

**38th Annual
DARKE COUNTY ENGINEER’S
ANNUAL REPORT FOR 2015**

By: James P. Surber P.E., P.S. Darke County Engineer

This report always shows all money received for the year, where it was spent, and what was maintained, constructed, purchased, and improved.

2015 began with harsh winter conditions, continued with a wet summer, but ended with an excellent late summer, fall and early winter.

The most noteworthy events of the year were a modest increase in Ohio fuel tax receipts and greatly reduced fuel costs. But revenue always seems to move in mysterious ways. While fuel tax revenue increased by \$181,870, motor license decreased by \$102,159, and we spent nearly \$188,000 less than in 2014 purchasing fuel for County departments. Depressed scrap metal prices and an extremely mild beginning of winter impacted usual receipts for recycling and salt sales. The effect of all these factors was a total net revenue increase of \$91,695, or 1.7%.

By reducing expenditures \$169,556 from 2014, we were able to finish in the black by \$38,251 which is about three-quarters of one per cent of the total budget.

Our twenty-six personnel do a great job keeping up with our road and bridge responsibilities, in spite of trimming resources to further stretch revenues. We now use only five mowing tractors to cover 1042 lane-miles. Our two bridge crews built two new bridges and rehabilitated and repaired ten others. The crack-seal crew operates every day that weather permits, and we have increased strip-seal and patching operations in response to aging pavements which directly relate to insufficient revenue for total asphalt resurfacing. We are gearing up to do more patching and full chip seal with our own personnel in the coming years.

The challenges we face of obligations versus revenue are shared by Township Trustees, villages and cities.

Readers may contact us with any questions or comments. Phone: 937-547-7375 or email: dce@earthlink.net

2015 RECEIPTS	
Motor License Fees	\$ 2,228,473.82
Gas Tax	\$ 2,516,763.85
Recycling & Sales	\$ 128,273.26
Reimbursements*	\$ 374,300.97
Interest	<u>\$ 75,533.30</u>

*Fuel = \$ 105,987.92
*Grants = \$ 135,556.00
* Equip. Sales \$ 132,757.05

2015 EXPENDITURES	
Resurfacing & Surface treatment	\$ 1,738,402.43
Bridge Construction & Maint.	\$ 283,942.44
Wages & Salary	\$ 1,379,997.66
Fringe Benefits	\$ 538,373.93
Equipment & Repairs	\$ 537,917.55
Fuel (All Co. Departments)	\$ 181,930.75
Road Maintenance Materials	\$ 548,630.28
Utilities/Office/Bldgs.	<u>\$ 75,899.05</u>

Total Receipts: \$5,323,345.20
(2015 Gas Tax & License Receipts: \$4,745,237)
(2014 Gas Tax & License Receipts: \$4,665,557)
(2013 Gas Tax & License Receipts: \$4,641,694)
(2012 Gas Tax & License Receipts: \$4,615,002)
(2011 Gas Tax & License Receipts: \$4,600,528)
(2010 Gas Tax & License Receipts: \$4,654,815)

Total Expenditures: \$5,285,094.09
(2014 Expenditures: \$5,454,650)
(2013 Expenditures: \$5,033,532)
(2012 Expenditures: \$5,316,297)
(2011 Expenditures: \$5,419,431)
(2010 Expenditures: \$5,108,337)

MAJOR IMPROVEMENTS
Miles of Road Resurfaced: 23.35
Miles of Road Chip-sealed: 21.17
Miles of Road Crack-Sealed: 33.4
New Bridges Constructed: 3
Bridges Rehabilitated: 10

SAFETY IMPROVEMENTS
New warning signs installed: 186
New road name signs installed: 154
Centerline Striping: 338.15 c/l miles
Edge line Striping: 41.63 lane-miles

EQUIPMENT EXPENDITURES	
2-New Dump Trucks (equipped):	\$230,984.00
New crack-seal machine:	\$ 49,999.00
Miscellaneous small equipment:	\$ 50,668.00
New JD tractor & mower:	\$ 45,122.24
New Bobcat S750 skidloader:	\$ 47,311.88
Equipment sales:	(\$132,757.05)

MAINTENANCE DATA	
Subsurface crossings installed: 2 locations on 2 different roads using 100 feet of conduit (18” and 24”)	
Cooperative tile projects: 3	Diesel used: Gallons- 43,250
Signs & posts purchased: \$14,602.16	Gasoline used: Gallons- 7,991
Sign repair/replacement: 310 locations	Salt & ice grits purchased: \$ 213,139.54
Mowing (lineal): 12,504 miles	Township Road culverts and tile replaced: 12

MAINTENANCE RESPONSIBILITY	
County Roads: 520.997 miles	County and Township Bridges (over 10’ span): 531
Large culverts: (30”-10 ft.): 365	Roadway culverts (12”-30”): 1750 (Est.)
Right-of-way: 3324 acres	Stop signs: 802
Warning signs: 2332	Road name signs: 1921

2015 ROAD IMPROVEMENT

We contracted asphalt resurfacing to Walls Brothers Asphalt on ten different roads totaling 23.35 miles, which was a little over 4% of the total Darke County road mileage (520.997). Due to the combination of stagnant revenue and a high mileage, we are now forced to use surface sealing in order to prevent degradation of pavements by age and freeze-thaw. This process covers over three times the surface area per unit cost of paving. Chip-seal was applied to 13.98 miles in cooperation with the Mercer County Engineer and on 7.12 miles, through a contract with Wagner Paving. It is certain that without additional funding, the use of surface sealing will only increase in the coming years. We truly appreciate the cooperative effort extended by the Mercer County Engineer and personnel.

		ASPHALT RESURFACING		
ROAD NAME	LENGTH	ASPHALT	AGGREGATE	TOTAL COST
	(Miles)	(Tons)	(Cu. Yd.)	
Versailles-Yorkshire	6.26	4927.06	482.54	\$ 372,070.67
Cohee	1.50	1265.35	150.11	\$ 97,254.31
Horatio-Harris Creek	2.51	1621.91	150.61	\$ 122,689.56
Delisle-Fourmans	0.83	512.13	93.63	\$ 39,948.81
Hollansburg-Sampson	1.03	574.52	84.65	\$ 44,799.00
Hogpath	5.23	4347.12	312.64	\$ 316,784.42
Hollansburg-Sampson	1.34	866.57	132.24	\$ 64,761.08
New Madison-Coletown	2.16	1690.74	137.41	\$ 122,234.57
Palestine-Union City	1.04	603.67	79.62	\$ 46,056.50
Reed	<u>1.45</u>	<u>1414.06</u>	<u>124.32</u>	<u>\$ 106,964.27</u>
Totals	23.35	17,823.13	1,747.77	\$ 1,333,563.19

SURFACE SEAL					
ROAD NAME	MILES	COST	ROAD NAME	MILES	COST
Darke-Mercer Co. Line	5.93	\$77,238.25	Grubbs-Rex	2.46	\$49,871.93
Riegle-Bell	5.98	\$77,889.50	Grubbs-Rex	0.76	\$15,002.85
Cochran	2.00	\$26,050.00	Shook	0.49	\$ 9,410.26
Childrns. Hm.-Bradford	2.51	\$43,213.50	Ross-Medford	<u>0.13</u>	<u>\$ 2,358.90</u>
County Home	0.84	\$21,510.38	Total Miles of Surface Seal:	21.10	\$322,545.57

44.45 total miles of road were improved which is 8.5% of the total mileage (520.997), or about a 12 year cycle. Resurfacing costs averaged \$57,112 per mile and surface sealing costs averaged \$15,287 per mile.

TOTAL PAVING AND SEALING COSTS WERE \$1,656,108.76, ALL PAID BY LOCAL REVENUE

PAVEMENT MARKINGS

We contracted the application of 26.86 miles of new centerline and no-passing markings and 41.63 lane miles of white edge lines with A & A Safety Co. at a cost of \$20,353.58. The average cost was \$326 per road mile for yellow markings and \$557 per road mile for white edge lines.

An additional grant project, applied for in 2010, was completed in 2015 by the same contractor for painting centerline and no-passing markings on 311.29 miles of road, and included the installation of thermoplastic markings at six railroad and school locations. The cost of this contract was \$ 128,356.00.

CRACKSEALING ROADS

County employees sealed pavement cracks on 33.4 miles of roads during the year, using 75.2 tons of sealant at an average rate of 4502 pounds per mile. The material cost averaged \$2,071 per mile.

TOWNSHIP COOPERATIVE ROAD WORK

In 2015, we provided \$25,045 in labor and equipment to 16 different Townships at no charge, and \$13,095 to 5 Townships that was reimbursed. County workers replaced 5 roadway culverts and 7 subsurface tile crossings on seven roads in five different Townships. The Trustees of five Townships (Richland, Wayne, Twin, Harrison and Monroe) furnished asphalt resurfacing for 6 new or rehabilitated bridges on their roads during the year.

OTHER PROJECTS

We received a grant through the state to upgrade warning signs on 9 identified road curves throughout the county. The grant provided signs and posts with the County furnishing all labor and equipment to remove, replace and add new signs. Total monetary amount received was \$7,200.

In late summer, we performed a project on Jaysville-St. Johns Road to remove and reconstruct 2350 feet of deficient guardrail six feet further from the road, eliminating a safety concern for the passage of large farm equipment. Total cost of the additional right-of-way, earth moving, new guardrail, drainage and seeding was \$74,893.67.

Our office also donated engineering, design and inspection services to the County Park District for the construction of the shared-use trail between Willis Road and State Route 571. We are currently in the design stage of Phase IV of this project to continue on to the City of Greenville.

BRIDGE CONSTRUCTION AND REHABILITATION

County bridge crews built two new bridges, rehabilitated and repaired 9 others, performed maintenance on two, and one new bridge was constructed by contract in 2015. All design and construction was by Darke County personnel, and all funding for these projects was 100% local. *(Except as noted)*
The costs shown include additions for overhead on labor and materials as mandated by Ohio law and the State Auditor’s policies for force account bridges built after 07/01/03.

Road Name	Bridge No.	Span x Width	Costs		
			Materials & Equip.	Labor & Fringe	Total

NEW BRIDGES (3)

We constructed new bridges on Verona-Pitsburg and Littles Roads in Monroe and Twin Townships. Both were galvanized steel beam superstructures with timber decks on new capped-pile abutments. All work including steel fabrication was completed by Darke County personnel with construction in June and July. Both new decks were waterproofed and the new asphalt surfaces were furnished by the respective Boards of Trustees.

Verona-Pitsburg	T106-0024	36’ x 24’	\$52,916.85	\$28,362.96	\$81,279.81
Littles	T111-0328	36’ x 24’	\$43,965.62	\$25,654.83	\$69,620.45

A new bridge was constructed by Tumbusch Construction through an OPWC project with the Greenville Township Trustees on Horatio-Harris Creek Road between State Routes 49 and 118. Our office provided the design and coordination for the 1.38 mile road reconstruction and widening project that began in late 2014 and was completed in 2015 at a total cost of \$525,863.

Horatio-Harris Creek	T009-0049	4.5’ x 10’ x 72’	Contract cost: \$75,673.44	Co. Cost: \$19,675.09	
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BRIDGE REHABILITATION AND REPAIR (10)

We rehabilitated three steel truss bridges by removing the old asphalt wearing course and timber deck, replacing structural steel where necessary, cleaning and recoating where necessary, and installation of new timber decks with waterproofing and new asphalt wearing surfaces. On the two Township road bridges, new asphalt surfaces were furnished by the Trustees of Wayne and Richland Townships.

Wolf	T176-0150	62’ x 22’	\$11,839.27	\$12,068.06	\$23,907.33
Duncan	C156-0139	85’x 24’	\$33,106.56	\$15,463.20	\$48,569.76
Riffle	T 155-0080	128’ x 24’	\$38,677.89	\$57,261.79	\$95,939.68

Two bridges on Gibbs Road in Harrison Township were improved. One had strengthening of the beam fascias with steel and concrete reinforcement and a new concrete composite deck, and the other was waterproofed with a new asphalt wearing surface. Two bridges on Pitsburg-Laura and Lightsville-Northern roads were rehabilitated by reconstructing the deck sides and rails, and the bridge on Lightsville-Northern road was widened from 20 to 24 feet. The bridge on Woodens Road was stripped and recoated.

Gibbs	T246-0009	42’x22’	\$10,691.16	\$11,881.84	\$22,573.00
Gibbs	T246-0033	40’x 24’	\$ 1,559.46	\$ 3,154.03	\$ 4,713.49
Pitsburg-Laura	C082-0031	16’x 24’	\$ 3,640.72	\$ 6,976.15	\$ 10,616.87
Lightsville-Northern	T080-0186	31’ x 24’	\$10,010.65	\$ 6,951.66	\$16,962.31
Woodens	T357-0014	40’ x 22’	\$ 1,632.87	\$ 2,919.82	\$ 4,552.69

On these 3-span concrete slab bridge and concrete deck on steel beam bridges, we removed the asphalt overburden, removed all deteriorated concrete from the deck edges and placed new concrete in stay-in-place forms. Waterproofing and a new asphalt surface completed the projects.

New Madison-Coletown	C030-0742	88’ x 24’	\$28,941.58	\$16,873.83	\$45,815.41
Red River-West Grove	C031-1009	111’ x 28’	\$25,742.48	\$16,812.83	\$42,555.31
			Grand Total	\$486,781.20	

410 new bridges have been built on Darke County and Township Roads since 1977.

ACTUAL FORCE ACCOUNT BRIDGE COSTS

Reported 2015 costs for two new bridges and ten rehabilitations: \$467,106.11

Total materials and services purchased: \$283,942.44 Actual labor and fringe: \$150,218.00
Total Actual County Cost: \$434,160.44 (includes materials for four bridges in 2016)

BRIDGES ON COUNTY AND TOWNSHIP ROADS BY STATE SUFFICIENCY RATING
(Each bridge is rated from 0-100 based upon condition and annual inspection)

Average sufficiency rating of all bridges is 92.6%		
Number of bridges	% of total bridges	Sufficiency Rating
378	71.1%	EXCELLENT (90-100)
133	25.0%	GOOD (70-90)
16	3.0%	FAIR (50-70)
4	0.7%	POOR (0-50)

(Of the four bridges in poor condition; one is an historic structure on a township road, one is limited to bicycle and pedestrian traffic, one is a closed bridge in an incorporated village, and the fourth will be replaced in 2016.)
The average age of the 531 bridges on County and Township roads is 34 years.
With its large number of bridges (531), Darke County ranks first in Ohio and tenth in the entire nation for bridge responsibility. Our bridge program is limited by funding and state laws that limit construction by County workers. We continue to rehabilitate older bridges to extend their service, and replace deficient bridges under forty foot spans to stay in compliance with the \$100,000 County force account limitation.

DETAILED EXPENDITURES FOR 2015

WAGES & FRINGE 36.2 % +1.6% from 2014	
(Engineer, 29 fulltime, 1 part-time)	
WAGES	\$ 1,379,997.66
PERS	\$ 192,218.66
HEALTH INS.	\$ 276,872.86
UNIFORMS	\$ 14,314.17
MEDICARE	\$ 18,190.72
WKRS. COMP.	\$ 14,114.97
DRUG TESTS	\$ 1,327.00
ADM. FEES	\$ 3,278.82
SEVERENCE	\$ 14,051.78
TOTAL	\$ 1,914,366.64

OVERHEAD 7.1% (4.4%) from 2013	
UTILITIES/BLDG. MAINT.	\$ 75,509.05
PARTS & SUPPLIES	\$ 77,120.39
FUEL (all County Depts.)	\$ 181,930.75
TIRES	\$ 12,097.15
LUBRICANTS / FILTERS	\$ 13,361.38
REPAIRS (BY OTHERS)	\$ 399.59
DUES, TOOLS, MISC.	\$ 15,248.87
TOTAL	\$ 375,667.18

IMPROVEMENTS 38.3% (0.8%) from 2014	
(Paving/const. contracts and bridge materials)	
PAVING/CONST.	\$ 1,731,002.43
BRIDGES	\$ 283,942.44
R/W PURCHASE	\$ 7,400.00
TOTAL	\$ 2,022,344.87

ROAD MAINTENANCE MTLs. 10.4 % +1.3% from 2014	
SALT & ICE GRITS	\$ 213,139.54
SIGNS & POSTS	\$ 14,602.16
CRACK-SEAL MTL.	\$ 74,304.60
GRAVEL, ASPHALT	\$ 97,874.40
PAV'T MARKING	\$ 148,709.58
TOTAL	\$ 548,630.28

NEW & USED EQUIPMENT \$424,085.12 8.0% +35.6% from 2014 (\$132,757.05 reimbursed)

TOTAL 2015 EXPENDITURES: \$5,285,094.09

A summary of the roads and bridges of all Ohio Counties shows that our challenge is very clear. The average county has 329 miles of road, 297 bridges and is funded \$5.1 million in state fuel and license taxes. Darke County has 521 miles of road, 531 bridges and is funded \$4.7 million. We have 68% more responsibility with 8% less state funding than the average County.

With the state funding disparity is also a local factor. Most Ohio counties have locally-generated revenue for roads and bridges, either by permissive license fees, road and bridge levies, or a portion of local sales tax revenue. Darke County spends no local funds on County or Township roads and bridges.

In 1975, the Darke County Commissioners resolved to obligate a portion of a new local sales tax to roads; and in 1976 they provided \$130,000, or thirty percent of annual receipts (\$455,355) to the County Engineer and twenty Boards of Township Trustees. Another Board of Commissioners stopped this revenue stream in 1993, and since then, no sales tax revenue has funded County or Township roads, even though local County sales tax annual receipts (\$7.9 million) are currently over 17 times greater than in 1976.

Our most difficult challenge is maintaining 521 miles of asphalt pavement surfaces. With no local revenue and no increase in funding from state lawmakers, we are forced to use alternative methods to total “hot mix” asphalt resurfacing. Our decisions and actions must always be in the best interest of the roads and bridges.

SOME FACTS ABOUT OUR FUNDING:

AVERAGE OHIO COUNTY:	329 MILES	297 BRIDGES	\$5.1 MILLION in STATE FUNDING
DARKE COUNTY:	521 MILES	531 BRIDGES	\$4.7 MILLION in STATE FUNDING

WE ARE RESPONSIBLE FOR 68% MORE INFRASTRUCTURE WITH 8% LESS STATE FUNDING AND NO LOCAL FUNDING

WE ARE FUNDED BY DISTRIBUTION OF STATE TAXES ON FUEL AND VEHICLE LICENSING (PLATES).

NO MONEY FROM LOCAL REAL ESTATE TAXES, SALES TAXES, OR THE COUNTY GENERAL FUND IS USED FOR OUR LOCAL ROADS OR BRIDGES.

THE DARKE COUNTY ENGINEER HAS NO DEBT AND OWNS 100% OF ALL VEHICLES AND EQUIPMENT.

Darke County Engineer’s Office
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Greenville, Ohio 45331-1994

TO: _____

