

**37th Annual
DARKE COUNTY ENGINEER’S
ANNUAL REPORT FOR 2014**

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

Our annual report has always shown all money received, exactly where it was spent, and what was maintained, constructed, and improved. Now, it is an even greater challenge than in past years to adequately maintain Darke County’s very large road mileage and very large number of bridges.

For over eight years we have faced increasing costs with decreasing revenues. Annual fuel tax and license receipts received from the state in 2014 decreased by \$108,216.29 from 2013. This revenue is \$107,383 less than it was in 2006, while the costs of road paving and bridge materials have increased 30%-58% over the same period.

Our most difficult challenge is to adequately maintain 521 miles of asphalt pavement surfaces. With no locally generated revenue and no foreseeable increase in funding from state lawmakers, we must now resort to less expensive and less desirable alternatives to total “hot mix” asphalt resurfacing. Our proposed local initiative to give County voters a choice to provide additional funding for the County, Townships, Villages and the City of Greenville, was found to be prohibited by Ohio law.

Spending in 2014 increased by \$421,117.49 over 2013 (\$223,000.16 over annual receipts), primarily for equipment and building repairs. This was taken from cash reserves. Our 37-year old facility was fitted with an improved roof system, some new doors and interior upgrades. Funding these improvements did not reduce the amount spent on the roads and bridges.

During the year, we spent 39 cents of each tax dollar for road paving and bridge improvements, 9 cents for road maintenance materials, 10 cents for overhead, 8 cents for equipment purchase and maintenance, and 34 cents for wages and fringe benefits. All expenditures are detailed later in this report. Readers are encouraged to contact us with any questions or comments. Phone: 937-547-7375 or email: dce@earthlink.net

2014 RECEIPTS

Motor License Fees	\$ 2,330,663.09
Gas Tax	\$ 2,202,814.96
Recycling & Sales	\$ 139,084.09
Reimbursements*	\$ 482,430.03
Interest	<u>\$ 76,657.88</u>

*Fuel = \$162,774.33
*Grant = \$ 6,048.06
*Old SR 242= \$152,300.77
* Equip,(Trac) \$ 36,777.25

2014 EXPENDITURES

Resurfacing & Reconstruction	\$ 1,844,917.52
Bridge Construction & Maint.	\$ 263,227.44
Labor & Salary	\$ 1,383,132.06
Fringe Benefits	\$ 502,755.53
Equipment & Repairs	\$ 441,584.21
Fuel (All Co. Departments)	\$ 369,911.66
Road Maintenance Materials	\$ 517,837.01
Utilities/Office/Bldgs.	<u>\$ 131,284.78</u>

Total Receipts: \$5,231,650.05
(2014 Gas Tax & License Receipts: \$4,533,478)
(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)
(2009 Gas Tax & License Receipts: \$4,572,664)
(2006 Gas Tax & License Receipts: \$4,640,860)

Total Expenditures: \$5,454,650.21
(2013 Expenditures: \$5,033,532.72)
(2012 Expenditures: \$5,316,297.42)
(2011 Expenditures: \$5,419,431.93)
(2010 Expenditures: \$5,108,337.70)
(2009 Expenditures: \$4,876,878.41)
(2008 Expenditures: \$5,436,072.59)

MAJOR IMPROVEMENTS

Miles of Road Resurfaced: 33.29
Miles of Road Chip-sealed: 1.75
Miles of Road Crack-Sealed: 22.77
New Bridges Constructed: 2
Bridges Rehabilitated: 7

SAFETY IMPROVEMENTS

New Warning signs installed: 139
New road name signs installed: 106
Centerline Striping: 196.86 c/l miles
Edge line Striping: 644.79 lane-miles

EQUIPMENT EXPENDITURES

4-JD tractors & mowers: \$177,739.04	3-2014 Dodge Ram pickups: \$81,495.00
New trailer (bridge): \$5,650.00	Miscellaneous small equipment: \$10,970.03

MAINTENANCE DATA

(In the maintenance of 520.997 miles of roadway)

County road culverts replaced: 6 on 3 different roads using 231 feet of RCP conduit (12”-24”)
Subsurface crossings installed: 2 on 2 different roads using 94 feet of conduit (8”-10”)
Inlets installed: 3

Total conduit installed: 325 feet
Signs & posts purchased: \$14,899.99
Sign repair/replacement: 225 locations
Mowing (lineal): 10,400 miles

Diesel used: Gallons- 46,727
Gasoline used: Gallons- 8,040
Salt & ice grits purchased: \$175,396.99
Township Road culverts and tile replaced: 14

MAINTENANCE RESPONSIBILITY

County Roads: 520.997 miles
Large culverts: (30”-10 ft.): 365
Right-of-way: 3324 acres
Warning signs: 2332

County and Township Bridges (over 10’ span): 531
Roadway culverts (12”-30”): 1565 (Est.)
Stop signs: 802
Road name signs: 1921

2014 ROAD IMPROVEMENT

We contracted asphalt resurfacing on fifteen different roads totaling 33.29 miles, which was a little over 6% of the total Darke County road mileage (520.997). This consumed 34% of the revenue, but the current 16-17 year paving cycle is not acceptable. The year’s resurfacing required 29,038 tons of asphalt and 4,026 cubic yards of shoulder aggregate. Walls Brothers Asphalt Company performed the work in May and June.

All road surface improvement, (excepting Old St. Rt. 242, funded by money provided by ODOT) was 100% funded with County revenue.

ASPHALT RESURFACING

ROAD NAME	LENGTH	ASPHALT	AGGREGATE	TOTAL COST
	(Miles)	(Tons)	(Cu. Yd.)	
Cochran	3.03	2246.04	448.19	\$ 169,045.37
Delisle-Fourmans	1.50	1375.29	214.37	\$ 99,535.41
Foote	3.25	2546.60	448.78	\$ 193,177.98
Gettysburg-Southeastern	3.77	2904.62	404.75	\$ 212,692.14
Grubbs-Rex	1.59	1215.37	200.32	\$ 87,330.56
Schnorf-Jones	4.52	3508.13	537.93	\$ 252,798.53
Stuck	2.58	1948.39	315.17	\$ 148,772.97
Zumbrum	2.16	1610.74	324.87	\$ 123,517.37
Palestine-Hollansburg	4.30	4030.42	556.11	\$ 287,353.17
Greenville-St. Marys “B”	1.03	805.43	137.11	\$ 58,481.42
Greenville-Celina	0.72	753.57	66.82	\$ 54,234.69
Sebring-Warner	0.88	740.93	139.49	\$ 55,331.07
Weavers-Ft. Jefferson	1.80	1406.29	232.34	\$ 102,646.83
Old St. Rt. 242	2.16	3946.45	-0-	\$ 264,750.03
Totals	33.29	29,038.27	4,026.25	\$ 2,109,667.54

The 2014 resurfacing costs (not including Old S.R. 242) averaged \$59,265 per mile.

In 2006, when we were receiving more revenue from the state, the cost was \$37,579 per mile.

Over eight years, resurfacing costs have increased 58% while state revenue has declined 17%.

The total cost of County-funded resurfacing for 2014 was \$1,844,917.51

This road was surfaced sealed in preparation for asphalt paving in 2015:

Versailles-Yorkshire	1.75	single lift with MC-3000 & No. 9 stone	\$36,100.00
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PAVEMENT MARKINGS

We contracted the application of 196.86 miles of new centerline markings with no-passing zones, and 644.79 lane miles of white edge lines with Oglesby Construction at a total cost of \$199,541.95. Striping costs averaged \$251 per mile for yellow markings and \$ 233 per lane mile for white edge lines. County employees also repainted "SCHOOL" and "RR CROSSING" markings and installed thermoplastic markings with a material cost of \$2,255.93.

CRACKSEALING OF ROADS

County employees sealed cracks on 22.77 miles of County Roads during the year. This used 99.3 tons of sealant at an average rate of 8704 pounds per mile. The material cost was \$4,004/mile.

TOWNSHIP COOPERATIVE ROAD WORK

In 2014, we provided \$25,467.50 in labor and equipment to 13 Townships at no charge. County workers replaced 12 roadway culverts and 2 subsurface crossings on 14 Township Roads in 9 different Townships. The Trustees of four Townships (Liberty, Washington, Wayne and Harrison) each furnished asphalt resurfacing for a bridge on their Township road that was rehabilitated with a new timber deck by the County during the year.

OTHER PROJECTS

We received a \$6,050 grant from the state to upgrade warning signs on 6 identified road curves throughout the county. The grant furnished the signs and posts with the County furnishing all labor and equipment to remove the old signs and replace them with improved signage. Final grant amount received was \$6,048.06.

Our office donated engineering design and inspection services to the County Park District for the construction of Phase III of the shared-use trail between Arcanum-Bears Mill and Hartzell Roads. Phase IV of this project is currently under planning and design.

UPCOMING PROJECTS

A new bridge will replace the narrow one on Horatio-Harris Creek Road, East of S.R. 49, early in 2015. This is part of an OPWC reconstruction project on 1.38 miles of the road under authority of the Greenville Township Trustees. Plans for construction and right-of-way acquisition were prepared by this office. Plans for right-of-way acquisition and bridge construction have been prepared by the County Engineer’s Office and submitted for final review to ODOT for the replacement of the 84 year-old Center Street Bridge in Versailles. Construction is anticipated in early 2016 with an estimated cost of \$603,000.

BRIDGE CONSTRUCTION AND REHABILITATION

County bridge crews built one new bridge, replaced one new bridge superstructure and rehabilitated seven (7) other bridges on County and Township roads in 2014. 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	Bridge No.	Span x Width	Costs		
			Materials & Equip.	Labor & Fringe	Total

NEW BRIDGE AND SUPERSTRUCTURE (2)

The County bridge crew removed the deficient bridge, built new abutments and a new galvanized, steel-beam superstructure on Arcanum-Bears Mill Road, just South of St. Rt. 121, replacing the concrete structure built in 1941. The crew performed all work including superstructure steel fabrication.

Arcanum-Bears Mill	C034-1027	34’ x 28’	\$54,795.37	\$34,509.74	\$89,305.11
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A 3-span steel beam bridge on the Ohio-Indiana Line Road was totally rebuilt by removing the deficient superstructure above the foundations, and installing new structural steel, a new timber deck, waterproofing and asphalt. All work was performed by Darke County personnel with Randolph County, Indiana furnishing one half the actual costs.

Ohio-Indiana Line	C011-0513	85’ x 24’	\$73,884.84	\$48,302.64	\$122,187.48
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BRIDGE REHABILITATION AND REPAIR (7)

Four steel truss bridges were rehabilitated by removing the old asphalt wearing course and timber deck, replacing structural steel where necessary, complete cleaning and recoating, 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 Washington and Wayne Townships.

Zumbrum	C045-0661	93’x 24’	\$37,520.93	\$29,017.50	\$66,538.43
Neff	C145-0236	88’x 24’	\$56,451.49	\$32,893.80	\$89,345.28
Wildcat	T 089-0354	55’ x 24’	\$17,621.57	\$14,404.64	\$32,026.21
Conover	T141-0069	137’ x 24’	\$31,198.89	\$24,886.36	\$56,085.25

Steel beam bridges on Ross and Harrison Roads were rehabilitated with deck removal, cleaning and recoating of steel and installation of a new decks with waterproofing and new asphalt wearing surfaces. The Township Trustees of Liberty and Harrison Townships furnished the new asphalt surfaces.

Ross	T061-0393	32’x24’	\$12,384.76	\$ 9,095.58	\$21,480.34
Harrison	T085-0345	15’ x 24’	\$ 5,793.52	\$ 6,300.80	\$12,094.31

On this 3-span concrete slab bridge we removed the asphalt overburden by milling, removed all deteriorated concrete from the deck edges and placed new concrete in left-in-place forms. Waterproofing and a new asphalt surface completed the job.

Palestine-Union City	C030-0742	97’ x 28’	\$25,719.60	\$17,100.54	\$42,820.14
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Grand Total \$ 531,882.55

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

ACTUAL FORCE ACCOUNT BRIDGE COSTS

Reported 2014 costs for two new bridges and seven rehabilitations: \$531,882.55

Total materials and services purchased: \$263,227.44 Actual labor and fringe: \$156,892.46

Total Actual County Cost: \$420,119.90

OUR 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 92.4%

Number of bridges	% of total bridges	Sufficiency Rating
374	70.6%	EXCELLENT (90-100)
138	26.0%	GOOD (70-90)
15	2.7%	FAIR (50-70)
4	0.7%	POOR (0-50)

(Of the four bridges in poor condition; two are historic structures, one is a closed bridge in an incorporated village, and the fourth is scheduled for replacement in 2016.)

The average age of the 531 bridges on County and Township roads is 32.8 years.

With our large number of bridges (531), Darke County ranks first in Ohio and tenth in the entire nation for bridge responsibility. Assuming a life of 75 years, we should be replacing at least 7 bridges each year. This is impossible due to limited 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 span to stay in compliance with the \$100,000 force account limitation.

DETAILED EXPENDITURES FOR 2013

WAGES & FRINGE 34.6 % (2.7%) from 2013
(Engineer, 29 fulltime, 1 part-time)

WAGES	\$1,383,132.06
PERS	\$ 194,825.04
HEALTH INS.	\$ 257,224.40
UNIFORMS	\$ 14,545.18
MEDICARE	\$ 18,086.18
WKRS. COMP.	\$ 13,597.68
DRUG TESTS	\$ 1,472.00
ADM. FEES	\$ 3,005.05
SEVERENCE	\$ -0-
TOTAL	\$1,885,887.59

OVERHEAD 11.5% 1.3% inc. from 2013

UTILITIES/BLDG. MAINT.	\$ 131,284.78
PARTS & SUPPLIES	\$ 97,936.92
FUEL (all County Depts.)	\$ 369,911.66
TIRES	\$ 14,168.55
LUBRICANTS /FILTERS	\$ 10,254.05
REPAIRS (BY OTHERS)	\$ 6,593.37
TOTAL	\$ 630,149.33

IMPROVEMENTS 39.1% (0.4%) from 2013
(Paving/const. contracts and specific materials only)

PAVING/CONST.	\$ 1,844,917.52
BRIDGES	\$ 263,227.44
CULVERTS/TILE	\$ 9,419.20
ASPHALT & MISC.	\$ 12,956.57
TOTAL	\$2,130,520.73

ROAD MAINTENANCE MATERIALS 9.1 % 0.6%inc.

SALT & ICE GRITS	\$ 175,396.99
SIGNS & POSTS	\$ 14,899.99
CRACK-SEAL MTL.	\$ 94,874.24
GRAVEL	\$ 8,492.14
PAV'T MARKING	\$ 201,797.88
TOTAL	\$ 495,461.24

NEW EQUIPMENT \$312,631.32 5.7% 1.2% inc. from 2013 (\$36,777.25 reimbursed)

TOTAL 2014 EXPENDITURES: \$5,454,650.21

In 2014 local funds spent for road paving (\$1,844,917.51) was over 4 times greater than the amount spent for bridge work (\$420,119.90). Last year it was nearly 7 times. Traditionally, that ratio was about 3:1, or \$3 spent for road paving for each \$1 spent for bridges. In spite of this, we are still not paving enough miles of road. Our current paving cycle, formerly 10 years, is now 17 years which is totally inadequate. As the costs of road and bridge construction and maintenance continue to rise, and as our road mileage and responsibilities are increased by others, revenue is decreasing. As shown on page one of this report, in 2014 we received over \$108,216 less than the previous year, and are operating with annual revenues that are \$107,383 less than in 2006. We constantly work to improve efficiency and stretch the dollars, but there are limits. We have continually worked to create and maintain a healthy fund balance to deal with emergencies and shortfalls, which is now steadily eroding. Our funding deficiency is also shared by Townships, Villages and Cities across Ohio. Although our roads and bridges are still in very good condition, their continued maintenance cannot be neglected without high future costs. The current infrastructure funding deficit exceeds any time I have seen in the last four decades.

SOME FACTS ABOUT OUR FUNDING:

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

THERE HAS NEVER BEEN ANY LOCAL TAX FOR THE BENEFIT OF COUNTY ROADS AND BRIDGES IN THE HISTORY OF DARKE COUNTY.

THIS DEPARTMENT RECEIVES NO MONEY FROM REAL ESTATE TAXES, LOCAL SALES TAXES, OR THE COUNTY GENERAL FUND, FOR 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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TO: _____

