

47th Annual DARKE COUNTY ENGINEER'S ANNUAL REPORT FOR 2024

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

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

2024 was a good year with a relatively mild winter, little blowing snow, and with few weather hindrances to road work for the rest of the year. Because of this, along with our normal paving, chip-sealing, crack sealing, culvert replacements, etc., we were able to accomplish significant shoulder widening on some heavily-traveled roads, as well as shoulder stabilization at long guardrail runs and removal of many dead trees along the roads.

We completed a federal-aid paving project that had been in the making since 2019, paved 15.59 miles on three main County Roads and provided 80% of the required funds.

Additionally, we contracted the paving of 25.35 miles of County Roads with local funds, and used County equipment and labor to chip-seal and fog-seal 23.74 miles of road. 2024 was a big paving year, and we were able to provide 64.68 miles of new County Road surfaces (over 12% of total mileage).

We diligently attempt to balance our receipts and disbursements for the year, but never know the final result until year's end. Compared to 2023, our total receipts increased \$213,610.87 (2.8%), while spending increased by \$656,096.81 (9.1%), resulting in the year's annual spending exceeding annual receipts by \$91,869.73 (1.2%).

Our department continues to operate with no debt and owns all equipment.

Spending for 2024 was \$656,096.81 (9.09 %) more than 2023, and \$ 91,869.73 (1.18 %) more than the 2024 receipts.

Readers may contact us with any questions or comments @ 937-547-7375 or email: engineerdarke@gmail.com

2024 RECEIPTS		2024 EXPENDITURES	
Fuel Tax	\$3,563,772.65	Resurfacing & Chip-Seal	\$ 3,567,514.19
Motor License Fees	\$2,670,796.70	Bridge Construction & Maint.	\$ 261,356.21
Motor License-Permissive	\$ 766,199.80	Wages and Salaries	\$ 1,615,611.85
Sales (salt-grits)	\$ 93,748.03	Fringe Benefits	\$ 665,827.54
Recycling	\$ 5,250.72	Tools, Parts & Repairs	\$ 264,081.09
Reimbursements*	\$ 272,581.12	Fuel (All Co. Departments)	\$ 353,111.66
Interest	\$ 329,538.87	Utilities/Bldg. Maintenance	\$ 72,915.03
Sale of Assets	\$ 81,100.00	Equipment Purchases	\$ 688,115.25
TOTAL	\$7,782,987.89	Road Maintenance Materials	\$ 230,918.00
*Fuel Reimb.	\$ 210,115.57	Pavement Marking	\$ 155,406.80
*Wkr. Comp.	\$ 3,777.44	Total	\$ 7,874,857.62
*Other	\$ 58,688.11		
Total	\$ 272,581.12*		

Total 2024 Receipts: \$7,782,987.89	Total 2024 Expenditures: \$7,874,857.62
<i>(2023 Receipts: \$7,569,377.02)</i>	<i>(2023 Expenditures: \$7,218,760.81)</i>

IMPROVEMENTS			
Miles of Road Resurfaced	40.94	Centerline Striping	198.487 road miles
Miles of Road Chip-sealed	23.74	Edge line Striping	86.36 lane miles
New Bridges Constructed	1	Bridges Improved	112
Bridges rehabilitated	4		

NEW EQUIPMENT PURCHASES			
Case Backhoe	\$ 130,646.71	4- Snowplows	\$49,500.00
Bomag Roller (used)	\$ 14,500.00	4-Spreaders	\$29,100.54
2 Kenworth tandem Dump Trucks	\$ 401,868.00	2-Truck bodies	\$62,500.00
		Less sale of backhoe	(\$81,100.00)
		Total	\$607,015.25

ANNUAL MAINTENANCE DATA			
County Rd. culverts & tile replaced:	10 locations	Diesel Used: 54,047 Gallons	(+7438 gal. from 2023)
Signs & posts purchased:	\$ 47,053.40	Gasoline Used: 8311 Gallons	(-259 gal. from 2023)
Sign repair/replacement:	1850 locations	Salt & ice grits purchased:	\$ 26,997.15 (17% of 2023)
Twp. Rd. culverts and tile replaced:	13 locations	Crack-seal material purchased:	\$ 91,861.10 (75% of 2023)

MAINTENANCE RESPONSIBILITY			
County Roads	524.645 miles	Co. & Twp. Bridges (over 10' span)	516
Large culverts (30'-10 ft.)	365	Roadway culverts (12'-30")	1703
Right-of-way	3335 acres	Stop signs	819
Warning signs	2228	Road name signs	1326

2024 ROAD IMPROVEMENTS

We completed a total of 40.94 miles of asphalt resurfacing by contracts with Walls Brothers Asphalt Co. and the Village of Versailles. Our crew applied chip seal and fog seal to 23.74 miles on fifteen different roads. The cost differential between the two application types was over 6 to 1, and both methods are used to enable us to timely preserve and improve road surfaces with available revenues.

ASPHALT RESURFACING BY CONTRACT				
ROAD NAME	LENGTH	ASPHALT	AGGREGATE	TOTAL COST
	(Miles)	(Tons)	(Cu. Yd.)	
Gordon-Landis	4.74	4445.12	491.61	\$487,880.44
Willowdell	4.98	4687.44	518.55	\$549,410.76
Hillgrove-Ft. Recovery	4.95	4873.51	455.04	\$561,157.92
Arcanum-Bears Mill	2.90	2700.20	226.36	\$295,781.82
Preble Co.-Butler Twp.	5.76	5246.63	480.76	\$557,058.88
Hillgrove-Southern	1.72	1581.76	127.86	\$174,067.56
Reed (cont. by Versailles)	0.30	185.0	42.1	\$30,650.00
Totals	25.35	23,719.66	2,342.28	\$2,656,007.38

Road widths varied from 18.0' to 22.0' with the average being 19.1'.

Avg. application: 936 tons per mile (1-1/2 inches thick in two courses) Avg. cost per mile: \$104,773

Of the cost per mile, \$98,131 was for asphalt, with \$6,642 for gravel berm.

DAR-CR 9-35-76 LPA paving project

This project resurfaced 15.59 miles on three roads including pavement markings

Avg. application: 1,188.38 tons/mile (1-3/4" thick in two courses) Avg. cost per mile: \$142,864

ROAD NAME	LENGTH	ASPHALT	AGGREGATE	TOTAL COST
	(Miles)	(Tons)	(Cu. Yd.)	
Horatio-Harris Creek	5.073	6307.68	431.85	\$753,307.07
Beamsville-Union City	5.510	6270.42	479.58	\$759,755.43
Gettysburg-Webster	5.007	5948.72	448.84	\$714,194.38
Totals	15.59	18,526.82	1360.27	\$2,227,256.88

SURFACE SEAL BY COUNTY PERSONNEL & EQUIPMENT (material costs shown)

Chip Seal: 0.45 gal. of RS-2 emulsion and 28 lb. stone per sq. yd. Fog Seal: 0.095 gal./sq. yd.

ROAD NAME	MILES	COST	ROAD NAME	MILES	COST
Darke-Mercer Co. Line	1.58	\$31,852.64	Day	1.25	\$20,735.58
Althoff	2.06	\$41,751.04	Greenville-Celina A	0.30	\$ 7,079.52
Brock-Cosmos	1.53	\$30,133.09	Greenville-St. Marys A	0.95	\$16,375.50
Coates	0.90	\$21,507.90	Greenville-St. Marys B	1.03	\$16,876.41
Conover	1.00	\$19,722.87	Hillgrove-Southern	3.12	\$58,051.80
Hollansburg-Tampico	3.25	\$71,139.13	Pickett	1.91	\$37,943.13
Moore	1.20	\$23,840.73	Cochran	3.03	\$55,840.22
Payne	0.49	\$9,743.51	Ross-Medford	0.14	\$3,462.36
Total 23.74 miles for \$466,055.43					
Average material, labor and equipment cost per mile: \$19,631.65					

64.68 miles of County road received new surfaces in 2024, which is 12% of the total mileage (524.645).

Our goal is to renew the surface of each road every 10-12 years.

Total County paving and sealing costs: \$5,349,319.69 which was paid for with \$3,567,514.19 of local funds and \$1,781,805.50 in federal funds.

PAVEMENT MARKINGS

We contracted with The Aero-Mark Company for the painting of new centerline/no-passing markings on 198.487 miles of County road, and 86.36 lane-miles (43.18 road miles) of white edge-lines. The total project cost was \$155,406.80 and used 3,793 gallons of yellow paint and 1,929 gallons of white paint. The average cost was \$547 per road mile for yellow markings and \$554 per lane-mile for white edge lines.

TOWNSHIP-VILLAGE COOPERATIVE WORK

During 2024, the highway department provided \$22,915.50 of free labor and equipment to 11 Boards of Township Trustees, and \$33,541.62 to twelve Townships that was reimbursed. This work included the replacement of 13 culverts and subsurface conduits, tree removal and sign repair/replacements. The Trustees of Brown Township furnished the new asphalt surfaces for two bridges on Washington and White-Copess Roads.

Our office prepared the specifications and bidding process for the asphalt paving of 11 different Township roads in 9 different Townships, totaling 11.988 miles with a total bid price of \$1,315,378.00. We also coordinated and supervised the application of 84.083 miles of centerline and 18.57 lane-miles of edge-line pavement markings for 14 different Townships and the Villages of Versailles and Rossburg at a contracted cost of \$56,524.72

OTHER PROJECTS

We applied and received a grant of \$35,000 to upgrade and improve selected regulatory, warning and road name signs on County roads throughout the county. The grant was supplemented with \$8,750 of local funds, making a total project of \$43,750. This amount was used to purchase 160 regulatory signs, 614 warning signs, 132 road name signs, 675 sign post reflectors, and 200 sign posts, which were all erected by County personnel and equipment.

2024 BRIDGE CONSTRUCTION AND REHABILITATION

Our bridge crew built a new bridge on Washington Road and rehabilitated bridges on White-Copess Road, Jaysville-St. Johns Road, and Versailles-Southeastern Road. Two box culverts were widened on Versailles-Southeastern Road, and guardrail repairs, upgrades and reflective unit replacements were made to 112 bridges.

BRIDGE REHABILITATION AND REPAIR

A new bridge was built on Washington Road using a galvanized steel beam superstructure with timber deck on new concrete abutments. All work, including steel fabrication was done by Darke County personnel. New asphalt surface was furnished by the Brown Twp. Trustees.

Road Name	Bridge No.	Span x Width	Materials & Equip. Costs	Labor & Fringe Costs	Total
Washington	T040-0803	53' x 24'	\$158,641.04	\$61,350.40	\$219,991.44

The following bridges received rehabilitation and upgrades. The first received a new deck and asphalt surface (furnished by Brown Twp. Trustees). On the Jaysville-St. Johns Road bridge, the asphalt surface was milled and replaced, and the approach guardrail was reconstructed and raised. The Versailles-Southeastern Road bridge was repaved and the approach guardrail was replaced along with a shoulder widening on the road. Two box culvert structures were widened on Versailles-Southeastern Road in preparation for road repaving in 2025.

Road Name	Bridge No.	Span x Width	Material & Equip. Costs	Labor & Fringe Costs	Total
White-Copess	T095-0026	24' x 118'	\$ 21,577.39	\$ 19,768.31	\$ 41,345.70
Jaysville-St. Johns	T036-0793	165' x 32'	\$30,433.39	\$4,853.22	\$35,286.61
Versailles-Southeastern	C068-0035	255' x 28'	\$23,168.25	\$2,762.76	\$25,931.01
Versailles-Southeastern	C068-0313 C068-0448	Widening of box culverts (2)	\$5,767.29	\$18,512.74	\$24,280.03
				Grand Total	\$346,834.79

FUTURE BRIDGE REPLACEMENT PROJECT

An 83 year-old bridge on Meeker Road, South of the Greenville City Limits, remains in the design and approval phase to be replaced in 2025.

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

ACTUAL BRIDGE WORK COUNTY COSTS

Reported (including labor, fringe, etc.) costs for a new bridge, two bridge rehabilitations, two culvert widening projects, and 96 repairs and upgrades to bridges: \$ 346,834.79
 Actual bridge materials and contracts purchased: \$261,356.21

STATE SUFFICIENCY RATINGS OF BRIDGES ON DARKE COUNTY AND TOWNSHIP ROADS

(Each bridge is rated from 0-100 based upon its condition and annual inspection)
 The average sufficiency rating of all 516 bridges is 91.5%

Number of Bridges	% of Total Bridges	Sufficiency Rating
304	58.9%	EXCELLENT (90-100)
196	38.0%	GOOD (70-90)
12	2.3%	FAIR (50-70)
4	0.8%	POOR (0-50)

(Of the four bridges in poor condition; one is an historic arch structure on a township road, one is limited to bicycle and pedestrian traffic, one is a closed bridge in an incorporated village, and one is owned by the CSX railroad.)

The average age of the 516 bridges on County and Township roads is 37.5 years.

DETAILED EXPENDITURES FOR 2024

(Amount per category, percentage of total expenditures, and change from 2023)

WAGES & FRINGE 29.0% +2.4% from 2023	
Engineer plus 29 fulltime	
WAGES	\$ 1,615,611.85
PERS	\$ 232,399.97
HEALTH INS.	\$ 379,998.36
UNIFORMS	\$ 10,225.37
MEDICARE	\$ 22,362.83
WKRS. COMP.	\$ 11,366.50
ADM. FEES	\$ 4,599.72
LIFE INS.	\$ 1,146.60
SEVERANCE	\$ 1,502.19
DRUG TESTING	\$ 2,226.00
TOTAL WAGES & FRINGE	\$ 2,281,439.39
	(41.2 % fringe)

OVERHEAD 8.8 % -3.3 % from 2023	
UTILITIES/BLDG MAINT.	\$ 72,915.03
PARTS & SUPPLIES	\$230,614.41
FUEL (all County Depts.)	\$353,111.66
LUBE/FILTERS	\$ 19,025.46
TIRES	\$ 5,677.91
BATTERIES	\$ 2,813.32
CONTRACTED REPAIRS	\$ 5,949.99
TOTAL OVERHEAD	\$ 690,107.78

IMPROVEMENTS 48.6 % +34.4 % from 2023	
(Road paving, sealing, and bridge work)	
PAVING (29.30 Mi.)	\$ 4,883,264.26*
CHIP/SEAL (17.58 Mi.)	\$ 466,055.43
BRIDGE WORK & CONTRACTS	\$ 261,356.21
TOTAL IMPROVEMENTS	\$ 3,828,870.40
* Includes \$1,781,805.50 federal grant	

ROAD MAINTENANCE 5.9 % -42.6 % from 2023	
SALT & ICE GRITS	\$ 26,997.15
SIGNS & POSTS	\$ 47,053.40 **
GRAVEL	\$ 47,235.37
PAVEMENT MARKING	\$ 155,406.80
DRAINAGE	\$ 30,614.28
ASPHALT	\$ 4,805.96
CRACKSEAL MTL.	\$ 91,861.10
MISC.	\$ 98,450.74
TOTAL ROAD MAINT.	\$ 467,424.80
** \$35,000.00 furnished by sign grant	

EQUIPMENT PURCHASE 7.7 % -1.4 % from 2023	
EQUIPMENT PURCHASE	\$ 607,015.25

TOTAL EXPENDITURES: \$ 7,874,857.62

The maintenance and upkeep of roads and bridges includes many different tasks and responsibilities. The most visible are snow plowing and roadside mowing, but the continual repair and replacement of bridges, signs, maintaining drainage along and under the roads, repairs, clean-up from weather events and vehicular accidents, and the trimming and removal of trees and brush along roads are never-ending tasks. Repaving, repairing and sealing cracks in asphalt pavement surfaces to prevent water intrusion is continual. Our employees repair and chip-seal roads, replace culverts and subsurface crossings, build new bridges, maintain, repair and inspect all bridges, maintain all roads, and service and repair all County equipment. They perform all types of road and bridge work except asphalt road resurfacing and the painting of the yellow and white lines on the pavement.

The department includes the County Engineer and twenty-nine personnel; with twenty-six at the Highway Department and three at the Courthouse Office. The office performs surveying, design, all bridge inspections, contract management, clerical and payroll, maintains tax maps, and reviews and approves all deed transfers and new land surveys.

2024 AT A GLANCE

40.94 miles of County road asphalt resurfacing	\$ 4,883,264.26	(\$119,278.56 per mile-contracted)
23.74 miles of County road chip-sealed	\$ 466,055.43	(\$19,631.65 per mile-by County)
1 new bridge constructed, 4 rehabilitated & 112 upgraded	\$ 346,834.79	(materials only, County constructed)
284.847 miles of new pavement markings applied	\$ 155,406.80	(\$545.58 per mile-avg.-contracted)
Upgrade/repair signs on 524.645 miles of County roads	\$ 47,053.40	(materials only)

It continues to be a challenge to maintain 524.645 miles of asphalt road surfaces, the integrity of 516 bridges, and to improve this system with available revenue in the face of ever-rising costs. In 2017, we formulated and began using a new asphalt mix design for resurfacing. After placing 237.45 miles over the past eight years, we continue to realize its benefits of a much tighter surface with greatly reduced pavement cracking, particularly in the first few years following the application.

The following compilation shows changes in the year's revenue sources and in the spending categories.

REVENUE RECEIVED		+/- from 2023	REVENUE SPENT		+/- from 2023
Ohio fuel tax	\$3,563,772.65	-7.2%	Wages and fringes	\$2,281,439.39	+ 2.4%
Ohio license tax	\$2,670,796.70	-0.4%	Overhead	\$ 690,107.78	- 3.3%
Local permissive license tax	\$ 766,199.80	+70.6%	Improvements	\$5,610,675.90	+70.3%
Reimbursements	\$ 272,581.12	+4.0%	Road Maint. materials	\$ 502,424.80	- 40.5%
Interest	\$ 329,538.87	+110.4%	Equipment purchase	\$ 607,015.25	- 1.4%
Salt & Grit sales	\$ 93,748.03	-44.8%			
Recycling	\$ 5,250.72	-58.9%	Less grants	(\$1,816,805.50)	+242.5%
Sale of Assets (Backhoe)	\$ 81,100.00	n/a			
Total Revenue Received	\$ 7,782,987.89	+ 2.82%	Total Revenue Spent	\$ 7,874,857.62	+ 9.09%