

ANNUAL REPORT

2013

ATHENS COUNTY ENGINEER'S OFFICE

To the Board of Commissioners and the Citizens of Athens County:

The purpose of this annual report is to provide information about the condition of the county's roads, bridges, and culverts, and how your tax dollars were spent to maintain the county road system. This report is mandated by the Ohio Revised Code 5443.02.

This is the first annual report that I have prepared since taking office on January 7th, 2013. The prior administration had been in office for thirty-two years, so it was not unusual that six members of his management staff either retired or quit prior to my first day in office. I hired five new management employees, and retained two managers from the previous administration.



I would like to thank John Branner, P.E., P.S., for his assistance during January and February of 2013. There were thirteen Federal Emergency Management Agency (FEMA) projects that were funded during the 2011 Flood Damage, but were abandoned after the March 2012 primary. John prepared time extension requests that were due during the first week of my new administration. Without John's due diligence, we could have lost FEMA funding to construct those projects.

I spent the first six months of 2013 becoming familiar with the daily operations of the office and road crews, mostly observing how things were done and not really changing much. It was a process of evaluation with a philosophy that if it's not broken, then don't fix it. I learned that there is significant room for improvement, so we began the process of developing new systems and methods to make us more effective and efficient. The subsequent sections of this report will explain in detail the work that we accomplished this year, and some of the changes that were made.

First and foremost, I would like to thank the employees of the Engineer's Office. The winter of 2013-2014 was one of the worst winters in decades. There were many winter mornings where crews started at 4:00 am, and worked twelve to fourteen hour days in bitter cold. Their dedication during this past winter made the county road system as safe as possible for the traveling public.

I would like to thank the County Commissioners, and township, village, and city officials for your assistance and cooperation during the past year. Finally, I would like to thank the citizens of Athens County for the opportunity to serve you as the Athens County Engineer.



Sincerely,

A handwritten signature in blue ink, appearing to read 'Jeff Maiden'. The signature is fluid and cursive, with a large loop at the end.

Jeff Maiden, P.E., P.S.
Athens County Engineer

2013 ROADS OVERVIEW

I began driving the county roads during the summer and fall of 2012, and it became obvious that there needed to be a new emphasis on improving drainage along the roads. The ditches were either full of sediment, or simply did not exist anymore. The berms were high and required grading down in order to allow water to run into the ditches, instead of down the center of the road. The bottoms of old corrugated metal culverts had rusted completely, and were in need of replacement. The first step was to begin draining the water off the road surface, out of the road base, and into the ditches, so that the process of stabilizing the road subgrade could begin. Our mechanics repaired and upgraded all three Champion motor graders, and we began a focused effort on ditching and grading roads.

We found very little data on the county road system, such as the last time a particular road was resurfaced; the type of road surface; the total number of culverts and their diameter; the lineal feet of guardrail; etc. We have started the process of developing an inventory of county road data and tracking it in a Geographical Information System (GIS) format using ArcView software. A county vehicle was equipped with a distance measuring instrument (DMI) and all of the roads have been driven by the survey crew, recording the surface types, lengths, and the location of each. The initial results of this survey work indicate that there are 362 miles of Athens County roads, of which 169 miles are asphalt surface; 163 miles are chip and seal surface; and 30 miles are gravel road surface. Many roads that were chip and sealed had reverted back to gravel, but those roads were coded as chip and seal if any hard surface still remained.

The total amount spent for road materials was \$1,532,551, which represents a significant increase over past years. The chip and seal resurfacing projects are built with county road workers and county equipment. More than twenty-five miles of county roads were resurfaced by the chip and seal method in Alexander and Lodi Townships in the summer of 2013, at a total labor and material cost of \$611,803. Cold mix asphalt materials were used for "grader patching" or leveling roads, and for pothole patching, at a total material cost of \$331,462. A significant effort was made to rebuild the stone base on both our gravel roads and our chip and seal roads. The total investment in limestone gravel materials was \$515,762, which includes delivery costs.

Our office has received many complaints related to the lack of centerline striping. In 2013, we applied for and were awarded a grant for \$150,000 for striping county roads. The engineering staff has designed a project that includes the striping of approximately 124 miles of county roads with asphalt surface. The Ohio Department of Transportation (ODOT) will accept bids for this project in 2014, and the work should be completed during the fall of 2014.

Athens County road crews performed a variety of other road maintenance work, including guardrail repair related to traffic accidents, road signage repair and replacement, roadside mowing, brush cutting, fallen tree removal, snow and ice removal, and culvert repair and replacement.

MISSION STATEMENT

The mission of the Athens County Engineer's Office (ACEO) is to serve the citizens of Athens County by building and maintaining a safe and modern county highway system; to respond promptly to reasonable road complaints; to process land surveys and property records accurately; and to be good stewards of taxpayer dollars by developing cost effective solutions for road and bridge maintenance problems.

2013 ROAD PROJECTS

Johnson Road Paving Project – County Road 7

In the fall of 2013, a large section of County Road 7 (Johnson Road) was repaved. The damaged area was excavated, a new base layer was placed, and prime coat and asphalt were applied. The shoulders were also graded and new guardrail was installed. Contractor costs for this project totaled \$48,486.



Additional paving is scheduled for 2014.

Chip and Seal

The summer of 2013 brought with it plenty of rainfall, delaying chip and seal operations for several weeks. Once the crews were able to begin, over twenty-five miles of county roads were chip and sealed.

| Road Number | Road Name | Chip and Seal Costs |
|-------------------------------------|--------------------|---------------------|
| County Road 15 | Wood Road | \$91,815.21 |
| County Road 17 | Fisher Road | \$73,439.93 |
| County Road 19 | Hebbardsville Road | \$52,906.71 |
| County Road 44 | Bucks Lake Road | \$147,440.69 |
| County Road 45 | King Road | \$43,540.10 |
| County Road 46 | Blackwood Road | \$14,695.35 |
| County Road 69 | Chase Road | \$104,367.52 |
| County Road 76 | Ladd Ridge Road | \$39,830.84 |
| County Road 82 | Cherry Ridge Road | \$21,933.63 |
| County Road 97 | Pearlwood Road | \$21,833.01 |
| Total Chip and Seal Costs for 2013: | | \$611,802.99 |

Road Leveling

In addition to the chip and sealed roads, over thirteen miles of county roads were leveled with almost 1,600 tons of cold mix.

| Road Number | Road Name | Leveling Costs |
|-------------------------------------|-------------------------|----------------|
| County Road 20 | East Scatter Ridge Road | \$7,412.96 |
| County Road 21 | Pleasant Hill Road | \$934.14 |
| County Road 28 | McDougal Road | \$30,910.86 |
| County Road 37 | Concord Church Road | \$4,646.67 |
| County Road 44 | Bucks Lake Road | \$8,355.24 |
| County Road 44 | Shade Road | \$17,711.14 |
| County Road 69 | Chase Road | \$17,812.05 |
| County Road 70 | Meadowbrook Road | \$24,393.39 |
| Total Road Leveling Costs for 2013: | | \$112,176.45 |

ROAD MILEAGE and BRIDGES

U.S. & State Highways:
189.17 mi.

County Roads:
362.10 mi.

Township Roads:
536.83 mi.

Total Highways & Roads:
1,088.10 mi.

County Bridges: 330

2013 ROAD PROJECTS

Pothole Patching

Much of the remainder of our cold mix material is used for repairing potholes and patching roads. The following amounts represent almost 1,000 tons of cold mix, as well as 2,787 hours of labor from our crews for 2013.

| Item | Amount | Patching Costs |
|--------------------------------|-------------|----------------|
| Labor | 2,787 hours | \$51,477.23 |
| Cold Mix | 982 tons | \$66,150.46 |
| Total Patching Costs for 2013: | | \$117,627.69 |

Washington Road Concrete Pavement Repair – County Road 12

A concrete joint problem on County Road 12 (Washington Road), the main collector road leading into the village of Albany, generated many complaints in 2013. The concrete pavement had heaved upward as a result of temperature expansion and created a major speed bump. County crews removed and replaced this section of concrete pavement in approximately two days at a total cost of \$5,035. Construction on this project took place in late October 2013.

Photos of the CR12 Washington Road Concrete Pavement Repair project:



Roadway repair prepped for pouring.



Concrete repair finished.

Gravel and Stone

A large portion of the road materials expense for the engineer's office is the cost of stone. Various types of gravel and stone are used for road base; chip and seal; leveling; and culvert and bridge repairs, to name a few applications. In 2013, the total cost of stone and hauling for all projects was \$515,762.17.

2013 ROAD PROJECTS

Snow and Ice Removal [2013 – 2014 Winter Season]

The time period from November 2013 through March 2014 brought several snow events to Athens County. With sixteen snow routes covering over 367 miles of county roads, our road crews put in almost 2,000 hours of overtime to keep roads safe and clear from winter weather.

| Item | Amount | Snow and Ice Costs |
|--|----------------|--------------------|
| Labor (includes overtime) | 4,712 hours | \$119,345.71 |
| Fuel | 32,095 gallons | \$128,871.48 |
| Salt | 1,994 tons | \$115,793.64 |
| Grits (includes hauling) | 11,366 tons | \$119,449.89 |
| Total Snow and Ice Removal Costs for 2013: | | \$483,460.72 |

Featherstone Road Slip Repair – Rome Township Road 192

In early 2013, a slip located on Rome Township Road 192 (Featherstone Road) was brought to our attention. The Athens County Engineer's Office assisted the Rome Township Trustees with the design process, as well as the securing of an Ohio Public Works Commission (OPWC) grant. In order to repair the slip, seven shafts were drilled into bedrock, steel columns were set into concrete, corrugated decking was installed between columns, and the guardrail was replaced.

Before and after photos of the T192 Featherstone Road Slip Repair Project:



View of the deteriorating roadway surface and slip.



Closer view of the slip and eroding roadway surface.



Top view of steel column set into bedrock.



Finished construction of drilled pier wall.

2013 CULVERT PROJECTS

Culvert Replacements

Over 3,000 feet of culverts were replaced in 2013. Included in this amount were county culverts located on the following roads:

| | |
|------------------------------------|-------------|
| County Road 2 (Connett Road) | \$2,265.66 |
| County Road 3 (Dowler Ridge Road) | \$24,290.28 |
| County Road 15 (Wood Road) | \$3,222.22 |
| County Road 17 (Fisher Road) | \$47,571.64 |
| County Road 19 (Radford Road) | \$2,051.91 |
| County Road 20 (Strouds Run Road) | \$1,861.45 |
| County Road 42 (Mill School Road) | \$2,244.78 |
| County Road 44 (Bucks Lake Road) | \$15,573.30 |
| County Road 45 (King Road) | \$30,724.12 |
| County Road 47 (Hogue Hollow Road) | \$2,656.26 |
| County Road 53 (Lottridge Road) | \$2,483.13 |
| County Road 56 (Brimstone Road) | \$2,030.59 |
| County Road 69 (Chase Road) | \$1,469.63 |
| County Road 70 (Meadowbrook Road) | \$11,301.25 |
| County Road 76 (Ladd Ridge Road) | \$1,221.92 |
| County Road 80 (Enlow Road) | \$3,903.48 |
| County Road 100 (Rhoric Road) | \$1,333.88 |

The amounts listed above include out-of-pocket labor and materials for the total culverts on each road.

PW 391 – Fisher Road Culvert Replacement Project – County Road 17

This culvert on County Road 17 (Fisher Road) was one of several small projects for which FEMA awarded funding, due to severe flooding across Athens County in 2011. Work was completed on this project in October 2013 using our own in-house forces.

Before and after photos of the CR17 Fisher Road Culvert Replacement Project:



Sinkhole formation due to culvert failure.



Removal of existing damaged culvert.



View of finished roadway surface.



Views of finished replacement culvert.

TOWNSHIP ROAD MILEAGE

| | |
|---------------|---------------------|
| Alexander: | 34.60 miles |
| Ames: | 28.74 miles |
| Athens: | 54.50 miles |
| Bern: | 30.46 miles |
| Canaan: | 37.81 miles |
| Carthage: | 45.16 miles |
| Dover: | 46.68 miles |
| Lee: | 27.16 miles |
| Lodi: | 41.20 miles |
| Rome: | 49.83 miles |
| Troy: | 42.05 miles |
| Trimble: | 31.35 miles |
| Waterloo: | 35.66 miles |
| York: | 31.64 miles |
| TOTAL: | 536.83 miles |

2013 BRIDGES OVERVIEW

There are a total of 330 bridges on the county and township roads in Athens County which are the responsibility of the Athens County Engineer. Any township bridge or culvert that has a clear span of ten feet or more is inspected, repaired, and reconstructed (if necessary) by the Athens County Engineer's Office. The prior administration worked with a consultant, John Wackerly Inspection LLC, to inspect the 330 bridges on an annual basis, and we continued that business relationship in 2013. The 330 bridges were all inspected and submitted to ODOT in a timely manner.

The term "load rating" is defined as "the determination of the live load carrying capacity of a bridge." There were twenty-four bridges in Athens County that still required the completion of load rating calculations to comply with federal regulations. Federal grant funds were applied for and used to hire two consultants (E.P. Ferris & Associates and Jones-Stuckey Ltd) to complete the load rating of these remaining county bridges.

If a bridge is load rated and is unable to safely carry legal loads, then a "load limit" is placed on the structure. There are 119 bridges with load limit restrictions in Athens County, by far the most of any county in Ohio. I was aware of this prior to taking office as a result of the research I conducted during the 2012 campaign. The State of Ohio announced the Ohio Bridge Partnership Program in the fall of 2013, as a new construction initiative designed to reduce the excess of deficient county bridges. The program provides \$120 million from state fiscal year (SFY) 2015-2017 for the replacement of county and municipal bridges statewide. There are eight bridges in Athens County that will be reconstructed by ODOT as part of this initiative. My engineering and surveying staff will do the field surveying and preparation of right-of-way plans for these eight bridges, which are scheduled to be constructed in SFY 2016 and SFY 2017.

The Athens County Road 28 (McDougal Road) bridge over Sunday Creek was closed to traffic during the summer of 2013 after a county truck tire went through the bridge deck. The engineering design and right-of-way acquisition was completed in the spring of 2013. Bids were taken by ODOT on September 10th, 2013, and the low bidder was the Righter Company of Columbus for \$732,952. Construction began in late October 2013, and is scheduled for completion in June 2014. This bridge replacement is funded by 80% federal Local Bridge Replacement (LBR) funds through the County Engineer's Association of Ohio (CEAO) as administered by ODOT.

GENERAL DATA

Population (2010): 64,757
State Rank (2010): 39th

Area of County: 483.57 sq. mi.
State Rank: 24th

Highest Elevation: 1072 ft.
Lowest Elevation: 564 ft.

King Road Bridge Replacement – County Road 45 Happy Hollow Road Bridge Replacement – County Road 1A

ODOT awarded the contract for the County Road 45 (King Road) and County Road 1A (Happy Hollow Road) bridge replacements to Alan Stone Co., Inc., with a low bid of \$713,341.00 in October 2013.

Each structure will be replaced with a non-composite pre-stressed concrete box beam bridge, with the steel truss bridges dismantled for a future bike path project.

Construction on County Road 45 began in March 2014;
County Road 1A construction began in April 2014.



Progress on the King Road bridge.

2013 BRIDGE PROJECTS

McDougal Road Bridge Replacement – County Road 28

The Righter Co., Inc. of Columbus, Ohio was the low bidder on this project at \$732,952.67. The existing pony truss bridge was dismantled for salvage, and will be used on a future bike path project.

Construction on this bridge began in October 2013, and is expected to have a completion date of July 2014.



Echo Lane Bridge Replacement – Athens Township Road 1238

The Athens Township Road 1238 (Echo Lane) bridge was damaged by flooding in July 2013. Echo Lane is a dead end road into a subdivision. A temporary road was constructed to carry local traffic during the construction of a new precast concrete box culvert. This project was designed and constructed by Athens County Engineer employees and paid for by OPWC emergency grant funds.

Before and after photos of the T1238 Echo Lane Bridge Replacement Project:



Deteriorated wood deck and crack in abutment.



Old roadway with 12' face to face guardrail.



Finished construction of 12' x 5' box beam culvert.



New roadway is now 22' face to face guardrail.

2011 FLOOD DAMAGE PROJECTS (FEMA FUNDING)

The heavy rains in May 2011 caused substantial damages in the form of landslides, culvert failures, and road damage throughout many counties in southern Ohio. Representatives from the Federal Emergency Management Agency (FEMA) worked with the prior administration to identify and provide funding for twenty-three projects.

The prior administration completed ten of those projects in 2011, and received \$341,667 in reimbursement for two of the large projects. The financial documentation for six of the projects that were completed in 2011 could not be found. My staff spent much of 2013 assembling time cards, material receipts, daily work sheets, and miscellaneous records to chronologically reconstruct those projects in order to be reimbursed by FEMA for the Athens County funds which were spent on those projects.

FEMA Project PW 902 was a large diameter, twin multi-plate culvert project located on Athens County Road 36 (Hooper Ridge Road), and it was constructed in November 2011. After an exhaustive forensic effort to reconstruct this project, my staff compiled the financial data to justify a total project cost of \$214,182. Due to improper procurement in 2011, FEMA denied an \$88,340 payment to a contractor, of which 87.5% would have otherwise been reimbursed. The final reimbursement for FEMA Project PW 902 was \$108,450.

After the primary election on March 6th, 2012, the remaining 2011 Flood Damage Projects were abandoned by the previous administration, and no further work was completed. There were thirteen projects remaining to be completed when I took office on January 7th, 2013. My administration completed the design and construction of two of those projects in 2013:

- FEMA Project PW 391 – Athens CR 17 (Fisher Road) Culvert Replacement
Final Cost = \$77,584
- FEMA Project PW 205 – Athens CR 58 (Frost Road) Culvert Replacement
Final Cost = \$17,364

There are eleven projects remaining to be completed, most of which are slip repair projects. I have contracted with the HC Nutting Company to provide soil borings and geotechnical reports for each slip repair project, and a topographic survey was completed at each site. The engineering design of these projects is currently being done by my engineering staff. These projects will be put out for bid in the summer of 2014 and constructed during the fall and winter of 2014-2015.

2013 SURVEYS CHECKED

| | |
|---------------|------------|
| Alexander: | 15 |
| Ames: | 3 |
| Athens: | 37 |
| Bern: | 4 |
| Canaan: | 16 |
| Carthage: | 14 |
| Dover: | 13 |
| Lee: | 8 |
| Lodi: | 6 |
| Rome: | 4 |
| Trimble: | 44 |
| Troy: | 20 |
| Waterloo: | 11 |
| York: | 13 |
| TOTAL: | 208 |

2013 UPDATES

Grant Projects

Several grants were awarded to the Athens County Engineer's Office in 2013.

Ohio Public Works Commission (OPWC):

Echo Lane Bridge Replacement – OPWC funds

- 90% project funding of \$68,500

County Road 53 Motor Paving – Issue 1 funds

- 74% project funding of \$399,581

County Engineer's Association of Ohio (CEAO):

Pavement Striping – Highway Safety Improvement Program (HSIP) funds

- 100% project funding of \$150,000

Guardrail Upgrading – Highway Safety Improvement Program (HSIP) funds

- 100% project funding of \$300,000

County Road 33A Paving – County Surface Transportation Program (CSTP) funds

- 80% project funding of \$1,382,280

Total grants awarded in 2013: \$2,300,361

The Echo Lane Bridge Replacement was successfully completed in the fall of 2013. Pavement Striping and County Road 53 Motor Paving will occur during the summer and fall of 2014. Guardrail Upgrading and Paving of County Road 33A (Old U.S. 33) are scheduled for work in future fiscal years.

Underground Storage Tanks

During the spring of 2006, the Bureau of Underground Storage Tank Regulations (BUSTR) reviewed an environmental report documenting concentrations of benzene (presumably from old fuel storage tanks) in excess of allowable amounts on the site of the former engineer's office at 555 East State Street in Athens (now the site of CVS Pharmacy, Applebee's, etc.). As a result, the BUSTR requested in a letter dated May 22, 2008, that corrective action be conducted at the risk of civil penalties of up to \$10,000 per day per violation. Several letters were sent to the county engineer and county prosecutor(s) during the period of 2008-2012, but for unknown reasons, no resolution was reached on the issue.

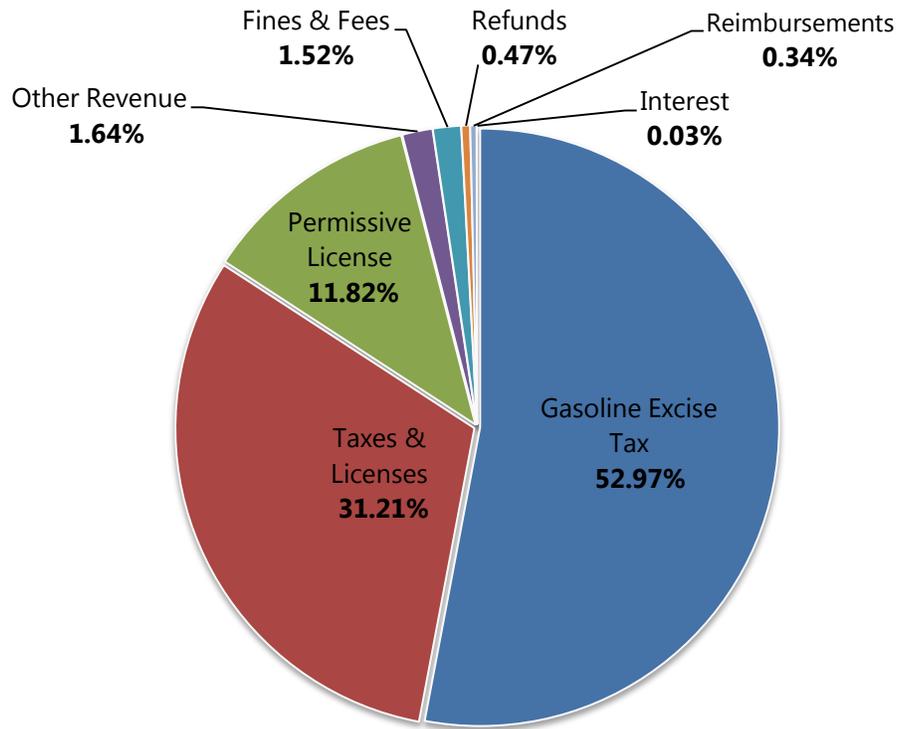
Faced with the assumption of hundreds of thousands of dollars in potential fines, I researched and hired Civil & Environmental Consultants, Inc., to develop a Tier 1 environmental study of the old site to determine if contamination was really an issue. Their investigation revealed that a follow-up report had in fact been conducted prior to the construction of the retail buildings, using more accurate methods of measurement, showing that the site did not have any chemicals of concern present. Due to this simple research of missing information, this long-standing issue was resolved for approximately \$2,000.

2013 FINANCIAL STATUS

2013 REVENUE

| | |
|---------------------|----------------|
| Gasoline Excise Tax | \$2,299,886.19 |
| Taxes & Licenses | \$1,355,172.86 |
| Permissive License | \$513,020.79 |
| Other Revenue | \$71,144.92 |
| Fines & Fees | \$65,919.11 |
| Refunds | \$20,490.84 |
| Reimbursements | \$14,968.02 |
| Interest | \$1,136.40 |

TOTAL REVENUE: \$4,341,739.13

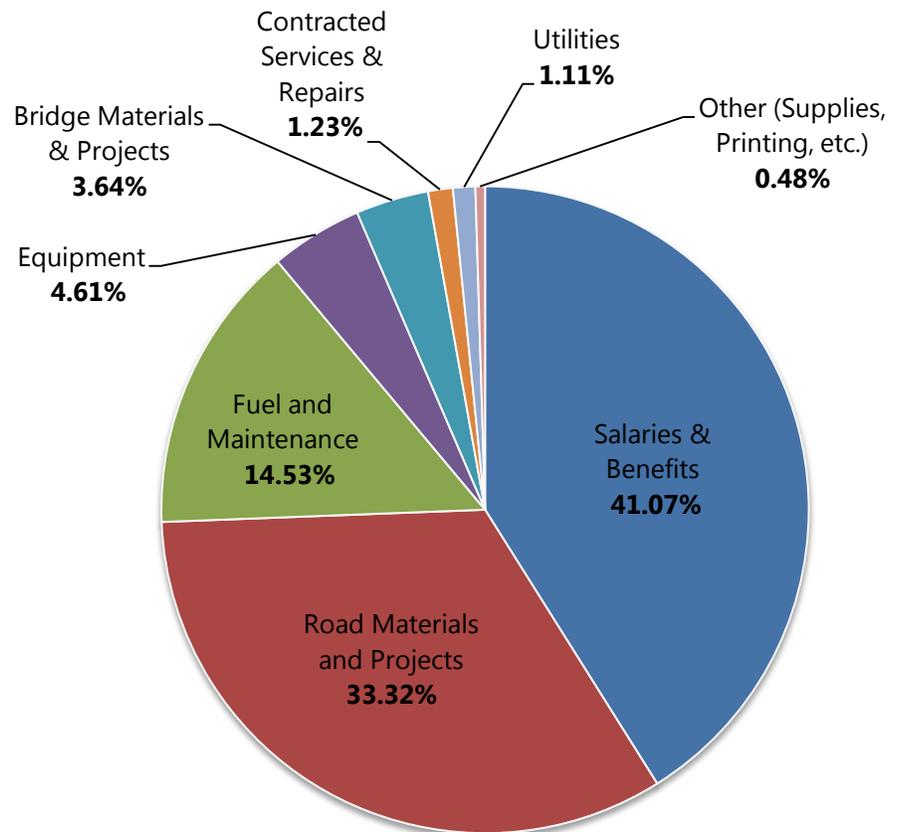


2013 Revenue - \$4,341,739.13

2013 EXPENSES

| | |
|------------------------|----------------|
| Salaries & Benefits | \$1,889,079.52 |
| Road Materials | \$1,532,551.90 |
| Fuel & Maintenance | \$668,096.75 |
| Equipment | \$212,054.70 |
| Bridge Materials | \$167,566.86 |
| Contract Services | \$56,680.68 |
| Utilities | \$51,136.39 |
| Other (Supplies, etc.) | \$22,056.79 |

TOTAL EXPENSES: \$4,599,223.59



2013 Expenses - \$4,599,223.59

2013 TRAINING

Commercial Driver's License Training

In the fall of 2013, eight Equipment Operators participated in a Class A CDL (Commercial Driver's License) Training program. The officials at the Ohio Department of Transportation, District 10, offered to provide this training at the ODOT Maintenance Garage on State Route 56 in Athens at no charge to Athens County. This gesture of goodwill was greatly appreciated.

All participating operators previously had Class B CDL endorsements; the successful completion of the higher Class A licensure increased the skills of our staff, as well as increasing the capacity and flexibility of the engineer's office regarding scheduling and worksite operations.

STAFF

Jeff Maiden, P.E., P.S.
County Engineer

John Brunton
Bridge Inspector

Lyle Fuller
Garage Supervisor

Trisha Gail
Administrative Assistant

Mike Sheets
Superintendent

Maria Smith, B.S.
Business Manager

Donnie Stevens, P.E., S.I.
Assistant Engineer

Brandon Williams
CAD/GIS Technician

Canaanville Outpost:
Brian Baker
Kenneth Coen
Richard Efaw
William Gould
David Harvey
Albert Hawk
Mark Meili
Craig Scott
Travis Six

Coolville Outpost:
Tracy Bobo
Travis Brooks
Justin Williams

Nelsonville Outpost:
Bernard Mellinger
Charles Patton
Cory Russell

Redtown Outpost:
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