

MINUTES
EMMET COUNTY ROAD COMMISSION
HARBOR SPRINGS, MICHIGAN

The Emmet County Board of Road Commissioners met in special session at the offices in Harbor Springs on January 25, 2021, for the purposes of discussing road issues with township officials from Resort, Bear Creek, West Traverse, and Little Traverse Township.

Commissioners Present: Frank Zulski, Robert Notestine, and Wade Williams

Staff Present: Brian Gutowski – Engineer-Manager, Shawn Beckman – Project Manager, James Godzik-Permit/CADD Tech, John Gray - Road Foreman, and Lisa Kleeman - Finance Director/Clerk of the Board.

Guests Present:

David White, Emmet County Commissioner

Resort Township:

Supervisor – Robert Wheaton

Treasurer – Suzanne Coveyou

Trustee – Paul Schemanski

Trustee – Holly Angileri

Bear Creek Township:

Supervisor – Dennis Keiser

Clerk – Emma Kendziorski

Trustee – Joe Hoffman

Trustee – Tom Urman

West Traverse Township:

Supervisor – Jim Bartlett

Clerk – Cindy Baiardi

Treasurer – Kristi Hollingsworth

Trustee – Annie Mooradian

Trustee – Dave Green

Little Traverse Township:

Supervisor – William Dohm

Clerk – Sherry Duntley

Treasurer – Connie Shepherd-O'Neill

Trustee – Ken Garver

Trustee – Joe Chattaway

Chairman Zulski called the meeting to order at 6:00 p.m. and welcomed the Resort Township officials to the meeting. He gave opening comments that consisted of an overview of current financial conditions along with plans for road projects and equipment.

Gutowksi reviewed the asset management concept and how the Paser Rating System is used in Emmet County. He explained current ratings on primary and local roads along with a history from the beginning of the millage funding; showing trends and discussing future plans for improvements. He presented Resort Township's Local Road 2021 Paser Ratings, explaining the logic behind the numerical definition for each rating and required funding per lane mile for specific maintenance and fixes.

The average local road rating for Resort Township is 6.58 down from 6.93 last year. Gutowski went on to show where Resort Township ranks amongst the rest of the 16 townships. The township's local roads are currently rated at 60% good, 31% fair, and 9% poor condition.

Gutowski presented 2021 suggested repairs funded by Resort Township for a total of \$1,180,700. Crack sealing in the amount of \$7,263 is planned by the Road Commission for 2.69 miles on Cemetery, Martinchek, and Sterzik. He recommends ultra-thin asphalt, paid with local funds, be applied to Camp Daggett, Deere, Hillcrest, Indian Garden, Skyview, and Townsend for about \$380,700 on 4.23 miles. Eppler Road is suggested for a total reconstruction for 1.50 miles at an approximate cost of \$800,000.

Wheaton discussed Old 31 and the complaints he is receiving on this road as well as Cherry Lane regarding a turnaround. Gutowski and Gray expressed concern on Cherry Lane regarding springs.

Gutowski answered a question on the average cost for road reconstruction for Schemanski, specifically on Eppler Road. Schemanski then inquired on road ratings, factors with the 5-year plan, and the true cost of road projects. Gutowski stressed each individual road will deteriorate based on several factors and road ratings are adjusted annually to address actual changes.

Wheaton inquired if Gutowski anticipates any labor strikes, materials shortages, etc. in the coming year and he responded he does not at this time. Wheaton asked if there are enough contractors for the amount of work that needs to be accomplished and Gutowski responded he believes contractors from out of area will bid on the Eppler Road project; these bids are due February 16, 2021.

With no further business, the Resort Township officials left the meeting at 6:24 p.m.

Chairman Zulski welcomed Bear Creek Township officials at 6:30 p.m. He gave an overview of current financial conditions along with plans for road projects and equipment.

Gutowski reviewed the asset management concept and how the Paser Rating System is used in Emmet County. He explained current ratings on primary and local roads along with a history from the beginning of the millage funding; showing trends and discussing future plans for improvements. He then

presented Bear Creek Township's Local Road 2021 Paser Ratings, explained the logic behind the numerical definition for each rating and required funding per lane mile for specific maintenance or fixes.

The average local road rating for Bear Creek Township is 7.56 down from 7.63 last year. Gutowski went on to show where Bear Creek ranks amongst the rest of the 16 townships. The township's local roads are currently rated at 86% good, 10% fair, and 4% poor condition.

Gutowski presented 2021 suggested repairs for Bear Creek Township in the amount of \$800,300. The Road Commission plans to provide approximately \$15,066 for crack sealing on 5.58 miles. Proposed ultra-thin township projects are Click, Gruler, Jones Landing and Kolinske for approximately \$321,300 on 3.57 miles. Reconstruction projects on Bellmer, Country Club, and Rustic for 2.22 miles for approximately \$319,000. He also suggested a gravel upgrade and paving on Mindell Road for \$160,000.

Keiser inquired on Rustic Road's estimate. Gutowski stated the costs are based on average costs and engineer's estimate, but he will know more when the bids come in. Keiser also asked about the culvert replacement on Evergreen Trail and if the road commission would be willing to assist with this. He also inquired on the status of the Atkin's Road fix to which Gutowski answered he is planning to place an asphalt cap on this area early in the construction season, preferably before June 1. The unpaid balance on this project was discussed by Keiser and his understanding on what needed to be accomplished and Beckman explained how the balance occurred and gave more information on the correct fix.

Gutowski discussed the Country Club Road project over Cedar Creek. The bid is out and a public hearing is scheduled for March 5, 2021. He has permission to begin this project and expects this aluminum box culvert to be completed in June right after the road project is completed.

Urman inquired about the McDougal Road Bridge project that will replace culverts. Gutowski relayed Tip of the Mitt paid for a timber bridge design but it is estimated aluminum beams may offer a significant cost savings. There was much discussion over the road near these culverts and what could be done to improve this area. Keiser discussed this project because it is a primary road and there was potential federal funding, but it fell through due to Covid. Keiser would like to have this project ready to go in case more funding becomes available. Gutowski discussed the Bear River Water Trail meeting; Tip of the Mitt's next priorities are McDougal and Evergreen, choosing one for a possible project for 2023. Gray will look at this area to see if some paving can be done by our crew to improve this area. Gutowski stated the width of the road will need to be addressed, with widening in some spots.

With no further business, the Bear Creek officials left the meeting at 6:59 p.m.

Chairman Zulski welcomed West Traverse Township officials to the meeting at 7:00 p.m. He gave an overview of current financial conditions along with plans for road projects and equipment.

Gutowski reviewed the asset management concept and how the Paser Rating System is used in Emmet County. He explained current ratings on primary and local roads along with a history from the beginning

of the millage funding; showing trends and discussing future plans for improvements. He then presented West Traverse Township's Local Road 2021 Paser Ratings, explained the logic behind the numerical definition for each rating and required funding per lane mile for specific maintenance or fixes.

The average local road rating for West Traverse Township is 7.53, down from 7.87 last year. Gutowski went on to show West Traverse ranks the highest amongst the rest of the 16 townships. The township's local roads are currently rated at 82% good, 18% fair, and 0% poor condition.

Gutowski presented 2021 suggested repairs for West Traverse Township in the amount of \$367,650 for ultra-thins on 4.82 miles. The Road Commission plans on \$11,664 for crack sealing on 4.32 miles.

Bartlett commented on the Lake Road project quote and asked if the road commission would fund this road. Gutowski stated Lake Road would not be a project the agency could afford to fix due to many other primary roads that would be priority.

Baiardi inquired about Middle Road and stated this road was in the same poor condition as Lake Road. Gutowski discussed the asphalt history on Middle Road, his rating, and suggested resurfacing options.

Mooradian asked about Quick Road; addressing the condition of the road, stating how busy this intersection is, and asking what the plan is. Gutowski again relayed the shortage of funds over the past three years versus what was promised, as well as the impact of the great recession. He also commented the Biden administration may have a plan for work on infrastructure. Gutowski will look at this with the Road Foreman to see if anything can be done in this area.

Green asked how the \$1 million loan for equipment will benefit the roads in West Traverse Township to which Zuluski replied that even less road repair would get done if the loan was not obtained. Gutowski discussed the cost to maintain old equipment and freeing up funds for maintenance costs.

Bartlett inquired about allocation and Gutowski confirmed they have \$31,500. Bartlett also asked Gutowski to get a bid out for Hughston and will do Lacount Road if Friendship Township agrees.

With no further business, the West Traverse officials left the meeting at 7:25 p.m.

Chairman Zuluski welcomed Little Traverse Township officials to the meeting at 7:30 p.m. He gave an overview of current financial conditions along with plans for road projects and equipment.

Gutowski reviewed the asset management concept and how the Paser Rating System is used in Emmet County. He explained the current ratings on primary and local roads along with a history from the beginning of the millage funding; showing trends and discussing future plans for improvements. He then presented Little Traverse Township's Local Road 2021 Paser Ratings, explained the logic behind the numerical definition of each rating and required funding per lane mile for specific maintenance or fixes.

The average local road rating for Little Traverse Township is 7.43, up from 7.23 last year. Gutowski went on to show where Little Traverse ranks amongst the rest of the 16 townships. The township's local roads are currently rated at 75% good, 24% fair, and 1% poor condition.

Gutowski presented 2021 suggested repairs funded by Little Traverse Township totaling \$445,150. The road commission plans crack sealing on 2.43 miles. He suggests ultra-thins on 5.02 miles for \$378,450 and reconstruction of Catob Road for .23 miles for approximately \$66,700.

Beckman gave details on Hedrick Road and the best fix, widening it in some areas to provide for better and safer maintenance. Gutowski discussed cold in-place recycling would not be a good treatment.

Dohm asked if they spent \$770,298, what would the rating be on all the local roads, Gutowski responded a nine if they were resurfaced. He would like estimates on the two they asked for and he would like to focus on primary roads as Hathaway is going down hill, especially in front of the road commission. West Hathaway is also needing work done on it even though the BIA paid to have this repaired a few years ago. Dohm inquired on East Hathaway in front of the road commission. Gutowski responded it has a good base but it needs an asphalt cap. Dohm requested a traffic count on East Hathaway and Gutowski responded with 2,837 versus Pleasantview at 7,198. Depending on the estimates they get on the requested projects, they will probably have money left over, but they can't spend a lot of money on primaries. Gutowski reviewed again the shortage of funds the past few years versus what had been promised by the state. Dohm stated public perception on the roads is important for support and West Conway is not what it should be.

Dohm also discussed his disappointment with West Conway's chip seal treatment and his dissatisfaction with the performance. He also asked about the section of West Conway from the highway to Heyday street that was supposed to be chip sealed, Gutowski said MDOT made an error and it will be capped in 2023 when they pave US 31.

Dohm complimented Road Foreman Gray and the miracles he performed on Beach Drive and he appreciates him and what he does as he is always very responsive when he calls him.

Zulski thanked Little Traverse Township for working with us and discussed the number of roads that need to be fixed, the funding required, and having shovel ready projects in case the Biden administration has funding available.

With no further business, Chairman Zulski adjourned the meeting at 7:55 p.m.



Lisa Kleeman – Finance Director/Clerk of the Board



Date

2021 RESORT TOWNSHIP 5-YEAR ROAD PRIORITY LIST

December 2, 2020

PASER ROAD RATING SYSTEM

| ROAD RATING | SUGGESTED REPAIR | COST PER MILE |
|----------------|--|---|
| 10 | No maintenance necessary. New Road. | \$ 0 |
| 9 | No maintenance necessary. Smooth surface. | \$ 0 |
| 8 | Crack filling or shoulder patching. | \$ 700 |
| 7 | General crack sealing and/or minor patching. | \$ 2,700 |
| 6 | Patching and sealcoat Micro-surface Ultra-Thin Asphalt | \$ 27,000 or \$ 35,000 or \$ 90,000 |
| 5 | Asphalt wedging only Asphalt wedging and sealcoat Asphalt wedging and ultra-thin asphalt 1-1/2" Asphalt Cap | \$ 55,000 or \$ 82,000 or \$ 145,000 or \$ 105,000 |
| 4 | Asphalt wedge and cap or heavy cap. | \$ 160,000 |
| 3 | Pulverize, gravel and pave. Surface poor. Cold-in-Place with ultra-thin | \$ 290,000 \$ 240,000 |
| 2 | Reconstruction. Very poor condition. | \$ 360,000 +/- |
| 1 | Reconstruction. Failed road surface. | \$ 360,000 +/- |

RESORT TOWNSHIP

Resort Township has not assessed the 1 Mil approved by the voters for road improvements. The township has spent around \$600,000 per year in the past. Resort spent the allocation in 2020. The 2021 allocation amount for each township is \$15,491. Resort only spent \$109,000 in 2020, therefore they have \$1.1 million available in 2021, plus the allocation.

TOTAL 2021 AVAILABLE ROAD INVESTMENT = \$1,115,000

TOTAL 5-YEAR ROAD EXPENSE - \$3,560,000

CATEGORIZATION OF HARD-SURFACED ROADS IN RESORT TOWNSHIP

PASER

| RATING | ROAD NAME | LIMITS |
|--------|---|---|
| 10 | None | - |
| 9 | Kalchik Road Martinchek Road Parkview Drive Resort Pike Road | From Blackbird then west for 0.28 miles From Townline to Horton Bay for 0.99 miles From U.S.31 then south for 0.03 miles From Intertown to U.S.31 for 1.77 miles |
| 8 | Blackbird Road Blackbird Road Cemetery Road Depew Road Eppler Road Hemlock Lane Horton Bay Road | From U.S.31 then south for 0.93 miles From Lake Grove to Intertown for 2.48 miles From Intertown to Hillcrest for 1.18 miles From Lake Grove to Resort Pike for 0.54 miles From U.S.31 to Sheridan for 0.38 miles From Resort Pike then east for 0.66 miles From Charl. Co. then north for 1.43 miles |

| | | |
|---|--|--|
| | Indian Garden Road Intertown Road Kiebel Road Kilarney Shores Lake Grove Road Mason Road Old U.S.31 Old U.S.31 Resort Pike Road School Road School Road Sheridan Road Sterzik Road Tor Lane Townline Road Townsend Road | From Resort Pike to Kilarney Shores for 3.47 miles From Resort Pike to Blackbird for 0.50 miles From Townsend to Lake Grove for 0.50 miles From Indian Garden then east and north for 0.55 miles From Resort Pike to U.S.31 for 6.55 miles From U.S.31 then south for 0.24 miles From Townsend then west for 0.22 miles From U.S. 31 then southeast for 0.23 miles From Morford to Intertown for 2.48 miles From Resort Pike to Blackbird for 0.51 miles From Blackbird then west for 0.37 miles From Eppler to Cemetery for 0.49 miles From 0.37 mi. west of Resort Pike then west for 0.33 miles From Eppler then west for 0.22 miles From Martinchek then south for 0.63 miles From Walloon Lake to Manthei for 1.20 miles |
| 7 | Cemetery Road Cemetery Road Martinchek Road Sterzik Road | From Williams to Intertown for 0.99 miles From Hillcrest to Sheridan for 0.32 miles From Horton Bay to Camp Daggett for 0.89 miles From Resort Pike to Eppler for 0.49 miles |
| 6 | Camp Daggett Road Country Lane Deere Drive Hillcrest Road Indian Garden Road Mini Drive Old U.S.31 Parkview Drive Resort Pike Road Skyview Street Sterzik Road Stolt Road Townsend Road Woodland Drive | From Stolt to U.S.31 for 1.67 mile From Parkview to Parkview for 0.39 miles From Williams to Resort Pike for 0.69 miles From Vantage View to Vantage View for 0.25 miles From Resort Pike to Kilarney Shores for 0.60 miles From Parkview to Country for 0.15 miles From Camp Daggett then east for 0.75 miles From Mini to Blackbird for 0.18 miles From Lake Grove to Morford for 1.88 miles From Vantage View to Vantage View for 0.25 miles From Resort Pike then west for 0.38 miles From Walloon Lake then west for 0.14 miles From Manthei to U.S.31 for 0.77 miles From Greenfield for entire loop for 0.40 miles |
| 5 | Intertown Road Morford Road Williams Road | From Cemetery to Resort Pike for 0.99 miles From Lake Grove to Resort Pike for 0.82 miles From Cemetery to Resort Pike for 1.00 mile |
| 4 | Greenfield Drive Horton Bay Road Hunters Ridge Intertown Road Lake View Trail Manthei Road Mayberry Hill Overbay Drive Parkview Drive Sheridan Road Stump Road Terrier Lane Vantage View Drive | From Blackbird to Woodland for 0.24 miles From U.S.31 then south for 0.19 miles From Resort Pike then east for 0.75 miles From Lake Grove to Blackbird for 1.00 mile From Lake Grove to Depew for 0.34 miles From Townsend then west for 0.78 miles From Blackbird to Terrier for 0.12 miles From Sheridan then north for 0.12 miles From U.S.31 to Mini for 0.30 miles From Resort Pike to Eppler for 0.55 miles From Lake Grove to Blackbird for 1.00 mile From Mayberry to Parkview for 0.17 miles For entire loop for 0.53 miles |

| | | |
|---|---------------------|--|
| | Wooden Landing | From Indian Garden then north for 0.03 miles |
| 3 | Eppler Road | From Intertown to Sheridan for 1.50 miles |
| 2 | Old U.S.31 | From Upper Bay Shore to Horton Bay for 0.75 miles 0.4, .35 |
| | Old U.S.31 | From Horton Bay to Camp Daggett for 0.90 miles |
| | Upper Bay Shore Rd. | From Townline to Old U.S.31 for 0.42 miles |

2021 MILEAGE BREAKDOWN OF ROAD RATINGS FOR RESORT TOWNSHIP (all)

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.00 | \$ 0 | \$ 0 |
| 9 | 3.07 | 0 | 0 |
| 8 | 26.09 | 700 | 18,263 |
| 7 | 2.69 | 2,700 | 7,263 |
| 6 | 8.50 | 90,000 | 765,000 |
| 5 | 2.81 | 145,000 | 407,450 |
| 4 | 6.12 | 160,000 | 979,200 |
| 3 | 1.50 | 290,000 | 435,000 |
| 2 | 2.07 | 360,000 | 745,200 |

TOTAL HARD-SURFACED ROAD MILES = 52.85 miles

COST = \$ 3,357,376

2021 AVERAGE ROAD SURFACE RATING = 6.69

(20' = 6.92, 19' = 6.85, 18' = 6.56, 17' = 6.70, 16' = 6.67, 15' = 6.44, 14' = 6.45, 13' = 6.56, 12' = 6.53, 11' = 6.70, 10' = 6.05, 09' = 5.64, 08' = 5.71, 07' = 5.88, 06' = 5.42, 05' = 5.24)

LOCAL ROAD BREAKDOWN

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.00 | \$ 0 | \$ 0 |
| 9 | 1.30 | 0 | 0 |
| 8 | 22.18 | 700 | 15,526 |
| 7 | 2.69 | 2,700 | 7,263 |
| 6 | 6.62 | 90,000 | 595,800 |
| 5 | 1.00 | 105,000 | 105,000 |
| 4 | 5.93 | 160,000 | 948,800 |
| 3 | 1.50 | 290,000 | 435,000 |
| 2 | 2.07 | 360,000 | 745,200 |

TOTAL HARD-SURFACED ROAD MILES = 43.29 miles

COST = \$ 2,852,589

2021 AVERAGE ROAD SURFACE RATING = 6.58

(20' = 6.93, 19' = 6.77, 18' = 6.41, 17' = 6.67, 16' = 6.67, 15' = 6.54, 14' = 6.52, 13' = 6.66, 12' = 6.59, 11' = 6.74, 10' = 6.01, 09' = 5.34, 08' = 5.34, 07' = 5.38, 06' = 3.95, 05' = 4.98)

The goal of Asset Management is to allocate public resources in the most cost-effective manner. It should be our goal to bring our system into a good condition and to maintain the system in a good condition over the next 5 years. Our goal should be to improve the average ratings from the current 6.58 to a good condition. Good is considered to be 7 or better.

RESORT TOWNSHIP SUGGESTED 5-YEAR ROAD REPAIR LIST

2021 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|--|
| 7 | \$ 2,700 | 2.69 | \$ 7,263* | Cemetery (0.99), Cemetery (0.32), Martinchek (0.89), Sterzik (0.49) |
| 6 | \$ 90,000 | 4.23 | \$ 380,700 | Camp Daggett (1.67), Deere (0.69), Hillcrest (0.25), Indian Garden (0.60), Skyview (0.25), Townsend (0.77) |
| 3 | \$ 290,000 | 1.50 | \$ 750,000 | Eppler (1.50)** |

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|------------------------------|---|--------------|------------------|
| TOTAL PROJECTED 2021 EXPENSE | = | \$ 1,139,700 | *Road Commission |
| | | | **Per Design |

2022 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|---|
| 6 | \$ 90,000 | 2.39 | \$ 215,100 | Country Lane (0.39), Mini (0.15), Old 31 (0.75), Parkview (0.18), Sterzik (0.38), Stolt (0.14), Woodland (0.40) |
| 5 | \$ 105,000 | 1.00 | \$ 105,000 | Williams (1.00) |
| 4 | \$ 160,000 | 1.75 | \$ 280,000 | Hunters Ridge (0.75), Intertown (1.00) |

TOTAL PROJECTED 2022 EXPENSE = \$ 600,100

2023 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|---|
| 4 | \$ 160,000 | 4.06 | \$ 649,600 | Greenfield (0.24), Lake View Tr. (0.34), Manthei (0.78), Overbay (0.12), Parkview (0.30), Sheridan (0.55), Stump (1.00), Terrier (0.17), Vantage View (0.53), Wooden (0.03) |

TOTAL PROJECTED 2023 EXPENSE = \$ 649,600

2024 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|--|
| 2 | \$ 360,000 | 1.67 | \$ 601,200 | Old 31 (0.35), Old 31 (0.90), Upper Bay Shore (0.42) |

TOTAL PROJECTED 2024 EXPENSE = \$ 601,200

2025 REPAIRS

Gravel or primary road construction

TOTAL PROJECTED 5-YEAR COST

| | |
|------|-------------------------------|
| 2021 | \$ 1,139,700 |
| 2022 | \$ 600,100 |
| 2023 | \$ 649,600 |
| 2024 | \$ 601,200 |
| 2025 | Primary or gravel road repair |

TOTAL = \$ 2,990,600

The Asset Management process concentrates resources on roads that are relatively easy to maintain then allows resources to be expended on more expensive roads. The above scenario repairs all of the local roads in the township in the next 4 years. This does not take into account the roads that fall further into disrepair from their current rating.

2021 BEAR CREEK TOWNSHIP 5-YEAR ROAD PRIORITY LIST
December 3, 2020
PASER ROAD RATING SYSTEM

| ROAD RATING | SUGGESTED REPAIR | COST PER MILE |
|----------------|--|---|
| 10 | No maintenance necessary. New Road. | \$ 0 |
| 9 | No maintenance necessary. Smooth surface. | \$ 0 |
| 8 | Crack filling or shoulder patching. | \$ 700 |
| 7 | General crack sealing and/or minor patching. | \$ 2,700 |
| 6 | Sealcoat Micro-surface Ultra-Thin Asphalt | \$ 27,000 or \$ 35,000 or \$ 90,000 |
| 5 | Asphalt wedging only Asphalt wedging and sealcoat Asphalt wedging and ultra-thin asphalt 1-1/2" Asphalt Cap | \$ 55,000 or \$ 82,000 or \$ 145,000 or \$ 105,000 |
| 4 | Asphalt wedge and cap or heavy cap. | \$ 160,000 |
| 3 | Pulverize, gravel and pave. Surface poor. Cold-in-Place with ultra-thin (3 miles +) | \$ 290,000 \$ 240,000 |
| 2 | Reconstruction. Very poor condition. | \$ 360,000 +/- |
| 1 | Reconstruction. Failed road surface. | \$ 360,000 +/- |

BEAR CREEK TOWNSHIP

1 Mil brings in approximately \$600,000 per year. In 2020, Bear Creek Township spent around \$300,000. That leaves the 2021 available funds at around \$900,000. The township allocation for 2021 is \$15,491.
TOTAL YEARLY INVESTMENT = \$900,000
TOTAL 5-YEAR EXPENSE = \$3,360,000

CATEGORIZATION OF HARD-SURFACED ROADS IN BEAR CREEK TOWNSHIP

| PASER RATING | ROAD NAME | LIMITS |
|-----------------|---|--|
| 10 | Atkins Road Graham Road Howard Road | From Division to McDougal for 0.50 miles From Bellmer Road to Springvale Twp. for 0.49 miles From River to City of Petoskey for 0.26 miles |
| 9 | Alcan Road Atkins Road Atkins Road Cincinnati Pointe Ln. Kegomic Road King Road Pickerel Lake Road Powell Road | From Mitchell to Country Club for 0.48 miles From Greenwood then north and west for 1.34 miles From McDougal to City of Petoskey for 0.26 miles From Graham to Springvale Twp. for 0.06 miles From M-119 to Zaiger for 0.12 miles From Evergreen then east for 0.10 miles From U.S.31 to Bellmer for 2.01 miles From M-119 to Hiawatha for 1.58 miles |

| | | |
|---|-------------------|--|
| | Zaiger Road | From U.S.31 to Kegomic for 0.04 miles |
| 8 | Amacher Road | From Pickerel Lake then south for 0.27 miles |
| | Anderson Road | From City of Petoskey to Intertown for 1.25 miles |
| | Atkins Road | From Division to Maplewood for 2.14 miles |
| | Barney Road | From U.S.31 to Hiawatha Trail for 0.23 miles |
| | Bayside Avenue | From Edgewater to Park for 0.06 miles |
| | Bay View Drive | From Pickerel Lake then south for 0.44 miles |
| | Bear River Road | From Evergreen to Springvale Twp. for 1.34 miles |
| | Bellmer Road | From Graham to Pickerel Lake for 1.40 miles |
| | Benal Road | From seasonal sign then south for 0.49 miles |
| | Birch Lane | From Timber Lake to the end for 0.25 miles |
| | Boyer Road | From Country Club to Mitchell for 0.50 miles |
| | Bren Del Drive | From Country Club thru entire loop for 0.50 miles |
| | Bridge Court | From Meadow then west to the end for 0.14 miles |
| | Brubaker Road | From Russett to Greenwood for 2.00 miles |
| | Cedar Valley Road | From Greenwood to Evergreen for 2.74 miles |
| | Cemetery Road | From Intertown to Hillcrest for 1.18 miles |
| | Clarion Road | From Howard to City of Petoskey for 0.09 miles |
| | Click Road | From River then west for 0.26 miles |
| | Click Road | From River to Cedar Valley for 1.13 miles |
| | Country Club Road | From Surrey to Fletcher for 2.23 miles |
| | Country View Road | From Fletcher then west for 0.21 miles |
| | Division Road | From U.S.31 then north for 0.22 miles |
| | Ecker Road | From Evergreen Trail then east for 0.30 miles |
| | Edgewater Avenue | From Hampton to Kent for 0.07 miles |
| | Evergreen Trail | From Bear River to River for 3.56 miles |
| | Fletcher Road | From Mitchell Road to Pickerel Lake for 1.41 miles |
| | Gokee Road | From Benal to Johnson for 1.05 miles |
| | Graham Road | From U.S.31 to Bellmer for 0.14 miles |
| | Greenwood Road | From Cedar Valley to Brubaker for 1.50 mile |
| | Greenwood Road | From Atkins to Brubaker for 1.49 miles |
| | Gruler Road | From U.S.131 then west for 0.32 miles |
| | Hampton Ave. | From U.S.31 to Edgewater for 0.22 miles |
| | Hendricks Street | From Iduna then north for 0.12 miles |
| | Hiawatha Trail | From M-119 to Powell for 1.98 miles |
| | Hillview Drive | From Division to Division for 0.28 miles |
| | Hoag Road | From River then west for 0.82 miles |
| | Howard Road | From U.S.131 to Bear River for 0.87 miles |
| | Howard Road | From U.S.131 to Lears for 3.27 miles |
| | Intertown Road | From Howard to U.S.131 for 0.58 miles |
| | Kemp Road | From Howard to U.S.131 for 0.51 miles |
| | Kemp Road | From U.S.131 to Cemetery for 0.47 miles |
| | Kent Road | From U.S.31 to Shire for 0.12 miles |
| | Kent Road | From Park to Edgewater for 0.06 miles |

| | | |
|---|--|--|
| | Kilborne Drive King Road Konle Road Lears Road Lears Road Lewinski Road Lincoln Place Lintlong Road Little Cedar Drive Lorrain Drive Manvel Road Maplewood Road Maplewood Road McDougal Road McDougal Road Meadow Lane Mishe Mokwa Mitchell Road Newberry Avenue Old Tannery Creek Oxford Lane Park Avenue Pickerel Lake Road Pine Road Rice Street Rolling Hills Lane Russett Road Russett Road Shanley Road Shaw Road Shire Avenue Skyline Road Sterly Road Straddling Road Sunset Road Surrey Lane Timber Lake Drive Turbush Avenue Vinton Street Vis A Vis Lane | From U.S. 131 to the end for 0.28 miles From Evergreen then east for 0.10 miles From M-119 to Pickerel Lake for 0.29 miles From U.S.131 to Hager for 0.16 miles From Anderson to Cemetery for 0.23 miles From U.S. 31 west for 0.03 miles From Mitchell then north for 0.21 miles From Evergreen Trail then west for 0.13 miles From Mitchell then south for 0.25 miles From Alcan thru entire loop for 0.43 miles From U.S.31 to Country Club for 0.33 miles From Atkins then south for 0.10 miles From Greenwood then north for 0.50 miles From Atkins to Northmen for 0.25 miles From Atkins then south for 1.44 miles From Mitchell then north for 0.23 miles From Powell thru entire loop for 0.47 miles From Boyer to Fletcher for 1.59 miles From Bayside to Hampton for 0.09 miles From Division to Rice for 0.34 miles From Lincoln Place then east and west for 0.05 miles From Hampton to Kent for 0.07 miles From U.S.31 to M-119 for 0.51 miles From Timber Lake to U.S.131 for 0.30 miles From U.S.31 to Shire for 0.14 miles From Mitchell then north for 0.20 miles From Brubaker then south for 0.10 miles From Greenwood then north for 0.10 miles From Greenwood then west for 0.25 miles From U.S.31 to Hiawatha for 0.21 miles From Division to Rice for 0.33 miles From Mitchell then north for 0.42 miles From Bear River then north for 0.25 miles From Bear River to Gokee for 1.05 miles From Kilborne to City of Petoskey for 0.09 miles From Country Club then south for 0.25 miles From Pine to Birch for 0.19 miles From U.S.31 to Shire for 0.12 miles From U.S.31 to Old Tannery for 0.06 miles From Bellmer then west for 0.22 miles |
| 7 | Atkins Road Bay View Drive Cemetery Road Cemetery Road | From Maplewood then east for 0.64 miles From the end then north for 0.22 miles From Williams to Intertown for 0.99 miles From Hillcrest to Sheridan for 0.32 miles |

| | | |
|---|--|--|
| | Greenwood Road Greg Road Iduna Lane Jensen Road Lears Road Maplewood Road Mitchell Park Drive Williams Roads | From Atkins then south and east for 0.87 miles From U.S.131 to Howard for 0.51 miles From Hendricks then east for 0.18 miles From Cedar Valley then east for 0.29 miles From Hager then east and south for 0.06 miles From Atkins to Mitchell for 0.75 miles From Division to Mitchell for 0.27 miles From U.S.131 to Cemetery for 0.48 miles |
| 6 | Bear River Road Bellmer Road Click Road Fletcher Road Gruler Road Jones Landing Road Kolinske Road Lintlong Road Lears Road Mitchell Road Mitchell Road Mitchell Road | From River to Sterly for 0.59 miles From Fletcher then north for 0.39 miles From Cedar Valley then east to the end for 0.51 miles From Mitchell then south for 0.23 miles From Howard to River for 1.84 miles From Gruler then south to the end for 0.46 miles From Pickerel lake to Country Club for 0.76 miles From Evergreen then west for 0.81 miles From Anderson to U.S.131 for 0.16 miles From S. Fletcher to Springvale for 0.94 miles From City of Petoskey to Division for 0.75 miles From Division to Boyer for 0.62 miles |
| 5 | Intertown Road River Road | From U.S.131 to Cemetery for 0.39 miles From Bear River to Howard for 4.97 miles |
| 4 | Greenwood Road McDougal Road Pickerel Lake Road | From McDougal Road to Cedar Valley for 1.00 mile From Click then north for 0.57 miles From Bellmer to Amacher for 0.51 miles |
| 3 | Bellmer Road Cedar Valley Road Country Club Road Fotchman Ind. Park Rustic Road | From Rustic to Pickerel Lake for 0.51 miles From Greenwood to Atkins for 0.50 miles From Division to Surrey for 0.46 miles From U.S.31 then south for 0.40 miles From Still to Bellmer for 0.75 miles (0.26 ½ Springvale) |
| 2 | None | - |
| 1 | None | - |

2021 MILEAGE BREAKDOWN OF ROAD RATINGS FOR BEAR CREEK TOWNSHIP

(All roads)

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 1.25 | \$ 0 | \$ 0 |
| 9 | 5.99 | 0 | 0 |
| 8 | 50.57 | 700 | 35,399 |
| 7 | 5.58 | 2,700 | 15,066 |
| 6 | 8.06 | 90,000 | 725,400 |
| 5 | 5.36 | 145,000 | 777,200 |
| 4 | 2.08 | 160,000 | 332,800 |
| 3 | 2.62 | 290,000 | 759,800 |
| 2 | 0.00 | 360,000 | 0 |

TOTAL HARD-SURFACED MILES = 81.51

COST = \$ 2,645,665

AVERAGE ROAD RATING = 7.38

(20' = 7.24, 19' = 7.07, 18' = 7.02, 17' = 7.21, 16' = 7.30, 15' = 7.00, 14' = 6.99, 13' = 6.85, 12' = 6.83, 11' = 6.56, 10' = 6.51, 09' = 6.35, 08' = 6.20, 07' = 5.93, 06' = 6.27, 05' = 5.53)

LOCAL ROAD BREAKDOWN

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.75 | \$ 0 | \$ 0 |
| 9 | 3.73 | 0 | 0 |
| 8 | 44.01 | 700 | 30,807 |
| 7 | 5.58 | 2,700 | 15,066 |
| 6 | 5.00 | 90,000 | 450,000 |
| 5 | 0.00 | 145,000 | 0 |
| 4 | 1.00 | 160,000 | 160,000 |
| 3 | 2.62 | 290,000 | 759,800 |
| 2 | 0.00 | 360,000 | 0 |

TOTAL LOCAL HARD-SURFACED ROADS = 62.69

COST = \$ 1,3415,673

2021 AVERAGE LOCAL ROAD RATING = 7.56

(20' = 7.63, 19' = 7.36, 18' = 7.27, 17' = 7.24, 16' = 7.24, 15' = 7.34, 14' = 7.11, 13' = 6.90, 12' = 6.82, 11' = 6.65, 10' = 6.56, 09' = 6.27, 08' = 5.99, 07' = 5.39, 06' = 5.95, 05' = 5.26)

The goal of Asset Management is to allocate public resources in the most cost-effective manner. It should be our goal to bring our system into a good condition and to maintain the system in a good condition over the next 5 years. Bear Creek has met the goal of having at least a 7 or better rating with a 7.56 average local rating. Good is considered to be 7 or better.

BEAR CREEK TOWNSHIP SUGGESTED 5-YEAR ROAD REPAIR LIST

2021 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|---|
| 7 | \$ 2,700 | 5.58 | \$ 15,066* | Atkins (0.64), Bay View (0.22), Cemetery (0.99), Cemetery (0.32), Greg (0.51), Iduna (0.18), Jensen (0.29), Lears (0.06), Maplewood (0.75), Mitchell Park (0.27), Williams (0.48) |
| 6 | \$ 90,000 | 3.57 | \$ 321,300 | Click (0.51), Gruler (1.84), Jones Landing (0.46), Kolinske (0.76) |
| 3 | \$ 290,000 | 2.22 | \$ 319,000 | Bellmer (0.51), Country Club (0.46), Rustic (0.75)** |

Mindel Road gravel upgrade with paving \$160,000

TOTAL SUGGESTED 2021 EXPENSE = \$ 800,300 * Road Commission
 ** ½ Sp. Twp. (partial)

2022 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|--|
| 6 | \$ 90,000 | 1.43 | \$ 128,700 | Bellmer (0.39), Fletcher (0.23), Lintlong (0.81) |
| 4 | \$ 160,000 | 1.00 | \$ 160,000 | Greenwood (1.00) |
| 3 | \$ 290,000 | 0.40 | \$ 356,000 | Cedar Valley (0.50)*, Fotchman (0.40) |

TOTAL SUGGESTED 2022 EXPENSE = \$ 644,700 *Additional Earth Work

2023 REPAIRS, 2024 REPAIRS, 2025 REPAIRS

Gravel or Primary road work for township

TOTAL PROJECTED 5-YEAR COST

2021 \$ 800,300
 2022 \$ 644,700
 2023 Primary or Gravel Upgrade
 2024 Primary or Gravel Upgrade
 2025 Primary or Gravel Upgrade

TOTAL = \$ 1,445,000

The Asset Management process concentrates resources on roads that are relatively easy to maintain then allows resources to be expended on more expensive roads. The above scenario repairs all local roads in the township in the next 2 years. This does not take into account that roads that fall further into disrepair from their current rating.

2021 WEST TRAVERSE TOWNSHIP 5-YEAR ROAD PRIORITY LIST

December 3, 2020

PASER ROAD RATING SYSTEM

| ROAD RATING | SUGGESTED REPAIR | COST PER MILE |
|-------------|--|---|
| 10 | No maintenance necessary. New Road. | \$ 0 |
| 9 | No maintenance necessary. Smooth surface. | \$ 0 |
| 8 | Crack filling or shoulder patching. | \$ 700 |
| 7 | General crack sealing and/or minor patching. | \$ 2,700 |
| 6 | Patching and sealcoat Micro-surface Ultra-Thin Asphalt | \$ 27,000 or \$ 35,000 or \$ 90,000 |
| 5 | Asphalt wedging only Asphalt wedging and sealcoat Asphalt wedging and ultra-thin asphalt 1-1/2" Asphalt Cap | \$ 55,000 or \$ 82,000 or \$ 145,000 or \$ 105,000 |
| 4 | Asphalt wedge and cap or heavy cap. | \$ 160,000 |
| 3 | Pulverize, gravel and pave. Surface poor. Cold-in-Place with ultra-thin | \$ 290,000 \$ 240,000 |
| 2 | Reconstruction. Very poor condition. | \$ 360,000 +/- |
| 1 | Reconstruction. Failed road surface. | \$ 360,000 +/- |

WEST TRAVERSE TOWNSHIP

West Traverse Township assesses 0.7 mils which generates around \$296,600 per year. West Traverse Township used the allocation in 2020. West Traverse spent \$107,000 in 2020 millage funds leaving extra funds available in 2021. All townships will receive \$15,491 in allocation for 2021.

TOTAL YEARLY INVESTMENT = \$370,000

TOTAL 5-YEAR INVESTMENT = \$1,618,000

CATEGORIZATION OF HARD-SURFACED ROADS IN WEST TRAVERSE TOWNSHIP

| PASER RATING | ROAD NAME | LIMITS |
|--------------|---|--|
| 10 | None | - |
| 9 | Cemetery Road Five Mile Creek Road Heynig Road Marion Drive Odawa Lane | From Cottontail to Hughston for 0.14 miles From M-119 then north for 0.50 miles From Odawa to Welsheimer for 0.77 miles From Lake then north for 0.28 miles From State to Heynig for 0.18 miles |
| 8 | Amy's Way Carpenter Lane Cemetery Road Charley's Run Cottontail Lane Hemlock Court | From Middle to Hoyt for 0.52 miles From M-119 to Lake for 0.14 miles From Lake to Cottontail for 0.36 miles From Middle then north for 0.22 miles From Cemetery to Tamarac for 0.14 miles From Tamarac then west for 0.06 miles |

| | | |
|---|-------------------------|---|
| | Heynig Road | From State to Odawa for 0.23 miles |
| | Hoyt Road | From Heynig to Harbor Springs for 2.35 miles |
| | Hughston Road | From State to Cemetery for 0.51 miles |
| | Lightfoot Road | From Hughston then south for 0.25 miles |
| | Lightfoot Road | From Hughston to Quick for 0.50 miles |
| | Lightfoot Road | From Middle to State for 0.61 miles |
| | Lower Shore Drive | From M-119 to Friendship Twp. for 2.78 miles |
| | Middle Road | From State to M-119 for 3.30 miles |
| | Middle Road | From State then east for 0.49 miles |
| | Quick Road | From Lightfoot then west for 0.50 miles |
| | Quick Road | From State to Lightfoot for 0.25 miles |
| | 7 Mile Pointe Ridge Dr. | From M-110 then south for 0.24 miles |
| | Tamarac Trail | From Cemetery then west and north for 0.38 miles |
| | Thorne Swift Court | From Lower Shore then northeast for 0.08 miles |
| | Welsheimer Road | From Heynig to Fr. Twp. for 0.50 miles |
| 7 | Franklin Street | From State then east and south for 0.54 miles |
| | Golf Side Court | From Tamarac then south for 0.09 miles |
| | Heynig Road | From State then west for 0.79 miles |
| | Hughston Road | From Middle to Lacount for 1.02 miles |
| | Lightfoot Road | From Quick to Middle for 1.00 mile |
| | Pine Hill Drive | From Tamarac to Cemetery for 0.17 miles |
| | Ridge Road | From M-119 then north for 0.71 miles |
| 6 | Hughston Road | From Middle to Cemetery for 2.20 miles |
| | Lacount Road | From State to Hughston for 1.37 miles (1/2 Fr. Twp.) |
| | Lacount Road | From State to Lightfoot for 0.10 miles (1/2 Fr. Twp.) |
| | Lake Road | From Harbor Springs limits to M-119 for 1.15 miles |
| 5 | Quick Road | From State to Hoyt for 0.76 miles |
| | State Road | From Harbor Spring limits to Lacount for 2.92 miles |
| 4 | None | - |
| 3 | | |
| 2 | None | - |
| 1 | None | - |

2021 MILEAGE BREAKDOWN OF ROAD RATINGS FOR WEST TRAVERSE TOWNSHIP

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.00 | \$ 0 | \$ 0 |
| 9 | 1.87 | 0 | 0 |
| 8 | 14.41 | 700 | 10,087 |
| 7 | 4.32 | 2,700 | 11,664 |
| 6 | 4.82 | 90,000 | 433,800 |
| 5 | 3.68 | 145,000 | 533,600 |
| 4 | 0.00 | 160,000 | 0 |

TOTAL HARD-SURFACED MILES = 29.10 miles

COST = \$ 989,151

2021 AVERAGE ROAD SURFACE RATING = 7.21

(20' = 7.40, 19' = 7.48, 18' = 7.38, 17' = 7.23, 16' = 7.27, 15' = 7.63, 14' = 7.63, 13' = 7.84, 12' = 7.73, 11' = 7.80, 10' = 7.80, 09' = 6.63, 08' = 6.66, 07' = 6.15, 06' = 5.55, 05' = 5.85)

LOCAL ROAD BREAKDOWN

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|---------------------|-------------------|--------------------------------|--------------|
| 10 | 0.00 | \$ 0 | \$ 0 |
| 9 | 1.87 | 0 | 0 |
| 8 | 11.11 | 700 | 7,777 |
| 7 | 4.32 | 2,700 | 11,664 |
| 6 | 3.67 | 90,000 | 330,300 |

TOTAL HARD-SURFACED MILES = 20.97 miles

COST = \$ 349,741

2021 AVERAGE ROAD SURFACE RATING = 7.53

(20' = 7.87, 19' = 7.81, 18' = 7.69, 17' = 7.28, 16' = 7.37, 15' = 7.41, 14' = 7.84, 13' = 7.88, 12' = 7.72, 11' = 7.84, 10' = 7.06, 09' = 6.87, 08' = 6.83, 07' = 5.82, 06' = 5.72, 05' = 5.80)

The goal of Asset Management is to allocate public resources in the most cost-effective manner. It should be our goal to bring our system into a good condition and to maintain the system in a good condition over the next 5 years. Our goal should be to improve the average ratings to a good condition. West Traverse Township has achieved that goal with a 7.53 rating. Good is considered to be 7 or better.

WEST TRAVERSE TOWNSHIP SUGGESTED 5-YEAR ROAD REPAIR LIST

2021 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|--|
| 7 | \$ 2,700 | 4.32 | \$ 11,664* | Franklin (0.54), Golf Side (0.09), Heynig (0.79), Hughston (1.02), Lightfoot (1.00), Pine Hill (0.17), Ridge Road (0.71) |
| 6 | \$ 90,000 | 4.82 | \$ 367,650 | Hughston (2.20), Lacount (1.37)**, Lacount (0.10)** Lake (1.15) |

| | | | |
|------------------------------|---|------------|----------------------|
| TOTAL SUGGESTED 2021 EXPENSE | = | \$ 367,650 | *Road Commission |
| | | | ** ½ Friendship Twp. |

2022 REPAIRS, 2023 REPAIRS, 2024 REPAIRS & 2025 REPAIRS

New construction or primary road work.

TOTAL PROJECTED 5-YEAR COST

| | |
|------------------------|---|
| 2021 | \$ 367,650 (plus gravel or primary road improvements) |
| 2022, 2023, 2024, 2025 | (gravel or primary road improvements) |

TOTAL = \$ 367,650

The Asset Management process concentrates resources on roads that are relatively easy to maintain then allows resources to be expended on more expensive roads. The above scenario repairs **all** of the local hard-surface roads in West Traverse Township in the next year. This does not take into account the roads that fall further into disrepair.

2021 LITTLE TRAVERSE TOWNSHIP 5-YEAR ROAD PRIORITY LIST

December 3, 2020

PASER ROAD RATING SYSTEM

| ROAD RATING | SUGGESTED REPAIR | COST PER MILE |
|-------------|--|---|
| 10 | No maintenance necessary. New Road. | \$ 0 |
| 9 | No maintenance necessary. Smooth surface. | \$ 0 |
| 8 | Crack filling or shoulder patching. | \$ 700 |
| 7 | General crack sealing and/or minor patching. | \$ 2,700 |
| 6 | Patching and sealcoat Micro-surface Ultra-Thin Asphalt | \$ 27,000 or \$ 35,000 or \$ 90,000 |
| 5 | Asphalt wedging only Asphalt wedging and sealcoat Asphalt wedging and ultra-thin asphalt 1-1/2" Asphalt Cap | \$ 55,000 or \$ 82,000 or \$ 145,000 or \$ 105,000 |
| 4 | Asphalt wedge and cap or heavy cap. | \$ 160,000 |
| 3 | Pulverize, gravel and pave. Surface poor. Cold-in-Place with ultra-thin | \$ 290,000 \$ 200,000 |
| 2 | Reconstruction. Very poor condition. | \$ 360,000 +/- |
| 1 | Reconstruction. Failed road surface. | \$ 360,000 +/- |

LITTLE TRAVERSE TOWNSHIP

The township has assessed the 1 Mil approved by the voters. 1 Mil brings in approximately \$456,000 per year. The 2021 allocation is \$15,491. The total amount available for road improvements in 2021 is \$471,500.

TOTAL YEARLY INVESTMENT = \$471,500

TOTAL 5-YEAR ROAD EXPENSE = \$2,357,500

CATEGORIZATION OF HARD-SURFACED ROADS IN LITTLE TRAVERSE TOWNSHIP

| PASER RATING | ROAD NAME | LIMITS |
|--------------|--|--|
| 10 | Graham Road | From Bellmer to Cincinnati for 0.49 miles |
| 9 | Bridge Street Clayton Road N. Conway Road Dayton Road Emmet Heights Road Forest Ridge Lane Powers Road Waldenwood Trail | From M-119 to Beach for 0.33 miles From N. Conway then north for 0.35 miles From Hathaway to Edward for 2.30 miles From Hathaway to Duvernay for 0.49 miles From Quick to Bester for 0.51 miles From Waldenwood then north and south for 0.28 miles From N. Conway to Littlefield Twp. for 0.50 miles From Emmet Heights to Forest for 0.22 miles |
| 8 | Arcadia Drive Beach Drive Catob Road | From Winfield to Linden for 0.24 miles From City of Harbor to Pennsylvania for 0.76 miles From Hedrick to Pleasantview for 0.99 miles |

| | | |
|---|--|---|
| | Catob Road Catob Road Chippewa Trail Clayton Road Commerce Court W. Conway Road Duvernay Lane Emmet Heights Road Emmet Heights Road Fern Avenue Harbor Lane Hathaway Road Heacock Road Heydey Street Hiawatha Trail Hill Drive Horseshoe Drive Hoyt Road King Avenue Liegl Court Liegl Drive Linden Drive Manitoba Trail Manitou Trail Meadow Lane Mink Road Moeller Road Page Hill Road Pennsylvania Ave. Pleasantview Lane Pleasantview Road Ramona Park Road Rosada Street Warren Street Winfield Drive Woodview Drive | From Emmet Heights then west for 0.25 miles From Emmet Heights then east for 0.76 miles From N. Conway then east for 0.25 miles From W. Conway to Hathaway for 0.51 miles From W. Conway then south for 0.28 miles From M-119 to Heydey for 2.39 miles From Pleasantview to Clayton for 0.51 miles From M-119 to Bester for 0.75 miles From Quick to Waldenwood for 0.83 miles From Beach to Ramona Park for 0.54 miles From Hedrick then east for 0.17 miles From Pleasantview to Kipp for 2.00 miles From Page Hill to M-119 for 0.24 miles From W. Conway to Warren for 0.08 miles From Powell to Rosada for 0.16 miles From Harbor Lane then east and north for 0.11 miles From Mink thru entire loop for 0.36 miles From Lake then north for 1.93 miles From Beach to Pennsylvania for 0.11 miles From Liegl Drive thru entire loop for 0.43 miles From N. Conway thru entire loop for 0.44 miles From Arcadia to Winfield for 0.29 miles From N. Conway then west for 0.21 miles From Catob then west and north for 0.38 miles From Woodview to Mink for 0.32 miles From Hathaway then south for 1.01 miles From Woodview to Mink for 0.48 miles From M-119 then south for 0.42 miles From Fern to Beach Dr. for 0.27 miles From Pleasantview then west for 0.14 miles From M-119 to Hathaway for 0.87 miles From Beach to Fern for 0.06 miles From Hiawatha to U.S.31 for 0.22 miles From U.S.31 then west for 0.18 miles From Arcadia to Pleasantview for 0.18 miles From M-119 to Mink for 0.50 miles |
| 7 | Bester Road Hedrick Road | From Hoyt to Hedrick for 1.93 miles From Hathaway to Bester for 0.50 miles |
| 6 | Cedar Lane W. Conway Lane Church Street Edward Road Emmet Heights Road Greenleaf Drive Hedrick Road Hedrick Road Heydey Street Highland Road Hoyt Road E. Lake Road McBride Park Court | From Pennsylvania to Beach Dr. for 0.13 miles From W. Conway to W. Conway for 0.30 miles From W. Conway then north for 0.07 miles From N. Conway to N. Ayr for 0.98 miles (1/2 Pl. Tp.) From Waldenwood to Warwick for 0.18 miles From N. Conway then east for 0.15 miles From M-119 to Hathaway for 0.56 miles From Bester to Highland for 1.49 miles From Warren to Rosada for 0.07 miles From Pleas. Twp. to Hedrick for 0.65 miles (1/2 Pl. Tp.) From Lake then north for 0.25 miles From Lake Street then east for 0.19 miles From W. Conway then south for 0.21 miles |

| | | |
|---|--|---|
| | McBride Park Drive Page Hill Road Pennsylvania Avenue Pleasantview Road Woodloft Trail | From McBride Park Court then west for 0.10 miles From Beach then north for 0.10 miles From Harbor Springs to Beach Dr. for 0.68 miles From Quick to Pleasantview Twp. for 1.00 miles From M-119 then north for 0.19 miles |
| 5 | W. Conway Road Pleasantview Road Quick Road | From U.S.31 to Heydey for 0.12 miles From Hathaway to Quick for 1.01 miles From Pleasantview to Hoyt for 2.92 miles |
| 4 | Beach Road N. Conway Road E. Hathaway Road W. Hathaway Road Ottawa Lane | From M-119 to Bridge for 2.49 miles From U.S.31 to Hathaway for 0.97 miles From Kipp to N. Conway for 0.51 miles From Pleasantview to Hedrick for 1.00 miles From Manitoba then north for 0.13 miles |
| 3 | Beach Road Catob Road | From Fern to Bridge for 0.17 miles From Hedrick then west for 0.23 miles |

2021 MILEAGE BREAKDOWN OF ROAD RATINGS FOR LITTLE TRAV. TOWNSHIP (all)

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.49 | \$ 0 | \$ 0 |
| 9 | 4.98 | 0 | 0 |
| 8 | 20.62 | 700 | 14,434 |
| 7 | 2.43 | 2,700 | 6,561 |
| 6 | 7.30 | 90,000 | 657,000 |
| 5 | 4.05 | 145,000 | 587,250 |
| 4 | 5.10 | 160,000 | 816,000 |
| 3 | 0.40 | 290,000 | 144,000 |
| 2 | 0.00 | 360,000 | 0 |

TOTAL HARD-SURFACED MILES = 45.37 miles

COST = \$ 2,225,245

2021 AVERAGE SURFACE RATING = 6.99

(20' = 6.92, 19' = 6.46, 18' = 6.58, 17' = 6.72, 16' = 6.17, 15' = 6.85, 14' = 6.41, 13' = 6.57, 12' = 6.43, 11' = 5.92, 10' = 5.84, 09' = 5.69, 08' = 5.55, 07' = 5.71, 06' = 5.53, 05' = 6.07)

LOCAL ROAD BREAKDOWN

| PASER RATING | # OF MILES | AVERAGE REPAIR COST | TOTAL |
|--------------|------------|------------------------|---------|
| 10 | 0.49 | \$ 0 | \$ 0 |
| 9 | 2.68 | 0 | 0 |
| 8 | 14.91 | 700 | 10,437 |
| 7 | 2.43 | 2,700 | 6,561 |
| 6 | 5.62 | 90,000 | 505,800 |
| 5 | 0.00 | 145,000 | 0 |
| 4 | 1.13 | 160,000 | 180,800 |
| 3 | 0.23 | 290,000 | 66,700 |
| 2 | 0.00 | 360,000 | 0 |

TOTAL HARD-SURFACED MILES = 27.49 miles

COST = \$ 770,298

2021 AVERAGE SURFACE RATING = 7.43

(20' = 7.23, 19' = 7.31, 18' = 7.11, 17' = 7.14, 16' = 7.00, 15' = 6.86, 14' = 6.56, 13' = 6.38, 12' = 6.44, 11' = 5.70, 10' = 5.74, 09' = 5.73, 08' = 5.08, 07' = 5.01, 06' = 5.16, 05' = 5.47)

The goal of Asset Management is to allocate public resources in the most cost-effective manner. It should be our goal to bring our system into a good condition and to maintain the system in a good condition over the next 5 years. Our goal is to improve the condition to a 7 or above. Little Traverse Township has achieved that goal with a 7.43 rating. Good is considered to be 7 or better.

LITTLE TRAVERSE TOWNSHIP SUGGESTED 5-YEAR ROAD REPAIR LIST

2021 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|--|
| 7 | \$ 2,700 | 2.43 | Rd. Comm. | Bester (1.93), Hedrick (0.50) |
| 6 | 90,000 | 5.02 | \$ 378,450 | Cedar (0.13), W. Conway Lane (0.30), Church (0.07), Edwards (0.98)*, Emmet Hts, (0.18), Greenleaf (0.15), Hedrick (0.56), Hedrick (1.49), Heydey (0.07), Highland (0.65)*, Hoyt (0.25), E. Lake (0.19) |
| 3 | 290,000 | 0.23 | 66,700 | Catob (0.23) |

TOTAL SUGGESTED 2021 EXPENSE = \$ 445,150 *1/2 with Pleas. Twp.

2022 REPAIRS

| RATING | PER MILE | # MILES | COST | SELECTED ROADS (miles) |
|---------------|-----------------|----------------|-------------|---|
| 6 | \$ 90,000 | 0.60 | \$ 54,000 | McBride Park Ct. (0.21), McBride Park Dr. (0.10), Page Hill (0.10), Woodloft (0.19) |
| 4 | \$ 160,000 | 1.00 | \$ 160,000 | W. Hathaway (1.00) |

TOTAL SUGGESTED 2022 EXPENSE = \$ 214,000

2023 REPAIRS, 2024 REPAIRS, 2025 REPAIRS

Gravel or Primary Upgrade

TOTAL PROJECTED 5-YEAR COST

| | |
|------|--|
| 2021 | \$ 445,150 |
| 2022 | \$ 214,000 + Gravel or Primary Upgrade |
| 2023 | Gravel or Primary Upgrade |
| 2024 | Gravel or Primary Upgrade |
| 2025 | Gravel or Primary Upgrade |

TOTAL = \$ 659,150

The Asset Management process concentrates resources on roads that are relatively easy to maintain then allows resources to be expended on more expensive roads. The above scenario repairs all local roads in the township in the next 2 years. This does not take into account the roads that fall further into disrepair from their current rating.