

Town of Munster

Pavement Management Plan

Performance Goals and Expected Level of Service

Munster desires to provide its citizens and other roadway network users with the highest level of service possible, working within the budgets available for road repairs and reconstruction. To that end, the Town uses PASER (Pavement Surface Evaluation and Rating) to rate pavements according to the following scale:

<u>PASER Rating</u>	<u>Roadway Condition</u>
9-10	Excellent
8	Very Good
6-7	Good
4-5	Fair
2-3	Very Poor
0-1	Failed

PASER ratings are used to help prioritize pavement improvement projects.

Collectively Munster's roadways have an average PASER rating of 5. According to PASER, this rating indicates that the roads are generally in fair condition. Munster's roadway performance goals for this five year cycle are:

1. Evaluate alternative pavement restorative methods to stretch budgets while increasing roadway ratings.
2. Continue to proactively crack seal pavements with ratings of 5 or better to maintain their condition and extend their life.
3. Increase average roadway PASER Rating to 6 (Good Condition), with no roadway having a rating less than 4 (Fair Condition).
4. Capitalize on opportunities to supplement local budgets with grant funding.
5. Create and implement a five year capital plan to meet these goals.

Method of Evaluation

The road inventory was created by breaking the roads into segments using the following criteria:

1. From intersection to intersection
2. Where the width of the road or number of lanes changed
3. Where the material type of the road changed

The lengths of the road segments were determined from GIS data. Widths of the road segments were measured in the field.

The Town of Munster hired SEH of Indiana, LLC (SEH) to perform the data collection for rating the roadways in the Town's system. SEH's team was supplemented with employees of ATC Associates;

geotechnical and materials engineers. The initial ratings were completed in 2018 using four two-person teams over the course of approximately ten days.

SEH used a GIS collection system to collect roadway data and record ratings based on the PASER System. SEH rated the roadways from intersection to intersection for each roadway in the Town. These ratings were provided based on a representative section of each pavement segment. A photograph was also collected to provide backup for each representative pavement segment. During the field collection, SEH had the ability to collect location points for significant potholes, non-compliant ADA curb ramps, and other features that were unique to the project. Prior to beginning the field collection exercise, all field crew members attended an Indiana Local Technical Assistance Program (LTAP) PASER System training seminar.

The PASER System is a visual based rating system. There are different rating criteria for different roadway surfaces including asphalt, concrete, gravel and sealcoat/chip and seal. Asphalt, concrete, and sealcoat are rated from 1-10, with 10 being brand new construction. Munster's roadways were rated entirely based on the Asphalt 1-10 system.

[Updating PASER Ratings](#)

As required for INDOT's Community Crossing Matching Grant program, all roadways within the Town of Munster must be reevaluated once every two years. In the spring of 2022, one two-man crew from Munster Public Works completed the assessment of roadway conditions. This assessment was evaluated and spot checked by the Superintendent of Public Works and SEH to ensure the new ratings were accurate.

[Treatment Plan Development](#)

The treatment plan is divided into three general categories: maintenance, rehabilitation, and reconstruction. These proposed treatments are applied to roads based on their PASER rating and are described below.

[Maintenance](#)

Crack seal - Crack seal is the method of filling and sealing cracks within the pavement. This type of work applies to roadways with a PASER rating of 7 but are beginning to crack. This would apply to both existing chip and seal and HMA surface types.

Full Width Slurry Seal - Slurry seal is an asphalt emulsion mixed with fine aggregate that is uniformly applied to roadways with a PASER rating in the range of 5-6. This work replaces missing fine aggregate in existing surfaces, fills in minor cracks and increases skid resistance.

Microseal - Also known as Micro Resurfacing is an application of a polymer modified asphalt emulsion mixed with small to fine aggregate that is uniformly applied to roadways with a PASER rating in the range of 5-6. The polymer allows the material to stack on itself resulting in a thin smooth asphalt overlay.

[Rehabilitation](#)

2" Mill and HMA Resurface - This work consists of milling the existing pavement 2" and paving with equivalent lift of Hot Mix Asphalt (HMA) surface. This type of work is applied to existing

HMA roadways with a PASER rating of 5. This method could also include partial and full depth asphalt patches as needed in areas of base failure.

Structural HMA Resurface – This work consists of milling the existing HMA pavement a depth of 3”-4” and paving with an intermediate course of HMA followed by 1.5” of HMA surface mix. This type of work is applied to HMA roadways with a PASER rating of 3-4.

Reconstruction

HMA Replacement - This type of work is applied to HMA roadways with a PASER rating of 0-2. This process focuses on drastically improving the entire road section to total pavement failure. The method for reconstruction is specific to each project but generally consists of the removal of or reclaiming of the existing asphalt and base materials. If full depth reclamation is utilized, the base is then strengthened through the addition of new high-quality aggregate and may be chemically modified using calcium chloride and lime hardening.

The roadway inventory will be used to develop and update a 5-year plan for roadway improvements. Munster plans to utilize CCMG funds for paving over the 5-year planning period, with two paving projects per year. One project will focus on streets requiring rehabilitation (mill and overlay). The other project will include streets requiring full roadway reconstruction. Pavement patching will be performed each year to improve street sections in poor condition. Crack sealing will continue each year to preserve pavements in good and fair condition.

Monitoring Program and Plan Updates

Because GIS was used for data collection, Munster will be able to update data for streets and their ratings following the completion of a construction projects and repairs. Munster employs a dedicated GIS staffer, who will be able to maintain the data when improvements are made each year. Munster public works staff will also perform PASER evaluation of the entire roadway system every two years.

The 5 Year Road Treatment Summary will be updated yearly to reflect current and projected budgetary conditions.

Drainage and Right of Way Conditions

During the data collection, field staff conducted a brief visual inspection of the drainage and right of way conditions on the Town’s roadways. Each roadway was marked by the type of roadway drainage (curb and gutter, swale, etc.) and the condition of the surface drainage system. Catch basins and manholes were not inspected, unless there was a visual issue. On roadways where these issues were present, a note was made in the comments section of the GIS application. Drainage systems and rights of way will continue to be evaluated as the resurfacing and reconstruction schedule is developed.

When a street is selected for rehabilitation or reconstruction, an inspection is made of the storm sewer structures within the roadway. Repairs are identified and addressed either by Public Works crews or through the construction contract. Curb sections are identified for replacement to promote positive drainage.