

Auglaize County Engineer's Office

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

2021 Auglaize County Engineer's Annual Report

Introduction



One of the first things you may notice in this report is a different name of the Auglaize County Engineer! Doug Reinhart retired in August 2021 after serving as Auglaize County Engineer for 37 years. The residents of Auglaize County have been extremely fortunate to benefit from Doug's expertise, leadership and commitment to safety over the last 4 decades. I was fortunate to witness how professionally Doug managed this department. He defined what it means to be a public servant. I am grateful to call him not only a mentor, but a friend. Thank you Doug for your service to Auglaize County – Enjoy retirement!

My name is Andrew Baumer and I was appointed as County Engineer in August of 2021 after the retirement of Doug Reinhart. I have been an employee at the Engineer's Office since 2010 in several different positions including; Summer Intern, Bridge Engineer and most recently Assistant County Engineer. I graduated from Minster High School then attended Ohio Northern University and earned my Civil

Engineering degree. I currently live in Jackson Township with my wife Ellen and three kids, Grayson, Isaac and Eve.

When I began my summer internship in the summer of 2010, it quickly became my goal to one day be the County Engineer. I am excited to have accomplished this goal and also humbled to have the opportunity to serve the residents of Auglaize County in this capacity. It is a true honor to be able to work and serve the community and County I was raised in! I look forward to the challenges of not only maintaining, but improving the infrastructure within the 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 2021. I encourage anyone to contact our office if you have any 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".

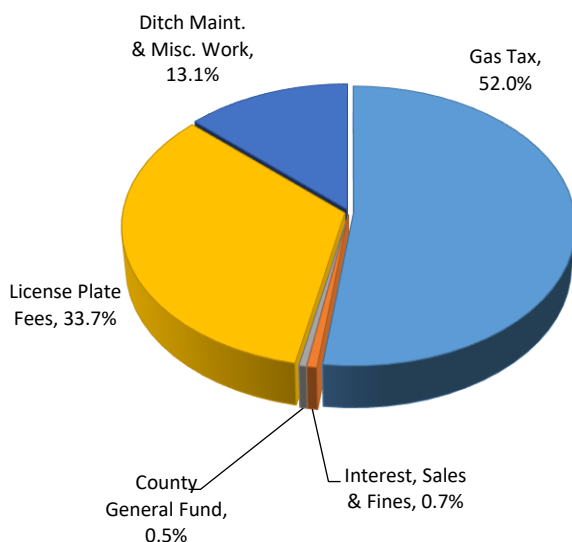
Financial Summary

The financial summary for 2021 is illustrated below with graphs showing the revenues and expenditures of this department.

A common misconception is that our office operates on real estate and income taxes. That is not the case - 85% of revenues for the Engineer's Office are from 2 sources: gas tax and license plate fees. These "user fees" are generated only on the registration of a vehicle or trailer license plate and the surcharge on a gallon of gas purchased. If you are filling up your gas tank regularly, in theory you are using the road and bridges more often, thus paying more to help maintain the infrastructure more than someone who only fills up their tank once a month. The remainder of our revenue comes from reimbursements of work we complete for townships as well as work completed on county maintained ditches.

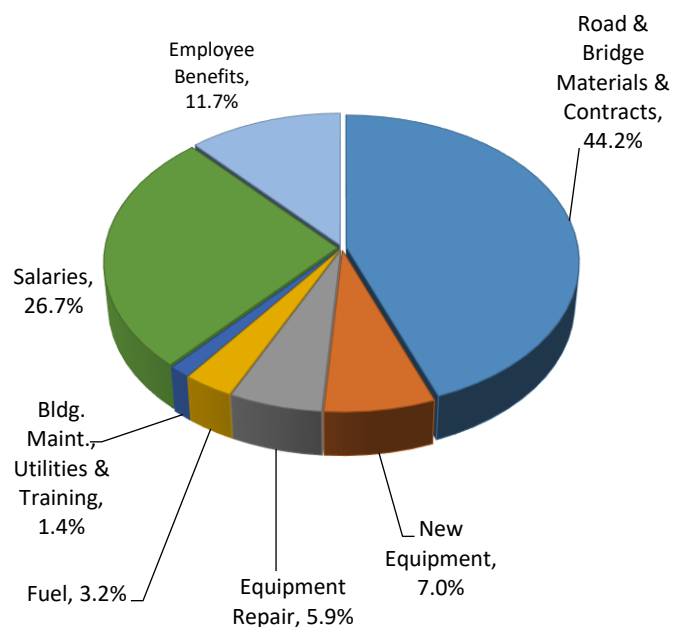
As you would hope and expect out of the Engineer's Office, 44% of the expenditures went towards road and bridge construction materials and contracts. A more detailed description of the projects completed is outlined in the following pages. The other main expenses were employee salaries and benefits as well as equipment related expenses. Prices of almost everything in our lives have increased over the past 18 months - construction equipment and materials are no exception. The rising cost of new equipment coupled with repairing our existing equipment continues to increase bringing that total to 11.5%. Even though salaries, fringe benefits and equipment expenses account for just over half of our expenditures, this is both an asset and, in turn, a savings for Auglaize County. The skills of our mechanics, operators and plow drivers allow us to successfully complete many more projects than our budget would otherwise allow.

2021 RECEIPTS



Total Revenue = \$7,198,966.16

2021 EXPENDITURES



Total Expenditures = \$7,121,960.80

Note: Revenue does not include 2020 carryover funds

Roadway Improvements & Maintenance

Chip Seal Program

Our road crews applied over 175,000 gallons of liquid asphalt and 4,550 tons of #8 stone that full and strip sealed 116 miles of County and Township roads in 2021. Chip seal is an important process because it is a cost-efficient, rehabilitation process that helps extend the life of our roadways. We can full seal 7 miles of



roadway for the same price as paving 1 mile with hot mix asphalt. Over the last 6 years, we have also continued to expand our fog seal application. This is the process of adding a second layer of liquid asphalt over the stone. The fog seal serves a couple different purposes. First, it helps to lock the stone into place so there is less loose stone. Secondly, the black color of the asphalt helps the centerline stripe stand out to more safely delineate the road contours. We are also seeing a benefit in the winter time as the black color heats up quicker and makes snow and ice removal a little easier on those roads.

These benefits greatly outweigh the relatively small price.

Paving Program

In 2021, we awarded our paving bid to Shelly Company for placing hot mix asphalt on 19.89 miles of County Road, placing a total of 16,628 tons of asphalt at a total price of \$1,491,126. The 19+ miles of paving in 2021 is the most miles paved without any grant assistance since 2006. The additional revenue we receive through the gas tax increase enacted in 2019 was the key to the increase in miles paved the last several years. Even though the pandemic has caused gas tax revenues to be less than anticipated, it has still allowed us to do more asphalt resurfacing than we have averaged over the past decade.

<u>Road Name</u>	<u>From</u>	<u>To</u>	<u>Length (miles)</u>	<u>Asphalt (tons)</u>	<u>Cost</u>
Southland	Mercer Line	CR 66A	3.02	2,456	\$213,455
Kohler	SR 219	Canning Factory	4.00	3,219	\$286,885
Main Street	Glynwood	SR 197	3.04	3,095	\$288,767
Townline Lima	Freyburg East	Wapak Fisher	1.27	1,033	\$92,205
Townline Kossuth	Glynwood	St. Marys Kossuth	2.56	2,030	\$181,236
Kossuth Amanda	SR 197	Moulton Ft. Amanda	1.82	1,464	\$130,414
Wapak Fisher	Cemetery	US 33	0.36	307	\$27,678
Townline Lima	Buckland Holden	National	1.80	1,441	\$129,017
Townline Lima	Middle Pike	SR 67	2.02	1,580	\$141,469
Total:			19.89	16,625	\$1,491,126

Roadway Improvements & Maintenance

Safety Improvements

We had several safety improvements completed on County and Township roads this year. Our county crews assisted Pusheta and Salem Township with the widening of Cemetery Road and Hesse Road respectively. The roads were widened from 16' to 18', plus shoulder width increased to allow for safer travel along those sections of roads. With the ever increasing size of farm implements and machinery, we will continue to look for places to upgrade pavement and shoulder widths to improve the safety of the traveling public.

Auglaize County and ODOT partnered together to address the intersection of US 33 and Wapak-Fisher Road just outside of Wapakoneta. This has historically been the most dangerous intersection in Auglaize County due to the volume of traffic combined with the skew angle of the approach pavement. On this section of US 33, 5,200 vehicles travel this road each day and 33% of those vehicles are semi-trucks. The intersection was reconstructed to separate the thru traffic intersections. Additionally, right hand turn lanes were added to allow room for slower traffic to move off of the main line of US 33 and avoid the semi-trucks that cannot slow down or stop as quickly. After nearly 6 years of planning, acquiring right of way, and utility relocation, a federal safety grant was acquired to help fund a portion of this project. The construction was completed in August 2021. Auglaize County's share was 10% of the nearly \$2,000,000 project. Paying just 10% of the construction cost to make this major safety improvement come to fruition was very easily justified.

Winter Weather

Based on the 10 year average, the 2020-2021 winter was average. Our crews responded to snow and ice events 31 times between December 1, 2020 and February 22, 2021. We used 1,628 tons of salt at a price of \$62.11 per ton. That equates to \$101,115 in salt expenses for the winter. This is slightly over the 10 year average of \$92,000±. Depending on the specific storm and weather conditions, we can use a salt brine and beet juice combination to assist with cleaning up the ice and hard packed snow. In 2021, we used 3610 gallons of that beet juice/salt brine blend at a total cost of \$2,707. The material cost for salt, stone and beet juice during the winter of 2020-21 came to \$126,847.

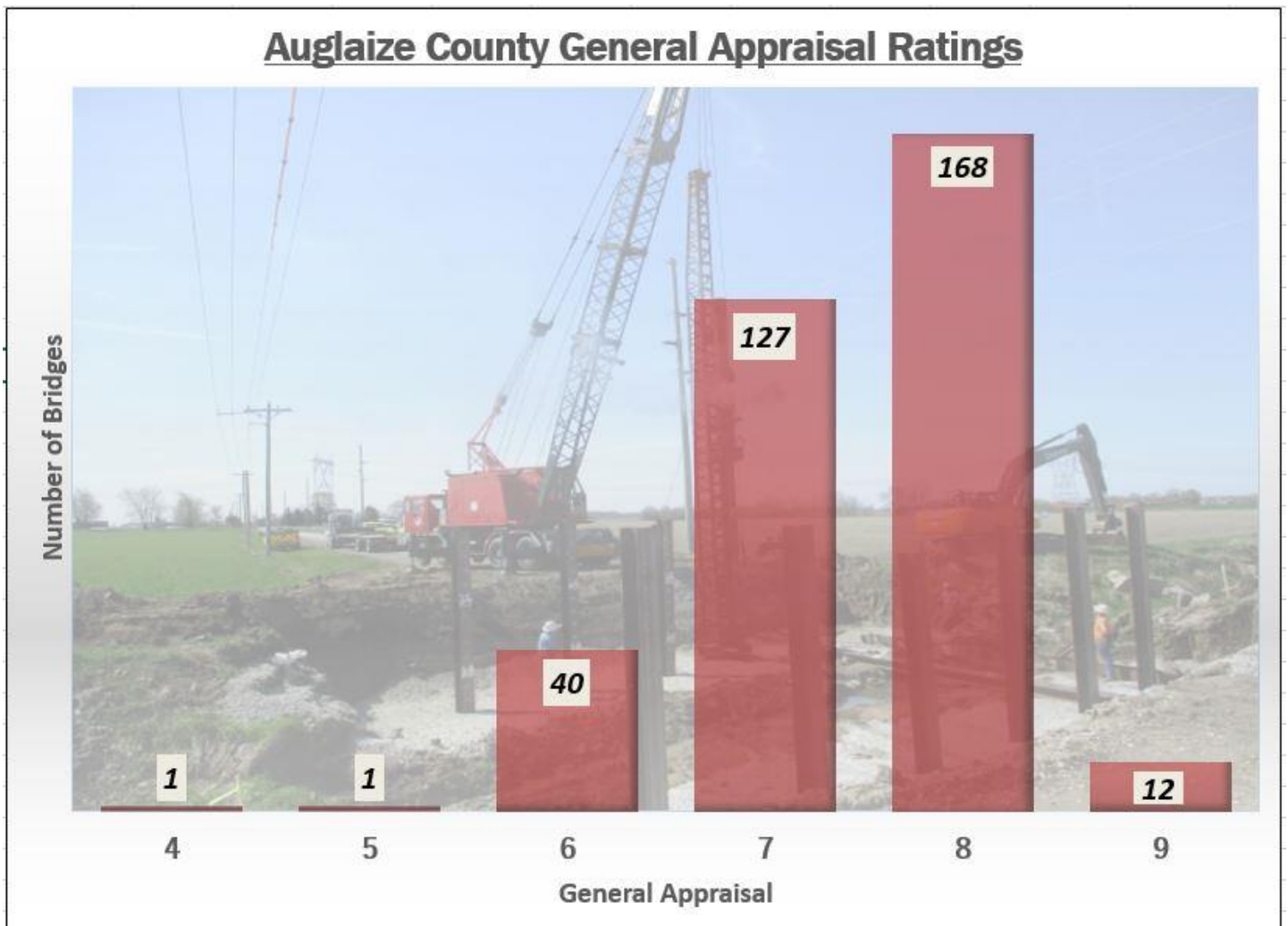


In 2021, the Auglaize County Sheriff's Office introduced the use of Snow Emergency Levels. This is a quick way to share the general road conditions during storm events with the public. In general, Level 2 says to avoid unnecessary travel and Level 3 says roads are closed. We did have a Level 2 snow emergency that occurred in February 2021. Our office communicates with the Sheriff's Office to help determine which Level to announce. From our perspective, this system has worked well in limiting the traveling public during storm events. When people are discouraged to use the roadways because of snow and ice events, it allows our drivers more space to clear roads and intersections. Less travel also limits hard packed snow, created by multiple wheel paths, making it easier to clear the snow from the roads. I would like to thank the Sheriff's Office for implementing this system and I would also like to thank the public for following the Sheriff's announcements. The system is in place to make it safer for everyone, and it is working!

Bridge Program & Maintenance

Inspection Ratings

We currently inspect 349 bridges in Auglaize County annually. 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:



As you can see in the chart, 87.9% of Auglaize County's bridges are in Excellent (9), Very Good (8), or Good condition (7). Only 12.1% of Auglaize County's bridges are in Satisfactory, Fair, or Poor condition. The one bridge shown in Poor condition (4) will be replaced in 2022. 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 349 bridges, only four bridges are posted for minor weight reductions and that number will be reduced to 3 by the end of 2022.

Bridge Program & Maintenance

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 are listed below and the cost represents the labor, materials and equipment used on each project.

2021 Bridge Construction Projects

<u>Road Name</u>	<u>Structure Type/Work Completed</u>	<u>Cost</u>
Bay Road	56' B27x48 non-composite prestressed box beams	\$166,181.46
Townline Kossuth	31'-11" span county precast beams	\$85,777.45
Focht Road	31' span county precast beams	\$56,633.67
Hauss Road	64' of 14'x7' precast concrete box	\$56,109.71
Townline Lima Road	48' of 16'x7' precast concrete box	\$56,324.23
Total Cost for Bridge Construction =		\$421,026.52



In 2021 we made the decision to invest in rehabilitating and preserving a group of bridges that were originally constructed without a waterproofing membrane. We chose bridges that were still in good to satisfactory condition but were showing signs of leaking issues caused by water and salt beginning to deteriorate the bridge superstructure. We installed new waterproofing membrane and drip strip on 12 bridges in 2021. This process consisted of removing the existing asphalt, making any necessary concrete repairs, and placing a new waterproofing membrane over the bridge beams with County forces. Repaving the bridge decks was then contracted through Buehler Asphalt Paving. This waterproofing process will most likely extend the service life of each bridge

by at least 20 years for less than 10% of the cost of a new bridge deck.

2021 Bridge Waterproofing Projects

<u>Road Name</u>	<u>Structure Span & Length</u>	<u>Cost</u>
Owl Creek Road	45' span x 24' wide	\$11,782.32
Rapp Road	58' span x 24' wide	\$9,120.64
Lock 14 Road	58' span x 24' wide	\$10,374.44
Valley Road	65' span x 24' wide	\$13,865.63
Graham Road	39' span x 24' wide	\$9,804.77
Townline Lima	140' span x 24' wide	\$28,238.08
Townline Lima	38' span x 24' wide	\$10,118.41
Harrod Road	48' span x 24' wide	\$7,674.87
Salem-Noble Road	37' span x 24' wide	\$8,493.73
River Road	37' span x 24' wide	\$11,408.25
Schooler Road	44' span x 24' wide	\$11,150.07
Monroe Road	47' span x 24' wide	\$9,404.80
Total Cost for Bridge Waterproofing =		\$141,436.01

Ditch Maintenance & Construction

Ditch Maintenance

We have 370 miles of open channel, tile, and log jam removal ditches under permanent County maintenance under Ohio Revised Code Section 6137. When you have as many miles of drainage improvements under maintenance as miles of roads, a significant amount of time is required to maintain them. We completed \$326,845 worth of work across those ditches with our County crews in 2021.

Ditch Construction

We added 2 new ditches to our maintenance list in 2021. The Spallinger Ditch and the Woodland Hills Ditch were both constructed in 2021. The Spallinger Ditch is located just south of Glynwood Road and consisted of a 15" tile ran from the existing Wapakoneta Corp line to outlet into the Auglaize River. This improvement was completed at a cost of \$26,944. The Woodland Hills Ditch was an 18" tile and grassed waterway that ran from the outlet of an existing detention pond to outlet into an existing waterway. This project was completed at a cost of \$41,089.



We have a busy 2022 planned for ditch construction. We have 5 ditches to be constructed with a contractor already under contract. The work is planned to begin once the weather allows. The ditches to be constructed are: (1) Dickman Ditch in St. Marys Township; (2) Sheipline Ditch in Duchouquet Township; (3) Cogan Ditch & (4) Buehler Ditch in Noble Township; and (5) Seibert Ditch in Salem Township.

Filter Strip Installation

Also in 2022, we will begin 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. This filter strip will also allow us a maintenance path along the ditches to make improvements year around without worrying about destroying crops along the banks. All property owners should have received a letter explaining this in more detail. I encourage you to reach out to our office if you have any questions.

