

**OFFICE OF THE
LOGAN COUNTY ENGINEER**

**2016 ANNUAL REPORT
2016-2017 ROAD REVIEW**

April 1, 2017



*Scott C. Coleman, P.E., P.S.
Logan County Engineer*



Bridge 174-0.56
over the Onion Ditch



McColly Covered Bridge 13-1.56
over the Great Miami River

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| EMPLOYEES OF THE LOGAN COUNTY ENGINEER'S OFFICE | | |
|---|---|--|
| County Engineer | | |
| Scott C. Coleman, P.E., P.S. | | |
| Engineering Department | | |
| Michaela Brunke Donna Dahlke Cale Jacobs, P.E. | Shirley Brunke Greg Dappert Michael Kerns | Todd Bumgardner Curtis D. Dill, P.S. |
| Map Room | | |
| Jayma Burkhammer | | Suzie Cochran |
| Highway Department | | |
| Matt Archer Cole Craig Bryan LeVan Lisa Stover TJ Yoder | Richard Campbell Mark Hilty Joel Miracle Derek Thurman | Brad Carnes Greg Kennaw John Spencer Todd Wisse |
| Ditch Department | | |
| Todd Coleman Jason McKee Steve Tracey | Chris Hackley Greg Miller | Kip Jenkins Greg Swonguer |
| Bridge Department | | |
| Andrew Farris | Elliott Fullerton Dan McMillen | Luke Jolliff |
| Traffic Department | | |
| Mark Dearwester | | Steve Tracey |

Logan County Engineer's Office

April 1, 2017

To the Honorable Board of Logan County Commissioners and the Citizens of Logan County:

The following pages contain our Annual Report for 2016. On the back page, the reader will find a breakdown of the road miles, the number of bridges on our system, and the number of signs and culverts that we maintain. Also included in this report is what we accomplished in the year 2016, and what we plan to accomplish in 2017.

This year we resurfaced 13 miles of county highways, chip-sealed 57 miles of county highways, replaced/rehabilitated 3 bridges and 1 large culvert, milled and waterproofed 3 bridges, repaired 2 bridges damaged by auto accidents, and replaced 15 culverts. We assisted the Township Trustees with the resurfacing of 3.8 miles of roads, chip-sealing another 37.4 miles, and replacing 10 culverts.

After two years of a road salt shortage, we have finally seen prices stabilize for the 2016-2017 winter season. Last winter we paid \$76.24 per ton for road salt and entered winter with a full stockpile. The road salt bid for this winter fill is \$51.46 per ton, which is still slightly higher than \$47.09 per ton two years ago. Due to dramatic increases in cost in the previous years, we have become more efficient and effective in how we utilize our labor and materials in clearing roadways of snow and ice. We have prewetting systems installed on all of our front line trucks to increase our available options for treating roadways. We have implemented the use of Beet Heet® sugar beet molasses for prewetting our salt at the spinner. This product increases our ability to melt ice at lower temperatures. Our overall snow and ice control costs for calendar year 2016 were \$427,314.23 and were above our average winter costs of \$369,000.

We thank the citizens of Logan County for their continued support and renewal of the 1/2% sales tax which allowed us to continue upgrading our transportation infrastructure. Sales tax revenue increased by about 13% in 2016. Motor vehicle fuel tax revenue decreased by 1% and automobile registration fees increased by 2% in 2016. The Logan County Engineer's Office has been aggressively seeking grant funds to supplement our regular funding and sales tax funding. In 2016, we received a total of \$58,983.20 in grant funds. The grants funded sign upgrades and a guardrail software module upgrade.

The 1/2% sales tax for roads and bridges generated \$3,472,516.99 in 2016. The County portion totaled \$2,083,529.76 and the Township portion totaled \$555,607.95. The total municipal sales tax collections were \$555,607.94 and is shared among Bellefontaine and the villages based on population. Total sales tax expenditures were \$1,687,731.99 for County projects and \$439,845.50 for Township projects. The County Engineer's Office expended \$3,120.65 in 2016 to develop, administer and perform inspections for the township paving and chip-sealing.

The State of Ohio began talking about shared services in the last few years to reduce costs and improve efficiencies throughout the state. At the Logan County Engineer's Office, we have been implementing shared services for many years and continue to expand them. We have performed roadside mowing, roadside spraying, sign inspections, township sign replacement, painting railroad crossing warnings, setting back mailboxes, roadside ditching, boom mowing of roadside vegetation, small paving projects, small chip seal projects, roadway shoulder stabilization, and culvert replacements for a few townships and villages. This is a mutually beneficial process where we can save the townships and villages money and offset some of our labor and equipment costs. We work with the City of Bellefontaine, villages, townships, County Commissioners, adjacent counties, and ODOT for shared services.

We have been working with our state legislators for the past several years to develop a long term funding source for Ohio's local roads and bridges. In Logan County, we have been very fortunate that the people of our community have agreed to invest in our local infrastructure in the form of sales tax for roads and bridges. As shown above, this sales tax generates about three million dollars annually for the county, township, and municipal road and bridge system. This is a shortfall in state funding that many counties in Ohio cannot make up. Please encourage our Ohio Representatives and Senators that it is the responsibility of the State Legislature to provide adequate highway infrastructure funding for local jurisdictions. This can be accomplished with appropriate user fees, such as; commercial activity tax from motor vehicle fuel sales, motor vehicle fuel user fee, vehicle miles traveled fees, vehicle registration fees or sharing existing state highway funding.

Sincerely,

Scott C. Coleman, P.E., P.S.
Logan County Engineer

The Condition of Our Highway System

We are all very happy to have had a mild winter with very few snow & ice events this season. Temperatures have been relatively warm and have allowed us to complete a lot of maintenance and brush removal through the winter. This past year, we have seen several roads that were damaged by heavy vehicles traveling on routes that they should not be using or during times of thaw and saturation in the spring. We encourage our residents and neighbors to try to reduce loads or delay hauling operations during the wettest weeks of the year (generally March through May). Additionally, we ask that local industry and trucking companies utilize proper haul routes when travelling through the county. Overall, our county roads are showing few signs of damage through this winter.

We plan to resurface over 23.7 miles of roads this year and plan to seal approximately 66.5 miles. In order to preserve our new pavements as long as possible, we must seal them as soon as we can after resurfacing. This year we will again be able to seal the new resurfacing within weeks after the roads are paved. Results over the past few years indicate that this process has been very cost effective and improves pavement performance. We have completed the surface course of paving on all county roads and will continue building thickness and strength with this year's resurfacing program. From 2003 through 2005, we placed only the intermediate course of pavement on many of the roads that were resurfaced. This process allowed us to repair more miles of very poor pavements each year than we could have if we had applied both courses at the same time. Since 2001 (inclusive), we have repaved over 475 centerline miles on the county highway system. We will also continue our crack sealing program to extend the service life of the roads in the county.

We continue to make strides with our bridge program. We are continuing to upgrade our overall bridge conditions with the replacement/rehabilitation of 3 bridges and milling and waterproofing of 3 bridges in 2016. We have one bridge that has a weight restriction affecting school buses and this structure will be replaced in 2020 with a federal grant. We are excited to report that 2016 is the ninth year in a row that we have entered the year with no bridges that are closed to traffic. This has been a goal of the Logan County Engineer's Office for many years and we are very proud to have achieved this goal for the benefit of the traveling public.

There are 12 bridges with posted load restrictions. Fourteen bridges are rated a 5 or less and many of the older structures continue to deteriorate as we replace others. Since 2001 (inclusive), we have replaced or performed rehabilitation on 124 structures. Bridge material costs have increased significantly over the last several years. In 2001, we were estimating replacement costs at \$48.00 per square foot of deck area, now we must use at least \$189 per square foot for estimating our bridge program.

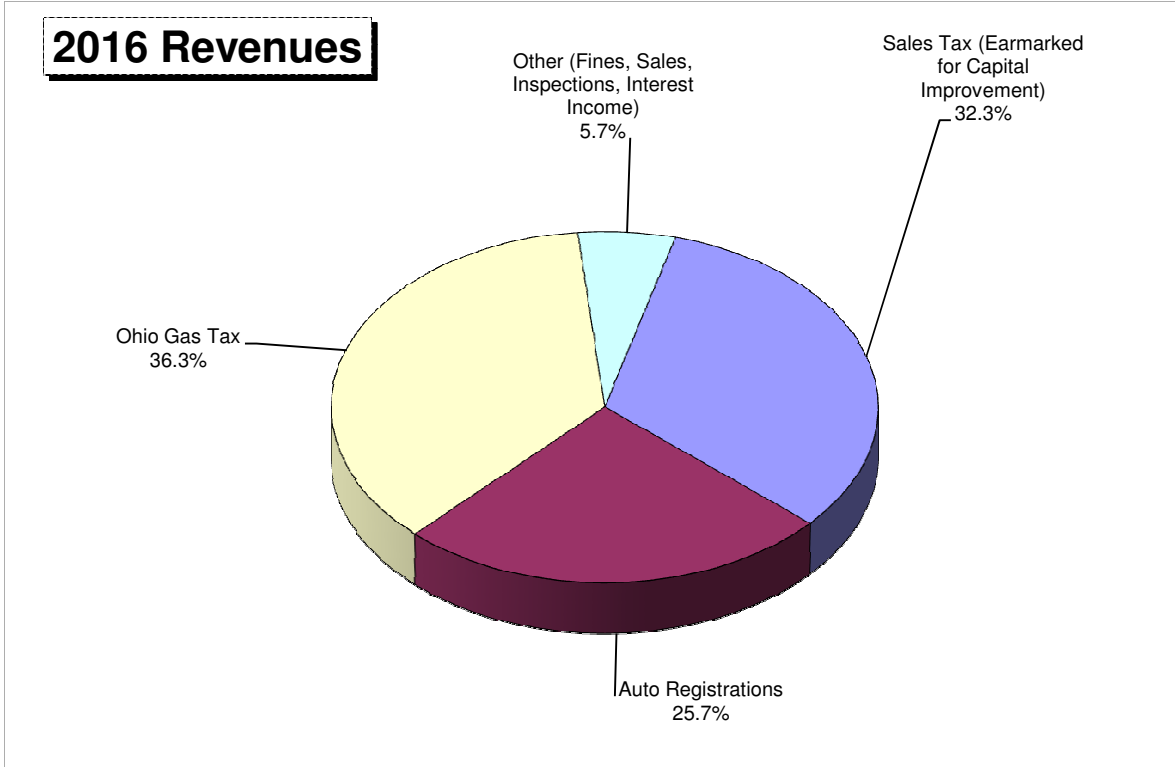
Since the force account limits for projects that we can construct with our own staff were increased in 2003, construction material costs have increased between 44 and 220 percent. We must encourage the state legislature to increase the force account limits for roads and bridges so that we can continue to save the taxpayers' money by constructing road and bridge projects with our own crews. The current force account limits are \$100,000 per bridge and \$30,000 per mile for road construction. Considering the increased construction costs and the fact that there is some debate over the interpretation of the force account legislation, these limits need to be increased to \$300,000 and \$90,000, respectively, with an annual inflation factor.

The Importance of an Elected County Engineer

Most importantly, elected County Engineers are accountable directly to the voters in their county, which allows them to base decisions on facts, economics, and engineering calculations that best benefit the community as a whole. Elected engineers are required to live in the county, which makes them a part of the community and vested in success of the county. The elected County Engineer is required to "perform for the county all duties authorized or declared by law to be done by a registered professional engineer or registered professional surveyor." The County Engineer is charged with establishing any corner or line of real property which has become lost or uncertain. The County Engineer serves as the engineering advisor for all townships in the county.

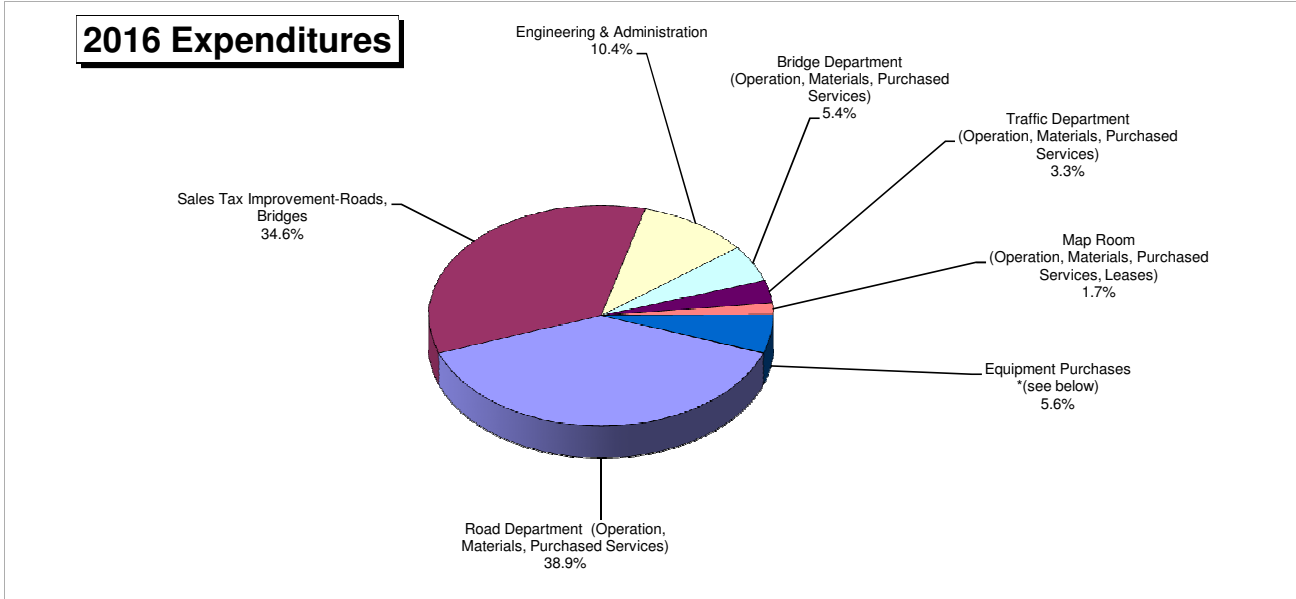
All of these responsibilities can be jeopardized if the County Engineer is changed to an appointed position rather than an elected position. Please let your state legislators know that you want to retain the right to vote for and elect your County Engineer.

| 2016 Revenues | | |
|--|-------|------------------------|
| Sales Tax (Earmarked for Capital Improvement) | 32.3% | \$ 2,083,529.76 |
| Auto Registrations | 25.7% | \$ 1,654,992.66 |
| Ohio Gas Tax | 36.3% | \$ 2,338,615.75 |
| Other (Fines, Sales, Inspections, Interest Income) | 5.7% | \$ 369,278.12 |
| Belle Center Amish Church Community - Voluntary Contribution | 0.1% | \$ 4,455.00 |
| Total | | \$ 6,450,871.29 |



| 2016 Sales Tax | |
|---|------------------------|
| County Carryover from 2015 | \$ 718,004.19 |
| Township Carryover from 2015 | \$ 409,380.89 |
| Income - County 2016 | \$ 2,083,529.76 |
| Income - Township 2016 | \$ 555,607.95 |
| Expenditures | |
| Township Sales Tax Resurfacing Program and Chip/Seal | \$ 439,845.50 |
| County Sales Tax Resurfacing Program (including culverts) | |
| Rejuvenating Sealer | |
| Bridge 11-1.45 Replacement | |
| Bridge 20-6.53 Replacement | |
| Bridge 12-6.51 Replacement | |
| Bridge 38-0.29 Rehab. | \$ 1,687,731.99 |
| 2016 County Carryover | \$ 1,113,801.96 |
| 2016 Township Carryover | \$ 525,143.34 |
| Total Carryover | \$ 1,638,945.30 |

| 2016 Expenditures | | |
|---|-------|-----------------------|
| Road Department (Operation, Materials, Purchased Services) | 38.9% | \$2,392,095.15 |
| Sales Tax Improvement-Roads, Bridges | 34.6% | \$ 2,127,577.49 |
| Engineering & Administration | 10.4% | \$638,224.55 |
| Bridge Department (Operation, Materials, Purchased Services) | 5.4% | \$329,782.54 |
| Traffic Department (Operation, Materials, Purchased Services) | 3.3% | \$ 203,546.26 |
| Map Room (Operation, Materials, Purchased Services, Leases) | 1.7% | \$104,959.99 |
| Equipment Purchases* (see below) | 5.6% | \$ 345,680.29 |
| Capital Improvments | 0.1% | \$ 4,534.69 |
| Total | | \$6,146,400.96 |



| *Major Equipment Purchased in 2016 | | |
|--|-----------|-------------------|
| Rebuild Asphalt Distributor with Electronic Controls | \$ | 27,474.46 |
| 2- Dump Truck Cab and Chassis | \$ | 150,000.00 |
| 2- Dump Bodies, Hydraulics and Plows | \$ | 95,516.00 |
| Skidsteer Broom Box Attachement | \$ | 500.00 |
| 2- Chain Saws | \$ | 983.92 |
| 3- Computer Components | \$ | 1,184.03 |
| Computer, Monitor & Print Server | \$ | 1,109.95 |
| Chevy 3500 Mechanics Truck | \$ | 53,184.36 |
| 10' International Disc | \$ | 700.00 |
| Sewage Pump | \$ | 824.99 |
| 6- Truck Radios | \$ | 9,088.00 |
| 30 gallon compressor | \$ | 1,899.99 |
| 2- FS90R Trimmers | \$ | 527.92 |
| Socket Set | \$ | 218.68 |
| Storage Tank for Beet Heet | \$ | 1,244.00 |
| Sand Blast Cabinet | \$ | 1,223.99 |
| | | |
| | | |
| | | |
| Total | \$ | 345,680.29 |

2016 ROAD PROGRAM

The Highway Department is responsible for all Force Account projects (non-contract work performed by County Engineer employees), snow and ice control, berm repair, pavement patching, washout repairs, guardrail repair, mowing, and other general/seasonal maintenance of county roads and bridges. This department also works closely with the townships on various maintenance needs on their road systems. The Highway Department was extremely busy in 2016, working ahead for the 2017 road program in addition to their normal maintenance duties. The costs listed include labor (based on hourly wages of workers and all benefits), amortized equipment, and materials (asphalt and berming stone).

| Review of Miscellaneous 2016 Expenses | | | | |
|---|---------------|---------------------|-------------------------------|---------------|
| | Labor | Amortized Equipment | Materials and Contractor Work | Total |
| Mowing | \$ 77,738.74 | \$ 98,038.79 | \$ - | \$ 175,777.53 |
| Roadside Spraying | \$ 6,179.10 | \$ 2,157.90 | \$ 5,073.44 | \$ 13,410.44 |
| Durapatching | \$ 9,727.31 | \$ 11,111.29 | \$ 10,528.62 | \$ 31,367.22 |
| Crack Sealing | \$ 60,318.34 | \$ 8,111.01 | \$ 58,476.00 | \$ 126,905.35 |
| Tree & Brush Removal | \$ 97,019.56 | \$ 57,367.88 | \$ 319.38 | \$ 154,706.82 |
| Culvert Repair & Replacement (not related to resurfacing) | \$ 6,971.28 | \$ 4,795.15 | \$ 5,866.08 | \$ 17,632.51 |
| Sign Repair | \$ 9,608.80 | \$ 2,186.70 | \$ 11,416.84 | \$ 23,212.34 |
| Sign Repair (Vandalism) | \$ 2,035.01 | \$ 685.30 | \$ 1,806.80 | \$ 4,527.11 |
| Sign Replacement | \$ 225.41 | \$ 73.01 | \$ 108.56 | \$ 406.98 |
| Snow and Ice Control | \$ 109,263.48 | \$ 96,677.28 | \$ 221,373.47 | \$ 427,314.23 |

| 2016 County Paving Program Completed Sales Tax | | | |
|---|----------------------------------|-------------------|-----------------------|
| ROAD # | Begins | Ends | Total Cost |
| CR 8 | SR 540 | SR 47 / CR 142 | \$509,925.77 |
| 225 | Shelby-Logan Co. Line | CR 23 | \$34,872.18 |
| 90 | CR 88 | Auglaize Co. Line | \$90,804.92 |
| 162 | Champaign Co. Line | Union Co. Line | \$10,160.00 |
| 168 | Logan-Champaign Co. Line | CR 28 | \$69,917.38 |
| 41 | Logan-Champaign Co. Line / CR 28 | SR 287 | \$95,448.74 |
| 28 | CR 41 E | CR 168 W | \$25,334.25 |
| 49 | CR 57 | SR 274 | \$190,401.80 |
| 171 | SR 245 | CR 28 | \$193,159.85 |
| Grand Total | | | \$1,220,024.89 |

| 2016 County Chip and Seal Program Completed | | | | | | |
|---|-----------------------------|-----------------------------|-------------|-------------|--------------|----------------------|
| Road | Begins | Ends | Labor | Equipment | Materials | Total |
| 278 | CR 279 | CR 279 | | | | |
| 279 | Lake Ave | CR 278 | \$ 2,727.73 | \$ 1,452.45 | \$ 7,465.05 | \$ 11,645.23 |
| 280 | CR 278 | CR 279 | | | | |
| 280 | CR 279 | CR 278 | | | | |
| 235 | SR 540 | SR 540 | \$ 1,172.17 | \$ 925.84 | \$ 3,935.70 | \$ 6,033.71 |
| 235A | SR 540 | Belle. WCL | | | | |
| 39 | TR 56 W | TR 56 E | | | | |
| 39 | TR 56 E | CR 37 W / TR 37 W | | | | |
| 39 | CR 37 W / TR 37 W | SR 274 Cherokee | \$ 3,758.03 | \$ 3,131.58 | \$ 31,517.79 | \$ 38,407.40 |
| 39 | SR 274 Cherokee | CR 222 W | | | | |
| 39 | CR 222 W | TR 108 E | | | | |
| 39 | TR 108 E | TR 100 / McArthur/Richland | | | | |
| 98 | CR 38 E & S | TR 96 | \$ 432.50 | \$ 358.80 | \$ 2,948.00 | \$ 3,739.30 |
| 38 | Bickham Bridge | TR 96 | | | | |
| 38 | CR 98 | CR 96 | \$ 809.96 | \$ 572.80 | \$ 6,141.50 | \$ 7,524.26 |
| 97 | CR 39 New Richland | CR 259 E | | | | |
| 97 | CR 259 E | CR 96 W | | | | |
| 97 | CR 96 W | SR 273 | \$ 2,150.47 | \$ 1,833.19 | \$ 20,006.96 | \$ 23,990.62 |
| 97 | SR 273 | Begin TR 97 | | | | |
| 97A | CR 97 | SR 273 | | | | |
| 20 | CR 118 Rushcreek | CR 5 | | | | |
| 20 | CR 5 | CR 12 | | | | |
| 20 | CR 12 | SR 292 | | | | |
| 20 | SR 292 | CR 120 | \$ 8,328.70 | \$ 7,546.60 | \$ 72,000.16 | \$ 87,875.46 |
| 20 | CR 120 | Penn Central RR | | | | |
| 20 | Penn Central RR | CR 142 | | | | |
| 20 | CR 142 | Logan/Union Co. Line | | | | |
| 118 | CR 9 | CR 20 N | | | | |
| 118 | Spur to CR 20 | CR 5 | \$ 2,326.74 | \$ 2,175.55 | \$ 17,188.38 | \$ 21,690.67 |
| 12 | CR 26 E Walnut Grove | CR 20 N | | | | |
| 12 | CR 20 | CR 48 E | | | | |
| 12 | CR 48 E | CR 50 suspend | | | | |
| 12 | CR 50 resume | CR 265 Big Springs | \$ 6,654.17 | \$ 6,216.36 | \$ 79,033.13 | \$ 91,903.66 |
| 12 | CR 265 Big Springs | TR 116 S | | | | |
| 12 | TR 116 S | TR 115 N | | | | |
| 12 | TR 115 N | SR 292 End | | | | |
| 5 | CR 50 | Rushsylvania East Corp | \$ 457.26 | \$ 370.01 | \$ 2,267.80 | \$ 365,880.10 |
| 50 | CR 5 & TR 110 N | TR 137 N | | | | |
| 50 | TR 137 N | CR 12 S | | | | |
| 50 | CR 12 Lt | TR 116 | \$ 4,079.52 | \$ 3,782.47 | \$ 41,639.73 | \$ 49,501.72 |
| 50 | TR 116 | Twp. Line | | | | |
| 50 | Twp. Line | TR 267 | | | | |
| 50 | TR 267 | SR 292 | | | | |
| 25 | SR 540 resume | SR 47 suspend | | | | |
| 25 | SR 47 resume | TR 136 E | \$ 3,520.19 | \$ 3,135.01 | \$ 33,707.58 | \$ 40,362.78 |
| 25 | TR 136 E | TR 57 W | | | | |
| 25 | TR 57 W | CR 9 | | | | |
| 10 | W. Prop. Line of 3193 CR 10 | W. Prop. Line of Tree Links | \$ 700.65 | \$ 600.30 | \$ 3,452.50 | \$ 4,753.45 |
| 2 | CR 142 | Logan/Union Co. Line | \$ 1,814.61 | \$ 1,674.84 | \$ 8,135.79 | \$ 11,625.24 |
| 154 | CR 10 | SR 347 | \$ 935.66 | \$ 749.60 | \$ 4,227.28 | \$ 16,378.69 |
| 28 | CR 168 W | CR 171 W | | | | |
| 28 | CR 171 W | SR 287 suspend | | | | |
| 28 | SR 287 resume | TR 163 E | \$ 6,151.68 | \$ 5,870.64 | \$ 40,889.09 | \$ 52,911.41 |
| 28 | TR 163 E | TR 164 | | | | |
| 28 | TR 164 | CR 29 Pickrelltown | | | | |
| 173 | CR 5 S | CR 47 | \$ 1,466.34 | \$ 1,414.50 | \$ 13,329.50 | \$ 16,210.34 |
| 63 | C. Corp. Line Quincy | Penn Central RR Bridge | | | | |
| 63 | Penn Central RR Bridge | CR 64 S | \$ 3,139.91 | \$ 3,007.31 | \$ 23,463.75 | \$ 29,610.97 |
| 63 | CR 64 S | TR 256 S Corp. Line DeGraff | | | | |
| 34 | SR 235 | CR 73 W | | | | |
| 34 | CR 73 W | TR 74 E Miami/Pleasant Twp | | | | |
| 34 | TR 74 E Miami/Pleasant Twp | DT&I RR | | | | |
| 34 | DT&I RR | CR 74 W | | | | |
| 34 | CR 74 W | SR 47 | \$ 5,524.97 | \$ 5,056.61 | \$ 58,017.41 | \$ 68,598.99 |
| 34 | SR 47 | TR 76 | | | | |
| 34 | TR 76 | CR 77 E | | | | |
| 34 | CR 77 E | TR 78 | | | | |
| 34 | TR 78 | CR 58 | | | | |
| 34 | CR 58 | CR 59 | | | | |
| 23 | CR 74 E | CR 47 | | | | |
| 23 | SR 47 | DT&I RR | | | | |
| 23 | DT&I RR | TR 76 E | \$ 3,908.37 | \$ 3,745.10 | \$ 34,365.74 | \$ 42,019.21 |
| 23 | TR 76 E | TR 78 W | | | | |
| 23 | TR 78 W | TR 78 E | | | | |
| 23 | TR 78 E | CR 58 suspend | | | | |
| 54 | SR 274 | TR 80 W | | | | |
| 54 | TR 80 W | CR 60 SW | \$ 3,311.75 | \$ 3,045.28 | \$ 17,336.98 | \$ 23,694.01 |
| 54 | CR 60 SW | SR 235 | | | | |
| 91 | SR 235 | CR 54 Lewistown | \$ 1,847.88 | \$ 1,627.25 | \$ 12,854.62 | \$ 16,329.75 |
| 53 | SR 274 | CR 52 | \$ 480.37 | \$ 261.75 | \$ 512.50 | \$ 1,254.62 |
| Total Chip & Seal Program | | | | | | \$ 658,690.41 |

2017 TENTATIVE ROAD PROGRAM

We have reviewed each road on the program for needed culvert replacements, bridge replacements and/or repairs, drainage problems, etc. As of March 1, 2017, the proposed resurfacing and chip-seal programs for the County are as follows:

| 2017 Proposed County ST Resurfacing Program | | | | | |
|---|-------------------------|-------------------------|--------|-------------------------------|---------|
| Road # | Begins | Ends | Road # | Begins | Ends |
| 37 | CR 61 Lewistown | CR 39 | 87 | CR 17 Logan-Auglaize Co. Line | CR 275 |
| 54 | CR 60 SW | CR 61 & CR 37 Lewistown | 39 | CR 130 | TR 56 W |
| 61 | CR 37 & CR 54 Lewistown | SR 274 | 77 | CR 34 | CR 21 |
| 113 | US 68 | W Corp Rushsylvania | 27 | SR 235 | SR 235 |

| 2017 Proposed County OPWC Resurfacing Program | | | | | |
|---|-----------------|-------------------------------|--------|--------|-----------------------|
| Road # | Begins | Ends | Road # | Begins | Ends |
| 88 | CR 17 | US 33 | 17 | CR 23 | Auglaize Co. Idle Rd. |
| 23 | SR 274 (resume) | CR 17 Logan-Auglaize Co. Line | | | |

Note: Some sections of roads may be non-performed in order to stay within budget.

| 2017 PROPOSED COUNTY CHIP SEAL PROGRAM | | | | | |
|--|-------------------------------|----------------------------------|--------|--------------------------|--------------------------|
| Road # | Begins | Ends | Road # | Begins | Ends |
| 3 | CR 4 Shelby Co. Line | End of Logan Co. Maint. | 48 | SR 292 | CR 120 S |
| 4 | RR | CR 70 | 48 | CR 120 S | CR 142 |
| 4 | CR 70 | Shelby CR 18 W | 48 | CR 12 | Culvert |
| 4 | Shelby CR 18 W | Greater Miami River - Shebly Co. | 48 | Culvert | SR 292 |
| 5 | N Corp Line Zanesfield | CR 25 | 48 | CR 142 | TR 138 N |
| 5 | N Corp Line Rushsylvania | TR 111 W | 48 | TR 138 N | Logan-Union Co. Line |
| 5 | TR 111 W | TR 51 | 51 | CR 101 SW | US 68 |
| 5 | TR 51 | SR 273 | 101 | SR 638 Northwood | CR 111 & 113 E Northwood |
| 5 | SR 273 | Logan-Hardin Co. Line | 101 | CR 111 & 113 E Northwood | TR 107 N |
| 10 | Bellef. Copr Change (City) | TR 179 | 101 | TR 107 N | CR 51 E - TR 51 W |
| 10 | TR 179 | TR 55 | 101 | CR 49 | TR 109 E |
| 10 | TR 55 | US 33 | 101 | TR 109 E | SR 638 Northwood |
| 10 | US 33 | TR 180 N | 102 | CR 103 E | Logan-Hardin Co. Line |
| 10 | TR 180 N | W Corp Line Zanesfield | 103 | CR 102 | US 68 |
| 11 | TR 43 W | TR 208 W | 104 | SR 273 | Logan-Hardin Co. Line |
| 11 | TR 208 W | TR 209 W | 139 | Logan-Union Co. Line | Logan-Hardin Co. Line |
| 11 | TR 209 W | TR 33 S Pleasant / Harrison Twp | 142 | CR 26 | CR 20 |
| 11 | TR 33 S Pleasant/Harrison Twp | TR 33 N | 142 | CR 20 | CR 48 |
| 11 | TR 33 N | CR 31 S / TR 31 N | 142 | CR 48 | CR 117 |
| 13 | CR 21 Bloomfield Twp | TR 79 E | 142 | CR 10 | TR 141 W |
| 13 | TR 79 E | TR 59 S | 142 | TR 141 W | CR 20 |
| 13 | TR 59 S | TR 247 SW | 142 | CR 2 | TR 133 E |
| 13 | TR 247 SW | SR 235 Enter (suspend) | 142 | TR 133 E | N Corp Line W Mansfield |
| 13 | SR 235 Leave (resume) | TR 214 N | 142 | N Corp Line W Mansfield | TR 123 E |
| 13 | TR 214 N | TR 33 | 142 | TR 123 E | CR 124 NE |
| 13 | TR 33 | TR 31 & Penn Central RR | 142 | CR 124 NE | CR 26 |
| 13 | TR 31 & Penn Central RR | TR 46 S | 144 | CR 153 | TR 148 E |
| 13 | TR 46 S | TR 46 N | 144 | TR 148 E | SR 287 |
| 13 | TR 46 N | CR 32 | 162 | SR 292 | Cul De Sac |
| 13 | CR 32 | CR 130 | 162 | CR 153 Middleburg | TR 227 E |
| 26 | CR 142 | CR 124 | 162 | TR 277 E | CR 144 |
| 26 | CR 124 | Logan-Union Co. Line | 187 | TR 7 | TR 197 |
| 26 | SR 292 | CR 120 N | 187 | TR 197 | SR 508 |
| 26 | CR 120 N | Penn Central RR | 222 | E Corp Line Huntsville | CR 39 |
| 26 | Penn Central RR | CR 142 | 265 | SR 274 Big Springs | CR 12 |
| 35 | SR 235 | TR 74 W Miami & Pleasant Twp | 270 | Lakeview NCL | TR 87 |
| 35 | TR 74 W Miami & Pleasant Twp | TR 75 E | 270 | TR 87 | US 33 |
| 35 | TR 75 E | SR 47 (suspend) | 271 | Dead End | SR 292 |
| 35 | CR 59 (resume) | CR 60 | 296 | SR 292 | CR 271 |
| 35 | CR 60 | SR 274 | | | |
| 40 | SR 274 | TR 114 N | | | |
| 40 | TR 114 N | TR 115 | | | |
| 40 | TR 115 | SR 292 | | | |

Note: Some sections of roads may be non-performed in order to stay within budget.

2016 BRIDGE PROGRAM

Our bridge crew had another productive year as they completed many projects that included three bridge replacements. In addition to this, they performed tree removal on eleven structures, crack-sealed twelve structures and repaired two bridges that were heavily damaged by car accidents.

County Road 11-1.34 (Pleasant Twp.): Bridge Replacement
County Road 12-6.51 (Rushcreek Twp.): Deck Replacement and Steel Beam Repairs
County Road 20-6.53 (Bokescreek Twp.): Bridge Replacement
Township Road 33-5.69 (Washington Twp.): Mill and Waterproof
Township Road 107-0.94 (Richland Twp.): Mill and Waterproof
Township Road 198-2.33 (Harrison Twp.): Mill and Waterproof
County Road 153-0.53 (Jefferson Twp.): Culvert Extension and Repair and Wingwall Replacement

The rehabilitation of BR 12 - 6.51 was the first of its kind for the Bridge Crew as they had never installed a superstructure composed of stay-in-place metal forms. The entire process involved removing the existing rusted out metal deck, wire brushing the existing steel beams and applying a cold galvanizing compound to them in order to protect against future rusting, installing stay-in-place metal forms and overhanging brackets for the deck's exterior to support the cast-in-place 37'-8" x 24' concrete deck, and installing new guardrail and guardrail posts to meet current ODOT specifications. The end result saved a substantial amount of money versus the possible alternatives of building an entirely new bridge, ordering new steel beams and/or using a much heavier gauge metal deck.

2017 TENTATIVE BRIDGE PROGRAM

The 2017 Bridge Program continues the commitment of prioritizing bridge replacements based on a variety of factors. The County infrastructure will continue to be re-evaluated periodically and changes to this program are likely to occur in order to achieve our dedication to repair or replace the structures and highways in the worst condition first.

As of March 17, 2017, the proposed Bridge Program is as follows:

County Road 37-3.60 (McArthur Twp.): Bridge Replacement
Township Road 86-2.87 (Stokes Twp.): Deck Replacement and Steel Beam Repairs
County Road 12-7.42 (Rushcreek Twp.): Repair wingwalls and abutments and Waterproof
County Road 73-0.81 (Miami Twp.): Culvert Replacement
County Road 31-1.61 (Union Twp.): Culvert - Repair parapet and wingwalls
County Road 5-19.18 (Rushcreek Twp.): Culvert Replacement
County Road 5-20.35 (Rushcreek Twp.): Paint beams and Repair backwall
County Road 39-4.93 (Richland Twp.): Paint Piers
County Road 158-1.26 (Zane Twp.): Paint beams and Repair backwall
County Road 258-0.60 (Zane Twp.): Paint beams
County Road 17-0.13 (Stokes Twp.): Repair Deck and Waterproof

ADMINISTRATIVE STAFF SUPPORT

This department manages the overall office functions and budget of the Engineer's Office. Since the cost for construction, materials, and equipment are increasing faster than local revenues, the utilization of alternate funding sources is critical to the office. As such, the department administers the Ohio Public Works Commission's State Capital Improvement Program (SCIP) and the Local Transportation Improvement Program (LTIP) for Logan County. The allocation and accounting of these annual funding sources are a significant function of the Engineer's office.

Other responsibilities of the administrative and support staff are human resources, payroll, purchasing requisitions, billing, word processing, contract administration and cost-tracking. Utilizing our cost-tracking system, all of the costs for the Engineer's Office are logged including the costs for surveying, engineering, administration, road work and construction of bridges. Equipment costs are amortized, while the labor costs include all fringes and benefits. In addition to all of the aforementioned accounting functions, this department also handles daily calls from the public and addresses the questions/problems directly or forwards them to the appropriate person.

DESIGN/ENGINEERING

This department performs the engineering design for approximately 95% of the construction projects and directs specialized consultants for the engineering design of the remaining projects. Most of the staff design is done with a Computer Aided Design and Drafting (CADD) system. This department also oversees much of the administrative responsibilities.

TRAFFIC DEPARTMENT

The Traffic Department is responsible for the maintenance of all road signs on county roads and bridge signs on township roads. Road signs now number 7,050. The maintenance of these signs includes installation, preservation and inspection. As part of the inspection process, we look for reflectivity, wind damage, vandalism and overall visibility. Repairing mailboxes damaged during snow removal operations is another part of the Traffic Department's responsibilities along with signing for road closure detours. The Routemarkers' main duty is to keep traffic moving safely and to keep the traveling public informed.

COURTHOUSE DUTIES

It is the responsibility of the Map Room to maintain all of the county tax maps providing the County Auditor with an accurate tax base for each parcel. This includes creating new property splits, assigning new parcel numbers and adjusting property lines and acreages as reflected from new surveys. Both digital and shape file updates are performed regularly to keep the maps as current as possible. Along with these duties, the Map Room assists the various needs of surveyors, attorneys, realtors, other governmental agencies and the public, assigns and maintains the house numbering system for the unincorporated areas of the county, reviews new surveys & approves descriptions on legal documents.

In 2016, the Map Room Staff checked legal descriptions on 2,647 real estate documents. There were 2,093 deeds, 420 Affidavits, 64 Certificates of Transfer, 35 easements and 35 land contracts. Additionally, 1 condominium plats & 1 annexation plat were approved and recorded. New property splits totaled 102 for the year with 80 documents being new surveys.

Surveyors submitted 252 new legal descriptions that were reviewed, approved, scanned and filed by the Map Room personnel. In addition, 27 new house numbers were assigned in 2016.

The records of the Map Room can be found on the Logan County Engineer's Office website at: www.loganco.co.logan.oh.us/engineer/.

The Office of the Logan County Engineer

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EXECUTIVE SUMMARY

368.576 Miles of County Road
 As of 12/31/16

296 Bridges
 12 Have Load Reductions Posted
 3 Have a Sufficiency Rating Less Than 50%

7,050 Traffic Signs

1,676 Culverts
 Excellent/Good Condition - 1,482
 Fair/Poor/Unknown Condition - 194

MOTOR VEHICLE REGISTRATIONS

Vehicle registration fees are a significant source of revenue for the Engineer's Office.

| 2016 Logan County, Ohio Motor Vehicles Registrations | | 2015 | 2014 |
|---|---------------|---------------|---------------|
| Type of Registration | # of Units | # of Units | # of Units |
| Passenger Cars | 36,779 | 35,574 | 35,314 |
| Motor Homes | 326 | 327 | 312 |
| Motorcycles | 2,743 | 2,677 | 2,560 |
| House Vehicles | 967 | 930 | 908 |
| Mopeds | 13 | 20 | 15 |
| Non-Commercial Trailers | 5,951 | 5,841 | 5,593 |
| Non-Commercial Trucks | 10,963 | 10,852 | 10,637 |
| Farm Truck | 341 | 346 | 377 |
| Buses | 39 | 43 | 48 |
| Commercial Trailers | 2,214 | 2,072 | 2,075 |
| Non IRP Trucks (Intl. Reg. Plan) | 1,957 | 1,993 | 1,793 |
| IRP Trucks (Intl. Reg. Plan) | 203 | 197 | 249 |
| Total Vehicle Registrations | 62,496 | 60,872 | 59,881 |

SOURCE: State of Ohio, Bureau of Motor Vehicles