

DEFINITIONS

Pavement Distresses Monitored in the Pavement Management System

1. **Rutting** - deformation of a road surface in the wheel paths.
Typically this results in a depression in the wheel paths, although extreme cases can result in a "bulge" in the surface on each side of the wheel paths as well.

It may be the result of failure of the foundation of the road, the asphalt layer(s) or both.

It is typically caused by heavy truck volumes and slow moving or stationary traffic, particularly trucks.
2. **Roughness** - distortion of a road surface that leads to an uncomfortable ride.
This typically results from ongoing freeze/thaw cycles and differential settlements caused by variable soils in the foundation.
3. **Longitudinal Cracking** - cracking of the pavement in the general direction of travel.
This is generally caused by traffic loads, and expansion and contraction of the asphalt surface with temperature changes.
4. **Alligator Cracking** - closely spaced cracks in a road surface that give the surface the appearance of alligator skin.
This is generally caused by failure of the foundation in the road and/or the asphalt layers.
5. **Patching** - sections of the original pavement that have been replaced with new asphalt.
6. **Block Cracking** - a network of cracks that results in large asphalt blocks in the road surface.
This is typically the result of expansion and contraction of the asphalt with temperature changes.

Treatments Available for Pavement Maintenance and Rehabilitation

1. **Crack Sealing** - prevents water and ice damage to the foundation of the road.
2. **Patching** - repairs small areas where the foundation of the road and/or the asphalt has failed or is failing.
3. **Microsurfacing, Chip Sealing and Similar Processes** - provides increased resistance to skidding, restores a road surface which has minor rutting, cracking or deformation, and seals the asphalt surface against water penetration.
4. **Grind and Pave** - restores a smooth road surface and increases skid resistance by removing 50 - 100 mm of the old surface, then placing new asphalt. This is only appropriate for a sound road with few cracks.
5. **Recycling** - restores and improves the structural strength of a road using the existing asphalt and granular materials with new asphalt binder and optional granular materials.
Recycling can be accomplished using several techniques such as cold in-place recycling, hot in-place recycling or full-depth reclamation.
6. **Reconstruction** - restores and improves the structural strength of a road, but uses much more new material - both asphalt and granular material - than recycling technology.