Agency Priority Goal Action Plan

Improve America's Transportation-Related Infrastructure

Goal Leaders:

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Overview

Goal Statement

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

Challenge

- DOT has not traditionally published a comprehensive, multi-modal assessment priority goal regarding transportation infrastructure. This APG reflects an aspirational goal to look holistically at America's transportation infrastructure and measure transportation infrastructure condition over time. Information is more readily available to DOT for parts of the transportation systems that are constructed and/or maintained in part with Federal funding, such as roadways and airports rather than privately-owned assets such as railroads and seaports.

- Because of the Department's inability to monitor and assess the condition and performance of all infrastructure assets, we decided instead to assess progress and show improvement over time based on the infrastructure-related measures that DOT does collect and report.

Overview

Opportunities

- The Conditions and Performance Report is adapting to focus on the same national performance measures reflected in this Action Plan. Both draw from common data sources (HPMS, NBI, TERM). The draft 23rd C&P (2014 data) and 24th C&P (2016 data) present the same bridge, pavement, and transit measures presented in the Action Plan, and future editions will adopt the new pavement measure described in the plan once data are available.

Goal Structure & Strategies (FAA)

Maintain Good Runway Condition (FAA)						
	2016 Actuals	**2017 Actuals**	**2018 Target**	**2018 Actuals**	**2019 Target**	**2020 Target**
Percent of Runways in Good Condition	97.6%	97.8%	93%	97.9%	93%	93%

FAA's strategies to accomplish the APG include the following:

- Assessing pavement condition via scheduled and surveillance safety inspections of certificated airports.

- Collect safety and pavement condition data under a contract program to inspect non-certificated public use airports every 3 years.

- Maintain a 5-year, forward-looking analysis of airport capital requirements that includes runway rehabilitation requirements, published in the biennial NPIAS report.

- Enforce requirements to have pavement preventive maintenance programs at Federally obligated airports.

Assessment is rated as Excellent, Good, Fair, Poor, and Failed; Condition of "Good" indicated above includes "Excellent", "Good", or "Fair"

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Goal Structure & Strategies (FHWA)

Improve Bridge Condition in the National Highway System (FHWA)						
	2016 Actual	2017 Actual	2017 Target	2018 Target	2019 Target	2020 Target
Percentage of National Highway System (NHS) bridges classified as in Poor Condition	5.0%	4.8%	5.0% or less	5.0% or less	5.0% or less	5.0% or less

FHWA's strategies to accomplish the APG include the following:

DOT issued a Final Rule effective May 2017 that establishes 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 being aggregated and reported nationally. The bridge condition measure is based on a classification system of Good, Fair, and Poor. The bridge measure is the percentage of NHS bridges classified as in Poor condition. These condition measures will reflect the lowest National Bridge Inspection component (i.e., Deck, Superstructure, Substructure, and Culvert) condition rating for a bridge, weighted by the deck area.

Goal Structure & Strategies (FHWA)

Improve Pavement Condition on the National Highway System (FHWA)						
	2016 Actual	2017 Target	2017 Actual	2018 Target	2019 Target	2020 Target
Percent VMT on NHS with good to very good ride quality.	59.6%	60.3%	60.9%	61.0%	61.6%	62.3%

FHWA Strategy to Accomplish the APG:

DOT issued a Final Rule effective May 2017 that establishes 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 being aggregated and reported nationally. The pavement condition measure is based on a classification system of Good, Fair, and Poor. Beginning in 2019, the measure of percent of pavements in Good and Poor condition will be reported state-by-state and aggregated nationally.

The regulation also includes a timeline to comply with the new requirements which is outlined below.
- October, 2018: first time targets established by State DOTs were reported to FHWA for Interstate pavements using the new measure. These targets will represent the anticipated network level conditions of the Interstate system within the state at the end of 2021. Targets will be updated every 2 years thereafter.
- April, 2019: first annual requirement for State DOTs to report Interstate pavement conditions to the HPMS using the new measure.
- June, 2022: first biennial requirement for State DOTs to report non-Interstate NHS pavement conditions to the HPMS using the new measure.
- October, 2022: first time targets established by the State DOTs will be reported to FHWA for non-Interstate pavements using the new measure. These targets will represent the anticipated network level conditions of the non-Interstate NHS within the State at the end of 2023. Targets will be updated every 2 years thereafter.

Goal Structure & Strategies (FTA)

Monitor Condition and Performance of Transit Systems (FTA)					
	2012 Baseline	**2017 Actual**	**2018 Target**	**2019 Target**	**2020 Target**
State of Good Repair Backlog (Current-year dollars, not adjusted for inflation)	$89.8B*	N/A**	$105B	$107B	$109B

From the FY 2015 Conditions and Performance Report.
**2017 Data Not Available. The 23rd Conditions and Performance Report, reporting 2014 data, has not yet been cleared for publishing. FTA is currently expanding state of good repair data collection in the National Transit Database, which will be available in September 2019. At that time, FTA will establish new measures for this target based on data that is available much more timely.*

FTA's strategy to accomplish the APG include the following:

• Require all FTA grantees to establish Transit Asset Management Plans by October 1, 2018.

• All FTA grantees must integrate state of good repair performance targets into the Metropolitan Planning Process and the Statewide Planning Process

• Require annual reporting of asset inventories, condition assessments, and state of good repair performance targets and results to the National Transit Database.

• FTA will continue to obligate and oversee its portfolio of grants in the State of Good Repair Formula, Urbanized Area Formula, Rural Formula, Bus and Bus Facilities Formula, Bus and Bus Facilities Discretionary, Ferry Discretionary, Tribal Transit, and Enhanced Mobility Formula Programs.

Summary of Progress – FY 18 Q1 thru Q4

FAA

The FY18 Q1 – Q4 status condition of all runway pavement in the National Plan of Integrated Airport Systems (NPIAS) being in either "excellent", "good" or "fair" condition is 97.9%. As such, the performance goal has been met. Meeting this performance goal results in maintaining a very safe and efficient runway system for the nation.

FHWA

In FY 2018, FHWA set aside funds in 5 states that exceeded the 10% threshold for deck area of NHS bridges classified as in poor condition. The Agency held 4 regional bridge management peer exchanges with State DOTs throughout U.S. to share practices. The percent of States with NBIS bridge load rating compliance metric assessed as satisfactory is a supporting measure that indicates progress in maintaining an appropriate level of safety for the traveling public. At the end of June 2018, 58% of the States were in satisfactory compliance, which is the highest percentage during the past 3 years. The percent of NHS bridges classified as in Poor Condition declined from 8.3% in 2010 to 4.5% as of September 30, 2018. However, 4,780 bridges on the NHS are still classified as in Poor Condition.

FHWA published final transportation asset management plan (TAMP) certification guidelines in the Federal Register. The Agency developed Q&As for frequently asked TAMP questions and on requirements for initial asset management plans. Delivered 16 workshops for State DOTs focused on Asset Management Life-cycle planning, risk analysis, and financial planning. All States, Puerto Rico, and the District of Columbia submitted initial Transportation Asset Management Plans (TAMPs) by April 30, 2018. As of November 2018, 49 initial TAMPs have been certified and 2 have been conditionally certified.

Percent of travel on NHS pavement rated good or very good increased from 59.6% in 2016 to 60.9% in 2017. FHWA developed and delivered a training course through the National Highway Institute on the requirements for the new pavement condition measures. Data are being collected for these measures beginning in 2019. The Agency has delivered webinars and workshops with State DOTs throughout the year to showcase best practices and to discuss the new requirements.

Summary of Progress – FY 18 Q1 thru Q4 (cont.)

FTA

FTA continues to manage its portfolio of grants and to obligate remaining available funds from the State of Good Repair Formula Program, Urbanized Area Formula Program, Rural Area Formula Program, Bus and Bus Facilities Formula Program, Bus and Bus Facilities Discretionary Program, the Tribal Transit Program, the Ferry Discretionary Program, and the Enhanced Mobility for the Elderly and Disabled Formula Program to support state of good repair investments.

FTA published its Transit Asset Management Rule on July 1, 2016. In September 2017, FTA opened the expanded asset inventory module for the National Transit Database online reporting system, and FTA has begun collecting those performance targets and expanded data on asset inventories and condition assessments. FTA continues to provide technical assistance to grantees that are establishing their performance targets and are finalizing their transit asset management plans ahead of the October 1, 2018 deadline. FTA also launched a revised Transit Asset Management course that will be offered through the National Transit Institute. During the third quarter of FY2018, FTA conducted one peer exchange in Chicago, IL (6 total participants), one roundtable at the TRB Conference on Asset Management in San Diego, CA (81 Total Participants), one external webinar (APTA) and, one tribal webinar.

Key Milestones (FAA)

- Maintaining suitable runway pavement condition requires careful coordination, often years in advance, of a runway rehabilitation project. Projects are carefully timed by the airport and the FAA with some of the nation's largest airports resurfacing their runways on an established revolving basis. The FAA works with airports to ensure that the system never has too many runways out of service at any given time, as this can cause significant flight delays throughout the country. This goal has been a long established standard (since 1986) that sponsors understand and support.

- In FY 2018, FAA is exploring redefining the pavement condition goal beyond visual inspections currently used. Recommendations will be identified by the end of FY18.

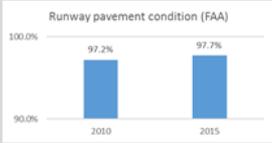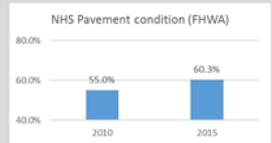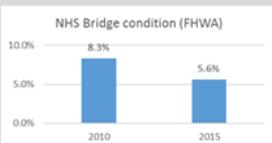| Milestone Summary					
Key Milestone	**Milestone Due Date** [e.g., Q1 and Q2, FY 2018]	**Milestone Status** [e.g., Complete, On-Track, Missed]	**Change from last quarter** [optional column]	**Owner** [optional column]	**Comments** *[Provide discussion of Progress, changes from last update, Anticipated Barriers or other Issues Related to Milestone Completion]*
Maintain above 93% target of runway pavement in excellent, good, or fair condition for the paved runways in the National Plan of Integrated Airport Systems.	**Sep 30, FY 2018** 1st Qt 2nd Qt 3rd Qt 4th Qt All milestones were met for FY 21018.	 97.9 97.9 97.9 97.9	 0.1 0.0 0.0 0.0	Winsome Lenfert, Acting Associate Administrator for Airports	Evaluation of the network level of inspection of over 4300 runways is being reviewed and reported monthly; and we are on track to achieve this goal. The March Status Condition of runways in excellent, good or fair condition is 97.9%, which remains unchanged from previous month.

Key Milestones (FHWA)

- Continued to develop tools to assess the completeness and quality of data reported to the HPMS.
- Delivered a training course through the National Highway Institute on the new pavement condition requirements.
- Developed a standard operating procedure that identifies the specific computational steps that FHWA will carry out to process the data reported to the HPMS to calculate state and national performance measures.
- Delivered webinars and workshops with State DOTs to showcase best practices and to discuss the new requirements.

Key Milestone	Milestone Due Date [e.g., Q1 and Q2, FY 2018]	Milestone Status [e.g., Complete, On-Track, Missed]	Change from last quarter [optional column]	Owner [optional column]	Comments [Provide discussion of Progress, changes from last update, Anticipated Barriers or other Issues Related to Milestone Completion]
First time targets established by State DOTs will be reported to FHWA for Interstate pavements using the new measure. These targets will represent the anticipated network level conditions of the Interstate system within the state at the end of 2021.	October 2019	On track	None	Pete Stephanos, Acting AA for Infrastructure	Targets will be updated every 2 years after 2019.
First annual requirement for State DOTs to report Interstate pavement conditions to the HPMS using the new measure.	April 2019	On track	None	Pete Stephanos, Acting AA for Infrastructure	
First biennial requirement for State DOTs to report non-Interstate NHS pavement conditions to the HPMS using the new measure.	June 2022	On track	None	Pete Stephanos, Acting AA for Infrastructure	
First time targets established by the State DOTs will be reported to FHWA for non-Interstate pavements using the new measure. These targets will represent the anticipated network level conditions of the non-Interstate NHS within the State at the end of 2023.	October 2022	On track	None	Pete Stephanos, Acting AA for Infrastructure	Targets will be updated every 2 years after 2019

Key Indicators

Since the unit of analyses for these measures differ, it is not possible to draw comparisons between the measures. However, as shown in the figure below, it is possible to compare the results within each measure by observing the change over time and determining whether condition or performance is better, the same, or worse. Comparisons over a 5-year period from 2010 to 2015 is a useful starting point. Each trend chart must be interpreted in its operational context because an increase in the trend for a measure (e.g., pavement condition) can reflect a better condition or performance; while for other measures (e.g. bridge condition), an increase can reflect a worse condition or performance.

Asset by Travel Mode	Comparison between 2010 and 2015	Change in Performance	Desired Direction
Air – National Plan of Integrated Airport System Runways in Good Condition	Runway pavement condition (FAA) 100.0% — 97.2% (2010), 97.7% (2015) — 90.0%	Maintained; Exceeded Same Target	Maintain
Surface – National Highway System Pavements in Good Condition	NHS Pavement condition (FHWA) 80.0% — 55.0% (2010), 60.3% (2015) — 40.0%	Improved; Exceeded Higher Target	Continue
Surface – National Highway System Bridges in Poor Condition	NHS Bridge condition (FHWA) 10.0% — 8.3% (2010), 5.6% (2015) — 0.0%	Improved; Met Lower Target	Continue
Transit – State of Good Repair Backlog	SOGR Backlog (FTA) $100.0 — $78.0 (2010), $89.8 (2015) — $60.0	Worsened; Exceeded Projected Target	Reverse Trend

Data Sources and Methodologies

Methodologies

FHWA

Bridge Condition- Bridges are considered to be in Poor condition when any bridge component (deck, superstructure, substructure, or culvert) condition rating items are coded 4, or less, on the National Bridge Inventory (NBI) rating scale. Data to determine if a bridge is deficient is contained in the NBI, currently assembled from annual data submittals from the States, Federal agencies, and tribal governments.
The 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 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.

Pavement Condition – Currently, the performance of highway pavements is reported nationally as the percent of vehicle-miles traveled (VMT) with good to very good ride quality. States report VMT and pavement ride quality data using the International Roughness Index (IRI) for NHS sections in the Highway Performance Monitoring System (HPMS). IRI is a quantitative measure of the accumulated response of a quarter-car vehicle suspension experienced while traveling over pavement. An IRI of less than 95 inches per mile is generally considered indicative of a good rated ride. VMT represents the total number of vehicle-miles traveled by motor vehicles on public roadways within the 50 States and the District of Columbia and Puerto Rico. Measurement and reporting procedures are included in the FHWA HPMS Field Manual.

Data Sources and Methodologies (cont.)

Methodologies

FAA

Monthly review of runway condition data for the approximately 4300 runways in the National Plan of Integrated Airport System (NPIAS). Ensure that airports with runway pavement in poor or failed condition have identified a rehabilitation project in their capital improvement plan.

FTA

Estimates of the transit state of good repair (SGR) backlog are produced by the Transit Economic Requirements Model (TERM).   TERM combines the most-recent data from the National Transit Database and ad-hoc data collections with pre-defined life-cycle models for various transit capital assets to produce SGR backlog estimates. Those estimates are then published approximately every two years in the Conditions & Performance Report. The most recent edition of that Report is currently the 2015 edition, which relies upon 2012 data. TERM model results are reported publicly through the Conditions & Performance report. Background information on the TERM companion model, TERM-Lite can be found at: https://www.transit.dot.gov/TAM/TERMLite.

Data Sources and Methodologies (cont.)

Data Sources

FHWA

National Bridge Inventory (NBI)

Highway Performance Monitoring System (HPMS)

FAA

FAA Airport Safety Data Program (IQ 5010) and FAA System of Airports Reporting (SOAR)

https://aep.airports.faa.gov/Home.aspx

IQ 5010 - https://www.faa.gov/airports/airport_safety/airportdata_5010/#5010

SOAR – List of NPIAS airports is accessible at - https://www.faa.gov/airports/planning_capacity/npias/reports/

FTA

Transit Economic Requirements Model (TERM)

Additional Information (FAA)

Contributing Programs

Construction and preservation of airfield pavement infrastructure relies on multiple funding sources that are complementary to each other:

- Airport Improvement Program (AIP)

  Organization: FAA Office of Airports, Federal assistance program
  Program Activities: Construction, Re-construction, rehabilitation and limited maintenance
  Regulations: 14 CFR 139 (Airports with commercial service)
  Policy: 49 USC chapter 471

- Passenger Facility Charge (PFC) programs

  Organization: Local Airport Authority, FAA
  Program Activities: Same as AIP
  Regulations: 14 CFR 139 (Airports with commercial service)
  Policy: 49 USC chapter 475

- State Airport funding programs

  Organization: State Authority
  Program Activities: Construction, Rehabilitation and maintenance
  Policy: State code

- Local Funding programs

  Organization: Local governing body
  Program Activities: Construction, Rehabilitation and maintenance

Additional Information (FHWA)

Contributing Programs

American Association of State Highway and Transportation Officials (AASHTO), Committee on Bridges and Structures – see https://bridges.transportation.org/.

- Statutory requirements in Title 23 USC 106, 109, 144, 502, and elsewhere requires FHWA to cooperate and/or coordinate with AASHTO in developing bridge, tunnel, and structures related standards and other materials.

- FHWA's Director of Bridges and Structures provides FHWA priorities to the Committee through regular discussions with AASHTO to ensure that they are incorporated into AASHTO's priorities as it advances its strategic plan and to align with FHWA regulations and policies.

- FHWA staff serve as liaisons to the 20 technical committees with the Committee on Bridges and Structures and use that role to assist AASHTO by identifying necessary changes to the various AASHTO specifications and by providing input on needed research areas to advance the bridges and structures program. In addition, State DOT engineers are members of the Committee on Bridges and Structures and this leverages coordination with these partners as well.

Program Activities

FHWA Effective February 1, 2011, FHWA developed and implemented a new National Bridge Inspection Program (NBIP) oversight process by putting into practice a comprehensive plan to routinely conduct systematic, data-driven analysis to identify nationwide bridge safety risks for remediation in coordination with the States. As part of this process, FHWA Divisions work with State DOTs to establish plans of corrective actions or improvement plans for 23 specific metrics to comply with the National Bridge Inspection Standards (NBIS).

Regulations

FHWA National Performance Management Measures - see 23 CFR 490.409

Policies

FHWA: FAST Act § 1106; 23 U.S.C. 119 – see National Highway Performance Program

Additional Information (FTA)

Contributing Programs

The majority of FTA's contributing programs are grant programs. During the second quarter of FY18, FTA continued to make obligations of prior year funds that were available under these programs, and continued to engage in its oversight activities for its portfolio of grants under these programs.

- State of Good Repair Program - $351,990,621

- Urbanized Area Formula Program - $1,123,996,919

- Rural Area Formula Program - $176,584,681

- Bus and Bus Facilities Formula Program - $72,326.087

- Bus and Bus Facilities Discretionary Program - $15,812,829

- Enhanced Mobility for the Elderly and Disabled Formula Program - $93,238,193

- Ferry Discretionary Program - $5,136,481

- Tribal Transit Program (Formula and Discretionary) - $12,113,400

- Transit Asset Management Program (not a funding program)

Additional Information (cont.)

Stakeholder / Congressional Consultations

FHWA

DOT continues to take actions to address management challenges related to the performance management requirements of MAP-21. In 2016-2017, DOT finalized and published all MAP-21 performance management rulemakings, and every rulemaking is now effective except one. The Greenhouse Gas measure included in the final transportation performance management rulemaking was repealed in a separate Final Rule published on July 2, 2018. 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.

FAA

The Federal Aviation Administration incorporates views and suggestions for airport system-wide development from all of 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; and other aeronautical user groups.

FTA

Stakeholders include the American Public Transportation Association, the Community Transportation Association of America, American Association of State Highway and Transportation Officials, the Association of Metropolitan Planning Organizations, Transportation Research Board, and their members.