS technology offers tremendous potential to reduce vehicle crashes, injuries, and fatalities once they are mature. As ADS technology continues to develop, NHTSA actively engages with ADS technologies through research, stakeholder engagement, and industry guidance. NHTSA's research program establishes a framework for contributing to the body of knowledge related to ADS safety and provides leadership that advances the safe testing and deployment of ADS, such that their benefits are optimized and risks are appropriately mitigated. The agency's research program focuses on six general categories of ADS research needs:

- **System-Level Safety Performance:** NHTSA is identifying the methods, metrics, and capabilities needed to assess system-level ADS safety performance, to ultimately help build public confidence in ADS;

- **Subsystem Functional Safety:** NHTSA seeks to establish the capability to assess the functional safety of ADS components and subsystems;

- **Regulatory Decisions on the Removal of Potential Barriers:** NHTSA seeks to identify and mitigate potential FMVSS compliance challenges associated with alternative vehicle designs;

- **Human Factors:** NHTSA is engaged in research related to assessing and evaluating various methods for notifying and engaging the human driver in the driving task as needed to maintain safe operation of the vehicle, as well as accessibility considerations for ADS-equipped vehicles;

- **Occupant Protection:** NHTSA is investigating the alternative seating and cabin designs enabled by ADS that pose new challenges in testing, validating, and ensuring occupant safety; and

- **Vehicle Cybersecurity Research:** Challenges related to cybersecurity are not unique to emerging and future ADS-equipped vehicles. Cybersecurity considerations for ADS-equipped vehicles will build upon existing protections and processes designed to address vehicle cybersecurity issues more broadly.

FY 2020 PROGRESS UPDATE

NHTSA continues to perform significant research to support the safe testing, development, and eventual deployment of emerging technologies through a myriad of projects and extensive, ongoing engagement with stakeholders. The agency is also working to modernize safety regulations to account for emerging technologies, such as vehicles equipped with ADS that lack manual controls, while also reducing regulatory barriers to technological innovation.

This work is occurring in tandem with, and is supported by, NHTSA's research activities. Significant research and rulemaking accomplishments in FY 2020 include:

- **Research Reports and Technical Papers**

  - Occupant Safety in Vehicles Equipped with Automated Driving Systems, Part 1: Initial Evaluation of Usability, Stability, and Injury Prediction Capabilities: This project assessed anthropomorphic test device model in occupant postures that will become more possible with ADS. Postures examined degrees of seat recline, degrees of inboard seat rotation, occupants turned in their seats, and occupants leaning against the belts in sleep-like posture.

  - Occupant Safety in Vehicles Equipped with Automated Driving Systems, Part 3: Biofidelity Evaluation of GHBMC M50-OS Against Laboratory Sled Tests: This project assessed the response validity of various models by simulating each occupant model in the Gold Standard 3 sled test condition.

  - Model Predictive Instantaneous Safety Metric for Evaluation of Automated Driving Systems: This paper describes a candidate safety metric under research and consideration by NHTSA for potential use in assessing temporal risks implied by ADS driving policies.

- **Nuro, Inc: Grant of Temporary Exemption for a Low-Speed Vehicle with an Automated Driving System:** NHTSA granted Nuro, Inc., an American robotics company developing autonomous vehicle technology, a temporary exemption from certain low-speed vehicle standard requirements. The exemption will allow the company to deploy its low-speed, occupant-less electric delivery vehicle, the R2. Unlike a conventional low-speed vehicle, the R2 is designed to have no human occupant and operates exclusively using ADS. Given the R2's unique and novel design, NHTSA has determined that it would be in the public interest to maintain greater oversight of the R2 than is typical for an exempt vehicle. The exemption has been conditioned on a set of terms including mandatory reporting of information about the operation of the R2 (including the ADS) and required outreach to the communities where the R2 will be deployed.

- **Public Engagement:** Public engagement and consumer education concerning innovation and emerging technologies are essential components of NHTSA's outreach approach for ADS. In addition to three virtual events launching AV TEST in June 2020, seven additional virtual events were held in July and September 2020 to further inform stakeholders about the initiative. This aligns with the Department's other initiatives related to ADS, including Automated Vehicles 4.0: Ensuring American Leadership in Automated Vehicle Technologies.

- **CARMA^{SM} Program:** The CARMA^{SM} initiative was established by FHWA, with multi-modal participation, to develop, test, and validate Cooperative Driving Automation (CDA) features, as defined by the Society of Automotive Engineers Surface Vehicle Information Report J3216. In FY 2019, FHWA supported development of the concept of operations for four sets of CDA use cases – basic travel, TIM, weather management, and work zone management – with participation by public agencies, academia, and industry. FHWA also initiated development of CDA features for those use cases using Open Source Software. In FY 2020, FHWA continued development and initiated testing of CDA research capabilities.

FY 2022 PLANS

NHTSA will advance its efforts on ADS by facilitating additional safety discussions with stakeholders; researching and developing safety performance metrics, methods, and testing procedures for these technologies; and identifying unintended and unnecessary barriers to safety innovation within existing standards.

NHTSA is in the process of planning future research under the following categories communicated in the Department's Ensuring American Leadership in Automated Vehicle Technologies: Automated Vehicles 4.0:

- Unintended Regulatory Barriers;

- Safety Metrics and Safety Assessment Models;

- Functional Safety and ADS Subsystems;

- Crashworthiness Considerations for Alternative Vehicle Designs;

- ADS Human Factors Research, including Accessibility Considerations in ADS-equipped vehicles; and

- Vehicle Cybersecurity.

**COMPLETE ANNUAL NEXTGEN ADVISORY COMMITTEE
RECOMMENDATIONS FOR THE NORTHEAST CORRIDOR (FAA)**

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of NextGen Projects Completed	Target	90%	90%	90%	90%	90%	90%
	Actual	92%	91.3%	100%	100%	N/A	N/A
Percentage of Completed NextGen Priorities for the Northeast Corridor	Target	---	---	80%	80%	TBD	TBD
	Actual	---	---	100%	100%	N/A	N/A

N/A: Not available

TBD: To be determined

[NextGen](#) is an ongoing modernization project of the NAS. Its performance milestones are based on the overall series of related programs and activities FAA is executing, which are designed to focus on implementing improvements that industry indicates are high priorities. FAA and its industry partners monitor progress against these commitments through the [NextGen Advisory Committee](#) (NAC).

The Northeast Corridor (NEC) covers the most congested airports and airspace in the United States and has a significant effect on the daily operations of the NAS.[30] Nearly 50 percent of aviation delays in the entire NAS are attributable to the NEC. Commitments identified by the NAC represent near-term initiatives that will enhance operations and are focused on the NAC's stated goal to improve execution of today's operations. Given the complex and compact nature of NEC operations, as well as its connection to the rest of the NAS, single operational improvements can lead to significant savings in time and during weather events. These enhancements establish a foundation and framework for longer-term effective implementation of NextGen, using time-based management techniques and precise, repeatable Performance-Based Navigation procedures for more predictable and efficient operations.

FY 2020 PROGRESS UPDATE

FAA surpassed its goal of completing 90 percent of the FY 2020 NAC recommendations and 80 percent of the FY 2020 NAC recommendations for the NEC. FAA made major progress on the following NextGen projects:

- Completed start phase of Denver Metroplex implementation by completing airspace and procedure designs, issuing an Environmental Assessment Finding of No Significant Impact/Record of Decision, and commencing the remainder of the implementation phase;

- Completed a benefits analysis of airline-specific Automatic Dependent Surveillance-Broadcast applications, such as Flight Deck Interval Management, in the NEC. Prepared a briefing documenting the approach and results of the study, which was presented at the Equip 2020 Working Group meeting on June 23, 2020;

- Completed analysis of the use of Area Navigation/Vertical Navigation approaches for Runways 19L and 28S at San Francisco International Airport;

- Completed an operational analysis to identify enhancements to improve data-driven Time Flow Management decision-making;

- Completed a joint FAA-industry benefits analysis of Enhanced Flight Vision Systems to determine requirements for reaching Category II/III-equivalent operations in the NEC and analyze the effects of mixed Enhanced Flight Vision Systems operations in the NEC; and

- Conducted a feasibility analysis of Converging Runway Display Aid for Runways 22L/11 and 4R/29 at Newark Airport.

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[30] The NEC is the busy airspace between Washington, D.C. and Boston that includes Philadelphia, New York City, and associated airspaces.

While FAA was able to complete its FY 2020 NAC goals in advance of any significant impacts of the COVID-19 pandemic, this will not be the case for FY 2021 and beyond. FAA and the NAC began a detailed assessment of NextGen Joint Implementation Plan priorities to identify and attempt to mitigate potential effects of COVID-19. More COVID-19 impacts to NextGen Joint Implementation Plan milestones may emerge, which could result in further refinement of planned accomplishments in the future. The CY 2020 NextGen Joint Implementation Plan Update was published with 27 milestones delayed in CY 2022 and 43 milestone dates as "To Be Determined" due to COVID-19 barriers. These COVID-19 impacts were briefed to the NAC in August and to Congressional staffs in October 2020. During the November 17, 2020 NAC meeting, the NAC Designated Federal Officer announced that, due to

the impacts of COVID-19 barriers on the NAC's NextGen priorities, FAA will extend the CY 2019-2021 NextGen Joint Implementation Plan an additional year through CY 2022. The extension will allow FAA and the NAC to continue to focus on completing the NAC's priorities well into 2022 and potentially beyond.

FY 2022 PLANS

FAA's process will remain the same in FY 2022. The agency will produce an annual NAC NextGen Joint Implementation Plan update next year. From this document, the agency will then identify milestones that will be pushed to or begin in FY 2022. FAA will use its business planning process to capture these FY 2022 milestones and include them in the annual performance goals. The NextGen Joint Implementation Plan updates are briefed to Congress on an annual basis.

MAINTAIN MAJOR SYSTEM INVESTMENT EFFICIENCY (FAA)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Major System Investments Completed On-Time and On Budget	**Target**	90%	90%	90%	90%	90%	90%
	Actual	95.2%	90.5%	75%	65%	N/A	N/A

N/A: Not available

Barriers related to the COVID-19 pandemic will continue to be a challenge for FAA and may make it extremely difficult to forecast milestone timelines for the foreseeable future. FAA's target is that 90 percent of major baselined acquisition programs be maintained within 10 percent of their current acquisition cost, schedule, and performance baseline as of the end of FY 2020. Major programs are those programs that are classified as Acquisition Categories 1, 2, or 3, are considered strategic, or are part of NextGen. For FY 2020, 20 major acquisition programs were tracked and monitored. By law, FAA shall consider termination of a program when it is breaching its cost, schedule, or performance goals by more than 10 percent.

FY 2020 PROGRESS UPDATE

As of September 2020, 13 out of 20 (65 percent) major acquisition programs performed within 10 percent of their acquisition cost, schedule, and performance baselines. In FY 2020, seven of the 20 programs exceeded the 10 percent threshold: Data Communications Segment 1 Phase 2 Initial Services, Data Communications Segment 1 Phase

2 Full Services, System-Wide Information Management Segment 2B, Terminal Flight Data Manager, En Route Automation Modernization Sustainment, Time-Based Flow Management Enhancements 1, and Traffic Flow Management System Enhancements 4.

The first five programs have schedule variances exceeding 10 percent, primarily due to the work restrictions associated with the COVID-19 pandemic. Data Communications Segment 1 Phase 2 Initial Services and En Route Automation Modernization Sustainment 2 already had existing schedule variances due to the government shutdown that occurred in FY 2019. TFMS Enhancements 4 has experienced contract issues resulting in a performance variance exceeding the 10 percent threshold, while TBFM Enhancements 1 has experienced programmatic and technical issues resulting in a cost variance exceeding the 10 percent threshold. Detailed information for each of the seven programs are as follows:

- **Data Communications Segment 1 Phase 2 Initial Services:** There is a schedule delay of 19 months

(25 percent) for this program. Seven months of this delay are associated with the FY 2019 government shutdown, while the additional 12-month delay is due to COVID-19 work restrictions. The cost variance is under 10 percent.

- **Data Communications Segment 1 Phase 2 Full Services:** There is a schedule delay of 12 months (13.6 percent) for this program. This schedule variance is associated with the Data Comm Initial Services schedule delay due to the work restrictions caused by the COVID-19 pandemic, causing a cascading effect on the Full Services schedule. The cost variance is under the 10 percent threshold.

- **System-Wide Information Management Segment 2B:** This program was within its baseline prior to the work restrictions imposed by the COVID-19 pandemic. Due to COVID-19, the there is now a schedule delay of 12 months (16.9 percent) for this program.

- **Terminal Flight Data Manager:** There is a schedule delay of 20 months (13.6 percent) for this program. Three months of this delay are associated with the FY 2019 government shutdown, while the additional 17-month delay is due to COVID-19. The cost variance is under the 10 percent threshold.

- **En Route Automation Modernization Sustainment 2:** There is a schedule delay of 21 months (46.7 percent) for this program associated with the FY 2019 government shutdown, several monitor and trackball issues, and the COVID-19 pandemic. The cost variance is under the 10 percent threshold.

- **Time-Based Flow Management Enhancements 1:** There were a number of programmatic and technical challenges associated with this program, requiring additional funding and a cost increase of $32.5 million (17.3 percent). FAA is projecting a 15-month schedule delay (16.9 percent), as well as a reduction in program scope (10.0 percent), for this program.

- **Traffic Flow Management Enhancements 4:** This program experienced contract issues that resulted in the reduction of scope (33.0 percent performance variance).

- For the five programs (Data Comm S1P2 Initial, Data Comm S1P2 Full, SWIM Segment 2B, TFDM, and ERAM Sustain 2) impacted by the COVID-19 pandemic, FAA is continuing to assess the cost, schedule and performance impacts. FAA is working within the annual appropriations process to obtain additional funding to resolve these COVID-19 related budget shortfalls identified to date. In parallel, the FAA is exploring contingency alternatives (such as adjusting program scope) to reduce the need for these additional funds, in the event additional funding is not available. The FAA will continue to identify COVID-19 impacts as restrictions are lifted and waterfalls are restarted. Once the impacts are fully understood, FAA will determine whether to continue or terminate the programs and/or modify program plans as necessary.

- For the other two programs (TBFM Enhancements 1 and TFMS Enhancements 4), the FAA has elected to continue these programs. TBFM Enhancements 1 and TFMS Enhancements 4 have both modified the program plans and de-scoped the programs. FAA is continuing to assess the impacts of the COVID-19 pandemic on these programs and will reassess continuation or termination once the impacts are fully understood.

FY 2022 PLANS

The goal of maintaining 90 percent of major baselined acquisition programs will remain unchanged in FY 2022.

STRATEGIC GOAL 4: ACCOUNTABILITY

OBJECTIVE 4.1: REGULATORY REFORM

» **Reduce the Regulatory Burden on the Transportation Industry and Public While Still Achieving Safety Standards (OGC)**

OBJECTIVE 4.1 SUMMARY OF PROGRESS

Regulatory reform is a strategic objective under DOT's FY 2018 - FY 2022 Strategic Plan. At the beginning of this Administration, the President issued Executive Order 13992, which revoked the prior executive orders on which regulatory reform was based. Accordingly, regulatory reform is no longer an objective of the Department, and the following data is included solely for historical purposes. The Department completed 15 deregulatory actions and one significant regulatory action in FY 2020. The net cost savings of the published actions was $6.284 billion annualized.

OBJECTIVE 4.1 PERFORMANCE GOALS AND MEASURES

REDUCE THE REGULATORY BURDEN ON THE TRANSPORTATION INDUSTRY AND PUBLIC WHILE STILL ACHIEVING SAFETY STANDARDS (OGC)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Compliance with Executive Order to Reduce Two Regulations for Each New Regulation	**Target**	2:1	2:1	2:1	2.1	N/A
	Actual	23:1	23:4	15:1	N/A	N/A
Economic Impact of Regulations	**Target**	-$35M	-$140M	-$2.8B	N/A	N/A
	Actual	-$86.2M	-$149M	-$6.28B	N/A	N/A

N/A: Not available

Regulatory reform is not an objective of the Department under the current Administration.

FY 2020 PROGRESS UPDATE

The Department met its FY 2020 goal by issuing 15 deregulatory actions and one significant regulatory action. These actions resulted in net annualized cost savings of $6.28 billion.

FY 2022 PLANS

There are no plans for FY 2022, as regulatory reform is no longer a strategic objective of the Department.

OBJECTIVE 4.2: MISSION EFFICIENCY AND SUPPORT

» **Increase IT Shared Service Utilization Percentage (OST)**

» **Improve DOT's Cybersecurity (OST)**

» **Decrease Improper Payments (OST)**

» **Improve Effectiveness and Efficiency of Support Services (OST)**

» **Increase Facility Consolidation (OST)**

» **Increase Use of Best-in-Class Contracts (OST)**

» **Reduce the Number of Unessential Federal Advisory Committees (OST)**

OBJECTIVE 4.2 SUMMARY OF PROGRESS

Promoting Efficiency: The Department continues to refine a multi-year plan to promote efficiency, reduce redundant operations, and offer best-in-class customer service for Acquisitions, Human Resources (HR), and IT through a shared services model. The Department will continue to standardize and streamline processes to increase organizational efficiency, promote the use of best practices in future operations, and continuously improve the customer experience.

As part of the Department's shared services initiative, the DOT Office of the Chief Information Officer (OCIO) launched its DestinationsDIGITAL initiative to modernize IT and improve cybersecurity. This initiative allows OCIO to better support the Department's mission and unify the IT community, enabling it to provide strategic direction for a digital transformation for transportation technology management. In FY 2020, the Department realized successes through significant commodity IT consolidations, as well as through the development of advanced dashboarding that supports of grants and cybersecurity. The Department also saw a 13 percent increase in the use of enterprise contracts for IT purchases, and through coordination with the procurement and contracting communities, has laid the groundwork for the further use of these Department-wide contracting vehicles.

Reducing the Footprint: The Department continues to reduce the number of facilities and its overall footprint. The Department conducts recurring, assessments of real property to identify opportunities for space reduction and cost savings with a goal of achieving space efficiencies across the country and at DOT Headquarters in Washington, D.C. This effort includes evaluating scenarios to house Federal and contractor staff to identify the best business solutions and associated costs, provide cost-effective and quality workspaces to support the Department's mission, and meet the office space design policy.

Best-in-Class Utilization: The Department increased its Best-in-Class (BIC) obligations by $13 million from FY 2019 to FY 2020. The Office of the Senior Procurement Executive has led several efforts to promote increased usage of BICs. Some of the efforts the Department undertook included establishing new policies and revising existing ones to achieve category management objectives, formalizing the Department's category management governance structure, appointing category managers for the Department's top spend areas, and providing training to the Department's workforce. The Category Management Program will continue to mature and contribute to future increases in BIC utilization.

OBJECTIVE 4.2 PERFORMANCE GOALS AND MEASURES

INCREASE IT SHARED SERVICE UTILIZATION PERCENTAGE (OST)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
	DOT* Target	25%	39%	25%	59%	TBD**	TBD**
	DOT* Actual	28.59%	41.16%	30.41%	42.28%	N/A	N/A
	FHWA	42.03%	48.82%	42.03%	52.46%	N/A	N/A
	FMCSA	24.99%	30%	24.24%	23.88%	N/A	N/A
	FRA	42.76%	62.04%	63.83%	68.32%	N/A	N/A
Shared Service Utilization Percentage of Total IT Budget	**FTA**	22.66%	26.91%	29.56%	27.45%	N/A	N/A
	MARAD	32.16%	60.68%	32.16%	52.23%	N/A	N/A
	NHTSA	17.86%	36.68%	13.70%	42.71%	N/A	N/A
	OST	21.39%	37.16%	27.96%	43.95%	N/A	N/A
	PHMSA	28.33%	34.54%	19.56%	34.88%	N/A	N/A
	GLS	25.41%	31.30%	31.03%	27.88%	N/A	N/A

Excludes FAA and OIG

*** FY 22021 and FY 2022 targets are expected during Summer 2021.*

Based on OMB Executive Order 19-04-26, Centralized Mission Support Capabilities for the Federal Government, the DOT tracks the reduction duplicative contracts and overlapping work within the Department. The Office of the Chief Information Officer (OCIO) intends to continue to increase shared services offerings to OAs.

FY 2020 PROGRESS UPDATE

OCIO made significant progress in consolidating IT platforms and services throughout DOT in FY 2020, increasing the percentage of IT acquisitions being made using IT shared service offerings via working capital or franchise funds from 30.41 percent in FY 2019 to 42.28 percent in FY 2020. The Department missed its FY 2020 goal of transitioning 59 percent of its IT acquisitions to IT shared service offerings due to delays in finalizing those enterprise contracts. With those contracts now available for transition, this effort remains a key focus for DOT and additional transitions are underway as planned.

FY 2022 PLANS

OCIO will continue to review all IT acquisitions across the Department, and, in coordination with its technical and contracting teams, will mandate that acquisitions be moved to a Department-owned enterprise contract vehicle when applicable. The OCIO will continue to focus on IT infrastructure and software development as the two pillars of this strategy. In FY 2022, OCIO will take a deep dive into IT licenses and service contracts.

IMPROVE DOT'S CYBERSECURITY (OST)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage of Systems with Proper Security Authorizations	**Target**	99%	99%	100%	100%	100%
	Actual	99%	98%	100%	N/A	N/A
Percentage of Systems Converted to an Ongoing Authorization Process	**Target**	25%	50%	75%	50%	50%
	Actual	17%	24%	22%	N/A	N/A

N/A: Not available

Under the Risk Management Framework developed by the National Institute of Standards and Technology in response to the Federal Information Security Modernization Act of 2014 ([Public Law No. 113-283](#)), organizations plan for and assess the implementation of internal and security controls for information systems to identify weaknesses, opportunities for improvements, and residual risks that may require additional processes or organization investment to mitigate. That process of planning, assessment, and risk management culminates in the acceptance of risk by an accountable official who both authorizes an information system to operate – denoted as a security authorization or authority to operate – and ensures that resources are prioritized to correct control weaknesses and mitigate risks.

When done properly, a security assessment and authorization ensure that information is secured in accordance with good security practice and Federal policy, and that any remaining security risks are minor and within the limits, or tolerances, of risk acceptability to the organization. Without a security authorization, an information system may be operating with unidentified weaknesses and unknown or unquantified risks, which may jeopardize sensitive information, stakeholders, or the organizational mission, resulting in financial, reputational, or, in some cases, life-and-safety damages or impacts. Ongoing authorization is an enhancement to the security authorization process. It leverages the automation of controls and monitoring on a more frequent basis to assess risk and weaknesses as changes occur in or near real time. This allows an organization to better identify, categorize, manage, and mitigate risks as they occur throughout the system development life cycle, rather than

relying solely on a fixed (often annual) interval. The result is generally reduced risk and better visibility into residual risk, resulting in more timely action to correct weaknesses and vulnerabilities.

FY 2020 PROGRESS UPDATE
The Department made progress in FY 2020, from 98 percent to 100 percent of systems authorized. The number of reported information systems in the agency inventory increased last fiscal year from 437 systems to 450 systems, resulting in part from modernization and new cloud-based systems and services.

FY 2022 PLANS
In FY 2022, the Department will continue with its IT shared services initiative and IT commodity consolidation, as well as the transition of cybersecurity-related products and services to enterprise contracts including the new enterprise security contract. The Department will also complete modernization of its security assessment and authorization systems and processes to facilitate automated security assessments, enhanced risk management, and integration with the agency [Continuous Diagnostics and Mitigation](#) dashboard being developed and deployed in partnership with the U.S. Department of Homeland Security. The Department will continue to emphasize consolidation of duplicative systems and applications to reduce the size of the inventory of systems and will also emphasize inheritance of security capabilities and IT controls from shared services platforms to reduce system complexity, improve the consistency of control implementation, and reduce risk.

DECREASE IMPROPER PAYMENTS (OST)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Improper Payment Percentage for Activities Identified as Susceptible	Target	0.62%	0.49%	1.51%	0.85%	0.80%	N/A*
	Actual	0.30%	2.21%	0.88%	0.37%	N/A	N/A

N/A: Not available

* FY 2022 target will be available on or after November 15, 2021.

Legislation defines a program or activity as susceptible to significant improper payments when the annual payment error rate exceeds 1.5 percent and $10 million of outlays, or $100 million of outlays regardless of the error rate. In addition, a risk assessment, statutory law, OMB, or Departmental management may identify a program or activity as susceptible to significant improper payments and require it to report annual estimates. One Departmental activity, the FHWA Highway Planning and Construction program, has been identified as being susceptible to significant improper payments and subject to the FY 2020 reporting requirements. The targets and actual results are cumulative of the activities susceptible to significant improper payments and do not represent all the Department's programs and activities.

FY 2020 PROGRESS UPDATE

The Department completed 34 risk assessments and determined that none of the programs were susceptible to significant improper payments. Further, the FHWA Highway Planning and Construction program reported an improper payment rate of 0.37 percent for FY 2020 and set a target rate of 0.80 percent for FY 2021.

During FY 2020, FHWA implemented corrective actions to advise State DOTs of the root causes for improper payments identified in FY 2019 and, when applicable, recovered over-payments from the grant recipient. In addition, FHWA developed a catalog of improper payments root causes to better identify reoccurring risk areas.

FY 2022 PLANS

The Department will perform risk assessments to determine whether any programs or activities are susceptible to significant improper payments. The Department will apply additional internal controls on the susceptible programs or activities to include improper payment measurement. By FY 2022, the Department expects to report additional improper payment estimates related to funding appropriated to DOT for COVID-19 relief.

IMPROVE EFFECTIVENESS AND EFFICIENCY OF SUPPORT SERVICES (OST)

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Percentage Accomplished Against Shared Services (HR, IT, and Acquisitions) Implementation Plan	Target	N/A	33%	66%	65%	70%	70%
	Actual	N/A	35%	50%	66%	N/A	N/A

N/A: Not available

For decades, DOT has employed shared services effectively for functions such as payroll and financial management.[31] The Department made the strategic decision to expand shared services enterprise-wide to drive efficiency and better support evolving customer and organizational needs. The Department has begun evaluating which operations can be switched to a shared services enterprise to take advantage of multi-year savings. The shared services model will establish centers of excellence throughout the Department in the areas of HR, IT, and Acquisitions.

FY 2020 PROGRESS UPDATE

For FY 2020, the Department continued its shared services transition in HR, IT, and Acquisitions. The Department took the following steps to make progress on this goal:

- **Executive and Political Resources Center:** New data points were defined for the second iteration of the dashboards, based on the stakeholder requests and informational needs of the Executive and Political Resources Center (EPRC). Additionally, working sessions were conducted with the EPRC to collect data, refine outputs, and educate the EPRC team on how to use the collaborative platforms that power the dashboards.

- **HR Operations Center of Excellence:** Six core sections of the Phase 1 Implementation Plan (Introduction, Change Management Leaders, Planning and Governance, Staffing, Transition Plan, and Training and Skilling) were finalized. The remaining sections of the plan (Workload Balance, Communications, and Performance Management) continue to be built out.

- **IT ACE Observation Period and Success Story Support:** Weekly touch points were conducted with the IT ACE team, which included the presentation of weekly observations, recommendations to IT ACE, and presentation of current needs and challenges of the IT ACE team to be addressed.

FY 2022 PLANS

For FY 2022, the Department will focus on continued support for the shared services transition efforts for HR, IT, Acquisitions, and learning and development. These efforts will focus on business process improvement, change management, customer experience, and performance evaluation and metrics. The Department will continue to further consolidate its HR, IT, and Acquisitions functions and increase standardization of processes throughout DOT.

Understanding the need to track, manage, and efficiently respond to customer requests, OCIO will develop a service management model with the ability to extend services throughout the Department. It will enable diverse yet related processes and procedures that need to be aggregated from across the Department.

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[31] Shared services, generally defined, involve centralizing administrative functions that were once performed in separate divisions or locations to improve efficiency and/or reduce costs.

INCREASE FACILITY CONSOLIDATION (OST)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Net Change in Office and Warehouse Square Footage	**Target**	(59,624)	(47,471)	(54,073)	(11,390)	(15,000)
	Actual	(88,806)	(28,147)	(72,841)	N/A	N/A

N/A: Not available

Each of the Department's nine OAs, OIG, and OST have mission-specific space needs, such as research laboratories, training centers, inspection stations, and air traffic control facilities. Many facilities must be located in defined geographic areas, such as National borders or near transportation facilities, to support mission operations.

As part of the Administration's Freeze the Footprint and Reduce the Footprint efforts initiated in 2015, the Department will reduce its office and warehouse footprint, which is currently 12,183,327 square feet.

FY 2020 PROGRESS UPDATE

The FY 2020 target reduction of 54,073 square feet was met in Q1 with a total reduction of 55,637 for Q1. Based on the FY 2021 combined actual space reduction totals for Q1 and Q2 of 44,811 square feet, the Department is on track to surpass the FY 2021 projected target reduction of 11,390 square feet.

FY 2022 PLANS

As part of its Reduce the Footprint efforts, the Department will continue to make targeted, focused efforts on reducing office and warehouse space across the United States. The Department is targeting specific lease consolidations in locations such as Kansas City, collaborating with FAA and the General Services Administration (GSA) to reduce space acquired, and targeting an additional 15,000 square foot reduction.

INCREASE USE OF BEST-IN-CLASS CONTRACTS (OST)

		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Best-in-Class Performance	**Target**	---	---	35.0%	$167.4M*	$184.1M*	$202.6M*	TBD**
	Actual	3.5%	5.0%	6.6%	$163.3M	$176.7M	$50M**	N/A

N/A: Not available

* Target represents a 10 percent increase (set by OMB) from the previous performance level. No percentage targets were set for FYs 2019 and 2020.

** Data as of March 31, 2021

Best-in-Class utilization is a key performance indicator of category management implementation. Category management is a strategic approach to procurement where spend is grouped together based on similar qualities. The ten categories of spend within the Federal government are facilities and construction, professional services, IT, medical, transportation and logistics, industrial products and services, travel, security and protection, human capital, and office management. The category approach assists the government in buying goods and services as an enterprise and thereby eliminates redundancies, increases efficiency, and delivers more value and savings. These ten categories are considered common contract spend since spend in these categories occurs throughout the government. Spend outside of these categories is considered U.S. DoD-centric. Examples of DoD-centric spend include aircraft, ships, and submarines; weapons and ammunition; and R&D. Best-in-Class utilization assesses how much of the agency's common contract spend are obligated to BIC vehicles. BIC vehicles are deemed the highest performing contracts

by OMB. The Department uses a data-driven approach to identify opportunities to increase its BIC utilization.

FY 2020 PROGRESS UPDATE

At the end of FY 2020, the Department met 96 percent of its target. The Department completed several actions in FY 2020 that resulted in the increase in BIC utilization and overall improvement of Category Management performance, including:

- Joined the Government-wide Facilities and Construction Category leadership team;
- Established the DOT Category Management Governance Structure and held the inaugural Category Management Leadership Steering Committee (CMLSC) meeting;
- Appointed three DOT Category Managers and selected two DOT Category Managers to perform duties in an acting capacity;
- Joined the Government-wide Travel Category leadership team;
- Received approval of the Department's Tier 1 TRANServe Washington Metropolitan Area Transit Authority Business Case, which reclassified the Department's Transit Benefit spend from a Tier 0 to a Tier 1 and moved $17 million of previously unmanaged spend to managed;
- Received approval of the Department's Enterprise IT Shared Services Business Case, which reclassified the vehicles' tier from Tier 0 to Tier 1 and moved $31 million of previously unmanaged FY 2030 spend to managed;
- Established the DOT Professional Services category team;
- Conducted the pilot virtual Civilian Services Acquisition Workshop, which also supports former CAP Goal 11: Frictionless Acquisition;
- Collaborated with the DOT IT Category Managers to improve the IT Spend Plan Approval process, which resulted in an increase in Tier 2 and BIC obligation;
- Conducted the Department's Annual Acquisition and Financial Assistance Conference virtually which included sessions on Category Management;
- Disseminated the principles of Category Management at multiple levels within the organization;
- Published six acquisition policies supporting the furtherance of category management objectives;

- Completed a Government Accountability Office Audit on the Department's Category Management program and its impact on small business. The Department received zero recommended actions from the Government Accountability Office as a result of its review;
- Submitted the agency's FY 2021 Annual Category Management Plan per OMB Memorandum M-19-13; and
- Assigned FY 2021 BIC targets to each OA; and
- Submitted its FY 2020 Category Management Annual Plan to OMB on October 30, 2020.

FY 2021 PLANS

The Department has several planned actions to continue improving its BIC and Category Management performance. In FY 2020, the Department published its Category Management Governance Structure and established the Department's CMLSC. In FY 2021, the CMLSC will be disbanded and the leadership guidance elevated to the Category Management Executive Steering Committee (CMESC). This elevates the leadership participation from each OA's Chief of Contracting Office to Head of Contracting Activity. The CMESC will continue to be led by the Senior Accountable Official. The CMESC will be the governing body that ensures the Department executes a disciplined, data-driven approach to strategic cost management and is the principal forum for establishing overall direction of the Category Management program. The CMESC will meet in FY 2021 to provide leadership across the Department on Category Management.

Planned actions in FY 2021 to ensure the Department meets its BIC and Category Management targets include:

- Convening the CMESC to identify a long-term strategic approach to implementing category management and improving BIC performance;
- Maturing the Department's Professional Services Category Team. In FY 2021, the team will meet with the Government-wide Professional Services Category Team to develop strategies to improve the Department's performance under professional services;
- The Department's Professional Services Category Team is working on developing two Departmental vehicles that will be designated as mandatory for use;
- In collaboration with the DOT IT Category Managers, exploring opportunities to implement policies that will increase spend under management under the IT category;

- Establishing category teams that will develop tools to make contract information and category management information more accessible;

- Reviewing and adding on to the Department's Large-Scale Construction portfolio;

- Identifying opportunities within the Department's construction material purchases for spend under management;

- In collaboration with DOT Travel Category Managers and the Government-wide Travel Category Team, exploring a higher tier designation for the Department's TRANServe Washington Metropolitan Area Transit Authority contract, which will promote utilization of TRANServe across the Government;

- Working with OA Small Business Specialists to identify areas where policy creation would promote small business and category management spend under management;

- Improving the Department's Procurement Forecast Form to capture acquisition information that impacts category management early in the acquisition process; and

- Developing additional acquisition policies to support category management objectives, including category-specific Analysis of Alternatives.

REDUCE THE NUMBER OF UNESSENTIAL FEDERAL ADVISORY COMMITTEES (OST)

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Federal Advisory Committees Reduced	**Target**	12	19	21	23	23
	Actual	12	16	19	N/A	N/A

N/A: Not available

The Federal Advisory Committee Act (Public Law 92-463) requires that discretionary committees be terminated when they have accomplished their objectives, become obsolete, or are determined to be too costly. Statutory committees must be sunset in the time explicitly specified in statute or implied by when the operation of the statute expires. The Department's goal is to fulfill this requirement through its continued efforts.

FY 2020 PROGRESS UPDATE

OST continues to evaluate the Department's Federal advisory committees and takes steps to reduce outdated and ineffective committees. Through ongoing analysis, committees that are no longer necessary are sunset and committees with logical, near-future sunset dates are flagged. Flagged committees are then monitored and sunset when they reach their logical conclusion. Throughout this process, OST works closely with each committee's sponsoring OA and the General Services Administration.[32] For more information on the Department's committees, please visit the Federal Advisory Committee Act database.

FY 2022 PLANS

OST plans to continue to review the Department's Federal advisory committees and take steps to reduce outdated and ineffective committees, working closely with each committee's sponsoring OA and GSA.

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[32] The General Services Administration is responsible for issuing administrative guidelines and management controls for advisory committees and assisting agencies in implementing and interpreting the Federal Advisory Committee Act.

ADDITIONAL INFORMATION

LOWER-PRIORITY PROGRAM ACTIVITIES

The President's Budget identifies lower-priority program activities where applicable, as required under GPRAMA 31 U.S. Code § 1115(b)(10). The public can access the volume at https://www.whitehouse.gov/omb/budget.

OIG TOP MANAGEMENT CHALLENGES

To be included in a separate document.

PERFORMANCE DATA COMPLETENESS AND RELIABILITY

To be included in a separate document.

APPENDIX I:
Performance Data Completeness and Reliability

**U.S. Department
of Transportation**

TABLE OF CONTENTS

STRATEGIC GOAL 2: INFRASTRUCTURE 23

ACRONYMS & ABBREVIATIONS

AADT	Annual Average Daily Traffic
AAR	Association of American Railroads
ASPM	Aviation System Performance Metrics
ASQP	Airline Service Quality Performance
ATO	Air Traffic Organization
ATR	Automated traffic recorder
AVS	Aviation Safety
BASIC	Behavior Analysis and Safety Improvement Category
BIC	Best-in-Class
BTS	Bureau of Transportation Statistics
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
CIF$	Center for Innovative Finance Support
CO$_2$	Carbon dioxide
CY	Calendar year
D2D	Data to Decisions
DoD	U.S. Department of Defense
DOI	U.S. Department of the Interior
DOT	Department of Transportation
EA	Environmental assessment
EIS	Environmental Impact Statements
EMS	Emergency medical services
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FPDS	Federal Procurement Data System
FPPS	Federal Personnel/Payroll System
FRA	Federal Railroad Administration

FRPP	Federal Real Property Program
FTA	Federal Transit Administration
FY	Fiscal year
GAJSC	General Aviation Joint Steering Committee
GARVEE	Grant Anticipation Revenue Vehicle
GPS	Global Positioning System
GSA	General Services Administration
HPMS	Highway Performance Monitoring System
HR	Human Resources
IT	Information technology
LOB	Line of business
MADT	Monthly average daily traffic
MARAD	Maritime Administration
MCMIS	Motor Carrier Management Information System
MSP	Maritime Security Program
MY	Model year
NAC	NextGen Advisory Committee
NAR	Non-accident release
NAS	National Airspace System
NBI	National Bridge Inventory
NBIS	National Bridge Inspection Standards
NEC	Northeast Corridor
NEMSIS	National Emergency Medical Services Information System
NextGen	Next Generation Air Transportation System
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
NPMRDS	National Performance Management Research Data Set
NRC	National Response Center
NTD	National Transit Database
NTL	National Transportation Library
NTSB	National Transportation Safety Board
OA	Operating Administration

OCIO	Office of the Chief Information Officer
OIRA	Office of Information and Regulatory Affairs
OMB	Office of Management and Budget
OPM	Office of Personnel Management
OSPE	Office of the Senior Procurement Executive
OST	Office of the Secretary of Transportation
OST-P	Office of the Assistant Secretary for Policy
OST-R	Office of the Assistant Secretary for Research
OST-S-10	Office of the Executive Secretariat
OTP	On-time performance
PAB	Private Activity Bond
PCR	Police Crash Report *(also referred to as a Police Accident Report)*
PHMSA	Pipeline and Hazardous Materials Safety Administration
PRISM	Performance and Registration Information Systems Management
QA/QC	Quality Assurance/Quality Control
R&D	Research and development
REMS	Real Estate Management System
RRF	Ready Reserve Force
SGR	State of Good Repair
SIB	State Infrastructure Bank
SLSDC	Saint Lawrence Seaway Development Corporation
SSO	State Safety Oversight
STB	Surface Transportation Board
TAC	Technical Assistance Center
TERM	Transit Economic Requirements Model
TIFIA	Transportation Infrastructure Finance and Innovation Act
TrAMS	Transit Award Management System
TTTR	Truck Travel Time Reliability
TVT	Traffic Volume Trends
UAS	Unmanned Aircraft System
VISA	Voluntary Intermodal Sealift Agreement
VMT	Vehicle miles traveled

PERFORMANCE DATA COMPLETENESS AND RELIABILITY

A review of the U.S. Department of Transportation's FY 2020 Annual Performance Report by the Bureau of Transportation Statistics.

This appendix outlines the processes the U.S. Department of Transportation (DOT) uses to support the general accuracy and reliability of performance information, reduce the risk of inaccurate performance data, and provide a sufficient level of confidence to the Congress and the public that the information presented is credible, as appropriate, to its intended use (Office of Management and Budget [OMB] Circular A-11, Section 260.9: *Assessing the completeness, reliability, and quality of performance data*). Please note that measures not provided to the Bureau of Transportation Statistics (BTS) for verification and validation prior to the submission deadline for the Fiscal Year (FY) 2020 Annual Performance Report are not included in this year's Performance Data Completeness and Reliability appendix.

Pursuant to 49 U.S. Code § 6302(b)(3)(B)(ix), the Director of BTS is tasked with reviewing and reporting to the Secretary of Transportation on the sources and reliability of the statistics produced to measure outputs and outcomes as required by the Government Performance and Results Act of 1993 (Public Law 103-62). To complete this task, BTS assessed the completeness, reliability, and quality of the performance measures that feed into the Department's FY 2020 Annual Performance Report. The review included all measures that the Department actively collects.

Per 49 U.S. Code § 6302(b)(3)(B)(ix), BTS assesses the reliability and other statistical properties of the measures, not whether the measures are the most appropriate reflection of performance for the goal or program. BTS' review supports the Department's Learning Agenda, which is required by the Foundations for Evidence-Based Policymaking Act of 2018 (Public Law 115-435).

Each section of this appendix includes a description of performance measures and associated data provided by the agency or agencies in charge of those measures.

- **Scope:** Provides a definition and overview of the performance measure;
- **Sources:** Identifies the sources from which the data for each measure were taken;
- **Statistical Issues:** Describes the variability of the measure and other issues, based on information provided by BTS and the agency or agencies in charge of the measure;
- **Completeness:** Describes any limitations due to missing data or availability of current measures, and provides methods used to develop projections, as appropriate;
- **Reliability:** Provides the reader with an indication of the consistency and quality of the measure; and
- **Verification and Validation:** Explains the processes agencies have in place to support the general accuracy and reliability of performance information, reduce the risk of inaccurate performance data, and provide a sufficient level of confidence to the Congress and the public that the information presented is credible, as appropriate, for its intended use (OMB Circular A-11, Section 260.9: *Assessing the completeness, reliability, and quality of performance data*).

STRATEGIC GOAL 1: SAFETY

REDUCE MOTOR VEHICLE-RELATED FATALITIES OVERALL

Performance Leads: FHWA, NHTSA, FMCSA

Measure: Motor Vehicle-Related Fatalities per 100 Million Vehicle Miles Traveled

Scope: Roadway fatalities per 100 million vehicle miles traveled (VMT) are calculated for each calendar year (CY). The number of fatalities included in National reports is a count of deaths of motorists or non-motorists occurring within 30 days of a crash involving a motor vehicle traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico. A roadway fatality is the death of any vehicle occupant (i.e., driver, passenger, or person riding on the exterior of a motor vehicle), including motorcycle (two- or three-wheeled motor vehicle) riders or passengers, and any non-occupants (i.e., a person not an occupant of a motor vehicle in transport, such as a pedestrian or cyclist) in a motor vehicle crash. VMT are measured for all types of vehicles including:

- Passenger cars;
- Motorcycles;
- Buses;
- Two-axle, four-tire vehicles (including vans, pickup trucks, and sport/utility vehicles);
- Single unit two-axle, six-tire or more trucks; and
- Combination trucks.

Sources: Roadway fatality data are obtained from NHTSA's Fatality Analysis Reporting System (FARS). The FARS database is a census of fatal traffic crashes, based on Police Crash Reports (PCRs), within the 50 States, the District of Columbia, and Puerto Rico.

Annual VMT are estimated using data from FHWA's Highway Performance Monitoring System (HPMS). The HPMS compiles annual data from the States concerning the condition and performance of all roads in the United States. The HPMS includes the annual average daily traffic (AADT) data by road segment. States provide AADT data on all Federal-aid highway sections. These data are based on traffic counts taken at least once every three years on the National Highway System (NHS), interstates, and principal arterials and at least once every six years on minor arterials and collectors. Traffic counts are adjusted as necessary by State to reflect day-of-week and seasonal variations, current year conditions, and axle corrections. These AADT data are multiplied by the length of each road segment and summed for all road segments and days of the year to yield the annual VMT.

Monthly VMT are calculated using the annual VMT from the HPMS and the monthly traffic counts that States submit to FHWA from their automated traffic recorders (ATRs). These ATRs are permanent traffic counting devices, such as inductive loops in the roadway. About 6,000 ATRs are reported to FHWA each month, which are submitted and processed using the Travel Monitoring Analysis System. Monthly average daily traffic (MADT) is computed from the ATR traffic counts. Each MADT is compared with the MADT for the same month the previous year to yield a change rate. The change rates are averaged by functional class of road. If a State does not provide traffic data in time, their change rates are estimated based on data from surrounding States. Monthly VMT are estimated and reported in FHWA's Traffic Volume Trends (TVT) by combining the change rates for each month with the most

recent annual VMT from the HPMS. The TVT report is available to the public within 60 days after the close of the month. Data that cover a minimum of 30 States and 70 percent of the VMT are required for publication.

Roadway fatality counts rates for CY 2019 and CY 2020 are statistical projections, and rates are based on those projections. Fatalities for CY 2018 were taken from the 2018 FARS annual report file. VMT are taken from the FHWA March 2020 TVT.

Statistical Issues: As both the HPMS and TVT are based on samples of the traffic, there are associated sampling errors.

Completeness: Annual traffic fatalities are currently available through CY 2018, published in September 2020. VMT are complete through 2018. The final 2018 VMT estimate was made available in March 2020.

Reliability: To complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: FARS counts of motor vehicle crash fatalities are known to be different from fatality statistics by cause of death reported by the National Center for Health Statistics, as FARS captures only fatalities from vehicle crashes on public roadways and that occur within 30 days of the crash. NHTSA ensures consistency in FARS data by establishing training, quality control measures, and standard data coding guidelines, thereby assuring adequate National data to facilitate accurate analyses.

Training for field personnel includes a new analyst training program that provides a self-directed preparatory training followed by a five-day classroom session, as well as an annual, system-wide training for all analysts. Training issues identified throughout the year and changes to the system are addressed at this system-wide training. Ongoing coding assistance, quality checks, and guidance for FARS analysts are available through a FARS hot line. The data itself are controlled upon entry with the FARS data entry system edit checks. These edit checks are updated annually along with a Coding and Validation Manual that provides definitions, rules, and guidance for each data element. The quality of a FARS case also is monitored for completeness, unknown values, and violations of edit check rules. Once in the database, the FARS data are also monitored through statistical quality control charts, which identify deviations from expected trends in the data and indicate when an inconsistency in the data occurs.

While these activities help to ensure consistency in data acquisition, additional factors such as changes in the collection of the data in States and corresponding changes in FARS make monitoring data quality more complex. When these changes occur, they can limit the effectiveness of data monitoring using trend analysis to identify potential problems. To help address these issues, steps have been taken to develop additional means to support data quality that involves manual reviews of the casework coded by the FARS analysts.

The FARS case re-coding process was developed to conduct annual case sampling and re-coding for data quality monitoring, analyst performance assessment, and training. The design combines the concepts of selected case re-coding with State-specific training. This quality assurance process uses samples from the current file year so that corrective actions to improve the quality of the data can be performed throughout the file year when inconsistencies are identified. The aim is to provide more immediate benefits from a case re-coding effort in the form of analyst training and tangibly improve data quality.

REDUCE MOTOR VEHICLE-RELATED FATALITIES BY TYPE

Performance Leads: FHWA, NHTSA, FMCSA

Measure: Passenger Vehicle Occupant Fatalities per 100 Million Vehicle Miles Traveled

Scope: Passenger vehicle occupant fatalities per 100 million VMT are calculated for each calendar year. The number of fatalities included in National reports is a count of passenger vehicle occupant deaths occurring within 30 days of a crash involving a motor vehicle traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico. An occupant is any person, driver or passenger(s), inside or on the exterior of a passenger vehicle in transport. VMT cover all types of passenger vehicles including:

- Passenger cars;
- Vans;
- Pickup trucks; and
- Sport/utility vehicles.

Sources: Roadway fatality data are obtained from NHTSA's FARS. The FARS database is a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico, and is based on PCRs (see Reduce Motor Vehicle-Related Fatalities Overall for VMT source information). Roadway fatality counts for CY 2018 were taken from the 2018 FARS Annual Report File and rates were derived using VMT March 2020. For more information, see Reduce Motor Vehicle-Related Fatalities Overall.

Statistical Issues: As both the HPMS and TVT are based on samples of traffic, there are associated sampling errors.

Completeness: Annual traffic fatalities and VMT are currently available through CY 2018. The CY 2018 VMT estimate was available by March 2020.

Reliability: There is concern about consistency in vehicle counts across States. Further research is needed to address this concern. In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

Performance Leads: FHWA, NHTSA, FMCSA

Measure: Large Truck and Bus Fatalities per 100 Million Vehicle Miles Traveled

Scope: The number of fatalities included in National reports is a count of deaths occurring within 30 days of a crash involving large trucks or buses traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico. VMT cover all types of vehicles including:

- Passenger cars;
- Motorcycles;
- Buses;
- All two-axle, four-tire vehicles (including vans, pickup trucks, and sport/utility vehicles);
- Single unit two-axle, six-tire-or-more trucks; and
- Combination trucks.

Sources: Roadway fatality data are obtained from NHTSA's FARS. The FARS database is a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico, and is based on PCRs (see Reduce Motor Vehicle-Related Fatalities Overall for VMT source information). Roadway fatality counts for CY 2018 were taken from the CY 2018 FARS Annual Report File and rates were derived using VMT from March 2020. For more information, see Reduce Motor Vehicle-Related Fatalities Overall.

Statistical Issues: As both the HPMS and TVT are based on samples of the traffic, there are associated sampling errors. Projections depend on the continuation of individual and market behavior regarding highway safety policies, VMT, seat belt use, and alcohol-related fatalities for large trucks and buses. The assumptions inherent in these projections, together with the normal levels of uncertainty inherent in statistical evaluations, may influence the accuracy of the projection.

Completeness: Annual traffic fatalities and VMT are currently available through CY 2018. The 2018 VMT estimate was available by March 2020.

Reliability: There is concern about consistency in vehicle counts across States. Further research is needed to address this concern. In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

Performance Leads: FHWA, NHTSA, FMCSA

Measure: Non-Occupant Fatalities (Pedestrian, Bicycle) per 100,000 Population[1]

Scope: The number of fatalities included in National reports is a count of non-occupant deaths occurring within 30 days of a crash involving a motor vehicle traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico. A non-occupant is any person involved in a traffic crash who is not an occupant of a motor vehicle in transport, including:

- Pedestrians;
- Bicyclists and other pedal cyclists;
- Occupants of parked motor vehicles;
- Joggers and skateboard riders; and
- People riding on animals and in animal-drawn conveyances.

Sources: Roadway fatality data are obtained from NHTSA's FARS. The FARS database is a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico, and is based on PCRs. Roadway fatality counts for CY 2018 were taken from the 2018 FARS Annual Report File. Population data are obtained from the U.S. Bureau of the Census.

Statistical Issues: Non-occupant fatalities occur in places not covered by FARS, which is limited to public roads.

Completeness: Annual traffic fatalities are currently available through CY 2018, published in September 2020.

Reliability: In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

Performance Leads: FHWA, NHTSA, FMCSA

Measure: Motorcycle Fatalities per 100,000 Motorcycle Registrations

Scope: Motorcyclist fatalities per 100,000 registrations are calculated for each calendar year. The number of motorcyclist fatalities included in National reports is a count of motorcyclist (rider, operator, and passenger) deaths occurring within 30 days of a crash involving a motorcycle traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico. A motorcycle is a two- or three-wheeled motor vehicle designed to transport one or two people (i.e., motor scooters, minibikes, and mopeds).

Sources: Roadway fatality data are obtained from NHTSA's FARS. The FARS database is a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico, and is based on PCRs. States collect motorcycle registration data and provide the data to FHWA, which then publishes the data to the public.

Fatality counts for CY 2018 were taken from the CY 2018 FARS Annual Report File, and rates were derived using FHWA's motorcycle registration data (March 2020).

Statistical Issues: Motorcyclist fatalities occur in places not covered by FARS, which is limited to public roads. FHWA estimates of registered motorcycles may be an underestimate of the true number of motorcycles used

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[1] Starting in CY 2016, this measure changed to fatalities per 100,000 population to better align with the U.S. Department of Transportation Strategic Plan for FY 2018-2022.

on the roads each year. Data collected by the Motorcycle Industry Council corroborate this possibility and have noted that not all motorcyclists register their bikes (National Transportation Safety Board [NTSB] – Safety Recommendation H-07-036: Oct 3, 2007).

The motorcycle registration date varies among States. Although many States continue to register specific vehicle types on a calendar year basis, all States use some form of the "staggered" system to register motor vehicles. This system permits a distribution of the renewal workload throughout all months. Most States allow pre-registration or permit grace periods to better distribute the annual registration workload.

To present vehicle registration data uniformly for all States, the information is shown as nearly as possible on a calendar year basis. Insofar as possible, the registrations reported exclude transfers and re-registrations and any other factors that could otherwise result in duplication of the vehicle counts.

Completeness: Annual traffic fatalities are currently available through CY 2018, published in September 2020.

Reliability: FHWA motorcycle registration data include all vehicles that have been registered at any time during the calendar year. Data include vehicles that were retired during the year and vehicles that were registered in more than one State. In some States, it is also possible that, contrary to the FHWA reporting instructions, vehicles that have been registered twice in the same State may be reported as two vehicles. The NHTSA data include only those vehicles that are published by FHWA. Therefore, they do not include vehicles registered in the last half of the calendar year or vehicles that may only be registered for a part of a year such as those for farm use.

In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

REDUCE HIGH-RISK MOTOR CARRIERS

Performance Lead: FMCSA

Measure: Average Number of Days to Investigate "High-Risk" Designated Carriers

Scope: The average number of days from identification until investigation is the average number of days from identification as high-risk to when an investigation is conducted, for carriers investigated during this time. The FMCSA policy is to investigate identified high-risk carriers within 90 days. This measure informs and guides the following programs for FMCSA:

- Roadway safety policy;
- Safety program planning;
- Regulatory development;
- Resource allocation; and
- Operational mission performance.

FMCSA identifies and investigates carriers that pose the greatest safety risk, based on roadside performance data and investigation results. Criteria include:

- **Passenger Carriers:** Two or more of the following Behavior Analysis and Safety Improvement Categories

(BASIC) at or above the 90th percentile for one month: unsafe driving, crash indicator, Hours of Service compliance, and vehicle maintenance. These are the BASICs most closely correlated with crash risk and have not received an on-site investigation in the previous 12 months.

- **Non-Passenger Carriers:** Two or more of the BASICs listed above at or above the 90th percentile for two consecutive months and have not received an on-site investigation in the previous 18 months.

Sources: Investigation data are obtained from the Motor Carrier Management Information System (MCMIS). The MCMIS Crash File contains data on commercial trucks and buses in fatal, injury, and towaway crashes (i.e., crashes in which at least one vehicle is disabled as a result of the crash and transported away from the crash scene). Crash severity thresholds and vehicle type definitions in MCMIS differ slightly from those in FARS and the General Estimating System/Crash Report Sampling System, and all tables are noted accordingly.

Statistical Issues: The MCMIS Crash File is intended to be a census of trucks and buses involved in fatal, injury, and

towaway crashes; however, some States do not report all FMCSA-eligible crashes, and some report more than those that are eligible. FMCSA continues to work with the States to improve data quality and reporting of eligible large truck and bus crashes to the MCMIS Crash File.

Completeness: MCMIS fatal crash data used in the calculation for large trucks and buses are reported based on a subset of the Model Minimum Uniform Crash Criteria used by FARS. Total annual fatalities are available from MCMIS through CY 2019 and partial data are available through September 2020. Because FMCSA investigation results take time to upload, all data are considered preliminary for 22 months to allow for changes.

Reliability: Further research is needed to determine reliability of the data.

Verification and Validation: FMCSA analyzes self-reported MCMIS registration data and applies filters to identify and remove inaccurate entries to avoid over- or under-estimating values.

REDUCE FATAL MOTOR CARRIER CRASHES

Performance Lead: FMCSA

Measure: Number of Motor Carrier Incidents

Scope: The number of fatal crashes included in National reports includes a count of deaths occurring within 30 days of a crash involving large trucks or buses traveling on a traffic-way customarily open to the public within the 50 States, the District of Columbia, and Puerto Rico.

Sources: Roadway fatality data are obtained from NHTSA's FARS. The FARS database is a census of fatal traffic crashes within the 50 States, the District of Columbia, and Puerto Rico, and is based PCRs. A large truck is defined in FARS as a truck with a gross vehicle weight rating greater than 10,000 pounds. A bus is defined in FARS as any motor vehicle designed primarily to transport nine or more persons, including the driver.

Statistical Issues: As both the HPMS and TVT are based on samples of traffic, there are associated sampling errors.

Completeness: Annual traffic fatalities are currently available through CY 2019, published in October 2020.

Reliability: In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

REDUCE RAIL-RELATED FATALITIES / REDUCE TRAIN ACCIDENTS

Performance Lead: FRA

Measures:
- Highway-Rail Grade Crossing Incidents
- Rail Right-of-Way Trespass Incidents
- Train Accidents

Scope: The railroad accident and incident reporting subsystem compiles rail-related accident and incident data from railroads subject to FRA oversight. Railroads subject to oversight must have an accident and incident record-keeping system that meets or exceeds Federal standards. Requirements to report an event to FRA apply when

the event's consequences exceed the annually adjusted damage threshold. The reporting threshold for CY 2020 was $10,700.

A rail equipment (including train) accident is any collision, derailment, fire, explosion, act of God, or other event involving the operation of railroad on-track equipment (standing or moving) that results in damages greater than the current reporting threshold to railroad on-track equipment, signals, track, track structures, or roadbed. Railroads must also maintain internal records on accountable events (those that are generally less impactful than reportable events), employee on-duty injuries, and occupational illnesses that

are not required to be reported to FRA. These internal records are subject to FRA review.

Railroads report train accidents on FRA Form F6180.54: Rail Equipment Accident/Incident Report and operational data (including train-miles) on FRA Form F6180.55: Injury/Illness Summary.

Sources: FRA's railroad accident and incident reporting subsystem is a compilation of railroad-reported data, which are submitted as required under Title 49 of the Code of Federal Regulations (CFR) § 225 - Railroad Accidents/Incidents: Reports Classification and Investigations. This subsystem contains approximately 40 years of data on railroad casualties, train accidents, highway-rail grade crossing collisions, and operating statistics, including train-miles.

Statistical Issues: No statistical issues identified.

Completeness: Railroad systems that do not connect with the general rail system are excluded from reporting to FRA. Examples include subway systems (e.g., Washington, D.C. Metro and New York City Subway), track existing inside an industrial compound, and insular rail (e.g., rail not connected to the general system and not intersecting a public highway-rail grade crossing or navigable waterway).

Although railroads are generally required to report accidents and incidents within 30 days after the end of the month in which the event occurred, FRA keeps data files open for amendment for five years to capture late reports, audit findings, and other updates. Data must be updated if the costs of an accident are more than 10 percent higher or lower than the initially reported cost. Data processing requires up to 30 days to prepare the information for merging into the database. As a result, FRA measures are subject to change and might differ from previous reports. A more detailed explanation of this process is available in the FRA Guide for Preparing Accident/Incident Reports.

Reliability: FRA audits railroads' reporting and internal records. If railroads do not report accurately, completely, and timely, FRA can assess civil monetary penalties.

Verification and Validation: FRA's systems and periodic audits help validate railroad-submitted data to ensure that they are timely, complete, accurate, and reliable. Every two years, FRA conducts a data reporting audit of each of the seven largest carriers, known as Class I railroads, and Amtrak. FRA also audits the smaller railroads approximately every five years. The purpose of these audits is to check for properly completed reports and verify the reported data, including identifying accidents or incidents that meet thresholds but were not reported. After verification and validation, FRA provides public access to the data through its website at https://safetydata.fra.dot.gov/OfficeofSafety/default.aspx.

IMPROVE SAFE RAIL TRANSPORT OF HAZARDOUS MATERIALS

Performance Lead: FRA

Measure: Rate of Non-Accident Releases of Hazardous Materials

Scope: A non-accident release (NAR) is the unintentional release of a hazardous material while in transportation, including loading and unloading while in railroad possession, that is not caused by a derailment, collision, or other rail-related accident. NARs consist of leaks, splashes, and other releases from improperly secured or defective valves, fittings, and tank shells, and include undesired venting of non-atmospheric gases from safety relief devices. Normal safety venting of atmospheric gases, such as carbon dioxide and nitrogen, is not considered a NAR. Most reported NARs involve small quantities. Although 99.99 percent of all hazardous materials shipments are transported without incident, the tracking and analyzing of NAR data allows FRA to identify trends and set inspection priorities for inspection and auditing offeror (shipping/receiving) facilities and their "pre-trip" processes.

Sources:
- PHMSA Hazardous Material Incidents Reports (DOT Form F 5800.1);
- Surface Transportation Board (STB) Confidential Waybill Sample; and
- Association of American Railroads (AAR) Annual Hazardous Materials Leak Reports.

Statistical Issues: No statistical issues identified.

Completeness: This measure reflects data reported primarily by the Class I railroads with limited 5800.1 reporting from the regional and short-line railroads. Initial 5800.1 reporting must be completed within 30 days of the discovery of a release, while a final report can take months to complete. The STB waybill data are provided to FRA

on a quarterly basis. The AAR's annual leak reports are usually published in August (e.g., AAR will publish its FY 2020 data in August 2021).

Reliability: If the railroads do not report NARs in a timely and accurate manner, and FRA does not receive the waybill data from STB timely, FRA estimates specific inputs by extrapolating trends.

Verification and Validation: FRA does not audit or verify data from the outside sources. When subject matter experts observe inconsistencies or unexpected results, FRA works with those sources to resolve any questions. Validation of the previous calendar year takes place after receipt of AAR's annual leak report in August 2021.

REDUCE RAIL TRANSIT COLLISIONS INVOLVING PERSONS

Performance Lead: FTA

Measure: Total Rail Transit Collisions with Persons

Scope: This measure includes only those rail transit systems subject to FTA's State Safety Oversight (SSO) Program. The following rail transit systems are excluded from this measure:

- Dubuque Street Elevator, Los Angeles Angel's Flight, Los Angeles Strand Beach Funicular, and Las Vegas Monorail, which do not accept FTA funding and are not subject to FTA's SSO Program;
- All commuter rail systems, the Alaska Railroad, the PATH system in New York City, the Austin Capital Metro, and the Portland TriMet Westside Express system, all of which accept FTA funding, but are subject to FRA regulation;
- The Florida Virgin Brightline, which does not accept FTA funding and is subject to FRA regulation;
- All aerial tramway systems; and
- Amtrak, including the FTA-funded Keystone Corridor and Maine Downeaster Corridor, which are grandfathered into FTA funding.

This only includes collisions between transit rail and a person that results in a reportable safety event (i.e., an event resulting in one or more fatalities, one or more serious injuries, or one or more persons being removed from the scene for medical treatment).

Sources: Data come from the National Transit Database (NTD) Monthly Safety Event Reports.

Statistical Issues: No statistical issues identified. These data are collected as a complete count.

Completeness: Within the scope defined above, the data are complete. In some cases, a train might impact a person and the train operator may be unaware of the collision. Such events are inherently unknowable. From time to time, transit operators find a body in the right-of-way, in which case they make their best determination if a collision occurred. In some cases, a transit operator might fail to report an event to the FTA, although FTA attempts to ensure that all transit operators meet their reporting obligations.

Reliability: Transit systems must report reportable safety events to the NTD within 30 days of the event. Most reportable rail safety events must also be investigated by the SSO Organization that has been designated in each State with rail transit. National Transit Database safety event reports are reconciled against the list of SSO Investigations on an annual basis. Data reports are self-certified by a designate of the transit system's Chief Executive Officer (CEO).

Verification and Validation: FTA employs an NTD Validation Services contractor that verifies and validates safety event reports.

REDUCE TOTAL TRANSIT-RELATED FATALITIES

Performance Lead: FTA

Measure: Total Transit Fatalities

Scope: This measure includes only those rail transit systems subject to FTA's SSO Program. See Reduce Transit Collisions Involving Persons for a list of the systems excluded from FTA's oversight.

Additionally, fatalities are collected from most other non-rail transit systems that report to the NTD. This excludes fatalities from those systems that do not report to the NTD and fatalities from rural transit systems and small urbanized systems that receive a small system reporting waiver.

Transit fatality data include passengers, revenue facility occupants, trespassers, employees, other transit workers (e.g., contractors), pedestrians, occupants of third-party vehicles, and others. A transit fatality is a death within 30 days of an incident on transit right-of-way, in a transit revenue facility, in a transit maintenance facility, or involving a transit revenue vehicle. Excluded are deaths due to medical conditions or natural causes occurring on public transportation systems. Also excluded are occupational safety deaths occurring inside administrative buildings.

Sources: Data are from NTD Monthly Safety Reports.

Statistical Issues: No statistical issues identified. These data are collected as a complete count.

Completeness: Within the scope defined above, the fatality count data are complete. In some cases, a transit operator might fail to report an event to the FTA, although FTA attempts to ensure that all transit operators meet their reporting obligations.

Reliability: Transit systems must report reportable safety events to the NTD within 30 days of the event. Rail safety events are reconciled against SSO Investigatory Reports. Data reports are self-certified by a designate of the transit system's CEO.

Verification and Validation: FTA employs an NTD Validation Services contractor that verifies and validates safety event reports.

REDUCE TRANSIT-RELATED FATALITIES PER 100 MILLION PASSENGER MILES

Performance Lead: FTA

Measure: Total Transit Fatalities per 100 Million Passenger Miles[2]

Scope: See Reduce Total Transit-Related Fatalities.

Sources: Data come from NTD Monthly Safety Reports.

Statistical Issues: Fatality rates are calculated by dividing calendar year fatalities by NTD report year passenger miles for those systems reporting monthly fatalities. The major source of uncertainty in the measure relates to passenger miles traveled. Passenger miles are an estimate typically derived from reported unlinked passenger trips and average trip length by each transit authority. Differences in measurement occur across transit authorities.

To approximate passenger miles, total unlinked trips are multiplied by average trip length. An unlinked trip is recorded each time a passenger boards a transit vehicle, even though the rider may be transferring from one transit vehicle to another on the same journey. Transit authorities do not routinely record trip length. To obtain an average trip length for their bus routes, transit authorities use Automatic Passenger Counters with Global Positioning System (GPS) Technology or an FTA-approved sampling technique.

To obtain passenger mile data on rail systems, ferry boats and paratransit, transit authorities often use computerized tracking systems, such as the Smart Card. In some cases when a 100 percent count of unlinked passenger trips is not available, such as small fare-free systems or large free-transfer systems (e.g., the New York City subway), passenger miles are sampled directly. Validation based on annual trend analysis is performed on the passenger mile inputs from the transit industry. The validation is performed by NTD analysts.

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[2] Fiscal year 2020 is the final reporting year for this performance measure.

Completeness: See Reduce Total Transit-Related Fatalities.

Reliability: Rail safety events are reconciled against SSO Investigatory Reports. Methodologies for reporting passenger miles must either follow FTA guidance, or else be approved by a qualified statistician. Data reports are self-certified by a designate of the transit system's CEO.

Verification and Validation: FTA employs an NTD validation services contractor that verifies and validates safety event reports. Passenger mile data are validated against the operations and financial data in the rest of the annual NTD report to ensure consistency and are validated against the prior year's reported passenger miles.

REDUCE TRANSIT-RELATED FATALITIES PER 100 MILLION VEHICLE REVENUE MILES

Performance Lead: FTA

Measure: Total Transit Fatalities per 100 Million Vehicle Revenue Miles

Scope: The scope of fatalities is the same as for the Reduce Total Transit-Related Fatalities goal. The scope of this measure is limited to those systems that report fatalities, per the above. Vehicle revenue miles are defined as the number of miles that transit vehicles travel while in revenue service. Revenue service means that the transit vehicle is open and available to transport passengers, regardless of whether any passengers have actually boarded the vehicle. This excludes deadhead time when the vehicle is traveling from a garage to the first passenger pickup point, or is traveling from the last passenger pickup point back to the garage. Revenue service also excludes operator training time, maintenance testing time, and other non-revenue uses of transit vehicles.

Sources: Data are pulled from NTD Monthly Safety Reports for Fatalities and NTD Monthly Service Reports for Vehicle Revenue Miles.

Statistical Issues: No statistical issues identified. Both fatalities and vehicle revenue miles are collected as complete counts.

Completeness: Within the scope defined above, the fatality count data are complete. Transit systems must report reportable safety events to the NTD within 30 days of the event. In some cases, a transit operator might fail to report an event to the FTA, although FTA attempts to ensure that all transit operators meet their reporting obligations. The vehicle revenue mile data are also complete within the defined scope.

Reliability: Transit systems must report reportable safety events to the NTD within 30 days of the event. Most reportable rail safety events must also be investigated by the SSO Organization that has been designated in each State with rail transit. The NTD safety event reports are reconciled against the list of SSO Investigations annually. Data reports for both safety events and vehicle revenue miles are self-certified by a designate of the transit system's CEO annually.

Verification and Validation: FTA employs an NTD validation services contractor that verifies and validates safety event reports. Data are validated against the operations and financial data in the rest of the annual NTD report to ensure consistency, and are also validated against the prior year's reported vehicle revenue miles.

REDUCE SERIOUS INJURIES FROM MOTOR VEHICLE CRASHES

Performance Lead: NHTSA

Measure: Occupants Ejected from Passenger Vehicles per 100 Emergency Medical Services Motor Vehicle Crash Dispatches

Scope: This measure includes emergency medical services (EMS) data from U.S. States and territories.

Sources: The National Emergency Medical Services Information System (NEMSIS) database is a product of NHTSA's Office of EMS in collaboration with the University of Utah Technical Assistance Center (TAC). It is a National database that is used to store EMS data from U.S. States and territories. The NEMSIS is a universal standard for how patient care information resulting from an emergency 9-1-1 call for assistance is collected. The NEMSIS is a collaborative system to improve patient care through the standardization, aggregation, and utilization of point of care EMS data at the local, State, and National levels.

Local agencies send EMS data in the proper XML format to States, then on to the NEMSIS. The system is versatile and allows local and State agencies to customize their reports while also maintaining consistent National elements.

- Local agency providers select elements according to their needs, while keeping the National and State elements as part of their selection.
- States select elements from the NEMSIS dataset according to their needs, while keeping the National elements as part of their selection.
- The National elements are transmitted to the NEMSIS TAC to populate the National EMS Dataset.

Statistical Issues: The data from the NEMSIS are event-based, not patient-based. That is, a single patient may be represented in more than one record for a variety of reasons. For example, several agencies may respond to the same event (i.e., one patient) and each submit a patient care record to NEMSIS.

Completeness: Data files received from contributing EMS agencies and States are checked for completeness, logical consistency, and proper formatting. Any data files not passing the NEMSIS validation and data cleaning processes are rejected or flagged based upon the seriousness of the discovered errors. A data profile report is generated for each submitted file from a State (and/or submitting entity), allowing the opportunity to review the quality of submitted data, correct errors, and resubmit their data if needed.

The proportion of missing data varies across data elements. In most cases, NEMSIS data are not missing at random and analyses, therefore, are subject to bias if missing data are ignored. Excluding observations with missing values is the default for most software programs when running statistical analyses. Another option is to provide plausible values for the missing data, either by single value or multiple value imputation. A single imputation of a value may be an educated guess at the value, substitution of the mean value, or substitution based on a regression equation using other (observed) values. Most statistical software packages can do imputations without much difficulty.

Reliability: The NEMSIS is a large convenience sample, meaning it consists solely of data submitted by participating EMS agencies within States and it is not a population-based data set. In addition, NEMSIS inherits the individual deficiencies originating from its contributing entities.

Verification and Validation: The NEMSIS TAC employs edit checks to identify invalid or out-of-range values for the variables included the research data set. There are currently over 300 edit checks.

IMPROVE SAFETY OF FLEET ON U.S. ROADWAYS

Performance Lead: NHTSA

Measure: Percentage of Fleet Crash Tested

Scope: Each year, NHTSA tests new cars, trucks, sport utility vehicles, and vans and rates them using the 5-Star Safety Rating system. Five stars indicate the highest safety rating and one star indicates the lowest. The 5-Star Safety Rating evaluates how well vehicles perform in crash tests to help consumers make smart decisions about safety when purchasing a vehicle. Vehicle safety ratings are provided at the point of sale on the window sticker that is applied to new vehicles, on NHTSA's website, and other consumer information outlets. This provides consumers with a reliable, transparent, and unbiased assessment of the safety performance of passenger cars and trucks sold in the U.S.

Sources: Data are from NHTSA's fleet crash test program.

Statistical Issues: No statistical issues identified.

Completeness: NHTSA conducts crash testing on approximately 85 percent of the new vehicle fleet. NHTSA categorizes vehicles by class and curb weight of a vehicle (standard equipment including the maximum capacity of fuel, oil, coolant, and air conditioning). A vehicle's 5-Star Safety Rating combines the results of the frontal and side crash tests and a rollover resistance test into one score that indicates the overall risk of injury to a vehicle occupant if the vehicle is involved in a crash. The rating also includes information about recommended advanced crash avoidance technologies, including forward collision warning, automatic emergency braking, and lane departure warning.

Reliability: NHTSA has developed detailed control mechanisms to ensure that the crash testing process is consistent and reliable for crash tests conducted across all brands and vehicle types. The data are carefully reviewed for any potential anomalies.

Verification and Validation: NHTSA's protocols for conducting crash tests has been developed, refined, and verified over the course of 50 years.

IMPROVE TIMELINESS OF DATA

Performance Lead: NHTSA

Measure: Percentage of States that Meet the Quarterly Timeliness Benchmark

Scope: The data collected are a count of deaths of a motorist or a non-motorist occurring within 30 days of a crash involving a motor vehicle traveling on a traffic-way open to the public within the 50 States, the District of Columbia, and Puerto Rico.

Sources: Roadway fatality data are obtained from NHTSA's FARS.

Statistical Issues: Further research is needed to identify potential statistical issues.

Completeness: Annual traffic fatalities are currently available through CY 2018, published in October 2019, and CY 2019 data are anticipated to be released before the end of CY 2020.

Reliability: In order to complete each FARS case, the analyst applies specific definitions and guidelines and inputs the appropriate element values for each data element into the data entry system. In this way, all data contained in the FARS system are uniform, eliminating State differences in collecting and maintaining relevant crash records.

Verification and Validation: See Reduce Motor Vehicle-Related Fatalities Overall.

REDUCE FATALITIES CAUSED BY PIPELINES AND HAZARDOUS MATERIALS

Performance Lead: PHMSA

Measure: Confirmed Fatalities Caused by the Release of Hazardous Materials Transported via Pipeline or Surface Transportation Conveyance

Scope: Incidents on gas pipeline systems, liquefied natural gas facilities, and underground natural gas storage facilities must be reported to PHMSA under 49 CFR § 191.15 - Transmission Systems, Gathering Systems, Liquified Natural Gas Facilities, and Underground Natural Gas Storage Facilities: Incident Report. Hazardous liquid and carbon dioxide (CO_2) pipeline system accidents must be reported to PHMSA under 49 CFR § 195.50 - Reporting Accidents. Both interstate and intrastate pipeline systems are subject to the reporting requirements. Additionally, any person in possession of a hazardous material during air, water, rail, or highway transportation, including loading, unloading, and storage incidental to transportation, must report incidents if certain conditions are met under 49 CFR § 171.15 - Immediate Notice of Certain Hazardous Materials Incidents and 49 CFR § 171.16 - Detailed Hazardous Materials Incident Reports. A fatality resulting from a failure in a hazardous materials transportation system in which there is a release of a hazardous liquid, CO_2, natural gas, or other regulated hazardous material must be reported. This includes operator employees, contractors working for the operator, other workers in the right of way, emergency responders, and the public. If an injured person dies within 30 days of the incident date, it is counted as a death, not as an injury. PHMSA partners with operators, State partners, and other stakeholders to identify and confirm deaths that occurred due to a release of hazardous liquid, gas, or other hazardous material regulated by PHMSA.

Sources: Departmental and PHMSA incident data are used for this measure. For pipeline incidents, these data are derived from pipeline operator reports submitted on PHMSA Forms F 7100.1, F 7100.2, F 7100.3, and F-7000-1. PHMSA regulations require incidents to be reported online through the PHMSA Portal. For incidents involving all other modes of transportation, hazardous materials transportation incident data are derived from reports submitted on DOT Form F 5800.1 and maintained in the Hazardous Materials Information System. In addition, PHMSA seeks information and data to identify potentially reportable hazardous materials incidents through the National Response Center (NRC), as well as the monitoring print, television, and social media daily.

Statistical Issues: Results in any single year should be interpreted with caution. There is some normal annual variation in the number of reported incidents each year, particularly given the small number of fatalities, and this variation might not reflect real changes in the underlying risk. The target each year is set at one standard deviation from the trend line estimated based on best-fit function to account for normal variation year-to-year. This provides about 80 percent probability of achieving the target if the risk continues to follow the trend line. The trend line is evaluated and calibrated at the end of every fiscal year. The performance measure is not normalized for changes in exposure or external factors such as changes in pipeline mileage, energy consumption, or U.S. population that could affect the number of incidents with fatalities.

Completeness: Compliance in reporting is very high and most incidents that meet reporting requirements are submitted. Operators must submit reports within 30 days of an incident or face penalties for non-compliance. There is typically a 30-day lag between the date of the pipeline incident and PHMSA receipt of the incident report. Pipeline operators can supplement incident reports at any time after original submittal. For other transportation modes, there may be a 30- to 60-day lag in reporting, verifying, validating, and compiling information in the database for analysis, as many companies do not file incident reports on time. Filers have one year to modify their submission.

Reliability: PHMSA routinely cross-checks incident reports against other sources of data, such as immediate notifications provided to the NRC and media outlets. PHMSA inspectors also regularly discuss incidents with operator personnel during routine inspections.

Verification and Validation: All incident data are collected on OMB-approved forms online. Detailed OMB-approved instructions for incident reports are available on the PHMSA at https://www.phmsa.dot.gov/. Validation checks are run in the online instrument prior to submittal to ensure all required data fields have been populated. PHMSA staff are responsible for reviewing each incident report to ensure the data matches information gained during PHMSA investigation or media reports. Pipeline operators have online access to each report they have submitted. The public can download all the incident raw data or view 20-year trend lines of pipeline incident data with views of individual report data available on the PHMSA website at https://www.phmsa.dot.gov/.

IMPROVE SAFE DELIVERY OF PIPELINE PRODUCTS AND HAZARDOUS MATERIALS

Performance Lead: PHMSA

Measure: Incidents Involving Death or Major Injury Resulting from the Transport of Hazardous Materials by All Modes Including Pipelines

Scope: Incidents on gas pipeline systems, liquefied natural gas facilities, and underground natural gas storage facilities must be reported to PHMSA under 49 CFR § 191.15. Hazardous liquid and CO_2 pipeline system accidents must be reported to PHMSA under 49 CFR § 195.50. Both interstate and intrastate pipeline systems are subject to the reporting requirements. Additionally, any person in possession of a hazardous material during air, water, rail, or highway transportation, including loading, unloading, and storage incidental to transportation, must report incidents if certain conditions are met under 49 CFR § 171.15 and 49 CFR § 171.16.

Incidents involving death or major injury represent a fraction of the total incidents reported under 49 CFR. A fatality resulting from a failure in a hazardous materials transportation system in which there is a release of a hazardous liquid, CO_2, or natural gas must be reported. A major injury is an injury in which an individual requires in-patient hospitalization as a result of a failure from a hazardous materials transportation system in which there is a release of a hazardous liquid, CO_2, or natural gas. An individual, which includes employees, emergency responders, and members of the public, that was injured as a direct result of hazardous materials during transportation in modes other than pipeline and was admitted to the hospital overnight and/or lost three days or more from work due to the injury is deemed as a major injury. If an injured person dies within 30 days of the incident date, it is counted as a death, not as an injury. In-patient hospitalization means hospital admission and at least one overnight stay (detailed guidance is available on the PHMSA at https://www.phmsa.dot.gov/).

Sources: Departmental and PHMSA Hazardous Liquid accident data are used for this measure. The data are submitted online by pipeline operators using PHMSA Form F 7000-1.

Statistical Issues: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Completeness: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Reliability: Data for incidents involving death or major injury are considered the most reliable of PHMSA's incident data. These incidents have additional verification and validation procedures to include follow-up contact with the company or individual who made the report, contact with State and local law enforcement and/or emergency response officials, and data matching with initial reports made to the NRC. PHMSA also partners with operators, State partners, and other stakeholders to identify and confirm deaths that occurred due to a release of hazardous liquid, gas. PHMSA continues to work to improve the quality of the incident data.

Verification and Validation: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Performance Lead: PHMSA

Measure: Pipeline Hazardous Liquid Spilled, Gross Volume (Barrels)

Scope: Hazardous liquid pipeline incidents must be reported to PHMSA under 49 CFR § 195.50. PHMSA tracks both gross and net volume spilled from pipeline systems transporting crude oil, refined products, and biofuels. The gross spilled volume measure shows how effective pipeline safety standards and programs are at containing energy products moving through pipelines. Beginning in FY 2019, PHMSA included a measure of the gross volume spilled for crude oil, refined products, and biofuels from pipeline systems.

Sources: Departmental and PHMSA Hazardous Liquid accident data are used for this measure. The data are submitted online by pipeline operators using PHMSA Form F 7000-1.

Statistical Issues: Results in any single year should be interpreted with caution. There is some normal annual variation in the volume spilled each year, particularly given the annual number of failures, and this variation might not reflect real changes in the underlying risk. Targets account for year-to-year variations in gross spilled over 13-year period. The target each year is set at one standard deviation

from the trend line that uses a best-fit function to account for normal variation annually. This performance measure is not normalized for changes in exposure, or external factors such as changes in pipeline mileage, petroleum consumption, or ton-miles moved through pipelines, that could affect the gross volume of hazardous liquids spilled.

Completeness: Compliance in reporting is very high and reports are submitted for most or all incidents that meet reporting requirements. Operators must submit reports

within 30 days of an incident or face penalties for non-compliance. There is typically a 30-day lag between the date of the incident and PHMSA receipt of the report.

Reliability: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Verification and Validation: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Performance Lead: PHMSA

Measure: Pipeline Hazardous Liquid Spilled, Net Volume (Barrels)

Scope: Hazardous liquid pipeline accidents are reportable to PHMSA under 49 CFR § 195.50. PHMSA tracks both gross and net volume spilled from pipeline systems transporting crude oil, refined products, and biofuels. The gross spilled volume measure shows how effective pipeline safety standards and programs are at containing energy products moving through pipelines, while the net spilled volume considers the effectiveness of remediation standards and pipeline operator actions after the spill.

Sources: Departmental and PHMSA accident data are used for this measure. The data are submitted online by pipeline operators using PHMSA Form F 7000-1.

Statistical Issues: Results in any single year should be interpreted with caution. There is some normal annual variation in the volume spilled each year, particularly given the small number of failures, and this variation might not reflect real changes in the underlying risk.

The target each year is set at one standard deviation from the trend line to account for normal variation annually. This provides about 80 percent probability of achieving the target if the risk continues to follow the trend line. An exponential trend line is used to reflect the concept of diminishing returns as the numbers decline. This performance measure is not normalized for changes in exposure, or external factors such as changes in pipeline mileage, petroleum consumption, or ton-miles moved through pipelines, that could affect the number of major hazardous liquid spills.

Completeness: Compliance in reporting is very high and most or all accidents that meet reporting requirements are submitted. Operators must submit reports within 30 days of an accident or face penalties for non-compliance. There is typically a 30-day lag between the date of the accident and PHMSA receipt of the report.

Reliability: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Verification and Validation: See Reduce Fatalities Caused by Pipelines and Hazardous Materials.

Performance Lead: PHMSA

Measure: Hazardous Materials Incidents Reported Annually

Scope: 49 CFR § 171 requires that certain types of hazardous materials incidents be reported to PHMSA. Any person in possession of a hazardous material during transportation (air, water, rail, and highway), including loading, unloading, and storage incidental to transportation, must report if certain conditions are met under 49 CFR § 171.15 and 49 CFR § 171.16 All injuries and fatalities that are a direct result of the hazardous materials during transportation are reportable. An individual, which includes employees, emergency responders, and members of the public, who is injured as a direct result of hazardous

materials and was admitted to the hospital overnight and/or lost three days or more from work due to the injury is deemed as a major injury. An individual that was injured as a direct result of hazardous materials and sought on-site treatment or was seen in the emergency room and released is deemed as a minor injury.

Sources: Hazardous materials transportation incident data are derived from reports submitted on Form DOT F 5800.1 and maintained in the Hazardous Materials Information System. In addition, PHMSA seeks information and data to identify potential incidents through the NCR, as well as monitoring print, television, and social media daily.

Statistical Issues: PHMSA is currently examining factors that could be used to normalize the data. Specifically,

PHMSA is examining economic indicators that could be used to normalize the data, as well as methods (i.e., ton miles traveled) to normalize the data when comparing different modes. The target each year is set at one standard deviation from the trend line to account for normal variation year-to-year (which shows a decline of about 10 percent on average every eight years over the past 28 years [CYs 1988-2015]). An exponential trend line is used to reflect the concept of diminishing returns as the numbers decline.

Currently, the performance measure is not normalized for changes in exposure, or external factors such as changes in the amount of hazardous materials shipped, number of shipments, or population of the United State, that could affect the number of incidents with death or major injury.

Completeness: PHMSA has instituted several actions to improve compliance regarding incident reporting. Specifically, PHMSA has implemented rulemakings to increase the penalty for not reporting when required. In addition, PHMSA field operations have focused enforcement efforts on individuals who fail to comply when the incident resulted in a fatality or major hazardous material injury.

Lastly, PHMSA seeks information and data to identify potentially reportable incidents through the NRC as well as the monitoring print, television, and social media. 49 CFR § 171.16 requires a written report for certain types of hazardous materials incidents within 30 days of the incident, and a follow-up written report within one year of the date of incident, based on certain circumstances. Each person in physical possession of a hazardous material at the time an incident occurs (loading, unloading, and temporary storage) during transportation must submit a Hazardous Materials Incident Report on DOT Form F 5800.1 within 30 days of discovery of the incident. This means that when the conditions apply for completing the report, the entity having physical control of the shipment is responsible for filling out and filing DOT Form F 5800.1. There may be a 30- to 60-day lag in reporting, verifying, validating, and compiling information in the database for analysis, as many companies do not file incident reports on time. Projections from partial-year data include all months for which PHMSA has reliable data plus an estimated number for the missing months based on the historical fraction those months represent in the final totals over the past five years.

Reliability: Data on incidents involving death or major injuries, which represent a fraction of the total number of reportable incidents, are the most reliable of the available incident data. These incidents have additional

verification and validation procedures that include follow-up contact with the company or individual who made the report, contact with State and local law enforcement and/or emergency response officials, and matching data with initial reports made to the NRC.

Verification and Validation: PHMSA routinely cross-checks incident data against other sources of data, including matching incident reports with reports made to the NRC and the use of a news clipping service to provide information on significant hazardous materials incidents that might not be reported. If sufficient information exists, PHMSA follows up with carriers who may need to file an incident report. PHMSA has established several data quality initiatives that include, but are not limited to:

- **Standardizing Processes to Improve Efficiency:** Evaluating and documenting current systems requirements and implementing a standardized continuous improvement process. This process will provide performance management, identify areas for improvement, and implement processes to promote efficiencies;

- **Fostering Innovation and Enhancement of Data Collection Systems:** Improving information technology (IT) functionality and internal and external systems regarding incident reporting. This includes the development of web-based systems to improve the user experience;

- **Enhancing Risk Management Principles and Encouraging the Use of Safety Management Systems:** Continuing to build a risk assessment methodology based on a multidisciplinary approach, including developing better commodity flow data and applying statistical analysis, data modeling, and predictive analytics;

- **Increasing Compliance, Training, and Outreach:** Educating the regulated community on incident reporting, particularly on what must be reported and the mechanisms available to report. This includes the development of educational materials such as quick reference guides to the DOT 5800.1 incident reporting form; and

- **Enhancing Coordination with Other Agencies:** Working closely with other government agencies to ensure sharing of data and collaboration where appropriate.

PREVENT ACCIDENTAL DAMAGE TO GAS AND HAZARDOUS MATERIALS PIPELINES

Performance Lead: PHMSA

Measure: Damages per 1,000 One-Call Tickets for Gas Distribution Pipelines (National Average)

Scope: This measure refers to the instances of excavation damages to pipelines. The desired outcome focuses on reducing the number of excavation-related incidents. Excavation damages are the number one cause of pipeline-related injuries and fatalities. Measuring likelihood of calling 811 or submitting a One-Call ticket is a direct indication of the success or failure of PHMSA's programs to influence use of the service. This measure is influenced by 811 awareness, safe digging practices, State enforcement of One-Call laws, and technology improvements.

Sources: The source of the data for damages per 1,000 One-Call tickets is PHMSA's gas distribution operator annual report submissions. By March 15 of each year, pipeline operators are required to submit annual reports to PHMSA and its State partners. The aggregated information is available to the public on the PHMSA website at https://www.phmsa.dot.gov/data-and-statistics/pipeline/data-and-statistics-overview.

Statistical Issues: Results in any single year should be interpreted with caution. The performance measure does not fully capture other damage prevention results or external factors.

Completeness: Compliance in reporting is very high and reports are submitted for most or all incidents that meet reporting requirements. Operators must submit reports within 30 days of an accident or face penalties for non-compliance. There is typically a 30-day lag between the date of the accident and PHMSA's receipt of the report.

Reliability: PHMSA continues to work to improve the quality of the incident and accident data.

Verification and Validation: PHMSA routinely cross-checks incident data against other sources of data, such as immediate notifications provided to the NRC and media outlets. Pipeline operators have online access to each report they have submitted and can supplement the report at any time after the original submittal. Validation checks are run in the portal prior to submittal to ensure all required data fields have been populated. PHMSA also uses Common Ground Alliance annual reporting to compare these damage totals to the number of One-Call tickets.

REDUCE U.S.-OWNED COMMERCIAL CARRIER AVIATION FATALITIES PER 100 MILLION PERSONS ON BOARD

Performance Lead: FAA

Measure: U.S.-Owned Commercial Carrier Aviation Fatalities per 100 Million Persons on Board[3]

Scope: This metric includes both scheduled and nonscheduled flights of U.S. passenger and cargo air carriers (14 CFR § 121 - Operating Requirements: Domestic, Flag, and Supplemental Operations) and scheduled passenger flights of commuter operators (14 CFR § 135 - Operating Requirements: Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft). It excludes on-demand (i.e., air taxi) service and general aviation. Accidents involving passengers, crew, ground personnel, and the uninvolved public are all included.

Sources: Data on commercial fatalities come from NTSB's Aviation Accident Database. All but a small share of the data form persons on board comes from the air carriers, who submit information for all passengers on board to the Office of Airline Information within BTS. Additionally, FAA estimates crew on board based on the distribution of aircraft departures by make and model, plus an average of 3.5 persons on board per Part 121 cargo flight.

Statistical Issues: Both accidents and passengers on board are censuses, having no sampling error. Crew on board is an estimate with a small range of variation for any given make and model of aircraft. Departure data and enplanements for Part 121 are from the BTS. The crew estimate is based on fleet makeup and crew requirements per number of

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[3] FAA's goal is to reduce the commercial air carrier fatalities per 100 million persons on board by 50 percent over an 18-year period (FYs 2008-2025), with no more than 4.4 fatalities per 100 million persons in FY 2025.

seats. For the current fleet, the number of crew is equal to about seven percent of all Part 121 enplanements. The average number of cargo crew on board is 3.5 per departure, based on data from subscription services such as Air Claims, a proprietary database used by insurers to obtain information such as fleet mix, accidents, and claims. Cargo crews typically include two flight crew members, and occasionally another pilot or company representative or two deadheading passengers.

Part 135 data also come from BTS and Air Claims databases, but are not as complete. The Office of Aviation Policy and Plans verifies with the operators when it identifies gaps in the data. Based on previous accident and incident reports, the average Part 135 enplanement is five per departure. Crew estimates for Part 135 are based on previous accident and incident data. Any error that might be introduced by estimating crew will be very small and will be overwhelmed by the passenger census. Importantly, the fatality rate is low and could significantly fluctuate from year to year due to a single accident.

Completeness: FAA does comparison checking of the departure data collected by BTS. These data are needed for crew estimates. However, FAA has no independent data sources against which to validate the numbers submitted to BTS. FAA compares its list of carriers to the DOT list to validate completeness and places the carriers in the appropriate category (i.e., Part 121 or Part 135). The number of actual persons on board for any given period is considered preliminary for up to 18 months after the close of the reporting period. This is due to amended reports subsequently filed by the air carriers. Preliminary estimates are based on projections of the growth in departures developed by Office of Aviation Policy, Planning, and Environment. However, changes to the number of persons on board should rarely affect the annual fatality rate.

To overcome reporting delays of 60 to 90 days, FAA must rely on historical data, partial internal data sources, and Official Airline Guide scheduling information to project at least part of the fiscal year activity data. FAA uses Official Airline Guide data until official BTS data are available. The final result for the air carrier fatality rate

is not considered reliable until BTS provides preliminary numbers. Due to reporting procedures in place, it is unlikely that calculation of future fiscal year departure data will be markedly improved. This lack of complete historical data on a monthly basis and independent sources of verification increases the risk of error in the activity data.

NTSB and the Office of Accident Investigation and Prevention confer periodically to validate information on the number of fatalities. Accident data are considered preliminary. NTSB usually completes investigations and issues reports on accidents that occur during any fiscal year by the end of the next fiscal year. Results are considered final when all those accidents have been reported in the NTSB press release published early in the following year. FY 2018 results will therefore be final after the FY 2020 press release. In general, however, the number of fatalities is not likely to change significantly between the end of the fiscal year and the date they are finalized.

Reliability: Results are considered preliminary based on projected activity data. Most accident investigations are a joint undertaking. NTSB has the statutory responsibility to determine probable cause, while FAA has separate statutory authority to investigate accidents and incidents to ensure that FAA meets its broader responsibilities. FAA's own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators.

Verification and Validation: NTSB and the Office of Accident Investigation and Prevention confer periodically to validate information on the number of fatalities. Accident data are considered preliminary. FAA's own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators. FAA uses performance data extensively for program management, personnel evaluation, and accountability. Results are considered final when all those accidents have been reported in the NTSB press release published early in the following year. For departure data, FAA does comparison checking on the data collected by BTS. Data are reviewed by FAA senior leadership every week. This metric is part of a core group of goals which the FAA pegs employee performance-based pay.

REDUCE GENERAL AVIATION FATAL ACCIDENTS PER 100,000 FLIGHT HOURS

Performance Lead: FAA

Measure: U.S. General Aviation Fatal Accidents per 100,000 Flight Hours[4]

Scope: This metric includes U.S.-registered, on-demand (non-scheduled, 14 CFR § 135) and general aviation flights. General aviation comprises a diverse range of aviation activities, from single-seat homebuilt aircraft, helicopters, balloons, single and multiple engine land and seaplanes, to highly sophisticated, extended range turbojets.

Sources: The data for general aviation fatal accidents come from the NTSB Aviation Accident Database. Aviation accident investigators, under the auspices of the NTSB, develop the data. Annual flight hours are derived from FAA's annual General Aviation and Part 135 Activity Survey. FAA's Forecast and Performance Analysis Division provides current year estimates.

Statistical Issues: The NTSB finalizes the actual number of general aviation fatal accidents. As this is a simple count of accidents, there are no statistical issues identified. The general aviation community and the General Aviation Joint Steering Committee (GAJSC), as part of the Safer Skies initiative, recommended development of a data collection program that will yield more accurate and relevant data on general aviation demographics and utilization. Improved general aviation survey and data collection methodologies have been developed. Because of these efforts, FAA, working with the General Aviation Manufacturers Association, the NTSB, and other aviation industry associations, has made many improvements to the survey. An improved survey was initiated in FY 2004. These annual surveys created, for the first time, a statistically valid report of activity on which the general aviation community could agree. First, the sample size has significantly increased. Second, a reporting form has been created to make it much easier for organizations with large fleets to report. Third, the agency worked with the Aircraft Registry to improve the accuracy of contact information. Each year, significant changes are being made to substantially improve data accuracy.

The GAJSC, its Safety Analysis Team, and the General Aviation Data Improvement Team worked closely with the general aviation community and industry to develop this performance metric and target. There was unanimous support and consensus for the metric and target.

Completeness: The number of general aviation fatal accidents, even when reported as preliminary, is very accurate. The NTSB and the Office of Accident Investigation and Prevention confer periodically to validate information on the number of fatalities. The NTSB usually completes investigations and issues reports on accidents that occur during any fiscal year by the end of the next fiscal year. Results are considered final when all those accidents have been reported in the NTSB press release published early in the following year. Fiscal year 2018 results will therefore be final after the FY 2020 press release. In general, however, the numbers of fatalities are not likely to change significantly between the end of the fiscal year and the date they are finalized. Further research is needed to determine how well annual flight hours derived from FAA's annual General Aviation and Part 135 Activity Survey capture total general aviation flight hours. General aviation survey calendar hours are finalized by December 31 of the following year. Hence, the fatal accident rate for FY 2019 will not be considered final/complete until December 31, 2020.

Reliability: Results are considered preliminary based on projected activity data. Most accident investigations are a joint undertaking. The NTSB has the statutory responsibility to determine probable cause, while FAA has separate statutory authority to investigate accidents and incidents to ensure that FAA meets its broader responsibilities. FAA's own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators.

Verification and Validation: For the number of fatal accidents, NTSB and the Office of Accident Investigation and Prevention confer periodically to validate their information. For flight hours, general aviation survey data are highly accurate with a percent-standard error of less than one percent. The general aviation community and the GAJSC, as part of the Safer Skies initiative, recommended development of a data collection program that will yield more accurate and relevant data on general aviation demographics and utilization. Improved general aviation survey and data collection methodologies have been developed. FAA senior leadership review safety data on a weekly basis. This metric is part of a core group of goals which FAA pegs employee performance-based pay.

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[4] FAA's goal is to reduce the GA fatal accident rate to no more than 0.89 fatal accidents per 100,000 flight hours by FY 2028.

REDUCE RUNWAY INCURSIONS

Performance Lead: FAA

Measure: Weighted Surface Safety Risk Index per Million Operations for Commercial Aviation

Scope: The metric measures the overall safety performance of the National Airspace System (NAS) in the runway environment. It includes all manner of commercial operations, aircraft, vehicles, and pedestrians that occur in that environment. It includes runway collision accidents, runway excursion accidents, taxiway collision accidents, runway incursion incidents, runway excursion incidents, and taxiway surface incidents. Operations are defined as total takeoffs and landings. Commercial operations are considered those operating under CFR § 121, 129, and 135; all other operation types are considered non-commercial.

Sources: The NTSB database is the primary source of runway accident data. Runway excursion data are supplemented by the Office of Accident Investigation and Prevention's Aviation Safety Information Analysis and Sharing database, which aggregates runway excursion data from multiple sources. Air traffic controllers and pilots are the primary source of runway incursion and surface incident reports. The data are recorded in the Comprehensive Electronic Data Analysis Reporting system, which replaced the FAA Air Traffic Quality Assurance database for the Air Traffic Organization (ATO).

Preliminary incident reports are evaluated when received and evaluation can take up to 90 days. Operations data used to calculate the runway incursion rate are provided via Operations Network and are downloaded directly from the FAA Operations and Performance Data database.

Statistical Issues: Categorization of the various accidents is performed using statistical modeling, which is prone to sampling error.

Completeness: FAA conducts annual reviews of reported data and compares them with data reported from previous years. Annual runway incursion and surface incident data are used to provide a statistical basis for research, analysis, and outreach initiatives. The Surface Safety Metric will be recalculated if accidents or incidents are reported late or if operations data are retroactively adjusted.

Reliability: A classification algorithm with approximately 95 percent accuracy is used to classify NTSB events as runway collisions, taxiway collisions, or runway excursions. Given this classification error, there is a small chance that irrelevant accidents will be included in the Surface Safety Metric calculation or relevant accidents will be excluded.

Verification and Validation: FAA verifies and validates the accuracy of runway incursion and surface incident data through the initial validation process followed by quality assurance and quality control reviews. Reconciliation of the databases is conducted monthly and anomalies are explored and resolved. In cases where major problems are identified, a request to re-submit is issued.

Performance Lead: FAA

Measure: Weighted Surface Safety Risk Index per Million Operations for Non-Commercial Aviation

Scope: The metric measures the overall safety performance of the NAS in the runway environment. It includes all manner of non-commercial operations, aircraft, vehicles, and pedestrians that occur in that environment. It includes runway collision accidents, runway excursion accidents, taxiway collision accidents, runway incursion incidents, runway excursion incidents, and taxiway surface incidents. Operations are defined as total takeoffs and landings. Commercial operations are considered those operating under CFR § 121, 129, and 135; all other operation types are considered non-commercial.

Sources: The NTSB database is the primary source of runway accident data. Runway excursion data are supplemented by the Office of Accident Investigation and Prevention's Aviation Safety Information Analysis and Sharing database, which aggregates runway excursion data from multiple sources. Air traffic controllers and pilots are the primary source of runway incursion and surface incident reports. Data are recorded in the Comprehensive Electronic Data Analysis Reporting system, which replaced the FAA Air Traffic Quality Assurance database for the ATO.

Preliminary incident reports are evaluated when received and evaluation can take up to 90 days. Operations data used to calculate the runway incursion rate are provided via Operations Network and are downloaded directly from the FAA Operations and Performance Data database.

Statistical Issues: Categorization of the various accidents is performed using statistical modeling, which is prone to sampling error.

Completeness: FAA conducts annual reviews of reported data and compares them with data reported from previous years. Annual runway incursion and surface incident data are used to provide a statistical basis for research, analysis, and outreach initiatives. The Surface Safety Metric will be recalculated if accidents or incidents are reported late or if operations data are retroactively adjusted.

Reliability: A classification algorithm with approximately 95 percent accuracy is used to classify NTSB events as runway collisions, taxiway collisions, or runway excursions. Given this classification error, there is a small chance that irrelevant accidents will be included in the Surface Safety Metric calculation or relevant accidents will be excluded.

Verification and Validation: FAA verifies and validates the accuracy of runway incursion and surface incident data through the initial validation process followed by quality assurance and quality control reviews. Reconciliation of the databases is conducted monthly and anomalies are explored and resolved. In cases where major problems are identified, a request to re-submit is issued.

EXERT GLOBAL LEADERSHIP AT THE INTERNATIONAL CIVIL AVIATION ORGANIZATION

Performance Lead: FAA

Measure: Exert Global Leadership at the International Civil Aviation Organization

Scope: There are two targets associated with this measure:
- **Target 1:** Prepare a corporate definition of and approach to international training that transforms and expands FAA's influence and impact upon the global aviation community to create support for the U.S. approach to aviation safety; and
- **Target 2:** Combine current goals and expectations with regional and global perspectives to promote U.S.-based standards and best practices.

Sources: At the request of agency executives, the Office of International Affairs examined the agency's current process for program planning, including the focus and effectiveness of international training.

Statistical Issues: No statistical issues identified.

Completeness: As the integrated FAA International Strategy evolves, it may be necessary to revisit the identified data and revise the criteria on a regular basis to ensure it is valid and supports the strategy.

Reliability: It can be assumed that the identified data collection criteria will change on a regular basis as it is updated at the source. Although this may not affect the inclusion of this criterion in the future, it could affect the prioritization process and possibly the end product.

Verification and Validation: FAA uses the International Advisory Board, a formal governance structure, for agency-wide collaboration to make decisions about how it engages globally and how it can better allocate resources. The agency relies on an expansive internal and external global aviation data to inform and drive the resource allocations. Further, at the direction of the International Advisory Board, FAA established a policy that requires the use of data to decide which foreign countries it will help through technical assistance such as training, flight inspections, equipment, spare parts and repair services, and cooperative agreements.

STRATEGIC GOAL 2: INFRASTRUCTURE

MAINTAIN ACCOUNTABILITY FOR PERMITTING PROJECTS

Performance Lead: OST-Policy

Measures:

- Percentage of DOT Environmental Impact Statements Posting on Permitting Dashboard that are On Schedule
- Percentage of DOT Major Infrastructure Projects Posted on Permitting Dashboard that are On Schedule[5]

Scope: This measure includes the number of Environmental Impact Statements (EIS) on the Federal Infrastructure Permitting Dashboard where the lead agency is a DOT Operating Administration (OA). The Permitting Dashboard tracks DOT projects that result in either an Environmental Assessment (EA) or EIS.

In addition, the dashboard also tracks other agencies' EISs and EAs for infrastructure projects that are covered projects. EISs are projects that result in significant impacts to the environment as defined by each agency through experience. These projects are often complex and involve a number of actions with associated milestones that are tracked on the dashboard. A project remains on schedule if the milestones have been completed or if any estimated milestone dates have not been reached.

Sources:

- Federal Infrastructure Permitting Dashboard: https://www.permits.performance.gov/
- Department Specific Projects: https://data.permits.performance.gov/
- Environmental Impact Statements: https://data.

permits.performance.gov/Permitting-Project/DOT-EISs-In-Progress/sgra-wju6

Statistical Issues: No statistical issues identified.

Completeness: Each OA is responsible for updating the project schedules on a quarterly basis. Some OAs are better at uploading their project schedules than others. When there is a missed milestone, it may be attributed to failure to update the schedule rather than the project being delayed. Operating Administrations are creating ways to streamline the entry process so that there are not duplicative tracking processes and data are more complete and up to date.

Reliability: Access to the information provided in the Federal dashboard is limited to only a few dashboard administrators who are able to modify the data. This ensures that the data being entered are reliable and accurate; however, it does result in delays of getting the information put into the system. As OAs develop ways to streamline the data entry into the permitting dashboard through allowing internal systems to seamlessly download to the dashboard, the OAs should do more quality assurance/quality control of the data to ensure that the information is reliable and accurate.

Verification and Validation: The Department pulls a report of the data every quarter. Each OA is asked to verify that they have updated their project schedules and the data in the permitting dashboard is up to date prior to the pull. The OAs are tasked with ensuring the verification and validation of the information within the dashboard.

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[5] The Permitting Dashboard tracks DOT projects that result in either an EA or EIS. In addition, the dashboard also tracks other agencies' EISs and EAs for infrastructure projects that are covered projects.

REDUCE THE TIME TO COMPLETE AN ENVIRONMENTAL IMPACT STATEMENT

Performance Lead: OST-P

Measure: Average Months to Complete an Environmental Impact Statement

Scope: The Office of the Assistant Secretary for Policy (OST-P) tracks the number of EISs on the permitting dashboard where the lead agency is a DOT OA.

Sources: See Maintain Accountability for Permitting Projects.

Statistical Issues: No statistical issues identified.

Completeness: See Maintain Accountability for Permitting Projects.

Reliability: See Maintain Accountability for Permitting Projects.

Verification and Validation: See Maintain Accountability for Permitting Projects.

REDUCE THE TIME TO COMPLETE A MAJOR INFRASTRUCTURE PROJECT

Performance Lead: OST-P

Measure: Average Months to Complete an Environmental Review for Major Infrastructure Projects for Which DOT is the National Environmental Policy Act Lead

Scope: The Department's first major infrastructure project was initiated in FY 2018 and is expected to be completed in January 2021. There are several other projects anticipated to be completed in the spring of FY 2021. As these projects are completed, the average months to complete an environmental review will be tallied. Preliminary data estimates are expected in early FY 2021.

Sources: Not applicable.

Statistical Issues: Not applicable.

Completeness: Each OA is responsible for updating their project schedules. The major infrastructure project schedules are reviewed every month to ensure they remain on schedule and any shifts in timelines are noted.

Reliability: See Maintain Accountability for Permitting Projects.

Verification and Validation: The Department pulls a report of the data every quarter. Each OA is asked to verify that they have updated their project schedules and the data in the permitting dashboard is up to date prior to the pull. The OAs are tasked with ensuring the verification and validation of the information within the dashboard. These data are then used by OMB to provide for agency scorecards that are posted on their website noting the status of major infrastructure projects, including the Department's overall average for major infrastructure projects.

INCREASE THE NUMBER OF STATES AND LOCAL AGENCIES USING FEDERAL INNOVATIVE FINANCE METHODS

Performance Lead: FHWA

Measure: Number of States and Local Agencies that Have Used Federal Innovative Finance Methods for Highway Projects (in the Current Year)

Scope: The number of States in which a public sponsor has used one of the following innovative finance tools in the current fiscal year to assist a Title 23-eligible project (this measurement applies, whether or not the project receives Title 23 grant assistance):

• Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance;
• Private Activity Bond (PAB) issuance;
• Availability Payment reimbursement agreement;
• Grant Anticipation Revenue Vehicle (GARVEE) bond issuance; and
• State Infrastructure Bank (SIB) credit assistance.

Sources: Data are pulled from the following sources:

• Build America Bureau (TIFIA and PABs);
• FHWA division offices (GARVEEs and SIBs); and
• Availability Payment reimbursement agreements.

Statistical Issues: No statistical issues identified.

Completeness: The Center for Innovative Finance Support (CIF$) has established a web-based data collection process for GARVEEs and SIBs. States and FHWA division offices are required to report their GARVEE and SIB data on March 1 of each year. As such, the GARVEE and SIB data are based on the most recent completed Federal fiscal year.

Reliability: The information is reliable. Data for GARVEEs and SIBs are collected from the 50 States and territories and approved by FHWA division offices. Each AP agreement is developed in close consultation with CIF$. For PABs and TIFIA, this information is tracked and published as the transaction closes.

Verification and Validation: The information is verified and validated with the FHWA Financial System, SIB Financial Statements, DOT Credit Council Reports and external capital market sources (Bond Buyer, Municipal Securities Rulemaking Board). The information is reviewed annually by the CIF$ for consistency and accuracy.

IMPROVE MAJOR PROJECT PERFORMANCE IN FHWA PORTFOLIO

Performance Lead: FHWA

Measures:

• Percentage of FHWA-Funded Projects Over $500 Million Within Two Percent of Schedule
• Percentage of FHWA-Funded Projects Over $500 Million Within Two Percent of Cost[6]

Scope: To assess the performance of each project in the portfolio of major projects, FHWA monitors project financial plans annually to determine the percentage that have two percent or less increase of the prior year cost estimate and project completion date. The goal is to maintain at least 80 percent of the financial plans approved each fiscal year at two percent or less increase of the prior year cost estimate and completion date. Cost

increases include items such as: utility, railroad, or right-of-way costs; in-situ field conditions unknown during the design process; changes in design criteria; construction bids higher than the engineer's estimate; and settlement claims. Schedule increases include items such as: scope changes in the project; lack of funding; design delays; and utility relocation, or right-of-way acquisition cost delays. The major causes of cost or schedule delays are tracked annually and the results are used to establish or update program improvement initiatives such as webinars, training and other outreach activities.

Sources: Project cost and completion date information is collected by FHWA from annual financial plans submitted by project sponsors.

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[6] For each financial plan annual update approved, the percentage difference between the current performance and the previous year's performance is calculated. Then the percentage of the total number of financial plans approved with cost or schedule not exceeding two percent is calculated.

Statistical Issues: A key concern is the sample size for major projects. The number of major projects is small and each project often take years to complete. Therefore, a completed project metric does not provide a basis to control the cost and schedule for major projects because it is too late. To develop an indicator that can be used to measure cost and schedule changes, the agency uses a running one-year sample size of Financial Plan Annual Updates to monitor the changes in cost and schedule. FHWA uses this information to influence annual change to be a two percent increase or less. A one-year running average essentially includes the most recent Financial Plan Annual Update for each project in the sample size.

Completeness: All States with active major projects are required by law to submit an annual financial plan with updates on project cost and schedule. As a result, the measure is expected to include 100 percent of active major projects. The measure is reported quarterly and is based on the most recent 12 months of financial plans submitted. It is possible that within a 12-month period, all major projects are not reported while other major projects are

reported twice. This is caused by the three-month window for submittal, as well as the fact that some States or project sponsors do not always meet the due dates for submitting a financial plan.

Reliability: To ensure reliability, FHWA provides guidance to States and project sponsors for the preparation of financial plans.

Verification and Validation: FHWA provides guidance to States and project sponsors for the preparation of financial plans. FHWA reviews all financial plans for consistency and adherence to the guidance. Cost and schedule data obtained from the financial plans are consolidated in a database maintained by FHWA with limited access rights to select users. The cost and schedule trend information are reviewed annually and compared with previously reported data for consistency and accuracy. In addition, FHWA conducts a workshop before the first financial plan is developed to establish the best estimate of project cost and schedule which is used as the baseline for tracking as the project is constructed.

IMPROVE MAJOR PROJECT PERFORMANCE IN FTA PORTFOLIO

Performance Lead: FTA

Measure: Percentage of FTA-Funded Projects Over $500 Million Within or Minus 10 Percent of Cost[7]

Scope: Projects from FTA's Capital Investment Grant program that had a cost baseline of at least $500 million as of October 1 of the current fiscal year.

Sources: Data come from FTA's Office of Capital Projects Management.

Statistical Issues: If a Full-Funding Grant Agreement for a project over $500 million is signed during the current fiscal year, it is not included in the measure until the following fiscal year. If FTA formally approves a new baseline for a project, the total cost of the project is measured against the original baseline. If the new baseline takes the cost estimate for the project above $500 million, it will not be included in the measure until the next year.

Completeness: These data are complete for all such projects.

Reliability: Baselines are reliable, as they are based on formally approved baselines. Current project estimates are provided to FTA by project sponsors. The current project estimates are subject to the normal uncertainties that would apply to any estimate made by the project sponsor.

Verification and Validation: FTA engages project management oversight contractors to provide some oversight over the validity of current project estimates provided by project sponsors.

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[7] This measure is calculated as a percentage, with the numerator being the number of projects whose current cost estimate is 110 percent or less of the currently approved cost baseline, and the denominator being the total number of projects.

INCREASE GRANTS TO RURAL AND SMALL URBAN AREAS

Performance Lead: FTA

Measure: FTA Grant Dollars Allocated to Rural and Small Urban Areas[8]

Scope: This measure includes both formula and discretionary grant program.

Sources: FTA's full-year apportionments notice provides the allocations of formula dollars to these areas. Amounts allocated to these areas from discretionary programs are announced once the project selections are made from these discretionary grants and published in the Federal Register as being available for obligation.

Statistical Issues: No statistical issues identified. This measure is a 100 percent count.

Completeness: This measure is comprehensive of all FTA grant programs. However, though FTA makes funding available to these geographical areas, the announcement will not necessarily result in an obligation.

Reliability: These data are reliable, as they are formal records published in the Federal Register.

Verification and Validation: No verification or validation of these data are needed, as they are formal records published in the Federal Register.

DECREASE GRANT PROCESSING TIME

Performance Lead: FTA

Measure: Average Number of Days from Grant Application Submission to Grant Award[9]

Scope: This measure is the sum of all days from the date that each grant was formally submitted to the date that each grant was formally awarded, divided by the total number of all such grants. This measure includes all grants made by FTA whose obligation date was in the current fiscal year. It also includes Transportation Investment Generating Economic Recovery/Better Utilizing Investments to Leverage Development grants for which FTA is the lead agency and whose obligation date was in the current fiscal year.

Sources: Data come from FTA's Transit Award Management System (TrAMS).

Statistical Issues: These data are not weighted by award amount. A large grant has as much weight in the average as a small grant.

Completeness: The time from formal grant application to formal award of the grant only reflects a portion of the timeline for processing and approving a grant.

Reliability: These data are reliable, as they are directly measured from TrAMS.

Verification and Validation: No verification or validation of these data are needed, as these data are directly measured from TrAMS.

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[8] The total number of grant dollars that are allocated to urbanized areas under 200,000 in population, or to rural areas (i.e., areas under 50,000 in population).

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[9] This measure is the sum of all days from the date that each grant was formally submitted to the date that each grant was formally awarded, divided by the total number of all such grants.

Performance Lead: FTA

Measure: Percentage of Grants Identified as Inactive at the Beginning of the Fiscal Year that are Either Closed or Returned to Active Status[10]

Scope: The scope is established by FTA. The agency identifies the list of potentially inactive grants at the beginning of each fiscal year.

Sources: Data come from FTA's TrAMS.

Statistical Issues: No statistical issues identified.

Completeness: The data are complete within the scope identified above.

Reliability: The data are reliable within the scope.

Verification and Validation: No verification or validation activities are conducted.

MAINTAIN BRIDGE CONDITION IN THE NATIONAL HIGHWAY SYSTEM

Performance Lead: FHWA

Measure: Percentage of Deck Area on National Highway System Bridges in Good or Fair Condition

Scope: This measure serves as an indicator of trends in bridges in Good or Fair condition on the NHS. The surface area (i.e., length multiplied by width) of bridge decks is viewed as a more meaningful measure than simply a count of bridges. The area measure recognizes the size difference among bridges and avoids the pitfall associated with counting bridges where every bridge is treated the same regardless of size. Beginning in 1971, and with expanded authority provided in 1978, the National Bridge Inspection Standards (NBIS) have required the inspection of all highway bridges located on public roads and the submission of bridge inventory and inspection data to FHWA for inclusion in the National Bridge Inventory (NBI). FHWA maintains the NBI, which contains data on more than 617,000 highway bridges. The NBI contains 95 data items for each of the bridges as required by the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. From the data provided, FHWA monitors the condition of the Nation's bridges, which includes identifying those bridges that are in good or fair condition.

Sources: Data used to determine if a bridge is in Good or Fair condition are contained in the NBI and are currently assembled from annual data submissions from States, Federal agencies, and tribal governments. Deck area is calculated from length and width data reported to the NBI.

Statistical Issues: Further research is needed.

Completeness: The NBI is the world's most comprehensive

database of bridge information. States, Federal agencies, and tribal governments are required to report their data by March 15 of each year. Updates are accepted until end of year, when the full data set is archived and published.

Reliability: Because the performance measure relies on data associated with more than 145,000 NHS bridges, the impact of any differences in reporting across States is minimized in the overall National analysis.

Verification and Validation: The NBIS requires annual submittal to FHWA of bridge inventory and inspection data collected and submitted by 50 States, the District of Columbia, and Puerto Rico in cooperation with local governments. In addition, 19 Federal agencies and a growing number of tribal governments submit data for Federally and tribally owned bridges. Through the NBI Program Oversight Process, FHWA division offices annually evaluate the quality of each State's and agency's bridge inspection program using 23 different metrics, two of which pertain to data quality and timely submission. The inspection programs are evaluated using comprehensive statistical sampling methods, file reviews, field reviews, and data analysis. A written annual evaluation is provided to each State and agency to document problems and require corrective actions. Upon submission of the NBI data to FHWA, additional safety and reasonableness checks are performed on the data prior to acceptance, including comparisons with previously reported data. Data re-submittal is required in cases where significant or safety-related problems are identified. Accuracy and reliability of the submitted NBI information are evaluated through data checks by both headquarters and division office personnel, and as part of FHWA's annual NBIS compliance reviews.

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[10] The percentage is calculated with the numerator being the total number of potentially inactive grants for which an acceptable action was taken during the fiscal year, and the denominator being the total number of grants identified as potentially inactive at the beginning of the fiscal year.

MAINTAIN ROADWAY PAVEMENT CONDITION

Performance Lead: FHWA

Measure: Percentage of Interstate Pavement in Good or Fair Condition

Scope: This measure serves as an indicator of trends in pavements in good or fair conditions on the interstate system. Effective May 2017,the Assessing Pavement Condition for the National Highway Performance Program and Bridge Condition for the National Highway Performance Program Final Rule established a new framework of National performance measures for pavement and bridge conditions. States are required to make significant progress towards achieving targets for their individual performance measures for pavements and bridges. Per the regulation, the performance of highway pavements is reported Nationally as the percentage of the interstate system in good or poor condition.

The pavement condition measure is based on a classification system of good, fair, and poor. Data used to determine the measure include mainline lane-miles of interstate system and full-extent International Roughness Index and distress data (i.e., cracking percent, rutting, and faulting) that is reported by State DOTs in the HPMS. The information in the HPMS contains pavement condition and inventory data items for 0.1-mile sections of the entire NHS as required by the HPMS Field Manual. From the data provided, FHWA monitors the condition of the Nation's pavements, which includes identifying those pavements that are in good or fair condition.

Sources: Data used to determine if pavements are in Good and Fair condition are contained in the HPMS file assembled from annual data submissions from States. The percentage is then calculated from mileage and pavement condition data reported to the HPMS.

Statistical Issues: No statistical issues identified.

Completeness: States are required to report their data by April 15 each year. However, updates are accepted until June 15, after which the data are extracted and measures are calculated and published.

Reliability: To ensure reliability, FHWA provides guidelines for data collection in the HPMS Field Manual and 23 CFR § 490.309 - Data Requirements. Adherence to these guidelines varies by State; however, to help States improve data quality, they are required to develop data quality management plans that define the acceptable level of data quality and describes how the data collection process will ensure this level of quality in its deliverables and processes per 23 CFR § 490.319c.

Verification and Validation: An annual review of reported data is conducted by FHWA, both at headquarters and in the division offices in each State. The reported data are subject to comparisons with previously reported data and other reasonability checks. A written annual evaluation is provided to each State to document potential problems and to encourage corrective actions. Data resubmission is requested in cases where major problems are identified.

MAINTAIN GOOD RUNWAY CONDITION

Performance Lead: FAA

Measure: Percentage of Runway's in FAA's National Plan of Integrated Airport Systems in Excellent, Good, or Fair Condition

Scope: This measure covers all open and paved runways at Federally funded National Plan of Integrated Airport Systems airports.

Sources: Data and information are collected through visual inspection of runway pavement in accordance with existing FAA guidance, including FAA Advisory Circular

150/5320-17. Airfield Pavement Surface Evaluation and Rating Manuals provide uniformity to field observations made by individuals collecting data for the Airport Master Record (FAA Form 5010). The pavement condition is reported in the 5010 Airport Master Record database and results of the inspections are entered into FAA's NAS Resource.

Statistical Issues: No statistical issues identified.

Completeness: The inspection and reporting of conditions are conducted in accordance with existing FAA guidance.

The data are publicly available and therefore can be examined and evaluated by any Federal auditor.

Reliability: Not applicable.

Verification and Validation: Runway pavement condition data are collected annually by FAA Airport Certification Safety Inspectors during their physical inspection of all certified airports in U.S. States and territories. Other public use airports are inspected by airports or airport safety data inspectors under an FAA contract ever three years. Information is collected through visual inspection of runway pavement in accordance with existing FAA guidance, resulting in a condition rating for each runway of excellent, good, fair, poor, or failed. FAA senior leadership reviews the data on a quarterly basis, with more frequent review at the line of business (LOB) level.

MONITOR CONDITION AND PERFORMANCE OF TRANSIT SYSTEMS

Performance Lead: FTA

Measure: State of Good Repair Backlog (Current-Year Dollars)[11]

Scope: This measure includes all capital assets of the U.S. transit industry and, as such, incorporates all transit systems in the country, both urban and rural. The replacement value of all U.S. transit assets is estimated at $894 billion.

Sources: The size of the National State of Good Repair (SGR) backlog is estimated by the Transit Economic Requirements Model (TERM) based on capital asset data from the NTD and other ad hoc capital asset surveys.

Statistical Issues: An inventory of revenue vehicles is reported to the NTD annually. Data on all other capital assets are based on ad hoc surveys that are updated periodically and on estimates created by TERM.

During FY 2016, FTA took substantial steps towards implementing the National Transit Asset Management System by issuing a Final Rule. The rule includes FTA's first-ever definition of SGR, requirements for each FTA grantee to establish a transit asset management plan, and a suite of SGR performance measures against which each of FTA's grantees are required to set targets. Concurrently, FTA also expanded the NTD to collect additional capital asset inventory information, as well as condition data towards the SGR performance measures in the rule. The expanded NTD data collection took effect in September 2018, with the data first becoming available in fall of FY 2019, and updated backlog estimates based on the new data are expected to be available in November 2020. Data results from TERM are only available once the Conditions and Performance Report is cleared by the Office of the Secretary (OST) and OMB. This can lead to long time delays before performance measures are publicly available.

For example, as of October 2020, the most recent public edition of the Conditions an Performance Report is the 23rd edition, based on FY 2014 data.

FTA is planning to discontinue this measure in FY 2023 and replace it with another measure that is based on Transit Asset Management data which are reported directly to the NTD and that is not subject to delays from modeling and formal clearance.

Completeness: Most of the large and many medium-sized agencies have provided asset inventory data to the database that are used for this calculation. Assets for smaller systems are estimated by the model. FTA is in the process of expanding the capital asset data collected by the NTD, see statistical issues, above.

Reliability: The transit agency's CEO certifies that the vehicle data reported to the NTD are accurate. These data are reviewed by analysts and compared to trend data for the transit system and to National benchmarks. The other three quarters of transit assets are updated on an ad hoc basis, and do not require a CEO certification. However, these are the best-available data inventories that transit agencies have available, and they are generally considered to be reliable.

Verification and Validation: Data reported to the NTD are subject to validation for consistency with the rest of the annual report, as well as comparison with the prior year's report. Other capital asset data are collected on an ad hoc basis, and are not able to validate against other sources. The parameters of TERM were developed based in part upon independent consultant work done in the transit industry. FTA periodically seeks outside review of TERM, including a recent review conducted by the National Academies of Sciences.

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[11]   This measure includes the backlog of transit capital assets in need of replacement or refurbishment (as defined by an estimated condition rating of 2.5 or lower on a scale of five.

DECREASE AVERAGE WAIT TIME

Performance Lead: FAA

Measure: National Airspace System On-Time Arrival at Core Airports[12]

Scope: A flight is considered on time if it arrives no later than 15 minutes after its published, scheduled arrival time. This definition is used in both the DOT Airline Service Quality Performance (ASQP), and Aviation System Performance Metrics (ASPM) reporting systems. Air carriers, however, also file up-to-date flight plans for their services with FAA that may differ from their published flight schedules. This metric measures on-time performance against the carrier's filed flight plan, rather than what may be a dated published schedule.

The arrival time of completed passenger flights to and from the core airports is compared to their flight plan scheduled arrival time. For delayed flights, delay minutes attributable to extreme weather, carrier caused delay, security, and a prorated share of delay minutes due to a late arriving flight at the departure airport are subtracted from the total minutes of delay. If the flight is still late, it is counted as a delayed flight attributed to the NAS and FAA.

The core airports are those which have one percent or more of total U.S. enplanements (the DOT large hub airports) or 0.75 percent or more of total U.S. non-military itinerant operations.

Sources: The ASPM database, maintained by FAA's Office of Performance Analysis, in conjunction with DOT's ASQP causation database, provides the data for this metric. By agreement with the Department, certain major U.S. carriers file ASQP flight data for flights to and from most large and medium hubs. Flight records contained in the Traffic Flow Management System supplement the flight data.

Statistical Issues: Data are not reported for all carriers; at present, 23 operating carriers report monthly into the ASQP reporting system.

Completeness: Fiscal year data are finalized approximately 90 days after the close of the fiscal year.

Reliability: Further research is needed to determine the reliability the data.

Verification and Validation: Airline Service Quality Performance data are verified daily by the execution of multiple audit checks, comparison to other published data metrics, and through the use of ASPM by over 1,500 active users. Each month, FAA senior leadership reviews ASQP data under 14 CFR § 234 - Airline Service Quality Performance Reports, which separately requires reporting by major U.S. air carriers on domestic flights to and from reportable airports.

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[12] FAA's goal is to achieve a NAS on-time arrival rate of 88 percent at core airports. NAS on-time arrival rate is the percentage of all flights with less than 15 minutes of delay with NAS assigned as the cause.

MAINTAIN AIRPORT CAPACITY

Performance Lead: FAA

Measure: Average Daily Capacity of Arrivals and Departures at Core Airports[13]

Scope: Core airports are those which have one percent or more of total U.S. enplanements (the DOT large hub airports) or 0.75 percent or more of total U.S. non-military itinerant operations. Reportable hours are based on a review of called rates and actual flight counts for each of the core airports.

- **15 Reportable Hours:** Dallas/Fort Worth International Airport, George Bush Intercontinental Airport, LaGuardia Airport, Orlando International Airport, Phoenix Sky Harbor International Airport, and Salt Lake City International Airport

- **16 Reportable Hours:** Hartsfield-Jackson Atlanta International Airport, Boston Logan International Airport, Charlotte Douglass International Airport, Ronald Reagan Washington National Airport, Denver International Airport, Fort Lauderdale-Hollywood International Airport, Dulles International Airport, McCarran International Airport, Chicago Midway International Airport, Miami International Airport, Minneapolis-Saint Paul International Airport, O'Hare International Airport, Philadelphia International Airport, San Francisco International Airport, and Tampa International Airport

- **17 Reportable Hours:** Baltimore/Washington International Thurgood Marshall Airport, Detroit Metropolitan Wayne County Airport, Newark Liberty International Airport, Daniel K. Inouye International Airport, Los Angeles International Airport, and San Diego International Airport

- **18 Reportable Hours:** John F. Kennedy International Airport

- **24 Reportable Hours:** Memphis International Airport

Each airport facility determines the number of arrivals and departures it can handle for each hour of each day depending on various conditions, including weather. These numbers are the called arrival and departure rates of the airport for that hour. The average daily capacity is calculated on a daily, monthly, and annual basis.

Sources: The ASPM database, maintained by FAA's Office of Performance Analysis, provides the data for this metric. The individual air traffic facilities for the core airports provide arrival and departure rates through the use of the National Traffic Management Log. The ASPM obtains the capacity rates from the National Traffic Management Log system.

Statistical Issues: No statistical issues identified.

Completeness: Data are finalized approximately 10 days after the close of the fiscal year.

Reliability: Data are verified daily by the execution of multiple audit checks, comparison to other published data metrics, and through the use of ASPM by over 1,300 active users.

Verification and Validation: FAA leadership reviews the data each month. Data are reviewed at the LOB level on a weekly basis. This metric is part of a core group of goals which the FAA uses to establish employee performance-based pay.

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[13] FAA's goal is to maintain an average daily capacity (hourly throughput that an airport's runways are able to sustain) for core airports of 59,303 or higher of arrivals and departures during reportable hours.

INCREASE THE INTEGRATION OF DRONES INTO THE AIRSPACE WITHOUT SACRIFICING SAFETY

Performance Lead: FAA

Measure: Percent of Manual Part 107 Airspace Authorizations Processed within the 90-Day Timeline Mandated by Congress

Scope: An average of the total number of processing days for Part 107.41 Airspace Authorizations completed since the beginning of FY 2020. Processing days are calculated as the number of days from when a Part 107.41 Airspace Authorization is received to when it is completed in DroneZone.

Sources: For applications submitted through DroneZone, an application is generated through the system and the system tracks how long it takes to process an authorization. For applications submitted through the Low Altitude Authorization and Notification Capability, requests are approved in near-real time whenever those operations occur within the Unmanned Aircraft System (UAS) Facility Map altitude limitations. If outside of those altitude limitations, applicants will go through DroneZone to be worked manually.

Statistical Issues: No statistical issues identified.

Completeness: The lead office (UAS Policy Team) tracked Part 107.41 applications from submission to disposition through various sources discussed above. These sources were interacted with assigned staff on a daily basis. The staff followed a standard operating procedure to process applications to ensure continuity and accuracy. The data were collected via DroneZone to provide the reporting metric, which is the existing manual process.

Reliability: This is a process requiring queries from DroneZone to provide a unified response.

Verification and Validation: This metric was mandated by Congress and was set to effectively monitor the approval time to process and disposition controlled airspace authorization applications as identified in 14 CFR § 107.41 - Operation in Certain Airspace. Data are collected and reviewed each month. This is a high-priority activity to enable UAS integration into the NAS.

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Performance Lead: FAA

Measure: Average Time to Process Unmanned Aircraft System Part 107 Operational Waivers[14]

Scope: Airspace authorizations are permissions given by air traffic control to use a specific airspace in a specific time frame. If the UAS operator intends to fly in controlled airspace, the operator will need an authorization in addition to a waiver (for example, if operator wants to fly over people within five miles of an airport). The authorization process ensures the specific use of that aircraft in the NAS does not endanger other users of the NAS. Part 107 waivers are requested when the operator wants to operate in a manner that is not currently allowed by regulation. The UAS operator is asking for a particular portion of a regulation to be waived (for examples, flying over people).

Sources: Tracking data are obtained from the operational waiver portal of FAA Drone Zone. The FAA Drone Zone is an enterprise IT solution to consolidate several UAS systems into a central and fully functional environment.

This platform is the foundation for the next generation of UAS support applications, including those to support operational waivers.

Statistical Issues: Average processing time is measured in calendar days, which includes weekends and government holidays. FAA does not process waiver applications on weekends or government holidays, which negatively skews the statistics. Additionally, on applications where the applicant includes at least 50 percent of the information required for approval, a request for information is sent to the responsible person listed on the waiver application. An applicant is provided 30 calendar days to provide a response. The time the applicant has to respond to the request for information adds additional processing days to the processing day average but is not reflective of the team's adjudication performance.

Completeness: This metric includes applications submitted to the General Aviation and Commercial Division Waiver Team via the online portal and manual (paper) submissions.

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[14] Maintain the average time for processing Part 107 waivers at 50 days in FY 2018 with a five-day reduction each following year to FY 2022. Part 107 UAS waiver processing time is calculated as the number of days between receipt of request and delivery of a response (either approval or denial).

Reliability: FAA DroneZone provides an improved external user experience on a modernized platform and a design that is easy to understand and navigate. Although confidence is high the data are reflective of number of applications and days in process, data are subject to human error during the application process. Scheduled user experience and functionality enhancements are in place to enhance waiver application completeness and reliability, limit erroneous waiver applications, and reduce duplicate waiver applications.

Verification and Validation: FAA verifies and validates the accuracy of the data through quality assurance/quality control reviews of DroneZone waiver applications. Data are reviewed and reconciled as needed, predominantly on a weekly basis. Potential errors identified in these reviews are explored and resolved.

To verify that performance plan metrics are being met, the waiver team posts weekly and monthly operational waiver performance reports two distinct Knowledge Services Network SharePoint sites. Once posted, the performance information is available for all parties with specific SharePoint access to review, validate, and address abnormalities. Staffing levels and processes are monitored as the average processing time target is reduced to ensure the appropriate level of resources are available to maintain performance.

ALLEVIATE URBAN CONGESTION

Performance Lead: FHWA

Measure: Interstate Travel Time Reliability, as the Percentage of Person-Miles Traveled that are Reliable

Scope: The interstate travel time reliability measure examines the reliability of travel (i.e., consistency from day to day and/or hour to hour) on the interstate system from the perspective of the user as reported as the percent of person-miles traveled that are reliable. National targets may be adjusted in early FY 2021 after the Mid-Performance Period reports are reviewed.

Sources: Data sources include average travel time data for interstates from the National Performance Management Research Data Set (NPMRDS). The data reflect actual, observed travel times on the interstates, reported as an average every five minutes. Data are collected by INRIX and provided by the Center for Advanced Transportation Technology Laboratory at the University of Maryland to FHWA as the NPMRDS. The vehicle probe data can be from cell phones, in-vehicle navigation units, and/or fleet (e.g., truck, delivery vehicles, taxi) management systems. Related volume data for weighting the measure are from the HPMS.

Statistical Issues: The person-miles traveled estimation requires information on the number of vehicle occupants that is not available in the monthly travel data. Additionally, the monthly VMT data does not distinguish between passenger and freight VMT.

Completeness: Missing data points in the NPMRDS do exist, where there are low volumes and no probe vehicles traveling through during a five-minute period especially overnight and in some rural areas. FHWA accounts for missing data, in part, by using average travel times for every 15 minutes.

Reliability: Reliability for this measure is excellent. All metric submissions, as well as all targets and other reporting, are reviewed by FHWA. Data resubmission is requested in cases where major problems are identified. As many as 35 States have access to an analysis tool developed as part of the Transportation Performance Management Capacity Building pooled fund study which provides consistent and reliable results.

Verification and Validation: Data are validated quarterly in limited locations by comparing to ground truth travel time data. Results are within specifications of the contract. Recently available volume data from HPMS are used to calculate the results. Typically, there is a lag in data availability and of conflation to the NPMRDS location referencing network. The FY 2019 travel time data was conflated with FY 2017 HPMS data.

IMPROVE PASSENGER RAIL ON-TIME PERFORMANCE

Performance Lead: FRA

Measures:
- On-Time Performance System-Wide
- On-Time Performance for the Northeast Corridor
- On-Time Performance for State-Supported Routes
- On-Time Performance for Long-Distance Routes

Scope: On-time performance (OTP) is the percentage of total train arrivals on-time at each station, weighted by ridership. An Acela train is late when it arrives at a station more than 10 minutes after its scheduled time and a Northeast Regional or State-supported train is late when it arrives more than 15 minutes after its scheduled time. Northeast Corridor (NEC) routes are those which operate predominantly on the 457-mile Northeast Corridor (Connecticut, Delaware, District of Columbia, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, and Rhode Island). State-supported routes are those which operate short-distance corridors of not more than 750 miles between endpoints (not including NEC routes). Long-distance routes are more than 750 miles between endpoints operated by Amtrak as of the date of enactment of the Passenger Rail Investment and Improvement Act of 2008. (49 U.S. Code § 24102)

Sources: Amtrak captures the data for each service and provides reports to FRA with annual, quarterly, and monthly measures. FRA publishes the quarterly Service Quality Report for Amtrak Services each quarter using the data.

Statistical Issues: No statistical issues identified.

Completeness: FRA and stakeholder groups, including the NEC Commission and State-Amtrak Intercity Passenger Rail Committee, monitor and evaluate Amtrak OTP closely. FRA receives adequate information from Amtrak to monitor OTP.

Reliability: No issues in terms of OTP data integrity. Actual Amtrak performance varies depending on the degree of delays caused by Amtrak's host freight railroads, Amtrak's own causes of delay, and third-party issues such as extreme weather and accidents.

Verification and Validation: FRA tracks Amtrak OTP data, matches it against other performance data, and conducts monthly meetings with Amtrak and host railroads to better understand the nature of Amtrak delays.

PROVIDE SUSTAINMENT SEALIFT TO THE U.S. ARMED FORCES

Performance Lead: MARAD

Measure: Number of U.S. Flag Vessels

Scope: MARAD tracks the number of large, internationally trading, ocean-going commercial vessels (1,600 gross tons or more) operating under U.S. flag to help ensure an adequate U.S. flag fleet, crewed by U.S. qualified Merchant Mariners, to meet U.S. Department of Defense (DoD) requirements for sealift support during National contingency operations. Most of the ships that MARAD tracks participate in the Voluntary Intermodal Sealift Agreement (VISA) program, including those participating in the Maritime Security Program (MSP).

MARAD estimates that at least 125 large, internationally trading U.S. flag commercial cargo carrying ships of 1,600 gross tons and over are required to maintain a sufficient force of unlimited credentialed mariners to meet sustainment sealift needs in a major contingency situation exceeding four to six months in duration.

Sources: MARAD relies on both commercial and private data sources to maintain an accurate list of ships. This ship list is based on an extract of ship data from IHS Markit, which is a commercial vendor of vessel registry data, and is the trusted and widely used source for such data across the maritime shipping industry.

MARAD also validates data against ship information received from the U.S. Transportation Command and the Military Sealift Command. Additionally, MARAD oversees the MSP, and receives data on these vessels directly from participants operating in the program. MARAD also uses

the Sea Web online database provided by IHS Markit to track the actual movements of MSP vessels worldwide to ensure they are meeting program requirements.

Statistical Issues: The list of ships includes the population of ships meeting the vessel criteria outlined above for the measure. Accordingly, no statistical methods are used to create the list. Basic trend analysis is done to identify any anomalies in terms of number and type of ships. MARAD has constructed an annual time series of the number of cargo-carrying commercial ships of 1,600 tons or more operating in international trade back to 2000. MARAD does not have records of ships lists before that time that would allow discernment between vessels in domestic and international trade.

Completeness: The internationally sailing vessel list produced by MARAD is the complete list of large, U.S. flag self-propelled, privately-owned merchant vessels carrying

cargo from port to port that are not eligible to serve in U.S. domestic trade. It is relatively easy to keep a good handle on the number of such ships because of the limiting criteria. All ships of this type have an official and unique International Maritime Organization number, which allows MARAD to identify and track them with certainty.

Reliability: The number of vessels MARAD tracks is highly reliable. The ships tracked are among the largest in the world fleet, all cataloged in international databases and subject to tracking via established online services. The commercial data vendor is considered the trusted source in the maritime industry.

Verification and Validation: MARAD can ensure validation and verification through data collected directly from vessel operators and other Federal resources. MARAD conducts monthly data assurance checks to account for and resolve any discrepancies in the data.

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Performance Lead: MARAD

Measure: Percentage of DoD-Required Shipping Capacity Complete with Crews Available within Mobilization Timelines

Scope: This measure is based upon the number of available ships in MARAD's Ready Reserve Force (RRF), and ships enrolled in the VISA program that can be fully crewed within the established readiness timelines. The VISA program is MARAD's emergency preparedness program for dry cargo ships and provides DoD with assured access to critical sealift capability for National security contingency requirements. It includes 60 ships enrolled in the MSP. Crewing of the RRF vessels is accomplished by commercial mariners employed by private sector companies under contract to the government.

Sources: Each month, the RRF, VISA, and MSP fleet readiness are monitored by MARAD to ensure availability of sufficient capacity and U.S. mariners. MARAD also maintains records of the sealift ships enrolled in the VISA and MSP and their crew requirements.

Statistical Issues: No statistical issues identified.

Completeness: MARAD's measure for shipping capacity and crew availability is to ensure that the level of both commercial and government-owned sealift is sufficient to meet current and projected DoD requirements to transport cargo to support U.S. military and during times of National emergency.

Reliability: The data collected are from the program offices and is considered reliable and useful in managing the readiness programs.

Verification and Validation: MARAD can ensure validation and verification through its direct oversight of the RRF and the activities of contracted vessel managers, as well its administration of the VISA and MSP programs and data collected from other sources. MARAD conducts monthly data assurance checks to account for and resolve any discrepancies in the data on both the government-owned and commercial fleets.

ALLEVIATE FREIGHT CONGESTION

Performance Lead: FHWA

Measure: Interstate Truck Travel Time Reliability Index

Scope: Travel time reliability (TTTR) is a key indicator of transportation system performance. The TTTR index measures the reliability or consistency of truck travel times on the interstate from day to day over the course of a year. The TTTR index is the ratio of the 95th percentile truck travel time to the 50th percentile truck travel time for each roadway segment, which is then averaged for the entire interstate system to provide National TTTR Index.

The TTTR Index represents a system-wide average of extra time or cushion that needs to be added to typical or average travel time to ensure on-time arrival 95 percent of the time. The TTTR Index is reported as 1.0 or greater. The higher the value above 1.0, the less reliable is the roadway, while TTTR Index values closer to 1.0 indicate a more reliable roadway. This gives a system-wide indication of how much extra time a motor carrier needs to budget for freight travel on the interstate to account for traffic delays. This additional time results in extra shipping and carrying costs for businesses. National targets may be adjusted in early FY 2021 after the Mid-Performance Period reports are reviewed.

Sources: The NPMRDS provides vehicle probe-based travel time data for passenger vehicles and trucks and is used by FHWA and State DOTs to calculate the TTTR Index. Real-time probe data are collected from a variety of sources including mobile devices, connected autos, portable navigation devices, commercial fleets, and sensors. The NPMRDS includes historical average travel times in five-minute increments daily covering the entire NHS.

Statistical Issues: The key concerns are the sample size of commercial vehicle probes and frequency of the sampling time and position sampling. The reported results provide nationwide coverage using data from 700,000 freight vehicles operating in North America. Most data are from medium to large fleets that operate tractor-trailer combination trucks in every sector of the industry and every region of the U.S. and Canada.

Completeness: The NPMRDS provides average travel times in five-minute increments daily covering the entire NHS. Data completeness for the interstate system has been at least 90 percent.

Reliability: To provide reliable roadway performance estimates, a large enough number of freight vehicles must be equipped with GPS to provide a valid and reliable measure of roadway performance, and to provide the temporal and geographic diversity desired by the performance measurement system.

Through use of the NPMRDS, FHWA has made progress in increasing sample size and the frequency of sampling by increasing the sources of the probe data and the number of vehicles providing position information. The NPMRDS travel times are produced using path processing. In path processing, a space mean speed is calculated for each individual probe vehicle from the points along its trajectory path. This provides more accurate average vehicle speed data. Probe vehicle performance systems, such as the NPMRDS, are designed to provide travel time and speed or delay information without traditional fixed-location traffic monitoring and data collection systems. Analysis of the GPS location data allow for very accurate roadway measurements.

Verification and Validation: The NPMRDS includes a measurement of the density of data used to generate each average travel time. There are quarterly validations conducted that compare deployed Bluetooth sensor travel-time data to NPMRDS data.

REDUCE TIME TO ISSUE HAZARDOUS MATERIALS TRANSPORTATION PERMITS

Performance Lead: PHMSA

Measure: Number of Days to Resolution of Hazardous Materials Special Permit Applications

Scope: Permits vary in both political and technical complexity. PHMSA has found that by averaging the number of days to evaluate applications, the range of complexity is accounted for and efficiency of the Special Permit evaluation processes is better reflected.

Sources: Data are retrieved from the PHMSA Portal and Special Permits processing tool and collated in the PHMSA Data Mart (formerly the Hazmat Information Portal).

Statistical Issues: When there is a particularly low number of Special Permit applications, the results will be skewed.

Completeness: Data are only available beginning in FY 2017, following the transition to conducting Special Permit evaluations on the portal application.

Reliability: Software issues impacting the flow of data from the portal application to the Data Mart impacted reliability of results in the past. PHMSA has since corrected these issues.

Verification and Validation: Anecdotal review and observation of trends to determine if results fall within reasonable variation.

PROVIDE A SAFE, RELIABLE, AND EFFICIENT U.S. PORTION OF THE SAINT LAWRENCE SEAWAY TO ITS COMMERCIAL USERS

Performance Lead: SLSDC

Measure: Percentage of Time the U.S. Portion of the Saint Lawrence Seaway is Available to Commercial Users

Scope: The reliability of the U.S. sectors of the Saint Lawrence Seaway (including the two U.S. Seaway locks in Massena, New York) are critical to continuous commercial shipping during the navigation season from late March to late December.

System downtime due to any condition (weather, vessel incidents, malfunctioning equipment) causes delays to ships, which affects international trade to and from the Great Lakes region of North America. Downtime is measured by:
- Hours/minutes of delay for weather (visibility, fog, snow, ice);
- Vessel incidents (human error, electrical and/or mechanical failure);
- Water level and rate of flow regulation; and
- Lock equipment malfunction.

Sources: Data come from the SLSDC Office of Lock Operations and Marine Services.

Statistical Issues: No statistical issues identified.

Completeness: The SLSDC is the Federal agency responsible for the operation and maintenance of the United States portion of the Saint Lawrence Seaway. Furthermore, SLSDC's lock operations unit gathers primary data for all vessel transits through the United States Seaway sectors and locks, including any downtime in operations.

Data are collected on-site at the United States locks, as vessels are transiting or as operations are suspended. This information measuring the system's reliability is compiled and delivered to SLSDC senior staff and stakeholders each month.

Reliability: The SLSDC compiles annual system reliability data for comparison purposes. As the SLSDC gathers data directly from observation, there are no limitations. The SLSDC historically reports this performance metric for its navigation season (typically late March to late December).

Verification and Validation: The SLSDC verifies and validates the accuracy of the data through review of 24-hour vessel traffic control computer records, radio communication between the two seaway entities and vessel operators, and video and audiotapes of vessel incidents.

STRATEGIC GOAL 3: INNOVATION

INCREASE THE DEVELOPMENT OF INNOVATIONS IN TRANSPORTATION

Performance Lead: OST-R

Measures:

- Research Outcomes Made Publicly Available in Research Hub
- Reports Made Publicly Available in the National Transportation Library

Scope: The Department and the Office of the Assistant Secretary for Research (OST-R) are committed to increasing the efficiency and influence of its research investments by collaborating with external stakeholders early in the research and development (R&D) process. The Department is making research results (i.e., software, data, and all other DOT-sponsored information) easy to locate to increase visibility and utility. To expand information accessibility, the Department is committed to identifying stakeholders and aligning technology transfer activities early in the process of formulating R&D agreements. This alignment may increase the impact of societal benefits attributed to DOT's R&D investment. The Department plans to increase the visibility of its research results with stakeholders by connecting them to the National Transportation Library (NTL) and Research Hub.

Sources: Data come from the NTL.

Statistical Issues: The NTL provides the number of total publications made available to the public and results of DOT-sponsored research through the Research Hub. The NTL has capability of producing statistical analysis of its archived items.

Completeness: OST-R is coordinating with the OAs to help ensure that all DOT-sponsored reports and outcomes are made publicly available.

Reliability: Further research is needed to determine reliability of data.

Verification and Validation: No verification and validation issues identified.

INCREASE EFFECTIVENESS OF TECHNOLOGY TRANSFER

Performance Lead: OST-R

Measures:

- Technologies Toward Implementation
- Success Stories (Evidence of Societal Benefits)[15]

Scope: The Department will coordinate with technology deployment experts within the OAs and leverage internal and external expertise and resources to identify whether DOT-sponsored activities led to the use of technologies through pilots, demonstrations, or related activities. These measures monitor the effectiveness of DOT's technology transfer activities, which can lead to the identification of societal benefits through formal evaluations.

Sources: OST-R is implementing a process throughout the Department to increase the level of visibility of post-R&D activities through evaluations. OST-R monitors progress through quarterly reviews.

Statistical Issues: No statistical issues identified.

Completeness: OST-R is coordinating with all OAs to ensure that the entire R&D portfolio is included.

Reliability: OST-R is leading the effort and collecting the data directly from the R&D sources.

Verification and Validation: OST-R is implementing a process that reviews key performance indicators to verify and validate information on a quarterly basis.

MONITOR SAFETY OF AUTOMATED DRIVING SYSTEMS

Performance Lead: NHTSA

Measure: Automated Driving Systems Safety

Scope: NHTSA is responsible for monitoring this measure. No data collection is involved.

Sources: Not applicable.

Statistical Issues: Not applicable.

Completeness: Not applicable.

Reliability: Not applicable.

Verification and Validation: Not applicable.

COMPLETE ANNUAL NEXTGEN ADVISORY COMMITTEE RECOMMENDATIONS FOR THE NORTHEAST CORRIDOR

Performance Lead: FAA

Measures:

- Percentage of NextGen Projects Completed On-Time and On Budget
- Percentage of Completed Nextgen Priorities for the Northeast Corridor[16]

Scope: These measures relate to the Next Generation Air Transportation System's (NextGen) success in completing the identified milestones in five areas:

- Surface Operations and Data Sharing (Surface);
- Multiple Runway Operations;
- Data Communications;
- Performance-Based Navigation; and
- NEC.

Sources: Completion of the commitments are closely tracked, monitored, and coordinated across NextGen, Aviation Safety (AVS), and ATO LOB. The agency will continue to monitor progress by conducting internal

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[15] FAA's goal is to achieve 80 percent of the NAC Recommendations and 80 percent of NextGen Priorities Joint Implementation Plan commitments, excluding industry-controlled milestones, within a calendar quarter of their scheduled dates and within 10 percent of the planned cost (OSI target).

[16] These measures track the number of times DOT-sponsored activities led to the actual use of technologies and the number of success stories. The term technology is used broadly to describe the R&D results of DOT-sponsored activities.

meetings at least monthly to oversee implementation status. Senior FAA and industry leadership will provide quarterly updates to the NextGen Advisory Committee's (NAC) subcommittee. Progress reports will be provided publicly through the NAC with advance notice available to the public in the Federal Register. FAA will also report on progress against the milestones for each focus area of the NextGen Performance Snapshots website.

Statistical Issues: No statistical issues identified.

Completeness: The decision to declare a commitment complete is as follows:

- Implement a functioning capability at a specific location or finish an assessment/study;

- Hold the monthly NextGen Integration Working Group meeting where Subject Matter Experts share recent accomplishments with Office of NextGen, ATO, and AVS leadership; and

- Office of NextGen, ATO, and AVS leadership jointly determine if the commitments are complete. If so, the commitment's status is changed from "on track" to "complete" on the public NextGen Performance Snapshot website.

Reliability: The metric has no reliability issues. The NAC recommended commitments are either complete or they are not.

Verification and Validation: Verification and validation are inherent in the processes described above.

MAINTAIN MAJOR SYSTEM INVESTMENT EFFICIENCY

Performance Lead: FAA

Measure: Percentage of Major System Investments Completed On-Time and On Budget[17]

Scope: Programs classified as Acquisition Category 1, 2, or 3 considered strategic or part of NextGen are considered "major" programs and included in this measure. For FY 2020, twenty major acquisition programs will be tracked and monitored. This measure is consistent with the Federal Aviation Reauthorization Act of 1996 (Public Law 104-264), which requires the FAA Administrator to consider termination of a program if the program is breaching the cost, schedule, or technical performance baseline by more than 10 percent.

Sources: FAA LOBs report monthly status of their Acquisition Program Baselines using the Simplified Program Information, Reporting, and Evaluation tool, an automated database. FAA LOBs provide a monthly status of Estimated Cost at Completion, Estimated Schedule at Completion, and technical performance including an analysis of the risks in maintaining program baselines. Performance indicators and commentary are provided monthly that details problems, issues, and corrective actions, to ensure baselines are maintained within the established acquisition baseline parameters. The performance status is reported monthly to the senior-level managers via the monthly Performance Committee Meetings.

Statistical Issues: The programs selected each fiscal year represent a cross section of programs within FAA. They include Automation, Communication, Facility, NextGen, Navigation, Weather, and Surveillance programs that have an Acquisition Category 1, 2, 3, or are of strategic importance to the agency.

Completeness: This measure is current with no missing data. Reporting will begin 30 days after the list of programs is finalized.

Reliability: Each organization having major acquisitions uses the data during periodic acquisition program reviews. The monthly status is reported through the Simplified Program Information, Reporting, and Evaluation tool and included in monthly high-level management reviews. Detailed status is reported each month, supported by Red, Yellow, or Green measures for cost, schedule, and performance parameters. These detailed reports are reviewed with the appropriate LOB and Executive levels.

Verification and Validation: Verification and validation are inherent in the processes described above.

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[17] FAA's goal is to maintain 90 percent of major baselined acquisition programs within 10 percent of their current acquisition cost, schedule, and performance baseline as of the end of FY 2020.

STRATEGIC GOAL 4: ACCOUNTABILITY

REDUCE THE REGULATORY BURDEN ON THE TRANSPORTATION INDUSTRY AND PUBLIC WHILE STILL ACHIEVING SAFETY STANDARDS

Performance Lead: Office of General Counsel

Measure: Economic Impact of Regulations

Scope: This measure is expressed in terms of total cost savings (annualized, adjusted at a seven percent discount rate). It is calculated as the sum of regulatory costs imposed by significant DOT rules less the sum of deregulatory cost savings for all DOT deregulatory actions for the fiscal year. All final DOT rulemakings completed within the fiscal year, except for non-significant regulatory actions.

Sources: Data come from regulatory impact analyses and other economic analyses produced in support of the rulemakings.

Statistical Issues: Not applicable, as this is not a statistical data collection.

Completeness: This measure applies to 100 percent of rulemakings completed by the Department.

Reliability: Not applicable, as this is purely an accounting exercise.

Verification and Validation: Reviews are conducted by OAs and OST. The data are then reviewed, audited, and approved by OIRA at the end of the fiscal year.

Performance Lead: Office of General Counsel

Measure: Compliance with Executive Order to Reduce Two Regulations for Each New Regulation

Scope: This is measured as the number of DOT regulatory actions classified as "deregulatory" divided by the number of significant regulatory actions classified as "regulatory." The "deregulatory" and "regulatory" categorizations are determined through negotiations with the Office of Information and Regulatory Affairs (OIRA). This includes all DOT rulemakings completed within the fiscal year.

Sources: Data come from regulatory impact analyses and other economic analyses produced in support of the rulemakings. These classifications also are published in the Federal Register.

Statistical Issues: Not applicable, as this is not a statistical data collection.

Completeness: This measure applies to 100 percent of rulemakings completed by the Department.

Reliability: Not applicable, as this is purely an accounting exercise.

Verification and Validation: Reviews are conducted by OAs and OST. The data are then reviewed, audited, and approved by OIRA at the end of the fiscal year.

INCREASE IT SHARED SERVICE UTILIZATION PERCENTAGE

Performance Lead: OCIO

Measure: Shared Service Utilization Percentage of Total IT Budget[18]

Scope: The Office of the Chief Information Officer (OCIO) tracks all IT spending for the department, including whether the IT spending was used to pay for IT shared services through the Working Capital Fund.

Sources: Data are collected in the Department's Corporate Investment Management System as part of OMB IT Investment data requirements.

Statistical Issues: Not applicable.

Completeness: Not applicable.

Reliability: Not applicable.

Verification and Validation: Not applicable.

IMPROVE DOT'S CYBERSECURITY

Performance Lead: OCIO

Measures:

- Percentage of Systems with Proper Security Authorizations
- Percentage of Systems Converted to an Ongoing Authorization Process

Scope: This measure includes all DOT systems.

Sources: Data come from the Department's Cybersecurity Assessment and Management tool.

Statistical Issues: Not applicable.

Completeness: Further research is needed to determine completeness of data.

Reliability: Further research is needed to determine reliability of data.

Verification and Validation: Not applicable.

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[18] OCIO's goal is to increase the adoption of IT shared services being funded through the DOT Working Capital Fund as a percentage of total IT spending.

DECREASE IMPROPER PAYMENTS

Performance Lead: OST-Budget

Measure: Improper Payment Percentage for Activities Identified as Susceptible

Scope: Improper payment legislation defines a program as susceptible to significant improper payments when annual improper payments exceed 1.5 percent and $10 million of outlays, or $100 million of outlays regardless of the error rate. The legislation requires agencies to obtain a statistically valid estimate and report an annual amount of improper payments in programs that were identified, by risk assessment, as susceptible to significant improper payments. In FY 2020, one DOT program, FHWA Highway Planning and Construction, was identified as being susceptible to significant improper payments and subject to annual reporting requirements.

A risk assessment, statutory law, OMB, or management may identify additional programs as susceptible to significant improper payments and require the Department to report annual estimates. For FY 2021 and beyond, the Department expects to report additional improper payment estimates related to disaster relief funding received from the Bipartisan Budget Act of 2018 (Public Law 115-123).

Sources: The population of payment data are extracted from Delphi, the Department's financial system of record. A program office or grant recipient could be the source of detailed supporting documentation on the payment requirements.

Statistical Issues: The Department derives improper payment estimates rates based on probability samples with estimates for sampling error in accordance with OMB Circular A-123, Appendix C, *Requirements for Payment Integrity Improvement*. Improper payment estimates represent the results of programs susceptible to significant improper payments and are not a statistical estimate for all of the Department's programs.

Completeness: The Enterprise Service Center, the Department's financial management service provider, reconciles the data extracts to the OAs' financial statements to ensure completeness. Next, the statistician and Departmental officials collaborate to identify the final payment populations for sampling.

Reliability: The results of improper payments are used to demonstrate effective stewardship of taxpayer funds. A structured approach to analyzing improper payments helps the Department identify the root cause of errors made within our internal control systems, implement targeted corrective actions, and reduce improper payments.

Verification and Validation: A statistician prepares and an agency official certifies that the Department's sampling and estimation plans are in accordance with OMB Circular A-123, Appendix C requirements. The statistician designs and refines the sampling plans considering the nature and distribution of payments made by our programs. For grant-related programs, the Department typically employs a multi-stage random selection methodology. The first stage involves generating a sample from DOT payments to grant recipients. At the second stage, the statistician develops a sample from the list of invoices the grant recipient applied to the DOT payment. Next, the Department samples and tests line items from the grant recipient's invoice to determine if the expenditures are proper. After Departmental officials confirm improper payments within the samples, the statistician extrapolates the results to arrive at the estimate.

IMPROVE EFFECTIVENESS AND EFFICIENCY OF SUPPORT SERVICES

Performance Lead: OST-Administration

Measures: Percentage Accomplished Against Shared Services (Human Resources, IT, and Acquisition) Implementation Plan

Scope: This measure aligns to Cross-Agency Priority (CAP) Goal 5: Sharing Quality Services within the President's Management Agenda. Currently, the Department delivers mission support services, including Human Resources (HR), IT, and Acquisitions, to each of the 11 OAs, resulting in duplicative, costly technology, redundant staff roles, and the proliferation of inconsistent, manual processes. With anticipated budget cuts and an administration mandate to reorganize, the Department must find a way to improve mission support operations, cut costs, and increase accountability and oversight. The Department has outlined management reforms including a shared services model to consolidate similar work performed across OAs and ensure policies and practices are applied consistently.

Sources: As the single authoritative repository for Federal procurement award data, the Federal Procurement Data System (FPDS) is the primary data source for the IT Contract Spend. Data are provided via the General Services Administration's (GSA) Data to Decisions (D2D)

dashboards, which are endorsed by OMB and encouraged for use by agencies in managing and overseeing their category management program implementation. The data provided in the D2D dashboards are based on contract data entered into Federal Procurement Data System-Next Generation. In FY 2014, the Department began a major systems integration effort called DP2 to link the Delphi financial management system to a single instance of Performance and Registration Information Systems Management (PRISM), the Department's standard contract writing system. This initiative eliminates the individual versions of PRISM that had been in use at each OA. The integration with Delphi supports the linkage of real-time fund commitments to requisitions and the financial recording of obligations when contract records are executed in PRISM.

Human Resources workload at the Department is measured by three indicators: number of transactions, recruitment cases, and staff-to-customer ratio. The final workload indicator is the staff-to-customer ratio. Per the Office of Personnel Management (OPM), the median Federal agency HR servicing ratio is 60 employees per HR staff, with a range of 46 to 100. The HR life cycle at the Department is supported by the IT systems described in the table on

SYSTEM	OWNERSHIP	DESCRIPTION AND USE
USA JOBS	OPM	Interfaces with Federal job seekers as the government's official recruiting site.
Monster Government Solutions	Commercially available	Used by many Federal agencies to manage the staffing function. Used by HR specialists to rate and rank applications, build certificates of eligible candidates, share certificates and application materials with hiring managers, document selections, and maintain selection case files.
Federal Personnel/ Payroll System (FPPS)	DOI Business Center	Used as the official system of records for position management and employee records, as well as the pay agent for DOT.
Consolidated Automated System for Time and Labor Entry	DOT (FAA)	Interfaces with employees, timekeepers, and FPPS to account for and process time and leave.
Workforce Transformation and Tracking System	DOI Business Center	Integrates as an overlay system with FPPS, Monster Government Solutions, security clearance processing, and several other systems.

the previous page. Two of these systems are owned and operated by the U.S. Department of the Interior (DOI) Business Center, one of several HR LOB organizations approved by OPM to provide services to customer agencies throughout the Federal government.

Statistical Issues: Not applicable.

Completeness: Information collected to assess the Department's performance against this goal is based on data entered into FPDS by individual contracting officers within OAs. Federal regulation and DOT acquisition policy require contracting officers to ensure all records for contracting actions are entered and finalized in FPDS within three days of award.

Reliability: Not applicable.

Verification and Validation: There may be instances when it is not apparent to OMB and GSA when a requirement is not a common requirement, but more mission specific and should not be included in the addressable spend. Therefore, it is incumbent upon the agencies to cleanse the data prior to utilizing it for any significant decision-making. The data are initially entered into FPDS via interface between DOT's contract writing system, PRISM, and then validated by individual contracting officers. Since there is a data validation step prior to finalization in FPDS, the Department

is satisfied that the data are primarily accurate; however, since human error is possible, there may be mistakes in minor pieces of the data pulled from FPDS.

As an additional verification of FPDS data accuracy, OA contracting offices perform an annual review of FPDS data to ensure accuracy and completeness in accordance with FAR 4.604 and provide assurance Statements to the Office of the Senior Procurement Officer (OSPE) as to their results. Using the OA responses, OSPE provides a consolidated report to GSA each fiscal year on behalf of the Department. Hiring and recruitment actions are entered into Monster Government Solutions via the Executive Agent. Once a selection has been made, a hiring action is entered to FPPS/Workforce Transformation and Tracking System by the hiring manager or administrative support. The hiring action is validated by the Budget and HR operations offices before final approval is granted.

The Department's HR offices (both the Executive Agent and the OAs) follow legislative, OPM, and OMB guidance. Regarding hiring from outside the government, all OAs follow the guidance, processes and procedures set out in the Department's Personnel Manual and implemented by the Executive Agent. Each OA has its own merit promotion plan that dictates policies for filling jobs from within the government.

INCREASE FACILITY CONSOLIDATION

Performance Lead: OST-Administration

Measure: Net Change in Office and Warehouse Square Footage[19]

Scope: Nationally, the Department manages 31.3 million square footage of building space. With approximately 56,100 real property assets of which 498,000 (89 percent) are owned and 6,400 (11 percent) are leased. While leased assets include 280 GSA leases, the majority are direct leases. Owned assets have an estimated replacement value of $13 billion. Annually the department spends approximately $315 billion for 11.4 million square footage of leased assets.

Although the DOT portfolio contains 16 different GSA building categories, the space reductions are focused on the categories of 9.4 million square footage (30.1 percent) as Office and 2.8 million square footage (9 percent) as

warehouse. The remaining 19.0 million square footage (60.8 percent), is tied to unique mission or functional requirements. These specialized facilities include:

- Schools/training (2.8 percent);
- Labs (4.2 percent);
- Navigation and traffic aids (34.8 percent); and
- Other types (18.7 percent).

Sources: Real Property data used to calculate reductions for owned and direct lease information is from the DOT Real Estate Management System (REMS). GSA's Federal Real Property Program (FRPP) provides information on Occupancy Agreements where GSA provides space for the Department.

Statistical Issues: No statistical issues identified.

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[19] Square footage reduced year over year based on the Reduce the Footprint base line established by GSA.

Completeness: To ensure accuracy of the Department's real property assets in REMS, personnel confirm information that includes: verifying lease records and land ownership documents, validating square footage, confirming against operational databases, and contacting maintenance personnel. FAA is developing a system to support a new triennial inventory process with automated cross-checks with other FAA systems and program office information to align with real property information. A major challenge to implement these features is alignment of REMS and FRPP assets with information from the operating office.

Reliability: The Department looks at trends based on prior FRPP submissions to ensure changes can be supported by specific real property activities, general real property strategies, or data quality improvement efforts.

FAA's Bureau Variance Report is produced from the FRPP submission and supports this review while also identifying obvious anomalies. As the Department reports on roughly 57,000 assets, this review is completed at a portfolio level and focuses on quantifiable measures such as total number of assets by type, acreage, square footage, replacement value, repair needs, and operating costs.

With data from prior FRPP submission, the Department checks the trend of major indicators going back several years. Since the establishment of the Reduce the Footprint

initiative, the Department has conducted an asset-level review of office and warehouse facilities, with sensitivity to any reported changes year over year.

Verification and Validation: The Department is focused to ensure accurate REMS data through several processes. One method is the REMS "Invalid Data Module" that checks asset information against a set of business rules. When data errors are identified, they are corrected immediately. Inaccuracies are reported monthly and made available for investigation.

FAA assigns the Invalid Data report to regional personnel to validate and correct. Additionally, the Real Property Management Office performs periodic checks, such as reviewing high-level square footage totals reported against a subset of facility types. While this approach may not indicate a specific issue, it can identify inconsistencies that require further data review. In some instances, comparing data may identify miscoding in one of the systems. Using this approach revealed that square footage at one facility was overstated and research identified several building improvements erroneously entered as new buildings. These assets were corrected in the system.

High-level metrics are produced monthly, quarterly, and annually to identify portfolio-wide trends and verify that changes are a result of real property initiatives.

INCREASE USE OF BEST-IN-CLASS CONTRACTS

Performance Lead: OSPE

Measure: Best-In-Class Performance[20]

Scope: "Increasing Use of Best-in-Class (BIC)" is one of six key performance indicators for CAP Goal 7: Category Management. Category Management encompasses spending in ten common categories of goods and services: facilities and construction; professional services; IT; medical; transportation and logistics; industrial products and services; security and protection; human capital; office management; and travel.

Sources: As the single authoritative repository for Federal procurement award data, FPDS is the primary data source for BIC data. The data from FPDS is then populated in GSA's D2D dashboards. The dashboards are then used

by agencies in managing and overseeing their category management program implementation.

Statistical Issues: To calculate BIC utilization, the GSA Program Management Office must populate the current information from FPDS into the D2D dashboard. OSPE does not anticipate technical issues from the data transfer impacting the statistics. Some statistical issues are caused by the fluctuation of spend by OAs, which makes it difficult to accurately pinpoint progress. Utilizing the Department's category management annual plan, OSPE will better be able to track OAs' planned-to-actual progress.

Completeness: Information collected to assess the Department's performance against this goal is based on data entered into FPDS by individual contracting officers within OAs. Federal regulation and DOT acquisition

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[20] Calculation of BIC is the percentage of all DOT-obligated contract dollars on common spend (goods and services) that are committed on a BIC contract vehicle as defined by OMB and GSA.

policy requires contracting officers to ensure all records for contracting actions are entered and finalized in FPDS within three days of award.

Reliability: Not applicable.

Verification and Validation: Data are initially entered into FPDS via interface between the Department's contract writing system, PRISM, and then validated by individual contracting officers. As there is a data validation step prior to finalizing the contract action reports in FPDS, OSPE is satisfied that the data are primarily accurate; however, since human error is possible, there may be mistakes in minor pieces of the data pulled from beta.SAM.gov.

As an additional verification of FPDS data accuracy, OA contracting offices perform an annual review of FPDS data to ensure accuracy and completeness in accordance with FAR 4.604 and provide assurance statements to OSPE as to their results. Using the OA responses, OSPE provides a consolidated report to GSA each fiscal year on behalf of the Department.

REDUCE THE NUMBER OF UNESSENTIAL FEDERAL ADVISORY COMMITTEES

Performance Lead: OST-S-10

Measure: Federal Advisory Committees Reduced

Scope: This measure includes all Federal Advisory Committees at the Department.

Sources: Data come from the Federal Advisory Committees Act database maintained by the Office of the Executive Secretariat (OST-S-10).

Statistical Issues: Not applicable, as this is not a statistical data collection.

Completeness: This measure applies to 100 percent of the Department's Federal Advisory Committees.

Reliability: Reliability depends upon OST-S-10 coordination with the OAs.

Verification and Validation: Data are reviewed and approved by OAs and by OST. GSA reviews and approves the termination of committees at the end of each fiscal year.

APPENDIX II:
Top Management Challenges

U.S. Department of Transportation

ACRONYMS & ABBREVIATIONS

AVS	Aviation Safety
CARES Act	Coronavirus Aid, Relief, and Economic Security Act
CFO	Chief Financial Officer
DATA Act	Digital Accountability and Transparency Act
DOT	Department of Transportation
ERAM	En Route Automation Modernization
FAA	Federal Aviation Administration
FAQ	Frequently Asked Question
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal year
MPO	Metropolitan Planning Organization
NHTSA	National Highway Traffic Safety Administration
OA	Operating Administration
OCIO	Office of the Chief Information Officer
ODA	Organization Designation Authorization
ODI	Office of Defects Investigations
OMB	Office of Management and Budget
OIG	Office of the Inspector General
PBN	Performance-Based Navigation
PHMSA	Pipeline and Hazardous Materials Safety Administration
POA&Ms	Plans of actions and milestones
TAM	Transit Asset Management
UAS	Unmanned aircraft systems

OIG TOP MANAGEMENT CHALLENGE: AVIATION SAFETY

FAA is responsible for maintaining the safety of a diverse, complex, and rapidly evolving aviation industry. While FAA has historically maintained an excellent safety record, two fatal accidents in October 2018 and March 2019 and the subsequent grounding of the FAA-certified Boeing 737 MAX aircraft brought to light significant issues related to FAA's certification process and use of delegation authority to certify new aircraft designs. In addition, FAA continues to face challenges related to air carrier Safety oversight and aircraft maintenance, as OIG highlighted recently at Allegiant Air and Southwest Airlines.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: IMPROVING FAA'S OVERSIGHT OF AIRCRAFT CERTIFICATION PROCESSES

Federal Aviation Administration: FAA will take the following actions to address this focus area:

- **Operationalize the Aviation Safety Organization Designation Authorization Office:** FAA will operationalize the Organization Designation Authorization (ODA) Office by the end of fiscal year (FY) 2021. The office will lead strategic efforts to achieve a more consistent approach to ODA program oversight, promote performance improvement, and enhance ODA oversight policies. This includes overseeing the implementation of the delegation-related provisions identified in the Aircraft Certification Reform and Accountability Act. Additionally, the office will focus on coordination between the Aircraft Certification Service and the Flight Standards Service.

- **Issue New Policy for ODA:** FAA will issue new policies in FY 2021 to address the appropriate level of ODA oversight based on the risks associated with each ODA's authorized functions, size, and complexity. Additionally, FAA plans to issue new policies by March 2021 that will emphasize safety as the top priority by providing clarity about undue pressure and appropriate communications between unit members and FAA.

- **Continue Rulemaking Efforts for Safety Management Systems:** FAA will obtain concurrence, a critical internal milestone in the rulemaking process for the Safety Management Systems for Design and Manufacturing Organizations notice of proposed rulemaking by September 2021. This will include input from industry stakeholders and international regulatory partners. While FAA completes the rulemaking, the agency will continue to foster and expand voluntary adoption of Safety Management Systems in design and manufacturing.

- **Enhance Data Integration and Sharing:** By September 2021, FAA will establish a governance system to engage the agency's workforce in data management oversight and sharing. A robust feedback loop between the certification process and operational environment will improve the agency's human factors capabilities.

- **Establish an FAA-Recognized Compliance Assurance System**: Under the Safety Oversight and Certification Aviation Rulemaking Committee, FAA created a Compliance Assurance System working group to establish processes to provide confidence in the fulfillment of all applicable certification requirements for design approvals. The committee is developing recommendations on Compliance Assurance System and is expected to submit them to FAA in early FY 2021. The agency will review and evaluate all of the committee's recommendations once received.

OIG FOCUS AREA: ENHANCING AVIATION SAFETY OVERSIGHT WHILE WORKING IN A COLLABORATIVE ENVIRONMENT

Federal Aviation Administration: FAA is actively addressing issues raised in its conduct of Aviation Safety (AVS) oversight while working in a collaborative environment, as well as issues raised regarding execution of the compliance program in response to recommendations from OIG and the Government Accountability Office.

- **Allegiant Airlines Audit Recommendations:** FAA is enhancing guidance to ensure safety issues are properly tracked until mitigated. The agency is implementing policies to monitor inspector compliance with the safety assurance system and providing guidance as to how personnel can raise safety concerns to upper management. The FAA updated its directives to ensure that disagreements regarding the handling of non-compliance issues are addressed consistently. Aviation Safety now requires that compliance action records remain open until validation is complete. The agency will conduct a comprehensive review of its root-cause analysis training and will implement a process to track and consider historical compliance actions for use in surveillance and oversight decision-making by inspectors.

- **Southwest Airlines Audit Recommendations:** FAA will initiate a System Analysis Team with Southwest Airlines personnel to work collaboratively to identify and address root causes of error. The System Analysis

Team will address systemic software calculation errors that occurred when aircraft were being weighted to determine operational empty weights. This is significant because Operating Empty Weights are used during the dispatch process to determine aircraft performance parameters. The agency will review all employee concerns related to performance weight and balance to ensure that actions adequately address those concerns.

FAA will also ensure that on-the-job training for aviation safety inspectors will include review of previous courses and pertinent content from Order 8900.1 - Flight Standards Information Management System. In addition, FAA will enhance designee training and complete a compliance review of other U.S. standard airworthiness certificates for transport aircraft issued by designated airworthiness representatives who worked on the aircraft that led to this inquiry. The agency will also reinforce inspector knowledge of the process contained within the designee management system to provide feedback on performance by designated airworthiness representatives. Aviation Safety will strengthen existing policy and guidance in safety assurance and safety management systems, and will integrate an assessment of safety culture into each data collection tool.

OIG TOP MANAGEMENT CHALLENGE: SURFACE TRANSPORTATION SAFETY

The Department's top priority is to ensure the U.S. transportation system is the safest in the world. Although the number of fatalities in all motor vehicle traffic crashes on U.S. roadways decreased by 3.3 percent from 2016 to 2018, fatalities in crashes involving large trucks or buses have increased by 5.8 percent. To enhance safety, the Department faces the ongoing challenge of ensuring compliance with regulations for safety programs nationwide. At the same time, the Department must continue making progress on monitoring and enforcement efforts in order to have timely and effective outcomes for highway, motor carrier, pipeline, and railroad safety programs.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: ENSURING COMPLIANCE WITH SAFETY REGULATIONS AND PROGRAMS

Federal Motor Carrier Safety Administration: The primary mission of FMCSA is to reduce crashes, injuries, and fatalities involving large trucks and buses. In addition to its inspection, audit, and investigation programs, the agency works to ensure that commercial drivers are properly licensed, and that license suspensions and revocations occur when required. FMCSA reviews each State's Commercial Driver's License program annually to determine whether there are substantial non-compliance issues. If substantial non-compliance issues are identified, the agency promptly notifies the State to ensure there is a corrective action plan that will bring them into compliance by a certain date. FMCSA is modifying its Annual Program Reviews to improve consistency of the review and corrective actions. The new process will include reviews of a State's transmission of violations to the driver's State of record. They will also include a review of the State's posting of violations and suspension or disqualification action taken. Reviews of all States using the new process are scheduled to be completed during FY 2021.

Additionally, FMCSA is working with the Office of the Secretary of Transportation to improve the functionality of the agency's State Compliance Records Enterprise system, which tracks findings and corrective actions by the States to help improve the agency's oversight.

Finally, FMCSA will soon issue a Final Rule to codify the statutory requirement that State driver's licensing agencies implement a system for the exclusively electronic exchange of driver history record information through the Commercial Driver's License Information System, including the posting of convictions, withdrawals, and disqualifications. The rule aligns FMCSA's regulations with existing statutory requirements set forth in the Moving Ahead for Progress in the 21st Century Act (Public Law 112-141). The rule also establishes a date by which States must be in substantial compliance (RIN 2126-AC36 in the Unified Agenda).

Federal Railroad Administration: In June 2020, FRA completed restructuring the Office of Railroad Safety, establishing the Audit Management Division within the Office of Data Analysis and Program Support. The Division seeks to ensure that the compliance audits FRA staff perform on regulated entities meet quality, consistency, transparency, and accountability standards. The Division's major activities include:

- Developing and maintaining FRA performance auditing standards;
- Developing criteria and identifying which FRA activities are audits, program reviews, or inspections;

- Ensuring that staff who conduct audits complete appropriate planning, sign-off, and tracking;

- Developing and overseeing an FRA audit quality assurance program;

- Developing and maintaining record-keeping systems, including a case management system for FRA performance audits; and

- Providing auditing training to FRA personnel. Approximately 25 employees have received 40 hours of training. FRA has a multi-year contract with a training organization for up to 20 classes over the next three years.

Pipeline and Hazardous Materials Safety Administration: As of October 2020, PHMSA's Office of Pipeline Safety had 304 of its 308 positions filled. To retain staff and quickly fill vacancies, PHMSA will do the following:

- Continue using open and continuing announcements to fill vacancies, which has been successful in reducing time-to-hire and allowing the agency to maintain a pool of certified candidates;

- Broaden the reach of its recruitment by contracting for recruitment services for qualified engineers. This professional recruitment firm will establish and utilize a broad and appropriate recruiting network (through avenues such as direct outreach to universities and professional networks) to expand the applicant pool for Office of Pipeline Safety job announcements;

- Conduct biannual follow-on updates to the Strategic Workforce Plan, in accordance with DOT's Workforce Planning Guidance, to include an assessment of the agency's progress in meeting its workforce planning priorities, assessing key trends, updating its workforce analysis, and forecasting hiring needs out to FY 2023;

- Complete a compensation study comparing regional salaries and hiring incentives at public and private organizations for general engineers skilled in the field of natural gas, petroleum, and other hazardous materials. PHMSA will take action on the results, which will include submitting a response to OIG regarding its audit recommendation (OIG Report ST-2018-010);

- Update its recruiting plan for FY 2021 to include conducting virtual online career fairs and outreach to professional organizations, veterans' groups, and college/university campus hiring events. The agency plans to combine this with its Direct-Hiring Authority to reduce the time-to-hire for general engineers and other critical hiring needs for FY 2021 and beyond. PHMSA has requested, in the FY 2021 Congressional Justification, an additional $1 million for recruitment incentives, including special pay rates, tuition reimbursement, student loan repayment, and other hiring incentives for hard-to-recruit science and technology pipeline engineers. The agency has also requested Direct-Hiring Authority and special pay rates in its reauthorization proposal for pipeline safety.

OIG FOCUS AREA: CONTINUING PROGRESS IN SAFETY MONITORING AND ENFORCEMENT

Federal Motor Carrier Safety Administration: Data collection and data quality are some of the National program elements in FMCSA's Motor Carrier Safety Assistance Program. Through this program, FMCSA ensures the timely and accurate reporting of crash and inspection data, which feed into the Safety Measurement System to help identify high-risk carriers. As of the end of FY 2020, each State had an inspection record completeness score of at least 85 percent. All but one State had a crash record completeness score of at least 85 percent (the one score below 85 was due to staffing challenges that should be resolved in FY 2021). FMCSA will continue working with its State partners to address data challenges as the agency reviews each of the States' Commercial Vehicle Safety Plans for FY 2021.

In addition, FMCSA has completed its assessment of a National Academy of Sciences Correlation Study,

which made recommendations to the agency on data quality and collection, as well as the potential for using an Item Response Theory modeling approach for carrier prioritization. The proposal will use Item Response Theory best practices and other lessons learned from the agency's modeling to improve the identification of high-risk carriers.

National Highway Traffic Safety Administration: NHTSA will continue to enhance its vehicle recall management and defect identification processes, including improving early warning reporting and data mining capabilities to identify safety trends as early as possible. In addition, NHTSA will continue leverage multiple media platforms and partnerships to raise public awareness about the importance of addressing safety recalls.

OIG TOP MANAGEMENT CHALLENGE: AIR TRAFFIC CONTROL AND AIRSPACE MODERNIZATION

FAA continues to modernize the National Airspace System (NAS) through the multibillion-dollar Next Generation Air Transportation System (NextGen) program. As envisioned, NextGen will provide safer, more efficient air traffic management by 2025. While it has implemented new capabilities, FAA still faces challenges in upgrading aging infrastructure, continuing NextGen's deployment, and achieving intended benefits in a cost-effective manner. These challenges may be compounded in part by the ongoing impacts of the COVID-19 pandemic on the aviation industry.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: MODERNIZING NEW SYSTEMS WHILE INTRODUCING NEW CAPABILITIES

Federal Aviation Administration: After delays caused by the COVID-19 pandemic and associated site work restrictions, FAA restarted En Route Automation Modernization (ERAM) technology refresh installations at the key sites in December 2020. ERAM is vital to the future of air navigation, providing the foundational platform required for FAA to enable modernization programs such as System-Wide Information Management, Data Communications (Data Comm), and Automatic Dependent Surveillance-Broadcast. Installations at the remaining 17 ERAM operational locations will restart in the second quarter of calendar year 2021.

Additionally, FAA is currently testing a software build to support ERAM Sustainment 3, ERAM Enhancements 2, and Data Comm Initial Services. The software was scheduled for release to key sites in February 2021.Finally, in order to mitigate the risk of going below acceptable levels of spare components, FAA has already completed a small technology refresh at seven ERAM locations.

A supplement to voice communications, Data Comm enables controllers to text flight clearance and reroute instructions to multiple aircraft at once. Data Comm reduces the communication time between controllers and pilots, which reduces gate delays and taxi-out times, thereby improving the overall efficiency of the system. The Data Comm services are ready for activation at the remaining 17 air route traffic control centers once outside personnel are allowed back into the facilities to train the controllers and test the system. The deployment is currently on hold due to COVID-19 safety protocols.

OIG FOCUS AREA: IMPLEMENTING NEW PBN FLIGHT PROCEDURES AND DELIVERING BENEFITS TO AIRSPACE USERS

Federal Aviation Administration: Initial implementation of Performance-Based Navigation (PBN) is complete and the associated terminology issues have been addressed. Performance-Based Navigation routes and procedures leverage new technologies and aircraft navigation capabilities to increase safety, capacity, and operational efficiency. This technology allows for more optimized flight paths, such as continuous descent routes when approaching an airport. FAA will continue the deployment and implementation of traffic sequencing, metering, and/or merging and spacing automation tools.

Along with promoting PBN procedures, these tools will decrease controller workload. For example, the Terminal Sequencing and Spacing tool capitalizes on the precision that PBN affords to provide controllers with enhanced, real-time information to aid in traffic metering. In addition to reducing controller workload, the Terminal Sequencing and Spacing tool increases efficiency and reduces flying miles. FAA is currently testing the software and plans to deploy the tool at Denver International Airport in FY 2022 and Los Angeles International Airport in FY 2023.

In coordination with the MITRE Corporation, FAA has initiated optimization of the Instrument Flight Procedure Inventory project, which will develop and apply automated, data-driven capabilities for review, design, and amendment of routes and procedures. This lean process based on data-driven criteria will reduce the time and resources needed for review, removal, and modification of legacy routes and procedures.

OIG TOP MANAGEMENT CHALLENGE: SURFACE TRANSPORTATION INFRASTRUCTURE

The Department annually invests over $60 billion through highway, transit, and railroad infrastructure programs that are vital to the American economy and our everyday lives. A significant challenge for DOT is to effectively manage these various programs and ensure that funded projects adhere to Federal requirements, including those funded by the CARES Act. Moreover, due to limited resources and evolving demands, DOT must ensure that States and other grantees use sound asset and performance management practices. These are critical to improve the condition of the Nation's infrastructure and address overall surface transportation needs cost effectively.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: ENHANCING OVERSIGHT OF SURFACE TRANSPORTATION PROJECTS

Federal Highway Administration: FHWA has taken actions to enhance oversight of surface transportation projects by issuing updated risk-based project involvement guidance to division offices on September 25, 2020. Two internal webinars, held on October 14 and November 19, 2020, explained the guidance. Actions to implement the May 2020 OIG recommendations are on schedule for completion by June 30, 2021, while the guidance takes full effect in FY 2022 beginning October 1, 2021.

Federal Transit Administration: FTA is implementing a series of actions to address this focus area. These include revising Emergency Relief program guidance to incorporate time frames for the use of insurance proceeds, ensuring that FTA regional offices review compliance with relevant time frames when approving grants, and developing procedures to track the use of insurance proceeds for projects.

Federal Railroad Administration: FRA continues to improve and strengthen its infrastructure grant oversight to focus resources where they will achieve the greatest programmatic benefits. FRA's refinement of its oversight program includes developing new procedures and revising several existing procedures, as follows:

- **Project Risk Assessment Model:** Conducted during the initial stage of the grant life cycle to identify potential project risks. The comprehensive risk model informs FRA of oversight actions it will take to minimize project risks.

- **Deliverable Review Guidebook:** Establishes an oversight framework for the monitoring of a grantee's project for FRA staff and its continued assessment of project risks throughout the grant life cycle.

- **Monitoring Procedures:** Outline how contracted expertise may supplement FRA staff in its oversight program where resources are limited. It refines how risks are elevated to FRA staff and managed.

- **Grants Management Manual:** Establishes the policies and procedures for grant processing and management throughout the grant life cycle. FRA's risk mitigation actions have been refined to strengthen oversight of a project and ensure successful project delivery.

- **Annual Scheduled Grant Monitoring:** FRA's annual monitoring activities play a critical part in FRA's risk management and oversight program. The annual effort includes identification, through a data-driven, risk-based approach, of specific projects to conduct in-depth analyses and technical assistance.

OIG FOCUS AREA: EMPLOYING EFFECTIVE ASSET AND PERFORMANCE MANAGEMENT

Federal Highway Administration: FHWA established 17 performance measures through a series of rulemakings to implement Moving Ahead for Progress in the 21st Century Act (Public Law 112-141) and Fixing America's Surface Transportation Act (Public Law 114-94) performance provisions. These measures are used by State DOTs to assess performance and carry out several performance-based apportioned programs. Additionally, FHWA established new requirements for State DOTs to develop Transit Asset Management (TAM) Plans for National Highway System pavements and bridges. State DOTs developed their initial TAM Plans in FY 2018, with their first plans completed in FY 2019. At this time, FHWA is focused on working with States as their TAM maturity grows to develop updated plans, which are due in FY 2022.

State DOTs and Metropolitan Planning Organizations (MPOs) are in the early stages of implementing the new performance requirements. FHWA has and continues to work closely with State DOTs and MPOs to capture leading practices and identify needs for assistance in performance management. An implementation plan published on the FHWA website outlines specific efforts underway or completed to provide assistance and support. FHWA reports progress on seven of the 17 National performance measures supporting the Department and FHWA's Strategic Goals through annual performance reporting processes.

Office of the Secretary: All State DOTs have reported performance data and targets for each of the 17 performance measures. FHWA publishes State Performance Dashboards, reports, and updates annually, sharing all data and targets in one place.

State DOTs and MPOs work together to set data-informed targets and are accountable for managing progress toward the performance targets they set. FHWA facilitates the collaborative target-setting process by providing guidance, training, and technical assistance to State DOTs and MPOs. State DOTs can also benchmark their performance among peer agencies leveraging their access to consistent data. FHWA uniformly tracks performance data to tell a National story.

To ensure that transit agencies effectively manage grant funds in a manner consistent with TAM principles, FTA will continue to provide robust TAM technical assistance and oversight, including virtual training and conference opportunities, quarterly webinars featuring peer agencies, and formal published case studies on new and innovative TAM practices. In addition, FTA is undertaking a five-year program evaluation effort to quantify the impacts of regulation on the transit industry, including the state of good repair performance targets.

OIG TOP MANAGEMENT CHALLENGE: CONTRACT AND GRANT FUND STEWARDSHIP

In FY 2019, DOT obligated almost $73.6 billion for contracts and grants to support its mission of ensuring our Nation has one of the world's safest, most efficient, and modern transportation systems. In addition to its annual funding for contracts and grants, the CARES Act provided DOT with an additional $36 billion in FY 2020 to distribute for COVID-19 pandemic relief. The Department must place sustained focus on its contract and grant awards and oversight to ensure these funds are efficiently and effectively spent for their intended purpose and result in the expected quality of services, products, and performance.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: AWARDING PANDEMIC RELIEF AND OTHER DOT CONTRACTS AND GRANTS EFFICIENTLY, EFFECTIVELY, AND FOR INTENDED PURPOSES

Office of the Senior Procurement Executive: The Office of the Senior Procurement Executive plans to take the following actions to address this focus area:

- Finalizing an update to the DOT Guide to Financial Assistance to incorporate OMB's Uniform Guidance updates, which reflect government-wide changes for the award and administration of grants. These changes include directives to increase performance measurement and align to the phases of the grant life cycle;

- Execute FY 2021 Procurement Management Reviews to assess procurement office performance (i.e., competition rate) and policy/regulatory compliance for selected OAs;

- Explore opportunities to annually collect and internally report standard OA procurement metrics to include competition rate; and

- Leverage the DOT Acquisition Strategy Review Board to ensure appropriate competition approach for Major Acquisitions and OA procurement office compliance with regulatory/policy requirements prior to solicitation release.

Federal Aviation Administration: FAA is addressing this focus area through policy clarification, improved internal controls, and expanded oversight. Through a revision to FAA's Contract Pricing Handbook, the agency will add techniques and scenarios that will address how to best support and document a fair and reasonable price determination.

Additionally, FAA will reinforce existing internal controls within the Chief Financial Officer (CFO) review process to better ensure that Independent Government Cost Estimates are compliant and supportable. This will include increased scrutiny towards the basis and assumptions for each cost estimate and increased collaboration with Acquisitions to facilitate appropriate reconciliations at award. Finally, in collaboration with contracting management, the National Acquisition Evaluation Program will reinforce ongoing oversight activities to address records management and rationale for award decisions.

OIG FOCUS AREA: ENHANCING CONTRACT AND GRANT MANAGEMENT AND OVERSIGHT TO ACHIEVE DESIRED RESULTS AND COMPLIANCE WITH REQUIREMENTS

Federal Aviation Administration: FAA will update its Frequently Asked Questions (FAQs), which form the primary public guidance on the Coronavirus Aid, Relief and Economic Security Act (CARES Act, Public Law 116-136) Airport Grants Program. The FAQs provide instructions to airport operators requesting reimbursement from their respective CARES Act Airport Grants. This guidance is consistent with the training provided to reimbursement approvers, and in many cases, comes from frequently experienced issues identified by these approvers. Ensuring that everyone involved in each step of the reimbursement process is operating within the same set of rules helps to increase overall compliance. Even with these updated FAQs, approvers will continue to review all requests.

To increase oversight of CARES Act funding, FAA hired new, experienced employees to approve all reimbursement requests by grantees. FAA continues to hold weekly meetings with approvers, compliance staff, and management to ensure that approvers can raise issues and questions for resolution. FAA is also documenting reimbursement decisions made, so that new approvers can continue to consistently apply these policies and practices to future requests. To date, all CARES Act Airport Grants reimbursement requests have been for airport operations and maintenance expenses. FAA will be adding an addendum to the original program to allow funds to be used for airport development. FAA already has knowledgeable, experienced field office staff that regularly review the eligibility of costs for development projects for its ongoing Airport Improvement Program. FAA expects CARES Act development projects will be similar to Airport Improvement Program projects. As such, CARES Act Airport Grants Program funding requests for development projects will be handled primarily by FAA's field staff, with guidance from HQ staff with development project experience.

Federal Railroad Administration: FRA's CARES Act funding differs from other OAs' in that funds were directed exclusively to Amtrak. FRA increased Amtrak's two FY 2020 grants, Northeast Corridor and National Network, for which FRA already had a comprehensive monitoring and technical assistance program in place. FRA continues to coordinate closely with Amtrak on its CARES Act expenditures through monitoring activities, such as weekly, monthly, and ad hoc meetings and reviews of monthly and cumulative expenditures to ensure compliance with all requirements. FRA is also incorporating lessons learned

from CARES Act implementation to strengthen oversight. For example, FRA is adding new terms and conditions to its FY 2021 Amtrak grant agreements, including:

- Creating an approval process before Amtrak reclassifies expenditures from one funding source to another;
- Enhancing monthly progress reports for greater visibility into project performance, rolling stock reliability, and credit status; and
- Requiring new, end-of-year reports that facilitate comparison of Amtrak's planned and actual grant performance and expenditures, analysis of monthly allocation of costs and revenues to service lines, and evaluation of rolling stock condition.

In addition, FRA is creating an enforcement framework to identify Amtrak grant violations and determine appropriate FRA options. FRA will add this framework to its grants management manual. The agency is also hiring more grant managers and dedicating existing accounting staff to increase its oversight capabilities for review and analysis of Amtrak's reports and invoices.

Federal Transit Administration: FTA will continue to provide guidance to its recipients on the management and oversight of CARES Act grants through its ten regional offices and FAQs website, which acts as FTA's primary form of notification to the transit industry regarding COVID-19 relief and CARES Act grant administration. FTA will continue to provide supplemental training to regional offices on the administration of CARES Act funding, consistent with the requirements outlined in the July 2, 2020 Supplemental Apportionments, Allocations, Program Information and Guidance Federal Register Notice. FTA will continue to oversee the award and administration of CARES Act funding though its existing risk-based grant management and oversight procedures. FTA will also continue to coordinate with the Federal Emergency Management Agency to identify any transit projects receiving funding and eliminate any potential duplication of funding. FTA has a very low improper payment rate in its regular programs. To reduce the risk of improper payments for CARES Act funding, FTA will conduct an OMB A-123, Appendix C improper payment review, including a quantitative risk assessment. FTA has hired additional staff in its headquarters and regional offices to assist in the increased number of grants being processed due to the additional CARES Act funding.

OIG TOP MANAGEMENT CHALLENGE: INFORMATION SECURITY

The Department relies on over 450 information systems to carry out its mission, which includes safely managing air traffic control operations and administering billions of dollars. However, the Department faces challenges in strengthening oversight to address longstanding cybersecurity weaknesses. Addressing internal control weaknesses will be key to protect information and systems from attacks and other compromises that may pose risks to safety or taxpayer dollars, including DOT's large infusion of CARES Act funding. To better mitigate risks, DOT must also develop policy to validate the proper adoption and security of internet-based cloud computing services.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: ADDRESSING LONGSTANDING CYBERSECURITY WEAKNESSES

Office of the Chief Information Officer: Through its 2020 Federal Information Security Management Act audit, OIG identified 10,385 security weaknesses in the Department's plans of actions and milestones (POA&Ms). To address these risks, the Office of the Chief Information Officer (OCIO) will take the following actions:

- Coordinate with FAA to finalize actions to reconcile those POA&Ms migrated from other management systems, and which form the greatest percentage of the open POA&Ms;

- Establish a cybersecurity working group to address open POA&Ms for the other OAs and provide assistance with cleanup and closure;

- Update the DOT Security Weakness Management Guide to provide improved direction on the creation, management, and closure of POA&Ms;

- Pilot a dashboard capability to provide near-real-time visibility into open POA&Ms by OA, and leverage the dashboard from the staff to leadership levels to provide visibility and drive actions towards closure; and

- Leverage the DOT IT Spend Approval process to identify and prioritize funding to support activities to drive POA&Ms towards closure.

To address identified weaknesses in the Department's annual security training processes and contingency planning, OCIO will take the following actions:

- Engage the U.S. Department of Homeland Security and its Cybersecurity & Infrastructure Security Agency to assist in linking the DOT personnel security system to the Common Operating Environment to provide accurate identification of authorized federal and contract personnel;

- Complete the implementation of security awareness training within the DOT Learns system for contractors;

- Coordinate with the DOT Assistant Secretary of Administration and CFO to ensure funding in future years to operate and maintain these capabilities;

- Establish a cybersecurity working group to address contingency planning, review OA plans, and provide recommendations for improvements, including increased use of the IT Shared Services environment and OCIO-managed enterprise solutions to reduce OA requirements and burden;

- Coordinate with OAs to develop and issue a task against the enterprise cybersecurity contract to improve contingency planning for mission systems; and

- Continue to leverage DOT enterprise cloud solutions to modernize physical and legacy systems by moving them to the cloud and applying best practices for resiliency and availability in the cloud.

OIG FOCUS AREA: DEVELOPING DEPARTMENT-WIDE POLICY TO VALIDATE THE PROPER ADOPTION AND SECURITY OF CLOUD SERVICES

Office of the Chief Information Officer: OCIO will take the following actions to address this challenge and focus area:

- Develop and issue implementation guidance on Federal Risk and Authorization Management Program requirements and oversight by OCIO;

- Update the DOT Federal Information Technology Acquisition Reform Act (H.R. 1232) IT spend approval process to identify instances of investment activity in the cloud, ensure the prioritization of resources for securing those systems, and ensure that plans are established to implement and comply with Federal Risk and Authorization Management Program requirements.

- Expand the use of DOT enterprise cloud services to modernize physical and legacy systems. This will be achieved by directing migration to approved shared service and cloud service provided through the DOT IT spend approval and enterprise change management processes, prioritizing the use of DOT enterprise contract vehicles and solutions for implementation of systems in the cloud, and applying architectural and operational best practices for system and application resiliency and availability within the cloud.

- Coordinate with OAs and their CFOs to identify budget and funding opportunities for cloud security as modernization, mission enablement and resiliency, and efficiency initiatives.

OIG TOP MANAGEMENT CHALLENGE: FINANCIAL MANAGEMENT

The recent influx of new grant funding may present financial management challenges for the Department. On an annual basis, DOT typically disburses about $82 billion in cash. With the CARES Act, DOT will have the potential to outlay $118 billion, a 44 percent increase from the prior year. Although the Department has made progress in its financial management, such as reducing improper payments, DOT will now have to monitor significantly more grants and grantees to continue reducing improper payments and to comply with the Digital Accountability and Transparency Act (DATA Act), which requires agencies to improve reporting on spending.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: STRENGTHENING PROCEDURES TO MONITOR AND REPORT GRANTEE SPENDING

Office of the Financial Management: The Office of Financial Management will take the following actions to address this focus area:

- Updating existing reconciliation tools to incorporate new DATA Act (Public Law 113-101) data quality validations deployed by Treasury in relation to the revised reporting requirements for CARES Act funding;

- Updating the existing DOT Data Quality Plan to address data quality through the life of CARES Act funding;

- Developing trend analyses to identify DATA Act reporting data quality trends and improvements over time; and

- Finalizing procedures for the development of quarterly action plans to identify data quality issues that require investigation and/or correction.

OIG FOCUS AREA: PREVENTING AN INCREASE IN IMPROPER PAYMENTS

Office of the Secretary: OST and relevant OAs will take the following actions to address this focus area:

- Sampling supporting documentation from FHWA's grant-related transactions and calculating an estimated amount of improper payments;

- Developing and implementing targeted corrective actions to strengthen procedures;

- Sampling supporting documentation from grant-related transactions and assessing the improper payment risk of programs that received significant CARES Act funding; and

- Publicly reporting results of the FY 2021 improper payment review in accordance with OMB requirements.

OIG TOP MANAGEMENT CHALLENGE: INNOVATION AND THE FUTURE OF TRANSPORTATION

A top DOT priority is to guide the country into the future of transportation through innovation. Emerging technologies and innovative approaches to such areas as financing and project delivery will ultimately transform how DOT carries out its mission, shapes its workforce, and deploys resources. One immediate challenge is stewarding the fast pace and scope of emerging technologies in vehicle automation and Unmanned Aircraft Systems as they are integrated into our Nation's transportation system. These technologies have the potential for long-term benefits but also pose new safety, oversight, and regulatory challenges.

DOT PLANNED ACTIONS TO ADDRESS THIS CHALLENGE

OIG FOCUS AREA: ADAPTING OVERSIGHT APPROACHES FOR EMERGING VEHICLE AUTOMATION TECHNOLOGIES

National Highway Traffic Safety Administration: The Office of Defects Investigations (ODI) continues to take a proactive approach to monitor potential safety defects in emerging vehicle technologies. The ODI regularly engages with industry to learn about new technologies to better oversee their implementation and operation. To better track potential defects of these systems, ODI has recently added eight specific Advanced Driver Assistance System components to its consumer complaint form that allows consumer complaints to indicate allegations with the performance of these systems. The ODI will be able to confirm trends from its Early Warning Reporting elements on these systems, including electronic stability control, forward collision avoidance, lane departure and backover prevention, foundation brakes, and automatic brake controls. Using its risk-based processes, ODI will be able to open and perform investigations more efficiently and effectively on these systems.

OIG FOCUS AREA: ENSURING THE SAFE INTEGRATION OF UAS IN THE NATIONAL AIRSPACE SYSTEM

Federal Aviation Administration: FAA will take the following actions to address this focus area:

- **Conclude the Unmanned Aircraft Systems Integration Pilot Program:** FAA concluded the Unmanned Aircraft Systems (UAS) Integration Pilot Program in October 2020. A final report on the program was issued in 2021.

- **Initiate the BEYOND Program:** With the successful conclusion of the UAS Integration Pilot Program, FAA initiated the BEYOND Program. This program will focus on normalizing routine, scalable, and economically viable Beyond Visual Line of Sight operations. These more complex operations represent the key to unlocking the next round of economic potential for UAS, including operations to inspect critical infrastructure and deliver medical supplies and other small goods. The BEYOND program will focus on operating under established rules rather than waivers, collecting data to develop performance-based standards, streamlining the approval processes for UAS integration, collecting and addressing community feedback, and understanding the societal

and community benefits associated with small UAS operations. FAA will also continue to collaborate with industry stakeholders, leveraging partnerships to find solutions for operational and technical challenges associated with expanding Beyond Visual Line of Sight approvals.

- **Execute Rulemaking Efforts:** FAA published the Remote Identification of Unmanned Aircraft final rule and the Operations of Small Unmanned Aircraft Systems Over People final rule on January 15, 2021. These rules are crucial to the agency's UAS integration

efforts of moving toward longer-term, more routine, and more complex drone operations, including package delivery services and urban air mobility. Once the rules become effective (60 days after publication), FAA will coordinate and execute items on the Remote ID implementation schedule.

- **Enhance Outreach Efforts to the Public:** FAA is also committed to expanding UAS support and outreach efforts with the public to advocate safety policies, guidance, and best practices, such as the annual Drone Safety Awareness Week.

	Focus Area	Responsible Official(s)	Associated Performance Measure(s)
Aviation Safety	Improving FAA's Oversight of Aircraft Certification Processes	Ali Bahrami (FAA)	U.S. General Aviation Fatal Accidents per 100,000 Flight Hours
	Enhancing Aviation Safety Oversight While Working in a Collaborative Environment		U.S.-Owned Commercial Carrier Fatalities per 100 Million Persons
Surface Transportation Safety	Ensuring Compliance with Safety Regulations and Programs	• Joseph DeLorenzo (FMCSA) • Rosalyn Millman (FRA) • TaNika Dyson (PHMSA) • Jennifer Antonielli (PHMSA)	• Number of Motor Carrier Incidents • Rail-Related Fatalities • Train Accidents • Incidents Involving Death or Major Injury Resulting from the Transport of Hazardous Materials by All Modes Including Pipelines • Pipeline Hazardous Liquid Spilled, Gross Volume (Barrels) • Pipeline Hazardous Liquid Spilled, Net Volume (Barrels) • Hazardous Materials Incidents Reported Annually
	Continuing Progress in Safety Monitoring and Enforcement	• Joseph DeLorenzo (FMCSA) • Joe Kolly (NHTSA)	• Average Number of Days to Investigate "High Risk" Designated Carriers • Occupants Ejected from Passenger Vehicles per 100 Emergency Medical Services Motor Vehicle Crash Dispatches • Improve Safety of Fleet on U.S. Roadways • Percentage of States that Meet the Quarterly Timeliness Benchmark for Reporting
Air Traffic Control and Airspace Modernization	Modernizing New Systems While Introducing New Capabilities	Teri Bristol (FAA)	Percentage of Major System Investments Completed On-Time and On Budget
	Implementing New PBN Flight Procedures and Delivering Benefits to Airspace Users		• Percentage of NextGen Projects Completed On-Time and On Budget • Percentage of Completed NextGen Priorities for the Northeast Corridor
Surface Transportation Infrastructure	Enhancing Oversight of Surface Transportation Projects	• Rosalyn Millman (FRA) • Firas Ibrahim (FHWA) • Gregory Danis (FTA)	• Percentage of DOT Environmental Impact Statements Posted on Permitting Dashboard that are On Schedule • Percentage of DOT Major Infrastructure Projects Posted on Permitting Dashboard that are On Schedule • FTA Grant Dollars Allocated to Rural Areas and Small Urban Areas

	Focus Area	Responsible Official(s)	Associated Performance Measure(s)
Surface Transportation Infrastructure	Employing Effective Asset and Performance Management	• Susanna Reck (FHWA) • Hari Kalla (FHWA)	• Average Months to Complete and Environmental Review for Major Infrastructure Projects for which DOT is the National Environmental Policy Act Lead • State of Good Repair Backlog (Current-Year Dollars)
Contract and Grant Fund Stewardship	Awarding Pandemic Relief and Other DOT Contracts and Grants Efficiently, Effectively, and for Intended Purposes	• Willie Smith (OST-M) • Mark House (FAA)	• Percentage of Grants Identified as Inactive at the Beginning of the Fiscal Year that are Either Closed or Returned to Active Status • Average Number of Days from Grant Application Submission to Grant Award
	Enhancing Contract and Grant Management Oversight to Achieve Desired Results and Compliance with Requirements	Willie Smith (OST-M)	Best-in-Class Performance
Information Security	Addressing Longstanding Cybersecurity Weaknesses	Andrew Orndorff (OCIO)	• Percentage of Systems with Proper Security Authorizations • Percentage of Systems Converted to an Ongoing Authorization Process
	Developing Department-wide Policy to Validate the Proper Adoption and Security of Cloud Services		
Financial Management	Strengthening Procedures to Monitor and Report Grantee Spending	Jennifer Funk (OST-B)	Improper Payment Percentage for Activities Identified as Susceptible
	Preventing an Increase in Improper Payments		
Innovation and the Future of Transportation	Adapting Oversight Approaches for Emerging Vehicles Automation Technologies	Joe Kolly (NHTSA)	Deployment of Automated Driving Systems
	Ensuring the Safe Integration of UAS in the National Airspace System	Ali Bahrami (FAA)	• Percentage of Manual Part 107 Airspace Authorizations Processed Within the 90-Day Timeline Mandated by Congress • Average Time to Process UAS Part 107 Operational Waivers