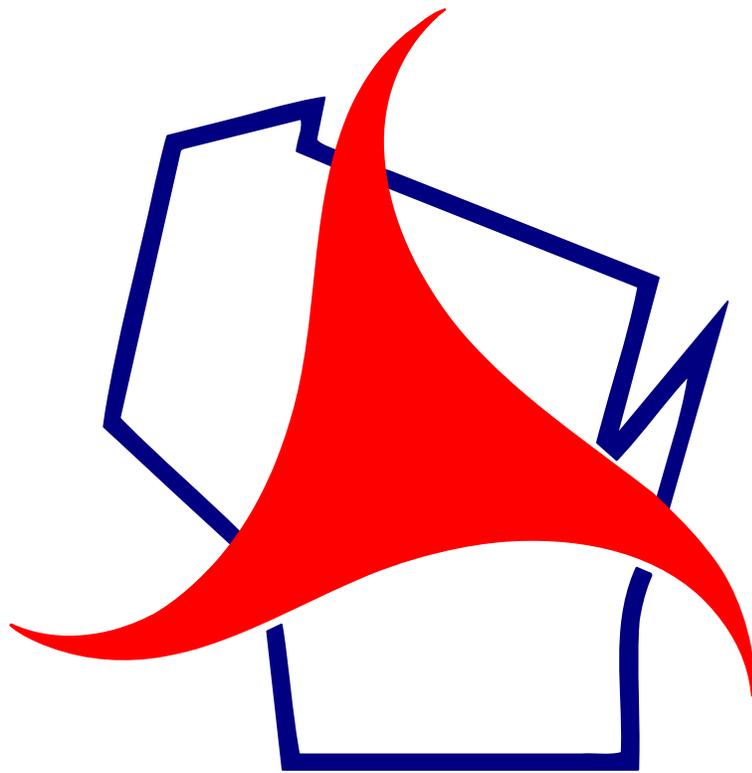


FDM 3-1 Exhibit 5.1 Agreement for the Use of Federal Funds For Preventive Maintenance of Streets & Highways (Except Structures)



December 21, 2010
Updated: September 19, 2014

**AGREEMENT FOR THE USE OF FEDERAL FUNDS FOR
PREVENTIVE MAINTENANCE OF STREETS & HIGHWAYS
(Except Structures)**

This agreement between the Wisconsin Department of Transportation (WisDOT) and the Wisconsin Division of the Federal Highway Administration (FHWA), is intended to implement the use of Federal-aid Highway Funding for Preventive Maintenance activities as authorized in 23 USC 116 (d), "Preventive Maintenance" on all eligible highways in the State of Wisconsin.

The criteria used to develop this agreement are based on the FHWA guidance issued by FHWA on September 12, 2005 (Pavement Preservation Definitions) and October 8, 2004 (Preventive Maintenance Eligibility) as well as current AASHTO guidance on Preventive Maintenance.

This agreement is limited to Preventive Maintenance (PM) activities on Roadways, except Preventive Maintenance projects are not currently eligible on the local roads system.

This agreement does not cover PM activities on Structures. A separate agreement addresses PM activities on Structures.

By signing this agreement, WisDOT and the FHWA incorporate by reference the laws, regulations, policies, standards, and procedures that govern or are applicable to Federal-aid projects. WisDOT certifies that it will comply with all provisions of 23 USC 133, "Surface Transportation Program," for non-National Highway System PM projects.

Nothing in this agreement shall be construed to relieve WisDOT from ultimate accountability for compliance with Federal Laws and regulations with respect to the expenditure of Federal-aid highway funds for PM activities in the State of Wisconsin

One or more requirements of this agreement may be waived on a project-by-project basis if agreed to by both FHWA and WisDOT Bureau of Project Development (BPD).

This agreement supersedes the previous preventive maintenance agreement dated December 5, 2008.

This agreement may be canceled or modified at any time by either WisDOT or the FHWA given 90 days notices.

Wisconsin Department of Transportation

Wisconsin Department of Transportation

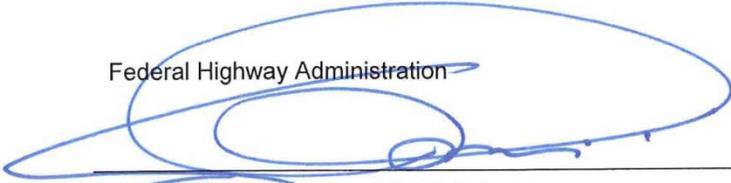


Kevin Chesnik, P.E., Administrator
Division of Transportation System Development

11/10/10

Date

Federal Highway Administration



George Poirier, Division Administrator
Wisconsin Division

11-30-10

Date

I. DEFINITION AND PURPOSE OF PREVENTIVE MAINTENANCE

Preventive maintenance (PM) is the planned strategy of cost effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition and safety of the system without increasing structural or operational capacity. In order to optimize the value of performing PM activities, the various types of PM work needed to restore a given section of highway (or combined sections of highway for a given activity) should be combined into one PM project whenever practicable.

Preventive Maintenance (PM) Pavement Preservation (PP) strategies have an ultimate goal of lengthening the time interval between original construction and reconstruction. To achieve a cost-effective delay of reconstruction through use of PM/PP strategies, the sum of the present values of preventive maintenance activities must be substantially less than the present value of the rehabilitation that they are preventing / delaying. For this to occur, PM/PP strategies typically must occur while the pavement is in good to very good condition.

A “good condition” pavement that is a viable PM/PP candidate can generally be defined as a pavement in which the dominant distress types present are expected pavement surface distress manifestations of age and environmental stress factors – typically temperature cracking and perhaps some surface wear, and spalling. Viable PM/PP candidates in good to very good condition would have little, if any, structural distresses; hence, these pavements can be classified as structurally sound pavements.

PM/PP activities typically do not satisfactorily address structural deficiencies; and are therefore unlikely to be cost-effective treatments for pavements exhibiting more than very minor structural deficiencies.

Due to the numerous combinations of pavement distresses that can occur simultaneously, it is not foolproof to define “good” condition pavement solely by a Pavement Condition Index (PCI) Number. However, PM/PP projects would very likely have a PCI >65, and in the majority of cases, the PCI would likely be greater than 75.

II. CONDITIONS APPLYING TO THE USE OF FEDERAL FUNDS FOR PREVENTIVE MAINTENANCE WORK ON STREETS & HIGHWAYS (Except structures and except roads on the local roads system)

The following conditions 1-6 apply to the use of federal funds for all preventive maintenance work on IH, NHS, and non-NHS routes:

1. The highway must be eligible for federal funding. Federal funds can be used only for roadway, roadside work and safety hardware, traffic signs, pavement markings, traffic signal systems, roadway lighting, and railroad crossing warning devices under this agreement. PM work on bridges (i.e. abutment to abutment) and local roads system are not covered by this agreement.
2. Work must follow all regular Federal Aid requirements, i.e., TIP/STIP, Environmental, ADA, TMP, PS&E, etc.
3. Work must follow all regular WisDOT FDM procedures, i.e., abbreviated DSR, etc.
4. Any non-let work must be approved in accordance with the requirements of FDM 3-20-11: Local Force Account Agreements and FDM 3-20-12: Cost Effectiveness Finding (i.e. Public Interest Documentation).
5. PM treatments must be appropriate for when the project is actually constructed. Review the scope of work if the project let is delayed to determine if the proposed treatment is still appropriate, and still eligible for federally funded PM.
6. Roadway geometrics and appurtenances (i.e. guardrail, sign bridges, drainage structures, etc.) shall not be degraded by the preventive maintenance work.

III. WORK TYPES ELIGIBLE FOR FEDERAL PM FUNDING, AND REQUIRED ACTIVITIES FOR EACH WORK TYPE

The table below shows types of work that are eligible for federal PM funding, and the activities that are required on a PM project. The activities required on a PM project vary depending on the work type(s) used on that project. Required activities can include the following:

1. Crash Information and Safety Improvements Evaluation:
 - Evaluate and analyze crash information using the Safety Screening Analysis (SSA) described in FDM 11-1-4 to determine if geometric or safety enhancements are warranted.
2. Capacity Evaluation:
 - Determine projected capacity needs.
 - Needs should be no less than one level-of-service (LOS) grade below the required LOS per FDM 11-5-3 within ten (10) years of the date of construction. (See FDM 11-5-3 for acceptable capacity calculation methods).

- If the LOS is not acceptable within this time frame, FHWA pre-approval is required.

3. Guardrail Assessment / Upgrades

- Upgrade guardrail and end treatments to current standards. Eliminate all blunt end and turndown guardrail sections.
- Ensure that damaged guardrail elements, as defined in FDM 11-45-1, are repaired or replaced.
- Adjust rail height of guardrail to meet the criteria in FDM 11-45-1.
- Upgrade all guardrail transitions to fixed objects to meet criteria in FDM 11-45-1.
- Upgrade guardrail installations with 12'-6" post spacing or with no block-outs.
- Remove strong-post cable guard installations, replace with compliant barrier if needed.

4. Clear Zone Restoration

- Remove vegetation within the clear zone that can reasonably be expected to exceed 4 inches in diameter at maturity.
- Clear zone per 3R and 4R design standards applies. See FDM 11-40-1, FDM 11-40-2, and FDM 11-44-1.

5. Signing and Marking Upgrades

- Remove vegetation obscuring any highway signing.
- Replace all permanent signs unless exceptions are coordinated with the WisDOT Region Traffic Engineering Supervisor. See FDM 15-1-20, section 20.10.
- Upgrade deficient pavement marking.

6. Median Crossover Side Slope Regrading

- Flatten median crossover side slopes steeper than 6:1 to meet current design standards (see SDD 11-A-1)

7. Railroad Crossing Safety Review

Bracketed number [#] means see note below

REQUIRED ACTIVITIES FOR EACH ELIGIBLE PM WORK TYPE						
(See Section II for Conditions 1-6 applying to all PM work)						
1. Crash Information and Safety Improvements Evaluation [5]	2. Capacity Evaluation	3. Guardrail Assessment / Upgrades	4. Clear Zone Restoration	5. Signing and Marking Upgrades [4]	6. Median Crossover Side Slope Regrading	7. Railroad Crossing Safety Review
Eligible Work Types [6]						
Group 1 Pavement Strategies Resurfacing [1] [8] Milling and resurfacing [1] [8] Portland cement concrete (PCC) dowel bar retrofitting with diamond grinding	Required ----- <u>Full Safety Screening Analysis (SSA):</u> Do all 3-steps of the SSA as described in FDM 11-1-4. [5]	Required			Required [7]	
Group 2 Pavement Strategies Asphaltic patching – full depth [2] [3] PCC joint restoration [2] PCC patching – full depth [2] [3] PCC cross-stitching Shoulder restoration/paving [8] Paved shoulder addition [8] Diamond grinding	Required ----- <u>Abbreviated SSA:</u> Do step 1 of the SSA as described in FDM 11-1-4. If there are Improvement Flags with LOP >=10 then complete steps 2 & 3 of the SSA. If there are no Improvement Flags with LOP >=10 then the SSA is satisfactorily completed and the project development continues. [5]	Not required	Required if existing guardrail within the project limits was installed more than twenty (20) years before the PS&E date of the PM project. [7]		Required [7]	Not required
Group 3 Pavement Strategies Milling [3] Rut filling [3] [8] Seal coating [2] [3] Micro-surfacing [2] [3] [8] Crack filling [2] [3]		Not required			Not required , except to restore pavement markings that are disturbed / obliterated by PM work	Not required
Drainage Restoration Ditch restoration Storm drain restoration Culvert pipe restoration/replacement Traversable Grates Culvert pipe liners Box culvert restoration		Not required			Not required , except to replace missing culvert delineator posts	Required if the culvert being replaced is under a median crossover Not Required otherwise
Safety Appurtenances Beamguard/cable guard restoration/ installation/upgrading [3] Terminal End upgrading [3] Highway signing restoration/ installation/upgrading [4] Pavement marking restoration/upgrading [4] Traffic signal restoration/upgrading/ retiming [4] Highway lighting restoration/upgrading [4] Railroad Crossing Warning Device restoration/upgrading	Not required		Required for Beamguard/cable guard restoration/ installation/upgrading and for Terminal End upgrading. Not required for other work types	Required if there is vegetation in the vicinity of Beamguard/cable guard restoration/ installation/upgrading or Terminal End upgrading. Not required for other work types	Required for work types involving signing or pavement marking; Not required for other work types	Required if a median crossover location coincides with Beamguard/cable guard restoration/ installation/upgrading or Terminal End upgrading Not required for other work types Required for Railroad Crossing Warning Device restoration/upgrading Not required for other work types

Bracketed number [#] means see note below

REQUIRED ACTIVITIES FOR EACH ELIGIBLE PM WORK TYPE							
(See Section II for Conditions 1-6 applying to all PM work)							
1. Crash Information and Safety Improvements Evaluation [5]	2. Capacity Evaluation	3. Guardrail Assessment / Upgrades	4. Clear Zone Restoration	5. Signing and Marking Upgrades [4]	6. Median Crossover Side Slope Regrading	7. Railroad Crossing Safety Review	
Eligible Work Types [6]							
Other: Shoulder rumble strips Erosion prevention/slope restoration Clear zone restoration (tree/shrub removal) Rip-rap restoration or addition Curb, gutter, sidewalk restoration [3] Edge drop-off mitigation: - Gravel Edge drop-off; - Shoulder Restoration – Asphalt wedge Traffic Operations Infrastructure Plan (TOIP) items [4]							
Not required			Required for Erosion prevention/slope restoration and for Clear zone restoration (tree/shrub removal); Not required for other work types	Not required	Required for slope restoration; Not required for other work types	Not required	

Notes:

1. Resurfacing is eligible for preventive maintenance (PM) subject to the following:
 - A maximum of 2 inches of new asphalt pavement can be placed, including all leveling and wedge courses, unless correcting cross slope deficiencies, and
 - If the existing lane width and finished shoulder width have not been reduced from those that were built under new construction / reconstruction and the sideslopes contiguous with the finished shoulder are 4:1 or flatter then the new surface can be a maximum of 2 inches above the existing profile at the shoulder point. Otherwise, the new surface cannot be raised above the existing profile at the shoulder point.
[NOTE: The existing lane width, finished shoulder width and/or side slope are not corrected as part of the PM project. If there are improvement flags and/or crash flags then these are handled per note 5 below.]
2. These treatments are only eligible for preventive maintenance (PM) if they can be shown to be capital improvements, i.e., there is an appreciable extension to the capital life of an asset. This means that the treatment must have a rehabilitation effect on the pavement and extend the service life of the pavement by 4 years or more.
3. Does not include routine maintenance of random or isolated spot locations. Combining locations to establish a reasonable sized project is eligible. Pothole filling is routine maintenance and not eligible for preventive maintenance.
4. Highway signing, pavement marking, traffic signals, Traffic Operations Infrastructure Plan (TOIP) items and highway lighting are not eligible for State Improvement funding as a stand-alone project, but must be incidental to another project, including a preventive maintenance project.

Highway signing, pavement marking, traffic signals, Traffic Operations Infrastructure Plan (TOIP) items and highway lighting can be completed as a stand-alone project using State Operations funding and Federal Preventive Maintenance funding, but not State Improvement funding.

For purposes of this agreement, the restoration of pavement markings and traffic signs along substantial section lengths, or area and corridor wide segments are eligible as preventive maintenance stand alone projects. Routine maintenance of these items at isolated or spot locations, regardless of the number of locations is not eligible.
5. A PM project may still include segments with Crash Flags, Improvement Flags, or sub-standard features that are not eligible for a programmatic exception to standards, even though correcting these segments is not included because it is not eligible as PM work. Address these segments as follows:
 - Incorporate operational improvements into the PM project at those spot/segment locations that are consistent with the scope of the preventive maintenance work and appropriate based on the analysis of crash types. Use measures listed in FDM 11-40-1, Attachment 1, "Alternatives to Reconstruction to Enhance Safety", or other proven measures that are acceptable to FHWA, WisDOT Bureau of Project Development (BPD), WisDOT Bureau of Highway Maintenance (BHM) and WisDOT Bureau of Traffic Operations (BTO).
 - Document in the PM project DSR that construction is required for safety improvements or to correct sub-standard features. The region will either consider this construction for HSIP funding or address this construction with future programming. The PM project may proceed without delay.

Document the SSA in the DSR for the PM project per FDM 11-1-4, except the special documentation for National Highway System (NHS) routes is not required for an Abbreviated SSA if step 1 did not identify any Improvement Flags with LOP >=10.
6. In addition to the work types shown in the table, other work may be considered as agreed upon by WisDOT and FHWA.
7. Assessment is required as part of the PM project. Construction work may either be included in the PM project or be included as part of another improvement project. Document the assessment and the needed construction in the DSR for the PM project. If the construction is not included in the PM project then the region will address the needed construction with future programming.
8. Work type is ADA Alteration per "*Department of Justice/Department of Transportation Joint Technical Assistance on the Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps when Streets, Roads, or Highways are Altered through Resurfacing*" and "*Glossary of Terms for DOJ/FHWA Joint Technical Assistance on the ADA Title II Requirements to Provide Curb Ramps When Streets Roads or Highways are Altered Through Resurfacing*" (see [FDM 3-1 Attachments 5.2](#) and 5.3). Provide/update curb ramps where "...street level pedestrian walkways cross curbs". Work types not shown as ADA alteration are considered ADA Maintenance.