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2023 Auglaize County Engineer's Annual Report

Introduction



Ohio Revised Code allows the County Engineer to engage in construction projects with County employees and equipment within certain rules and regulations referred to as "Force Account". It was determined in 2003 that the County Engineer could construct bridges if the estimated cost was up to \$100,000 and up to \$30,000 per mile of roadway. We have always taken pride that our department has the ability to build bridges and maintain roads with our employees and equipment to stretch taxpayer dollars as far as we can. The Force Account law and limits are vitally important to the operations of Auglaize County.

Over the course of 20 years, inflation took a substantial portion of that building power away. In 2023, the State Legislature worked and passed a bill increasing those values up to \$233,000 for bridges and \$75,000 per mile of roadway. This increase to the Force Account limit allows us to continue to maintain our roads and bridges in the most cost-efficient ways.

I want to offer a huge THANK YOU to our State House Representatives, Susan Manchester (District 78), Angie King (District 84), and Senator Matt Huffman (District 12) for their efforts and support in helping pass these increases that are so important to Auglaize County.

The Force Account work we perform would not be possible without the expertise of all of our employees. Their knowledge, skill, and dedication allow us to safely and efficiently maintain our infrastructure. A THANK YOU goes to all of them for their service to our communities and Auglaize County.

It is my privilege to offer this report on the improvements and accomplishments made by the Auglaize County Highway Department and Engineer's Office in 2023. I encourage you to contact our office if you have questions about this report or other undertakings of the County Engineer's Office.

Respectfully Submitted,

A handwritten signature in blue ink that reads "Andrew J. Baumer".

Andrew J. Baumer, P.E., P.S.

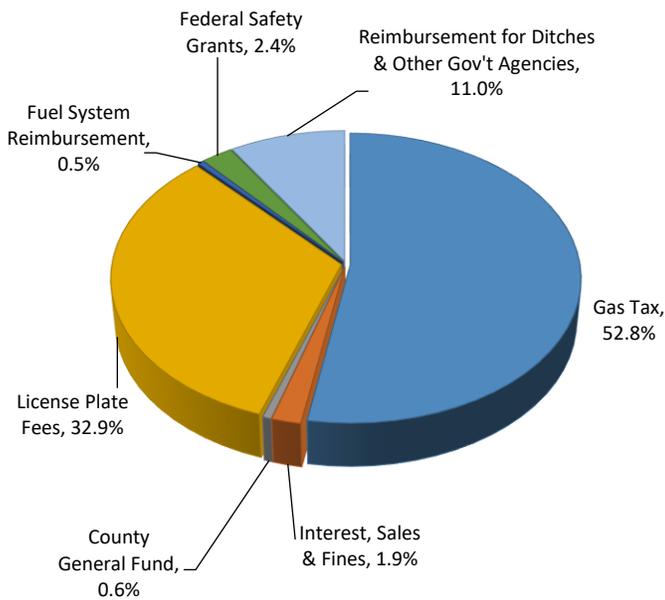
Auglaize County Engineer

Financial Summary

The financial summary for 2023 is illustrated below with graphs showing the revenues and expenditures of this department. Revenue for 2023 reported slightly lower than in 2022 due to a smaller amount of grant funding received this year. The Federal Safety grant money illustrated below was used for guardrail improvements and edge line striping. Additional project details are described later in this report.

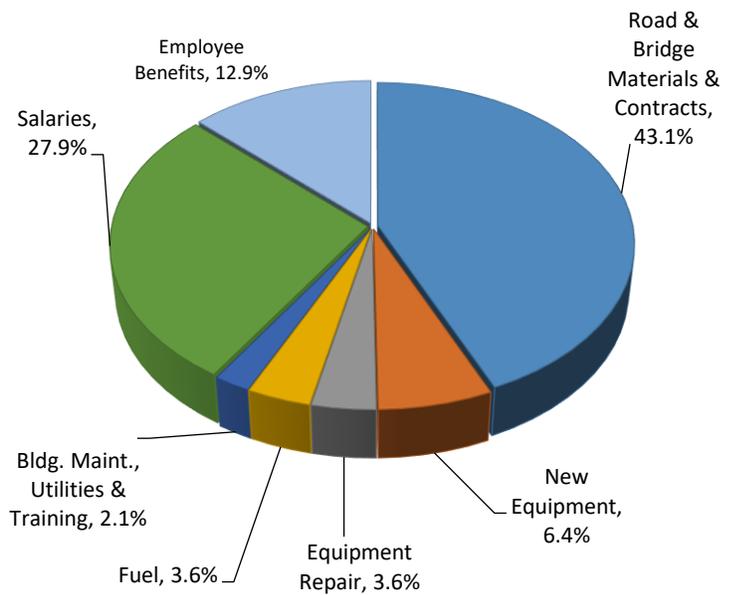
The main expenditures in 2023 were the road and bridge materials and contracts, which accounted for 43% of the total expenditures. Equipment costs climbed to over 6% and maintenance repairs were at 3.6%. The rising cost of equipment and limited availability of certain items make the maintenance of our current fleet crucial to sustainable operations and budget. We are grateful for the work of dedicated mechanics ensuring our fleet of equipment is always up and running!

2023 RECEIPTS



Total Revenue = \$7,253,104

2023 EXPENDITURES



Total Expenditures = \$6,965,777

3-Year Financial Comparison			
	2021	2022	2023
Revenue	\$7,198,966	\$7,821,030	\$7,253,104
Expenditures	\$7,121,960	\$7,452,735	\$6,965,777

Roadway Improvements & Maintenance

Chip Seal Program

Our road crews applied almost 160,308 gallons of liquid asphalt emulsion and 4,235 tons of #8 stone that full sealed 31.5 miles of county roads in 2023. The material costs equated to \$11,710 per mile for a full-width chip seal. The chip seal application is great at eradicating the cracks in the roadways which reduces the freeze/thaw effects, and preserves the integrity of our pavements. The low cost and effective performance of the chip and seal makes it a necessary process to extend the life of our roadways



Paving Program

In 2023, our paving bid was awarded to *Shelly Company* for the placement of 11,736 tons of hot mix asphalt on 11.58 miles of county roads at a total price of \$1,317,460. Santa Fe-New Knoxville Road has seen a significant increase in truck traffic over the last several years. This pushed us to complete side ditch reshaping, safety berm, and shoulder work along the entire 7.42 mile stretch of roadway. Additionally, we placed a leveling course to remove the rutting that had started. This will also help with the long term stability of this roadway.

All 347 miles of our county roads are evaluated annually to determine the best maintenance treatment to try and maintain pot hole free roadways.

Below is a table of the locations and costs of the 2023 paving program.

Road Name	From	To	Length (miles)	Asphalt (tons)	Cost
Santa Fe New Knoxville	CR 25A	SR 65	7.42	7,909	\$886,940
Kettlersville	SR 219	Washington Pike	3.16	2,893	\$325,477
Canning Factory	Hardin Pike	Schaub Road	0.5	500	\$55,882
Nottingham Drive	Infirmary Rd	Cul-de-sac	0.5	433	\$49,160
Total:			11.58	11,736	\$1,317,460

Roadway Improvements & Maintenance

Winter Weather

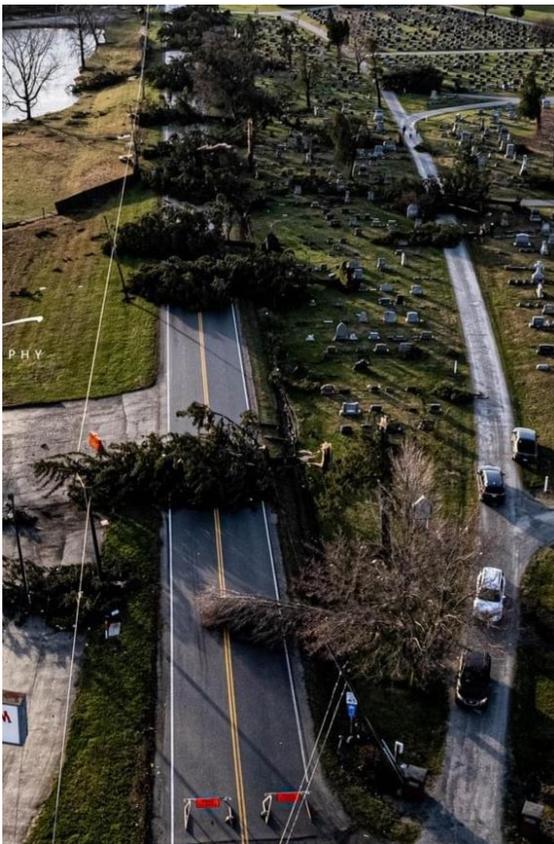


The 2022-2023 winter presented us with very mild weather. Our crews responded to snow and ice events only 13 times between November 18, 2022 and January 30, 2023. This set the record for “fewest times out”. The previous record was 14 times out just last year during the 2021-2022 winter. We only used 524 tons of salt at a price of \$75.32 per ton.

The more mild winters over the last several years have offered some relief to the budget. The 10-year average for annual salt costs is over \$94,000. In the last two mild winters, the average cost was just \$54,000. The lower costs due to the mild winter allowed for additional funds

to be available for more road and bridge projects. Also, harsh winter weather, freeze/thaw cycles, and the necessary treatments to control the snow and ice are huge problems for our road surfaces. Those impacts have been lessened significantly with this mild winter weather.

Tornado and Severe Weather April 2023



In the early morning hours of April 1, 2023, a large band of severe weather came through the County, resulting in several confirmed tornadoes. Large clean-up operations were necessary for many residents across the county. We were tasked with removing debris from our roadways that included tree limbs, metal roofing, and even an entire grain bin. The picture to the left shows all of the trees broken over and lying on Wapak Fisher Road at St. Joseph Cemetery. We worked with AES Electric and the City of Wapakoneta Electric department to get these trees cleared so crews could work to get power back up and running. This picture is just one case of debris cleanup. Major impacts were felt across the county with main concentrations in Duchouquet, Jackson, Noble, Salem, and Wayne Townships.

The assistance and coordination between the Electric companies, ODOT, and Auglaize County EMA helped to ensure clean up was handled quickly and safely.

Roadway Improvements & Maintenance

Safety Improvements

In 2023, Auglaize County received Federal Safety grant money to complete two safety improvement projects along county-maintained roadways.

We received a grant to install 4,500 feet of new guardrail to provide an extra layer of safety along roadways that have obstructions, steep drop-offs, or along ditch banks. The project installed guardrail at 6 locations in 5 different townships across the County. The total project cost was \$127,593 and it was 100% paid for by the grant.



The second grant we received was for the installation of edge line striping. The majority of our roadways do not have edge line striping, so this grant was able to get that program started. The locations were determined based on the highest traffic counts and roads with curves to help delineate the edge of the pavement. The final project cost was \$70,460 with \$50,000 being paid for by the Federal Safety grant. Although we do not have grant funding for edge line striping in 2024, we do plan to continue to grow that program.



Bridge Program & Construction

Inspection Ratings

There are currently 354 bridges under the responsibility of the Auglaize County Engineer. Each bridge is given a condition rating between 0-9 with 9 being a bridge in new/excellent condition and 0 being a failed bridge. Below is the breakdown of ratings for the bridges in Auglaize County by condition:

Condition Rating	Total	% of bridges
9 – Excellent	16	4.5%
8 – Very Good	171	48.3%
7 – Good	127	35.9%
6 – Satisfactory	38	10.7%
5 – Fair	1	0.3%
4 - Poor	1	0.3%
Total:	354	100%

As you can see in the chart, 89.7% of Auglaize County’s bridges are in Excellent (9), Very Good (8), or Good condition (7). Only 11.3% of Auglaize County’s bridges are in Satisfactory or Fair condition. The one bridge that is in Fair condition (5) is on a section of road that is on non-maintained status and does not carry traffic. The bridge rated in Poor condition (4) will receive federal funding for construction in 2028. Of the 354 bridges, only 3 bridges are posted for minor weight reductions.

Bridge Construction

We had a busy and productive bridge construction season in 2023. We once again utilized our precast box beams and 3 sided boxes to complete projects in a very efficient and cost-effective manner. The projects listed below represent those constructed by Auglaize County forces and the cost represents the labor, materials, and equipment used on each project.

2023 Bridge Construction Projects

Road Name	Structure Type/Work Completed	Cost
Geyer Rd	31’ Precast beams with composite deck	\$65,576.91
Kossuth Loop	25’ Precast beams with composite deck	\$56,560.91
Glynwood Rd	14’ Precast 3-sided concrete box	\$69,522.66
Blackhoof Creek Rd	14’ Precast 3-sided concrete box	\$44,537.41
Burr Oak Rd	14’ Precast 3-sided concrete box	\$80,335.23
Winemiller Rd	14’ Precast 3-sided concrete box	59,419.15
Freyburg Drive	14’ Precast 3-sided concrete box	60,641.99
Allen Union Wayne Rd	10’ Precast 3-sided concrete box	53,637.09
Total Cost for Bridge Construction =		\$353,801.60

Bridge Program & Construction

CR 33A Bridge over Pusheta Creek

We contracted with Brumbaugh Construction for repair of the concrete deck on County Road 33A Bridge over Pusheta Creek just west of Wapakoneta. The bridge was originally built in 1972 and has seen several rehab projects over the years, and this time was a deck rehabilitation. The surface of the concrete deck was deteriorating and spalling on significant portions of the bridge. Brumbaugh Construction used “hydro-demolition” to remove the old, deteriorated concrete from the deck. “Hydro-demolition” uses a giant pressure



washer that sprays water at **15,000+ psi** to break up the bad concrete, leaving the solid concrete in place. After the old concrete was removed a new concrete deck was poured in place to complete the project. The final project cost came to \$176,057.18 and was paid out of our dedicated road and bridge funds.

The bridge was closed on the morning of May 30 and opened back up to traffic at lunchtime on June 15. Only a 15-day closure for a successful bridge rehabilitation project!

Government Cooperation

We strive to be as efficient as we can be with employees, equipment, and project implementation. Our cooperation with other government entities to complete maintenance and construction projects allows us to resourcefully improve all of Auglaize County’s infrastructure, not just the items directly under our jurisdiction.

In 2023, we completed \$195,000+ of labor, equipment, and materials to other entities that include the 14 townships, Village of New Bremen, Neil Armstrong Airport, and Auglaize County Fairgrounds. This work included culvert installations, road surface patching, storm sewer installation, and dirt and grass work. Pictured on the right is the Bunker Hill storm sewer project that was completed with the Village of New Bremen. This project allows for the expansion of the Village’s industrial park.



Ditch Construction & Maintenance



Ditch Construction

Three new ditch projects were constructed through the petition ditch process (Ohio Revised Code 6131) in 2023.

Lusk Ditch involved 125 acres in Union Township and consisted of replacing clay drainage tile installed in 1919 with 1,586 lineal feet of new plastic tile, catch basins, and submains. The Lusk Ditch was constructed by Cy Schweiterman Inc. for a cost of \$43,777.89.

Christ Hengstler Ditch involved 395 acres in Duchouquet Township. The project, pictured on the left, consisted of replacing 20", 18", and 15" diameter clay tile that was installed in 1908. Due to the lack of cover necessary for a new tile, 300'

of open ditch was dug before beginning the installation of 6,708 lineal feet of new 18" and 15" diameter plastic tile, catch basins, and submains. The project was constructed by Gerding Contracting for a cost of \$241,838.

Sheipline Ditch in Duchouquet Township was completed in 2023. The majority of the project was completed in 2022 but the construction of the tile boring under the CSX railroad and the remaining 1,200 lineal feet of tile was completed.

Ditch Maintenance

As required by Ohio Revised Code 6137, Auglaize County is tasked with overseeing the maintenance of any ditch constructed since 1957. Auglaize County is responsible for maintaining 137 miles of tile ditches, 175 miles of open ditches, 8.6 miles of waterways, and 71 miles of log jam removal. In 2023 ditch maintenance was performed on 194 of 327 ditches under County maintenance at a total cost of \$366,493. Typical maintenance items performed are ditch dip outs and leveling, tile suck hole and catch basin repairs, herbicide spraying, and mowing.

Extensive tile replacement was performed on the Huebner tile in Pusheta Township. Poor soil conditions led to the plastic tile settling and restricting water flow in the system. The soft soil conditions didn't offer a suitable base for the tile. Our crews installed *Presto GeoWeb* to create more stable support for the tile installation. The interlocking webs are filled with #57 stone and act like a mattress to give the tile a more stable base to sit on.

