



The Orange Brigade



Winter 2019

Logan County Engineer's Office

Volume 54



Coleman's Comments

The one-half percent sales tax for roads and bridges generated \$3,727,076.43 in 2018. These funds are collected and divided among county (50%, \$1,863,538.24), townships (20%, \$745,415.27), municipalities (20%, \$745,415.27), and land use and economic development (10%, \$372,707.65).

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 2018. County road resurfacing totaled \$1,551,944.53 and rejuvenating sealer came in at \$169,492.55. Township resurfacing was \$1,445,527.89 and township chip-sealing totaled \$195,428.04. Federal and local funds were used to fund \$149,779.39 for a pavement marking paint contract, \$85,100 for curve and safety studies and sign replacements. County road chip sealing cost \$864,880.05 this year. These projects would not have been possible without the sales tax for roads and bridges. Thank you for supporting this program.

After three years of seeing road salt prices stabilize, we have seen a drastic increase in prices for the 2018-2019 winter season. Last winter we paid \$47.12 per ton for road salt and entered winter with a full stockpile. The road salt bid for this winter fill is \$84.94 per ton, which is near the highest price in the state. This will lead to an overall cost increase for snow and ice removal. Snow and ice control costs can range between \$300,000 and \$660,000 depending on the number of snow and ice events and material costs. Through December 28, we have responded to 9 winter storm events and have used 1,119 tons of mixed grit/road salt at a total cost of \$123,879.39. This includes 568 man-hours of regular time and 283 man-hours of overtime.

In addition to salt, we continue to utilize liquid Beet Heet, a sugar beet extract, to increase the efficiency of our road salt treatment. The use of Beet Heet allows us to melt snow and ice faster and at lower temperatures. This winter, we have used 2,729 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.

This year, I was asked to attend the Federal Highway Administration (FHWA) Every Day Counts (EDC) Regional Summit to learn about some of their research initiatives and share the innovations that we have made at the Logan County Engineer's Office over the past 24 years. These innovations are:

- Acquiring federal funding for road, bridge, guardrail, sign upgrades, curve signs, speed studies, safety studies, and asset inventories.
- Project bundling of county, township and village projects and use of local, state and federal funding to improve our infrastructure.
- Shared services with townships and municipalities to better serve our community.
- New and improved ditch and roadside vegetation management methods.
- Utilizing new bridge construction methods, preservation treatments, and new materials.
- Implementing pavement preservation, asphalt rejuvenation, chip sealing, crack sealing, fog seal, warm mix asphalt, asphalt mix formulation adjustments, and inspection methods and quality control.
- Adding signage upgrades, new reflective materials, solar beacons, non-traditional signs, reflective strips, and upgraded pavement markings.

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- Implementing and re-energizing the staff safety program that reduces injuries, utilizes new safety methods, and involves all staff members.
- Developing galvanizing of dump truck beds to extend the life and efficiency of our plow trucks.
- Innovations in snow and ice control to use the right treatment at the right time, utilizing Beet Heet to increase efficiency, adding new control methods, and liquid delivery systems.
- Upgrading, maintaining, and expanding the geographical information system (GIS).
- Adjusting staffing to shift duties and do more work with fewer staff, allowing flexible work hours for administrative staff, and rehiring of experienced retirees have resulted in improved efficiency.
- Utilizing new technology in surveying to improve our capabilities and efficiency.
- Developing administrative improvements in supervisory processes.
- Converting the facilities from propane to natural gas for significant cost savings.
- Upgrading the building to high efficiency lighting to reduce electric costs.
- Installing a new phone and data/network system and hardware maintenance program to reduce costs and provide better service.
- Adding fleet management tools and processes to provide longevity of equipment while reducing overall costs.
- Utilizing public information methods and tools to share what we are doing and inform travelers.

It is easy to lose sight of these accomplishments as we consider that we are just doing the job that the public should expect from us, but when you take time to look more closely, it is clear that the staff at the Logan County Engineer's Office has achieved amazing innovations and we are committed to continue on this path of innovation.

Sincerely,



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

New Hire, Milestones and Promotions

*By Donna Dahlke
Personnel Specialist*



Six employees reached employment milestones this year. Congratulations to Dan McMillen—25 years; Joel Miracle—15 years; Todd Bumgardner and Lisa Stover— 10 years; and Michael Kerns and T.J. Yoder —5 years. **Thank you** for your dedicated service!

Promotions include **Adam Bergman** to Highway Tech II in October, **Mark Hilty** was promoted to General Superintendent and **Derek Thurman** was promoted to Highway Tech II in November. Congratulations !!

Tracy Prater joined the Logan County Highway Garage full time as a Highway Tech I on October 10, 2018. He previously worked as seasonal employment within our Highway Department. Welcome Tracy !!!



Employee of the Year Award



(Dean Ringle, Executive Director of CEOA, Todd Bumgardner, Scott Coleman, Logan County Engineer, Paul Gruner, Montgomery County Engineer)

Todd Bumgardner, Administrative Coordinator with the Logan County Engineer's Office received the award of "Employee of the Year" from CEOA (County Engineer's Association of Ohio) during the 2018 Winter Conference in Columbus. Congratulations Todd!

Overweight/Oversized Vehicles Traveling the County Roads

*By: Michael Kerns
Assistant Engineer*

In an effort to make traveling our county roads as safe and hassle-free as possible for drivers of overweight/oversized vehicles, our office has set up three links readily accessible on our website, www.lceo.us. These three links include information on weight restricted bridges, low clearance bridges, and special hauling permits.

To see which bridges on the county road system are operating under load restrictions, of which there are currently eleven, click on the "Bridge Posting List". Doing so will direct you to a few pages of information, including a map showing where each load-restricted bridge is located, the weight restrictions associated with each bridge, and the signage that you will see along the road as you approach each bridge.

The "Low Clearance Bridges" link is a single-page document that allows you to see where each of the eight low clearance bridges is located along with the vertical height restriction of each bridge. Any bridge that has a vertical clearance less than 14'-6" is required to have low clearance warning signage.

For those driving an overweight/oversized vehicle, remember that you will need to submit and obtain a special hauling permit. This permit requirement is mandated by Ohio Revised Code and our single-page application can be found on our website by clicking "**SPECIAL PERMIT TO HAUL OVERSIZED/OVERWEIGHT LOAD**" located under "**PERMITS AND WORK REQUESTS**".

Map Room

By Suzie Cochran
Map Room Supervisor

In 2018, the Map Room staff checked legal descriptions on 2,655 real estate documents. There were 2,057 deeds, 461 Affidavits, 57 Certificates of Transfer, 50 easements and 30 land contracts. Additionally, 2 annexation plats were approved and recorded, one condominium plat and 5 ODOT highway plats. New property splits totaled 122 for the year with 87 additional documents being recorded with new survey descriptions.

Surveyors submitted 313 new surveys that were reviewed, approved, indexed, scanned and filed by the Map Room personnel. In addition, 54 house numbers were entered into the 911 system. A total of 1,452 parcels were adjusted 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 (Ohio Utilities Protection Service), State of Ohio GIS support, Health Department, Logan County Farm Services, Bellefontaine City Code Enforcement, Indian Lake Water Pollution Control District and Pictometry, the software used by the Logan County Auditor to display parcel mapping and aerial imagery for the county.

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

Ditch Maintenance & Traffic Department

By Steve Tracey
Ditch/Traffic Superintendent

The ditch department has had to remove three beaver dams this fall. Beavers are a nuisance to our drainage ditches because they build large dams across the ditch and block the flow of water which increases 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. Dams have been removed from the Slough Ditch and Hankinson Ditch.

Crews repaired a failed tile outlet as well as two washouts on the Hankinson Ditch using over 30 tons of dump rock. A failed tile outlet was also fixed on the Calico Ditch. We dipped sandbars that have filtered into the outlet of the Slough Ditch from the Miami River. Currently we are in the process of dipping the outlet and restricted areas on the Ligget Ditch.



The Sign department has been busy installing reduced speed ahead and speed limit signs to create speed zones going into and out of villages around the county. This creates a safer speed for the traveling public as well as the residents of the villages. New reduced speed and speed limits signs have been installed at Lewistown, Northwood, Middleburg, East Liberty and Pickrelltown.

The Sign department has also completed installing new advisory speeds on curve signs from a ball bank speed study from A.D.N. services. This created safer speeds for our curves throughout the county. The Sign department also assists with all the townships and villages.

Currently the Sign department is maintaining over 7,000 signs.



Winter Driving Tips



Info provided by SafeMotorist.com

Winter driving conditions such as rain, snow, and ice dramatically affect the braking distance of a vehicle. The driver's capability to complete a smooth and safe stop is severely limited due to reduced tire traction. In order to stop safely, the vehicle's wheels must maintain traction by remaining in contact with the road surface while rolling, referred to as "rolling traction." When handling slippery winter roads, the keys to safety are slower speeds, gentler stops and turns, and increased following distances. It is recommended that drivers reduce their speed to half the posted speed limit or less under snowy road conditions.

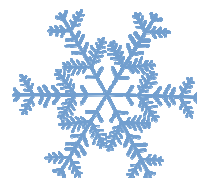
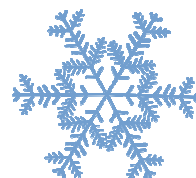
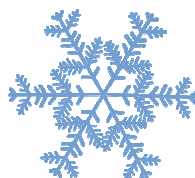
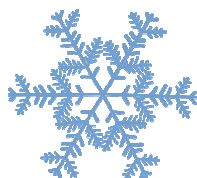
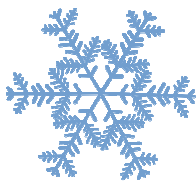
Tire pressure usually lowers itself in winter and raises itself in summer. Under-inflated tires can cause a car to react more slowly to steering. Every time the outside temperature drops ten degrees, the air pressure inside your tires goes down about one to two PSI. Tires lose air normally through the process of permeation. Drivers should check their tire pressures frequently during cold weather, adding enough air to keep them at recommended levels of inflation at all times.

Sand and salt play a big role in keeping roads safe. The spreading of road salt prevents snow and ice from bonding to the road surface, which is why salt is usually spread early in a storm to prevent snow build-up and to aid in snow removal operations.

Unlike salt, sand does not melt and therefore helps by providing traction on slippery surfaces. Sand is often used when temperatures are too low for salt to be effective or at higher temperatures for immediate traction, particularly on hills, curves, bridges, intersections and on snow-packed roads.

Caution must be used when snowplows are on the roadways as snowplows and salt and sand trucks travel much slower than regular traffic. Passing a snowplow can be extremely dangerous as sight lines and visibility near a working snowplow are severely restricted by blowing snow.

Roads are typically cooler in shady areas and drivers may encounter another extremely dangerous element known as "black ice". Always slow down your vehicle when you see shady areas under these types of conditions.



Highway Update

*By Joel Miracle
Highway Superintendent*

After completion of the 2018 road reviews our attention has turned towards the concern of pavement preservation due to trees shading the roadways. When trees overhang our roadways it takes longer for the pavement to dry due to the shade it creates. Therefore the excessive moisture causes a reduction of adhesion between the asphalt binder and aggregate called stripping, which can lead to various forms of pavement distress including ravelling, rutting and fatigue cracking.

The first part of this process is to determine if the trees or brush are in our right-away or if we need to contact the land owner for permission prior to work being performed. That being said, we must have the proper tools for the job. The County Highway Department has a bucket truck that can elevate 73 ft high, a newer wood chipper, and several sizes of chainsaws.

We have advanced our tree cutting safety over the last couple of years by taking advantage of the availability of the BWC (Bureau of Workers Compensation) training class Tree Work Essentials and the support of our County Engineer, Scott Coleman. Employees have attended this training which consists of proper PPE (Personal Protective Equipment) selection use and care, safe tree felling, preventing falls on job sites, identifying hazardous trees and preventing electrocution. Before our crews begin a day of tree work, we perform a pre-trip inspection on our bucket truck and hold a job briefing to identify potential hazards at every location.



Ice and Snow ... Take it Slow

Don't crowd the plow.

UNITED WAY CAMPAIGN

Thanks to your efforts and the efforts of the Logan County Community, Logan County looks to be the smallest community ever to go over a \$1,000,000.00 campaign.



Logan County government offices increased overall donations by 32% with the County Engineer's Office increasing our donations by 15% from last year.

THANK YOU FOR GIVING GENEROUSLY

LIVE UNITED

Bridge Crew Update

*By: Dan McMillen
Bridge Superintendent*

As the fall construction season came to a close, the Bridge Crew's attention has turned to a huge problem of dead or dying trees located at the edge of the county right of way. These trees have been affected by the Emerald Ash Borer beetle.

To the traveling public these trees tend to go unnoticed, but to the County crews there is rarely a week that passes in which we don't get a call to remove a tree that fell during the night or a storm event. In the first 4 weeks of this project we have been able to work with property owners to gain work agreements to remove an estimated 900+ trees that are potentially hazardous to the traveling public. While we are making progress in the removal of these trees there are estimated to be thousands more that will need to come down. The property owners have been great to work with and they understand the problem we are facing and the necessity to remove these dead trees.

As you drive our highway and roads in the county you may notice some of these dead trees in your area. We are looking at these as well and will continue this project throughout 2019.

Bridge Inspections

*By: Mark Hilty
General Superintendent*

Have you ever driven by a local bridge and seen an orange county truck parked nearby and wondered what they were doing? Chances are it's simply a routine bridge inspection, conducted annually between the months of November and February on each of our 295 structures.

Every bridge is thoroughly inspected by analyzing and grading the approach, deck, superstructure, substructure, culvert (if classified as such), channel, and utility items. These individual item ratings are then used to determine the overall condition of the entire structure from top to bottom and the final appraisal of the bridge is dictated by the lowest condition rating of certain items depending on what type structure it is. These inspection reports are then evaluated by the engineering staff and then the data is input and stored on ODOT's (Ohio Department of Transportation) Structure Management System (a database that includes comprehensive structure details and inspection reports for every bridge in Ohio, including interstate, state, county and municipal structures).

Besides our annual inspections, every two years we have eight Fracture Critical inspections to do. Fracture Critical bridges are those that have Fracture Critical Members, which are composed of steel, in tension, and are a part of a non-redundant load path. These inspections require a more in-depth, hands-on inspection of each Fracture Critical Member. All of this information is also stored by ODOT.

Every five years we go through Quality Assurance Reviews with the County Engineer's Association of Ohio, CEAO quality control/quality assurance inspector in order to make sure our bridge inspection program is following the guidelines established in the Ohio Revised Code, CEAO Bridge Inspection Manual, and the National Bridge Inspection Standards. This process involves selecting six random bridges of a different type of construction. Our field report inspections are pulled for each of the six bridges and we visit each bridge with the CEAO inspector, who inspects the bridge and then compares our reports with his inspection. He also interviews staff members in charge of the bridge inspection process and looks over all of our bridge inventory items that we store "in house". A few weeks after visiting, the CEAO inspector sends us a report on our bridge inspection program along with recommendations on what improvements should be made.

Our goal in doing all of our bridge inspections so frequently and meticulously is the same goal shared by the governing bodies in charge of bridge inspection protocols - to keep you safe while driving.

Sales Tax

*By Todd Bumgardner
Administrative Coordinator*

In 2018 the Logan County Engineer completed its 21st year of sales tax programming for our county and township roads and bridges. During this time the Engineer's Office has completed over 47 million dollars of contract work. Combine that contract work with the responsibility of maintaining 716 miles of county and township roads as well as 295 bridges and you can see it has been a busy journey! .

Through this entire process we have constantly monitored the road system, yet we felt it was time to place the paving program under a microscope. This intense scrutiny will allow us to selectively build up the pavement thicknesses county-wide in the coming years. Selectively increasing this thickness allows for an aggressively productive pavement preservation program

As we look at the direction the asphalt industry has taken we have noticed a trend toward more "rigid" asphalt pavements yet on our low volume county and township roads our goal is for the pavement to remain flexible, as asphalt was originally designed. A few reasons we like this flexibility is that it allows for our road system to self heal, be more resistant to micro cracking, to react better to freeze-thaw cycles and because it allows for self performed pavement preservation practices.

Now that our roads and bridges are in stable condition it is no time to sit back and watch all the hard work begin to deteriorate. Our office will continue to work toward the goal of increasing pavement thicknesses with asphalt mixes that more resemble the "flexible" pavements of years past. Combining "new-old" mixes, increased pavement thicknesses and innovative pavement preservation practices will allow us, along with the support of the community, to continue to build upon the pavement foundations that began in 1997.

Thanks for your support.



DEER SAFETY DRIVING TIPS

Be cautious while driving during dusk or dawn-

- Deer are most active during sunrise and sunset, especially during mating season, which is in full swing from October through December.

Stay alert if you spot a deer-

- Be alert and observe your surroundings for any signs of wildlife while on the road.
- Deer tend to travel in packs—so if you see one deer, slow down and proceed with caution.

Don't swerve to avoid hitting a deer-

- Do not swerve to avoid a deer collision. By swerving you put yourself at risk for a worse collision with another vehicle or running off the road. Stay in your lane and try to slow down.

Report the deer collision-

- If you are involved in a deer accident, contact your local authorities and insurance company to file a claim.

