

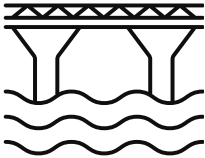
# 2020 ANNUAL REPORT

BUTLER  
COUNTY  
ENGINEER'S  
OFFICE



# 2020 REVIEW

## SAFETY, INTEGRITY, SOUND ENGINEERING



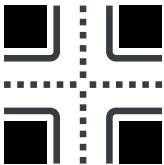
4 BRIDGE PROJECTS



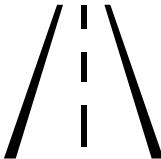
43 CULVERT PROJECTS



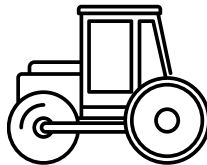
1 INTERCHANGE PROJECT



3 INTERSECTION PROJECTS



3 ROADWAY PROJECTS



53.55 MILES OF RESURFACING

IN ADDITION TO DAILY ROUTINE ACTIVITIES AND MAINTENANCE, OUR STAFF WAS INVOLVED WITH THE COMPLETION OF CAPITAL IMPROVEMENT PROJECTS, UPGRADES, AND TRAFFIC SIGNAL MAINTENANCE TOTALING: **\$44,964,823.**

### CERTIFIED ROAD MILEAGE BY TOWNSHIP

	COUNTY	TOWNSHIP
Fairfield	14.13	79.88
Hanover	25.67	35.98
Lemon	0	11.26
Liberty	27.84	155.59
Madison	23.88	52.20
Milford	20.56	33.42
Morgan	26.78	30.95
Oxford	17.76	26.97
Reily	30.10	34.12
Ross	12.95	47.36
St. Clair	20.79	33.30
West Chester	31.44	226.14
Wayne	14.20	30.13

### CERTIFIED ROAD MILEAGE FOR BUTLER COUNTY

County Roads	266.11
Township Roads	797.30
U.S. and State Roads	236.20

### BUTLER COUNTY POPULATION/STATE RANK

383,184/ 7TH

### BUTLER COUNTY AREA/STATE RANK

469 SQ. MILES/ 35TH

# BUTLER COUNTY ENGINEER

BUTLER COUNTY ENGINEER'S OFFICE



**GREGORY J. WILKENS, P.E., P.S.**

To the Citizens and Board of County Commissioners of Butler County, Ohio:

I respectfully present the Butler County Engineer's 2020 Annual Report for your review.

Last year, COVID-19 introduced new challenges to our usual mode of operation and, like everywhere, gave us a "new normal." Implementing policies that protect my staff of 77 and the public while inside our building has been arduous and time-consuming, to say the least. As a result, our office environment is safety-focused with masks, social distancing, more hand sanitizer, closed office doors, and other measures that stop the spread of the virus.

Even with a limited workforce during the shutdown in March and again in December, our 2020 Capital Improvements were successful, not to mention daily general maintenance and public service. Quarantining, working remotely, and video conferencing became necessary to complete prodigious projects such as the Union Centre Boulevard/I-75 Diverging Diamond Interchange in West Chester Township and others. Furthermore, we accomplished additional emergency projects like the Elk Creek Road Emergency Slip Repair in Madison Township.

Accordingly, I want to express my appreciation to each BCEO employee for their hard work and adaptability. Though the pandemic brought hardship, it hasn't diminished my employees' extraordinary efforts to continue to serve you, the citizens, and taxpayers of Butler County. With safety and efficiency at the forefront,

our strong workforce of experienced veterans combined with some of the best young engineers in the business visualize the big picture of Butler County's infrastructure needs; they take ideas from conception to completion and beyond. In 20 years as your County Engineer, I've overseen the BCEO's involvement with over \$403 million in capital improvements and maintenance, maximizing dollars spent on roadway projects through the use of in-house talent. My outlook for 2021 is no different since I am confident that the Engineer's Office will continue to display diligence in the practices that keep motorists safe on the roads and support our local economy's growth.

As always, thank you for your continued trust and support as your County Engineer. Remember to keep up to date with the latest project information via our NEW and intuitive BCEO website and our social media platforms. Feel free to contact us with your concerns and suggestions for how we can improve our service. Please read on for a review of 2020.

Very truly yours,

A handwritten signature in black ink that reads "Gregory J. Wilkens". The signature is written in a cursive, flowing style.

Gregory J. Wilkens, P.E., P.S.  
Butler County Engineer

# 2020 PROJECTS

## BRIDGES

The BCEO inspects and maintains **408** bridges (structures with a clear span of ten feet or greater). There were a total of **4** bridge projects in 2020.



**HAMILTON MASON ROAD BRIDGE #7.49**  
 Bridge Replacement  
 Total Construction Cost: \$1,687,887.00  
 Funding: State, BCEO



**MIDDLETOWN GERMANTOWN ROAD BRIDGE #0.393**  
 Bridge Replacement  
 Total Construction Cost: *Included in the multi-culvert contract cost (next page)*  
 Funding: BCEO



**TOLBERT ROAD SUPERSTRUCTURE #0.914**  
 Superstructure Replacement  
 Total Construction Cost: \$440,114.00  
 Funding: BCEO



**ELK CREEK ROAD BRIDGE #5.004**  
 Bridge Rehab for a one-lane bridge  
 Total Construction Cost: \$183,289.00  
 Funding: BCEO

# CULVERTS & DRAINAGE

In 2020, there were **44** BCEO Force Account culvert projects constructed by our Operations Department personnel.

Total Construction Cost: \$989,772.24

Funding: BCEO FA



**KYLES  
STATION  
ROAD**



- Boyle Road #1.256
- Brofield Drive #0.421
- Bunker Hill Woods #0.088
- California Road #0.897, #1.171, #1.474, #1.516, #2.83, #2.987, #2.994, #3.051, #3.311, #3.505, #5.151, #5.199, #5.252, #5.348, #5.532
- Canal Road #1.612, #1.657
- Chapel Road #2.396, #3.174
- Cincinnati Dayton Road #5.357
- Kyles Station Road #3.532, #4.032, #5.139
- Lanes Mill Road #0.512, #0.595, #2.007, #2.256
- Lanes Mill Road (Drainage) #2.41
- Linn Road #0.509
- Middletown Germantown Road #0.556, #1.6
- Princeton Road #7.12, #7.877
- Riggs Road #1.851, #2.029, #2.517, #3.244
- Trenton Franklin Road (Drainage) #3.57, #3.655
- West Alexandria Road #0.049, #1.875



**RIGGS ROAD**

As part of a multi-culvert replacement project, the following culverts were contracted out and funded by BCEO.

Total Construction Cost: \$544,042.00

- Cincinnati Dayton Road #09.561
- Design-Build, Middletown Germantown Road #0.393
- Design-Build, Elk Creek Road #02.353



**TRENTON FRANKLIN ROAD @  
MICHAEL ROAD**



**CINCINNATI DAYTON RD.**

# INTERCHANGE IMPROVEMENT

## UCB/I-75 DIVERGING DIAMOND INTERCHANGE



### UNION CENTRE BOULEVARD/I-75 DIVERGING DIAMOND INTERCHANGE (DDI); 2019 PROJECT COMPLETED IN 2020.

Interchange modification; converted to DDI, added lanes to ramps, installed ramp metering and signals at ends of entrance ramps, installed sidewalks and new mast arm signals.

Total construction cost: \$19,412,687.00

Funding: West Chester TIF Funds

### VIEW OF I-75 DDI WITH BRIDGE AND EXIT RAMP

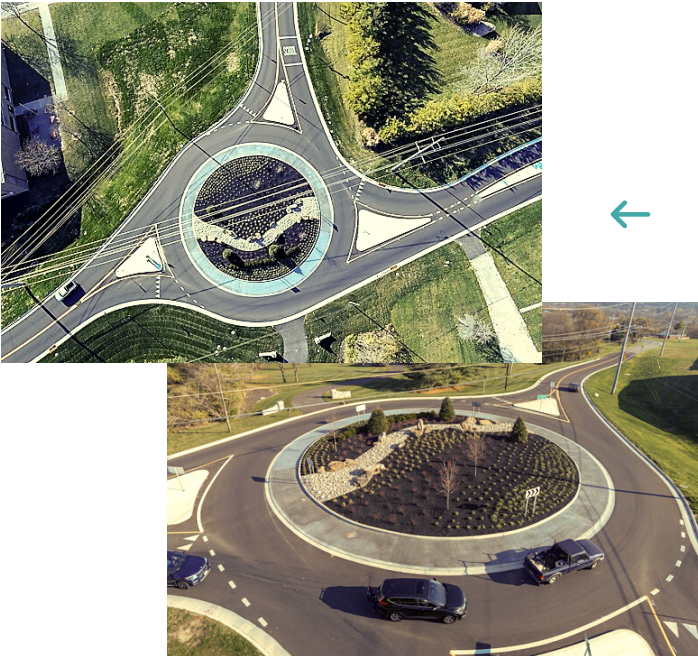


### AERIAL OF UCB BRIDGE SHOWING PEDESTRIAN WALKWAY



# INTERSECTION IMPROVEMENTS

**BUTLER WARREN ROAD AT LIBERTY WAY:**  
 Added an eastbound left-turn lane and a northbound left-turn lane.  
 Total Construction cost: \$905,989  
 Funding: State, BCEO



**LESOURDSVILLE WEST CHESTER ROAD AT BECKETT RIDGE BOULEVARD ROUNDABOUT:**  
 Installed roundabout.  
 Total Construction Cost: \$1,315,286.00  
 Funding: State, BCEO

**TYLERSVILLE ROAD AT CHANTILLY DRIVE:**  
 Added turn lanes.  
 Total Construction Cost: \$362,118.00  
 Funding: State, BCEO



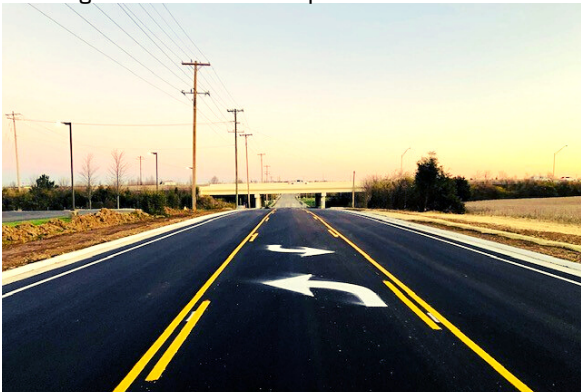
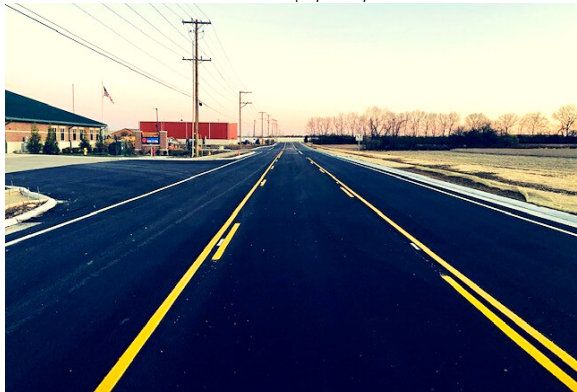
# ROADWAY IMPROVEMENTS

### GILMORE ROAD (S.R. 129 OVERPASS TO HAMILTON MASON ROAD ROUNDABOUT)

Widened, added 2-way left-turn lane, storm sewer, sidewalk, and access road.

Total Construction Cost: \$1,267,637.00

Funding: Fairfield Township TIF Funds

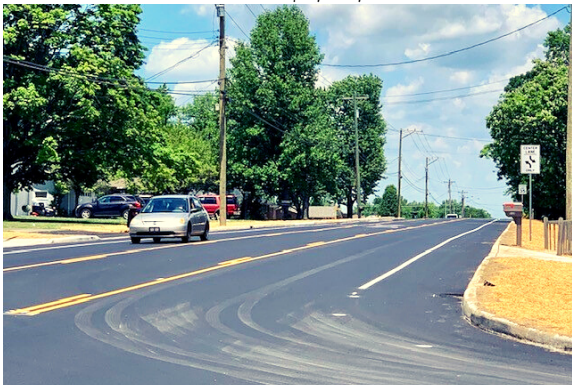


### LIBERTY FAIRFIELD ROAD (PRINCETON ROAD TO MILLIKIN ROAD)

Widened to three lanes (addition of center turn lane), widened shoulders, installed lighting at intersections, adjusted vertical profile.

Total Construction Cost: \$5,181,060.00

Funding: Federal, State, BCEO, BCWS



### TYLERSVILLE ROAD (I-75 RAMPS TO COX ROAD)

Phase 2 of Tylersville Road widening project; added westbound lane, extended Doc Drive, added access drive, signal modifications at Dudley Drive/Kingsgate Way, and Cox Road.

Total Construction Cost: \$3,065,493

Funding: Butler County





# PAVING

**PRINCETON ROAD (SR 747 TO MAUDS HUGHES ROAD)**



**KYLES STATION ROAD (MAUDS HUGHES ROAD TO YANKEE ROAD)**



The Butler County Engineer's Office is responsible for **266.11** miles (centerline miles) of roadway and has a 17 to 18 year paving program in place. This system enables roads to be resurfaced regularly and maintained routinely in a more cost-effective manner. There were **53.55** miles of county and township roads resurfaced in 2020. This includes berming of all major roads paved.

Total Paving Cost: \$6,469,924

Total Construction Cost (Asphalt): \$5,822,762.50  
Funding: BCEO, Townships

County Roads (17.29 total miles)

- Alert New London Rd - *(Striping only)*
- Bunker Hill Woods Rd - *Reily Millville Rd to Garver Elliot Rd*
- Butler Warren Rd - *Dimmick Rd to Fallen Oaks Dr*
- Dimmick Rd - *Winwood Dr to curb east of Eastbrook Dr*
- Elk Creek Rd - *(Surface repair only)*
- Garver Elliot Rd - *Bunker Hill Woods Rd to Woods Station Rd*
- Hamilton Eaton Rd - *Old corp. line to S.R. 744*
- Kyles Station Road - *Mauds Hughes Rd to Cincinnati Dayton Rd*
- Middletown Germantown Rd - *Corlee Rd to County line*
- Millikin Rd - *(Surface repair only) East of S.R. 747*
- Princeton Rd - *S.R. 747 to Cincinnati Dayton Rd*
- Riverside Dr - *Trenton Rd to Trenton Rd*
- West Alexandria Rd - *S.R. 122 to Elk Creek Rd*
- West Chester Rd - *Address 6531 to new pavement*
- Woods Station Rd - *Garver Elliot Rd to North Pierson Rd*

Various Township Roads/Subdivision Sts. (26.98 total miles)

- Fairfield Township (2.451 total miles)
- Hanover Township (0.098 total miles)
- Liberty Township (4.015 total miles)
- Madison Township (3.164 total miles)
- Milford Township (4.019 total miles)
- Oxford Township (1.527 total miles)
- Ross Township (1.618 total miles)
- West Chester Township (10.092 total miles)

Total Construction Cost (Black Mat):  
\$455,949.00

Total miles: 8.350

Funding: Townships

- Fairfield Township (0.857 total miles)
- Liberty Township (4.201 total miles)
- Ross Township (1.220 total miles)
- West Chester Township (2.072 total miles)

Total Construction Cost (Chip Seal):  
\$191,212.50

Total miles: 0.925

Funding: Township

- Hanover (0.925 total miles)

# MISCELLANEOUS



### BECKETT ROAD

#### DRAINAGE IMPROVEMENT

Total Construction Cost: \$1,296,585.00

Funding: West Chester TIF Funds

### ELK CREEK ROAD EMERGENCY SLIP REPAIR

Total Construction Cost: \$517,342.50

Funding: State, BCEO



### CURED IN PLACE PIPE REPAIR OF VARIOUS STORM SEWERS - PHASE 1

Total Construction Cost: \$677,021.00

Funding: Butler County Storm Water District



### GUARDRAIL PLACEMENT AT VARIOUS LOCATIONS

Total Construction Cost: \$313,739.00

Funding: Federal/ODOT, BCEO

### RETRACE OF VARIOUS COUNTY/TOWNSHIP ROADS

Total Cost: \$334,837.74

Funding: BCEO, Fairfield Twp, Oxford Twp, Hanover Twp, Morgan Twp, Liberty Twp, St. Clair Twp, West Chester Twp, and Village of New Miami.

# DEPARTMENTS

## BUTLER COUNTY ENGINEER'S OFFICE

# DESIGN & ENGINEERING

During 2020 the Engineering Department developed plans and right-of-way acquisitions for the following projects:

- 22 Culvert Replacements
- 7 Bridge Replacements/Rehabilitations
  - Alert New London Road Bridge #2.858 – Substructure Rehabilitation
  - Bonham Road Bridge #01.603 – Design/Build Replacement
  - Gates Road Bridge #00.695 – Replacement
  - Hamilton Mason Road Bridge #07.491 – Replacement
  - Elk Creek Road Bridge #05.000 – Superstructure Rehabilitation
  - North Weaver Road Bridge #2.685 – Superstructure Replacement
  - Scott Road Bridge #00.622 – Design/Build Replacement
- 5 Roadway Improvements
  - Butler Warren Road – Sight Distance Correction/Additional Center-Turn Lane from Bethany Road to North of Princeton Road
  - Crescentville Road – Additional Center-Turn Lane from SR 747 to I-75
  - Gilmore Road Widening – Roundabout to SR 129
  - Liberty Way Widening – I-75 to Veterans Boulevard
  - Tylersville Road – Additional Center-Turn Lane Between Lakota Springs Drive and Lakota Hills Drive
- 8 Intersection Improvements
  - Butler Warren Road at Barret Road Roundabout
  - Butler Warren Road at West Chester Road Roundabout
  - Hamilton Mason Road at Five Points Roundabout
  - Hamilton Mason Road at Mauds Hughes Road Intersection Improvement
  - Lesourdsville West Chester Road at Beckett Ridge Drive Roundabout
  - Millikin Road at Lesourdsville West Chester Road Roundabout
  - Millikin Road at Morris Road Roundabout
  - Wayne Madison Road at Trenton Road Roundabout
- 7 Safety Upgrades
  - Elk Creek Road Slide – South of SR 122
  - Fairfax Avenue Drainage – Fairfield Township
  - Greenlawn Road Drainage, Phase 1 – Fairfield Township
  - SR 128/School/Layhigh Road – Ross Township
  - Trenton Road @ Busenbark Road Drainage
- 2 Multi-Use Paths
  - Butler Miami 2 Miami Trail Extension – City of Hamilton/MetroParks
  - Smith Road Multi-Use Path – West Chester Township
- 1 Interchange
  - SR 129 / Liberty Way Interchange Modification

## DEVELOPMENT SERVICES

In 2020, this office reviewed construction drawings for proposed residential subdivisions and commercial developments within the unincorporated areas of Butler County. Traffic, drainage, and water quality plans were evaluated to ensure new development are in compliance with standards.

Although the great pandemic of 2020 forced many of us to work from home and change how we do business, that wasn't the case for the development community. Developers, builders, and contractors were quick to implement CDC guidelines in response to a world health crisis. The men and women in construction adapted and responded to an everchanging market - that's what they do. Their response to 2020's pandemic; millions of dollars' worth of economic development! Businesses like AstraZeneca remodeled and retrofitted their manufacturing facility to assist in the development of a vaccine. Yup, right here in Butler County.

Manufacturing, retail, office, and logistic projects such as Republic Wire, Kroger Market Place, Kemba Credit Union, and Mill Creek Logistics all moved forward with construction. This flurry of development trickled over to the residential market, too. Early in 2020, residential development was sluggish, some would say stalled, maybe even skeptical because of uncertain market conditions and low consumer confidence. By some pandemic miracle, or maybe people needed additional space for their home office, home sales increased. According to the Ohio Local MLS Stats Report for 2020, home sales reached 161,960, a 4.3 percent increase in volume, an average sales price of \$212,517 a 9.9% increase over 2019. Who knows what 2021 holds!

## GIS/TAX MAP/RECORDS/IT

In 2020, GIS/Tax Map/Records/IT Office executed the following:

- Maintained the Butler County Tax Map website.
- Assigned new parcel numbers for the Butler County Auditor.
- Maintained BCEO GIS infrastructure including roadway mileage.
- Assigned and verified addresses for the county's unincorporated areas.
- Read legal descriptions for the transfer of property for the Butler County Auditor.
- Reviewed subdivision plats for the Butler County Planning Department.
- Scanned present and historic tax map documents.
- Prepared presentations for BCEO projects.
- Provided mobile/GPS based projects to collect and maintain infrastructure information in the field.
- Maintained BCEO Document Submittals APP, accessed on [www.bceo.org](http://www.bceo.org) (GIS link).
- Added new security to our network and cloud environments.
- Began a project to update our infrastructure, including hardware and operating system updates to be completed by mid-2021.
- Maintained efficient access to public county records.
- Maintained computers, servers, and communication equipment.

## TRAFFIC

In 2020, the Traffic Office executed the following:

- Maintained 74 traffic signals, 2 flashers, 9 ped-x-ings signals (\$97,500)
- Maintained 20 school zone signals (school slashers)
- Installed 5 CCTV PTZ cameras for traffic monitoring
- Maintained 7 traffic operation cameras
- Maintained 5 closed loop systems (\$21,600)
- Managed county-wide pavement marking retrace contract
- Performed 15 speed studies
- Reviewed 12 Traffic Impact Studies (TIS)
- Managed 1 Interchange Modification Study (IMS)
- Received 1,306 OUPS tickets and marked 228 locations

The Operations Department, in conjunction with the Traffic Office, executed the following in 2020:

- Maintained 7,500 traffic control signs
- Maintained 14 modern roundabouts
- Produced drawings, set up and maintained road closures and detours
- Signing and traffic control for all BCEO projects
- Supplied signs for other Butler County agencies as requested
- Operate sweeper truck for BCEO and Storm Water needs

## CONSTRUCTION

The BCO Construction Department oversees the implementation of all capital improvement contracts for bridge roadway, paving, and intersection construction. This includes preparing and managing contracts and payments to contractors, utility coordination and relocation, and construction inspection. Additionally, the Department performs inspections of culverts and pavement conditions. Driveway, right-of-way, and special hauling permits are also reviewed and issued by the Construction Department.

In 2020 the Construction Department prepared and managed 20 capital improvement and repair contracts. Please see pages 1 through 7 to view the 2020 projects.



# OPERATIONS

The Operations Department is responsible for all Force Account projects (as seen on the CULVERTS & DRAINAGE section - page 2) as well as the general day-to-day maintenance and seasonal type maintenance of bridges and roads on the county roadway system.

## **TOTAL SPENT ON GENERAL MAINTENANCE IN 2020: \$1,325,806.22**

During 2020 the Operations Department added the following equipment:

- 2020 Chevy Silverado - 1
- 2020 Bobcat Loader - 1
- 2020 Western Star Dump Trucks - 3
- 2020 Chevy Equinox - 1
- 2020 Zero Turn Mower - 1
- Roadside Mower Equipment - 2

Each spring the BCEO advertises for bids on **BULK-TREATED SODIUM CHLORIDE** for the following winter. These bids are compiled in conjunction with various cities and townships to get a better price. This resource sharing has become critical for local and regional jurisdictions as the cost of fuel and materials steadily increases.

### **COST: \$74.71 PER TON**

**LOCAL FUNDS BY BCEO;** BC METROPARKS; BC WATER & SEWER; CITY OF FAIRFIELD; VILLAGE OF NEW MIAMI; CITY OF OXFORD; FAIRFIELD, HANOVER, LIBERTY, MADISON, MILFORD, MORGAN, OXFORD, REILY, ST. CLAIR, WAYNE, AND WEST CHESTER TOWNSHIPS.



### **2020 SNOW AND ICE CONTROL SUMMARY (JAN. 1 - DEC. 31)**

**TOTAL COST: \$478,227.38**

TOTAL ROAD SALT USED: 2,798.41 TONS

TOTAL BRINE/CALCIUM CHLORIDE/BEET JUICE MIX USED: 5,735 GALLONS

TOTAL AMP/BRINE MIX USED: 4,770 GALLONS

TOTAL MAN-HOURS USED FOR SNOW AND ICE CONTROL: 2,434.75 HOURS

TOTAL LABOR COST: \$71,850.21

# ADMINISTRATION

**2020 Income**

**Intergovernmental Revenue**

Gasoline Tax	\$ 3,614,207.26
Motor Vehicle License Fees	\$ 6,933,647.39
Permissive Tax - State Levy	\$ 989,841.33
Other Government Reimbursements	\$ 1,516,310.41
LPA Reimbursements	\$ 42,552.20
Interest Earned	\$ 101,222.14

**Total \$13,197,780.73**

**Intragovernmental Revenue**

Sales	\$ 364,378.43
Fines	\$ 170,657.04
Other:	
Reimbursements	\$ 43,397.58
Inspection Fees & Permits	\$ 138,046.02
Project Management	\$ 3,824.69
Permissive Tax - County	\$ 2,709,555.30
Surety Bond/Subdivision Foreclosures	\$ 0
Study Grant	\$ 0
Special Hauling Permits	\$ 300,716.29
Additional Funding from Surplus	\$ 649,408.16

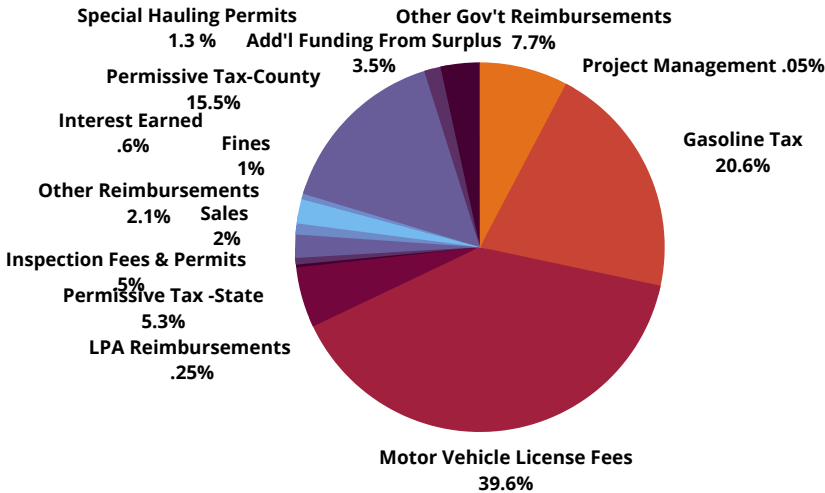
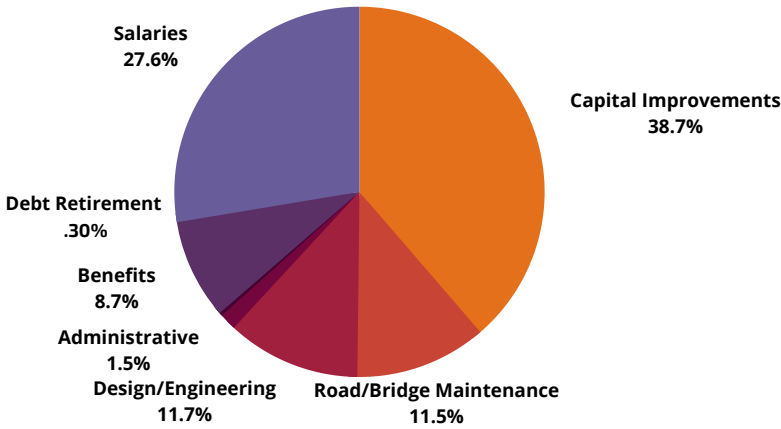
**Total \$ 4,379,983.51**

**Total Revenue \$17,577,764.24**

**2020 Expenditures**

Capital Improvements	\$6,708,630.46
Road/Bridge Maintenance	\$2,176,682.84
Design/Engineering	\$2,237,778.54
Administrative	\$ 287,793.03
Debt Retirement	\$ 62,144.13
Salaries	\$4,423,283.33
Benefits	\$1,681,451.91

**Total \$17,577,764.24**



<b>TOTAL REVENUE</b>	<b>\$17,577,764.24</b>
<b>TOTAL EXPENDITURES</b>	<b>\$17,577,764.24</b>



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