

Pavement Preservation Policy

Alabama Department of Transportation

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Pavement Preservation Policy

Pavement Preservation is the planned strategy of cost-effective treatments to an existing roadway system that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system without significantly increasing the structural capacity of the pavement. The purpose of the Pavement Preservation Policy is to define the eligibility of two preservation strategies: Preventative Maintenance (PM) and Minor Rehabilitation (MR). The decision-making process is documented on the attached matrix.

Eligible Funding Categories for Pavement Preservation Projects:

The following funding sources should be considered for pavement preservation projects. The Maintenance Bureau will publish each year the amount of funds available by Region/Area in the first three categories.

- Federal Aid Resurfacing Program funds (FM)
- State Maintenance Resurfacing Program funds (99 or ST)
- State Special Maintenance funds (99)
- Interstate Maintenance Program funds (IM)
- State Construction funds (ST)

Project Scoping Team for Pavement Preservation Projects (PM & MR):

A scope of work inspection shall be conducted on each resurfacing project by the Region/Area. An on-site review shall be conducted by a scope team of the entire project limits. The scope team shall consist of appropriate personnel as determined by the Region/Area.

For interstate routes, the scope team is required to include the Interstate Maintenance Review Committee.

Pavement Condition Data:

Field data collection for all pavement preservation projects is to follow ALDOT Materials and Tests Bureau Procedure 392.

Non-Pavement Related Items of Work:

A major goal of this policy is to maximize available funding for pavement management. Therefore, on Interstate Maintenance (IM) projects, other than eligible safety items, non-pavement related items shall not be included unless identified in the IM Review Committee's letter or specifically approved by the Maintenance Bureau. On Federal-Aid Maintenance Program (FM), State Maintenance Resurfacing Program (99 or ST), State Special Maintenance (99), and State Construction (ST) resurfacing projects, other than eligible safety items, non-pavement items of work shall not be included unless approved by the Maintenance Bureau. Non-pavement items may be included by split funding from alternate funding sources or shall be addressed in a separate project as funding is available.

Safety (General)

Safety items that are defined in the Pavement Preservation Policy Matrix are a systematic approach to upgrading existing safety hardware that should be addressed. Other site-specific safety items, based on crash history, that are not defined by the matrix but are identified by a Scoping Team may be included as part of the preservation maintenance project. Funding for these safety items will be through Highway Safety Improvement Program (HSIP) funds when eligible, through the appropriate allowable funding percentage by Pavement Preservation Category as outlined below in this document or alternative funding.

On an Interstate MR project, a Design Safety Scoping Team will be assembled which will include the appropriate Region personnel, personnel from the Design Bureau, and the respective FHWA Area Engineer.

In general, if safety item upgrades exceed available funding, it is desirable to address the below items in the following priority ranking. However, the judgment of the Scoping Team viewing actual site conditions and crash history is superior to this general priority list:

1. Guardrail to bridge rail transitions where the approach shoulder widths require narrowing of the bridge end guardrail at narrow bridges.
2. Guardrail end anchors
3. Low guardrail

Pavement Preservation - Preventative Maintenance (PM)

Intent:

Preventative maintenance projects extend the functional adequacy of pavements. This may include work on roadway surfaces in advance of various levels of observable deterioration. This policy subdivides preventative maintenance into two categories: Preventative Maintenance 1 (PM1) and Preventative Maintenance 2 (PM2). See the Pavement Preservation Policy Matrix for the specific requirements associated with each category.

Preventative maintenance treatments should be considered for structurally sound pavements to extend and maintain their functional adequacy until the rehabilitation cycle is reached.

Note: Selected preventative maintenance treatments must be compatible with the existing traffic volumes, roadway design speeds, and in-place pavement structure. Preventative maintenance treatments are not appropriate when significant rutting, significant cracking, and/or significant faulting is present.

Pavement Preservation - Minor Rehabilitation (MR)

Intent:

Minor rehabilitation projects extend the useful life of pavements through treatments that are more involved than those used for preventative maintenance. See the Pavement Preservation Policy Matrix for the specific requirements associated with a MR project.

Pavement Preservation Policy Matrix

Note 1: These safety items may be eligible for HSIP or other alternative funding. Subject to the availability of alternative funding sources, these safety items identified within the matrix may be funded by the Pavement Preservation Project as initial deductions to the allowable safety funding for each category (0% on PM1, 5% on PM2, 10% on MR).

Note 2: Use ALDOT approved Manual for Assessing Safety Hardware 2016 (MASH) safety devices. If no MASH item is available, consult the Design Bureau for a recommendation for the site-specific application.

Note 3: Should the replacement or repair costs of damaged devices, combined with other improvement costs (guardrail, end anchors and bridge connection rails), exceed the allowable safety funds for each category (0% on PM1, 5% on PM2, 10% on MR) then seek alternative funds.

Pavement Preservation Policy Matrix

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Americans with Disabilities Act	Install curb cuts and curb ramps along existing curb-and-gutter sections where sidewalks are present except when the following treatments are selected: <ul style="list-style-type: none"> • Crack Filling and Sealing • Surface Sealing • Chip Seals • Slurry Seals • Fog Seals • Scrub Seals • Joint Crack Seals • Joint Repairs • High Friction Treatments (Spot locations) • Diamond Grinding • Concrete Grooving • Pavement Patching 	Install curb cuts and curb ramps along existing curb-and-gutter sections where sidewalks are present.	Install curb cuts and curb ramps along existing curb-and-gutter sections where sidewalks are present.

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Safety	Safety items are not a required consideration - outside the purview of preventative maintenance unless specified within the PM 1 matrix.	Eligible safety items identified within the PM 2 matrix may be included in and funded by the preservation project up to five percent (5%) of the total pavement preventative maintenance cost. Safety items exceeding the 5% or that are not identified by the policy's PM 2 matrix shall be addressed by funding sources other than pavement preservation funding and addressed in a separate funding category in the construction project.	Eligible safety items identified within the MR matrix may be included in and funded by the preservation project up to ten percent (10%) of the total pavement rehabilitation cost. Safety items exceeding the 10% or that are not identified by the policy's MR matrix shall be addressed by funding sources other than pavement preservation funding and addressed in a separate funding category in the construction project.
Superelevation & Cross-Slope	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.	ALDOT shall correct cross slope and super elevation on all route types. The Chief Engineer may approve justifications to match existing non-compliant cross slope based on an approved risk-based analysis considering cost, ROW considerations, etc. Where adjustment is warranted, provide correction information within the project.
Clear Zone	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Pavement Width	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.	All efforts shall be made to facilitate a 28-ft. roadway width when physically possible. (See Note 1)
Other Roadway Geometries	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.	Not a required consideration - outside the purview of preventative maintenance.
Bridge Rails and Guardrail to Bridge Rail Connections	Not a required consideration - outside the purview of preventative maintenance.	<p>On Interstate routes, guardrail to bridge rail connections that are not present or are not compliant with NCHRP 350 shall be replaced or installed with MASH 2016 compliant connections. (See Note 2)</p> <p>On non-Interstate NHS routes, guardrail to bridge rail connections that are not present or are not compliant with NCHRP 350 shall be replaced or installed with MASH 2016 compliant connections and funded by alternative sources. Should alternative funding sources not be available it is permissible to utilize the pavement preservation safety funding. (See Note 1 and 2)</p> <p>Bridge rail improvements are not a required consideration - outside the purview of preventative maintenance.</p>	<p>On all route types, guardrail to bridge rail connections that are not present or are not compliant with NCHRP 350 shall be replaced or installed with MASH 2016 compliant connections. (See Note 2)</p> <p>Bridge rails on NHS routes that are not compliant with NCHRP 350 shall be retrofitted to MASH 2016 compliance except where retrofitting is technically infeasible (e.g., widening of the bridge). (See Note 2)</p>

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Guardrail End Treatments	<p>Safety items are not a required consideration - outside the purview of preventative maintenance with the following exceptions:</p> <p>On all route types, <u>undamaged</u> guardrail approach end treatments that are not compliant with NCHRP 350 should be replaced by MASH 2016 compliant devices. (See Note 1 & 2)</p> <p>On all route types, MASH 2016 replacement of <u>damaged</u> NCHRP 350 compliant guardrail approach end treatments should be addressed by appropriate alternative funding other than HSIP or Pavement Preservation Project funding. (See Note 2 and 3)</p>	<p>On all route types, <u>undamaged</u> guardrail approach end treatments that are not compliant with NCHRP 350 should be replaced by MASH 2016 compliant devices. (See Note 1 and 2)</p> <p>On all route types, replacement or repairs to <u>damaged</u> NCHRP 350 compliant guardrail approach end treatments should be addressed by the Pavement Preservation Project funding or other appropriate alternative funding. On Interstate preservation projects, Pavement Preservation Project funding for the replacements or repairs must be prescribed by the IM Scope Review Letter. (See Note 2 and 3)</p>	<p>On all route types, <u>undamaged</u> guardrail approach end treatments that are not compliant with NCHRP 350 should be replaced by MASH 2016 compliant devices. (See Note 1 and 2)</p> <p>On all route types, replacement or repairs to <u>damaged</u> NCHRP 350 compliant guardrail approach end treatments should be addressed by the Pavement Preservation Project funding or other appropriate alternative funding. On Interstate preservation projects, Pavement Preservation Project funding for the replacements or repairs must be prescribed by the IM Scope Review Letter. (See Note 2 and 3)</p>

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Guardrail	<p>Not a required consideration - outside the purview of preventative maintenance with the following exception:</p> <p>On all route types, guardrail that contains steel blockouts and/or does not meet the height requirement of the latest ALDOT adopted Roadside Design Guide edition should be replaced or reset. (See Note 1)</p>	<p>Not a required consideration - outside the purview of preventative maintenance with the following exception:</p> <p>On all route types, guardrail that contains steel blockouts and/or does not meet the height requirement of the latest ALDOT adopted Roadside Design Guide edition should be replaced or reset. (See Note 1)</p>	<p><u>Undamaged</u> guardrail, on any route type, that meets latest adopted Roadside Design Guide height requirement, and no steel block outs are present, may be retained without adjustment and are considered outside the purview of preventative maintenance.</p> <p>On all route types, guardrail that contains steel blockouts and/or does not meet the height requirement of the latest ALDOT adopted Roadside Design Guide edition should be replaced or reset. (See Note 1)</p> <p>On non-Interstate routes, repair to <u>damaged</u> guardrail that is compliant with the latest adopted Roadside Design Guide height requirement and contains no steel block outs should be included in the Pavement Preservation Project. On Interstate projects, repairs to <u>damaged</u> guardrail must be prescribed by the IM Scope Review Letter. (See note 3)</p>

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Flexible Pavement Selection of Treatments	<ul style="list-style-type: none"> • Crack Filling and Sealing • Fog Seal • Scrub Seal • Chip Seal • Double Surface Treatment • Triple Surface Treatment • Slurry Seal • Micro-surfacing • Surface Sealing • High Friction Surface Treatment • Thin Lift Asphalt Concrete Layer (not to exceed 110 lbs./sy.) • Safety Layer • Cape Seals 	<ul style="list-style-type: none"> • PM 1 eligible treatments • Asphalt Concrete pavement should not exceed 2.0" in total thickness (excluding any safety layer). 	<ul style="list-style-type: none"> • PM 1 and PM 2 eligible treatments • Adjustment layer (as needed for cross-slope and/or superelevation correction) • The combination of Asphalt Concrete binder and wearing surface layers should not exceed 5 inches in total thickness (excluding any safety layer or adjustment layers).
Flexible Pavement Milling	<p>Single layer of any existing safety surface may be milled. Micro milling is required for milling depths of 1.0" or less. Milling of the safety layer may extend into the wearing layer between 0.25" and 0.50" (maximum) to scarify the surface and to ensure that no remnant "scabs" remain.</p> <p>If a safety layer is not present a milling depth of 1.0" or less is acceptable to remove the oxidized surface and/or existing traffic striping or markings that could create conflicts with selected treatments.</p>	<p>Establish a depth of milling that is sufficient to remove the oxidized and deteriorated wearing surface layer. Typical milling depths will be determined based on crack depth and other pavement condition data and should not exceed 2.0" in depth (excluding any safety layer).</p>	<p>Establish a depth of milling that is sufficient to remove the oxidized and deteriorated layer(s) of pavement. Typical milling depths will be determined based on crack depth and other pavement condition data and should not exceed 5.0" in depth (including any safety layer).</p>

Pavement Preservation Policy Matrix (continued)

	Preventative Maintenance 1 (PM 1)	Preventative Maintenance 2 (PM 2)	Minor Rehabilitation (MR)
Rigid Pavement Selection of Treatments	<ul style="list-style-type: none"> • Diamond Grinding • Diamond Grooving • Crack Sealing or Filling • Joint Repair (Clean and Sealing Joints) • Pavement Patching limited to the repair of minor pavement surface defects. • Spall Repair – limited to the following: <ul style="list-style-type: none"> ○ Repair of minor pavement edge breaks, ○ Minor corner breaks that will not involve the repair of the pavement joint, ○ Minor breaks along the pavement joint. • Surface Sealing • High Friction Surface Treatment • Safety Layer <p>Note: Spall Repair may be performed with partial width and length repairs.</p>	<ul style="list-style-type: none"> • PM 1 eligible treatments • Slab Undersealing, Stabilization or Lifting. • Partial Slab Replacement (full width/full depth/partial length) • < 1% Full Slab Replacement of the high traffic lane 	<ul style="list-style-type: none"> • PM 1 and PM 2 eligible treatments • < 5% of Full Slab Replacement of the high traffic lane • Asphalt Concrete Pavement
Rigid Pavement Grinding/Grooving	For the restoration of frictional properties or ride characteristics of the pavement surface.	For the restoration of frictional properties or ride characteristics of the pavement surface.	For the restoration of frictional properties or ride characteristics of the pavement surface.
Rigid Pavement Overlays	<ul style="list-style-type: none"> • Safety layer 	<ul style="list-style-type: none"> • Safety layer 	<ul style="list-style-type: none"> • Safety layer • Asphalt Concrete Pavement