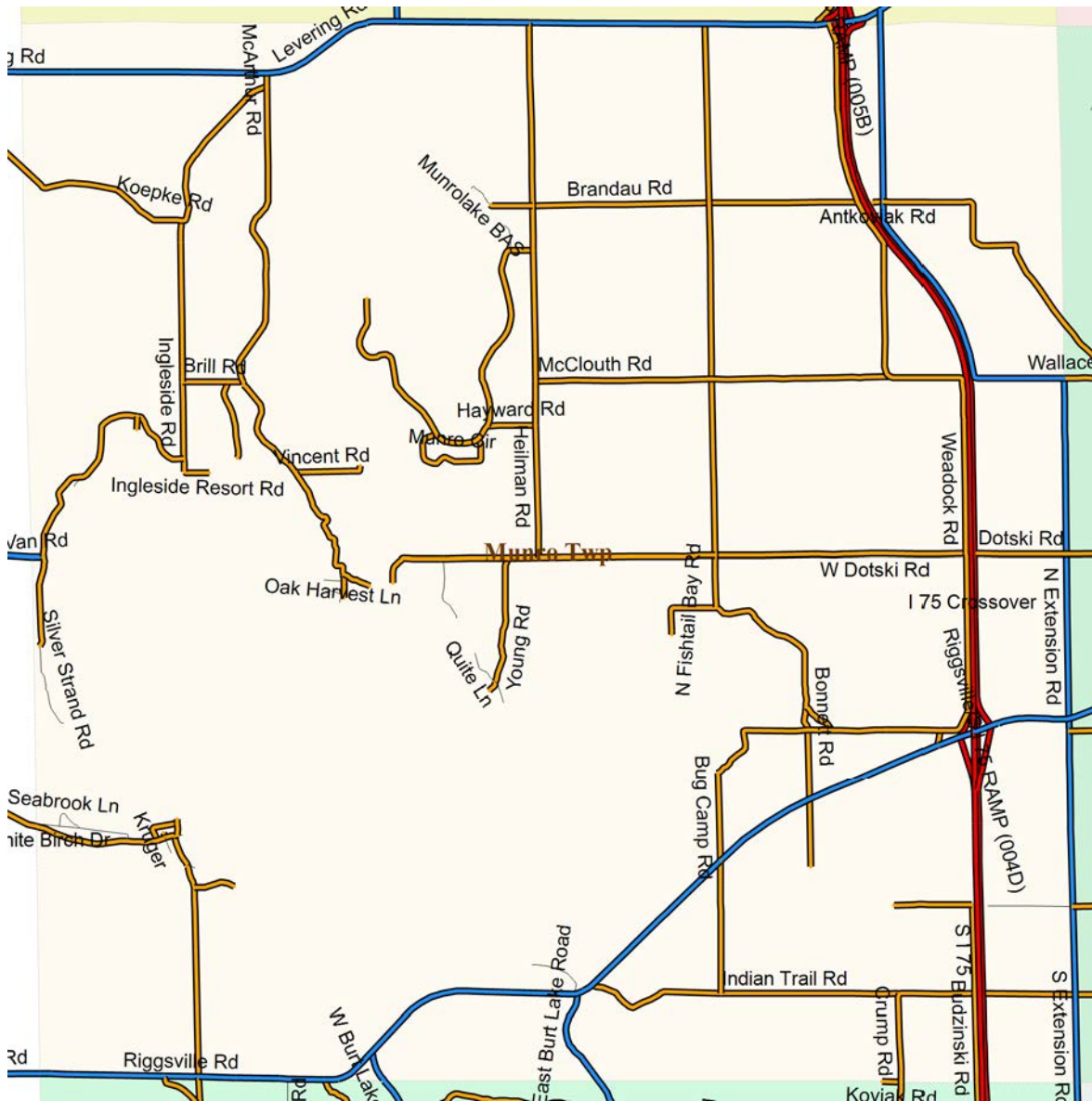


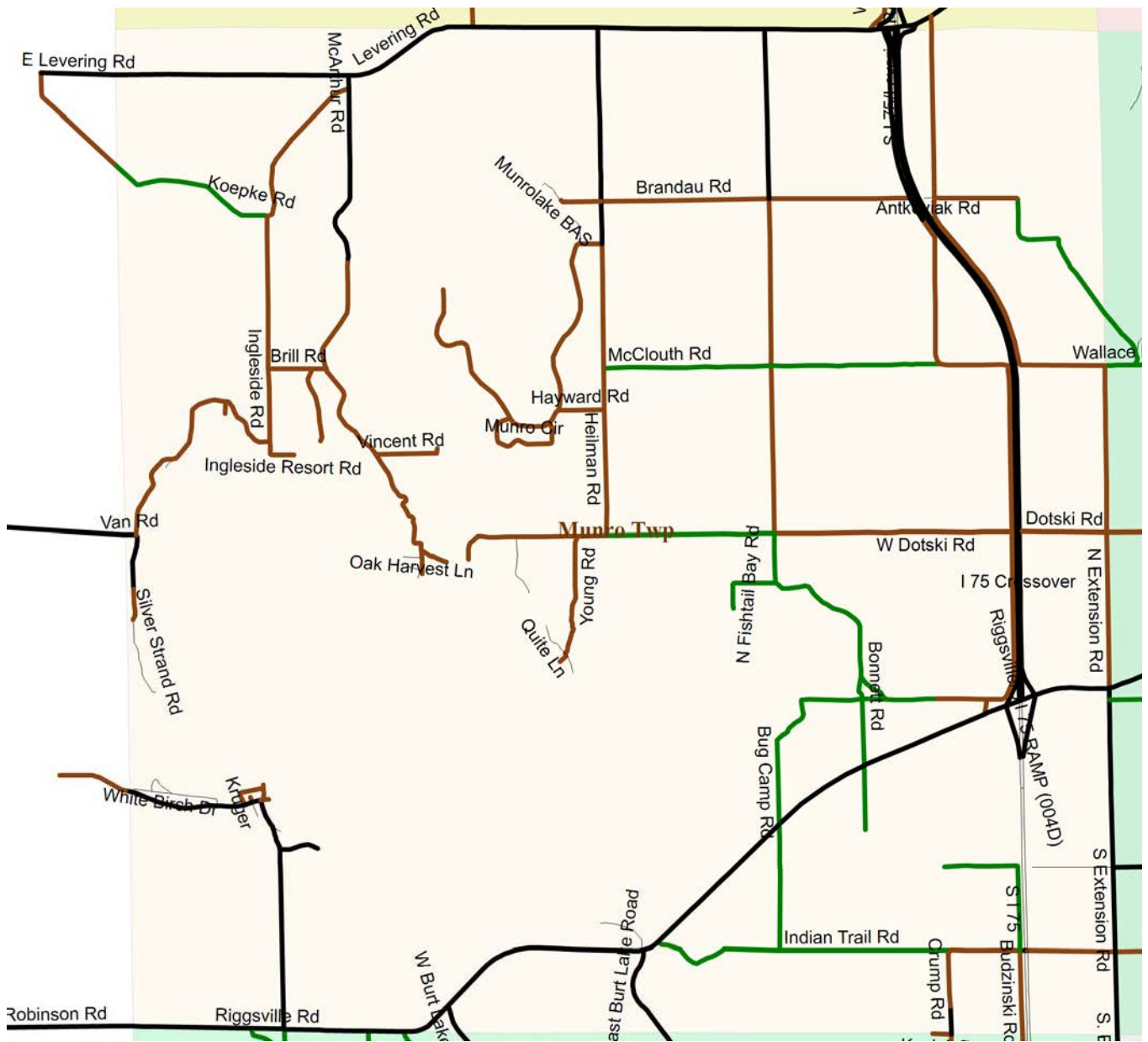
Cheboygan County Road Commission
Munro Township Local Road Ratings Report for 2020

The goal of the Road Commission is to use Asset Management Strategies when planning projects for the roads under the jurisdiction of the Cheboygan County Road Commission. Asset management, as defined by Public Act 199 of 2007, is an “ongoing process of maintaining, upgrading and operating physical assets cost-effectively, based on a continuous physical inventory and condition assessment. Using asset management will allow the Road Commission and Township to invest the available road funds in a manner that will provide the greatest return.



Township Roads by Legal System

Red = State Highways – Blue = County Primary Roads – Orange = County Local Roads



Roads by Surface Type

Black = Pavement – Brown = Gravel – Green = Seasonal

PASER Road Rating System

All the local paved roads are rated each year using the PASER Road Rating system in the Township (seasonal roads are not included). PASER, or Pavement Surface Evaluation and Rating, is the rating system that is used in collecting data for RoadSoft. The roads are rated on a scale of 1 to 10 according to surface conditions of the pavement. The tables below show the rating and the suggested maintenance that would be required to preserve the road along with an estimated cost of repair.

PASER Rating and Treatments for Paved Roads

| Road Rating | Recommended Repair | Estimated Cost per Mile |
|-------------|--|-------------------------|
| 10 | No maintenance necessary. New Road | \$ 0 |
| 9 | No Maintenance necessary. Smooth Surface. | \$ 0 |
| 8 | Minor Crack Sealing | \$ 600 |
| 7 | General Crack Sealing and/or Minor Patching | \$ 3,200 |
| 6 | Patching and Sealcoat | \$ 29,000 |
| | Ultra-thin Asphalt Overlay | \$ 63,000 |
| 5 | Asphalt Wedging | \$ 47,000 |
| | Asphalt Wedging and Sealcoat | \$ 75,000 |
| | Asphalt Wedging and Ultra-thin Asphalt Overlay | \$ 106,000 |
| 4 | Asphalt Wedging and Overlay | \$ 142,000 |
| 3 | Pulverize, gravel and pave | \$ 240,000 |
| 2 | Reconstruction. | \$ 350,000 |
| 1 | Reconstruction. Failed Road. | \$ 350,000 |

Gravel roads are rated using the Inventory-Based Rating System™ for Gravel Roads (IBR). The IBR system considers three characteristics of a road segment to determine a rating for the segment. Surface width, drainage adequacy and structural adequacy are all evaluated to determine the segment rating. From this evaluation a rating of 1 to 10 is calculated.

IBR Rating and Treatments for Gravel Roads

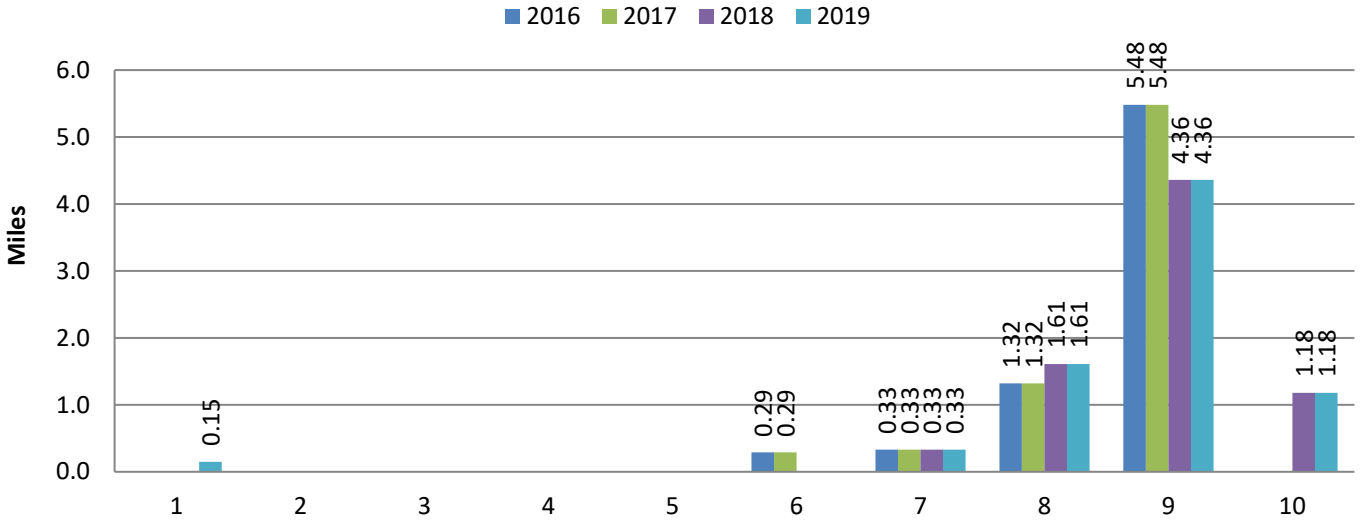
| Road Rating | Existing Condition / Recommended Repair | Estimated Cost per Mile |
|-------------|--|-------------------------|
| 10 | No maintenance necessary. New Road | \$ 0 |
| 8 – 9 | Good crown and drainage throughout. Adequate gravel for traffic. Maintain with grading and dust control. | \$ 500 |
| 6 - 7 | Existing crown with drainage on 50% or more of roadway. Additional gravel needed in some areas along with ditching. | \$ 55,000 |
| 3 - 5 | Little or no crown. Ditched on less than 50% of the road. Additional gravel needed on entire road along with ditching. | \$ 95,000 |
| 1 - 2 | Failed road. Reconstruction. | \$ 250,000 |

Munro Township Paved Local Road Ratings

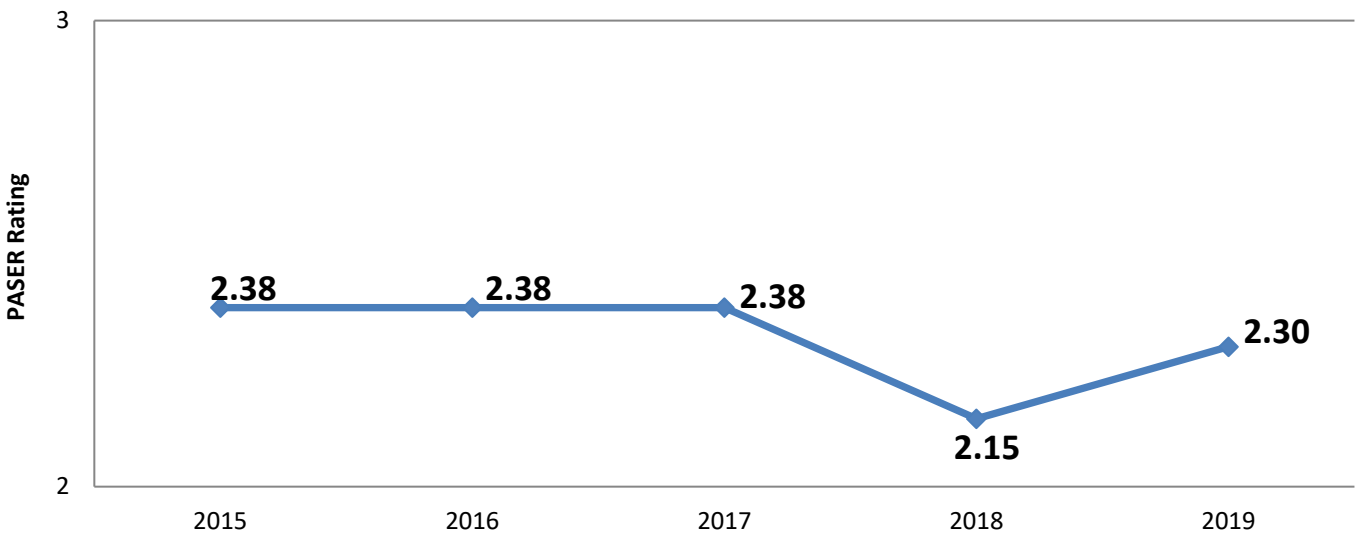
Current Road Ratings

| PASER Rating | Road Name | Limits | Length (miles) |
|--------------|--|--|--|
| 10 | Crump Road | Koviak Road to end of pavement. | 0.15 |
| 9 | | | |
| 8 | | | |
| 7 | | | |
| 6 | | | |
| 5 | | | |
| 4 | Silver Strand Road | Van Road then south to end of pavement. | 0.33 |
| 3 | Douglass Lake Road Heilman Road | White Birch Drive to Bryant Road. Munro Lake Road to Levering Road. | 0.32 1.29 |
| 2 | Bonnett Road Bryant Road Douglass Lake Road McArthur Road Northwood Shores Drive Van Road | Brandau Road to Levering Road. Riggsville Road to Douglass Lake Road. County Line to White Birch Drive. Levering Road then south to end of pavement. Bryant Road to end of road. County Line to Silver Strand Road. | 1.01 1.38 0.52 1.14 0.25 0.06 |
| 1 | Weadock Road | Levering Road then south to end of pavement. | 1.18 |

2016 - 2019 PASER Ratings for Paved Local Roads



Average PASER Rating for Paved Local Roads

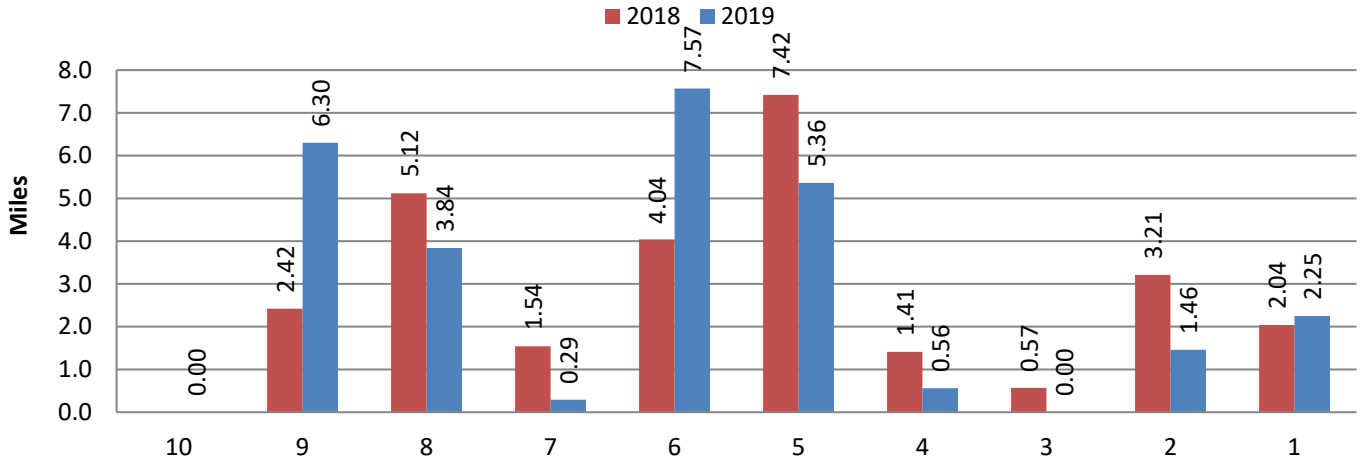


Munro Township Gravel Local Road Ratings

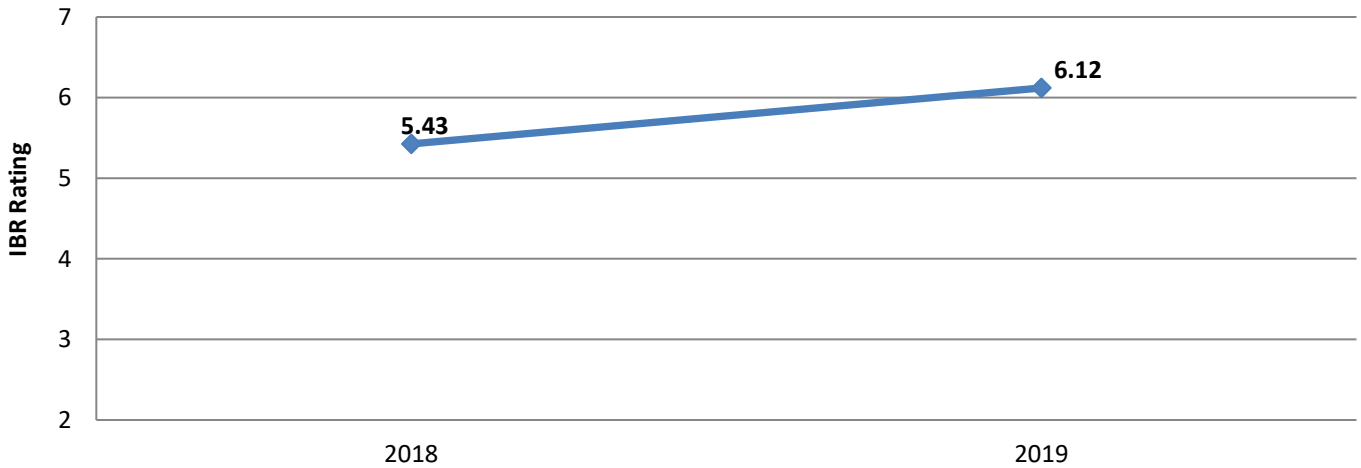
Current Road Ratings

| IBR Rating | Road Name | Limits | Length (miles) |
|------------|--|---|--|
| 10 | | | |
| 9 | Brill Road Heilman Road Ingleside Road Silver Strand Road Weadock Road | Ingleside Road to McArthur Road. McClouth Road to Munro Lake Road. Silver Strand Road to Koepke Road. Van Road to Ingleside Road. Riggsville Road to McClouth Road. | 0.35 0.75 1.35 1.43 2.42 |
| 8 | Bradnau Road Budzinski Road Crump Road Heilman Road Indian Trail Road McArthur Road | Bonnett Road to Weadock Road. Township Line to Indian Trail. End of pavement to Indian Trail Road. Dotski Road to McClouth Road. Crump Road to I-75. Vincent Road to Brill Road. | 0.85 0.50 0.35 1.00 0.42 0.72 |
| 7 | Koviak Road Silver Strand Road | Crump Road then west to end of road. End of pavement then south to end of road. | 0.11 0.18 |
| 6 | Bonnett Road Brandau Road Dotski Road Douglass Lake Road Indian Trail Road Ingleside Road McArthur Road Munro Circle West Munro Lake Drive | Dotski Road to Brandau Road. Heilman Road to Bonnett Road. Bonnett Road to Weadock Road. Bryant Road to Douglass Lake. I-75 to South Extension Road. Silver Strand Road then south to end of road. Brill Road to pavement. Munro Lake Road to Munro Lake Road. Hayward Road to Munro Circle. | 2.01 1.00 1.43 0.05 0.50 0.30 0.23 0.72 1.33 |
| 5 | Antkoviak Road Dotski Road Koepke Road East Munro Lake Road West Munro Lake Drive Reinhardt Road Vincent Road Weadock Road | North Extension Road then east to seasonal road. Heilman Road to Young Road. Ingleside Road to McArthur Road. Hayward Road to Heilman Road. Hayward Road north and west to end of road. Brill Road then south to end of road. McArthur Road the east to end of road. McClouth Road then north to pavement. | 0.50 0.17 1.00 0.64 1.27 0.45 0.39 0.94 |
| 4 | Hayward Road Jarmen Road | Munro Lake Road to Heilman Road. Weadock Road then west to seasonal road. | 0.27 0.29 |
| 3 | | | |
| 2 | Dotski Road Kruger Drive McArthur Road Morning Tide Drive | North Extension Road then west to end of road. Douglass Lake Road then north to end of road. South to end of road to Vincent Road. McArthur Road then east to end of road. | 0.51 0.03 0.74 0.18 |
| 1 | Brandau Road Dotski Road South Pells Island Drive Pells Islandview Drive Wilson Road Young Road | Heilman Road then west to end of road. Young Road to end of road. Bryant Road then north to Douglass Lake. Douglass Lake Road to South Pells Island Drive. Silver Strand Road then south to end of road. Dotski Road then south to end of road. | 0.24 0.75 0.09 0.32 0.07 0.78 |

2018 - 2019 IBR Ratings for Gravel Local Roads



Average IBR Rating for Gravel Local Roads



Service Life of Treatments

Service life is the expected time that a treatment will last before needing complete reconstruction. In the table below, an expected service life for a particular treatment is listed. Before a treatment reaches the expected service life, preventative maintenance should be performed. Preventative maintenance will extend the expected service life of the pavement and treatment.

Service Life of Treatments for Paved Roads

| Road Rating | Recommended Repair | Expected Service Life (years) |
|-------------|--|-------------------------------|
| 8 | Minor Crack Sealing | 5 |
| 7 | General Crack Sealing and/or Minor Patching | 5 |
| 6 | Patching and Sealcoat | 7 |
| | Ultra-thin Asphalt Overlay | 7 – 10 |
| 5 | Asphalt Wedging | 7 |
| | Asphalt Wedging and Sealcoat | 7 – 10 |
| | Asphalt Wedging and Ultra-thin Asphalt Overlay | 10 |
| 4 | Asphalt Wedging and Overlay | 12 – 15 |
| 3 | Pulverize, gravel and pave | 15 – 25 |
| 2 | Reconstruction. | 25 - 30 |
| 1 | Reconstruction. Failed Road. | 25 - 30 |

For example, if a road has a PASER rating of 6, a treatment of a ultra-thin asphalt overlay is recommended (see the Table titled PASER Ratings and Treatment on page 1). The expected service life for an ultra-thin asphalt overlay is 7-10 years. Preventative maintenance in the form of crack sealing may be required after 2 years.

Expected service life may be shorter if the road is on poor soils that are not addressed as part of the treatment. If a project is selected that is not the recommended treatment, the service life listed in the table above will be shorter and preventative maintenance will need to be performed sooner.

Service Life for a gravel road is difficult to predict. Gravel road conditions can change rapidly based on weather, grading and traffic effects on the roads.