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2022 Auglaize County Engineer's Annual Report

Introduction



The economic climate and supply chain issues that have developed over the course of the last 2 ½ years following the COVID pandemic have created some unique challenges in the road and bridge infrastructure field, and the Auglaize County Engineer's Office is no exception.

We saw significant price increases of crucial building materials including asphalt, stone, concrete and plastic tile. We have had new dump trucks, pick-up trucks, skid loaders and other equipment that has been ordered for over a year but still has not arrived. The rising costs of equipment, materials and fuel are slowly eroding the already tight revenue we have to maintain the 347 miles of county roads and 350 county owned bridges.

As always, the goal of this office to stretch the dollars we do have as far as we can. We will prioritize our projects with safety being the #1 priority. We will continue to use our county forces for as many maintenance and construction items as we can and will look for grant funding opportunities

to help offset the rising construction costs.

I am happy to report that the overall status of the roads and bridges throughout Auglaize County is very strong and that is THANKS in large part to the efforts of all the employees associated with this office. Auglaize County is extremely fortunate to have the knowledgeable staff, skilled operators and employees dedicated to improving the infrastructure within this great 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 2022. 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,

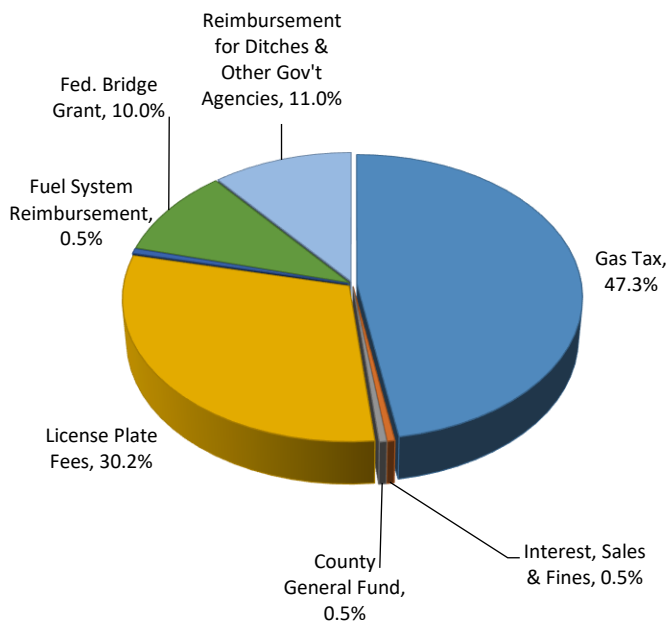
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Financial Summary

The financial summary for 2022 is illustrated below with graphs showing the revenues and expenditures of this department. Revenue for 2022 remained relatively consistent when compared to 2021. The main revenue sources continue to be gas tax and license plate registrations.

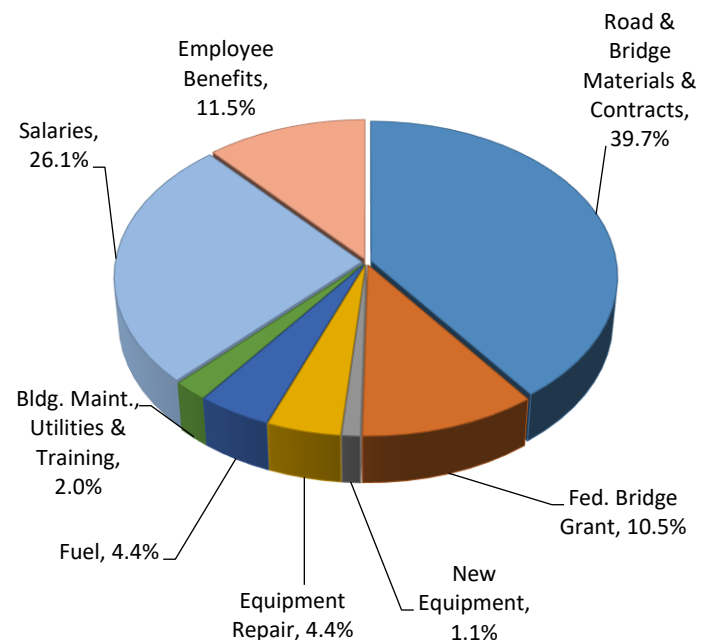
Main expenditures in 2022 were the road and bridge materials and contracts, as well as the grant funding for bridge construction which accounted for over 50% of the total expenditures. However, that money does not cover as many projects due to the cost inflation we have witnessed. The other main categories were employee salary and benefits.

2022 RECEIPTS



Total Revenue = \$7,821,030

2022 EXPENDITURES



Total Expenditures = \$7,452,735

As shown above, almost half of our revenue comes via the gas tax that is collected on each gallon of gas sold in Ohio. That money is split between ODOT, Counties, Townships and Municipalities and is dedicated for road and bridge improvements. As the push for electric vehicles continues to move forward, gas consumption and thus our operating revenue will trend downward in an unsustainable fashion.

ODOT has created a website and survey to collect citizens' opinions on the future of transportation funding throughout Ohio. Well maintained infrastructure is critical to our daily travels, supply chain deliveries and our economy. I encourage everyone to visit the website to learn about our current transportation funding and future alternative funding options.



Roadway Improvements & Maintenance

Chip Seal Program



Our road crews applied almost 145,000 gallons of liquid asphalt emulsion and 4,444 tons of #8 stone that full sealed 30.3 miles of county roads in 2022. The material costs equated to \$10,400 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 our pavement integrities. This 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 2022, our paving bid was awarded to *Shelly Company* for the placement of 11,672 tons of hot mix asphalt on 14.59 miles of county roads at a total price of \$1,279,147. The price per ton of asphalt went from \$86 in 2021 to \$105 per ton in 2022. Because of that 20% increase, we had to reduce our planned paving program by almost 4 miles.

The cost of hot mix asphalt was over \$87,000 per mile vs. just \$10,400 per mile for chip & seal. A combination of both of these road surface treatments are important to maintaining well-built, sustainable roads.

Below is a table of the locations and costs of the 2022 paving program.



| <u>Road Name</u> | <u>From</u> | <u>To</u> | <u>Length (miles)</u> | <u>Asphalt (tons)</u> | <u>Cost</u> |
|--------------------|--------------|------------------------|---------------------------|---------------------------|--------------------|
| Townline Lima | SR 67 | Buckland Holden | 2.02 | 1616 | \$177,099 |
| National | SR 197 | Moulton Ft. Amanda | 2.5 | 2000 | \$219,182 |
| Eisley | SR 197 | County Line | 3.42 | 2736 | \$299,841 |
| Amsterdam | NB Corp Line | SR 364 | 3.0 | 2400 | \$263,018 |
| Moulton Ft. Amanda | Glynwood | SR 197 | 3.4 | 2720 | \$298,087 |
| Rapp | Williams | Glynwood New Knoxville | 0.25 | 200 | \$21,918 |
| Total: | | | 14.59 | 11,672 | \$1,279,145 |

Roadway Improvements & Maintenance

Winter Weather



The 2021-2022 winter presented us with very mild weather. Our crews responded to snow and ice events only 14 times with the first event not occurring until January 17, 2022. This set records for “fewest times out” and latest date for “First time out” dating back to 1985. We only used 1,011 tons of salt at a price of \$74.53 per ton. The lower costs due to the mild winter allowed for additional funds to be available for more road and ditch maintenance projects.

The picture on the left shows the hazardous conditions our plow drivers face during storm events. When you see the flashing green and white

lights, please remember to stay back and give snow plows plenty of room to operate.

Canning Factory & Schaub Road Repairs

One of the most unique road maintenance projects we’ve experienced occurred in 2022 during the construction of the addition to the City of Wapakoneta’s Water Treatment Plant. Over 100,000 cubic yards of dirt was hauled in to the treatment plant site, using Canning Factory and Schaub Roads as the main haul routes. The heavy repetitions from this truck traffic caused major road maintenance problems including full depth failures in multiple locations. We decided to use a process called “cold in place recycling” to repair the mile of roadway that was damaged. The process utilized a mill machine to grind and blend the existing roadway



material, additional stone and liquid asphalt emulsion to create a new road base. The new base was leveled and rolled in with heavy steel drum rollers. Auglaize County then applied a double chip seal using #57 stone on the first layer and #8 stone on the top coat. The “cold in place recycling” was performed by *Specialized Construction Incorporated* at a price of \$291,288. The additional work by Auglaize



County brought the total repair costs to over \$350,000, with \$125,000 of that being paid by the City of Wapakoneta.

Roadway Improvements & Maintenance

Kettlersville Road Culvert Crossing

County road crews were busy replacing culverts and improving drainage along and through the roads that are planned to be paved in 2023 and 2024 construction season. At a culvert crossing on Kettlersville Road between Washington Pike and Burr Oak Road, we found very poor soil conditions. The soft conditions didn't offer a suitable base for our new pipe installation. Our crews installed *Presto GeoWeb* to create a more stable support for the tile installation. The interlocking webs are filled with #57 stone and act like a mattress to help disperse the traffic loading more uniformly over the soil. Our crews will be working to complete some drainage improvements along Kettlersville and Santa Fe New Knoxville Road in the spring of 2023 prior to planned road work being completed. Both of those roads are planned to be paved in the summer of 2023.



Roadway Litter Pick-up

In 2022, our department partnered with 7 different groups to assist us with litter pick-up along our county road ditches. In total, the 7 groups picked up litter along 183.25 miles of our county roads. During the collection the groups used over 400 bags to dispose of the trash--over 2 bags of trash per mile. These groups use this as a community service project, but also a fundraiser as they are paid for this assistance. There are over 140 miles of roads that do not currently have a group covering the litter collection.

If you have a group that would be interested in being a part of this community service project, please contact our office at 419-739-6520.



Bridge Program & Maintenance

Inspection Ratings

There are currently 350 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 rating:

| Condition Rating | Total | % of bridges |
|------------------|------------|--------------|
| 9 – Excellent | 13 | 3.7% |
| 8 – Very Good | 171 | 48.9% |
| 7 – Good | 128 | 36.6% |
| 6 – Satisfactory | 37 | 10.6% |
| 5 – Fair | 1 | 0.2% |
| 4 - Poor | 0 | 0.0% |
| Total: | 350 | 100% |

As you can see in the chart, 89.2% of Auglaize County's bridges are in Excellent (9), Very Good (8), or Good condition (7). Only 10.8% of Auglaize County's bridges are in Satisfactory or Fair condition which decreased from 12.1% in 2021. 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. Out of 350 bridges, only 3 bridges are posted for minor weight reductions.



Bridge Construction

We had a busy and productive bridge construction season in 2022. 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.

2022 Bridge Construction Projects

| Road Name | Structure Type/Work Completed | Cost |
|---|---------------------------------------|---------------------|
| Cemetery Rd | 54' steel beams with wooden deck | \$96,914.92 |
| Quellhorst Rd | 31' span county precast beams | \$46,709.92 |
| Allen Union Wayne Rd. | 31' span county precast beams | \$46,847.22 |
| Fahncke Rd. | 48' of 9'-10"x7' precast concrete box | \$53,030.98 |
| CR 66A (Noble Twp.) | 48' of 9'-10"x7' precast concrete box | \$62,326.10 |
| CR 66A (St. Marys Twp.) | 48' of 9'-10"x7' precast concrete box | \$47,972.46 |
| Total Cost for Bridge Construction = | | \$353,801.60 |

Bridge Program & Maintenance

Glynwood Road Bridge over Auglaize River

Thanks to a federal and state grant for 95% of the construction cost, we were able to replace the worst rated bridge in the County in 2022. *Eagle Bridge Company* out of Sidney, OH was awarded the contract for the reconstruction of the 187 foot bridge over the Auglaize River. The project consisted of removing the old deteriorated beams, pouring new concrete abutment and pier caps and setting new prestressed box beams. Construction began on July 18 and the bridge was opened for traffic on October 18th. The final cost of the project was \$825,004.36 with only \$41,250.22 (5%) being paid out of our budget.



Ditch Maintenance & Construction

Ditch Construction

We constructed 4 new ditches through the petition ditch process (Ohio Revised Code 6131) in 2022. The ditches below were substantially completed with only minor items to be completed in the spring 2023:

(1) Dickman Ditch in St. Marys Township was constructed by Braun Excavating for a contract cost of \$91,776.50. The main project component consisted of over 2,800 feet of 15" and 24" diameter plastic tile main installation.

(2) Cogan Ditch #2 in Noble Township was constructed by Liebrecht Excavating for a contract cost of \$16,242.75 to install 262 feet of 18" diameter plastic tile.

(3) Buehler Ditch in Noble Township was constructed by Liebrecht Excavating for a contract cost of \$16,757.25. The project consisted mainly of installing 878 feet of 12" plastic tile.

(4) Seibert Ditch in Salem Township consisted of over 2,700 feet of 24" diameter plastic tile. The project was constructed by Liebrecht Excavating for a contract cost of \$87,871.50.



The Shepline Ditch in Duchouquet Township began construction in the summer of 2022 but is not yet complete. The remaining construction items include boring under the CSX rail line and installing the remaining 1,200 feet of tile upstream of the railroad. The work is being performed by Liebrecht Excavating.

We will be adding 2 more ditches to our county maintenance in 2023. Upcoming projects include the Lusk Ditch in Union Township and the Christ Hengstler Ditch in Duchouquet Township.



Filter Strip Installation

In 2022, we began installing filter strips along the banks of open channels under permanent maintenance. This work is being completed to stay in compliance with the updated drainage laws in the Ohio Revised Code which mandates a 10' wide filter strip. This grass strip is put in place to help catch the top soil erosion and also help to filter the phosphorous that has been aiding the recent algae blooms. All property owners along maintenance ditches will receive a letter further explaining this project. We appreciate the cooperation of the landowners on making this a successful project.