

475. Preventive Maintenance (PM) Projects

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475.1. Introduction

Preventive maintenance (PM) is a cost-effective way to extend the service life of Alaska's highway facilities. PM retards future deterioration, and maintains or improves the functional condition of highway facilities. FHWA supports the increased flexibility for using Federal-aid funding for cost-effective preventive maintenance.

PM represents a proactive approach to maintaining existing highways as it addresses pavements while they are still in relatively good condition. PM performed before the onset of serious pavement damage, delays or eliminates the need for major rehabilitation or reconstruction.

475.2. Definition

Preventive maintenance projects are those that focus on *pavement preservation*. Pavement preservation is further categorized into three groups:

1. **Minor Rehabilitation** with no capacity or structural section improvements
2. **Preventative Maintenance** to restore serviceability and reduce aging
3. **Routine Maintenance** to restore serviceability

475.3. Project Development and Design

PM projects generally follow the Project Development (Chapter 4) and Design (Chapter 11) procedures contained in this manual. This subsection will note any special procedures or considerations.

475.3.1 Project Identification

PM projects are identified in planning and/or scoping of the project. The Project Identification Sheet (see Section 420) and/or the Design Designation form (see Section 1100) provide documentation that the project is categorized as Preventive Maintenance.

475.3.2 Environmental and Public Involvement

PM projects are developed following the *Alaska Environmental Procedures Manual* (AEPM). By their nature, PM projects will normally qualify for a "d" list programmatic CE. This type of environmental document generally has a short timeline and, under Section 6004 of SAFETEA-LU, the department can self-certify and approve them.

Per the May 2, 2006 letter from FHWA Alaska Division regarding limited delegation authority under Section 106, as long as the PM project stays within the toe of existing slopes (and other terms of the agreement), DOT&PF can self-determine and certify there is no potential to cause effects to historic properties and can eliminate a Section 106 review.

Conduct public involvement activities in accordance with the AEPM and Chapter 5 of this manual. Inform and involve the public of potential construction impacts and traffic control issues in accordance with Chapter 14 of this manual.

475.3.3 Design

PM projects do not require a formal 3R analysis per Section 1160, but they should consider appropriate ways to maintain or enhance the current level of safety and mobility. Evaluate obvious anomalies and deficiencies for improvement. Safety enhancements can be deferred to a future STIP project.

PM projects are required to:

- a. Replace existing striping and delineation
- b. Replace existing rumble strips removed by grinding, resurfacing or overlaying, to the extent practicable.
- c. Follow vertical clearance policy for structures and utility lines per Table 1130-1
- d. Consider installation or upgrading of guardrail
- e. Consider removing or shielding roadside obstacles
- f. Upgrade guardrail end treatments in accordance with Table 1130-12
- g. Upgrade non-crashworthy sign supports in the clear zone
- h. Mitigate pavement edge drops per Section 1160.3.7

- i. Maintain functionality of traffic signal vehicle detection
 - j. Adjust appurtenances (i.e. manholes, valve boxes, monuments, etc.) in pavement as necessary
 - k. Complete a Design Study Report (see following discussion)
 - l. Comply with Section 1180 of this manual and the *Alaska Flexible Pavement Design Manual* (AKFPD)
4. FHWA Office of Civil Rights memo date Sept. 12, 2006 *clarifying FHWA's Oversight Role in Accessibility*.
http://www.fhwa.dot.gov/civilrights/memos/ada_memo_clarificationa.htm

PM projects do not require:

- a. A 3R Analysis
- b. ADA improvements*
- c. Hydraulic investigation/report
- d. Geotechnical investigation/report

* Note: PM activities are not considered alterations; therefore, PM projects do not require simultaneous ADA improvements (see references).

PM projects may include other minor elements of work provided the primary focus of the project is pavement preservation.

Design Study Report (DSR)

DSRs are required on PM projects. Certain procedures and sections may be scaled back or eliminated per Table 475-1 on the following page.

475.4. References

- 1. May 2, 2006 letter from FHWA Alaska Division regarding limited delegation authority under Section 106
http://www.dot.state.ak.us/stwddes/desenviron/assets/pdf/resources/section_106_nopotential.pdf
- 2. FHWA memo dated Oct. 8, 2004 regarding *Preventive Maintenance Eligibility*
<http://www.fhwa.dot.gov/preservation/100804.cfm>
- 3. FHWA memo dated Sept. 12, 2005 regarding *Pavement Preservation Definitions*
<http://www.fhwa.dot.gov/pavement/preservation/091205.cfm>

**Table 475-1
Modified DSR Requirements for PM Projects**

DSR Section	Section Title	Instructions (n/c = no change)
1	Project location, existing facilities, and purpose and need for project	n/c
2	Design standards, including design criteria and design designation	Comply with 475.3.3
3	Alternatives analysis	Not required
4	Discussion of preferred alternative	Not required
5	Typical sections	n/c
6	General horizontal and vertical alignment	Not required
7	Erosion and sediment control	n/c
8	Drainage	Only consider drainage maintenance or improvements necessary to preserve the structural pavement section.
9	Soil conditions	Not required
10	Access control features	Not required
11	Traffic analysis	a. Speed study not required b. Accident analysis not required c. ESAL data needed for pvmt. design.
12	Single lane roundabout analysis	Not required
13	Safety improvements	Comply with 475.3.3
14	ROW requirements	n/c
15	Pedestrian and bike facilities	not required
16	Utility relocation and coordination	n/c
17	Preliminary work zone traffic control	n/c
18	Pavement design	n/c
19	Cost estimate	n/c
20	Environmental commitments and mitigation	n/c
21	Preliminary bridge layout	Not required
22	Exceptions to standards	Required for Vertical Clearance. All others not required.
23	Maintenance considerations	n/c
Appdx	Approved design designation and design criteria	n/c
Appdx	Approval memo for variation from Standards for other than controlling criteria.	Required for items listed as required in Section 475.3.3. All others not required.
Appdx	Traffic analysis and speed studies	Not required
Appdx	Single lane roundabout analysis	Not required
Appdx	3R Analysis	Not required
Appdx	ITS systems engineering analysis	Not required, unless ITS elements are included
Appdx	Approved environmental document	n/c