



# **JAMES (JIM) A. WIECHART, P.E., P.S.**

## **~Mercer County Engineer~**

### **REPORT FOR 2017**

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Through any objective evaluation, 2017 was a very successful year for the efforts of the work force of the Mercer County Engineer. We completed a myriad of diverse improvements on our local road infrastructure. Much good was completed to great public benefit by this agency. As the numbers within this report demonstrate, the \$8,887,731.56 of highway expenditures is considerably greater than many past years. The elevated levels of expenditures are directly connected to competitive state and federal programs that we have been successful in accessing for local road improvements. For the second year in a row, bridge rehab and replacement project numbers are more normalized in production as compared to prior years. In prior years, expenditures in this area had to be curtailed to offset the significant improvements in the construction of the Mercer County Engineer facility conducted circa 2013 & 2014. In 2018, we enter into the 3<sup>rd</sup> year of the 10 year 0% interest payback for the loan funds procured through the Local Government Innovation Fund (LGIF). It is amazing to me, in a mere 7 years, the facility improvements of the construction of the Mercer County Engineer facility will be paid in full with no tax increases.

With 12.5% of our work force retiring in late 2016, related to some very key positions; we hired 3 new employees late 2016/early 2017. With the transition of new employees into our work place and existing employees moving into new roles, the process has largely been very smooth. When you have a big change like we experienced, you lose so much in wisdom and institutional knowledge, but you do gain fresh prospective on how to attack problems.

We are continuing to ramp up our county ditch maintenance activities to try to place ourselves where we are in a more proactive posture as it relates to maintenance work, rather than possibly a reactive situation.

24 full-time and 11 seasonal employees helped rebuild portions of Mercer County to much benefit to our constituents. Much gratitude goes to our competent and capable work force who make such a positive difference in our county. With ever increasing distractions to driving and other hazards we face on a daily basis, we are thankful that all of our employees were able to return home safely after a day's work. Something not to be taken for granted.

Thus, pursuant to the requirement in the Ohio Revised Code, an annual report must be made to the Board of County Commissioners summarizing the activities and accomplishments for the year. Please read and accept this report detailing our activities conducted in 2017.

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## REVENUE/EXPENDITURES

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<u>HIGHWAY RECEIPTS</u>			<u>HIGHWAY EXPENDITURES</u>		
MOTOR LICENSE FEES	\$2,677,845.79	29.16%	RESURFACING/IMPROVEMENTS	\$5,060,783.54	56.94%
GAS TAX	\$2,253,075.97	24.54%	BRIDGE CONSTR. & MAINT.	\$420,086.79	4.73%
FINES/NON FUEL REIMBURSEMENTS	\$420,454.83	4.58%	SALARIES	\$1,367,931.62	15.39%
FUEL REIMBURSEMENT	\$262,562.64	2.86%	FRINGE BENEFITS	\$550,044.23	6.18%
STATE & FEDERAL GRANTS/0% INTEREST LOANS	\$3,494,219.13	\$38.05%	EQUIPMENT PURCHASES	\$394,074.80	4.43%
INTEREST INCOME	\$47,273.47	0.52%	ROAD MAINT. & UTILITIES	\$429,940.63	4.84%
CO. PMT. ENG OFFICE SPACE	<u>\$27,000.00</u>	\$0.29%	REPAIRS & SUPPLIES	\$251,857.93	2.84%
			NEW FACILITY DEVELOPMENT	\$13,012.02	0.15%
			BOND PAYMENT-NEW FACILITY	\$400,000.00	4.5%
<b>TOTAL RECEIPTS</b>	<b>\$9,182,431.83</b>		<b>TOTAL EXPENDITURES</b>	<b>\$8,887,731.56</b>	

Note: Carryover monies, grants and 0% interest loans make up the difference between revenue and expenditures.

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## PAVEMENT MARKINGS

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The following pavement markings were placed in 2 separate packages: 117.43 miles of centerline and 18.37 miles of edge line at a cost of \$77,065.71. This work was completed by Dura Mark, Inc. with a federal grant. The second pavement marking project was completed by Oglesby Construction at a cost of \$19,424.88 for 52.79 miles of centerline from our own road and bridge funds.

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## GUARDRAIL

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Guardrail was placed in 6 locations throughout the county at a cost of \$86,655.00. This work was completed by Lake Erie Construction with a federal grant.

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## LITTER PICK-UP

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The County Engineer's Office, in partnership with the Mercer County Solid Waste Office and various Boards of Township Trustees, sponsored various civic and community groups in 11 Mercer County townships to pick up litter along county roads in 2017. The Engineer's office paid each group \$25.00 per mile of county roads for their efforts in this community service project. Litter was picked up along 328 miles of county roads. The County Engineer's Office along with the Solid Waste Office furnished litterbags, safety vests, and signs. The Mercer County Solid Waste Office paid the litter disposal fees.

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**EQUIPMENT PURCHASES**

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The following is a list of the purchases over \$5000 during 2017.

Used Turfmaker 1000 gallon Hydroseeder	\$7,500.00
CE 721G Wheel Loader(3C) (traded in 20C Wheel Loader \$84,879.20)	\$86,697.15
ESRI-ArcGIS Desktop Adv. & Spatial Analyst Concurrent Use License	\$9,335.00
2018 7500 SFA 6x4 Cab & Chassis w/accessories (#4) (traded in 2005 Sterling(#41) for \$14,000)	\$122,627.00
Henderson 12' Snow Plow & Salt Spreader (for #4)	\$11,815.00
2017 Moritz 7 x 16 Tilt Equipment Trailer (4T)	\$7,735.00
2017 Polaris Ranger (4E) purchased from ditch maintenance fund	\$9,850.00
TM72C-Tiger Sid Mount Rotary Mowers(2)	\$21,288.00
TM72C-Tiger Sid Mount Rotary Mowers(2)	\$21,288.00
TS6.120 New Holland Used Tractor (3M) (traded in 17M TS100 New Holland Tractor \$12,000)	\$37,000.00
TS6.120 New Holland Used Tractor (4M) (traded in 18M TS110 New Holland Tractor \$12,500)	\$37,000.00
	<b>\$372,135.15</b>

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**6 ROADS RECEIVED FULL ASPHALTIC CONCRETE RESURFACING**

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<u>ROAD NAME</u>	<u>WIDTH</u>	<u>LENGTH (MILES)</u>	<u>TOTAL COST</u>
MUD PIKE	20'	3.264	\$224,401.15
COLDWATER CREEK	19'6"	2.038	\$135,574.36
JOHNSTON	18'	0.674	\$53,517.99
SIEGRIST JUTTE	19'	2.014	\$129,633.58
MONROE (OPWC FUNDING)	24'	1.501	\$120,679.79
SIEGRIST JUTTE (OPWC FUNDING)	19'	2.014	\$131,504.78
<b>TOTAL FULL ASPHALTIC CONCRETE RESURFACING</b>		<b>11.505</b>	<b>\$795,311.65</b>

\*Note: There was other asphaltic concrete resurfacing on three large federal aid projects seen in the Federal Aid Improvement Projects section of this report.

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**20 ROADS RECEIVED FULL CHIP AND SEAL RESURFACING VIA OUR CREWS**

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<u>ROAD NAME</u>	<u>WIDTH</u>	<u>LENGTH (MILES)</u>	<u>TOTAL COST</u>
MONROE	8'	1.000	\$3,913.50
HARRIS	19'	1.740	\$25,373.70
BROCKMAN	22'	1.848	\$25,135.07
FT RECOVERY MINSTER	24'	4.039	\$78,797.39
SHARPSBURG	19.5'	5.332	\$64,482.83
WINKLER	19'	4.832	\$59,371.43
SCHAADT	18.5'	2.018	\$22,016.20
EICHAR	18.5'	1.500	\$16,297.23
OREGON	19'	7.231	\$86,014.46
MERCER	24'	1.455	\$22,571.07
SHELLEY	18.5'	4.021	\$48,794.76
ELGIN	17.5'	1.508	\$16,003.55
OLD TOWN	18.75'	3.023	\$33,501.05
BURRVILLE	18'	0.505	\$5,732.86
TOWNSHIP LINE	18.5'	1.006	\$11,715.49
WATKINS	18.75'	1.293	\$14,801.09
HUWER	8'	6.143	\$32,459.00
SHORT	19'	0.290	\$3,111.01
STAEGER	19.5'	1.114	\$12,859.12
HOWICK	8'	0.700	\$4,692.90
<b>TOTAL FULL CHIP AND SEAL RESURFACING</b>		<b>50.598</b>	<b>\$587,643.71</b>

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**BRIDGE RECONSTRUCTION PROJECTS**

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Over the last couple of decades (1997-2017) our staffing of bridge personnel has decreased from 6 to 3 employees. Further, the utilization of the skills of our 3 bridge employees in other roadway activities beyond bridge work has increased as time has went on. For their limited numbers and in only having limited portions of the year solely devoted to bridge work, this crew has accomplished much. In 2017, four bridges and five large culverts were replaced by our crews. One additional larger federal-aid bridge (detailed under the federal-aid section of the report) was substantially completed in 2017.

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**2017 BRIDGE & LARGE CULVERT REPLACEMENT PROGRAM**

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<b><u>TWP</u></b>	<b><u>BRIDGE</u></b>	<b><u>ROAD NAME</u></b>	<b><u>TYPE</u></b>	<b><u>COST</u></b>
GIB	C10-4.20C	WATKINS	72 LF 90" DIAMETER REINFORCED CONCRETE PIPE	\$60,839
REC	T56-01.02C	ST. JOE	80 LF 34"H X 53"W ELLIPTICAL REINFORCED CONCRETE PIPE	\$10,324
BUT	C110-8.06C	ST. ANTHONY	56 LF 34"H X 53"W ELLIPTICAL REINFORCED CONCRETE PIPE	\$15,086
HOP	C170A-2.57C	MORROW	48 LF 34"H X 53"W ELLIPTICAL REINFORCED CONCRETE PIPE	\$17,788
DUB	T260-4.51C	MERCER VW CO LINE	56 LF 43"H X 68"W ELLIPTICAL REINFORCED CONCRETE PIPE	\$19,646
GIB	C10-1.36B	WATKINS	72 LF 72" DIAMETER REINFORCED CONCRETE PIPE	\$38,052
JEF	T71A-4.01B	GAUSE	48 LF 34"H X 53"W ELLIPTICAL REINFORCED CONCRETE PIPE	\$10,490
CEN	T145D-0.47B	HAYES	64 LF 54" DIAMETER REINFORCED CONCRETE PIPE	\$24,386
BLA	C250-5.10B	WINKLER	40 LF 36" DIAMETER REINFORCED CONCRETE PIPE	\$7,180

NOTES: Some of the bridge and culvert materials for these projects were purchased in 2016. Also, some of the projects may have been started in 2016. Cost shown is 2017 and may not be total project cost.

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**FEDERAL-AID ROAD/BRIDGE IMPROVEMENT PROJECTS**

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We had 4 large federal-aid projects that started construction in 2016 and were substantially completed in 2017. St. Johns Road (C171) involved a widening and resurfacing of that road from a location south of SR 119 and extends north through St. Johns to a location north of Amsterdam Road (T50D).

Philothea Road (C70) from SR 118 to Carthagena Road (C60) also involved structure replacements, drainage, pavement and shoulder widening. Both of these projects were largely completed in 2016 and the surface course of asphalt and associated activities were completed in 2017.

Mud Pike, from SR 118 to the City of Celina is similar to the above 2 projects with two exceptions. First, there were 2 intersection improvement re-alignments that occurred in 2017 at both Hellwarth and Fleetfoot Roads and the majority of the work on this project was finalized in 2017.

The Schaadt Road (T190) bridge project was substantially complete in 2016, with some finalization work that occurred in 2017. The construction of Wabash Road (C21B) bridge project with associated roadway approach grade improvements was substantially completed in 2017, with the road being opened. Minor work activities will occur at the project site in 2018. A synopsis of some of the details of these federal-aid projects is included below...

<u>PROJECT NAME (CO.RTE.SEC)</u>	<u>ROAD NAME</u>	<u>WORK TYPE</u>	<u>CONTRACTOR</u>	<u>BID AMOUNT</u>	<u>AMOUNT COMPLETED 2017</u>
MER CR171-2.75	ST JOHNS	ROAD	TOM'S CONSTRUCTION, INC	\$768,693.00	\$174,752
MER CR70-6.21	PHILOTHEA	ROAD	VTF EXCAVATION, LLC	\$1,869,217.17	\$375,433
MER CR144-5.28	MUD PIKE	ROAD	SHINN BROTHERS, INC	\$2,120,921.00	\$1,770,369
MER TR190-1.99	SCHAADT	BRIDGE	BRUMBAUGH CONSTRUCTION	\$295,981.00	\$40,891
MER C21B-3.50	WABASH	BRIDGE	JUTTE EXCAVATING	\$442,369.88	\$432,821

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### **MAINTENANCE**

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Roadside maintenance of existing roadway components is a very important part of our operations. During 2017 there were 498 signs replaced.

Six county mowers ran consistently May through September mowing 384 miles of county roads making 4 rounds in some sections. Once mowers were caught up with roadway side ditches and conditions allowed, during the regular mowing season, a small portion of county ditch maintenance open ditches were mowed. Mowers were able to mow more consistently, over longer time frames, with all of the mowers having cabs.

County crews installed 50 catch basins. 20 different locations had trees cut and brush removed.

In fighting snow and ice, 1,056.25 tons of salt were used at a cost of \$56,684.29 and 1,056.25 tons of grit were used at a cost of \$9,097.02. 697.50 hours of overtime were worked in snow removal. In all, the costs of snow and ice control and removal to our operations in 2017 were \$183,067.42.

Roadside herbicide spraying of 384 miles of county roads was done by Dalton's Inc. at a cost of \$18,767.00.

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## PERSONNEL

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A total of 24 full time employees make up our personnel. In the year 2017 there were 11 seasonal employees that worked for the Engineer. In 2000 we had 31 full-time employees. In 1984 there were 39 full-time employees.

Our employees and their years of service to Mercer County:

<u>NAME</u>	<u>CLASSIFICATION</u>	<u>YRS</u>
Allen, James	Equipment Operator 2	.92
Borns, Kirk	Sign Manager	22
Freeman, Todd	Equipment Operator 2/Engineer Technician 1	17
Gray, Richard	Bridge Worker 2	18
Harter, Derrick	Equipment Operator 2	12
Heinrichs, Karen	Administrative Assistant	12
Highley, Richard	Equipment Operator 2	37
Kahlig, Renee	Office Assistant	3
Knapke, Anthony	Bridge Worker 2	5
Kuhn, Gary	Automotive Mechanic 3	34
Laffin, Brad	Operations Manager	28
Leininger, Mark	Highway Maintenance Superintendent	21
Linn, Mark	Engineer Technician 2/Survey Technician	21
Mescher, Samuel	Equipment Maintenance Supervisor	18
Messner, Dusty	Equipment Operator 2	17
Moeller, Aaron	Survey Design Technician/Drainage Deputy	1
Porter, Darren	Highway Maintenance Supervisor/Safety Director	21
Schaublin, Gary	Equipment Operator 2	1
Schoenleben, Bryan	Automotive Mechanic 2	3
Smalley, TJ	Bridge Supervisor	18
Steinlage, Michael	Highway Maintenance Supervisor	13
Watercutter, Anthony	Equipment Operator 2	2
Waterman, Kiel	Equipment Operator 2	5
Wiechart, James	Mercer County Engineer	18

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## INTERESTING FACTS

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- There are 382 bridges on Mercer County township and county roads. Every year all 382 bridges are inspected by our office.
- There are 446 miles of township roads and 384 miles of county roads in Mercer County.
- There is an average of 16 miles of road and 16 bridges per full-time employee.
- Since 1999 the Mercer County Engineer has received approximately \$4,862,894.36 in competitive state grant programs for local road improvements.
- Since 1999 the Mercer County Engineer has received \$29,510,913.29 in competitive federal grant programs for local road improvements.
- No real estate, sales or property taxes fund county road and local road bridge improvements in Mercer County. Road user fees in the form of motor vehicle gas taxes and license fees fund our efforts.
- Gas tax and license fee revenue increased from 2011 to 2017 an average annual increase of 0.7% per year.
- Asphaltic Concrete prices as bid by the Mercer County Engineer increased 64% from 2007 to 2016, an average increase of 7.11% per year.
- By the end of 2017, we will have 29% of our county road pavements wider than 22'.
- The number of Mercer County Engineer full and part-time employees has decreased over the last 20 years with less resources going towards salaries and fringe benefits as a percentage of the total budget.
- Average years of service of county engineer full-time employees is 14.5 years.



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## SUMMARY

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Much was accomplished in 2017 and we welcome your comments, suggestions and questions to our office: Mercer County Engineer, 4884 Mud Pike, Celina OH 45822, Phone# 419-586-7759, e-mail: engineer@mercercountyohio.org. Listed below are some of the short and long-term goals for the office for the years to come.

1. Maintain an acceptable standard of condition of our roadway pavements & bridges.
2. Obtain outside funding sources to supplement our budget for capital improvements.
3. Be aggressive where possible in putting significant resources into capital improvement projects like roadway widening, bridge replacements, etc.
4. Assist townships in getting outside funding sources for their capital improvement projects and assist them in the administration of those funds.
5. 24' by "44"—long-term goal to have all county road pavements widened to a minimum width of 24' by the year 2044. (I have needed to reconsider this goal through the years.)
6. Improve the condition of our county ditch maintenance program ditches and tile.

*James A. Wiechart*

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**James (Jim) A. Wiechart, P.E., P.S.  
Mercer County Engineer**