

## **Pavement Preventative Maintenance**

In the Department of Public Works' on-going effort to maintain the Town's infrastructure in a cost effective and efficient manner we are continuously looking for new tools to keep our roads in good condition. Some of the treatments that we currently use include the following.

Crack and Joint Sealing is a preventative maintenance treatment that increases pavement life at a minimal cost by keeping water out of the pavement structure. A road that will benefit from Crack and Joint Sealing is typically in good structural condition but exhibits single, well-defined cracks. A roadway that shows signs of raveling, multiple alligator cracking, or greater structural inefficiencies may require a different surface treatment.

Chip Seal (surface treatment) is a thin preventive maintenance overlay consisting of a heavy spray application of asphalt emulsion followed by a single layer of clean, uniform sized crushed stone. The surface treatment will seal the pavement from intrusion of water and reduce oxidation and weathering of the surface. Pavement skid resistance is also improved with a Chip Seal surface treatment. This type of preventative maintenance (PM) treatment is best suited to roads that are still in fair condition, have reasonably well defined cross sections, and are not high traffic streets. Stone chip sealing will usually improve streets from fair condition to good or even very good condition, and is consistent with modern pavement management goals. The typical stone chip seal is expected to last 4-7 years before needing another application or other form of maintenance.

Full Depth Reclamation (FDR) and Stabilization is a pavement rehabilitation process that pulverizes and reuses the existing pavement and sub-base materials to produce a structurally strong pavement base course. Full Depth Reclamation (FDR) is a process best suited for failed roadways where heavy pot holes, cracking and rutting exist. Even the most severe pavement problems can be solved using Full Depth Reclamation. These roadways deteriorate to a point that conventional maintenance and/or repair and overlay practices become expensive and do not perform well due to the condition of the underlying structure.

Pavement milling (cold planing, asphalt milling, or profiling) is the process of removing at least part of the surface of a paved area such as a road. Milling removes anywhere from just enough thickness to level and smooth the surface to a full depth removal. An asphalt overlay is used after the milling process. An overlay is the paving of a second layer of asphalt over existing asphalt. This is a great alternative to reconstruction because it is considerably less expensive and more convenient than full reconstruction of a road surface.

The success of all of these different treatments is dependent on the condition of the roadway prior to the maintenance. It is very important to apply the PM before the condition of the road deteriorates beyond fair condition to poor or failed condition. The goal of PM treatments is to save money over the long term by postponing the need for costly pavement reconstruction.