

**Warner Township
Report of Paved Road Conditions
February 2015**

This report is provided for information on the current status of the local county paved roads in the township. For some, it is a useful tool when looking at potential road projects. It is by no means meant as a final determination of road projects. The Antrim County Road Commission has a cost share policy which allows it to share in a portion of the cost of most local road improvements that a township may decide to accomplish.

The included priorities are based on Asset Management principals. Asset Management is a systematic approach to selecting the best investment at the right time to maximize the life of the asset being measured, in this case, road pavements. The goal is to maintain a pavement in a good condition, making periodic investments in the pavement that keep it in a good condition, rather than letting it deteriorate to a level that requires a major investment to bring it back to a good condition. The periodic investments typically total less than the major investment required to rebuild a pavement.

This report uses the PASER pavement condition rating system. PASER stands for Pavement Surface Evaluation and Rating. PASER ratings range from 1, failed condition, to 10, brand new pavement. A pavement will only be a 10 the first year of its life, the second year automatically becoming a 9. Any condition of 8 or greater is considered to be a good condition, 7 through 5 is fair, with 4 and below poor.

Table 1 shows the typical pavement treatments for each PASER rating and the estimated costs per mile of roadway for each option.

Table 1

PASER Road Rating	Typical Treatment	Estimated cost per mile
10	No maintenance - new road first year only	\$ 0
9	No maintenance - like new	\$ 0
8	Minimal routine maintenance	\$ 0
7	Crack filling - minor maintenance	\$ 4,500
6	Chip seal with crack filling	\$ 33,100
5 - 6	Ultra-thin HMA overlay (road cannot be distorted)	\$ 44,000
5	Chip seal with hot mix wedging or 1 ½" hot mix asphalt (HMA) overlay	\$ 85,000
4	wedge and 1 ½" HMA overlay or 2" HMA overlay	\$ 120,000
3	Crush and shape, 2" HMA paving	\$ 135,000
1-2	Reconstruction - very poor condition	\$160,000 +

The treatments listed in Table 1 are for general estimating purposes. A specific treatment can only be determined with a close inspection of the actual road. Using the PASER ratings and the listed treatment will give fairly accurate budgeting numbers. Different treatments than those listed in Table 1 for a given PASER rating may be appropriate in certain cases.

A hot mix asphalt (HMA) pavement will typically last from 15 to 20 years. At that point, it is usually beyond a preservation treatment and requires a major investment. Good pavement management would involve less expensive treatments earlier in the life of the pavement in order to extend the useful life. A variety of treatments and repairs are listed in this report. An emphasis is placed on early preventive maintenance treatments as suggested by the principals of asset management.

Table 2 shows the most current PASER ratings for all local county roads in the township along with the termini and length for each segment rated. Also included is the age of the pavement. The Last PM column shows the year that a preventive maintenance treatment was applied. This is typically something less than two inches of HMA and other treatments such as a chip seal. All roads were rated in 2014.

Table 2

PASER Rating	Road Name	From	To	Length (miles)	Age of HMA	Last PM
9	Dobleski	US 131	south end of pavmnt	0.436	8	
8	Tebo School	Korthase	east end of pavmnt	0.862	10	
8	Deadman's Hill	US 131	west end of pavmnt	1.035	11	
8	Charles	M 32	Maple	0.184	15	2013
8	Coats	M 32	Maple	0.134	15	2013
8	Maple	Ray	Coats	0.132	15	2013
8	Ray	M 32	Maple	0.234	15	2013
8	Dobleski	M 32	Manglos	0.505	17	2012
8	Manglos	US 131	Dobleski	0.967	17	2012
7	Francis/Coulter *	US 131	end of pavmnt	1.374	13	
7	Dobleski	north of M32	M 32	1.026	14	
7	Dobleski	Manglos	railroad crossing	0.256	16	2010
7	Thumm	US 131	Dobleski	0.968	16	2010
6	Dobleski	railroad crossing	south end	0.645	14	
* township line road				Total	8.758	

These are the latest pavement condition ratings and will change over time as the pavement ages and deteriorates. A suggested fix may not be the appropriate fix the following year depending on the rate of deterioration. Repair costs are current estimates and will increase with inflation every year.

The township spent \$25,300 in 2010, \$0 in 2011, \$50,480 in 2012, \$13,629 in 2013 and \$0 in 2014 on road projects. The average over this five year period equals \$17,882 per year. A 1.5 mil road millage is levied by the township which generates approximately \$29,996. Based on these amounts, a suggested road improvement / pavement maintenance strategy is presented for the next five years.

The repair costs listed below have been adjusted for inflation for more accurate planning.

2015 Suggested Priorities

Cost per Mile	Number of Miles	Total Cost	Township Share	Selected Roads (miles)	Suggested Repair
\$ 33,100	1.026	\$ 33,961	\$ 30,565	Dobleski (M 32 to north end)	crack fill and chip seal
\$ 33,100	0.645	\$ 21,350	\$ 19,215	Dobleski (south of tracks)	crack fill and chip seal
Total township share =			\$ 49,779		

2016 Suggested Priorities

Cost per Mile	Number of Miles	Total Cost	Township Share	Selected Roads (miles)	Suggested Repair
\$ 34,000	1.374	\$ 46,716	\$ 42,044	Francis / Coulter	crack fill and chip seal
Total township share =			\$ 42,044		

2017 Suggested Priorities

Cost per Mile	Number of Miles	Total Cost	Township Share	Selected Roads (miles)	Suggested Repair
\$ 34,800	0.968	\$ 33,686	\$ 30,318	Thumm	crack fill and chip seal
\$ 34,800	0.256	\$ 8,909	\$ 8,018	Dobleski (Manglos to railroad)	crack fill and chip seal
Total township share =			\$ 38,336		

2018 Suggested Priorities

Cost per Mile	Number of Miles	Total Cost	Township Share	Selected Roads (miles)	Suggested Repair
Total township share =			\$ 0		

2019 Suggested Priorities

Cost per Mile	Number of Miles	Total Cost	Township Share	Selected Roads (miles)	Suggested Repair
\$ 36,500	0.505	\$ 18,433	\$ 16,589	Dobleski (M32 to Manglos)	crack fill and chip seal
\$ 36,500	0.967	\$ 35,296	\$ 31,766	Manglos	crack fill and chip seal
Total township share =			\$ 48,355		

5 year cost summary

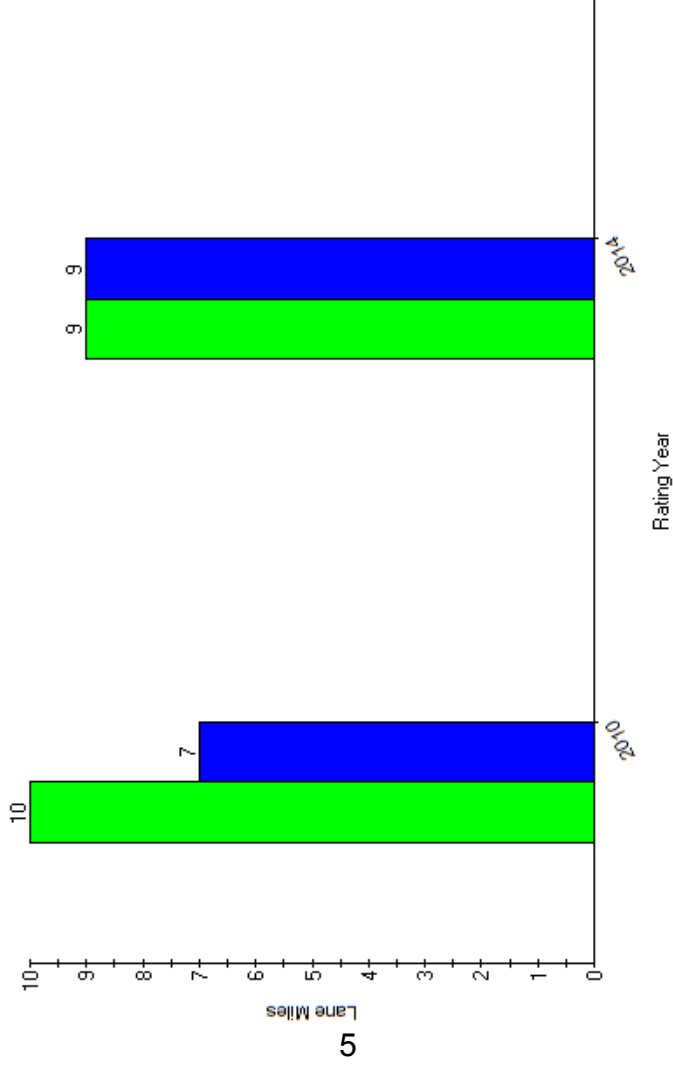
Year	Township Cost Share	Annual Average
2015	\$ 49,779	
2016	\$ 42,044	\$ 45,912
2017	\$ 38,336	\$ 43,386
2018	\$ 0	\$ 32,540
2019	\$ 48,355	\$ 35,703
Total	\$ 178,514	

The graph on page 5 shows pavement condition trends from 2010 to 2014. The numbers represent lane miles. All local county roads in the township are rated fair and good with none rated poor. However, since 2010, about about 3/4 mile of roads (1.5 lane miles) have deteriorated from good to fair.

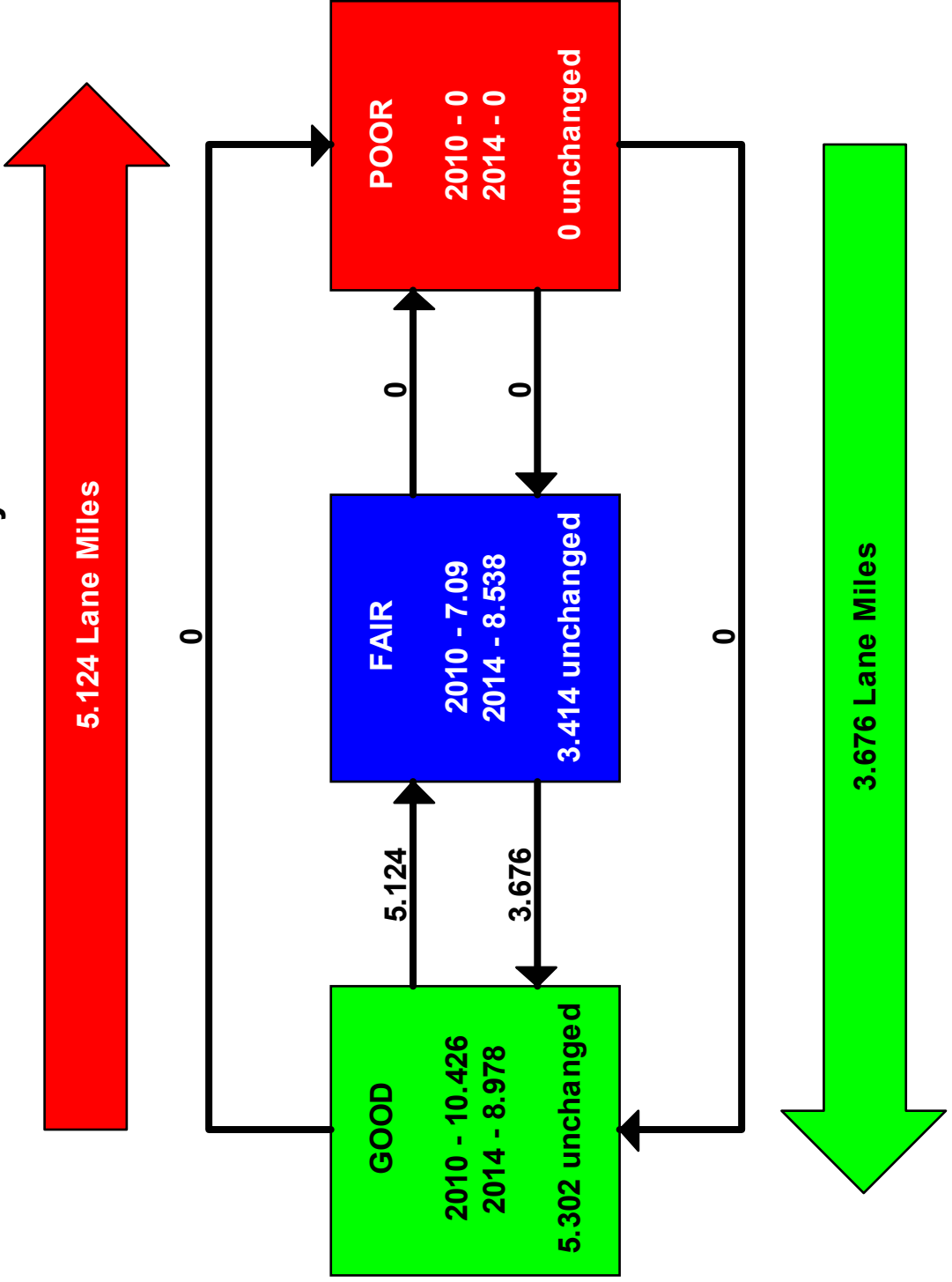
The graph on page 6 shows the change between good, fair and poor from 2010 to 2014. This again is in lane miles. This graph indicates that with the improvements made during this period, 3.7 lane miles were improved from fair to good but 5.1 lane miles deteriorated from good to fair. It is anticipated that if it is possible to accomplish the treatments suggested in the five year plan, all 8.8 miles (17.6 lane miles) could be in good condition. Certainly roads currently rated in good condition will fall to fair condition at some point in time.

Page 7 is a map of all roads in the township, including county primary and state trunkline roads. The condition of all paved roads is indicated by the red, yellow and green which is poor, fair and good respectively. The roads indicated in grey are gravel, black are seasonal (not snowplowed) roads and the white are private roads.

Surface Condition Trend



Surface Condition Flow by Lane Miles



Warner Township – 2014 Paved Road Ratings

Legend

-  Gravel
-  Seasonal (not snowplowed)
-  Poor – 1 thru 4
-  Fair – 5 thru 7
-  Good – 8 thru 10

