Agency Priority Goal Action Plan

Improve America's Transportation-Related Infrastructure

Goal Leader(s):

Kirk Shaffer, Associate Administrator for Airports, Federal Aviation Administration (FAA)

Winsome A. Lenfert, Deputy Associate Administrator for Airports (FAA)

Nicole R. Nason, Administrator, Federal Highway Administration (FHWA)

Robert J. Tuccillo, Associate Administrator for Budget and Policy, Federal Transit Administration (FTA)

Overview

Goal Statement

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 percent decrease in the Reliability of Interstate Person-Miles Traveled will be no more than 0.7 percent from the 2018 baseline. The percent of paved runways in the National Plan of Integrated Airport Systems in excellent, good, or fair condition will be maintained at 93 percent.

Challenges

- Highway pavement and bridges that are considered to be in poor condition directly impact the lives of ordinary citizens by increasing the wear and tear on vehicles, driving up repair costs, inflating travel times, and sometimes introducing new safety concerns.

- For freight users, poor conditions can increase the cost of doing business and delay the delivery of millions of tons of goods and agricultural products across the country. Since trucks transport the majority of U.S. freight, keeping our roads and bridges in good condition is critical to our country's competitiveness.

- Reliability of travel times on the Interstate system can be impacted by a wide variety of events (i.e., weather, work zones, traffic incidents, volume fluctuation, and others).

- The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) expect to complete the 24th edition of the biennial Conditions and Performance (C&P) Report later this year. This report focuses on the same national performance measures reflected in this action plan.

The current 23rd edition is based on 2014 data sources. The 24th edition will include a discussion of the performance indicators for bridge, pavement, reliability, and transit conditions, as they are presented in Agency Priority Goal (APG) action plans.

Overview

Airfield pavement needs regular preventive maintenance to seal cracks and repair damage, decreasing the frequency of major rehabilitation cycles. Preventive maintenance (e.g., seal coat surface treatment) or more significant rehabilitation may be needed on a four- to seven-year cycle or a 15- to 25-year cycle, respectively, to remedy the effects of age, use, and exposure. Runway pavement in a state of good maintenance minimizes damage to aircraft and avoids unnecessary higher costs for major rehabilitation (e.g., full-depth reconstruction).

Opportunities

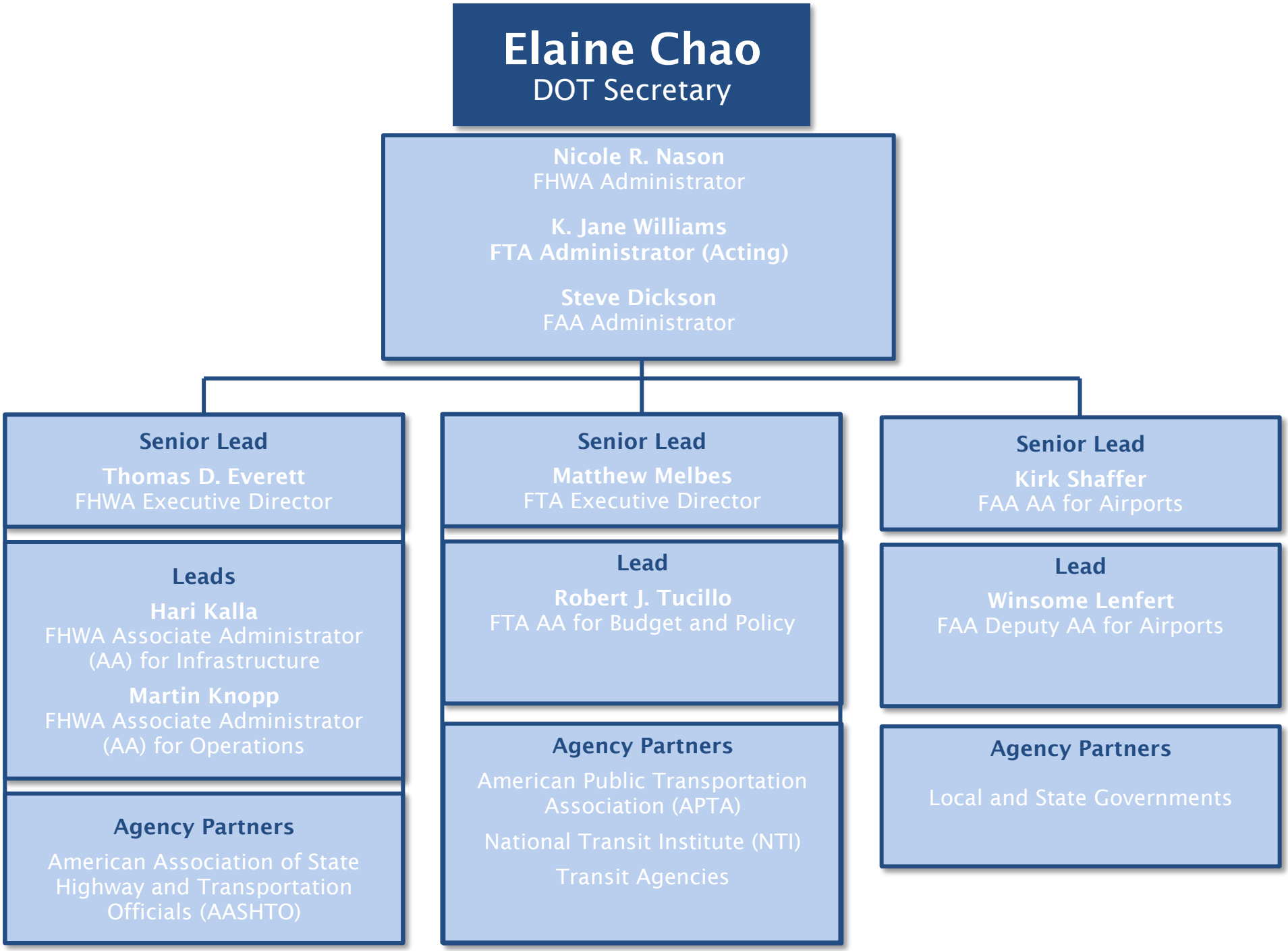
- By requiring States and Metropolitan Planning Organizations (MPOs) to develop management plans for highway and transit facilities respectively, the Department is encouraging regional, State, and local partners to more effectively and efficiently manage transportation assets.

- Working with State and local partner agencies, the Department has established a new framework of national performance measures for infrastructure (i.e., pavement and bridge) conditions and Interstate system reliability. As part of this new approach, States are required to make significant progress towards achieving targets for these performance measures, with the State-by-State results reported nationally.

- The Department will maintain good conditions of airport runway surfaces, NHS bridges, and ride quality per Vehicle Mile Traveled (VMT) on the NHS, as well as reverse the trend of the growing Transit State of Good Repair backlog through FY 2019. The Department will develop improved ways of tracking transportation infrastructure condition and, in the near term, focus on data available for roadway, runway, and transit infrastructure.

- Travel time reliability can be positively affected through the implementation of operational strategies on the Interstate. FHWA is working with State Departments of Transportation (DOTs) and other partners to provide new operational strategies and support the implementation of proven strategies.

Leadership & Implementation Team



Goal Structure & Strategies

This FY 2020-2021 APG aligns with the Infrastructure strategic goal in the FY 2018-2022 DOT Strategic Plan and two of the Department's four strategic objectives under that goal—*Life Cycle and Preventative Maintenance* and *Systems Operations and Performance*. As illustrated in the figure below, the Department will implement four key strategies to accomplish this objective: Rebuild, Risk Management, System Reliability, and Performance.

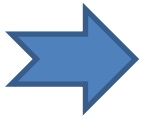
Key Strategies

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

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

System Reliability: Improve the reliability and efficiency of passenger travel and freight movement on the Nation's transportation systems by working with State Departments of Transportation and other stakeholders.

Performance: Measure the performance of transportation systems and support targeted investments to improve the experience of the traveling public.



Strategic Objectives

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

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

Performance Goals[1]

- Maintain or increase the percentage of interstate pavements, in line miles, in good or fair condition
- Maintain or increase the percentage of NHS bridge deck area in good or fair condition
- Minimize decrease in interstate travel time reliability, in person-miles traveled
- Reduce the national transit infrastructure State of Good Repair

[1] [1] For more information on these performance goals and their supporting indicators, refer to DOT's FY 2021 Annual Performance Plan/FY 2019 Annual Performance Report at https://www.transportation.gov/mission/budget/fy-2019-performance-report-and-fy-2021-performance-plan-main-document

Goal Structure & Strategies

- Increase Grants 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

The **Rebuild** strategy directly contributes to keeping the Nation's transportation infrastructure secure and in a state of good repair by maintaining and upgrading existing systems in rural and urban communities. FHWA and FTA obligate Highway Trust funds by formula and/or provide grants to sustain and maintain existing highway infrastructure and public transportation services.

The **System Reliability** strategy directly contributes to improving the reliability and efficiency of passenger travel and freight movement on the Nation's transportation system. FHWA program initiatives (e.g., Traffic Incident Management training) promote the use of effective operational strategies and technologies to increase reliability and optimize the use of existing highway capacity. This helps partner agencies mitigate or minimize the impact of system disruptions in anticipated travel times from recurring problems such as traffic bottlenecks, as well as non-recurring incidents, work zones, or adverse weather over the long-term.

FTA's **Systems and Operations Performance** strategy is to enhance reliable and efficient movement of people and goods by promoting effective management and ensuring leadership in securing data and in sharing information across the transportation system. FTA's life cycle and preventative maintenance is intended to keep the Nation's transportation infrastructure secure and in a state of good repair by maintaining and upgrading existing systems in rural and urban communities. FTA contributes to this strategy by collecting and monitoring Transit Asset Management (TAM) data. Both FTA's and transit agencies' goals are to improve the current number of transit assets that are within their useful lifecycle benchmark over the current reporting cycle through FY 2022.

The Department engages in research, development, and deployment activities related to lifecycle management and infrastructure preservation. FHWA provides training, education, and technical assistance to assist State and local partners in implementing Transportation Performance Management (TPM) and asset management principles and practices. FTA adopted TAM metrics and is monitoring them closely over the second reporting cycle to achieve its infrastructure goals.

Goal Structure & Strategies

The Federal Aviation Administration (FAA) implements a variety of data collection and analysis strategies to maintain the percent of paved runways in the National Plan of Integrated Airport Systems in excellent, good, or fair condition at 93 percent. It uses both scheduled and unscheduled surveillance safety inspections at certificated airports to assess pavement conditions and collects safety and pavement condition data under a contract program to inspect non-certificated public use airports every three years. It also maintains a five-year, forward-looking analysis of airport capital requirements that includes runway rehabilitation requirements, published in the biennial NPIAS report, and it enforces requirements to have preventive maintenance pavement programs at Federally obligated airports.

Summary of Progress – FY 20 Q1-Q2

Federal Highway Administration (FHWA)

- FHWA continues to provide technical assistance and educational workshops to State DOTs and MPOs as they set targets and report on their performance. State performance dashboards were updated for infrastructure condition, travel time reliability (including freight), and traffic congestion measures.

- In coordination with the National Highway Traffic Safety Administration (NHTSA) and the Traffic Incident Management Executive Leadership group, FHWA held the third Senior Executive Transportation and Public Safety Summit in November 2019. The Summit brought together 120 executives representing transportation, law enforcement, fire, rescue, emergency medical services, towing, public works, and transportation disciplines, as well as Federal, State, and local elected officials.

- Delivered three bridge management workshops to help States use asset management principles to support decision making for highway bridges in need of replacement, rehabilitation, or preservation.

- Promoted innovative technologies and shared best practices on maintaining the condition of highway bridges and pavements through effective preservation practices.

- Hosted peer exchanges and webinars for States to share best practices for collecting pavement condition data and maintaining the condition of pavements through effective pavement preservation practices.

- Published new FAQs regarding implementation of national performance measures for pavement condition.

Summary of Progress – FY 20 Q1-Q2

Federal Transit Administration (FTA)

FTA awarded $423 million in nationwide grants for bus infrastructure, announced by the Secretary in November 2019. Among the projects selected to receive funding were:

- In November 2019, it was announced that two projects in Arizona were awarded $17.4 million:
  - $17.3 Million will go to the Northern Arizona Intergovernmental Public Transportation Agency to construct a new Downtown Connection Center and purchase all-electric buses.
  - The White Mountain Apache Tribe received $160,000 to purchase new vehicles to expand transit service for tribal residents.

- In November 2019, the City of Detroit Department of Transportation (DDOT) and Flint Mass Transportation Authority (MTA) were awarded $12.8 million:
  - $8.5 million was awarded to be spent to modernize the Detroit fare collection system on buses.
  - $4.5 million was awarded to Flint to purchase new buses to replace diesel buses that have exceeded their useful life.

- In November 2019, three projects in North Carolina were awarded $24.5 million in funding:
  - The North Carolina Department of Transportation received $17.3 million to replace rural transit vehicles and construct public transportation facilities.
  - To replace vehicles beyond their useful lives:
    - Piedmont Authority for Regional Transportation received $6.8 million.
    - The City of Salisbury was awarded $480,000.

- Colorado was awarded $18 million in Federal grants statewide in December 2019. The Colorado Department of Transportation received:
  - $12 million to build a bus fleet maintenance facility.
  - $199,500 to replace transit vans to take people with disabilities to and from the Laradon Hall Society for Exceptional Children and Adults campus.

Summary of Progress – FY 20 Q1-Q2

  - $1.8 million was awarded to Roaring Fork Transportation Authority to replace buses that had exceeded their useful lives.
  - $2 million will go to the Town of Breckenridge to replace diesel buses that have exceeded their useful lives with battery-electric vehicles and charging infrastructure.
  - $400,000 will be used in Snowmass Village to replace rural buses that exceeded their useful lives.
  - $1.6 million will be spent in the City of Colorado Springs, Mountain Metropolitan Transit to purchase battery-electric buses and charging stations.

- Capital Investment Grants Funding:

  - In January 2020, the Acting Administrator announced that in FY 2020, FTA will make a total of $615 million available and will highlight innovation as part of their selection process.
  - In January 2020, the City of Spokane, Washington received $53.4 million in funds for Central City Line Bus Rapid Transit (BRT) that will provide faster service connection communities east and west of the downtown area.

- In January 2020, the Acting Administrator announced the Accelerating Innovative Mobility (AIM) initiative to support advances in transit innovation. AIM initiatives will receive $11 million in grants to help transit agencies propel innovation in their services.

- On March 16, 2020, FTA announced $20.3 million in grants to improve transportation access through innovation technologies through the Integrated Mobility Innovation (IMI) access to public transportation, increase efficiency, and enhance rider experience.
  - On March 18, 2020, FTA announced an $11 million notice of funding opportunity (NOFO) in AIM funding.

COVID-19 Response

- On March 13, 2020, FTA announced increased flexibility in states where the governor declared a state of emergency to help transit agencies response to COVID-19:

Summary of Progress – FY 20 Q1-Q2

  - Transit Providers can use federal formula funds for emergency-related capital and operated expenses, raising the cap on the federal government share of the expenses.
  - FTA grantees can use urbanized area and rural formula funds for health and safety of riders and the workforce.

- On March 27, 2020, FTA announced a 30-day deadline extension for the Competitive Grant Programs.

Federal Aviation Administration (FAA)

- For FY 2020 Q1-Q2, the status condition of runways in excellent, good, or fair condition was 97.9 percent, which has remained unchanged from the previous quarter.

Key Milestones

Federal Highway Administration (FHWA)

- In 2017, the Department published a Final Rule establishing national performance measures for pavement and bridge conditions.

- FHWA analyzes Highway Performance Monitoring System (HPMS) data to document potential problems and to encourage corrective actions. Data resubmittal is requested in cases where major problems are identified.

Since 1971, 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 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's and agency's bridge inspection program using 23 different metrics, two of which pertain to data quality and timely submission. A written annual evaluation is provided to each State and agency to document problems and require corrective actions.

Travel time reliability is a key measure of transportation system performance. A Final Rule, effective January 2017, established a new indicator, Interstate Travel Time Reliability as Percentage of Person-Miles Traveled that are Reliable, to monitor system performance on the Interstate system. The level of travel time reliability is the ratio of longer travel times (i.e., the 80$_{th}$ percentile of the travel time distribution) to the normal travel time (i.e., 50$_{th}$ percentile) over the course of a year. The 80$_{th}$ percentile is roughly equivalent to the worst travel times for one day during a week of commuting times. State DOTs and MPOs set targets for these measures. States' targets are reviewed for significant progress towards target achievement biennially. The baseline measure for 2018 was calculated based on 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 2019, the average was 83.4 percent, indicating that reliability had declined slightly. The initial estimate for 2020 is 83.9 percent, which would indicate an improvement in reliability. The final results for 2020 will be available this fall.

Federal Transit Administration (FTA)

Key Milestones

FTA has been facing the challenge of a rising transit State of Good Repair (SGR) for a long time. FTA responded to the MAP-21 mandate by introducing the Transit Asset Management (TAM) program.

In 2019, FTA published the first comprehensive look at transit agencies' reported TAM data on a wide range of the capital assets supporting transit service. The data include information on the scope of assets used to support transit service across the country, including number and age, as well as current condition and targets, for their ability to maintain them in an SGR. Using these data, which are self-reported annually to the NTD by transit agencies, provide a snapshot of the overall condition of the country's public transportation system.

Now that FTA is collecting TAM data, its strategy is to implement TAM metrics into its transit infrastructure performance measures. Going forward, a new infrastructure performance measure will provide a comprehensive national picture of the current conditions of the transit system infrastructure. FTA anticipates having these measures by Q4 FY 2020.

Federal Aviation Administration (FAA)

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 is reported in the biennial National Plan of Integrated Airport Systems (NPIAS) with the next published report due by September 30, 2020.

Key Milestones

Milestone Summary					
Milestone	**Deadline**	**Status**	**Change from Previous Quarter**	**Owner**	**Notes**
FTA: Reviewed Infrastructure Performance Measure (State of Good Repair) and the Transit Asset Management (TAM) data with Executive Management Team (EMT)	FY 2020 Q1	Completed	Began process to update FTA Performance Measures	FTA Office of Budget and Policy	
FHWA: State DOTs report infrastructure condition and system reliability, including freight performance measures' targets	FY 2020 Q1	Completed	Not applicable	FHWA AA for Infrastructure	
FHWA: Update and publish State performance dashboards	FY 2020 Q3	Not completed	Not applicable	FHWA AA for Infrastructure	
FHWA: State DOTs report interstate pavement condition via HPMS	FY 2020 Q3	Not completed	Not applicable	FHWA AA for Infrastructure	
Milestone	**Deadline**	**Status**	**Change from Previous Quarter**	**Owner**	**Notes**

Key Milestones

Milestone	Deadline	Status	Change from Previous Quarter	Owner	Notes
FTA/FHWA: Complete the 24th Edition of the Conditions & Performance Report, documenting condition of highways, transit, and bridges	FY 2021 Q1	Not completed	Not applicable	Joint report between FTA Office of Budget and Policy and FHWA Office of Policy	
FTA: Implement new infrastructure performance measures based on Transit Asset Management (TAM) data.	FY 2021 Q1	Not completed	Not applicable	FTA Office of Budget and Policy	
FHWA: Updates and publishes State performance dashboards	FY 2021 Q2	Not completed	Not applicable	FHWA AA for Infrastructure	
FHWA: State DOTs report interstate pavement condition via HPMS	FY 2021 Q3	Not completed	Not applicable	FHWA AA for Infrastructure	
FHWA: State DOTs report infrastructure condition, system reliability, including freight performance measures' targets	FY 2022 Q1	Not completed	Not applicable	FHWA AA for Infrastructure	Targets will be updated every two years after 2019.

Key Milestones

FHWA: Publish State performance dashboards	FY 2022 Q2	Not completed	Not applicable	FHWA AA for Infrastructure	
FAA: Maintain above 93 percent target (FY 20: 97.9%) of runway pavement in excellent, good, or fair condition for the paved runways in the National Plan of Integrated Airport Systems.	FY 2020 Q4	FY 2020 Q1 and Q2 completed	No change in percentage	Kirk Shaffer, Associate Administrator for Airports	Evaluation of the network level of inspection of over 4,300 runways is reviewed and reported monthly. For Q2 FY 2020, the status condition of runways in excellent, good or fair condition was 97.9 percent, which has remained unchanged from the previous quarter.
FAA: Maintain above 93 percent target (FY 21: 95%) of runway pavement in excellent, good, or fair condition for the paved runways in the National Plan of Integrated Airport Systems.	FY 2021 Q4	Not completed	Not applicable	Kirk Shaffer, Associate Administrator for Airports	Evaluation of the network level of inspection of over 4,300 runways is reviewed and reported monthly. For Q2 FY 2020, the status condition of runways in excellent, good or fair condition was 97.9 percent, which has remained unchanged from the previous quarter.

Key Indicators

Key Infrastructure Indicators	FY 2018 Target	FY 2018 Actual	FY 2019 Target	FY 2019 Actual	FY 2020 Target	FY 2020 Actual	FY 2021 Target	FY 2021 Actual
FTA: National Transit Infrastructure State of Good Repair Backlog, in Current Dollars.	$105B	$89.9B	$107B	$89.9B	$109B	$98B**	$109B	NA
FTA: Grant Dollars Allocated to Rural and Small Urban Areas	$1.79B	$1.56B	$1.59B	$1.6B	$1.62B	$1.59B***	$1.62B	NA
FAA: Paved Runways in the National Plan of Integrated Airport Systems in Excellent, Good, or Fair Condition	93.0%	97.9%	93.0%	97.9%	93.0%	NA	93.0%	NA

NA: Not Available

***FTA State of Good Repair backlog is based on the 23rd Edition of the C&P Report that was published and sent to Congress in November 2019. FY 2018 & FY 2019 Actuals are based on the 22nd Edition of the C&P report that is based on FY 2012 data and was published and sent to Congress in Q1 of FY 2017.*

****FTA: Grant dollars allocated to rural and small urban areas, as of March 31, 2020.*

Key Infrastructure Indicators	CY 2018 Target	CY 2018 Actual*	CY 2019 Target	CY 2019 Actual	CY 2020 Target	CY 2020 Actual	CY 2021 Target	CY 2021 Actual
FHWA: Percentage of Interstate Pavements, in Line Miles, in Good or Fair Condition	95.0%	--	95.0%	99.1%	95.0%	NA	95.0%	NA
FHWA: Percentage of National Highway System Bridge Deck Area in Good or Fair Condition	95.0%	95.5%	95.0%	95.4%	95.0%	NA	95.0%	NA
FHWA: Interstate Travel Time Reliability, in Person-Miles Traveled	83.7%	83.7%	83.7%	83.4%	83.1%	NA	82.8%	NA

NA: Not Available

**FHWA recently revised the measure it uses to track and report roadway conditions; therefore, CY 2018 served as the baseline year.*

Data Accuracy and Reliability

Federal Highway Administration (FHWA)

Measure #1

Percentage of Interstate Pavements 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, a Department-issued 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, with the State-by-State results aggregated and reported nationally. Per the regulation, the performance of highway pavements is reported nationally as the percentage of the Interstate system and non-Interstate NHS in Good and 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 IRI and distress data (i.e., cracking percent, rutting, and faulting) that are reported by State 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 and 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 submittals from States. The percentage is calculated from mileage and pavement condition data reported to the HPMS.

Statistical Issues

None.

Completeness

Data Accuracy and Reliability

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. Adherence to these guidelines varies by State; however, States are required to develop data quality management plans that define the acceptable level of data quality and describe 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 resubmittal is requested in cases where major problems are identified.

Data Accuracy and Reliability

Measure #2

Percent of deck area on NHS bridges in Poor condition.

Scope

This measure serves as an indicator of trends in bridge conditions 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 in Poor condition. 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.

Since 1971, the 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 NBI. FHWA maintains the NBI, which contains data on more than 615,000 highway bridges.

The information in 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 Poor condition.

Sources

Data used to determine if a bridge is in Poor condition are contained in the NBI and are currently assembled from annual data submittals from states, Federal agencies, and tribal governments. The deck area is calculated from length and width data also reported to the NBI.

Statistical Issues

Further research is needed to identify any statistical issues.

Completeness

Data Accuracy and Reliability

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 15th of each year. However, updates are accepted until end of year, at which time the full data set is archived and published.

Reliability

Because the performance measure relies on data associated with more than 143,000 NHS bridges, the impact of any differences in reporting across states is minimized in the overall national analysis.

Verification and Validation

The NBIS require 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 Tribes 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 comprehensively using 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 annual submittal of the NBI data to FHWA headquarters, 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. The accuracy and reliability of the submitted NBI information are evaluated through data checks by both FHWA headquarters and division office personnel, and as part of FHWA's annual NBIS compliance reviews.

Measure #3

Interstate travel time reliability, as a percent of person-miles traveled that are reliable.

Data Accuracy and Reliability

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 (PMT) that are reliable. National targets may be adjusted further after additional data are available in 2019.

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 15 minutes. Data are collected by INRIX and provided by the University of Maryland CATT Lab 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 found in HPMS.

Statistical Issues

PMT 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 vehicle-miles traveled.

Completeness

Missing data points in the NPMRDS do occur, either due to short road segment length (i.e., between interchanges in urban areas where cars pass too quickly through that they are not reporting speed and location) or 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 these measures is excellent. All metric submissions, as well as all targets and other reporting, are reviewed by FHWA. Data re-submittal is requested in cases where major problems are identified. As many

Data Accuracy and Reliability

as 35 States have access to an analysis tool developed by the Transportation Performance Management Capacity Building pooled fund study, which provides consistent and reliable results.

Verification and Validation

NPMRDS 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 2018 travel time data were conflated with 2016 HPMS data.

Data Accuracy and Reliability

Federal Transit Administration

Measure #1

- SGR backlog, incurrent-year dollars (formerly known as Transit Capital Assets Backlog)
- Backlog of transit capital assets in need of replacement or refurbishment (as defined by an estimated condition rating of 2.5 or lower)

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 United States transit assets is estimated at $847.5 billion.

Sources

The size of the national 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 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 2019, and updated backlog estimates based on the new data available in 2020.

The most recently published edition of the Conditions and Performance Report is the 23rd Edition, based on 2014 data, which was delivered to Congress on November 22, 2019.

Data Accuracy and Reliability

FTA is planning to discontinue this measure in FY 2021 and replace it with another measure that is based on TAM data reported directly to the NTD from transit agencies.

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 Chief Executive Officer (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 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 cannot be validated 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.

Measure #1

- FTA grant dollars allocated to rural areas and small urban areas.

Data Accuracy and Reliability

- The total number of grant dollars that are allocated to urbanized areas under 200,000 in population, or to rural areas (areas under 50,000 in population).

Scope

This measure includes both formula and discretionary grant programs.

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

None, this measure is a 100 percent count.

Completeness

None, this measure is comprehensive of all FTA grant programs. However, just because FTA makes funding available to these geographical areas does not mean that the announcement will 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 is needed, as these are formal records published in the Federal Register.

Federal Aviation Administration (FAA)

Measure

Data Accuracy and Reliability

- Percent of runways in FAA's National Plan of Integrated Airport Systems (NPIAS) in good condition (Formerly known as Runway Pavement)
- Maintain runway pavement in excellent, good, or fair condition for 93 percent of the paved runways in the NPIAS.

Scope

The metric covers all open and paved runways at Federally funded NPIAS airports.

Sources

Data and information are collected through visual inspection of runway pavement in accordance with existing FAA guidance; including Advisory Circulars 150/5380-7 Airport Pavement Management Program and 150/5320-17 Airfield Pavement Surface Evaluation and Rating Manuals. This guidance provides 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 National Airspace System Resource.

Statistical Issues

None.

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 the U.S. and its territories. Other public use airports are inspected by airports or airport safety data inspectors under an FAA contract every three years. Information is

Data Accuracy and Reliability

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 level.

Additional Information

Federal Highway Administration

Pavement and Bridge Condition

This measure serves as an indicator of trends in pavements in good or fair condition on the Interstate. Per the regulation (23 CFR 490.319c), the performance of highway pavements is reported nationally as the percentage of the Interstate system and non-Interstate NHS in good and poor condition. The pavement condition measure is based on a classification system of Good, Fair, or Poor. Data used to determine the measure includes mainline lane-miles of Interstate System and full-extent International Roughness Index (IRI) and distress data (i.e., cracking percent, rutting, and faulting) reported by State DOTS in the HPMS. The percentage is calculated from mileage and pavement condition data items reported to the HPMS for 0.1-mile sections of the entire NHS. To ensure consistency, FHWA provides guidelines for data collection in the HPMS Field Manual and 23 CFR 490.309. To help States improve data quality, they are required to develop data quality management plans that define the acceptable level of data quality and describe how the data collection process will ensure this level of quality in its deliverables and processes.

Bridges are in Poor condition when any bridge component (i.e., deck, superstructure, substructure, or culvert) condition rating items are coded four or less on the NBI rating scale. Data to determine if a bridge is deficient are contained in the NBI, currently assembled from annual data submittals from the States, Federal agencies, and tribal governments. Deck area is calculated from length and width data also reported to the NBI. The surface area (length multiplied by width) of bridge decks is viewed as a more meaningful indicator than simply a count of bridges. Adjustment of the results by deck area recognizes the size difference among bridges and avoids the pitfall associated with counting bridges where every bridge is treated the same regardless of size.

Interstate Travel Time Reliability

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. Data sources include average travel time data for interstates from the NPMRDS. The data reflect actual, observed travel times on the Interstates, reported as an average every 15 minutes. Data are collected by INRIX and provided by the University of Maryland CATT Lab 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 found in

Additional Information

HPMS. The methodology used to calculate performance measures was developed by FHWA. HPMS volume data are collected by the States in cooperation with local governments. FHWA provides guidance for State DOTs to calculate the metrics and report via HPMS.

Missing data in the NPMRDS do occur, either due to short road segment length (i.e., between interchanges in urban areas where cars pass too quickly through that they are not reporting speed and location) or where there are low volumes and no probe vehicles traveling through during a five-minute period, especially overnight and in some rural areas. The rulemaking recognized this limitation and accounts for missing data, in part, by using average travel times for every 15 minutes. All metric submissions, as well as all targets and other reporting, is reviewed by FHWA. Data re-submittal is requested in cases where major problems are identified. As many as 34 States use an Analysis Tool developed as part by the TPM Capacity Building pooled fund study, which provides consistent and reliable results. NPMRDS 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 2019 travel time data was conflated with 2018 HPMS data.

Federal Transit Administration (FTA)

National Transit Infrastructure SGR

The National Transit Database (NTD) is FTA's primary source for information on the transit industry. FTA grantees are required to report to the NTD as a condition of their grant agreement. The NTD collects an inventory of all revenue vehicles, all service vehicles, all facilities, and various aspects of rail infrastructure. Transit systems are also required to report a condition rating for each facility, and a metric of slow zones for rail infrastructure. Transit systems also set targets for SGR repair for each asset class. Data are self-reported and self-certified to the NTD by the transit agencies. FTA provides some validation of the data to identify and correct obvious blunders or areas of data inconsistency.

Grants to Rural and Small Urban Areas

Additional Information

FTA set a target to allocate at least $1.62 billion in formula and competitive grants to rural and small urban areas in FY 2020.

In November 2019, Secretary Chao announced $423 million in nationwide grants for America's bus infrastructure.

In Q1 of FY 2020, FTA awarded $161,616,540 to rural and small urban areas under the 5339 Bus and Bus Facilities program.

Federal Aviation Administration

Runways in the National Plan of Integrated Airport Systems

Runway condition data for the approximately 4,300 runways in the National Plan of Integrated Airport System (NPIAS) are reviewed monthly by FAA. Airports with runway pavement in poor or failed condition must identify rehabilitation projects in their capital improvement plans.

Additional Information

Contributing Programs

Organizations

- **FHWA:** Statutory requirements in Title 23 USC 106, 109, 144, 502, and elsewhere require FHWA to cooperate and/or coordinate with American Association of State Highway and Transportation Officials (AASHTO) in developing bridge, tunnel, and structure-related standards and other materials. FHWA outlines its priorities as a member of the AASHTO Committee on Bridges and Structures – see https://bridges.transportation.org/and 20 technical committees within the Committee on Bridges and Structures. In this role, the agency assists AASHTO in identifying necessary changes to the AASHTO specifications and providing input on needed research areas to advance the bridges and structures program. State DOTs are members of the Committee on Bridges and Structures, which enables FHWA to coordinate with these partners as well.

- **FTA:** Virtually all of FTA's grant programs fund improvements to infrastructure.

- **FAA:**
  - FAA Office of Airports: Federal assistance program: Airport Improvement Program (AIP)
  - Local Airport Authority, FAA: Passenger Facility Charge (PFC) programs
  - State Authority: State Airport funding programs
  - Local governing body: Local Funding programs

Additional Information

Regulations

FHWA

- FHWA National Performance Management Measures - see 23 CFR 490.307;407;507; and 607. DOT is now implementing these rules, offering technical assistance to States and MPOs as they set performance targets and developing public-facing reporting of performance metrics.
- FAST Act § 1106; 23 U.S.C. 119 – see National Highway Performance Program

FTA

- TAM Final Rule
- 49 CFR 625 Transit Asset Management
- FTA's TAM final rule requires public transportation providers to develop and implement TAM plans. TAM plans must include an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets. TAM's final rule also establishes SGR standards and four SGR performance measures. Transit providers are required to set performance targets for their capital assets based on the SGR measures and report their targets, as well as information related to the condition of their capital assets, to the National Transit Database.

FAA

- Regulations: 14 CFR 139 (Airports with commercial service)
  Policy: 49 USC Chapter 471
- Regulations: 14 CFR 139 (Airports with commercial service)
  Policy: 49 USC Chapter 475

Additional Information

Stakeholder / Congressional Consultations

FHWA: FHWA supports State and local governments in the design, construction, and maintenance of the Nation's highway system and various Federally and tribally owned lands. Through financial and technical assistance to State and local governments, FHWA is responsible for ensuring that America's roads and highways continue to be among the safest and most technologically sound in the world. In addition to its headquarters office, FHWA has offices in each of the 50 States, the District of Columbia, and Puerto Rico that work with State, local, and other Federal transportation agencies. FHWA's key stakeholders and partners include the State DOTs, as well as the respective transportation departments for Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Northern Mariana Islands. Non-governmental stakeholders include national transportation-related stakeholder and professional organizations, such as the American Association of State Highway and Transportation Officials (AASHTO).

Stakeholder engagement is a critical part of what FHWA does every day to deliver the Federal Highway Program. It is performed via technical assistance, training and educational development and delivery, and serving on technical panels for research, development, and deployment. Programs and resources are developed and enhanced to meet stakeholder and customer needs informed by surveys, data collection and analysis, participation in national and regional conferences, responses to requests for technical assistance, and by the day-to-day conduct of our work.

FTA: FTA conducted extensive industry outreach prior to establishing the TAM Rule. FTA conducted an online dialogue and an advanced notice of proposed rulemaking prior to formally issuing the proposed rule. FTA conducts at least one transit asset management roundtable each year with industry stakeholders to receive feedback on implementation. FTA has also met on several occasions with Congressional professional staff to discuss progress in implementation of the TAM program.

FAA: 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.