



KNOX COUNTY ENGINEER

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2020 Annual Report



Cameron Keaton, P.E., P.S.

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The Knox County Engineer's Office compiles this report for the Board of Knox County Commissioners, as required by section 5543.02 of the Ohio Revised Code.

The year 2020 was a challenge to say the least. It started out much like normal and quickly took a turn in March. The Coronavirus pandemic forced everyone to change the way we do business and the Knox County Engineer's Office was no exception. Looking back on the past year, I could not be more proud of my staff and employees that took it all in stride while continuing to provide essential services to all of Knox County.

The two new revenue sources we received in 2019, vehicle registration fee and gas tax increase, have yet to reveal their full impact on the budget. The State of Ohio postponed vehicle license renewals, and a number of individuals worked from home and did not travel. Both factors resulted in a loss of potential revenue.

In spite of all the unknowns, we completed all 2020 proposed projects except the Lower Gambier Road bridge replacement. The loss in revenues required us to place the project on hold.

In 2020, our completed grant projects included Magers Road Bridge replacement (LBR), resurfacing the north half of Apple Valley Drive (OPWC), sign inventory (Safety Funds), speed study of the Apple Valley area (Safety Funds), and resurfacing Croton Road (CR-21) (CSTP).

Our 2021 project schedule includes replacing Lower Gambier Road bridge, Lock Road bridge, and Patton Road bridge. This is in addition to our annual culvert and road maintenance programs.

Sincerely,

Cameron Keaton, P.E., P.S.

Financials

2020 Revenues

Permissive Tax- \$741,662.94
 Permissive Tax 4504.24- \$345,774.49
 Licenses Taxes- \$2,024,382.21
 Gasoline Taxes- \$3,614,207.26
 Access Permits- \$10,379.00
 Special Haul Permits- \$680.00
 Fines- \$22,354.36
 Auctions/Other- \$12,285.25
 Donations- \$14,739.30
 Depository/Investments- \$34,208.88
 Reimbursements- \$90,545.19
 Refunds- \$40,959.22

2020 Revenues



- Permissive Tax - 10.67%
- Licenses Taxes - 29.12%
- Access & Special Haul Permits - .16%
- Reimbursements/Refunds - 1.89%
- Permissive Tax 4504.24 - 4.97%
- Gasoline Taxes - 51.99%
- Fines/Donations/Interest - 1.03%
- Auction/Other - .18%

Total Revenues- \$6,952,178.10

2020 Expenses

Salaries- \$1,787,731.38
 Fringe Benefits- \$723,526.83
 Vehicle Maintenance- \$332,969.91
 Bridge/Culvert Maint.- \$386,395.29
 Equipment- \$391,521.16
 Trainings/Supplies- \$35,828.43
 Contract Services- \$194,437.80
 Contract Projects- \$1,066,307.67
 Utilities/Transfers/Ads- \$227,546.68
 Materials & Incidentals- \$786,449.81

2020 Expenses



- Salaries - 30.13%
- Vehicle Maintenance - 5.6%
- Equipment - 6.6%
- Contract Services - 3.3%
- Utilities/Transfers/Advertising - 3.8%
- Fringe Benefits - 12.20%
- Bridge/Culvert Maint. - 6.5%
- Trainings & Supplies - .60%
- Contract Projects - 17.97%
- Materials & Incidentals - 13.26%

Total Expenses- \$5,932,714.96

2020 Road Projects

CEAO Speed Zone Study - \$15,600 - A CEAO Safety Study Program allowed a speed study of Apple Valley Drive to be conducted, including the eight connecting county roads to determine the correct speed limit posting. This was a 90% reimbursable program from federal safety funds.

CEAO Sign Inventory - \$46,940 - A CEAO Safety Study Program allowed for sign review along all 404 miles of county roads. The program noted necessary changes in reflectivity and/or sign legibility, as well as provided a complete inventory of all county signs. This was a 90% reimbursable program from federal safety funds.

Rich Hill Road Paving Project - \$215,749.43 - Chip & sealed 2.95 miles of roadway using MVGT Funds.

Croton Road Resurfacing - \$358,874.78 - A CSTP funded mill and fill project with partial depth repairs over 1.57 miles of roadway. This was an 80/20, Federal/MVGT direct pay project.

Guardrail - \$216,773.25 - CEAO Safety Program replaced guardrail at 15 locations around the county. This project was 100% funded through the Federal HSIP.



Apple Valley Drive Resurfacing (Phase 2) -

The north half of Apple Valley Drive was resurfaced in late summer 2020*. This project entailed replacing 9 cross culverts, milling 2.5 inches of existing asphalt, resurfacing 5.8 miles with new asphalt, and applying a new centerline. County crews handled the replacement of culverts, removal of trees, and ditching. Kokosing Construction was contracted to mill, pave, and restripe the roadway.

The total project cost was **\$1,111,415.35**; \$766,876.59 was paid through an Ohio Public Works Commission (\$383,438.29 grant and \$383,438.30 in a 0% interest, 10-year loan), and \$344,538.76 in motor vehicle gas tax funds and in-kind contributions.

**The south portion of Apple Valley Drive was resurfaced in 2019.*

Annual Resurfacing Program 2020 -

Knox County uses an annual chip seal program to help maintain the 404 miles of county roadway and extend the life expectancy of these roads. The annual chip seal program for 2020 covered 18.84 miles of county highways at a cost of \$292,778.76. This calculates to be \$15,540.27 per mile, a decrease of 35% per mile from 2019.

Annual Roadside Mowing Program

The Knox County Engineer’s Office currently subcontracts the roadside mowing operation. This allows for highway crews to focus on patching and road repairs throughout the summer months. Thompson Interstate Mowing from Leesburg, Ohio, was awarded the contract and mowed three separate rounds (as required by Ohio Revised Code). The cost of mowing the 404 centerline miles of county roadway was \$342/mile, or \$138,168 annually. County highway crews mowed back intersections and used boom mowers to assist and maintain roadside clearances.

Asphalt Patching and Repairs

Highway crews patch and repair county roadways year-round. In the winter months, cold mix asphalt is used to patch potholes until the hot mix plants open back up in the warmer weather months. Patching material costs were as follows:

▪ Hot mix asphalt-	\$403,073.60
▪ Cold mix asphalt-	<u>\$ 17,416.68</u>
Total-	\$420,490.28



2020 Bridge Projects

Bridge & Culvert Work

Our crews replaced and repaired 55 culverts with an estimated material cost of \$92,500. Typical culverts less than 60” in diameter can be replaced with high density polyethylene (HDPE) pipe. Engineered precast concrete box culverts, or reinforced concrete pipe can replace larger structures.

The bridge crew replaced one bridge deck on Ball Road (No. 123 Hilliar) at a cost of \$28,514.79. County crews removed the existing bridge deck and beams, then replaced it with new wood decking, new north abutment wall, and an asphalt surface.

- **Parrott Street Bridge Construction-** \$1,000,000- replaced a pony truss structure with a three span reinforced concrete slab. \$450,000 in CDBG grant & \$450,000 in OPWC grant, the remainder in MVGT Funds. Started in 2019, and completed Spring 2020.
- **Box Culvert Projects-** \$200,200- replaced 6 existing structures with new concrete box structures. This cost reflects materials only.
- **Magers Road Bridge Replacement-** \$360,237.55- Replaced the structure over Jelloway Creek on Magers Road (No.108 Howard). Funded by CEAO Bridge Program: \$310,017.76 federal and \$50,219.79 local monies.
- **Lower Gambier Road Bridge Replacement-** \$300,000- Remove existing structure, rehab existing abutments, and replace steel I-beams and steel pan with a concrete driving surface. 100% local funds. Started in 2020, expected to be completed Fall 2021.



Staff Update

The Knox County Engineer operates with five office employees. The Tax Map Office has two employees. The Highway Garage consists of two superintendents, and 25 highway employees. Calendar year 2020 saw a few changes in personnel with two employees retiring and one termination. In July, the County Engineer welcomed Tonya Durbin (Fiscal Officer) and Kelly Shira (Payroll Clerk).

Accolades go to both Christine Williams and Ed Moreland. Christine retired after 31 years of service as Payroll Clerk on August 31, 2020. Ed Moreland served 20 years, retiring as Road Foreman on December 31, 2020.

Equipment Update

In 2020, the County added much needed vehicles and equipment to the fleet. In March, a used Blaw Knox Paver was acquired for approximately \$12,000.00.



Two new 2020 Western Star tandem axle plow trucks arrived in July 2020 at a cost of \$181,267.00 each. October brought five new 2020 Silverado 3500 pickup trucks assigned to the two superintendents and three road foreman.



Tax Map Update

The Knox County Tax Map Office is under the direction of the Knox County Engineer. The Knox County Tax Map Office handles legal descriptions of property, updates to the county GIS database, boundary survey verification, parcel ownership information, custom mapping, and the assigning of property addresses.

2020 Tax Map Facts:

- Generated \$1,166.50 in map sales.
- Approved 3,316 transfers.
- Assigned 186 new addresses.
- Reviewed and approved 265 new boundary surveys.
- Quality controlled the entire "Address Point" layer, this is the address layer used in dispatch software.
- Coordinated with Knox County 911 Dispatch to upgrade their dispatch software.
- Coordinated with Knox County Auditor's Office to make upgrades to the GIS webpage, including scale, print and Tax Map View.
- Coordinated with the IT Department to put the 2020 Tax Maps on the website.
- Coordinated with the IT Department to put scanned subdivision plats on the website.
- Coordinated with the IT Department to add railroad maps to the website.
- Coordinated with IT to make upgrades to the computer at the front counter.

Winter Recap 2019-2020

The Knox County Engineer's Office participates in the ODOT Rock Salt Winter Competitive Bid. We estimate how much salt we will need for the upcoming winter season, ODOT processes the bidding submissions and awards the contracts to the vendors, then we use our awarded vendor to purchase 90%-110% of the estimated tonnage. Our vendor for 2019-2020 was American Rock Salt out of Columbus. The salt price for the 2019-2020 season was \$86.42/ton (a 3.6% increase from the prior season).

County Highway crews are constantly assessing road conditions and determining the best materials to use on our roadways. The exact material use depends on the precipitation, road conditions, and temperature. Crews can use salted grits (9's), straight salt, or a 70/30 (9's/salt) mixture.

The 2019-2020 Winter Season was "below average" for Knox County. Our crews used 4,053 tons of salt and 282 tons of salted 9's to treat roads.

We ended the 2019-2020 winter season with full salt storage buildings. The 2020-2021 state bid for salt was awarded to Compass Minerals. The salt price for the 2020-2021 season decreased \$27.22/ton or 31.5% to \$59.20/ton. Our estimated usage for the upcoming season is 7,000 tons.

2021 Upcoming Projects

The following are proposed projects and estimated costs for 2021:

- ❖ **Lock Road Bridge (CR53)** - \$1,200,000 - replacing a pony truss structure with a composite box beam bridge.
- ❖ **Box Culvert Project** - \$380,000
- ❖ **Annual Resurfacing** - \$1,024,740 - Annual program, consists of resurfacing approximately 40 miles of roadway per year with hot mix asphalt and/or chip and seal.
- ❖ **Front Royal Road Bridge Deck Replacement** - \$20,000
- ❖ **Patton Road Bridge** - \$874,000 - replace existing structure with a composite box beam bridge.
- ❖ **Lower Gambier Road Bridge Replacement**- \$300,000 - Remove existing structure, rehab existing abutments, and replace steel I-beams and steel pan with a concrete driving surface. 100% local funds. Started in 2020 expected to be completed Fall 2021.