

Bay Township Suggested Road Improvement Plan 2019-24



Preamble

In the 1930s the State of Michigan enacted legislation that established that all roads in Bay Township, Charlevoix County are the property and responsibility of the Charlevoix Road Commission (1251 Boyne Avenue, Boyne City, MI 49712). This legislation further established that all county, state and federal money designated for roads within the county are under the total control of the Charlevoix Road Commission. Concerns or issues residents of Bay Township have related to the maintenance and condition of roads within the township must be directed to the Road Commission.

Purpose

This plan represents the township's five year plan for the utilization of the funds generated from the voter-approved 1.0 road millage.

Background

The residents of Bay Township have approved a 1.0 millage to support specific road improvement projects within the township in response to the Charlevoix County Road Commission's inability to maintain roads. It must be clearly understood that these resources are insufficient to maintain the roads in Bay Township which are the sole responsibility of the Charlevoix County Road Commission. In the March 2019 general election, the residents of Bay Township renewed the 1.0 township road millage for 2019 through 2021. This plan articulates the plans of the Bay Township Board of Trustees to utilize these dollars.

State of the Roads

Township Roads

In Bay Township there are approximately 38 miles of public roads (Figure 1.) under the jurisdiction of the Charlevoix County Road Commission. The designations of these roads are:

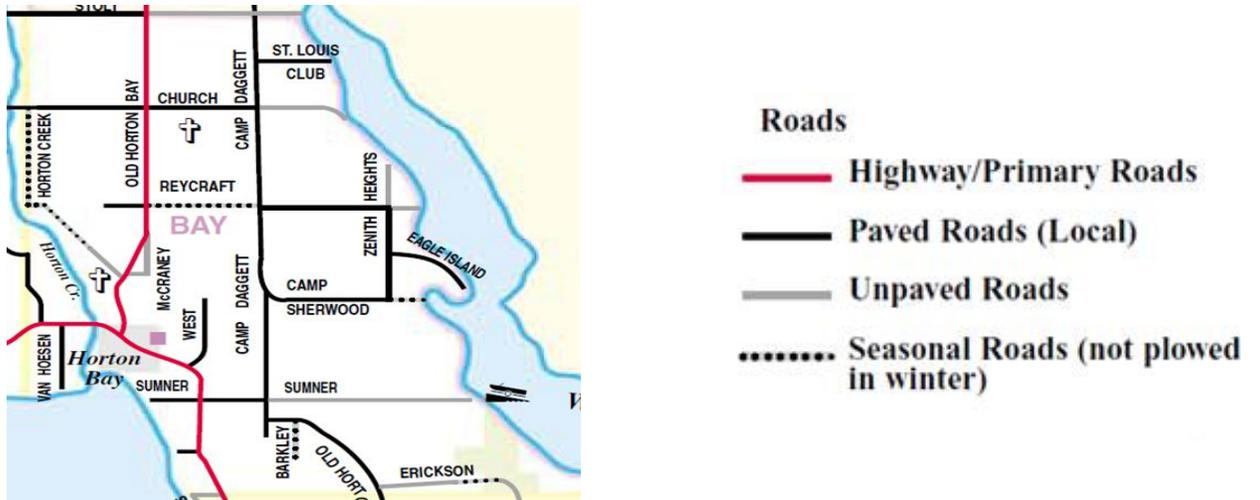
Primary Roads – selected by the Road Commission based on the greatest general importance to the township. The two primary roads are Boyne City/Charlevoix Road and Horton Bay Road.

Local Roads (Paved) – these include all other public roads in Bay Township that are paved and constitute the vast majority of the roads, examples include Camp Daggett Road, Old Horton Bay Road and Pincherry Road.

Local Roads (Gravel) – these are the public roads in Bay Township that are not paved, examples include portions of Sumner Road, Zenith Heights and Church Road.

Seasonal Roads – these are roads which the County Road Commission has determined shall be open to public travel for less than 12 months per year, examples include portions of Reycraft Road and Erickson Road.

Figure 1. Map of Major Roads in Bay Township



A breakdown of the road type and mileage is shown in Table 1.

Table 1. Bay Township Road Classification and Mileage

ROAD CLASSIFICATION	TOWNSHIP MILES	% of Miles
Primary Roads	6.49	17%
Local Roads-Paved	21.39	56%
Local Roads-Gravel	6.32	17%
Seasonal Roads	3.79	10%
TOTAL	37.99	100%

Condition of the Roads

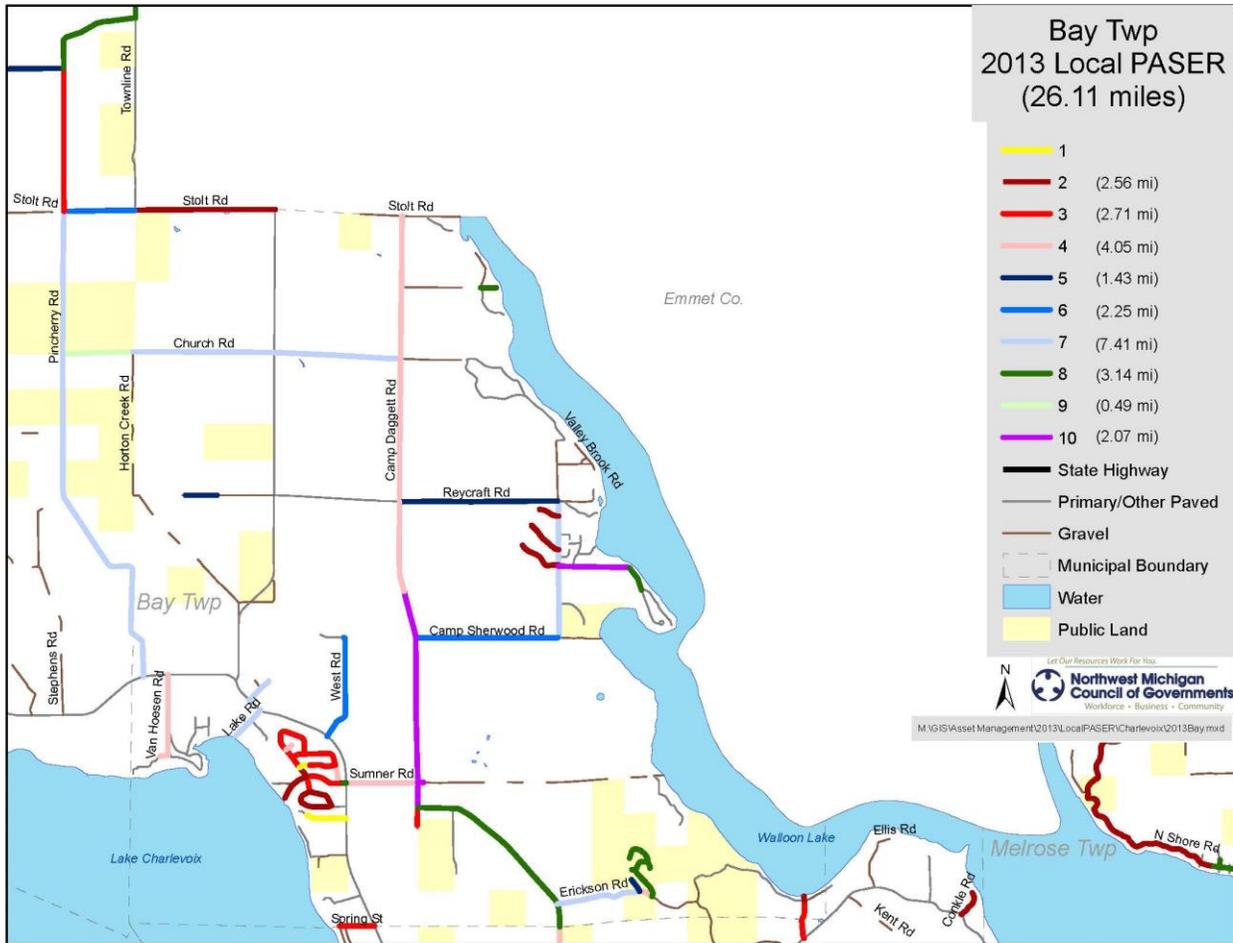
In 2014 the Michigan Department of Transportation (MDOT) collected road rating data for all roads in the State that receive federal aid. The rating is based on observations of the condition of the road with regards to:

- Deformations – rutting, distortion
- Cracks
- Patches and Potholes
- Surface Defects.

The process of rating the roads is known as the **P**avement and **S**urface **E**valuation and **R**ating (PASER) system. It was developed by the Transportation Information Center, University of Wisconsin-Madison. Details and illustrations of this methodology can be obtained from the following web site: <http://www.apa-mi.org/docs/Asphalt-PASERManual.pdf>

The data for Bay Township were collected by representatives from MDOT and the County Road Commission. The team drove all the paved roads in the township and assigned a rating of 1-10 for each road or segment of road. Figure 2 presents the PASER rating for the paved roads in the township.

Figure 2. The PASER Rating for Roads in Bay Township



The following table presents a working definition of the PASER grading system:

Rating	Quality	Treatment (Asphalt)	Treatment
9-10	Excellent	No maintenance required	No maintenance required
7-8	Good	Crack sealing and minor patching	Routine maintenance
5-6	Fair	Preservation treatments (non-structural)	Surface repairs, partial-depth patching
3-4	Poor	Structural renewal (overlay)	Extensive slab or joint rehabilitation
1-2	Failed	Reconstruction	Reconstruction

Progress Made 2015-2019

In developing the 2014 - 2019 Road Plan the Board of Trustees decided that the highest priority for township road millage tax dollars were roads that had the highest traffic volume. Thus, over the last 5 years most attention has been given to Camp Daggett and Sumner Roads with some resources used to address the worst roads in Villa de Charlevoix. The following table details these projects.

The Board of Trustees used this information to conduct the following road improvements between the years 2015-2019:

Table 2. Bay Township Road Improvements 2015-2019

Year	Project	Length (miles)	Cost
2014	VILLA DE CHARLEVOIX SUBDIVISION PAVING Trench, crush & shape, 22A aggregate, 4E1 Bituminous paving and topsoil shoulders on Concorde N. & a portion of Champerret W. Rds. (October 10, 2014 contract completion date)	0.63	\$157,560
2015	CHURCH ROAD PAVING Clearing, earth excavation, embankment, aggregate base, 4E1 Bituminous paving and gravel shoulders on Church Road, from Camp Daggett Rd. east to road end. (October 23, 2015 contract completion date) IMPORTANT NOTE – project paid by individual property owner, no township tax dollars were used.	0.48	\$138,134
2016	CAMP DAGGETT & STOLT ROAD OVERLAY Drainage improvements, 5E1 Bituminous paving and gravel shoulders on a portion of Camp Daggett Road, from 0.50-Mile North of Camp Sherwood Rd. to the county line, and 0.44-Mile portion of Stolt Road. (September 23, 2016 contract completion date)	2.65	\$287,866
2017	SUMNER & CHAPPELL ROAD PAVING 0.43-Miles of 5E1 Bituminous wedge & overlay on Sumner Rd, from Camp Daggett Rd. to Boyne City Rd. 0.47-Miles of drainage improvements, aggregate base, crush & shape, 4E1 leveling & 5E1 top bituminous paving, and gravel shoulders on Chappell Road, from Boyne City Rd. West to road end. (September 15, 2017 contract completion date)	0.90	\$177,625
2018	VAN HOESEN ROAD OVERLAY 5E1 Bituminous overlay and gravel shoulders on the entire length of Van Hoesen Rd. (October 15, 2018 completion date)	0.62	\$69,438
2018	SPRINGWATER BEACH ROAD WEDGE & OVERLAY Grading, 5E1 bituminous wedging & overlay, and aggregate shoulders, from Boyne City Rd. west 1,215-FT. (October 15, 2018 completion date.) (50% of cost, Evangeline Township paid other 50% since road shared)	0.23	\$23,673
2019	No projects were done		

2019-2024 Proposed Road Plan

The township road millage generates approximately \$150,000 per year. It is unfortunate that these funds are not sufficient to maintain all of the roads in the township. That being the case, the Board of Trustees is proposing the following 2019-2024 road plan.

First, it should be pointed out that there has not been a new PASER evaluation of township roads so the Board is continuing to use the 2014 report for guidance. It is clear that the roads now most in need of attention are the remaining roads in Villa de Charlevoix. This is based on Trustees’ prioritization of how road millage dollars should be invested (see Addendum 1 and 2).

1. Dollars Available versus Work to Be Done

One of the major expenses in performing road work is “staging” the project. These costs include bringing in equipment, engineering, obtaining permits, coordinating activities with the Road Commission, etc. It represents a cost that does not improve the condition of the road but must be done for each project. The Board has initiated an approach to minimize these costs by sequestering years of road millage dollars such that when a project is initiated, it will be much larger in scope thus minimizing staging expenses. This approach is specifically being considered for the Villa de Charlevoix roads.

2. Projects

a. Villa de Charlevoix

Jim Vanek, Road Commission Engineer, has provided the board with a rough estimate that the cost of repairing the Villa roads will **exceed \$500,000**. Considering the cost spent on staging, the Board is proposing to accumulate funds over several years and then contract for these repairs to be done all at one time. The board hopes to successfully negotiate with the contractor to perform the work during the summer of 2020 with the township paying \$380,000 at the time the work is done and the balance being paid in January, 2021 with any carry-over cost being due in 2022. This plan will require the contractor to carry a balance due on the project. If the township is not successful in these negotiations, the road work may have to be delayed until the summer of 2021. The Board of Trustees will also investigate alternative sources of bridge funding. Details of the accumulation of the funds and proposed road repairs being done are shown in the following table:

Year	Road Fund End of Year Balance	Project
2018	\$80,000	Existing carry forward balance
2019	\$230,000	None
2020	\$380,000	Villa de Charlevoix during the summer
2021	\$150,000	Used to pay for Villa de Charlevoix
2022	\$150,000	Final payment for the Villa, to be determined
2023	\$150,000 +	Stolt Road, only if 50% funding contributed by Resort Township, Emmet County
2024	\$150,000 +	To be determined

b. Stolt Road

Stolt Road, west of Horton Bay Road also has a PASER rating in the 1-2 range and is need of major reconstruction. This road straddles Bay Township and Resort Township in Emmet County. The Trustees will approach and negotiate with Resort Township for 50/50 funding of these repairs. This work is being proposed to be done after the Villa de Charlevoix project.

c. Additional Projects

The township will continue to invest some road millage dollars in the maintenance of other roads. It is more efficient to annually address road repair issues than to let roads deteriorate to a condition that requires major reconstruction. Such expenditures will be made on an as needed base. This will include the paved roads as well as the numerous gravel roads that are non-seasonal in the township.

Future Goals - New PASER report

It is hoped that the State of Michigan will conduct a new PASER evaluation of Bay Township roads in the near future so the Board of Trustees will have updated information to provide direction for future projects.

Addendum 1. Factors Used for Prioritization

Road Usage

In developing this plan the amount of traffic on a road was reviewed. This was determined by traffic counts taken by the Charlevoix County Road Commission (Appendix 1). All data represent the most recent traffic counts. Traffic counts are not available on all roads.

Recommendations made by the Road Commission

Pat Harmon, Manager, and Jim Vanek, Engineer, of the Charlevoix County Road Commission, are well versed in the condition and usage of township roads. In light of their expertise, their recommendations are regularly solicited.

Cost of Projects

Projects can be categorized as either road improvements or road maintenance. The term road improvement is intended to mean major road reconstruction projects and the term road maintenance means less expensive treatments such as crack filling, patching, seal coating and similar treatments intended to extend the life of a road.

Community Input

The Board of Trustees held a public forum on roads in August 2014. Bill Wehrenberg, Trustee, presented information on the PASER rating of the roads and the costs associated with improving them. George Laseter, County Commissioner, presented information on how the County is using its voter-approved 1.0 road mileage. Pat Harmon, Manager, Charlevoix Road Commission, discussed issues faced by that unit. The presentations were followed by community input that included questions and answers, requests and recommendations. All five members of the Board of Trustees were present at the forum and are using the information exchanged by the participants to prioritize projects the township should fund.

Residences Served by a Road

The number of residences served by a particular road or section of a road was also used in evaluating the projects to be funded by the township. By using aerial imagery, permit data and field counts the number of residences on each road was estimated. The count included all residences that were accessed directly by the road and those that were accessed indirectly. Indirect access was defined as a dwelling that was located on a private road that was accessed only by a local or seasonal road. Using this information the number of dwellings per mile was calculated. This information is presented in Appendix 1.

Tax Base

The assessed value of residences on a road or section of a road was also estimated using the county tax rolls and BS & A software (Appendix 1). This data is not considered a primary factor for prioritization but it is a contributing factor.

Addendum 2. Guidelines Established for Determining Projects

It is clearly evident that there are insufficient township road millage dollars for the Board of Trustees to successfully address all of the improvement and maintenance needs. Indeed, it is again stressed that the responsibility for the roads rest solely with the Charlevoix County Road Commission. Cognizant of the fact that township dollars are very limited, the Board of Trustees has laid down the following guidelines for their use:

1. Resources will be used to maintain the paved roads in the township that serve the highest traffic volume that are not designated as a “Primary Road” by the County and State. Thus, primary attention will be given to Camp Daggett Road, Sumner Road (between Camp Daggett Road and Boyne City/Charlevoix Road) and Old Horton Bay Road.
2. Resources will be used primarily for road maintenance projects. This is based on the fact that it is much more cost efficient to maintain a road that is in fair to good condition than it is to improve roads in poor condition. Keeping this priority in mind and the limited resources available, **it is evident that some township roads that are presently paved will be returned to a gravel surface unless the County Road Commission addresses this issue.**
3. Resources will be used in the most cost efficient manner. Thus, road millage funds may be sequestered over several years to minimize fixed costs related to road projects. For example, road funds were sequestered for two years (2011-2013) so a larger portion of Camp Daggett Road could be paved in 2013 at a reduced cost.
 - a. Resources will not be used to pave roads that are not already paved.
 - b. Resources will not be used to address engineering issues related to the current condition of the roads such as line-of-sight and road grade issues.

Addendum 3. Road Improvement Projects in Past Years

Since its inception the Bay Township road millage has been used to pave, maintain and grade portions of the following roads:

Camp Daggett Road
Eagle Island Road
Old Horton Bay Road
Church Road
Horton Bay Road
Lake Street
West Street
High Street
Concord Street

Champerret Street
Erickson Road
Camp Sherwood Road
Reycraft Road
Zenith Heights Road
St. Louis Club Road
Pincherry Road
Alpine Hills Subdivision Roads.

In addition, funds have been used to improve the condition of the following gravel roads:

Reycraft
Zenith Heights
Curtis Lane
Sumner Rd. (from Camp Daggett Road to Walloon Lake)