



The Orange Brigade



Winter 2021

Logan County Engineer's Office

Volume 58



Coleman's Comments

The one-half percent sales tax for roads and bridges generated \$3,680,583.23 in 2020. These funds are collected and divided among county (50%, \$1,840,291.64), townships (20%, \$736,116.63), municipalities (20%, \$736,116.63), and land use planning and economic development (10%, \$368,058.33). Sales tax revenue increased by 1.54 percent from 2019.

By combining sales tax with motor vehicle fuel tax, vehicle registration fees, federal grant, and state grant funds, we were able to complete several construction projects in 2020. County road resurfacing totaled \$2,042,223.88 and rejuvenating sealer came in at \$152,243.44. Township resurfacing was \$489,522.55. Township chip-sealing totaled \$357,266.36, and Township rejuvenating sealer came in at \$16,196.60. Federal and local funds were used, totaling \$166,404.36 (\$150,000 federal and \$16,404.36 local) for the pavement marking paint contract. County road chip sealing (including fog sealing) cost \$755,525.86 this year.

These projects would not have been possible without the sales tax for roads and bridges. Thank you for supporting this program.

The new motor vehicle fuel user fee increase of 10.5 cents per gallon on gasoline, 19 cents per gallon on diesel, \$200 registration fee for electric vehicles, and \$100 registration fee for hybrid vehicles began collection in July of 2019. In 2020, we received \$3,614,207.26 from motor fuel tax. This is approximately \$1.2 million more than we received in 2018, which is less than the projected increase of \$1.5 million, but Ohio has experienced a significant decrease in fuel sales due to the Covid 19 shutdown/restrictions.

We have 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 closed our offices to the public for a short period, but we never shut down our operations.

We adopted social distancing, enhanced sanitation, and face coverings and continuously adapted as guidelines were adjusted. We have upgraded the air filtration at the Engineer's Office buildings and have tried to separate work crews as much as possible. We have upgraded our video conferencing systems to improve web conferencing and training capabilities for all of our staff. We have been able to conduct all of our construction, maintenance, and snow and ice operations with minimal delay.

We have also continued conducting business through email, telephone, and video conferencing and providing public records through our website.

Through December 31, we have responded to 6 winter storm events and have used 1,191 tons of mixed grit/road salt at a total cost of \$136,805.94. This includes 674 man-hours of regular time and 178 man-hours of overtime.

Continue from Coleman's Comments....

In addition to salt, we continue to utilize liquid Beet Heet, a sugar beet extract, to increase our road salt treatment efficiency. The use of Beet Heet allows us to melt snow and ice faster and at lower temperatures. This winter, we have used 4,992 gallons of Beet Heet. As always, we encourage drivers to use caution and allow extra travel time when driving during winter weather conditions. Even though roads have been treated and plowed, you may encounter isolated, slick road conditions.

Sincerely,



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



UNITED WAY 2020 CAMPAIGN

The Logan County Engineer's office had fourteen employees participate in the United Way 2020 Campaign. Thanks to your generosity, we raised \$1,348.00. Many local charities will benefit from your contributions over the next year. Thank you to all the employees that donated.

New Hire, Milestones and Promotions



*By Misty Centers
Personnel Specialist*

Six employees reached employment anniversary milestones in 2020. Congratulations to **Matt Archer**—15 years, **Steve Tracey**—15 years, **Drew Farris**—10 years, **Luke Jolliff**—10 years, **Allen Campbell**—5 years and **Derek Thurman**—5 years. Thank you for your dedicated service!

Congratulations to **Mark Dearwester** and **Derek Thurman** for outstanding attendance at the Logan County Engineer's Office during 2020.

Cole Craig was promoted to a Ditch Technician II in December. Congratulations!

Dick Sidders and **Richard Stoker** joined the Logan County Highway Garage full time as Highway Technician's I on September 21, 2020.

Todd Coleman retired in October 2020 with 23 years of service. Congratulations and good luck with your future endeavors!



Chester R. Kurtz Bridge

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

Many years of planning, public discussion, funding procurement, and engineering came to fruition this fall as the construction of the Chester R. Kurtz Bridge was completed.

The Chester R. Kurtz Bridge was constructed directly to the north of BR 21 B-0.05, formerly BR 21-1.00, which is the historic 1882 Whipple truss bridge that crosses the Great Miami River northwest of Logansville.

The new bridge is a 155-foot single span galvanized steel girder structure with a composite concrete deck that sits on concrete abutments. A bridge of this size, designed to carry modern traffic loads, requires a strong foundation and that is why the concrete abutments sit on concrete-filled 12-inch diameter steel piling. A geotechnical report was performed to determine the most suitable type of footing and piling to use and how deep the piling needed to be to reach ultimate bearing capacity. On this project, there were eleven rows of piling (22 total piles) in each abutment, some of which were driven to depths over 100-feet.

To add longevity to the bridge, galvanized rebar was used in the approach slab and deck and Ipanex was added to all of the concrete (deck, abutments, wingwalls and footings).

Significant earthwork was performed to realign the roadway to enable motorists to maintain a speed of 55 mph thru the curve and to bring the new bridge elevation high enough to maintain the necessary flood clearance.

Federal funding was awarded for this project thru a \$2,111,030.76 Local Program Administration (LPA) grant that allowed the county to only pay 20% of those estimated project costs; this 20% will be paid using Sales Tax funds.

This new bridge was officially opened during the bridge dedication to Chester (“Chet”) Kurtz that was held on the afternoon of November 23, 2020. Members from the Logan County Engineer's Office, the Logan County Commissioners Office, Eagle Bridge Company, DLZ, friends, and family gathered at the bridge and were virtually joined by Chet and many online viewers to honor Chet's service as the Logan County Engineer from 1963 to 1992. A recording of this dedication can be found on our website and on our Facebook page.



Map Room

By Suzie Cochran
Map Room Supervisor

In 2020, the Map Room Staff checked legal descriptions on 2,761 real estate documents. There were 2,132 deeds, 496 Affidavits, 66 Certificates of Transfer, 36 easements, 31 land contracts, three annexation plats, four condominium plats, 7 Declarations, and two subdivisions plats. New property splits totaled 205 for the year with 81 new survey descriptions recorded and 58 documents combining properties into one Tax Parcel Number.

Surveyors submitted 296 new surveys that were reviewed, approved, indexed, scanned, and filed. We also entered 110 house numbers into the 911 system. Map Room personnel also adjusted 1,379 parcels on the maps to reflect 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, Sheriff's Department, OUPS, State of Ohio GIS support, Health Department, Logan County Farm Services, Bellefontaine City Code Enforcement, Indian Lake Water Pollution Control and Pictometry.

Ditch Maintenance & Traffic Department

By Steve Tracey
Ditch/Traffic Superintendent

The Ditch Department welcomed three new transfers to their department this year; Greg Kennaw, Cole Craig, and Tracy Prater. They and the rest of the crew did a great job in the 2020 season. The Logan County Engineer's office received a special thank you from a public member thanking the mowing crew for the nice job they did on County Road 52 and County Road 54.

The Ditch Department performed maintenance on several ditches throughout the county including the Houchin Slough and Pryor Elliott ditches, which were center dipped to open up tiles and improve flow.

Beaver dams have become an issue on the Slough and Hankinson Ditches. Beavers are a nuisance to our drainage ditches because they build large dams across the ditch, blocking the flow of water, and plug tiles from draining, increasing the risk of flooding in nearby roads, fields, and private property. When the water backs up, it causes drainage issues by raising water levels over tile outlets preventing proper drainage.

The Sign Department is busy maintaining over 7,000 signs for the county and working with villages and townships.







This past fall, all railroad and school zones on county roads were painted along with center striping and edge lines on select routes.



WINTER HAZARDS


HYPOTHERMIA: Body temperature drops below 95°F

Symptoms:

-  Uncontrollable shivering
-  Confusion
-  Slow/slurred speech
-  Exhaustion
-  Poor balance, stumbling
-  Drowsiness

FROSTBITE: Skin gets cold enough to freeze

Symptoms:

-  Numbness
-  White or gray skin
-  Firm or waxy skin

PROTECT YOURSELF

- Hat or knit mask 
- Scarf or neck gaiter 
- Several layers of loose fitting clothing 
- Mittens or gloves 
- Wind and water-resistant outer layer (jacket not shown) 
- Water-resistant boots, wool or synthetic socks 



HIGH RISK AREAS

- Ears
- Nose
- Cheeks
- Chin
- Fingers
- Toes

CONSIDER WIND & TEMPERATURE

At -10°F, frostbite occurs in:
 30 min at 5 mph
 10 min at 25 mph

IF HYPOTHERMIA OR FROSTBITE IS SUSPECTED:

1. Seek immediate medical assistance
2. Move to warm room or shelter
3. Remove wet clothing
4. Dress in dry clothing and wrap in blanket
5. Place frostbitten areas in warm water

Once out of the cold, **do not walk** if toes or feet are frostbitten.

Do not rub skin that is potentially frostbitten



Winter Driving Tips

- Drive slowly. Always adjust your speed down to account for lower traction when driving on snow or ice.
- Brake gently to avoid skidding. If your wheels start to lock up, ease off the brake.
- Allow at least three times more space than normally recommended between you and the car in front of you. This increased margin of safety will provide the longer distance needed if you have to stop.
- Make certain your tires are properly inflated and have plenty of tread.
- Do not use cruise control. It is important to maintain personal control of the vehicle for quicker response in unpredictable conditions.
- Be especially careful on bridges and overpasses as they freeze more quickly than road surfaces.
- Don't assume your vehicle can handle all conditions. Even four-wheel and front-wheel drive vehicles can encounter trouble on winter roads.

Winter Car Kit Checklist

- windshield scraper
- sand or shingles (for tire traction)
- small broom
- hats, socks and mittens
- flashlight
- first aid kit
- blanket
- fluorescent distress flag
- spare radio with batteries
- snacks or energy type food
- water
- jumper cables
- flares and matches
- shovel



Highway Update

*By Joel Miracle
Highway Superintendent*

The Highway Crew was busy with typical highway operations throughout the 2020 year. These operations include crack sealing, dura-patching, repairing berms, maintaining roadside ditches, trimming trees, pavement repairs, paving bridges, chip-seal, fog seal, replacing culverts and tiles, and guard rail repair, along with assisting other departments on larger scale projects.

This season county crews chip-sealed over 50 miles (250,000 gallons of HFRS-2p emulsion) of county highways, and fog sealed an additional 25 miles (QF-40).

Total reconstruction of county road 290, which included pulverizing old road surfaces, re-grading, using #304 size stone, along with asphalt grindings, installed two new culverts, applied two layers of chip-seal, and re-graded the ditch to allow for proper drainage.

The Highway Crew cut several feet off a hill on County Road 21, west of County Road 24, to improve visibility during the new bridge install over the Great Miami River.

In addition to our daily job duties, we offered services to local townships and villages and paved a couple of bridges for Champaign County.

Stone Berm



The highway crew widened the stone berm along County Road 26 at Benjamin Logan Schools and County Road 5 to allow traffic waiting to pick up or drop off students to pull off the roadway. The stone was donated from the wind turbine project north of Belle Center. Queued traffic can pull off of the highway and significantly improve safety.

2021



Friday, January 1 st :	Office closed for New Year's Day
Monday, January 18 th :	Office closed for Martin Luther King Day
Monday, February 15 th :	Office closed for President's Day
Monday, May 31 st :	Office closed for Memorial Day
Monday, July 5 th :	Office closed for Independence Day
Monday, September 6 th :	Office closed for Labor Day
Thursday, November 11 th :	Office closed for Veteran's Day
Thursday, November 25 th :	Office closed for Thanksgiving
Friday, November 26 th :	Office closed for Thanksgiving
Friday, December 24 th :	Office closed for Christmas

Snow Plow Operation and Safety Tips

*By: Mark Hilty
General Superintendent*

As we enjoy yet another mild winter so far, we need to remain ready to respond to any storm that comes our way. With all the different variables involved, no two storms are the same. Our equipment is ready to go, and our drivers are prepared to go. So how can we help each other get through a snow event? Communication. We have a mix of seasoned drivers and new drivers. Experienced plow drivers can share their knowledge of what works and doesn't work from past events. New drivers may have questions and should ask them; no question is insignificant. Stay in radio contact with your supervisor. You are our eyes during a snow or ice event. Communicate what's going on in your territory. Our main goal is to keep the roads open and as safe as possible.

So now you receive that 2:30 a.m. wake-up call, and after a somewhat dicey drive into work, you're ready to hop in your plow truck and hit the road, right? No, after you do your routine pre-trip inspection, there are a few other things to check. Make sure you have/check the following:

- Tow strap or chain
- Clevis and pin
- Shovel
- Chains if needed
- Check your two-way radio
- Make sure you have all your winter gear with you

Snowplow safety tips:

- Max plowing speed 25 mph
- Plow back speed 15 - 20 mph
- Keep your windshield clear
- Keep steps clear of snow and ice build-up
- Clear rear lights and strobes off often

Snowplow operation tips:

- Plow out and treat center line
- Plow back and clean intersections
- Slush as much as possible to avoid refreezing

End of shift:

- Refuel Equipment
- Check lugs, rims, and tires
- Clean trash out of your cab
- Wash and salt neutralize truck if time allows

Thanks for all you do out there, and have a safe winter!

Deer Crossing Signs

The Traffic Department installed flashing beacons on our deer signs as the County entered peak deer collision month in November. November accounts for 21% of annual deer collisions.

The locations of the deer signs on our county roads have been determined by analyzing deer collision data. Please be extra careful and attentive if you see a deer sign as it signals that you are entering one of the highest deer collision segments on our county roads.

Bridge Crew Update

*By: Dan McMillen
Bridge Superintendent*

The Bridge Crew started summer 2020 with a slip lining project on County Road 9 culvert #1.50. They installed a culvert within a culvert, a first for the Bridge Crew and, was very successful. The existing channel was 92 feet long by 77-inch diameter aged corrugated metal pipe installed in 1974 and showed signs of deterioration. The new culvert placed inside was a 100 foot by 66-inch diameter aluminized ultra flow smooth bore culvert. The space between the two culverts was filled with a low-pressure grout extending out to each end of the structure.

The Bridge Crew painted three bridges; Township 109, Township 23, and County Road 103. They also performed milling and waterproofing on three bridges; County Road 120, County Road 11, and County Road 61. They installed a 15 foot headwall on a culvert on County Road 12 that washed out due to flooding in a high rain event in July. This fall, the Bridge Crew performed a total bridge replacement on County Road 58-1.61. They replaced a 39-foot steel beam metal deck and asphalt wearing service with a 41 foot galvanized steel beam and concrete composite deck and all new guardrail. They also cleaned and performed maintenance on 50 bridges by the end of 2020.

2021 Funding, Roadway Programming and Shared Services

*By Todd Bumgardner
Administrative Coordinator*

Our 2021 year is shaping up to be another busy one for the Logan County Engineer's Office. We will be administering nearly \$800,000 in Ohio Public Works funding (OPWC) earmarked for resurfacing county roads. We have also scheduled an estimated \$1,200,000 in resurfacing to be paid from local Roads and Bridges Sales Tax. Our office will be bidding and overseeing \$300,000 in a 100% federally funded guardrail upgrade project replacing nearly 12,000 lineal feet of guardrail on the county highway system.

We also assist in programming, bidding, and administrating Township paving and chip-seal programs. These programs in 2021 will total nearly \$1,000,000 in funding. These Township projects will be paid in part from each local Roads and Bridges Sales Tax and individual Township local funding.

Our crews will be laying nearly 55 miles of chipseal, totaling an estimated \$800,000 in materials alone. County crews and equipment will perform this operation. The cost of self-performing this work significantly reduces our expenditures when compared to traditional bidding and contracting.

Finally, our office will be receiving \$24,000 in federal funds to continue our upgrade work on signage on county roads, working on expanding our shared services programs with villages, townships, and the city, pooling resources and creating savings for all.

Looking forward, we continue to seek state and federal funding to accomplish our required work. When these opportunities are combined with the Logan County Roads and Bridges Sales Tax monies to meet our local matching fund requirement, we can continue to increase our buying power and provide Logan County with one of the best highway systems in the state.

Don't Forget to Hydrate

We all have plenty of reminders to hydrate "often and early" up on the roof in June, but how many of us really "think to drink" in the winter? Dehydration is as common in the winter months as it is in the summer months, and a dehydrated body is more susceptible to common colds and the flu (which are more prevalent in winter).

Problem is, most people tend to drink less during cold weather because lower temperatures suppress thirst, even when the body requires fluids. Thirst is not a great indicator of hydration levels. Just because you aren't sweating as much as you would in the blazing heat of July doesn't mean you're not losing moisture. In fact, a healthy body can lose as much as 3 to 6 liters (up to 12 pounds) of water per day, summer or winter, depending on work tasks and environmental conditions. Amazingly, just the water vapor that we normally exhale can fill more than a one liter soda bottle every day.

Hydration tips:

- Start and end each day with a glass of water.
- Keep water handy and drink throughout the day.
- Enhance water intake with an electrolyte solution or sports drink.
- Eat more foods with high water content. The more fruits and vegetables you eat every day, the less water you'll be required to regularly replace.
- Drink an extra large glass of water before bed to replace the loss anticipated while you sleep (as much as a liter).

