

Bay Township Road Improvement Plan



2015

Preamble

In the 1930s the State of Michigan enacted legislation that established 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 roads 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 road in Bay Township which are the sole responsibility of the Charlevoix County Road Commission. In the November 2014 general election, the residents of Bay Township renewed the 1.0 township road millage for 2015 through 2017. 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:

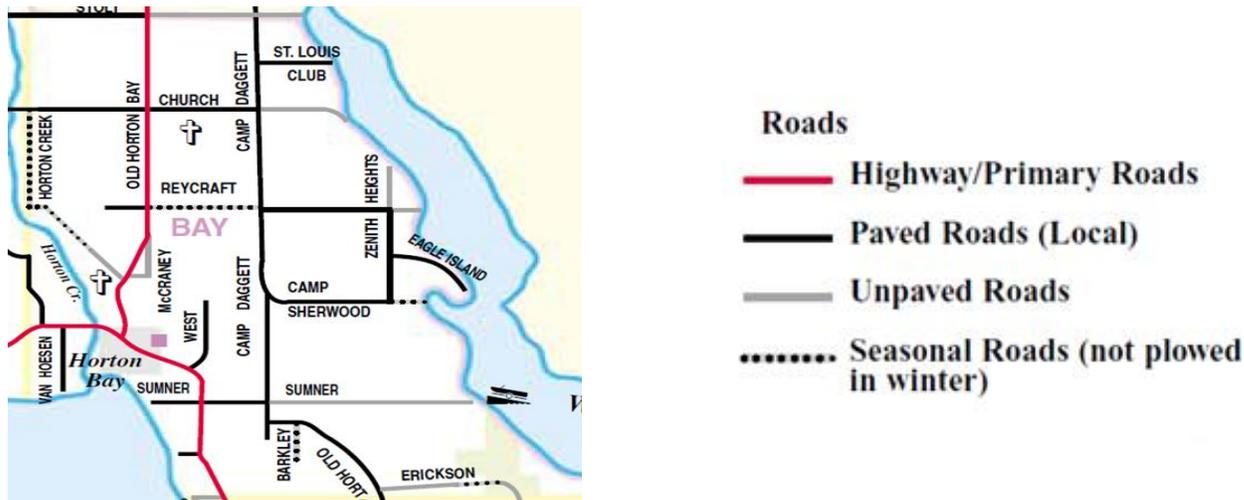
Primary Roads – selected by the Road Commission based on the greatest general importance to the township. The two primary roads are Boyne City/Charlevoix Road and Horton Bay Road.

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:

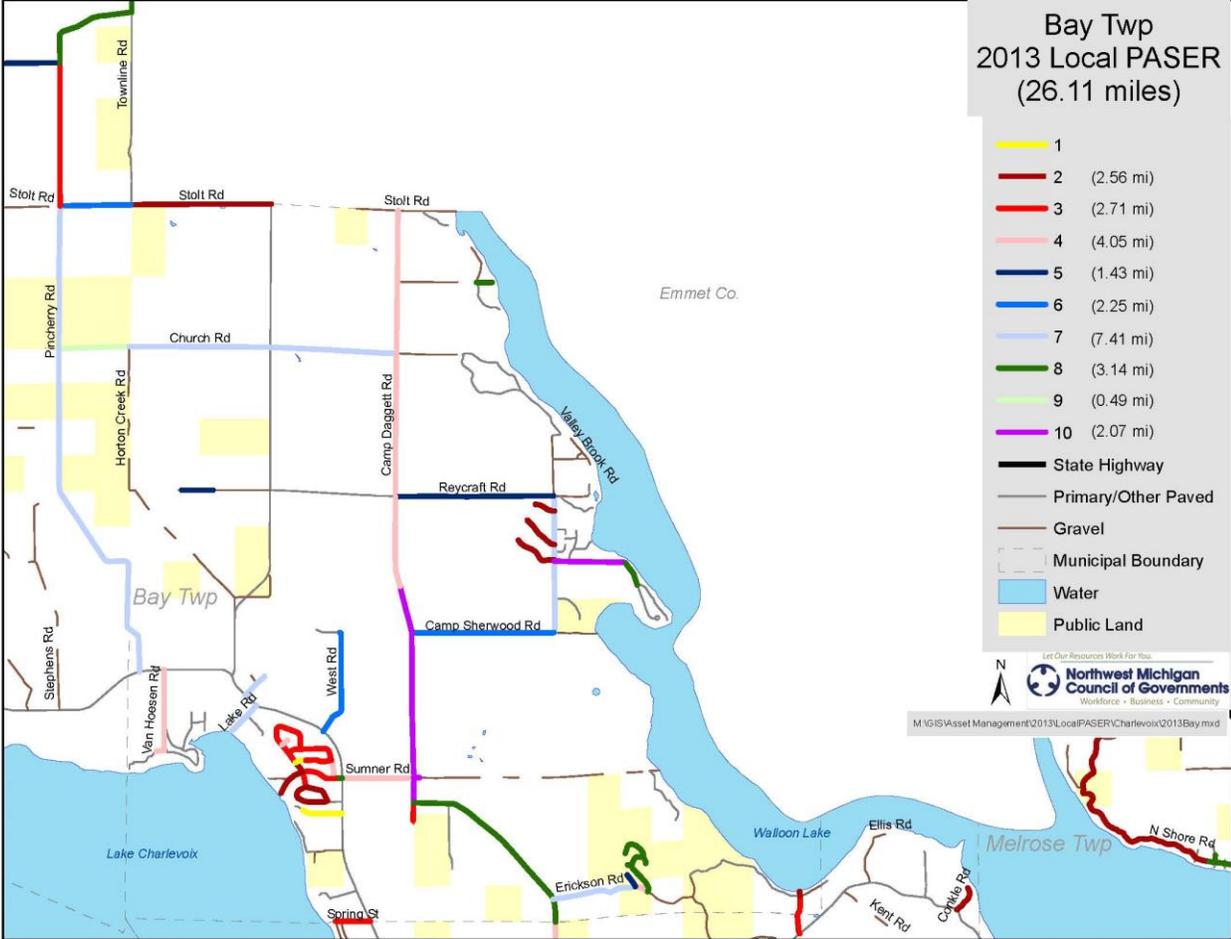
- Deformations – rutting, distortion
- Cracks
- Patches and Potholes
- Surface Defects.

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.apami.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. A rating between 8 and 10 represents a road that is in

excellent condition with no or very minor maintenance required. A rating of 4-7 represents a road that is in good condition and whose lifespan can be extended with regular routine maintenance. A rating of 1-3 indicates that the road is in major disrepair and is in need of major improvement and reconstruction. Figure 2 presents the PASER rating for the paved roads in the township.

Figure 2. The PASER Rating for Roads in Bay Township



Global Needs

The Charlevoix Road Commission has provided cost estimates of repairing roads given a specific PASER rating. One can determine the total dollars needed to bring all township local roads to ideal paved conditions (Table 2). It is evident that the township board must prioritize projects in light of the fact that the annual revenue from the township road millage only generates approximately \$125,000 and the needs exceed \$4 million.

Table 2. PASER Rating and Resources Needed to Bring all Local Roads to Ideal Conditions.

PAVED ROADS (PASER rating)	TOWNSHIP MILES	REPAIR COST PER MILE*	TOTAL \$ NEEDED
1 – 3	5.27	\$325,000	\$1,712,750
4-7	15.40	\$110,00	\$1,694,000
8-10	5.70	\$1,000	\$5,700
		Subtotal	\$3,412,450
UNPAVED ROADS (to pave them)	6.32	\$200,000	\$1,264,000
	TOTAL FUNDS NEEDED		\$4,676,450

*Cost ranges estimated by Charlevoix County Road Commission and are only a general guideline

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.

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.
4. Resources will not be used to pave roads that are not already paved.
5. 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.

Road Improvement Projects to Date

The Bay Township road millage generates approximately \$125,000.00 per annum. Since its inception the township has used these resources to pave and maintain portions of:

Camp Daggett Road	Champerret Street
Eagle Island Road	Erickson Road
Old Horton Bay Road	Camp Sherwood Road
Church Road	Reycraft Road
Horton Bay Road	Zenith Heights Road
Lake Street	St. Louis Club Road
West Street	Pincherry Road
High Street	Alpine Hills Subdivision Roads.
Concord Street	

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

Reycraft
Zenith Heights
Curtis Lane
Sumner Rd. (to Walloon Lake)

2015 through 2020 Road Improvement Projects

Based on the priorities and guidelines established by the Board of Trustees, the following projects are identified for township funding over the next five years:

MAJOR INVESTMENTS	
YEAR	PROJECT
2015	Road millage funds will be held in abeyance with the intention of using the funds along with those raised in 2016 to address Camp Daggett Road from Camp Sherwood Road north to the county line.
2016	Camp Daggett Road – starting at approximately Camp Sherwood Road north to the county line.
2017	Sumner Road – between Boyne City/Charlevoix Road and Camp Daggett Road
2018	Roads in most need in Villa de Charlevoix
2019	The township will conduct a PASER evaluation to identify the most critical roads in need of maintenance and improvement.
MINOR INVESTMENTS	
2015-19	Annual investments of a minor value such as sealcoating may be made annually to maintain major roads like Camp Daggett.
2015-19	Routine maintenance and improvements may be made on gravel road especially roads servicing large numbers of residences Lake Charlevoix and Walloon Lake.