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2018 CLINTON COUNTY ENGINEER’S ANNUAL REPORT

March 31, 2019

I am pleased to present you with our 2018 Annual Report. Each year the County Engineer must provide an annual report to the County Commissioners that shows the status of all our roads, bridges and culverts in Clinton County.

During 2018, construction or rehabilitation of major structures, including bridges and culverts, totaled $393,163. This total includes rehabilitating bridges on Hamilton and Jenkins Roads by replacing all or part of the prestressed box beams, while using the existing abutments. Partial funding on these projects for material was from the Ohio Public Works Program (OPWC) with all other work being done by county forces. All other replacements were designed in-house and also constructed with our forces. The annual bridge inspections of all of our bridges was completed in the fall of 2018. A separate bridge report has been submitted to the Board of County Commissioners. Part of our current strategy, while we are not replacing as many bridges, is to do more preventive repair and maintenance. On several bridges, we have taken the wearing surface off and added new waterproofing before replacing with a new wearing surface. On many of our prestressed box beam bridges, we are cleaning and recoating the outside beams where salt and water have the potential to wear the exposed portion of the beam faster.

In 2019, work continues on rehabilitating a large bridge on Spring Hill road that was built in 1979. This work consists of removing all existing box beams, repairing the abutments and piers and replacing with a new composite concrete top that should extend the life of this bridge possibly another 40 to 50 years. Funding for this project is 80% federal bridge money, 15% credit bridge funds and 5% OPWC grant. We also have three bridges that we plan to rehab by removing some of the prestressed box beams that are deteriorating and replace them with new beams. Funding for the beams is provided from OPWC grants, while our highway forces will do the construction. Nine more bridges will receive new waterproofing systems this summer, which will hopefully extend the life of each bridge another 15-20 years. Maintenance items are also receiving attention where we are fixing guardrail, adding stream protection, fixing approaches, re-lining existing culverts, and continuing to paint exposed beams with protective coatings. In addition, we will be replacing several of our inventory of over 1100 culverts/pipes that we have on a 5-year schedule.

2019 started off to be a hard winter and the freeze and thaw will take a toll on our roads. That combined with record rainfall has roads already looking like we will need to repair more locations this year. Each spring, we travel every mile of county road and give them a Pavement Condition Rating. Based on these ratings, we determine which roads will be priority for resurfacing that year. In 2018, we were able to seal portions of 16 different roads totaling approximately 32 miles at a cost of $431,742. The average cost per mile for this program was $13,497. We are starting to see our average ratings decline each year and we cannot continue to only do repairs and maintenance each year. Instead, we need to be able to pave and reconstruct in order to keep up with the wear on the roads. We are constantly looking to existing and new technology to extend the life of our roads. We would like to have our roads on a 7-10 year cycle for resurfacing, but in the meantime we will continue to prolong their life with an aggressive repair program, which includes chip sealing, crack sealing, patching and repair.

In 2019, we will again use grant money from the Federal Highway Safety Improvement Program and the Ohio Public Works Program to continue our program of hazard elimination. As part of that hazard elimination program, we will be reconstructing a section of Antioch Road near the county line to improve sight distance, intersections and softening a curve just north of the county line. We also have four more safety projects scheduled in 2020, 2021, 2022 and 2023, as well as grants for guardrail and pavement marking. The safety of the traveling public is important to us and we are always looking for any opportunity to improve our highway system.

A summary of all maintenance and construction costs for 2018 has been included in this report for your review.

While it looks to be a fairly typical winter as far as snowfalls are concerned, last season’s winter storms (December of 2017-April 2018) were a little harder. We spent more than 2000 hours on the road driving 73,000 miles and used 3745 tons of salt and grit. Our total cost for snow and ice removal was $310,034 which is triple from the previous year where we spent $103,759.

Our budget has not changed much in the last 10 years and that is starting to take a toll on roads and bridges and make for a challenging situation. (See article on page 4) It is becoming harder to keep up with maintenance and still make improvements. In the meantime, we look for other options to increase future funding as we cannot continue to keep our infrastructure to the level that is expected without additional resources.

Thank you for the opportunity to share this annual report. We hope you find it informative. If you have any questions please feel free to contact my office at 937-382-2078 or visit us on the web for more info @ www.clintoncountyengineer.org.

Respectfully submitted

Jeffrey B. Linkous, P.E., P.S.
County Engineer
### 2018 TAX MAP SUMMARY

- **Total Parcel Transfers**: 1768
- **Parcel Pre-approvals**: 1565
- **Existing parcels checked**: 1318
- **Survey plats filed**: 133
- **Total Property Splits & Resurveys**
  - Minor Splits < 20 ac.: 34
  - Over 20 acres: 8
  - Resurveys: 60
  - Exempt: 14
  - Combinations: 21
- **Total Parcels Reviewed** (include replat): 159
- **Annexations reviewed**: 0
- **Major Subdivisions Recorded**: 3
- **Road Dedication**: 1
- **Commercial PUD**: 2

### SNOW & ICE REMOVAL

- **Regular Hours**: 896 hrs.
- **Overtime Hours**: 1226 hrs.
- **Grit (small stone)**: 2165 ton
- **Salt**: 1590 ton
- **Miles Driven**: 72,900 miles
- **Fuel Used**: 18,225 gals.
- **TOTAL COST**: $310,034

### 2018 PERMITS & REVIEWS

- **Utility Permits Granted**: 86
- **House Numbers Assigned**: 34
- **Access Permits Issued**: 53
- **Crash Reports Reviewed**: 3185
- **Hauling/Overload Permits**: 76

### MISC. MAINTENANCE

- **Trash Pickup**
  - (3/26/18–4/19/18): $46,969
- **Water-Based Pavement Marking**
  - Centerline (32.388 mi): $17,394.78
  - Edgeline (37.976 mi): $29,511.14

### 2018 REVENUE

- **Motor Vehicle Tax (State)**: $1,377,889.78
- **Gas Tax**: $2,417,403.95
- **Reimbursements**: $354,015.75
- **Interest Income**: $34,764.88
- **Fines**: $212,188.65
- **Miscellaneous**: $27,958.22
- **Permissive Tax**: $74,306.09

### 2018 EXPENDITURES

- **Personnel–Wages**: $1,518,948.15
- **Personnel—Fringe Benefits**: $749,105.43
- **Admin (non-personnel)**: $99,424.28
- **Road Expenditures**: $1,111,991.82
- **Bridge/Culvert Expenditures**: $180,908.06
- **Capital Expenditures**: $205,700.50
- **Buildings & Grounds**: $52,464.85

### 2018 Bridge Replacements and Major Culverts

<table>
<thead>
<tr>
<th>Road</th>
<th>Bridge #</th>
<th>Type of Bridge</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton</td>
<td>33-0.330</td>
<td>Prestressed Box Beam</td>
<td>$114,981* rehab</td>
</tr>
<tr>
<td>Jenkins</td>
<td>261-0.830</td>
<td>Prestressed Box Beam</td>
<td>$116,490* rehab</td>
</tr>
<tr>
<td>Center</td>
<td>16-4.341</td>
<td>HDPE Pipe Replacement</td>
<td>$19,464</td>
</tr>
<tr>
<td>Pansy</td>
<td>18-2.348</td>
<td>HDPE Pipe Replacement</td>
<td>$21,906</td>
</tr>
<tr>
<td>Prairie</td>
<td>21-2.312</td>
<td>HDPE Pipe Replacement</td>
<td>$15,233</td>
</tr>
<tr>
<td>Fayetteville</td>
<td>27-1.252</td>
<td>Precast Concrete Box</td>
<td>$84,326</td>
</tr>
<tr>
<td>Webertown</td>
<td>33-1.326</td>
<td>HDPE Pipe Replacement</td>
<td>$10,408</td>
</tr>
<tr>
<td>Hackney</td>
<td>53-3.696</td>
<td>HDPE Pipe Replacement</td>
<td>$10,355</td>
</tr>
</tbody>
</table>

*Partially funded by OPWC monies

### SPRING HILL BRIDGE REHABILITATION

The longest bridge on the County road system is undergoing a major rehabilitation. The three-span Spring Hill Rd. bridge over Todd’s Fork measures 211’ from end to end. DDK Construction began work on a total deck replacement and pier repairs in February with an anticipated completion date in late June of 2019. Originally opened in 1979 this bridge now carries more than 1600 vehicles each day into and out of the County.

### 2019 Proposed Bridge Repair & Replacement

<table>
<thead>
<tr>
<th>Road</th>
<th>Bridge #</th>
<th>Type of Bridge</th>
<th>Cost Est.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring Hill</td>
<td>2-0.25</td>
<td>Prestressed Box Beams</td>
<td>$829,000**</td>
</tr>
<tr>
<td>Old State</td>
<td>112-0.87</td>
<td>Prestressed Box Beams</td>
<td>$96,229*</td>
</tr>
<tr>
<td>Mitchell</td>
<td>202-2.07</td>
<td>Prestressed Box Beams</td>
<td>$79,859*</td>
</tr>
<tr>
<td>Hales Branch</td>
<td>49.154</td>
<td>Prestressed Box Beams</td>
<td>$146,671*</td>
</tr>
</tbody>
</table>

**Funded with Federal and OPWC grants
*Partially funded with OPWC grants

**TOTAL: $1,151,759**
Plants are complete and ready for construction on a project that will straighten a curve and widen lanes and ditches between Scissorville Rd. and the Highland County line. Construction is currently scheduled to begin in late 2019 and is 100% funded through federal gas tax grant monies and the Ohio Public Works Commission grants monies.

In 2020, in cooperation with the Ohio Department of Transportation (ODOT), a turn lane will be added to State Route 73 at Antioch Rd. This improvement will provide for continuous traffic flow in the southbound direction while providing vehicles turning left onto Antioch Rd. with a place outside of the southbound traffic flow in which to wait for a safe opportunity to complete their turning maneuver. This project is funded by federal gas tax grant dollars with additional contributions by ODOT. The Clinton County Engineer’s Office is leading the project and participating by preparing plans and administering the construction.

A curve that is just north of Fife Rd., which has been the site of numerous crashes, will be improved in 2021. Part of this project will include removing several hills and widening lanes and ditches for approximately 1500 feet in both directions from Fife Rd. This project will be funded 80% with federal gas tax grant dollars and will be supplemented with Ohio Public Works Commission grant dollars and/or local gas tax revenues.

Finally, 2023 will bring a project to remove numerous hills and widen lanes and ditches between Beatty Rd. and Hodson Rd. Sight distance at both of these cross roads will be improved as well. Funding for this project will also be provided for at 80% with federal gas tax grant dollars and will also be supplemented with Ohio Public Works Commission grant dollars and/or local gas tax revenues.

## Grant Dollars

### Federal Monies Received for Projects in 2018
- LPA Bridge Load Rating Agreement: $2,080.00
- Farmers CLI-CR-7-4.44: $13,537.70
- CLI-CR 2 Spring Hill Bridge Repl.: $47,633.00

### OPWC Monies Received for Projects in 2018
- Hamilton/Jenkins Bridge Rehab: $133,021.65
- Farmers CLI-CR-7-4.44: $3,024.99
- CLI-CR 2 Spring Hill Bridge Repl.: $2,507.00

**TOTAL GRANT MONIES RECEIVED: $201,804.34**

## 2018 Resurfacing

### Road Name | Length | Description | Width | Cost
--- | --- | --- | --- | ---
Bernard | 2.429 | Single Seal | 19 | $30,655.86
County Lane | 0.156 | Single Seal | 20 | $2,412.27
Crouse | 1.565 | Single Seal | 19 | $19,555.86
Fife Avenue | 0.791 | Single Seal | 23.5 | $12,585.84
Gano | 0.354 | Single Seal | 18 | $4,947.06
McCoy | 1.279 | Single Seal | 19 | $15,321.45
Melvin | 2.678 | Single Seal | 27.5 | $46,538.76
New Burlington | 2.713 | Single Seal | 21 | $34,497.36
Port William | 2.649 | Single Seal | 20.7 | $32,901.39
Prairie | 2.687 | Single Seal | 20.2 | $10,124.85
Prairie | 0.870 | Single Seal | 20 | $32,894.70
Sabina | 5.25* | Single Seal | 19.5 | $81,941.79
Sabina | 2.584 | Single Seal | 19.5 | $33,723.06
Sprague | 0.818 | Single Seal | 16 | $9,842.37
Stone | 2.370 | Single Seal | 21 | $34,811.64
Stone | 2.787 | Single Seal | 19 | $28,987.68

**TOTALS: $431,741.94**

* Avg. Cost of Single Seal Per Mile—$13,497.42 (includes cost of stone)

* Stops and starts within that mileage for bridges

## FUTURE GRANTS APPROVED

| FY2020 | CLI-CR-12-0.00 Antioch Road Sight Improvement | $869,600 |
| FY2020 | Guardrail Replacement | $300,000 |
| FY2021 | Guardrail Replacement | $200,000 |
| FY2021 | Pavement Marking | $150,000 |
| FY2021 | CLI-CR-12-7.96 Antioch Road Safety Improvement | $648,800 |
| FY2022 | CLI-CR 10 Clarksville Road Safety Improvement | $603,200 |
| FY2022 | Pavement Marking | $150,000 |
| FY2022 | Guardrail Replacement | $300,000 |
| FY2023 | Guardrail Replacement | $300,000 |
| FY2023 | Guardrail Replacement | $300,000 |
| FY2023 | CLI-CR 6-4.86 Westboro Rd. Bridge Rehab | $1,244,880 |
| FY2023 | CLI-CR 16-7.97 Center Rd. Safety Improvement | $1,048,500 |
| FY2024 | CLI-CR 12-4.43 Antioch Rd Safety Improvement | $776,800 |
| FY2024 | Pavement Marking | $150,000 |
| FY2024 | Guardrail Replacement | $300,000 |

**TOTAL FUTURE GRANTS ALREADY APPROVED: $7,041,780**
Ohio County Engineers: Protecting our Economy and Public Safety

Ohio’s Transportation infrastructure is one of our state’s most important assets. We sit within 600 miles of 60 percent of America’s population. We have the country’s fourth-largest interstate system and the second largest inventory of bridges. Every year $1.1 trillion in goods are shipped to and from sites in Ohio, mostly by truck. Nearly 2.4 million full-time jobs in Ohio in key industries like tourism, retail sales, agriculture and manufacturing rely on our transportation system.

Today this asset is threatened by a massive funding shortfall. It’s not an exaggeration to say that absent adequate investment, the quality of our roads, the safety of Ohio motorists and the economy will suffer for decades to come.

This shortfall didn’t happen overnight. It’s been nearly 14 years since Ohio made a true investment in its roads with a gasoline-user fee increase. During that time vehicles have become more fuel efficient, roads are getting more used than ever and maintenance costs have risen dramatically.

Here are some facts about our Ohio County Roadways:

Safety:
- Traffic Accidents (5-year total) 156,320
- Traffic Injuries – Serious (5-year total) 6,931
- Traffic Deaths (5-year total) 890
- Percent of Total Traffic Deaths in Ohio 17%

Road Facts
- Total miles of County Highway 28,970 miles
- Less than 20 ft wide (below current Standard) 18,879 miles
- Between 20 ft and 24 ft 9,422 miles
- Greater than 24 ft. 669 miles
- Cost to widen County Highways to current standards on a 20-year Schedule $226 million per year
- Cost to Pave County roads on a 10-year schedule $362 Million per year
- Cost to Maintain County Highway System $406 million per year
  (includes guardrail, pavement marking, signs, culverts, mowing, and snow plowing)

Bridge Facts:
- Total Number of County Bridges 26,298
- Closed Bridges 96
- Posted with load limits 1,356
- One Lane Bridges 3,024
- Bridges 50 years and older 9,576
- Eligible for Replacement 1,854
- Eligible for Repair 6,221
- Total Cost to Replace and Repair all currently eligible bridges $1.2 Billion
- Cost per year on a 10-year Schedule $127 million per year

(Statewide Total Amount Needed $1.12 Billion per year
Statewide Current Funding Level $450 million per year)

(facts and figures courtesy of County Engineers Association of Ohio)