



U.S. Department of Transportation  
**Federal Highway Administration**



# 2013 Southeast Bridge Preservation Partnership

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# Outline

- MAP-21 Funding
- MAP-21 Performance Management
- MAP-21 For Bridges and Tunnels
- MAP-21 Asset Management Plan
- FHWA-VDOT Eligibility of Preventive Maintenance Letter of Agreement



# MAP-21 Funding

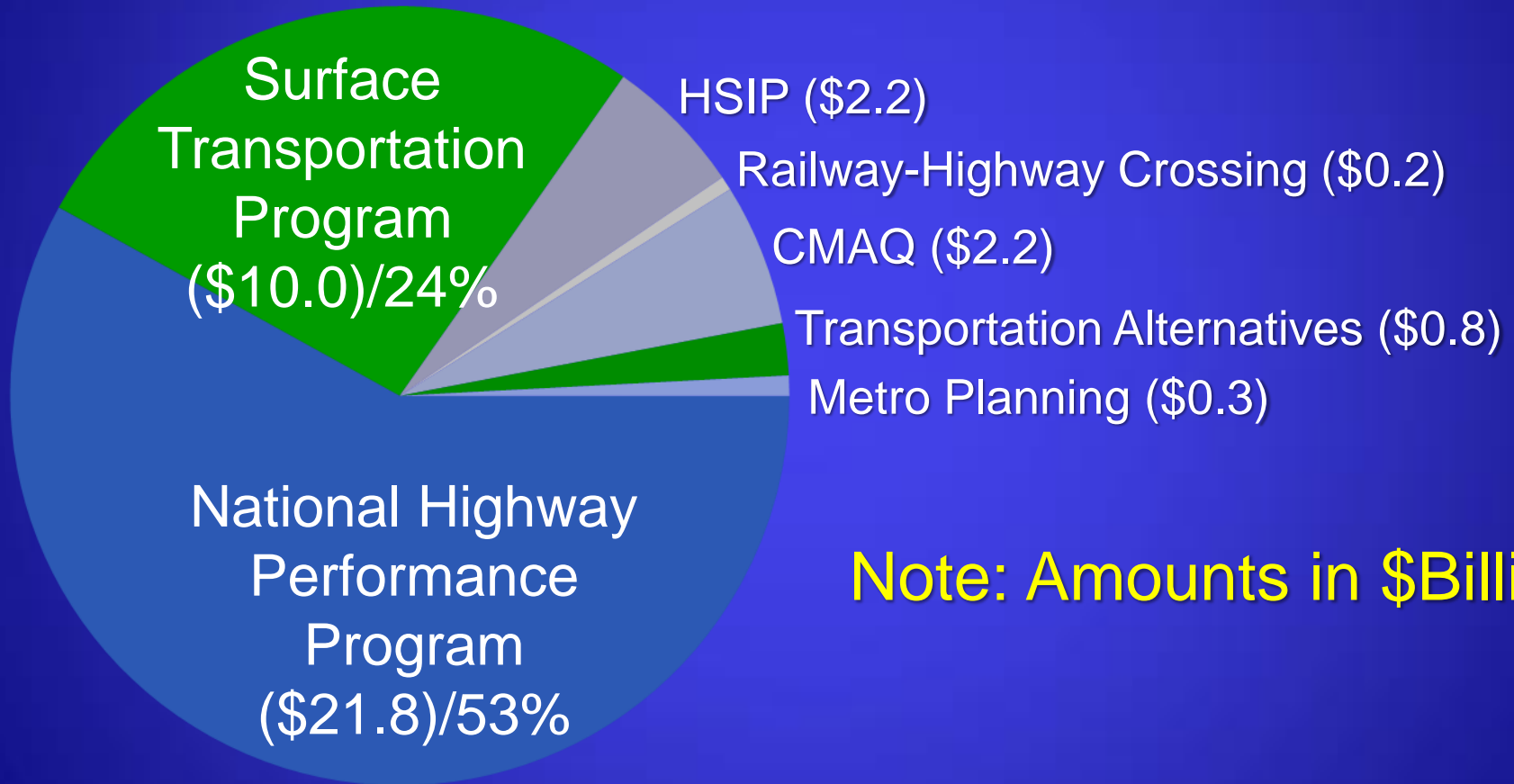
## National

Agency	2013	2014	Total	%
FHWA	41.0	41.0	82.0	77.5%
FTA	10.6	10.7	21.3	20.1%
FMCSA	0.6	0.6	1.1	1.1%
NHTSA	0.7	0.7	1.4	1.3%
Total	52.8	53.0	105.8	100.0%

**Virginia ~ \$870 Million (approx.) each year**



# MAP-21 Funding



**Note: Amounts in \$Billion**



# Performance Management Process

National goals  
(MAP-21)

National measures  
(USDOT)  
NPRM

State targets  
(set in  
individual  
program  
plans)

State &  
MPO  
plans  
address  
national  
goals

National Goal for Infrastructure Condition is:  
Maintain in a “State of Good Repair”



# MAP-21 FOR BRIDGES AND TUNNELS

## National Highway Performance Program (SEC 1106)

- Eligible facility
  - **any facility** on the **NHS**
- Eligible project
  - supports the **national performance goals** and
  - meets at **least one listed purpose**
- **NHS performance targets set by state**
  - as part of an asset management plan



# MAP-21 FOR BRIDGES AND TUNNELS

## National Highway Performance Program – Bridges and Tunnels Eligible Activities

- Construction
  - Replacement (including with fill)
  - Rehabilitation
  - Preservation
  - Protection
  - Inspection
  - Evaluation
  - Inspector training
- New Term - Protection
- Scour countermeasures
  - Seismic retrofits
  - Impact protection
  - Security
  - Extreme events



# MAP-21 FOR BRIDGES AND TUNNELS

## National Highway Performance Program (SEC 1106)

- Includes inspection and evaluation of other infrastructure assets (signs, walls, drainage structures)
- Includes costs associated with obtaining, updating, and licensing software and equipment required for asset management





# MAP-21 FOR BRIDGES AND TUNNELS

## National Highway Performance Program (SEC 1106) – other details

- If State does not have an approved asset management plan
  - Federal share is 65%
- Penalty if >10% of deck area on structurally deficient NHS bridges, prior 3 years
  - 50% of 2009 Highway Bridge Program apportionment equals the amount that must go to bridges under the NHPP



# MAP-21 FOR BRIDGES AND TUNNELS

When will the bridge condition penalty under section 1106 be applied?

- FHWA will examine bridge condition data submitted by the states in April 2014, 2015, and 2016
- If the deck area on structurally deficient NHS bridges exceeds 10 percent for all three years, the penalty will be imposed on October 1, 2016



# MAP-21 FOR BRIDGES AND TUNNELS

## Surface Transportation Program (SEC 1108)

- Eligible –
  - Construction of new bridge or tunnel on a **Federal-aid Highway**
  - Replacement (including with fill material)
  - Rehabilitation, Preservation, Protection
  - Application of de-icing chemicals
  - Inspection, evaluation, and inspector training



# MAP-21 ASSET MANAGEMENT

## Asset Management Plan -

- USDOT establishes the process
- USDOT currently developing Notice of Proposed Rule Making
- USDOT is required no later than 18 months after MAP-21 enactment
  - To issue a regulation
- States are required by 2<sup>nd</sup> fiscal year
  - To have developed and implemented an NHS asset management plan



# MAP-21 ASSET MANAGEMENT

- Costs to develop plan are eligible
- Program Activities include:
  - Data collection, maintenance, and integration
  - Cost associated with obtaining, updating, and licensing software
  - Equipment required for risk-based asset management and performance-based management
- State Planning and Research (SPR) funds may also be used



# Current FHWA-VDOT Preventive Maintenance Agreement for Bridges

## List of Preservation Activities Eligible for Federal Bridge Funding that Provide a Significant Increase in the Service Life of Bridges and Culverts

1. Seal or replace leaking joints, reconstruction of joint areas during joint replacement or elimination of deck joints. (Minimizes the deterioration of superstructure and substructure elements beneath the joints.)
2. Deck overlays. (Thin bonded overlays, rigid overlays, and asphalt overlays with waterproof membranes)(Significantly increases the service life of the deck by sealing the deck surface from aggressive solutions and reducing the impact of aging and weathering.)
3. Spot and zone painting/coating of structural steel to include bearings for prestressed concrete members. (Target areas where the paint deteriorates the fastest and slows down the deterioration process and extends the service life of the paint system.)
4. Painting/coating of structural steel. (Reducing the deterioration of the structural steel.)
5. Cathodic Protection (CP) Systems for Bridge Decks. (Proven technology for stopping the corrosion of reinforcing steel.)
6. Cathodic Protection Systems for Substructure Elements. (Proven technology for stopping the corrosion of reinforcing steel.)
7. Cathodic Protection Systems for Superstructure Elements other than decks.
8. Electrochemical Chloride Extraction (ECE) Treatment for decks. (Removes the chloride ions from the vicinity of the reinforcing steel and thus eliminates the source of corrosion.)
9. Electrochemical Chloride Extraction Treatment for substructure elements. (Removes the chloride ions from the vicinity of the reinforcing steel and thus eliminating the source of corrosion.) Can be very effective when the source of chlorides is eliminated, like eliminating deck joints above substructure elements.
10. Scour countermeasures installation. (Protects the substructure elements from undermining and failure due to scour.)
11. Removing large debris from channels. (Protects the substructure elements from scour.)
12. Retrofit of fracture critical members.
13. Retrofit of fatigue prone details. (Methods to increase the fatigue life of fatigue prone details, like using ultrasonic impact treatment on welds at ends of cover plates or connection plates welds not positively connected to flanges.)
14. Concrete deck repairs in conjunction with installation of deck overlays, CP systems, or ECE treatment.
15. Galvanic anodes in conjunction with approved concrete deck repairs, concrete substructure surface repairs and joint elimination.



# FHWA-VDOT Preventive Maintenance Agreement for Tunnels

## List of Preservation Activities Eligible for Federal Funding to Provide a Significant Increase in the Service Life of Tunnels

### 1. TUNNEL DRAINAGE SYSTEM

- a. Flushing of roadway drainage inlets and piping
- b. Removal of sludge and debris from drainage system collection basins
- c. Maintenance of Drainage Pump Check Valves
- d. Maintenance of Drainage Pumps and Motors

### 2. TUNNEL VENTILATION SYSTEM

- a. Tunnel Ventilation Fan maintenance
- b. Tunnel Ventilation Fan restoration
- c. Damper Louver and Actuator maintenance

### 3. FIRE PREVENTION SYSTEM

- a. Maintenance of Fire Pump Check Valves
- b. Maintenance of fire system Booster Pumps
- c. Maintenance of fire system isolation Gate Valves

### 4. POWER DISTRIBUTION SYSTEM

- a. Maintenance of Transformers
- b. Maintenance of Automatic Transfer Switches
- c. Maintenance of electrical distribution Circuit Breaker Panels
- d. Emergency Generator maintenance
- e. Maintenance of large Circuit Breakers

### 5. TUNNEL LIGHTING SYSTEM

- a. Zone relamping of High Pressure Sodium Light fixtures
- b. Zone relamping of Fluorescence Light fixtures

### 6. TUNNEL INTERIOR

- a. Washing of Tunnel interior Walls and Ceilings

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List of Preservation Activities (Preventive Maintenance) for Federal Funding that Provide a Significant Increase in the Service Life of Tunnels

Agreed by: RF Maruri, CK Marston (FHWA) and P. Nallapaneni, M. Eaton (VDOT)



# **FHWA's Transportation Performance Management Site**

**<http://www.fhwa.dot.gov/tpm/about/index.cfm>**

# **THANK YOU**