

ALLEN COUNTY ENGINEER

2021-2022 Annual Report of the Engineer

April 2022 Issue 24

This report is prepared by the Allen County Engineer as directed by Section 5543.02 of the Ohio Revised Code

From the Engineer's desk.....



As your Allen County Engineer, my job is to administer all aspects of design, construction, repair and maintenance of our local roads and bridges. This includes 353 miles of roads and 377 bridges. Ultimately, my goal is to provide the safest and most efficient roadway system possible. However, obtaining that goal is very challenging and the COVID pandemic only made it harder.

During the pandemic we returned to fairly "normal operations" on June 1st, 2020, but the rest of the nation was a little slower on its return. This directly affected the economy and hence our revenue, so we postponed several projects in 2020 due to the uncertainty of our revenue. As you may recall, fuel sales dropped significantly and the State of Ohio granted six (6) month extensions on license plate renewals. Both of these measures threatened the loss of millions of dollars in revenue for every county engineer across the state. Thankfully, these disruptions weren't permanent and in 2021, we were able to construct several projects we postponed, like the Buckeye Road Improvements and the Shawnee Road Improvements.

Typically, postponing projects can be problematic, but it actually worked out in our favor for the Buckeye Road project. This \$1.3 million dollar improvement project was funded with a \$1 million dollar reimbursable grant. Normally, I would not be able to fund a project of this size without a loan but because it was postponed, I was able to save enough money to pay for the project without borrowing any money. So, in this case, the pandemic actually helped save taxpayers money and it helped build a financial reserve for our department.

Unfortunately, the pandemic has also been working against us on the Shawnee Road Improvement project. While we were able to sell the project last spring, disruptions in supply chains have delayed the project. Just like empty store shelves, we've had products backordered and others that aren't available at all. As an example, we had to change our pavement marking specification from Epoxy to Thermoplastic, because epoxy paint wasn't available. Furthermore, we are still waiting on the poles and mast arms for the overhead signs and we cannot complete the project without them.

While 2021 was challenging, it finished out better than the year before. Hopefully, the effects of the pandemic are behind us and we can look forward to a better tomorrow, one a little closer to "normal". I hope you enjoy reading this Annual Report, which summarizes the condition of our department and of our roads and bridges in 2021. If you should have any questions, please feel free to contact my office at 419-228-3196 or visit us on the web at www.allencountyohengineer.com.



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Roadway Department

The Roadway Department is responsible for the safety & maintenance of over **351 miles** of county roads in Allen County. We also assist the Townships and Villages with the maintenance of their roadways at **550 miles** and **248 miles**, respectively. In **2021**, over **\$2.9 million** dollars were spent for county, township & village road work. Our county road crews and our paving contractor were very busy paving **29.5 miles** of county, township and village roads and sealing **74.6 miles** of roads; sealing is another name for tar & chip application to the surface of the roadway. Seal acts as a water sealant to keep pavement from absorbing water.

The Roadway Department has always taken pride in the quality of the roads in Allen County. While the cost of asphalt and stone continues to rise, the revenue for the Allen County Engineer and more specifically, the Roadway Department, has remained constant. This means that we cannot annually maintain the same miles of roads as we once could. Ideally, we would like to see a newly paved road last **20 years** before it needs re-paved. At that rate, we should be paving nearly **20 miles** of roads per year to properly maintain our roadway system. Unfortunately, we do not have the funds to do that, but we do have a couple of other options.

First, the county will often apply for different types of state and federal funding to help finance our projects. Nearly every year, we apply for the **State Issue I OPWC Grant**. This grant dramatically helps both the county and townships pave **15-20 miles** annually, using an **80-20** match in funding.

In **2021**, we received a **\$156,000** matching grant through the **Ohio EPA** to help pave **4 miles** of Columbus Grove-Bluffton Road just outside of Bluffton. This asphalt is using Ground Tire Rubber (**GTR**) to help strengthen and provide more flexibility in the mix. Not to mention, it's saving **3,600 tires** from going to the landfill.



Columbus Grove/Bluffton Road
Richland Township

We also received a **\$300,000** Federal Safety Grant to replace several sections of deteriorating guardrail along numerous county and township roads. This grant not only allowed us to install brand new guardrail panels and posts, it also allowed us to install them at today's more rigid standards. This project was fully funded by the federal grant dollars, therefore, it did not require any matching local funds.

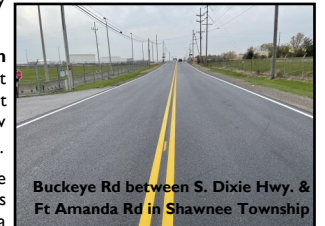
Allen County similarly received three (**3**) separate state grants, totaling more than **one million dollars**, to complete a major improvement on the **Buckeye Road** corridor in **2021**. This project was over **1.8 miles** in length and involved numerous improvements including, widening the pavement to a minimum of **24 feet**, constructing new approaches to the CSX Railroad crossing, installing new

traffic signals at **three** different intersections, pouring new curb and gutter, drainage improvements and all new thermoplastic pavement markings.

Secondly, we can use alternative methods of maintenance to help prolong the life of our roads. In **2014**, we purchased a Dura-Patcher machine to repair potholes. The machine has several components that work together to create the blend of gravel and emulsion that the operator sprays into the potholes. The method uses sufficient force to compact the material as it is applied to fill the hole. The result is not as smooth as a newly resurfaced road, but it is better than having potholes and much faster and less expensive than rebuilding an entire section of roadway.

Finally, there are several companies that apply specialty coatings to pavements to help prolong the pavements life. One of those treatments, that we have been using and have had great success with, is a product called Reclamite. Formulated from the same light oils and resins that are the volatile fractions of asphalt. Reclamite provides a simple, one-step early method for asphalt preservation by restoring plasticity and durability of the asphalt binder. This treatment slows the effects of oxidation from the sun and helps to extend the useable life of the asphalt.

If you have any questions about the above maintenance techniques or questions about the Allen County Road Program in general, please feel free to give the Roadway Department a call at 419-996-7110 or visit our website.



Buckeye Rd between S. Dixie Hwy. &
Ft Amanda Rd in Shawnee Township

2021-2022 Winter



Our crews worked very hard this winter keeping roadways safe in Allen County. In **2021**, we entered into a salt contract with **ODOT** for **3,500 ton** of road salt at **\$58.09 per ton** from Compass Minerals. The Village of Bluffton, Village of Spencerville, City of Delphos, Shawnee and American Townships also took part in the purchase & utilization of the road salt. This past winter we spent over **\$300,000** for salt, grit and labor to care for the roadways of Allen County. In addition to the bad winter, comes the pot holes, however our crews are doing their best to keep up with filling the pot holes.

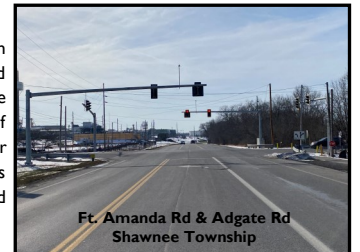
Traffic Department

In **2021**, the Allen County Traffic Department had a typical busy year. In total, the department purchased **5,775** gallons of yellow traffic paint for centerline striping. This paint covered **215** miles of county roads, **100** miles of township roads, and **14** miles of village roads. Additionally, **825** gallons of white traffic paint purchased for edge line striping covered **14** lane miles of township roads and 36 lane miles of county roads. The Traffic Department also spent the summer painting railroad and school legends, school crosswalks, lane arrows and stop bars at intersections. Along with striping, the Traffic Department also maintains over **5,300** various traffic signs. Ongoing throughout the year, these signs are checked for condition and visibility and missing signs are replaced as needed. It is important that all signs meet the minimum reflectivity standards. As signs are replaced, they are upgraded with a High-Intensity Prismatic surface that reflects light at a further distance and thus attracts motorist's attention earlier.



Buckeye Rd & S. Dixie Hwy
Shawnee Township New Traffic Light

The county also maintains **16** traffic light controlled intersections, **one** signal flasher and assists in maintaining **three** village traffic lights. Annually, all traffic lights and traffic cabinets are cleaned and inspected to maintain proper working order. In **2021**, the County was able to upgrade **three** traffic lights during the Buckeye Road project. The traffic lights at the intersections of **Buckeye Road and S. Dixie Highway** and **Ft. Amanda Road and Adgate Road** had their span wires replaced with rigid mounts on mast arms. The traffic light at the General Dynamics plant on Buckeye Road was upgraded with new rigid mount traffic heads. All **three** upgraded intersections also received video detection devices.



Ft. Amanda Rd & Adgate Rd
Shawnee Township

Tax Map & GIS Department

The Allen County Tax Map/GIS Department is located in the County Courthouse, which handles all Tax Map and GIS responsibilities for Allen County.

In **2021**, the Tax Map Office processed **370 parcel splits and combinations** keeping the Tax Maps current for the use of the Auditors office and citizens of Allen County. They also processed **252 survey reviews** and **6,330 deed reviews** in accordance to the County Conveyance Standards.

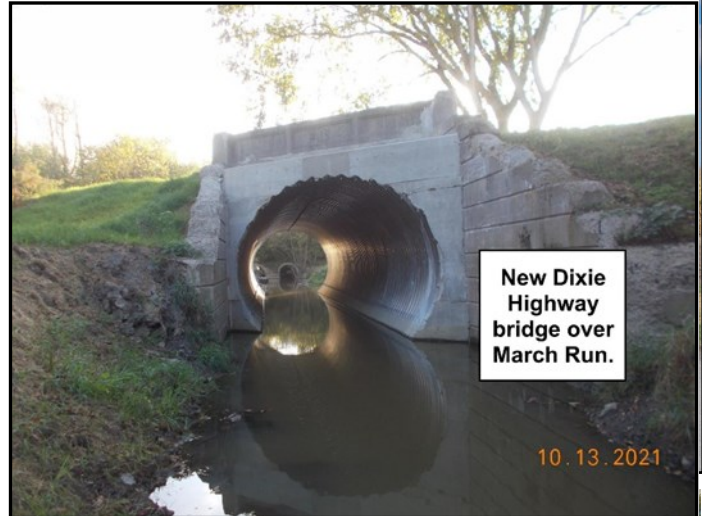
In **2021**, the GIS Department maintained data for multiple departments in Allen County. These departments include Allen County Engineer, Sanitary Engineer, Health Department, Auditor, Water District, Ditch Maintenance & Sheriff's Department. Many of these departments are deploying GIS in a desktop and mobile platform to meet their everyday work needs. These applications have allowed Allen County to streamline repetitive tasks and maintain accurate up to date data.

Bridge and Culvert Departments

No amount of planning or maintenance can overcome the forces of nature on the aging components of a bridge or culvert. Every structure built and maintained by the Allen County Engineer's Office has a lifetime, so **annually** there will always be structures ending and beginning their lifespan of use. The **2021** calendar year was no exception and the upheaval of the year provided unique challenges. Nonetheless, the Bridge and Culvert crews had a very successful year replacing and repairing several older structures.

Allen County Bridge Department crew members brought in the year **2021** completing a month long repair of the **1957** Columbus Grove-Bluffton Road bridge just west of the Village of Bluffton. Our skilled work force is a valuable commodity when plans change and high traffic areas need timely repairs.

As is typical, the Bridge Department had a great plan to start the spring **2021** construction season. Cooperative weather played a large factor in being able to get an early start and County Forces were able to replace two small structures by June. The first structure replaced was a **1975** steel beam, wood deck bridge on Ditzler Road in southeast Perry Township. Despite having a poor deck and beams, the concrete abutments were in fine shape to reuse for the new concrete slab bridge deck and work was complete by mid-April. In similar fashion, a steel beam, wooden deck bridge built in **1980** on Eversole Road was also replaced. This smaller structure east of Slabtown Road in Monroe Township also had concrete abutments that were worth saving, so County Forces were able to pour a new concrete deck and have the bridge open on June 1.



A deficient concrete deck bridge on a dead-end portion of **Dixie Highway** in Richland Township required some interesting planning and coordination during the summer. In a situation that rarely occurs, a bridge required replacement on a dead-end route with no other access to homes and business beyond the bridge. Once again, the abutments were fine, but the concrete deck was failing. County Forces constructed a **13'-6"** diameter corrugated aluminum pipe **60'** long, positioned it under the existing bridge and filled-in the void between the new pipe and the original structure with layers of concrete. The new structure across Marsh Run is unlike any other current bridge in Allen County. During the entire project, there were only several slight delays to traffic. The new bridge was a creative and cost-saving solution to a problem executed by the engineering staff and bridge crew of the Allen County Bridge Department. The bridge is visible from northbound I-75 between Beaverdam and Bluffton.



Two bridge replacement projects began in late summer and both received **80%** funding through Ohio Public Works Commission grants. On Kiggins Road in Marion Township, R.G. Zachrich Construction of Defiance replaced a **1955** steel beam, wooden deck bridge. The newly constructed prestressed concrete box beam bridge over the Flat Fork Creek provides a much safer and wider passage for the traveling public. Additionally, in early November County Forces completed the replacement of a **1939** built concrete deck bridge on **Agerter Road** in Amanda Township near the Bresler Reservoir. The previous style of structure - with its concrete sidewalls, had been a narrow and dangerous location for traffic. The new bridge, built from reinforced concrete box culverts, results in a much wider, open and safer passage of traffic.

County crews also reshaped **240'** of a waterway near the Bluelick and Thayer Roads intersection. To complete the project, it was also necessary to replace an elliptical reinforced concrete pipe under each road. A major benefit of the project is the alleviation of flooding on Thayer Road where the previous culvert was replaced.

As the above accounts reflect, the work never ends for the Allen County Engineer's Bridge and Culvert Crews. With **377** Allen County bridges and hundreds of culverts to maintain on county and township roads, it is critical to maintain a knowledgeable and capable work force. All of the bridges are inspected annually, and some more frequently, with results sent to the Ohio Department of Transportation. Existing culverts and storm sewers are continually in need of upgrades and replacements and circumstances arise that require new culverts be installed. The cooperative effort between these crews help us maintain our number one goal: safe roads and bridges for the traveling public in Allen County.

Drainage and Ditch Maintenance Departments

All engineering and administrative work conducted by the Drainage Engineering Department is supervised and approved by Brion E. Rhodes, Allen County Engineer. This department has a dual role within the county structure. It operates as the reviewing agency for commercial, industrial, and residential developments, as well as the drainage consultant for the County Commissioners. Within this realm, we are responsible for all Petitioned Drainage Improvements of which the Commissioners have final authority.

Our responsibility includes the management of over **\$23.5 million dollars** in drainage improvements and work consciously to provide the most pro-active and cost-effective maintenance possible. Funding for the engineering, administration, construction and maintenance of petitioned drainage improvements is derived from funds acquired from parcel owners within the watershed of each project. The methodology is outlined in the Ohio Revised Code, Sections 6131, 6133, and 6137.

As the Drainage Consultant for the Commissioners, we manage the entire process of Petitioned Drainage Improvements. All projects constructed through petition are placed on permanent maintenance once construction is completed. The Allen County Drainage Department currently maintains **256 miles** of open ditches, **57 miles** of agricultural and residential conduits, **21 miles** of waterways, and **18** detention ponds. These projects benefit **256,083** watershed acres and **46,190** parcel owners. Additional projects are always in progress, with multiple improvement plans in various states of completion at all times.



Construction was completed in Shawnee Township on O.B. Frails Subdivision Drainage Improvement Petitioned Ditch #1330 at a cost of **\$825,649.85** (\$891,666 contract amount). Approximately **1,300 LF** of ditch clearing and approximately **19,000 LF** of new tile was placed within the O.B. Frails Subdivision.

The final hearing was recently held for Smith Improvement Project #1332. This project is in American Township between Baty and East Road. The proposed improvement consists of 3,395 LF of tile with a construction estimate of **\$70,725**. We anticipate constructing this project over the winter months and finishing in the spring of **2022**.



In **2022**, we anticipate having final hearings for Baughman #1198 (American Township), Indianbrook & Wildbrook Estates #1322 (Shawnee Township), Dutch Hollow Drainage Improvement #1344 (American Township) and Hutchinson Group #1347 (Jackson Township) with bidding and construction to follow.

We are also the compliance coordinators of the OEPA's Phase II Stormwater Regulations. An integral component of this program, of which our department manages for the County Commissioners, is the Stormwater Management & Sediment Control Regulations (SMSCR). These regulations are necessary to comply with the latest mandates by Ohio EPA. The Stormwater Regulations are a self-supporting entity, funded entirely from permit and review fees acquired from developers. In **2021**, 16 permits were issued at a cost of approximately \$49,600, funded by those private developments.

If you would like additional information on any of our projects, contact the Allen County Engineers Office, Drainage Department. Phone 419.996.7130 or visit <https://www.allencountyohengineer.com>.