

2023 Annual Report

Guernsey County Engineer

Paul E. Sherry, PE, PS

2/29/2024

County Highway and Tax Map Office





From The Desk of the Engineer:

Wrapping up my second term as County Engineer has made for a challenging and stirring 2023. As we recovered from the insecure times of COVID, we celebrated two well deserved retirements, were surprised by several employees leaving service, and saddened with a fatal accident. In filling those vacancies, we were fortunate to hire several new employees with a diverse set of skills and experience. Despite the changing times, the Highway Department staff rose up to meet the needs of the County.

This report has been developed to meet the requirements set forth in the Ohio Revised Code and to provide a source of information to explain and educate the community on our progress, needs, and how their tax dollars are spent.

The Engineer's office is responsible for the care and maintenance of 404 miles of roadway and 314 bridges. The regular maintenance includes snow removal, vegetation control, grading, guard rail repair, bridge repair, and surface water control. The County also had significant improvements in several areas beyond regular maintenance that include resurfacing of roads and restoration of bridges, stabilization of slips, and roadway safety projects.

Our annual revenue of \$5,747,026 is primarily generated by the Fuel Tax and License Fees. The License fee has two components, a State fee and a local Permissive fee. Starting in 2024 the local portion has been increased from \$5 to \$15 per registration. The \$15 supports the County, Townships, and City

roads. The County delayed implementing these increases as since 2011 and 2017.

We strive to develop a broadly skilled and talented work force. This is necessary because we have limited resources available to the Highway Department. Over the last 16 years, our revenue has grown by 36 percent, which seems manageable except that the construction CPI has increased more than 60 percent in the same time period. The maintenance and repairs that are delayed as funding becomes scarce, never go away and only get more expensive to perform. We look to have the smallest workforce that maintains and provides the scope and quality of service our community demands. To do this, we must focus on the tasks we can do more efficiently and leave the others to specialized contractors. The availability of more and better equipment also impacts the method which we provide services. This has resulted in a reduction in our workforce, by attrition and retirements, from 32 to 26 over the last 7 years.

The overall age of our equipment and trucks, coupled with delays in delivery and sourcing of repair parts has exasperated the need to replace significant portions of our aging fleet. Fortunately, we are starting to see some light at the end of the tunnel with respect to a backed-up supply chain. Unfortunately, inflation has driven the cost of replacement higher and higher. We will continue our efforts to replace equipment in an efficient manner over the next several years. Dump trucks, graders, pick up trucks and backhoes are all in need of replacement, most of this equipment is more than 20 years old and beyond it's expected lifecycle.

As always, we will continue to serve the needs of the County to our best ability. Thank you for the privilege of serving the County over this last year and I look forward to serving you for many years to come.

Paul E. Sherry, PE, PS
Guernsey County Engineer

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2023 Bridge Update

The Guernsey County Engineer is responsible for 314 bridges on County and Township Roads. A bridge is defined as any structure with an opening equal to or greater than ten (10) feet. These structures could be steel, concrete, or a combination of materials, they are considered a bridge and treated accordingly. This includes large pipes or rectangular culverts. In all cases, each structure is inspected annually and rated according to the scale below (there is no perfect 10).

A bridge with a posted weight limit, which varies based on the vehicle's number of axles, has a deficiency that may be related to one or more issues. Some bridges have unknown construction details, cracked or stone abutments, rusted steel beams, overly thick road wearing course, or stream scour can all contribute to a reduction in weight capacity. We have been fortunate to maintain an average rating of a 6 over the last 7 years. We have several upcoming major bridge replacements that will boost our score significantly.

Condition Rating Scale

9	Excellent, as-built condition
8	Very Good, Some superficial defects
7	Good, some minor defects
6	Satisfactory Condition, wide spread minor defects
5	Fair Condition, some moderate defects, no impact to service
4	Poor condition, widespread moderate defects, performance is impacted.
3	Serious Condition, major defects, load capacity reduced
2	Critical Condition, major restrictions



2023 Year End Bridge Maintenance

Ed Glasgow, Bridge Foreman

This work represents the repairs and maintenance we performed on bridges throughout the County. Our office is responsible for all bridges located on County Highways and Township Roads

3033708 – Shriver Lane (Valley Twp. Rd. 5233) - steel cleaned & painted with rust kill paint, installed treated deck, & sealed with asphalt

3035301 – Palmer Road (Wheeling Twp. Rd. 381) - steel cleaned & painted with rust kill paint, installed treated deck, & sealed with asphalt

3036022 – Richards Road (Jackson Twp. Rd. 349) - steel cleaned & painted with rust kill paint, installed treated deck, & sealed with asphalt

3034453 – Jeffers Lane (Washington Twp. Rd. 8729) – Replaced 27 oak planks

3034488 Murry Lane (Jackson Twp. Rd. 4306) – Replaced steel deck on southeast corner, cleaned and placed sandstone at northeast corner abutment to prevent erosion.

3034364 – Old Twenty-One Road (County Road 35) – Replaced blocking on approach rail, replaced rail on southeast approach, cleared channel and placed rock at north abutment to prevent erosion

3035069 – Shannon Run Road (Millwood Twp. Rd. 949) – Welded and repaired outriggers and replaced guardrail

3035077 – Imperial Lane (Linn Lane) (Millwood Twp. Rd. 9435) – This bridge was required to be closed due to a failing foundation. Installed guardrail at the entrance of both approaches to close.

Made 35 minor repairs to bridges including clearing creek channels, filling potholes, replacing oak planks, replaced damaged guardrail and rail ends, and brush control.

Repaired or replaced guardrail at 26 locations.



2023 Highway Update

A consideration that is unique to our highway system has to do with how our use is mandated and governed differently than City streets and Township Roads. For example, the operational minimum for county roads are established with high standards. Some common items that are often questioned are the speed limits, acceptable weight loading, and overall purpose of traffic. Each City and Township have direct control, with good reasons, on these aspects of their streets and roads, while the County Highways are subject to the approval of the Ohio Department of Transportation.

For example, changing the speed limit on a County Highway is not just changing or posting a sign. By default, Highways have a speed limit of 55 mph unless otherwise determined by an engineering study. The premise is to allow traffic to move at this speed unless there are physical restrictions on the road. Unfortunately, they do not take into consideration of how the road has been used in the past.

Something else unique to our highway system is the type of wearing surface we use on our roads. Throughout our system you can find hot mix asphalt, gravel, some chip and seal, micro surfacing, and most recently pug mill pavement. As we go through the life cycle of a given road, the available options may change due to funding, traffic volume, and load capacity needed. At one point in 2004, almost all the roads were finished with either a hot mix pavement or covered with a chip seal. At that point we had a reduction in funding which ended the chip seal program. Since then, many of the roads have returned to gravel, while others are a mix of both gravel and deteriorated chip seal.



Pictured above:

Slip Repair on Oxford Road repaired by County Crews

Left:

Guernsey Valley Road Resurfacing

2023 Maintenance Tasks

The tasks listed below are the bulk of our activities through the 2023 calendar year and only include labor and equipment costs. Materials, supervision, and administrative support are not included. This cost is \$1,791,000, which is about one third of our overall budget.

Grader Ditching-\$194,240

This is a form of berm maintenance and surface water control. It removes built up material along the road and allows stormwater to drain to the ditch.

Roads Addressed: Beaver, Broadhead, Eckelberry, Freedom, McCoy, Ohio, Old 21, Pennyroyal, Penrose, Plainfield, Read, Shriver, Skullfork, and Walhonding.

Berming-\$38,378

This is the process of adding stone along paved roads to protect the edge of pavement and minimize the bump when pulling off the road.

Roads Addressed: Beeham Run, Birmingham, Bobs Run, Bridgewater, 8th Street, Fairground, Lar-rick Ridge, McCoy, Meadow, Morgan, Old 21, Peoli, Peters Creek, Read, Robbins, and Salem.

Brush and Tree Control-\$319,531

This is necessary to keep the right of way safe and free from obstruction. It also helps minimize road closure due to storm damages. Thirty-three roads had emergency tree removal throughout the year. They are not included in the following list.

Roads Addressed: Bob's Run, Boone, Chestnut Hill, Christian Hill, Claysville, County Home, Cubbi-son, Endley, Grapevine, High Hill, Ideal, Institute, Lemon Hill, Logan, Mt. Herman, Northstar, Oxford, Paisley, Pennyroyal, Read, Robins, Shaw, Titus, and Tyson Mill.

Culvert Replacement-\$103,423

The County has many 12 to 18" pipes used to convey water across highways. The steel pipes that were previously used are deteriorating and therefore need to be replaced with new plastic pipe. We currently address failed pipes and pipes in corridors that will be resurfaced in the near future. We assist Townships with larger pipes and pipes that can't be reached by their equipment.

Roads Addressed: Claysville, Cooks Run, Egress, 8th Street, Frankfort, Fritter, Ginger, Lemon Hill, Old 21, Pennyroyal, Pisgah, Plainfield, Putney, Soggy Run, Vocational, and Walhonding.

Ditching-\$319,729

Surface water control is the number one item to manage with respect to pavement preservation. Roadside ditches are key structures to making this happen. Ditches are typically cleaned with a backhoe or track excavator and the waste material hauled off by a tandem dump truck.

Roads Addressed: Basket, Birmingham, Bobs Run, Bridgewater, Chestnut Hill, Claysville, Cooks Run, Country Club, County Home, Crane Run, Earley, Egress, 8th Street, Endley, Freedom, Ginger, Grape-vine, Guernsey Valley, Hoover, Ideal, Indian Camp Run, Jasper, Johnson's Mill, Lemon Hill, Lodge, Ma-nila, Martha, McCoy, Meadow, Norwalk, Ohio, Old 21, Oxford, Paisley, Pennyroyal, Penrose, Perry's Den, Peter's Creek, Pioneer, Pisgah, Plainfield, Putney Ridge, Read, Robins, Rough and Ready, Sampson, Shriver, Skullfork, Sligo, Soggy Run, Sugar Grove, Sugartree, Titus, Twin Sisters, Vocational, Walhonding, Waymor, and Yoker Valley.

More Maintenance Tasks

Gravel Road Maintenance-\$281,010

We have over 200 miles of gravel and partially gravel roads in Guernsey County. These roads require the most regular attention and receive the most complaints. The nature of the unsealed surface leaves them vulnerable to severe weather and brief high volume traffic spikes. Dust and general speed concerns are frequent as well. The cost to pave these roads is over \$40 million based on current costs.

Erosion Control and Slip Repair-\$41,906

This entails the repair of embankment damage caused by storms or simple fatigue of time. This does not include major landslides that are covered under FEMA or other emergency repairs.

Guardrail Repairs-\$10,149

Occasionally, guard rail is damaged to the point of needing replaced. Some of these incidents are reimbursed through the vehicle operators insurance, others are not reported.

Cold Patch Road Repairs-\$91,436

The most common road repair is filling potholes. We have cold patch made on site each year that is used to fill holes in pavement or edge conditions where typical stone would not be sufficient. We typically use over 500 tons of material each year.

Snow Removal-\$66,756

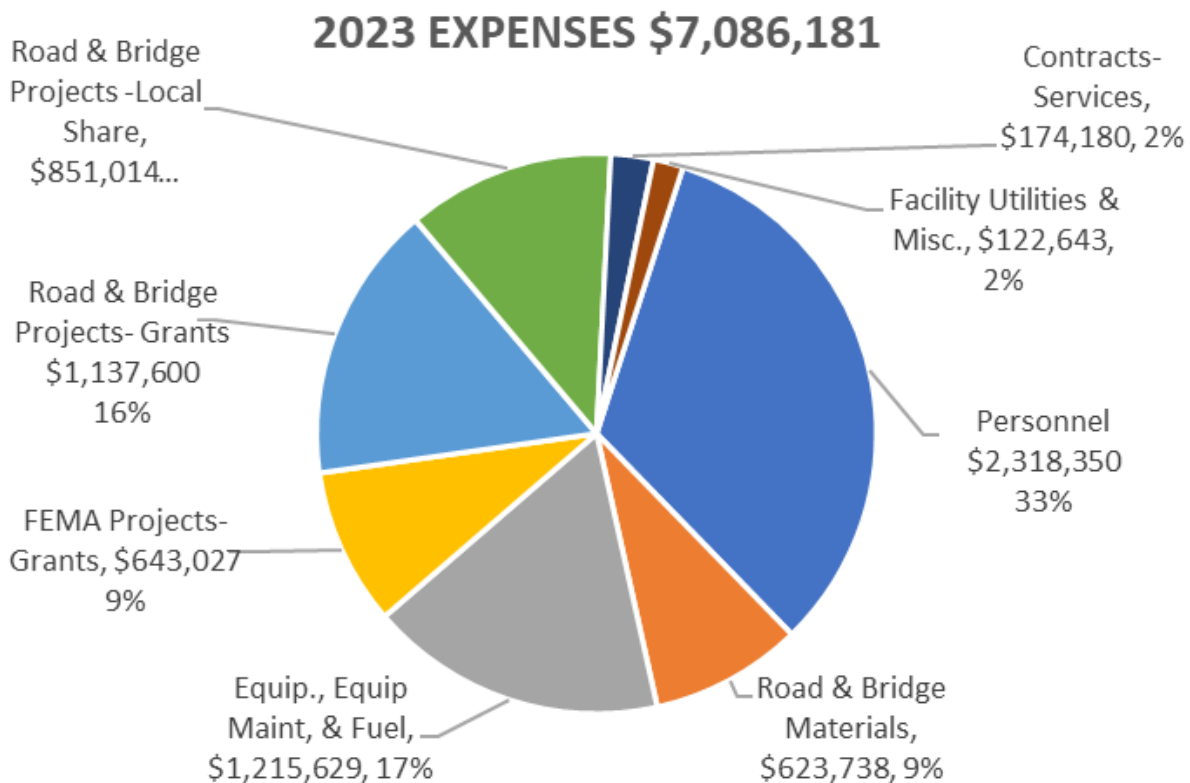
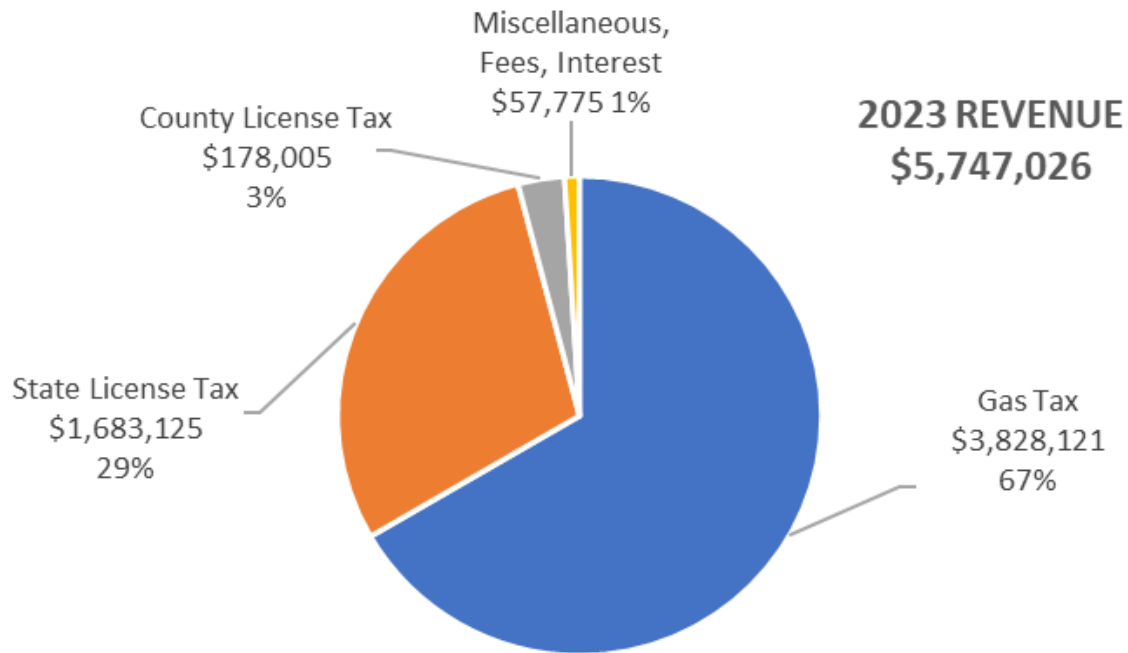
This consists of clearing roads of snow and adding different combinations of material (salt, cinders, and stone) for traction. We typically operate from 4 am to 8 pm during snow storms. This year has provided a much-needed relief in terms of material used and overtime paid. Typically, we would expect a cost over \$200,000 plus \$200,000 in materials.

Mowing and Vegetation Control-\$220,695 + \$105,000*

This process is related to but a different operation than brush control. We break this into three general categories; short arm mowing*, long arm mowing, and guardrail spraying. We run our 3 long arm mowers all year to cover as much ground as possible. We have 420 centerline miles of roadway to care for. Typically, a long arm mower can cover 50 miles in a year. This equipment moves much slower than the short arm mowers. The short arms are responsible from the edge of the road to the ditch. They need to move much faster as this is the area that impact drivers the most. It takes about 3 weeks for the contractor to cover this mileage. We have eliminated weed trimming around guard rail by spraying herbicide. The spraying was previously contracted but we have brought that in-house.

2023 Revenues and Expenses

Our goal is to bring in as much funding that is not from local taxes. As can be seen, we were able to leverage our \$851,000 in local funds to attain \$1,780,000 in grant funding. The FEMA funding is an outlier that only occurs after a Federally declared disaster. One unique source of funds, not included in the graphs, are donations on behalf of the Amish population, this was \$9925 in 2023.



2023 Tax Map Office Update

The Guernsey County Map Department consists of three full-time employees. During 2023, office staff performed the following tasks:

Deed Descriptions Checked – 4,092

New Surveys Approved – 312

E-911 Addresses Assigned or Edited – 226

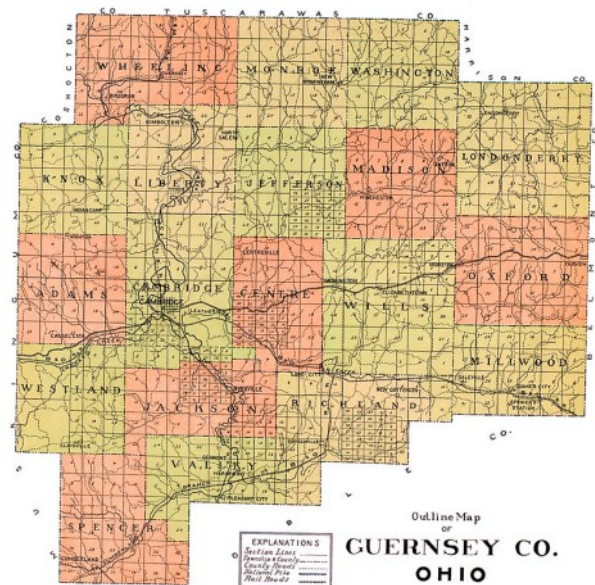
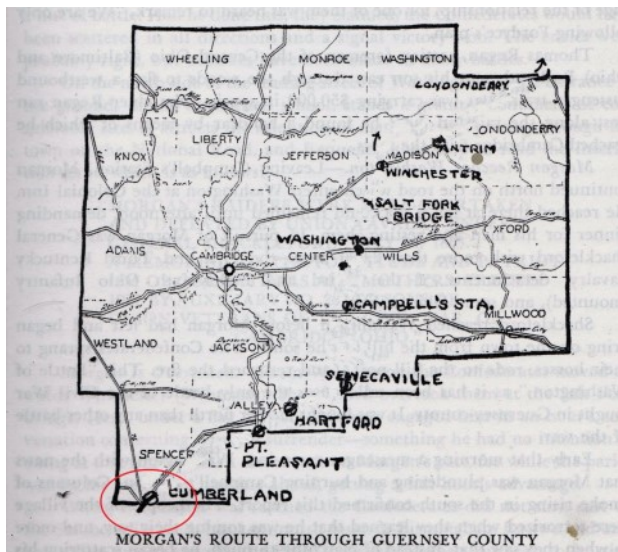
Map Department Projects

In a collaborative effort with the County Auditors staff and The Sidwell / Harris Company, we continue to refine the implementation of new digital mapping utilizing the ESRI Parcel Fabric. The system has improved accuracy and reduces data entry to manage approximately 41K parcels within Guernsey County. The mapping can now be accessed online.

The 2023 ODOT Road Inventory has been compiled, reviewed and certified. Map Department staff met with Trustees from all 19 townships to report any changes during the year. There are **592.79** miles of Township roads and **404.225** miles of County roads currently maintained on the Guernsey County ODOT inventory.

Oil & Gas continues to be a big presence in Guernsey County. As of December 2023, over 296 wells have been permitted, drilled or are in the process of being drilled. Guernsey County was ranked **#2** in Ohio for Oil production (2.2M BBLs), and **#7** for Gas production (18.2M MCF) according to Q4 2023 figures. The Map Department provides E-911 addressing and first-responder information to the facilities.

2023 was a busy year with the completion of the Guernsey Power Station, a state-of-the-art, combined cycle natural gas electric generating facility. The \$1.6 billion project will generate 1,875 Megawatts, enough to power 1.5 million average size homes. Map Department staff was involved in the



2023 and Future Capital Improvements

The following are projects have been funded through grants attained by the Engineer's Office. These projects do not include our regular preventative maintenance or in-house bridge improvements. The number corresponds to the locations on the map below.

#1 2024 Sarchet Run Bridge Replacement

#2 2025 North 8th Street Truss Rehabilitation and Widening

#3 2023 Paving Projects: Guernsey Valley Rd, Oxford, and Freedom (east)

#4 2024 Paving & Resurfacing Projects: Walhonding, Pennyroyal, Freedom (west), Egress, & Plainfield Rds

#5 2025 Paving: Corduroy, Ohio Ave, and Rockhill Roads

#6 2026 Paving: County Home, Easton, Beeham, and Bridgewater Roads

#7 2027 Paving: Birmingham, Broadhead, and Crane Run Roads

#8 2028 Bridge Replacement/Rehab: Byesville Road (near library)

A 2025/26 Pending Paving Grant Applications: Peoli, Sugartree, Endley, and Ideal

