

FHWA FAST Act and Update

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U.S. Department
of Transportation

**Federal Highway
Administration**

Objectives

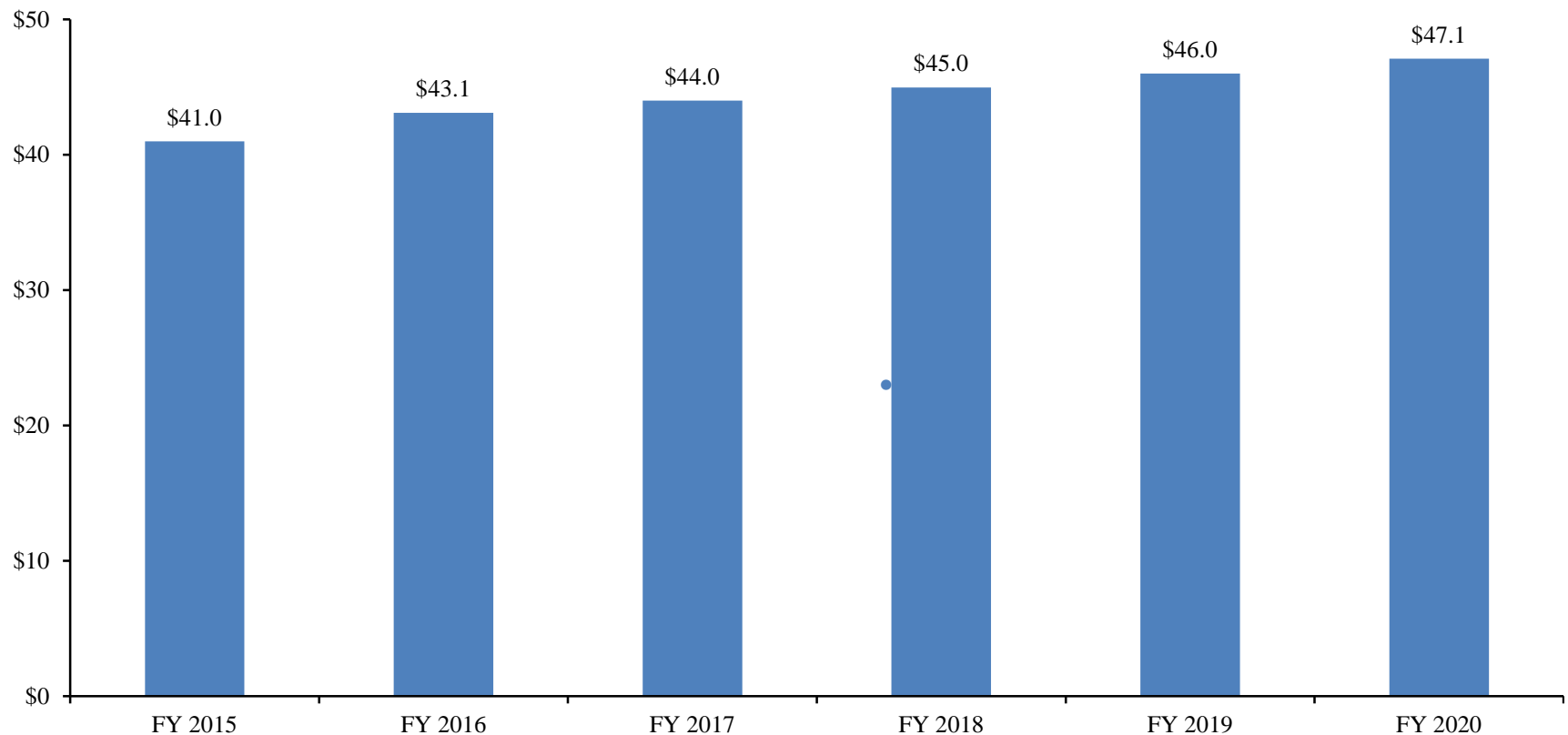
- Fixing America's Surface Transportation (FAST) Act (PL 114-94)
 - Signed by President Obama on December 4, 2015
 - Provides 5 year of funding certainty for infrastructure planning and investment
 - Authorized \$305 B (all modes) over FY 2016-2020
 - \$70 B in transfers to keep the Highway Trust Fund solvent
- Update of other activities
 - Every Day Counts 4 – Pavement Preservation (When, Where, and How) and Road Weather Management – Weather Savvy Roads
 - Pavement Preservation and Bridge Preservation ETG
 - Unmanned Aerial Vehicles (UAV) Strategic Implementation Team (SIT)
 - Work Zone Management
 - Research
 - NHI – Training

\$305 B (all modes) over FY2016-2020

Program	5-Year Funding (billions)
Federal Highway Administration	\$ 226.3
Federal Transit Administration	61.1
Federal Motor Carrier Safety Administration	3.2
Pipeline and Hazardous Materials Administration	0.4
National Highway Traffic Safety Administration	4.7
Federal Railroad Administration	10.3
Total	305.0

Highway contract authority grows each year

Highway Authorizations from Trust Fund (billions)



Growth Varies by Program

Program	Avg. Annual Funding (millions)	Change from FY 2015
National Highway Performance Program	\$ 23,280	+6.3%
Surface Transportation <u>Block Grant</u> Program	11,654	+15.6
<i>Transportation Alternatives Set-aside</i>	[760]	+3.3
<i>Recreational Trails Program Set-aside</i>	[84]	0.0
<i>Surface Transportation Block Grant Program (net of TA & Rec Trails)</i>	[10,809]	+7.3
Congestion Mitigation & Air Quality Improvement	2,405	+6.1
Highway Safety Improvement Program	2,317	+5.7
Railway-Highway Crossings Program	235	+6.8
Metropolitan Planning	343	+9.5
National Highway Freight Program	1,249	NEW +100.0

Changes to NHPP and STP

Prgm	Changes
NHPP	<ul style="list-style-type: none"> TIFIA costs and V2I communication equipment now eligible Bridge resurfacing/preservation/reconstruction on <u>non-NHS</u> Federal-aid highways now eligible
STP	<ul style="list-style-type: none"> Renamed: Surface Transportation <u>Block Grant</u> Program (STBG) Eligibilities restated with none eliminated; new eligibilities for TIFIA costs, State P3 office, V2I communication equipment In border States, up to 5% for infrastructure projects eligible under the SAFETEA-LU border program More suballocation: +1%/year up to 55% (vs. 50% today) Set-asides for Transportation Alternatives and Recreational Trails (see next slide)

Federal Lands & Tribal Programs

Program	Average Annual Funding (millions)	Change from FY 2015
Federal Lands Transportation Program <i>National Park Service</i> <i>Fish & Wildlife Service</i> <i>Forest Service NEW</i> <i>Remainder (competitive)</i>	\$ 355 [284] [30] [17] [24]	+18.3%
Federal Lands Access Program	260	+4.0
Tribal Transportation Program	485	+7.8
Nationally Significant Federal Lands and Tribal Projects (General Fund) NEW	100	+100

Federal/Tribal Lands Program Changes

- Tribal Transportation Program
 - Less funding for BIA/FHWA oversight; more funding for tribal bridges
 - New annual reporting by Tribes
- Federal Lands Transportation Program
 - New partners: Bureau of Reclamation and other independent agencies
 - Dedicated funds for Park Service, Fish & Wildlife, Forest Service | **NEW**
- Emergency Relief
 - Clarified eligibility for debris removal on ERFO-eligible facilities
 - Access program facilities no longer eligible for 100% Federal share
- Nationally Significant Federal Lands & Tribal Projects | **NEW**
 - Discretionary grants for large Federal and tribal lands projects
 - All funds subject to appropriation

RDT&E Funding

Program	Avg. Annual Funding (millions)	Change from FY 2015
Highway R&D	\$ 125.0*	+8.7%
Alternative Funding Demonstration Grants	[19.0]	
Future Interstate Study	[1.0]	
Performance Management Data Support	[up to 10.0]	
Technology & Innovation Deployment Program	67.4*	+7.8
Accelerated Implementation of Pavement Tech.	[12.0]	
Training & Education	24.0	0.0
Intelligent Transportation Systems Research	100.0*	0.0
University Transportation Centers	75.5	+4.1
Bureau of Transportation Statistics	26.0	0.0
Advanced Transportation & Congestion Management Technologies Deployment Grants (to be funded from Highway R&D, TIDP, & ITS Research)	[\$60.0]	
Flexible funding in HRD, TIDP, and ITS programs	200.0	-24.7

Highway Design

- DOT to consider AASHTO Highway Safety Manual, NACTO Urban Street Design Guide
- Locality may use different roadway publication than State (with State approval) in certain circumstances

Other Provisions

- Specifically allows multiple similar bridge projects to be handled (“bundled”) into a single project
- On NHS, design "shall consider" (previously “may take into account”)—
 - constructed/natural environment
 - environ., scenic, aesthetic, historic, community, & preservation impacts
 - access for other modes
 - cost savings via flexibility in current design guidance/regulations | **NEW**
- Encouragement for States/MPOs to adopt standards for Fed. projects that accommodate motorized and non-motorized users
- Encouragement of vegetation management practices that improve habitat and forage for pollinators

Update of Other Activities

- Every Day Counts 4
 - Pavement Preservation (When, Where, and How)
 - Road Weather Management – Weather Savvy Roads
- Pavement Preservation ETG
- Bridge Preservation ETG
- Unmanned Aerial Vehicles (UAV)
 - FHWA Strategic Implementation Team (SIT)
- Work Zone Management
- Research
- NHI – Training
 - Maintenance Leadership Academy – Update
 - Constructing PCC Pavement Preservation Treatments



EDC Process

- Identification of technology (Complete)
 - Market readiness activities
 - Public and partner input
- Formation of implementation team (In Process)
- Implementation plan development (Future)
 - 2 Virtual FHWA Summits (September)
 - 7 In-person Regional Summits (October, November, & December)
 - Final plan (January, 2017)
- Perform activities in implementation plan (Future)
 - 2017 and 2018



Every Day Counts – 4 (2017-2018)

- Accelerating Traffic Incident Management Data Collection
- Advanced Hydraulic Modeling Tools
- Automated Traffic Signal Performance Measures (ATSOMs)
- Community Connections
- Data-Driven Safety Analysis (DDSA)
- E-Construction and Partnering: A Vision for the Future
- Integrating NEPA and Permitting
- **Pavement Preservation (When, Where, and How)**
- **Road Weather Management – Weather Savvy Roads**
- Safe Transportation for Every Pedestrian (STEP)
- Ultra-High Performance Concrete Connections for PBES



Pavement Preservation (When, Where, and How)

- Applying a pavement preservation treatment at the right time (when), on the right project (where), with quality materials and construction (how) is a critical investment strategy to help meet pavement performance expectations. This innovation helps deploy an array of different analyses, treatments and construction methods to help owners achieve and sustain a desired state of good road repair in a fiscally constrained environment.



Pavement Preservation

Market Readiness Activities

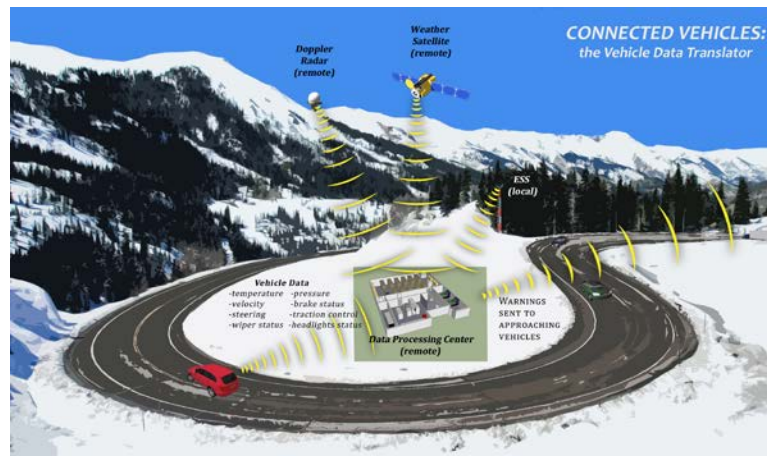
- When and Where
 - Preservation as a Strategic Investment
 - Whole-life Management for Pavements (Life-Cycle Planning)
 - Linking Preservation to the State of Good Repair
 - Making the Case for Preservation Programs
- How
 - Technology Briefs - Construction Best Practices for Asphalt Pavements
 - Technology Briefs - Construction Best Practices for PCC Pavements
 - Training – Constructing Micro Surfacing, Slurry Seals, and Chip Seals
 - Training – Constructing Full and Partial Depth Repair, Down Bar Retrofit, Cross Stitching, and Diamond Grinding



Road Weather Management

Weather Savvy Roads

- Weather events translate to changes in traffic conditions, travel reliability, and operational effectiveness, as well as an increase in crashes and a decrease in productivity. This innovation promotes adoption of two distinct road weather management solutions: (1) Pathfinder which brings together DOTs and the National Weather Service to provide consistent messaging on adverse weather and road conditions and (2) advanced vehicle-based technologies, also referred to as Integrated Mobile Observations (IMO).



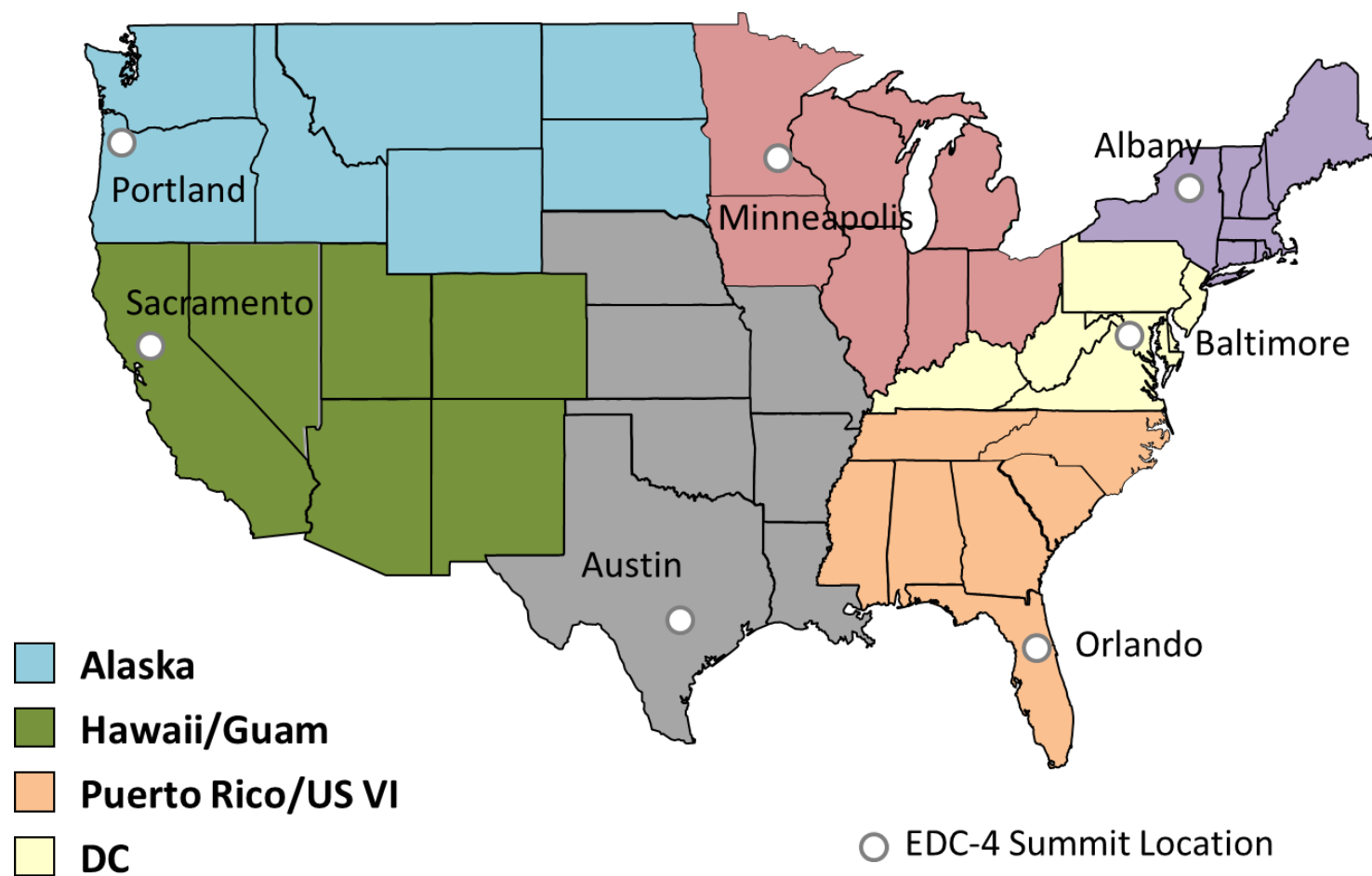
Road Weather Management

Market Readiness Activities

- Nevada, Minnesota and Michigan DOTs have successfully deployed road weather sensors on their fleets to enable more effective maintenance and traffic management, such as:
 - Enhanced Maintenance Decision Support
 - Motorist Advisories and Warnings
 - Road Weather Performance Management
- Data from fixed and mobile road weather sensor stations are available via the Weather Data Environment (wxde.fhwa.dot.gov),
- Software (called Pikalert) that turns these observations into usable road conditions is now available on the Open Source Application Development Portal (www.itsforge.net)
- We've initiated Road Weather Regional Roundtables to foster discussions across State DOTs to solve weather challenges



EDC-4 Summits



Pavement Preservation Expert Task Group

Strategic Activity 1: Update of Pavement Preservation Roadmap

- Assessment of the current Pavement Preservation Roadmap to determine if it is still relevant.
- Drafting of an updated Roadmap to reflect current needs as necessary

Strategic Activity2: Development of Self-Assessment tool that defines a world class pavement preservation program

- Development of a self-assessment tool to assist agencies with improvement or creation of a preservation program by highlighting national consensus of what constitutes a world class program



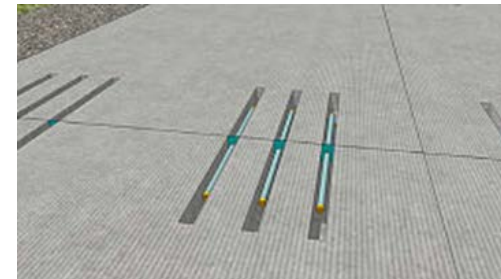
Pavement Preservation Expert Task Group

Strategic Activity 3: Identification of measurable or observable measures of performance for pavement preservation treatments that reflect one or more desired performance characteristics of the treatment

- Determining treatments to be included in the matrix and develop measures
- Developing strategy and format for obtaining data from agencies

Strategic Activity 4: Development of a framework for calculating the benefit or effectiveness of the preservation program

- Drafting identifying metrics



Bridge Preservation Expert Task Group

Strategic Objective 1: Provide guidance on cost-effective bridge preservation strategies

Action –

- Update the FHWA Bridge Preservation Guide
- Develop a transportation asset preservation portal



Strategic Objective 2: Promote bridge preservation as a component of asset and performance management

Action –

- Develop a white paper on “What constitutes a good bridge preservation program?”

Bridge Preservation Expert Task Group

Strategic Objective 3: Advise and assist in developing educational material on bridge preservation

Action –

- Promote project reviews and lessons learned (peer exchanges)

Strategic Objective 4: Foster a collaborative environment that encourages research and innovation

Action –

- Identify underutilized research results



Unmanned Aerial Vehicle (UAV)

Strategic Implementation Team (SIT)

- Review of FHWA laws, regulations, policies and guidance to identify inhibiting factors.
- Make recommendations to FHWA Program Offices to allow the use of the devices.
- Concluded November, 2016



Work Zone Management

- Numerous guidance and training resources related to short term/maintenance work are now available on National Work Zone Safety Information Clearinghouse (www.workzonesafety.org)
 - Portable Positive Protection: A Guide for Short Duration and Short Term Work Zones
 - Maintenance Work Zone Safety: Pocket Guide of MUTCD Guidance on Temporary Traffic Control
 - Temporary Traffic Control Plan Development Workshop
 - Guidelines on Rolling Roadblocks for Work Zone Applications
 - Roadway Safety+ (RSP+) Basic Awareness Course
 - Work Zone Safety: Temporary Traffic Control for Maintenance Operations
 - Rolling Roadblocks for Work Zones Applications Training Module
 - A Guide to Short-Term Stationary, Short-Duration, and Mobile Work Zone Traffic Control

Research

- Recycled asphalt pavement (RAP) in pavement preservation surface treatments
 - Case studies, best practices, return on investment, specifications
- Pavement design of low traffic facilities
 - Develop pavement design practices for locations where the primary load is climatic.
- Recycle-in-place methods energy analysis
 - Energy consumption of recycling roads in place.
- Integrating 3D digital models into asset management
 - Examine state of the art.



Research Continued

- Snowplow guidance system
 - Develop a working prototype of with existing proven technology.
- Incorporating emergency response with maintenance management system technology
 - Understand how these system operation and can be linked.
- Best practices for utility cuts
 - Analysis various approaches and provide best guidance.



NHI Training

NHI-134063 Maintenance Leadership Academy Course Overview



- A 12+ week academy-style event comprising over 100 hours of training (Six Modules)
- Supports workforce development - targeted to develop newer supervisors and top employees
- Independent study materials prepare learners to dig deep into classroom activities
- A dynamic training experience developed in 2009





NHI-134063 Maintenance Leadership Academy

Course Update Project

What has happened?

- SCOM Survey and Feed Back from completed courses
- Update of 3 Instructor Lead Training (ILT) modules including Web based Training:
 - Module A (Maintenance Administration)
 - Module B (System and Bridge Preservation)
 - Module F (Environmental Protection)
 - Web Based training modules and independent study guide

Goals:

- Reduce material and time spent on topics
- Add new topics - automated vehicle location for maintenance equipment, equipment fleet management systems, emergency response and other maintenance systems, etc.
- Repurposing materials from other courses such as NHI-134080 Environmental Factors
- Update remaining modules

NHI Web Training

Develop Construction PCC Pavement Preservation

- Full and partial depth repair
- Dowel bar retrofit
- Cross-stitching, and
- Diamond grinding.



Conclusion

