



# COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION  
1401 EAST BROAD STREET  
RICHMOND, VIRGINIA 23219 2000

**Charles A. Kilpatrick, P.E.**  
Commissioner

March 13, 2015

Ms. Irene Rico, Division Administrator  
Federal Highway Administration  
400 N. 8th Street, Room 750  
Richmond, VA, 23240-0249

Subject: Agreement for Federal-Aid Maintenance Projects

Dear Ms. Rico:

The Federal Highway Administration (FHWA) and Virginia Department of Transportation (VDOT) have recently collaborated to develop a comprehensive agreement to consolidate several previous agreements on federal-aid maintenance projects.

As a result, a new "Agreement for Federal-Aid Maintenance Projects" is enclosed, which will supplement the Stewardship Agreement by providing detailed guidance on the eligibility and requirements of federal-aid maintenance projects relating to Pavement, Bridge and Structures, and Tunnel maintenance projects.

The enclosed "March 2015 Agreement for Federal-Aid Maintenance Projects" will supersede the following FHWA/VDOT documents and agreements:

- Agreement for Maintenance Projects on NHS Agreement – April 23, 2009
- Eligibility of Preventative Maintenance on Federal-Aid Projects – November 8, 2010

Your concurrence on the enclosed agreement is much appreciated.

Mohammad Mirshahi, P.E.  
VDOT Deputy Chief Engineer

**Concurred by: Wayne Fedora, Assistant Division Administrator, FHWA Virginia Division**

Signature

Date

3/18/2015

Enclosure: Agreement for Federal-Aid Maintenance Projects

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cc: Mr. Garrett W. Moore, P.E.  
Mr. E. Kevin Gregg  
Mr. Raymond J. Khoury, P.E.  
Mr. Kendal Walus, P.E.  
Mr. Dean H. Gustafson, P.E.  
Division Administrators

**Agreement for Federal-Aid Maintenance Projects**  
**Between**  
**Federal Highway Administration**  
**&**  
**Virginia Department of Transportation**

March 2015

The Federal Highway Administration (FHWA) and the Virginia Department of Transportation (VDOT) periodically update the FHWA-VDOT Stewardship and Oversight Agreement. To provide further guidance on the eligibility of and requirements for Federal-Aid maintenance projects, VDOT and FHWA developed this “Agreement for Federal-Aid Maintenance Projects”, which supplements the FHWA-VDOT Stewardship and Oversight Agreement by:

1. Defining categories of maintenance activities eligible for Federal-Aid;
2. Establishing detailed examples on the eligibility of Maintenance Activities for Federal-Aid
3. Outlining the general safety analysis principles that will be followed for federally funded maintenance projects;
4. Clarifying the requirements for Formal Design Exceptions and/or Design Waivers for federally funded maintenance projects; and
5. Providing the NEPA requirements for federally funded maintenance projects.

This agreement supplements the VDOT-FHWA Stewardship and Oversight Agreement and supersedes all previous FHWA/VDOT agreements regarding federally funded maintenance projects; specifically the following FHWA/VDOT agreements:

- Agreement for Maintenance Projects on NHS – April 23, 2009
- Eligibility of Preventative Maintenance on Federal-Aid Projects – November 8, 2010

It is agreed that FHWA will review Preventative Maintenance and System Preservation (Preservation) and Resurfacing, Restoration and Rehabilitation (3R) projects on a programmatic basis to ensure compliance with this agreement. These reviews will be conducted on a sample of applicable projects in coordination with VDOT District project development and construction staff.

For additional information refer to FHWA policy:

Memorandum on Preventive Maintenance Eligibility from Oct-8th 2004  
<http://www.fhwa.dot.gov/preservation/100804.cfm>

Pavement Preservation Definitions Memorandum from Sep-12th 2005  
<http://www.fhwa.dot.gov/pavement/preservation/091205.cfm>

*Note that this agreement is intended to provide guidance for Pavement, Bridge and Structure, and Tunnel maintenance projects only.*

## **1. Categories of Maintenance Activities Eligible for Federal-Aid**

There are two categories of maintenance activities eligible for Federal-Aid, “Preventative Maintenance and System Preservation” (Preservation) and “Resurfacing, Restoration and Rehabilitation” (3R). See section 2 of this document for detailed examples on the eligibility of maintenance activities for Federal-Aid.

### **Category 1: Preventative Maintenance and System Preservation (Preservation)**

Pavement Preservation activities and Bridge, Structure and Tunnel Preservation activities are all eligible for Federal-Aid as Preventative Maintenance or System Preservation projects. The activities must be clearly of a preventative measure as opposed to reacting once a corrective action is required. Projects that address deficiencies in pavement structure or increase capacity of the facility are not considered preventive maintenance. All preservation projects shall maintain and preserve the existing level of safety and accessibility and consider additional cost effective safety improvements.

#### **Pavement Preservation**

Pavement Preservation activities typically extend pavement life between 2 and 12 years and typically involve the surface layer of the pavement structure.

In preparation for the application of a preservation treatment, it is acceptable to include partial depth patching of the pavement structure on up to 10% of the project area. Additionally, some preservation projects may include up to 4’ of shoulder widening to meet policy goals for Integrating Pedestrian and Bicycle Accommodations. Such widening may invoke additional project development measures to address grading, drainage and storm water management. If crash analysis justifies and road condition allows, shoulder widening could be expanded to full shoulder width at VDOT’s discretion. In both cases, FHWA and VDOT agree that the project shall still be deemed as preservation project. If the widened shoulder does not meet design standards, the design exception/design waiver requirements will not be triggered.

#### **Bridge, Structure and Tunnel Preservation**

Bridge, structure and tunnel preservation is defined as actions or strategies that prevent, delay or reduce deterioration of bridge, structure, and tunnel elements, restore their function, keep them in good condition and extend their life. Preservation actions may be preventive or condition-driven.

### **Category 2: Resurfacing, Restoration and Rehabilitation (3R)**

For this agreement, Resurfacing, Restoration and Rehabilitation only apply to pavement maintenance activities. These activities typically extend pavement life between 12 to 20 years and

are limited to the bound layers of the pavement. Projects with design lives in excess of 20 years are considered Reconstruction Projects (4R) and do not fall into this category.

## **2. Detailed Examples on the Eligibility of Maintenance Activities for Federal-Aid**

Provided below are detailed examples of Pavement and Bridge, Structure and Tunnel maintenance activities that are eligible for Federal-Aid.

*Note that any questions on borderline scope projects should be directed to the FHWA Area Engineer for pavement projects or the FHWA Bridge Engineers for bridge, structure or tunnel projects. The FHWA will be flexible to the extent possible and will partner with VDOT to meet specific project goals.*

### **2.1 Examples of Pavement Maintenance and Miscellaneous Activities Eligible for Federal-Aid**

Following are examples of pavement maintenance activities eligible for Federal-Aid as Pavement Preservation or 3R Projects. This list is not to be considered either all inclusive or non-exclusive.

These example activities are organized by the VDOT Pavement Maintenance Treatment Categories, further details of which can be found in the VDOT Maintenance Division report titled "Supporting Document for the Development and Enhancement of the Pavement Maintenance Decision Matrix Used in the Needs-Based Analysis 2011" or subsequent revision.

#### **Pavement Preservation**

- Preventative Maintenance (PM)
  - Applying or replacing surface treatments (chip seal, slurry seal, latex/micro-surfacing, thin friction course, thin hot mix asphalt overlay, etc.)
  - Crack sealing
  - Concrete joint re-sealing
- Corrective Maintenance – with no elevation change (CM1)
  - Mill and replace surface layer of pavement ( $\leq 2$ " )
  - Concrete Pavement Restoration
    - Full-depth slab repair (*5% or less of total surface area*)
    - Partial-depth slab repair (*up to 10% of total surface area*)
    - Load transfer restoration
    - Concrete pavement joint repair & sealing
    - Diamond grinding
    - Slab under-sealing/jacking/grouting
    - Retrofit of dowel bars
- Corrective Maintenance– with elevation change  $\leq 2$ " (CM2)
  - Pavement overlay ( $\leq 2$ " )

#### **Pavement Resurfacing, Restoration and Rehabilitation (3R)**

- Restorative Maintenance (RM)
  - Mill and replace pavement (>2" to 4")
  - Thick pavement overlay (>2" to 4")
  - Concrete Pavement Restoration (>2" to 4")
    - Full-depth slab repair (>5% to 20% of surface area)
    - Partial-depth slab repair (>10% to 20% of surface area)
- Major Rehabilitation Projects (RC)
  - Mill and replace pavement (>4" to 9")
  - Thick pavement overlay (>4" to 9")
  - Concrete Pavement Rehabilitation (>4" to 9")
    - Full-depth slab repair (>5% to 20% of surface area)
    - Partial-depth slab repair (>10% to 20% of surface area)

### **Miscellaneous Maintenance**

- Shoulder pulling (machining shoulders to return them as close as practical to the original lines and grades) and wedging for pavement edge drop-off mitigation
- Fence repair or replacement
- Shoulder widening
- Cleaning of drainage facilities (area wide program)
- Corrosion protection activities (area wide program)

## **2.2 Examples of Bridge, Structure and Tunnel Maintenance Activities Eligible for Federal-Aid**

Following are examples of Bridge, Structure and Tunnel maintenance activities eligible for Federal-Aid as Preservation activities. Again, this list is not to be considered either all inclusive or non-exclusive.

*Note that the 3R maintenance activity category applies only to pavement maintenance activities.*

### **Bridge and Structure Preservation**

- Joint Restoration
  - Seal or replace leaking joints
  - Reconstruction of joint areas during joint replacement
  - Elimination of deck joints
- Deck overlays
  - Thin bonded overlays
  - Rigid overlays
  - Asphalt overlays with waterproof membranes
- Painting/coating of structural steel (to include bearings for pre-stressed concrete)
  - Spot and zone painting/coating of targeted areas of structural steel
  - Painting/coating of all structural steel
- Cathodic Protection (CP) Systems for:
  - Bridge decks

- Substructure elements
  - Superstructure elements other than bridge decks
- Electrochemical Chloride Extraction (ECE) Treatment for:
  - Bridge decks
  - Substructure elements
- Scour countermeasure installation, including large debris removal from channels
- Retrofit of fracture critical members or fatigue prone details
- Concrete deck repairs in conjunction with installation of deck overlays, CP systems or ECE treatment
- Galvanic anodes in conjunction with approved concrete deck repairs, concrete substructure surface repairs and joint elimination
- Substructure and deck concrete repairs in conjunction with installation of CP systems, ECE treatment or galvanic anodes). Includes:
  - Substructure units with cathodic protection jackets
  - Preventative maintenance of piles using jackets in conjunction with a cathodic protection analysis and system
- Application of sealants, coatings and membranes for surface protection of structural elements
- Bridge cleaning and/or washing services. Includes:
  - Decks, joints, drains, superstructure, bearing devices and substructure horizontal elements
- Concrete mat along the flowline of steel pipe culverts
- Culvert liners, including:
  - Steel or polymer pipe inserts
  - Spray on liners such as shotcrete
  - Epoxy or polyurea-based systems
- Cleaning and Lubricating Bearing Devices, including:
  - Removal and disposal of debris
  - Lubricating moveable bearings
- Movable bridge preservation activities
  - Rebalance movable span(s)
  - Maintenance of gear reducer
  - Maintenance of hydraulic pumps and motors
  - Maintenance of hydraulic systems
- Cleaning of drainage facilities (on individual projects)
- Corrosion protection activities (on individual projects)

### **Tunnel Preservation**

- Tunnel Drainage System
  - Flushing of roadway drainage inlets and piping
  - Removal of sludge and debris from drainage system collection basins
  - Maintenance of Water Level Monitoring Systems
  - Maintenance of Drainage Pump Check Valves

- Maintenance of Drainage Pumps and Motors
- Tunnel Ventilation System
  - Tunnel Ventilation Fan maintenance
  - Tunnel Ventilation Fan restoration
  - Damper Louver and Actuator maintenance
- Fire Protection System
  - Maintenance of Main and Risen Pipes
  - Maintenance of Fire Pump Check Valves
  - Maintenance of fire system Booster Pumps
  - Maintenance of fire system isolation Gate Valves
- Power Distribution System
  - Maintenance of Transformers
  - Maintenance of Automatic Transfer Switches
  - Maintenance of electrical distribution Circuit Breaker Panels
  - Emergency Generator maintenance
  - Maintenance of large Circuit Breakers
- Tunnel Lighting System
  - Zone relamping of High Pressure Sodium Light fixtures
  - Zone relamping of Fluorescence Light fixtures
- Tunnel Interior
  - Washing of Tunnel interior Walls and Ceilings
  - Testing and Maintenance of Tidal Flood Gates

### **2.3 Example Maintenance Activities NOT Eligible for Federal-Aid**

Following are examples of routine or reactive maintenance activities not eligible for Federal-Aid. Again, as before, this list is not to be considered either all inclusive or non-exclusive.

#### Routine or Reactive Maintenance

- Pothole repair
- Concrete pavement blow-ups
- Dust control
- Trash and litter removal
- Brooming or sweeping of excessive loose material from road surfaces
- Debris or downed tree and brush removal roadway sections
- Dead animal removal
- Mowing and roadside vegetation control
- Herbicide and pesticide spraying
- Landscape maintenance
- Snow removal
- Hazmat spill removal
- Accident damage to guardrail, impact attenuators, light poles, signs, sign supports, signals, bridges.
- Storm damage to roadway infrastructure
- Highway sign face cleaning (on individual projects)



- Cleaning of pavement drainage facilities on individual projects (bridge drainage facilities are eligible on individual projects)

### **3. Safety Analysis for Federal-Aid Maintenance Projects**

FHWA requires that VDOT perform a safety analysis for all Federal-Aid maintenance projects prior to project advertisement. However, where guardrail improvements may be deferred, the guardrail portion of the safety assessment may also be postponed but the improvement shall be programmed within two years from the date of advertisement.

VDOT Traffic Engineering Division (TED) has established and obtained the FHWA's concurrence on "VDOT Safety Analysis Guidelines for Preventative Maintenance and 3R Projects", which provides guidance for safety analysis on both State and Federally funded maintenance projects. These guidelines shall be followed when performing safety analysis for both Preservation and 3R maintenance projects to meet FHWA safety analysis requirements on Federal-Aid maintenance projects.

#### **3.1 FHWA Safety Analysis Requirements for Preservation Maintenance Projects**

FHWA requires that safety analysis for Federal-Aid, Preservation maintenance project must:

- Review guardrail for proper height, for upgrade or replacement per VDOT guidelines for Guardrail System Upgrade and Spot Repair (TE-366 and TE-367);
- Include a field review to determine isolated or obvious deficiencies that should be addressed as a part of a future project; and
- Determine whether additional safety improvements should be included in the proposed project where they are a cost effective way to improve safety.

*Note that **safety enhancements can be deferred** on Preservation Maintenance Projects and included within an operative safety management system or included in a future project in the STIP. In these cases, the guardrail improvements shall be programmed within two years from date of advertisement. When deferred, safety enhancement projects triggered by Preservation Maintenance Projects will be eligible for Federal-Aid Maintenance funding and shall not require additional safety analysis, design exceptions or design waivers beyond those conducted in the development of the originating maintenance project.*

#### **3.2 FHWA Safety Analysis Requirements for 3R Maintenance Projects**

FHWA requires that safety analysis for Federal-Aid, 3R maintenance project must:

- Include road safety analysis to identify low cost safety countermeasures to be included in the project where they are determined to be cost effective;
- Review guardrail for proper height, for upgrade or replacement per VDOT guidelines for Guardrail System Upgrade and Spot Repair (TE-366 and TE-367).

#### **4. Requirements for Formal Design Exceptions and/or Design Waivers on Federal-Aid Maintenance Projects**

For certain Federal-Aid projects, the FHWA requires formal Design Exceptions and/or Design Waivers be documented for any geometric features that are not up to current design standards. However, it is not the intent to address existing geometric deficiencies within the scope of maintenance projects. As a result, FHWA has established specific guidance regarding requirements for Formal Design Exceptions and/or Design Waivers on Federal-Aid maintenance projects. Maintenance projects not requiring formal Design Exceptions and/or Design Waivers will require documentation through the form provided in Appendix A.

##### **4.1 Requirements for Formal Design Exceptions and/or Design Waivers on Preservation Maintenance Projects**

Due to the limited scope and nature of Preservation maintenance projects, the FHWA does not require formal Design Exceptions and/or Design Waivers on these projects.

##### **4.2 Requirements for Formal Design Exceptions and/or Design Waivers on 3R Maintenance Projects**

The FHWA does not require formal Design Exceptions and/or Design Waivers for projects falling into VDOT's Restorative Maintenance Category (see section 2.1 for example pavement maintenance activities).

For projects falling into VDOT's Major Rehabilitation Maintenance Category, the FHWA requires VDOT to provide formal Design Exceptions for those instances where existing geometric features will be made worse by the planned activity. However, the FHWA does require that:

- VDOT analyze the proposed project location to establish the applicable controlling design criteria and document any original geometric features that are not brought up to current standards but meet the design standard during original construction/reconstruction. The documentation shall be in accordance with VDOT's Road Design Manual, Section A-4, Guidelines for 3R Projects (or any subsequent revisions to the guidelines);
- The controlling design criteria for Interstate projects are the design criteria used in the original construction or most recent reconstruction, per AASHTO's "A Policy on Design Standards – Interstate System".
- VDOT will investigate practical ways to bring substandard geometric features to appropriate AASHTO design standards.

#### **5. NEPA Requirements for Federal-Aid Maintenance Projects**

FHWA requires that both Preservation and 3R Federal-Aid maintenance projects have appropriate environmental documentation to satisfy the National Environmental Policy Act (NEPA). Generally a

Programmatic Categorical Exclusion (PCE) prepared by the VDOT District Environmental Unit is sufficient for these purposes.

**6. ADA Requirements for Federal-Aid Maintenance Projects**

FHWA requires that both Preservation and 3R Federal-Aid maintenance projects comply with the requirements of the Americans with Disabilities Act (ADA). VDOT will ensure ADA compliance by following the guidance established by VDOT's ADA Transition Plan when developing Federal-Aid maintenance projects.

**7. Requirements for Erosion and Sediment Control and Stormwater Pollution Prevention Plans**

Per VDOT Memoranda (IIM-LD-11 and IIM-LD-246), project specific Erosion and Sediment Control (ESC) Plans and Stormwater Pollution Prevention Plans (SWPPP) are required when a project involves land disturbance activities above the thresholds established within the most current versions of those Memoranda.

**Appendix A**  
**Documentation of Maintenance Project**  
**Not Requiring Formal Design Exception and Waiver**

**District:** \_\_\_\_\_

**UPC:** \_\_\_\_\_

**County:** \_\_\_\_\_

**Federal #:** \_\_\_\_\_

**Route:** \_\_\_\_\_

**Prepared By:** \_\_\_\_\_

**Project Type/Category:** \_\_\_\_\_

**Existing Conditions:**

**Scope of Work:**

**Project Notes** *(program/project specific documents may be attached):*

**Approval:**

\_\_\_\_\_  
**Signature**

Responsible Charge Engineer

\_\_\_\_\_  
**Date**