



The Orange Brigade



Winter 2022

Logan County Engineer's Office

Volume 60

Coleman's Comments



The one-half percent sales tax for roads and bridges generated \$4,099,501.19 in 2021. These funds are collected and divided among county (50%, \$2,049,750.63), townships (20%, \$819,900.24), municipalities (20%, \$819,900.22), and land use and economic development (10%, \$409,950.10). Sales tax revenue increased by 11 percent from 2020.

By combining sales tax with motor vehicle fuel tax, vehicle registration fees, federal and state grant funds, we were able to complete several construction projects in 2021. County road resurfacing totaled \$2,302,669.20 (state Ohio Public Works Commission funded \$861,913.00) and rejuvenating sealer came in at \$133,448.76. Township resurfacing was \$223,013.10, township chip sealing totaled \$188,946.34, and township rejuvenating sealer came in at \$4,919.24. Federal aid guardrail replacement totaled \$311,985.53 (\$300,000 federal funds). Federal and local funds were used, totaling \$36,415.95 (\$24,000 federal and \$12,415.95 local) for the traffic sign upgrade contract. The County pavement marking program totaled \$73,704.00. County road chip sealing cost approximately \$854,000, and fog sealing was about \$44,000 this year. These projects would not have been possible without the sales tax for roads and bridges. Thank you for supporting this program and renewing the sales tax for another five years.

In 2019, the motor vehicle fuel user fee increased by 10.5 cents per gallon on gasoline, 19 cents per gallon on diesel, a \$200 registration fee for electric vehicles, and a \$100 registration fee for hybrid vehicles. In 2021, we received \$3,739,694.30 from motor fuel tax. This is approximately \$1.3 million more than we received in 2018, which is still less than the projected increase of \$1.5 million due to Ohio continuing to experience reduced fuel sales due to the Covid 19 shutdown and restrictions.

In 2021, we continued to work in the office, Map Room, and garage facilities throughout the Coronavirus outbreak and stay-at-home orders. The Logan County Engineer's Office never shut down our operations. We have continued social distancing, enhanced sanitation, and face coverings and continuously adapted as guidelines were adjusted. Most importantly, we have continued our essential services to the citizens of Logan County.

We have been working on two capital improvement projects to our facilities. The first was repairing the floor drain in the highway garage, and the second was upgrading our outdoor lighting to our facility. The lighting project is still underway, but it has already significantly improved lighting and safety during nighttime hours. The new lights are all LED and will help reduce our energy

Continued from Coleman's Comments....

costs by replacing old, inefficient systems. We thank the Logan County Commissioners for assisting with these two projects with the county capital improvement funds.

Sincerely,



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



New Hires, Milestones and Promotions

*By Misty Centers
Personnel Specialist*

Two employees reached employment anniversary milestones in 2021. Congratulations to **Elliott Fullerton** and **Greg Kennaw** for **15 years**. Thank you for your dedicated service!

Congratulations to **Mark Dearwester**, **Derek Thurman**, and **TJ. Yoder** for having outstanding attendance during 2021.

Dan McMillen was promoted as the Highway Maintenance Superintendent on 08/02/2021

Elliott Fullerton was promoted as the Bridge Superintendent on 08/24/2021.

Derek Thurman was promoted to a Highway Technician 3 on 10/02/2021.

Tracy Prater transferred from the Ditch Crew to the Bridge Crew on 09/18/2021.

We have had several new hires join our team this past summer and fall:

- Jeff Long - hired 08/10/2021 as a Highway Technician 1
- Michael Moon - hired 08/16/2021 as a Highway Technician 1
- Tony Ransbottom - hired 08/30/2021 as a Highway Technician 1
- Chris Loudermilk - hired 11/22/2021 as a Highway Technician 1

Potential Historic Bridge Rehabilitation of BR 21-1.01B

*By: Michael Kerns, P.E.
Assistant Engineer*

The Ohio Department of Transportation (ODOT) recently invited our office to submit a Transportation Alternative Program (TAP) application for the historic bridge rehabilitation of the truss bridge (known officially as BR 21-1.01B; formerly known as BR 21-1.00) that crosses the Great Miami River on County Road 21 just outside of Logansville.

We applied for TAP funding during the previous TAP application cycle but were denied due to the competitiveness of the TAP funding (TAP awarded approximately \$11 million in funding, but 59 applicants submitted applications that totaled \$50 million in funding requests). One of the recommendations ODOT had was to reduce the project's price so our department

reexamined the original plans and decided to reduce or eliminate some of the items in the original project scope, change the bridge lighting system from solar to metered, and change the bridge deck system from fiber-reinforced polymer to timber. These changes reduced the original construction estimate from a forecasted estimate of \$1,879,475 in Fiscal Year 2023 to a forecasted estimate of \$1,531,387 in FY 2023.

What's the big deal? Why not just let it go? Because BR 21-1.01B is on the National Register of Historic Places and there are only eleven surviving examples of this type of bridge left in Ohio. BR 21-1.01B was constructed in 1882 by a significant Ohio bridge company, the Massillon Bridge Company of Massillon, Ohio, and it's an exemplary model of a Whipple truss, also known as double-intersection Pratt truss. This type of truss was heralded as a civil engineering masterpiece and was one of the most successful long-span designs of the mid-to-late 1800s. While BR 21-1.01B spans 143-feet, Whipple trusses spanned up to 300 feet long and were used for both railroad and vehicular traffic.

Our project proposal included the following: repairing or replacing of deficient bridge members (this includes hot-dip galvanizing or metalizing of structural elements and the replacement of pin connectors with stainless steel pins as appropriate) and the reassembling of these members on the existing site, repairing of existing stone abutments, installing a new timber deck, installing a metered lighting system, upgrading existing railing to protect the truss members from impact damage, upgrading the current stone parking area that's adjacent to



Historic bridge BR 21-1.01B



the bridge to pavement to provide better parking for recreational users and tourists, and the construction of a concrete access point to provide recreational activities along and on the Great Miami River.

If funding is awarded, TAP will fund 95% of construction costs. The County Engineers Association of Ohio (CEAO) has also pledged \$50,000 of additional funding to cover the cost of updating the plans (plans have already been made for this project as this bridge was originally scheduled to be rehabbed in 2015) if the project is awarded TAP funding.

Safety Update

*By: Misty Centers
Personnel Specialist*

Our staff completed the year 2021 without an injury accident requiring more than on-site first aid. In the construction industry requiring work in the elements with both heavy equipment and hand tools this is a great accomplishment. Our employees take well deserved ownership and pride in this achievement.

Our safety committee met each quarter to discuss general safety concerns, review potential near-miss accidents and recommend future training topics and training resources.

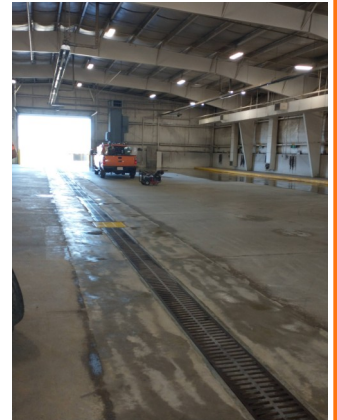
Bridge Crew Update

*By: Elliott Fullerton
Bridge Superintendent*

In late August 2021, the Bridge Crew and Concrete Coring out of Columbus began demolition to the trench drain in the main garage due to deteriorating concrete, metal corrosion, and drain blockage. Concrete Coring cut 440 feet of the garage floor, and our bridge crew along with several new employees, performed the remaining demolition and built new forms for concrete. Main Metal from West Liberty manufactured new steel for the drain grates, which was then sent to Columbus Galvanizing to be dipped for longevity against corrosion. We then poured 40 yards of concrete from Ohio Ready Mix to replace the old deteriorated concrete. We completed the project in late September 2021 at a cost of \$30,000.00 which was funded by the Commissioners through capital improvements.



Old trench drain cut out



Completed project

In early October, the Bridge Crew tore down a deteriorated bridge on Township Road 166 (BR T 166-2.44) that had a weight reduction on it. With the landowners' approval, they were also able to clear trees that were in the way of the new bridge rebuild. Precise Pile Driving from Fort Recovery, Ohio, drove piling for the abutments. Prestress Services Industries supplied the precast box beams and set the beams in place. Once the beams were set, our Bridge crew mounted the walkway and formed the sides for the concrete deck. With the help of the Highway and Ditch Crews, they poured 35 yards of concrete for the bridge deck before the Thanksgiving holiday. Stachler Concrete from St. Henry supplied the concrete pump truck for the pour. The Bridge Crew finished the project by installing the wing walls and backfilling the excavated area. The bridge was re-opened mid-December 2021.



Piling set; ready to form abutments



Setting beams



Completed new bridge

Ditch Maintenance & Traffic Department

*By Steve Tracey
Ditch/Traffic Superintendent*

The Ditch Department had a busy mowing and spraying season in 2021. All the maintenance ditches were mowed twice and sprayed, wrapping up the season in November 2021.

This fall, the crew took on the McColloch tile replacement project. The McColloch tile is located by West Mansfield and crosses underneath St. Rt. 47. This project was a significant undertaking that required St. Rt. 47 to be closed for two weeks. The tile underneath St. Rt. 47 collapsed, which needed us to replace over 100' feet of 18" tile at a depth of 18-20 feet. This depth required use of our trench box, not only for safety, but also to cut down on backfill cost. The crew that worked on this project did a great job completing it in a timely and safe manner.

Crews are currently running the buzzbar attachment on our boom mower tractor. This cuts and trims the tree limbs to improve sight distance and remove anything that can damage vehicles.

The sign department continues to maintain over 7,000 signs throughout the county, along with helping townships with speed studies and upgrading signage. This fall, the traffic department painted all railroad and school zones on county roads.

Thank you to the Ditch/Traffic Department and to everyone else for a very busy year and all your hard work.



Supply Chain Issues

*By: Mark Hilty
General Superintendent*

The nationwide supply chain problems have finally caught up with us. On 4/27/2021, we ordered a new International tandem cab and chassis with a build date of November 2021. That build date has now been pushed back to May 2022, with an unknown delivery date. Most likely, we are looking at the end of 2022 for the complete truck build and outfitting. As of now, International has stopped accepting orders altogether for new trucks; instead, customers are being put on a wish list for 2023 on a first-come, first-serve basis with no pricing guarantee. We also ordered a new Chevrolet 3/4 ton pickup truck on 5/5/2021, with a delivery date scheduled for November 2021. To date, we have yet to see it and are still awaiting information on it from the dealer.

Our plan now is to continue maintaining and repairing what we have currently. We had a bit of a head start with the steps we've taken to combat corrosion over the last several years, including undercoating trucks in the fall for the past six years. This year, we purchased a spray system and undercoated the entire fleet. We bought floor liners for each mainline truck which helped tremendously keep the run-off from wet, salty boots contained in one spot instead of running all over the cab floor. We purchased a 55-gallon drum of salt eliminator wash to neutralize the fine salt residue that is left over after regular washing. The crews have done a great job keeping their trucks as salt-free as possible. All this has helped keep corrosion to a minimum, and we're not replacing cab floors and rocker panels. Our main line trucks were averaging around 8-10 years. This season we have two trucks starting their 11th year, one truck is in its 12th year, and our hills truck is beginning its 14th year! So keep doing your pre-trips and checking fluids on these older vehicles. Much appreciated everyone!

Map Room

*By Suzie Cochran
Map Room Supervisor*

In 2021, the Map Room Staff checked legal descriptions on 2,875 real estate documents. There were 2,219 deeds, 522 Affidavits, 77 Certificates of Transfer, 48 easements, and 31 land contracts. Additionally, one annexation plat was filed and recorded along with four condominium plats, 7 Declarations, two subdivision plats, and one road dedication. New property splits totaled 199 for the year, with 100 new survey descriptions recorded and 58 documents combining properties into one Tax Parcel Number.

Surveyors submitted 326 new surveys that we reviewed, approved, indexed, scanned, and filed. In addition, we entered 147 house numbers into the 911 system. Finally, the Map Room personnel adjusted 1,207 parcels on the maps to reflect the new property splits and surveys.

In addition to providing monthly updates to the Engineer's Office, the Map Room sends updates to the Auditor's Office, Sherriff's Department, OUPS, State of Ohio GIS support, Health Department, Logan County Farm Services, Bellefontaine City Code Enforcement, Logan County Sewer District and Pictometry.

The records of the Map Room can be found on the Logan County Engineer's Office website at: www.lceo.us.

Logan County Engineer's Version of Going "Green"

*By Todd Bumgardner
Administrative Coordinator*

In 2019 the Hilliard, Ohio-based Advanced Drainage Systems Inc. claimed to be the largest consumer of recycled HDPE in the U.S. Reportedly that year, the company diverted about 400 million pounds of plastic from landfills in its manufacturing processes. Molded pellets derived from recycled HDPE plastics such as consumer bottles, piping, and jugs come together to manufacture ADS' Mega Green product line.

The Mega Green products have up to 60 percent recycled HDPE. The Mega Green N-12 specified pipe has applications in the storm and sanitary sewers, highway and residential drainage, agriculture, mining, wastewater treatment, and waste management projects.

ADS has been a supplier of highway drainage products to our office for many decades. After introducing the Mega Green line of products and reviewing the specifications, we knew this product needed to be a part of our operations. So, in 2020 the Logan County Engineer's Office placed our first order of Mega Green pipe from ADS.

Annually our office installs 1,000 to 2,000 feet of N-12 specified drainage pipe under county highways and within county maintained waterways. Making the switch to 60 percent recycled "green" drainage pipe was an easy decision. A decision made more manageable when considering the lower cost, our relationship with a globally recognized Ohio supplier, and specifications that met or exceeded the previous versions.



Highway Update

*By Dan McMillen
Highway Superintendent*

Following a long hot summer of chip sealing 61 miles of county road, the crew had to see to the replacement of five aged corrugated metal culvert pipes on County Roads 5 N, 9, 13, 11, and two on County Roads 54 between State Route 274 & State Route 708. We used Advanced Drainage Systems (A.D.S.) smooth-bore recycled plastic pipe for the replacement.

The smooth-bore pipe allows for a significantly increased water flow due to less water turbulence as it flows through the tube. It also flushes itself out more efficiently. We have been using A.D.S. products for more than thirty years on our highway drainage systems. We install plastic culverts ranging in sizes from 4" to 48" in diameter. The lifespan of recycled A.D.S. pipe is around eighty years.

We started berm cutting on County Roads ahead of the 2022 Pavement Program in late fall. This process helps the rainwater drain away from the road surface and get to the bottom of the ditch much faster, which helps eliminate hydroplaning accidents. In addition, it allows snow to melt off the road more efficiently in the winter and helps to avoid refreezing overnight. To date, the crew has cut berms on County Roads 13, 32, 31, 11, 18, 24, 64, 70, and County Road 3.

Ice and Snow.... Take it Slow Don't Crowd the Plow

This past fall, crews, and mechanics worked to get the county's 13 primary snow plows, as well as five additional back-ups ready to combat this season's snow and ice in our districts throughout the county, covering 368 miles of county roads.

When snow falls and plows are deployed, we encourage motorists to slow down, use extra caution when driving during winter conditions, allow for additional travel time, and 'Don't Crowd the Plow.'



Snowplows are huge heavy vehicles with many blind spots. A fully loaded plow truck can weigh more than 10 tons. They travel around 25 MPH, and cannot maneuver easily or stop quickly. Plowing can create a cloud of snow around the truck that causes limited visibility and whiteout conditions. Passing snowplows or darting around or in front of them can be dangerous. Motorists should stay several car lengths behind plow trucks and 'Don't Crowd the Plow.'

Our plow drivers are out keeping our roads clear of snow and ice so all motorists can get to their destinations safely. So when you see one of our vehicles, please give them room to work and Don't Crowd the Plow'.

The Logan County Engineer's Office Highway Crew only maintains county roads within Logan County and does not plow private driveways. Township trustees take care of plowing on township roads.

Shared Services

*By: Misty Centers
Personnel Specialist*

The Logan County Highway Department has been offering shared services to townships and villages that may not otherwise have the resources to complete needed projects since 2014. In 2021, we completed twenty-four township projects and seven village projects, in addition to spraying and mowing for the Simon Kenton Bike Path, all within Logan County. When requested, the Highway Department provides an estimate that outlines the proposed scope of work along with cost. Once the entity approves the scope of work and the estimated cost, the county proceeds with the work. Our skilled workers give the same care and attention to detail as they would on any of our projects. Upon completion of the project, the Logan County Engineer's Office sends an invoice to the entity reflecting the project's actual cost. The projects are billed with no mark-up on labor or equipment. Materials are often paid for directly by the entity to the supplier, avoiding additional charges. The entire process is simple and helps all parties keep costs to a minimum. Typical projects include roadside ditching, roadway repairs, culvert replacement, roadside mowing, roadside spraying, sign replacement, sign inspections, guardrail work, and asphalt work.

Flash Flood Safety Tips

- If you come upon a flooded road while driving, turn around and go another way. Never drive through water of unknown depth. The road may not be intact below.
- Only 6 inches of swift moving water can sweep a person off their feet.
- Only 12 inches of water can float many cars.
- Most cars can be swept away by less than two feet of moving water.
- Flooding is harder to see at night. Stay patient or find an alternate route.



Our employees gave generously to the 2021 Logan County United Way campaign, raising \$2,178.00. The total Logan County Government Offices raised \$30,076.31. Many local charities will benefit from these contributions over the coming year. Thank you to all the employees that made a contribution.

2022 Holiday Closure Notice

Date	Holiday	Date Observed
1-Jan-22	New Year's Day	Fri. 12/31/21
17-Jan-22	Martin Luther King Day	Mon. 1/17/22
21-Feb-22	President's Day	Mon. 2/21/22
30-May-22	Memorial Day	Mon. 05/30/22
19-Jun-22	Juneteenth	Mon. 6/20/22
4-Jul-22	Independence Day	Mon. 7/4/22
5-Sep-22	Labor Day	Mon. 9/5/22
11-Nov-22	Veterans Day	Fri. 11/11/22
24-Nov-22	Thanksgiving Day	Thu. 11/24/22
25-Nov-22	Day after Thanksgiving	Fri. 11/25/22
25-Dec-22	Christmas Day	Mon. 12/26/22