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TRN-1.08 - Pavement Maintenance Policy & Practice

Binding City Policies (BCP)

Policy category: [Streets & Sidewalks](#)

Policy number: TRN-1.08

PAVEMENT MAINTENANCE POLICY AND PRACTICE

Binding City Policy

BCP-TRN-1.08

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I. Scope

This Policy:

- A. Identifies maintained street pavement improvements.
- B. Identifies standard street pavement maintenance practices.
- C. Identifies street pavement maintenance priorities.
- D. Defines the process used for selecting streets for pavement maintenance applications.

II. General

The Portland Office of Transportation recognizes the importance of preserving the City's street system and controlling street pavement deterioration by scheduled maintenance. To accomplish this a variety of techniques are used ranging from simple patching to complete roadway reconstruction. The Office of Transportation uses a Pavement Management System that identifies and prioritizes street maintenance projects based on visual inspection and structural testing. Based on the condition of the street the Pavement Management System will identify the most cost effective maintenance technique.

The City's street maintenance program is necessarily subject to significant budget constraints. Not all streets that warrant maintenance can be adequately repaired in any given year. Priorities regarding which streets will be given what maintenance service in any given year are set by the City

will be given what maintenance service in any given year are set by the City Engineer and the Office of Transportation staff as part of their discretionary allocation of budget resources.

The policies and practices identified herein pertain only to street pavement and shoulders. Policies and practices for other improvements, such as drainage, curbs and sidewalks are not addressed.

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III. Policy

A. The following street improvements are maintained by the City of Portland subject to budgeting and policy constraints:

1. Streets and alley improvements constructed under a Street Improvement Permit, through the Local Improvement District process, or as a Capital Improvement Project, that have been accepted by the City Engineer subsequent to construction. Acceptance for maintenance by the City Engineer occurs where streets have been designed and constructed to City standard construction specifications.
2. Street Improvements financed by the Works Progress Administration (WPA) program.
3. Street annexed by the City from another jurisdiction with whom the City has entered into an intergovernmental agreement for the jurisdictional transfer of streets and the annexed streets were previously designated as maintained roads and regularly maintained by the previous jurisdiction prior to annexation.
4. Streets lying within the Portland city limits prior to May 1984 located west of the Willamette River, east of the Washington County line, south of N.W. Cornell Rd. and north of the Clackamas County line, at that time, designated by Multnomah County as County roads.
5. Street accepted for maintenance through written agreements reached by the City Engineer and/or City Council with individuals, agencies or jurisdictions.

The City's maintenance responsibility for any specific street is documented in the Pavement Management System and available to the public upon request.

B. Standard Street Pavement Maintenance Practices for City maintained streets consist of the following:

1. Asphalt Streets.
 - a. Base Repair - To preserve the street and prevent further deterioration, those areas where the pavement base has failed are repaired prior to resurfacing or sealing. Base repair is performed where there is severe cracking, accompanied by settlement of the pavement, upheavals, pot hole clusters, frost boils and other obvious signs of base failures.
 - b. Cold Planing - Where the base is structurally sound by the surface shows signs of distress, such as polishing, roughness, cracking and rutting, damaged areas are removed to prevent base failures in localized areas.
 - c. Patching with Asphalt - To protect the base and provide a smooth road surface, surface holes and depressions are filled.
 - d. Crack Sealing - Open pavement surface cracks are filled with rubber asphalt to seal the surface of the street and prevent water from penetrating and damaging the pavement base.

e. Slurry Seal - Slurry Seal is applied to seal and restore pavement surface

c. Slurry Seal - Slurry seals are applied to seal and restore pavement surface to a smooth, crack free surface. Slurry seal economically creates a water and air tight seal on the pavement surface which delays deterioration of the pavement by oxidation and moisture penetration.

f. Resurfacings (Asphalt Overlay) - When surface distress, roughness, polishing, base failure or water infiltration exceed the ability to correct by spot repair or sealing methods, the entire street from curb to curb or pavement edge to pavement edge is resurfaced. Resurfacing with asphaltic concrete seals the surface against water penetration, fills irregularities,

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covers polished aggregate and provides a tough, smooth, skid-resistant wearing surface as well as providing additional strength to the pavement for greater structural resistance to base damage.

2. Oil-Macadam Pavement Streets.

a. Base Repair - To preserve the street and prevent further deterioration, those areas where the pavement base has failed are repaired prior to resurfacing or sealing. base repair is necessary where there is severe cracking, accompanied by settlement of the pavement, upheavals, pot hole clusters, frost boils and other obvious base failures.

b. Patching with Asphalt - Surface holes and depressions are filled with asphalt to protect the base and provide a smooth road surface.

c. Crack Sealing - Open pavement surface cracks are filled with rubber asphalt to seal the surface of the street to prevent water from penetrating and damaging the street base.

d. Resurfacing (Asphalt Overlay) - When surface distress, roughness, polishing, base failure or water infiltration exceed the ability to correct by spot repair or sealing methods, the entire street is resurfaced from curb to curb or pavement edge to pavement edge. Resurfacing with asphaltic concrete seals the surface against water penetration, fills irregularities, covers polished aggregate and provides a tough, smooth, skid-resistant wearing surface as well as providing additional strength to the pavement for greater structural resistance to base damage.

3. Concrete Pavement Streets.

a. Base Repair - To preserve the street and prevent further deterioration, those areas where the pavement base has failed are repaired prior to resurfacing or sealing. Base repair is done when there is severe cracking accompanied by settlement of the pavement upheavals, pot hole clusters, or other obvious base failures.

b. Patching with Concrete - To maintain a smooth road surface on concrete streets and protect the base, major holes, depressions and utility cuts are patched with Portland cement concrete.

c. Crack Sealing - Open pavement surface cracks are filled with rubber asphalt to seal the surface of the street to prevent water from penetrating and damaging the street base.

d. Resurfacing (Asphalt Overlay) - When surface distress exceeds the ability to correct by spot repair or sealing methods, the entire street is resurfaced from pavement edge to pavement edge or curb to curb. Resurfacing with asphaltic concrete seals the surface against water penetration, fills irregularities, covers polished aggregate and provides a tough, smooth, skid-resistant wearing surface over concrete streets.

4. Oil Gravel Pavement Streets.

a. Patching - Pot holes, depressions and other surface defects on oil gravel surface streets are patched by hand

Surface streets are patched by hand.

b. Chip Sealing - To preserve oil gravel streets and prevent their deterioration, liquid asphalt and cover aggregate are applied. This process corrects minor cracking, raveling, spalling and shallow surface failures and retards further deterioration of the street.

5. Alleys. Alley maintenance is limited to the patching of hazards with like pavement materials (asphalt for asphalt surfaces, concrete for concrete surfaces).

6. Gravel/Graded Streets (no pavement).

a. No maintenance

7. Asphalt Berms. Repair or replace with asphalt concrete where the City Engineer determines that all of the following conditions are met:

a. Damage or removal was effected by City personnel.

b. The berm eliminates or minimizes a drainage problem.

c. Failure to repair or replace the berm places the City at risk from a liability standpoint.

d. Repair or replacement of the berm will not create a hazard to vehicles or pedestrians.

8. Paved Shoulders. One foot outside of the Pavement fog line is maintained using the same methods and materials as previously identified for asphalt, oil-macadam, concrete and oil gravel streets. Where no fog line exists (local streets) the paved surface is maintained to a maximum of 13' for the center line. The City Engineer may determine that it is necessary or logical to deviate from these standards from time to time to conform to existing conditions.

9. Unpaved Gravel Shoulders. - These are only maintained for two purposes:

a. To protect the pavement edge by controlling drainage.

b. To eliminate hazards at the edge of the pavement.

Shoulders selected for maintenance must be located on a street that is maintained by the City and meets at least one of the following conditions:

a. The street has a City maintained drainage ditch alongside the pavement, which collects roadway runoff.

b. The street is an arterial or collector, as defined by the Pavement Management System, and has pavement markings down the middle.

c. Recent paving has left a lip greater than 1" at the pavement edge.

C. Street Pavement Maintenance Priorities:

Priority for street maintenance is given to streets constructed to City standards, specifically those streets described in this policy as asphalt streets, oil-macadam streets and concrete streets. Such streets are of the greatest value to the transportation system and represent the largest initial investment by the abutting property owners and citizens of the City.

Sub-standard streets, such as oil gravel streets, receive a lower maintenance priority due to decreased transportation capacity, lesser value, and little initial investment by the abutting property owner.

Alleys, which provide the least transportation value and capacity receive the lowest pavement maintenance priority.

Unimproved streets (grade/gravel), which represent the most limited transportation value and least initial investment by the abutting property owner, receive no pavement maintenance by the City.

D. Maintenance Need and Specific Street Selection Process:

The City uses a computerized Pavement Management System (PMS) to

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The City uses a computerized pavement management system (PMS) to assist in planning street maintenance. Pavement Management System programs identify maintenance needs, prioritize maintenance projects by type of treatment, and provide lists of needed annual maintenance. The PMS consists of an inventory of all City streets with information on each street's design, past treatment, traffic and current condition. The data base is updated annually based on visual inspection, condition ratings, and physical testing of half of the arterial streets and one-fourth of the local streets. The PMS generates lists of streets requiring chip seal, slurry seal,

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or paving. The Street Maintenance Division distributes the paving list to utilities and other organizations who notify the Bureau regarding their planned construction and repair activities. The Bureau works with the utilities and contractors to insure, to the greatest extent possible, that utility and contract work in the street is completed ahead of paving. In addition, the streets are inspected before the construction season to verify conditions and identify any necessary preparatory work required to be completed during the off season.

HISTORY

Filed for inclusion in PPD December 9, 2003.

Resolution No. 34684 adopted by City Council February 14, 1990.

General information

✉ cityinfo@portlandoregon.gov

📞 [503-823-4000](tel:503-823-4000)

🗉 [711](#) Oregon Relay Service

City of Portland, Oregon



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