

USING ASSET MANAGEMENT TO SECURE ROAD FUNDING

BY

BRIAN A. GUTOWSKI, P.E.
ENGINEER-MANAGER
EMMET COUNTY ROAD COMMISSION

EMMET COUNTY ROAD COMMISSION ROADS

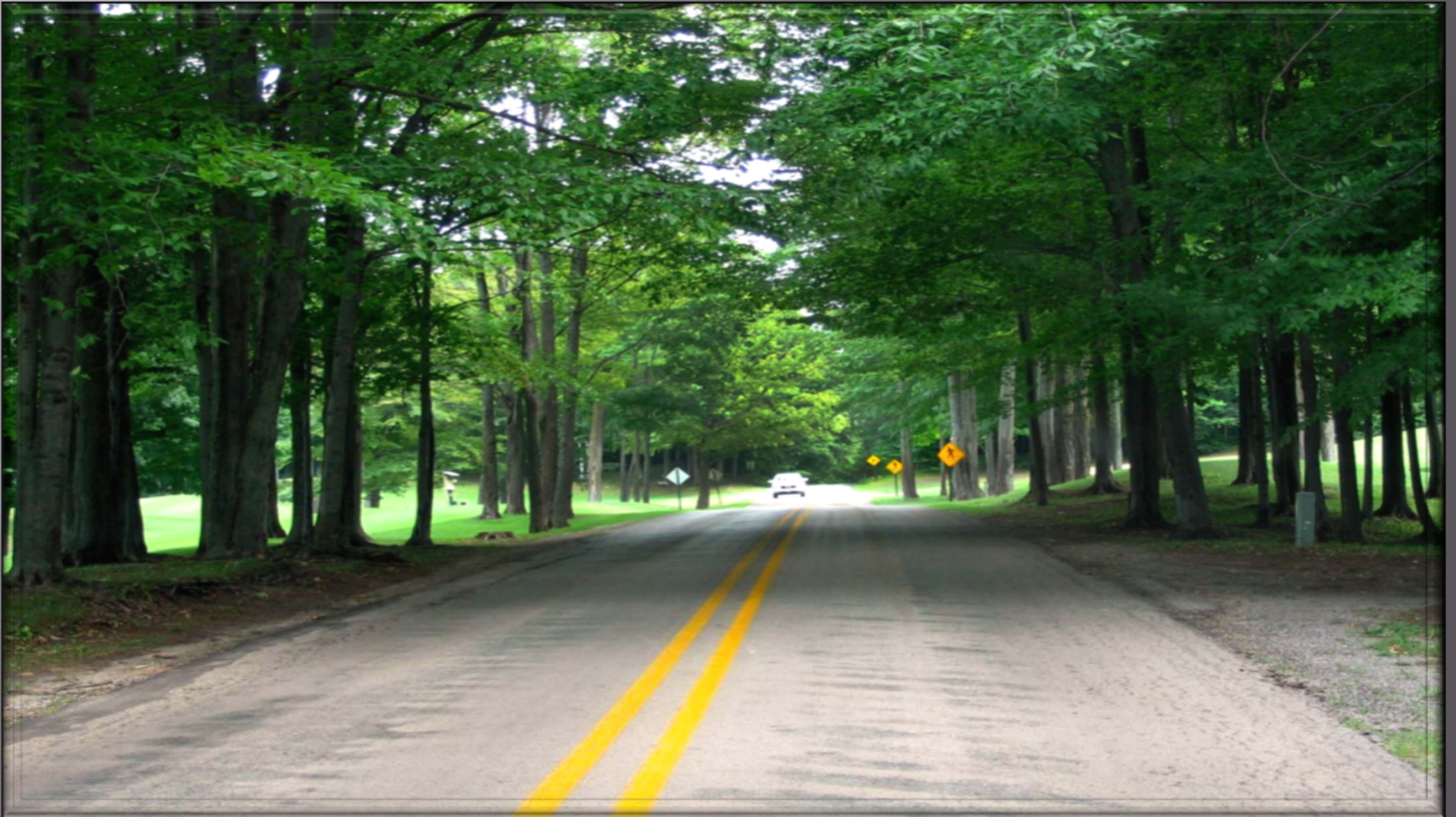
IN 1995, WE HAD AN UNUSUAL
AMOUNT OF HARD-SURFACED ROADS
COMPARED TO OUR NEIGHBORING
COUNTIES

315 OF 600 MILES LOCAL ROADS

AND

ALL 233 MILES OF PRIMARY ROADS

NEARLY ALL WERE CHIP SEAL ROADS



NICE EQUIPMENT



CHIP SEAL EQUIPMENT



2 – 2003 CAT PS-150B RUBBER TIRE ROLLERS

EMMET COUNTY ROAD COMMISSION PREVENTATIVE MAINTENANCE PROGRAM

WHO PAYS FOR THE REPAIRS?

PRIMARY ROADS: 100% ROAD COMMISSION

LOCAL ROADS: SMALL ALLOCATION FROM
ROAD COMMISSION THEN THE REST
TOWNSHIP PARTICIPATION

WITHOUT MAINTENANCE THEY
START LOOKING LIKE THIS



PHOTO TAKEN IN 2003

UNFORTUNATELY THE MAJORITY OF OUR
ROADS STARTED LOOKING LIKE THIS

DOOM AND GLOOM OUTLOOK

FROM THE LATE 1990's THROUGH 2004, THE ROAD COMMISSION HAD A PRETTY GOOD SYSTEM OF PREVENTATIVE MAINTENANCE ON OUR PRIMARY ROADS.

- THE AVERAGE PASER RATING WAS 5.82.

THE LOCAL ROAD SYSTEM WAS IN PRETTY POOR CONDITION AND GETTING WORSE DUE TO A LACK OF FUNDING.

- THE AVERAGE PASER RATING WAS 5.43.

STATE ROAD FUNDING REDUCTIONS PLUS ESCALADING COSTS DOOMED OUR PROGRAM

2002 WAS THE LAST YEAR WE DID A SUBSTANTIAL AMOUNT OF CHIP SEALING DUE TO FUNDING SHORTFALLS.

ON TOP OF THAT, THE COST OF FUEL WENT FROM UNDER \$2 PER GALLON TO MORE THAN \$4 PER GALLON.

STATE FUEL TAX REVENUES DROPPED FOR THE NEXT 10+ YEARS.

HOPE ON THE HORIZON – ROADSOFT TO THE RESCUE

IN EARLY 2003, LARRY GALEHOUSE PRESENTED THE CONCEPT OF ASSET MANAGEMENT AT AN ENGINEERS CONFERENCE AND THE LIGHT CLICKED OFF IN MY HEAD.

USING THE INFORMATION FROM GLEANED FROM ROADSOFT, I COULD CONVINCE THE TOWNSHIPS TO INVEST MORE INTO THE LOCAL ROAD SYSTEM.

TIM COLLING AND LTAP

WE HAD TO GET THE TOWNSHIPS AND COUNTY BOARD TO BUY INTO THE CONCEPT THAT ASSET MANAGEMENT IS THE BEST WAY TO REPAIR OUR ROADS, BUT ALSO REALIZE THAT CURRENT FUNDING IS NOT ADEQUATE.

“MIX OF FIXES” AND NOT “WORSE FIRST” CONCEPT.

FALL OF 2003 TIM PRESENTED TO THE ROAD COMMISSION, TOWNSHIPS, CITIES AND COUNTY BOARD. MORE THAN 50 PEOPLE WERE IN ATTENDANCE.

PROPOSED COUNTY-WIDE MILLAGE

FEBRUARY 16, 2004: ROAD COMMISSION PRESENTS TO THE COUNTY BOARD THE IDEA OF ASKING THE VOTERS OF EMMET COUNTY TO APPROVE 1 MIL FOR ROAD IMPROVEMENTS.

EMMET COUNTY ROAD MILLAGE PROPOSAL - DRAFT

Shall the constitutional limit of 15 mills imposed under Article IX, Section 6 of the Michigan Constitution, be increased by 1 mil (\$ 1 for each \$ 1,000 of valuation) for the years of 2004, 2005, and 2006, for the purposes “of providing funds for repair and maintenance of roads, streets and bridge systems” within the County of Emmet, including its incorporated cities and villages as apportioned according to Act 133, Public Acts of 1968 and shall the County of Emmet levy such millage for said purposes thereby raising in the first year an estimated \$ 2,000,000.

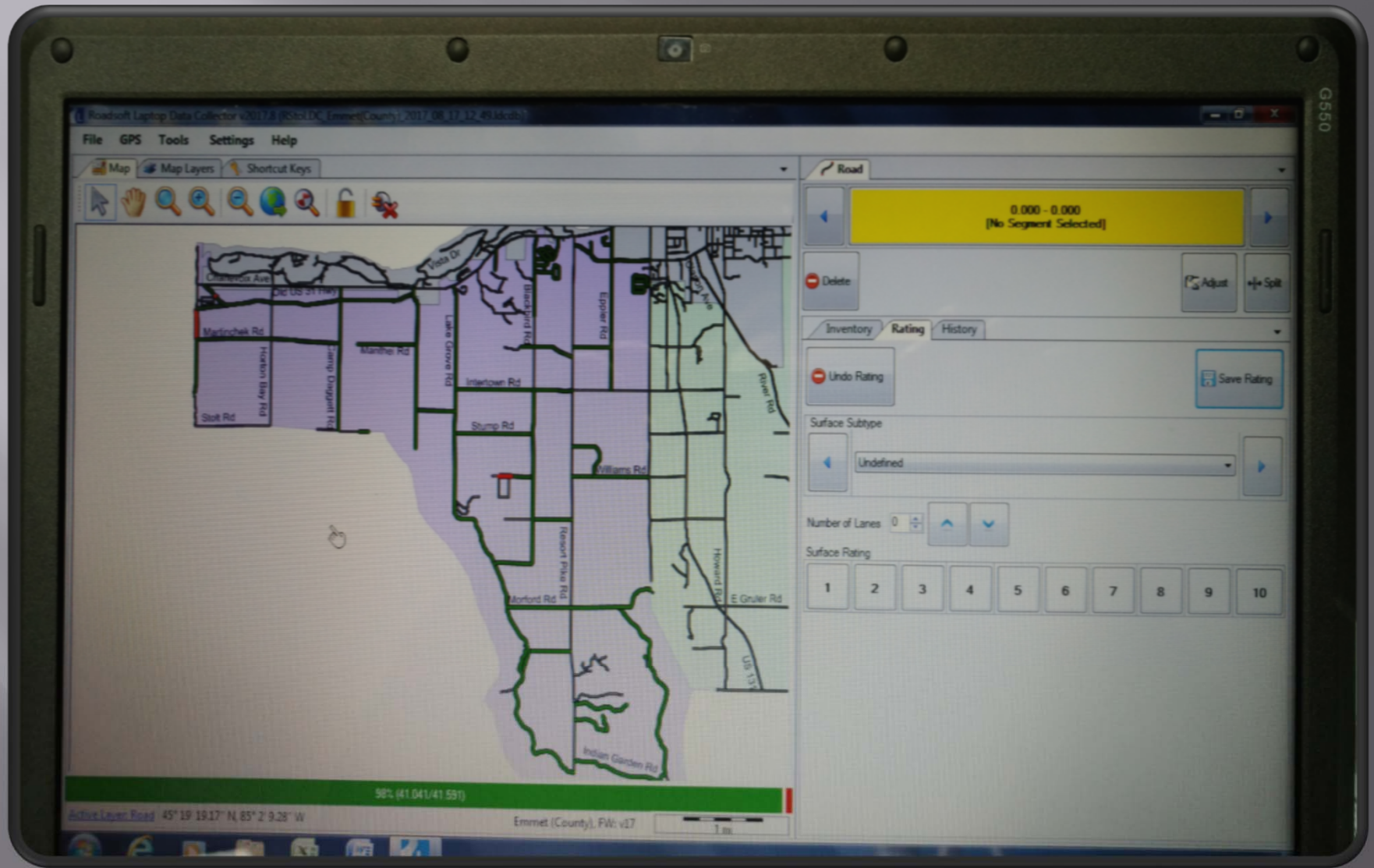
MAJOR SET BACK

SEVERAL OF THE MORE INFLUENTIAL TOWNSHIPS SPOKE AGAINST THE IDEA OF THE ROAD COMMISSION CONTROLLING THE FUNDING.

THE COUNTY BOARD SHOT DOWN OUR REQUEST.

HOWEVER, THE TOWNSHIPS INDICATED THEY WANTED MORE INFORMATION ON HOW A MILLAGE WOULD WORK.

USING ROADSOFT INFORMATION



ROADSOFT

Last Rating Entered Report

PRNo	Road Name	Segment Name	From Description	To Description	P.O.B	P.O.E	Length	City/Twp	Legal System	NFC	Last Resurf	Last Eval	Last Rating	Last IBR
Surface Subtype: Asphalt-Standard														
1164910	Graham Rd	N Division Rd	Mitchell Park Dr	Summit Park	0.845	0.904	0.059	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
		N Division Rd	Summit Park	Richards	0.904	1.249	0.345	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
		N Division Rd	Richards	Terrace Ave	1.249	1.435	0.186	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
		N Division Rd	Terrace Ave	Country Club	1.435	1.473	0.038	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
		N Division Rd	Country Club	Moors Ave	1.473	1.535	0.062	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
		N Division Rd	Moors Ave	US 31	1.535	1.598	0.063	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	7	0
3240866	E Hathaway Rd	Graham Rd	US 31	Beltner	0.000	0.137	0.137	Bear Creek Twp	CoPrimRd	MajColl	2001	2017	8	0
1164308	Horton Bay Rd	W Hathaway Rd	Hedrick	Clayton Rd	1.553	2.053	0.500	Little Traverse	CoPrimRd	MajColl	0	2017	7	0
		E Hathaway Rd	Clayton Rd	Mink	2.053	2.550	0.497	Little Traverse	CoPrimRd	MajColl	0	2017	7	0
		E Hathaway Rd	Mink	Chadderdon	2.550	3.052	0.502	Little Traverse	CoPrimRd	MajColl	2002	2017	7	0
		E Hathaway Rd	Chadderdon	Kipp	3.052	3.553	0.501	Little Traverse	CoPrimRd	MajColl	2002	2017	7	0
		E Hathaway Rd	Kipp	Conway	3.553	4.058	0.505	Little Traverse	CoPrimRd	MajColl	0	2017	4	0
		Powers Rd	County Line	County Line	4.058	4.556	0.498	Little Traverse	CoPrimRd	MajColl	0	2017	9	0
		Powers Rd	City/Twp Line		4.556	4.588	0.032	Littlefield Twp	CoPrimRd	MajColl	0	2017	9	0
		Powers Rd	Conway	City/Twp Line	4.588	5.019	0.431	Littlefield Twp	CoPrimRd	MajColl	0	2017	9	0
		Powers Rd	Ayr	Hinds Rd	5.019	5.085	0.066	Littlefield Twp	CoPrimRd	MajColl	0	2017	9	0
		Powers Rd	Hinds Rd	Crump Rd	5.085	5.613	0.528	Littlefield Twp	CoPrimRd	MajColl	0	2017	9	0
1164308	Horton Bay Rd	Powers Rd	Crump Rd	Milton	5.613	5.758	0.145	Littlefield Twp	CoPrimRd	MajColl	0	2017	9	0
		Horton Bay Rd	Stolt	Martinehek Rd	0.000	1.007	1.007	Resort Twp	CoPrimRd	MajColl	2003	2017	7	0
		Horton Bay Rd	Martinehek Rd	Old US 31 Hwy	1.007	1.425	0.418	Resort Twp	CoPrimRd	MajColl	2003	2017	7	0
		Horton Bay Rd	Old US 31 Hwy	Charlevoix	1.425	1.575	0.150	Resort Twp	CoPrimRd	MajColl	2003	2017	6	0
1166603	Howard Rd	Horton Bay Rd	City/Twp Line	Charlevoix Ave	1.575	1.618	0.043	Resort Twp	CoPrimRd	MajColl	2003	2017	4	0
1166603	Howard Rd	Howard Rd	River Rd	Hedrick	4.395	4.408	0.013	Bear Creek Twp	CoPrimRd	MinArt	2003	2017	8	0
		Howard Rd		Great Lakes Central Railroad	4.408	4.416	0.008	Bear Creek Twp	CoPrimRd	MinArt	0	2017	8	0
		Howard Rd	Great Lakes Central Railroad	Pleasantview	4.416	4.428	0.012	Bear Creek Twp	CoPrimRd	MinArt	0	2017	8	0
		Standish Ave	City/Twp Line	City/Twp Line	4.428	4.470	0.042	Bear Creek Twp	CoPrimRd	MinArt	0	2017	8	0

\$ 65,000
\$ 48,000
\$ 73,000
\$ 110,000
\$ 128,000
\$ 270,000
\$ 340,000 +/-
\$ 340,000 +/-

you would put an ad

NSHIP

iles

MEETING WITH ALL 16 TOWNSHIPS

CUSTOMIZED INFORMATION FOR EACH

WAWATAM TOWNSHIP 5-YEAR ROAD PLAN

April 15, 2005

10	No maintenance necessary. New road.	\$ 0
9	No maintenance necessary. Smooth surface.	\$ 0
8	Crack filling or shoulder patching.	\$ 500
7	General crack sealing and/or minor patching.	\$ 7,000
6	Patching and sealcoat.	\$ 12,000
5	Asphalt wedging and sealcoat.	\$ 50,000
4	Asphalt wedge and cap.	\$ 75,000
3	Pulverize, gravel and pave. Surface poor.	\$ 200,000
2	Reconstruction. Very poor condition.	\$ 250,000
1	Reconstruction. Failed road surface.	\$ 250,000

CUSTOMIZE THE PASER AND ASSET MANAGEMENT FOR EACH TOWNSHIP

WAWATAM TOWNSHIP

Wawatam Township would bring in approximately \$17,500 per year for the 1 Mil the voters overwhelmingly approved for local road improvements in August, 2004. The township indicated their intention to keep the allocation. In 2005, the allocation amounted to \$4,939. Therefore, the approximate yearly investment in local roads is \$ 22,500.

TOTAL YEARLY INVESTMENT = \$ 22,500

TOTAL 5-YEAR ROAD EXPENSE = \$ 112,500

CATEGORIZATION OF HARD-SURFACED ROADS IN WAWATAM TOWNSHIP

Paser

Rating

Road Name

Limits

10	None	-
9	None	-
8	Wilderness Park Dr.	From Cecil Bay Dr. to Bliss Twp. for 1.28 miles
7	Algonquin Drive	From Headlands to the end for 0.22 miles
6	Headlands Road	From Central to Lake Michigan for 0.50 miles
	Pointe Drive	From Wilderness Park to Pointe for 0.05 miles
	Pointe Drive	From Pointe to Carp River for 0.12 miles
	Trailsend Road	From French Lake to Mackinaw Highway for 2.30 miles
	Wilderness Park Dr.	From French Lake to Central for 1.02 miles
5	Cecil Bay Road	From Oliver to Wilderness Park for 1.63 miles
4	Wilderness Park Dr.	From Esther then west for 1.31 miles
3	Mackinaw Highway	From Mackinac City to Carp Lake Twp. for 2.68 miles
	Wilderness Park Dr.	From Cecil Bay then east for 2.06 miles
	Wilderness Park Dr.	From Esther to French Lake for 0.25 miles
2	None	-
1	None	-

MILEAGE BREAKDOWN OF ROAD RATINGS FOR WAWATAM TWP.

ALL RATINGS

PASER RATING	# OF MILES	REPAIR COST	AVERAGE TOTAL
8	1.28	\$ 500	\$ 640
7	0.22	\$ 7,000	\$ 1,540
6	3.99	\$ 12,000	\$ 47,880
5	1.63	\$ 50,000	\$ 81,500
4	1.31	\$ 75,000	\$ 98,250
3	4.99	\$ 200,000	\$ 998,000
COST =			\$ 1,227,810

TOTAL HARD-SURFACED MILES = 13.42

AVERAGE ROAD SURFACE RATING = 4.77

MILEAGE BREAKDOWN OF ROAD RATINGS FOR WAWATAM TWP.

LOCAL ROAD BREAKDOWN

PASER RATING	# OF MILES	REPAIR COST	AVERAGE TOTAL
7	0.22	\$ 7,000	\$ 1,540
6	2.97	\$ 12,000	\$ 35,640
5	0.00	\$ 50,000	\$ -
4	0.00	\$ 75,000	\$ -

TOTAL HARD-SURFACED MILES = 3.19
AVERAGE ROAD SURFACE RATING = 6.07

ASSET MANAGEMENT GOAL

The goal of Asset Management, is to allocate public resources in the most cost effective manner. It should be our goal to bring our road 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 local road ratings from the current 6.07 to a good condition. Good is considered to be 7 or better. With \$ 22,500 per year, these are my recommendations for hard-surface roads over the next 5 years.

ROAD IMPROVEMENT PLAN

WAWATAM TOWNSHIP SUGGESTED 5-YEAR ROAD REPAIR LIST

2006 REPAIRS

RATINGS	PER MILE	# MILES	COST	SELECTED ROADS (miles)
7	\$ 7,000	0.22	\$ 1,550	Algonquin (0.22)
6	\$ 12,000	0.67	\$ 8,050	Headlands (0.50), Pointe Drive (0.17)

TOTAL SUGGESTED 2006 REPAIRS = \$9,600

2007 REPAIRS

RATINGS	PER MILE	# MILES	COST	SELECTED ROADS (miles)
6	\$ 12,000	2.3	\$ 27,600	Trailsend (2.30)

ROAD IMPROVEMENT PLAN

WAWATAM TOWNSHIP

TOTAL PROJECTED 5-YEAR COST

2006	\$	9,600
2007	\$	27,600
2008	\$	New construction
2009	\$	New construction
2010	\$	New construction

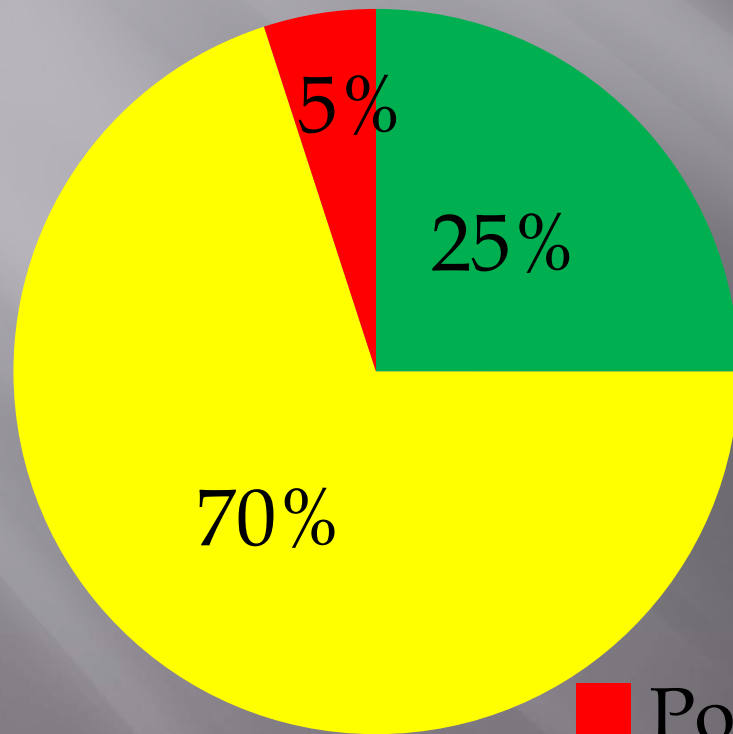
Bear Creek Township Local Roads

Average Local Road Rating 7.24

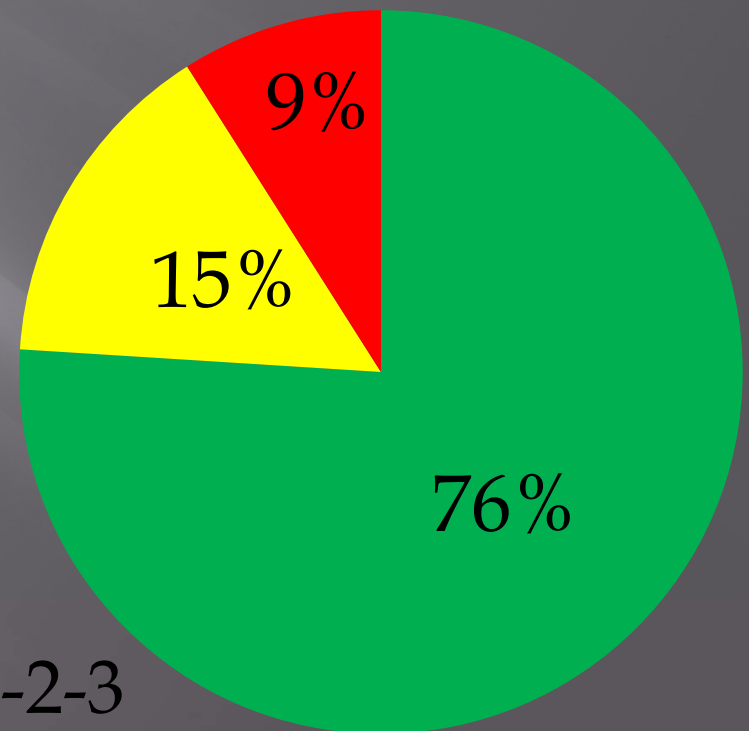
PASER Rating	Number of Miles	Average Repair Cost	TOTAL
10	1.19	\$ 0	\$ 0
9	2.32	\$ 0	\$ 0
8	43.68	\$ 600	\$ 26,208
7	0.98	\$ 2,500	\$ 2,450
6	7.58	\$ 72,000	\$ 545,760
5	0.00	\$ 110,000	\$ 0
4	1.76	\$ 133,000	\$ 234,080
3	5.79	\$ 270,000	\$ 1,563,300
2	0.10	\$ 340,000	\$ 34,000
1	0.00	\$ 340,000	\$ 0
TOTAL COST			\$ 2,405,798

Bear Creek Township Road Rating History

2005



2017



-  Poor Roads 1-2-3
-  Fair Roads 4-5-6
-  Good Roads 7-8-9-10

TOWNSHIPS GO TO BAT FOR ROAD FUNDING

THE SAME TOWNSHIPS THAT DID NOT WANT THE ROAD COMMISSION HAVING A ROAD MILLAGE NOW HELPED THE ROAD COMMISSION PRESENT TO THE COUNTY BOARD A NEW CONCEPT.

A BALLOT MEASURE TO RAISE THE MILLAGE CAP FOR THE TOWNSHIP OPERATIONS BY 1 MIL FOR ROAD PURPOSES.

THE TOWNSHIPS PROPOSAL WOULD BE TO WORK WITH THE ROAD COMMISSION TO STRICTLY SPEND THE 1 MIL ON ROADS BASED ON THE ASSET MANAGEMENT CONCEPT.

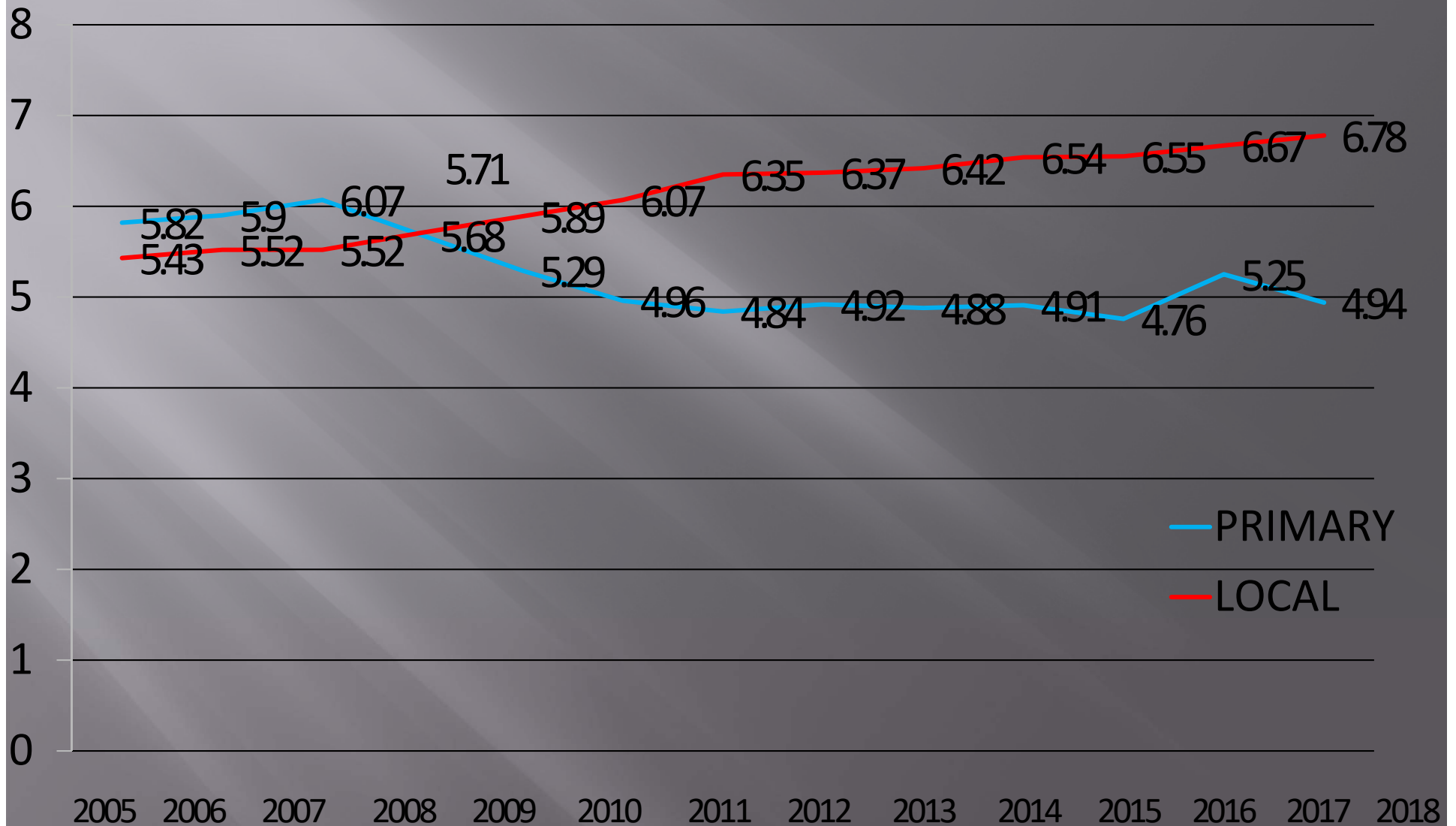
IN NOVEMBER 2004,
THE BALLOT PASSED
BY A
2 TO 1 MARGIN

TOWNSHIP	ANTICIPATED 2004 REVENUE
BEAR CREEK	\$ 292,198.42
BLISS	\$ 17,210.19
CARP LAKE	\$ 29,071.80
CENTER	\$ 15,386.20
CROSS VILLAGE	\$ 39,915.05
FRIENDSHIP	\$ 70,356.64
LITTLEFIELD	\$ 70,328.09
LITTLE TRAVERSE	\$ 192,492.27
MAPLE RIVER	\$ 32,719.73
MCKINLEY	\$ 15,592.17
PLEASANTVIEW	\$ 101,013.10
READMOND	\$ 57,758.52
RESORT	\$ 187,065.37
SPRINGVALE	\$ 62,008.46
WAWATAM	\$ 17,486.14
WEST TRAVERSE	\$ 237,221.43

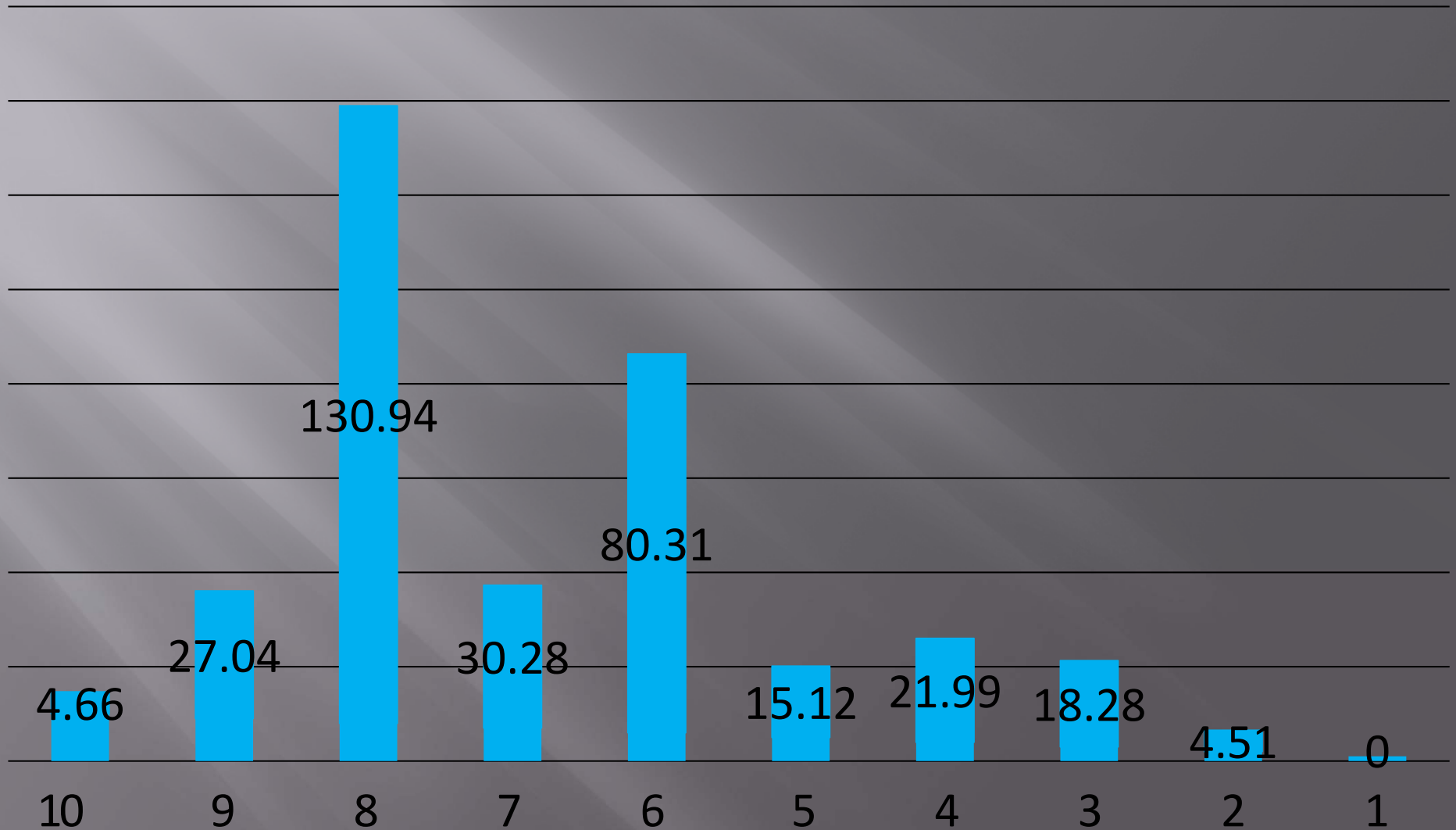
**TOTAL ESTIMATED
REVENUE FROM 1
MILL BASED ON 2003
MILLAGE RATES**

\$1,438,722.58

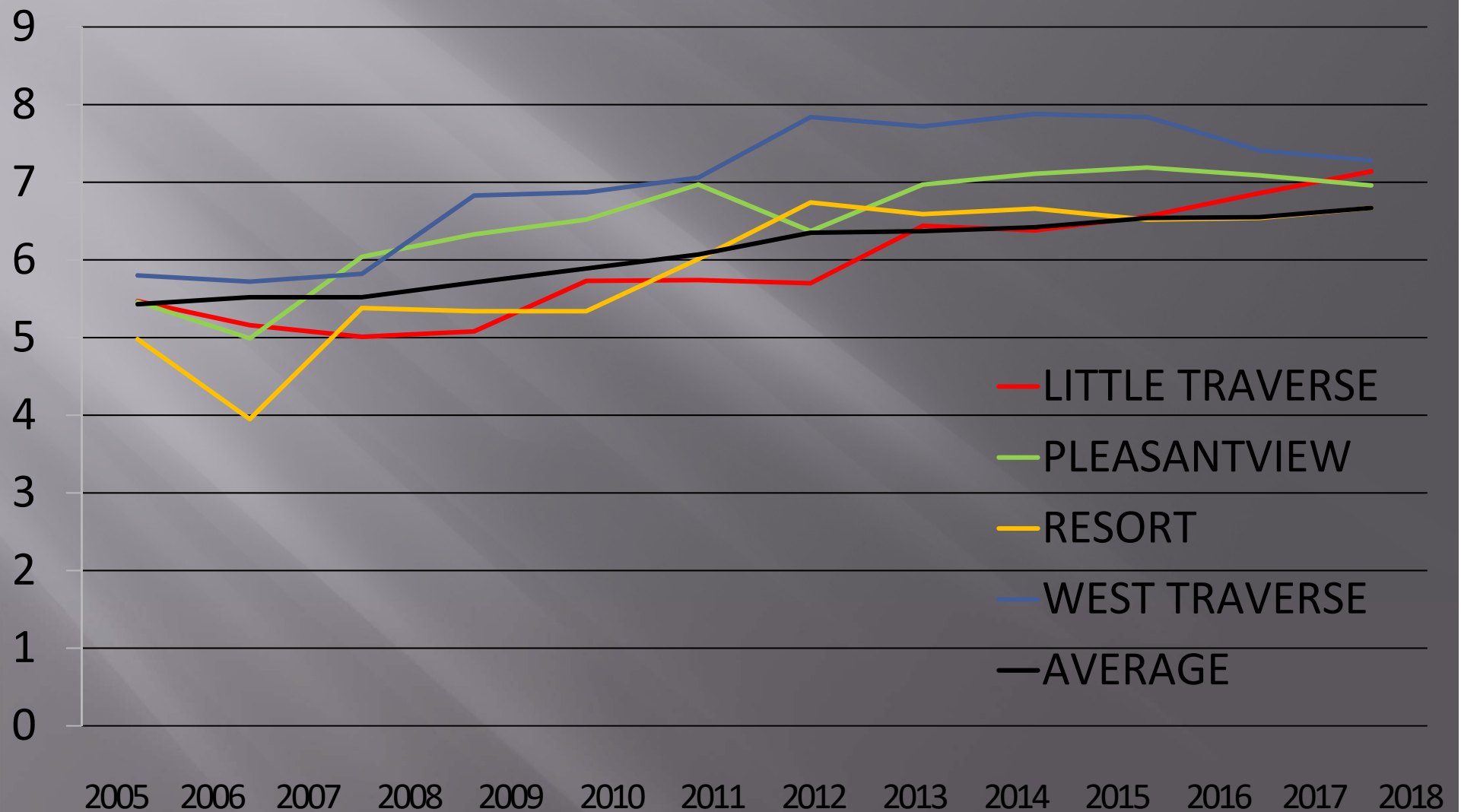
WHAT HAS HAPPENED SINCE?



2017 LOCAL ROAD RATING SUMMARY



FRIENDLY COMPETITION



TOWNSHIP ROAD EXPENSES SINCE MILLAGE PASSED

2005 \$ 2,025,896.11

2006 \$ 1,923,179.64

2007 \$ 2,409,905.06

2008 \$ 2,533,174.34

2009 \$ 2,724,137.02

2010 \$ 2,640,692.44

2011 \$ 2,706,558.45

2012 \$ 2,901,127.56

2013 \$ 2,580,611.04

2014 \$ 2,915,450.57

2015 \$ 2,607,375.90

2016 \$ 2,713,945.44

2017 \$ 3,257,885.52

TOWNSHIP ROAD IMPROVEMENT EXPENSES
\$ 33,939,939.09

MIX OF FIXES HAVE GROWN

10	No maintenance necessary. New Road.	\$ 0
9	No maintenance necessary. Smooth surface.	\$ 0
8	Crack filling or shoulder patching.	\$ 600
7	General crack sealing and/or minor patching.	\$ 2,500
6	Sealcoat	\$ 25,000 or
	Micro-surface	\$ 33,000 or
	Ultra-Thin Asphalt	\$ 65,000
5	Asphalt wedging only	\$ 48,000 or
	Asphalt wedging and sealcoat	\$ 73,000 or
	Asphalt wedging and ultra-thin asphalt	\$ 110,000
4	Asphalt wedge and cap or heavy cap.	\$ 128,000
3	Pulverize, gravel and pave. Surface poor.	\$ 270,000
2	Reconstruction. Very poor condition.	\$ 340,000 +/-
1	Reconstruction. Failed road surface.	\$ 340,000 +/-

MICRO-SURFACE



ULTRA-THIN ASPHALT



ASPHALT WEDGING



SPECIAL PROJECTS



STILL HAVE WORK TO DO



MORE COSTLY REPAIRS



**ASSET MANAGEMENT
WORKS AND
ROADSOFT IS A GREAT
WAY TO GET THE
INFORMATION NEEDED TO
EDUCATE
THE POLITICIANS TO ACT**

QUESTIONS?

THANK YOU!