



WHERE COMMUNITY AND SPIRIT MEET®

CITY OF KIRKWOOD PAVEMENT PRESERVATION POLICY

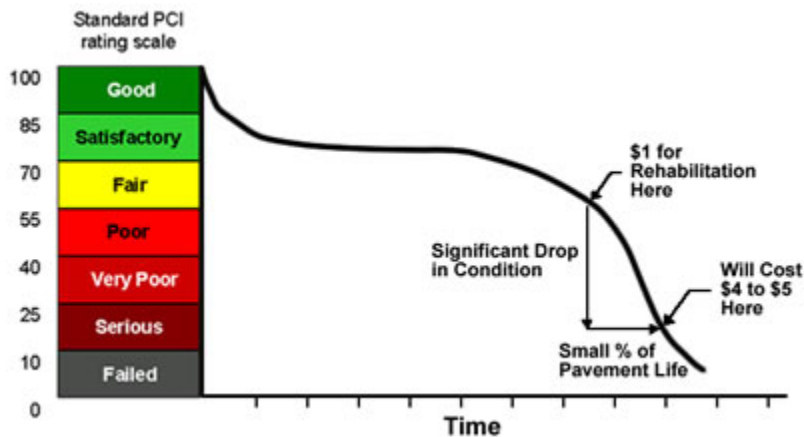
PAVEMENT MANGEMENT

The City of Kirkwood implements pavement management to maintain the City’s streets. Pavement management is the practice of planning for pavement repairs and maintenance with the goal of maximizing the value and life of a pavement network. To accomplish this, the City must implement several pavement preservation techniques.

The City of Kirkwood utilizes Micropaver, a pavement management system (PMS) developed by the USACE, to manage the condition of the city maintained streets. The program uses pavement distress data from field inspections to generate a pavement condition index (PCI™) rating from zero (failed) to 100 (excellent) for each segment inspected. This allows for consistent description of the pavement's condition and for predicting its maintenance and repair needs.

“KEEP THE GOOD STREETS GOOD”

Why does the City practice pavement management? The cost to maintain a pavement increases exponentially as its condition worsens, see the figure below. It is more cost effective to implement pavement preservation techniques while the pavement is in good condition to prolong its service life.



The “old school” method of management is allowing streets to degrade over time, without applying pavement preservation, until they reach a point where they require reconstruction. This is also known as the worst-first method. This method is feasible with an ample budget, but is not economical and not feasible with the City’s budget constraints. A good analogy is car maintenance. You can spend relatively little money on routine car maintenance and your vehicle will last 20 years or more. Or you can choose to not perform routine maintenance and replace the entire vehicle every 5 to 10 years.

PAVEMENT PRESERVATION AND RECONSTRUCTION

The City implements several pavement preservation techniques to “keep the good streets good” while also reconstructing several streets in a poor or failed condition. The City is separated into 5 maintenance districts. Pavement preservation work rotates annually among these districts where the city uses the PCI value, Micropaver program, and engineering judgement to select the appropriate treatment for the streets in that particular district. This allows the City to maintain streets on a regular cycle where all the City’s streets are being assessed every five years.

Streets in need of reconstruction are selected based on score and use citywide. Primary routes are given preference. The City’s street department will perform localized patching and curb repair citywide throughout the year.

Crack Sealing and Filling is the sealing of thermal, structural, and control joint cracking in concrete and asphalt pavements to prevent the infiltration of water and incompressibles. This is utilized as a stand-alone treatment or in conjunction with other preservation techniques on streets typically with a PCI of 55-90.

Microsurfacing is a thin asphalt slurry mixture placed on the surface of the existing road to extend its service life by protecting the asphalt pavement from water infiltration and further oxidation. Microsurfacing is typically applied to asphalt streets with a PCI of 70-85.

Ultrathin Bonded Asphalt Wearing Surface (UBAWS) is a ¾” thick layer of asphalt mix placed on the surface of the existing pavement. It provides structural support as well as protection from water and oxidation. UBAWS is typically applied to asphalt streets with a PCI of 55 to 70.

Mill and Asphalt Overlay is the removal of approximately 2” of the existing asphalt surface and overlay with a new 2” layer of hot mix asphalt. It provides increased structural support and improved driving surface. This is typically applied to streets with a PCI of 40-60 that have an adequate existing pavement thickness.

Concrete Slab Replacement is the removal and replacement of select concrete slabs that have failed on a concrete street with a majority of slabs in good condition. This work is typically performed on concrete streets with a PCI of 55-90.

Street Reconstruction is the complete removal and replacement of the existing pavement, base, curbs, and ADA curb ramps. Sometimes it is necessary to remove some or all driveways along the street to accommodate grade changes or construction methods. At this time new sidewalks may be added where currently none exist as called for in the Kirkwood Pedestrian and Bicycle Plan. This work is typically performed on streets with a PCI of 0-45.

PAVEMENT PRESERVATION SCHEDULE

Below is the annual schedule for pavement preservation. Street reconstructions will be performed city wide based on PCI value and use. The City’s street department performs localized patching and curb repair citywide throughout the year.

- 2016 – East District
- 2017 – South District
- 2018 – West District
- 2019 – North West District
- 2020 – North East District

