

2016 ANNUAL REPORT

PREPARED BY:
ALAN BRUBAKER, P.E., P.S.
SUMMIT COUNTY ENGINEER

ISSUED APRIL 5, 2017



2016 Van Buren Road Bridge



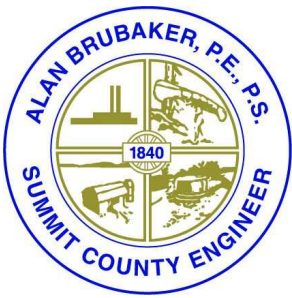
Yellow Creek Road Landslide Repair

Mission Statement

Our mission is to serve the Summit County community by maintaining and improving our region's infrastructure, encouraging economic development, and ensuring a safe and efficient transportation system while protecting the environment.

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ALAN BRUBAKER, P.E., P.S.

SUMMIT COUNTY ENGINEER

April 1, 2017

Summit County Council
Ohio Building – 7th Floor
175 South Main Street
Akron, Ohio 44308-1314

Dear Members of Summit County Council:

In accordance with the Ohio Revised Code Section 5543.02, I respectfully submit the Summit County Engineer's (SCE) annual report for the year 2016. This report reviews the activities of this Office for 2016, highlighting major infrastructure improvement projects and the maintenance of our existing infrastructure. The office continues to be an active partner with the townships, cities, and villages in their efforts to update and improve local infrastructure systems.

2016 was our eighth year in office and I am proud to write that changes we began to make back in 2009 now have clearly produced results. After restructuring the existing debt in 2009, we made our final debt service payment in 2016, restoring stability to the MVGT fund. Paying off the \$7 million dollar debt allowed our office to easily have the debt capacity to take out a loan to fund the Yellow Creek Road landslide repair, an unexpected emergency expense in 2016. Pavement maintenance dollars have been steadily increasing and operating expenses declining due to making tough budgetary decisions and bringing in more federal dollars than ever before.

In 2016, total revenue exceeded \$15.6 million, down 0.46% from 2015. In addition, we brought in another \$3 million in state and federal grant funds. In 2016, capital expenses were approximately \$4.6 million while operating expenses declined.

This annual report highlights many of our projects and initiatives. If you have any questions regarding past accomplishments or the future plans set forth within this Annual Report, please contact me at (330) 643-2850.

Sincerely,

Alan Brubaker, P.E., P.S.
Summit County Engineer

Services

**Summit County Engineer Alan Brubaker, P.E, P.S.
is pleased to offer the following services to the public:**

- Design, construction, inspection and maintenance of Summit County highways, bridges and dedicated stormwater facilities.
- Installation, inspection, and maintenance of traffic safety equipment, guard rail, signs, traffic control signal systems, and pavement markings on county highways and bridges.
- Snow and ice control on Summit County highways and in other communities by agreement.
- Engineering design and other services to Summit County's cities, villages and townships.
- Coordination of local efforts to procure state and federal funding for infrastructure.
- Township representation: SCE has dedicated an employee to cover each township, attend meetings, and stay in touch with local issues as they arise.



Engineer Brubaker gathered with colleagues to receive the Akron Area Engineer's Week proclamation from the City of Akron.

Your Summit County Engineer maintains:

- Over 360 lane miles of roads - in all seasons
- Over 300 bridges throughout the County - and inspects each one, **every** year
- Over 1200 culverts
- Hundreds of miles of road right-of-way and roadside ditches
- Regional storm water facilities, including as-sessed subdivisions
- Over 30 signalized intersections

**THE SUMMIT COUNTY ENGINEER
HAS A WEALTH OF RESOURCES AND
INFORMATION FOR PUBLIC USE.
PLEASE LET US KNOW HOW WE
CAN HELP YOUR COMMUNITY!**

CALL US AT 330.643.2850

www.summitengineer.net

Here's just some of the resources currently available on our website:

- List of current projects & initiatives
- Conveyance standards
- Road records
- Bid notices
- Traffic Alerts
- SCE publications
- Surveys
- Subdivision plats & documentation
- Monument mapper
- County maps
- Road and bridge permit forms
- Township services forms

Notable Events

Paying Off Old Debt

In years prior to the current administration taking office in 2009, the Summit County Engineer secured State Infrastructure Bank (SIB) loans. This administration restructured this debt service in 2010 by consolidating the SIB loans into one note for \$3.5 million at a lower interest rate. The restructured debt was held by the County itself instead of an outside agency. The restructuring therefore benefitted both the local road fund and the local general fund. The restructuring led to a break in the interest rate and a more favorable pay-off schedule, allowing us an additional \$300,000 a year not going to debt payments. In addition, by selling the bonds to the county general fund, the county's Fiscal Office received a higher interest rate on the investment of the general fund money if invested regularly.

The final payment on this debt was April 15, 2016. After that date, the County Engineer's office was completely debt free, allowing our office to take out a loan to pay for the stabilization of Yellow Creek Road while keeping our debt service amount well below levels we now recommend in our debt management policy. This debt restructuring and future debt management policy is a great example of county offices working together to benefit the county. Being able to pay off old debt is one of our biggest successes thus far.

Regional Initiatives

In 2011, the Summit County Engineer's office created a regional pavement maintenance program. The office's bid process was opened up to other communities in Summit County. The larger purchasing power created by bidding for pavement maintenance items as one unit had led to smaller per unit costs for all participants, while the municipalities still maintain local control over the projects. The Summit County Engineer's office administers the County-wide program.

In 2016, our office expanded the program once again. 11 individual local governments participated. 28 individual projects were combined into 8 larger projects worth \$5.36 Million. 2017 promises to be even bigger with more entities participating than ever before.

Also for the first time we've included non-township administered projects in our Construction Section report on page 17. Our office administered 8 projects for Akron, Norton, Richfield Village, and the MetroParks in 2016.

Storm Sewer Cleaning and Videotaping

We began a new initiative 2016 to get roadside storm sewers cleaned and videotaped. In 2016, Mi-Tech was hired to perform this work and they began officially on January 30, 2017. Mi-Tech has now videotaped and cleaned storm sewers along Hametown Road and Cleveland-Massillon Road in Copley and Brandywine Road and Olde Eight Road in Northfield Center. We anticipate this being an annual contract.

County-wide Surface Water Program

As the result of two citizen-initiated ditch petitions being filed with County Council in 2016, our office went back to the drawing board on devising a surface water management program. Since general fund money is scarce and seed money is necessary to fund designs for ditch petition projects, a funding source is sorely needed. We are now working on a completely voluntary surface water management utility. SCE, the Executive's office, and the Prosecutor's office have met with townships and are now revising a draft Ordinance. If passed, this will give communities a tool to finally be able to address off-roadway surface water issues.

Public Services Division

The Public Services Division is responsible for maintaining over 360 lane miles of county roadway, 313 bridges, over 1,200 culverts, guardrail, berms, vegetation control, ditches, pavement markings, traffic signals, tree trimming and removal, deceased animal removal, culvert pipes, fleet maintenance, retention and detention ponds, roadside mowing, and snow and ice control.

The Public Services Division's administrative office and the South Street Station are located at 601 East Crosier Street in Akron, with an outpost at Boston Mills Station located in Boston Township. Bath, Boston, Copley, Coventry, Northfield Center, Richfield, Sagamore Hills, Springfield and Twinsburg townships are provided general maintenance and snow and ice control by our department. We also provide snow and ice control for the City of New Franklin by contract. In addition to our South Street and Boston locations, the County has salt storage facilities in Bath, Lakemore, and New Franklin.

In 2016, a total of 866 requests for service were received and completed, 140 animals were picked up and disposed of, 109 ditches were cleaned, 20 traffic signal malfunctions were repaired, 161 tree problems were handled and there were 21 road shoulder repairs. The department used 1,200 tons of stone, 700 feet of culvert pipe, 720 tons of asphalt and 12,000 tons of salt.

Salt Delivery



Public Services Division

Our South District replaced crossover pipes on Minor Road at South Hametown Road and Frye Road at Sanitarium Road. They also performed culvert repairs on Canton Road at Brittany Drive and Minor Road east of Medina Line Road.

Our North District performed culvert replacements on Sourek Road at Berrywood Drive, Revere Road southeast of Bath Road, Pleasantview at Highland Road, Sellman Drive at Revere Road, Medina Line Road north of Medina Road, Brandywine Road at Beacon Hill, and Boltz Road at Revere Road. They also repaired culverts on Boyden Road at Cranberry Trail and Sourek Road at Bath Country Drive.

In addition crews performed roadside mowing, mailbox repairs, ditching, berm cutting, pothole repairs, tree trimming, weed control, and asphalt patching throughout the County.

Our Ditch Crew performed silt removal on Medina Line Road, landslide repairs on Cleveland-Massillon Road, and a retention pond restoration project in the Sandstone Subdivision. In addition, they performed erosion control projects in Bradford Woods Subdivision, Eaton Estates, and Montrose Development Subdivision. They also performed routine maintenance and repairs on other various locations throughout the County.



Front Street Bridge
Steel Cross Frame Repair

Material Usage

	2012	2013	2014	2015	2016
Salt (in tons)	9,200	13,500	19,900	17,000	12,000
Stone (in tons)	2,406	2,900	4,000	5,200	1,200
Asphalt (in tons)	1,300	1,000	1,100	1,700	720
Culvert Pipe (in feet)	2,000	400	1,100	1,200	700

New equipment/vehicle purchases

2 Tandem Axle Dump Trucks	\$218,708.00
2 Ford F-150 Trucks	\$ 54,786.86
2 Steel Dump Beds & Hydraulics	\$205,367.42

TOTAL	\$478,862.28
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Public Services Division

Bridge Section

In 2016, our Bridge Crews were busy sandblasting, forming and pouring concrete to replace crumbling parapet walls, wing walls and other important components of the bridges that comprise the lifeline of our commerce. Nine of the twelve bridge repair projects took place in cities. The following highlighted projects demonstrate work performed by this crew in 2016.

Akron Peninsula (AKR 10-0646): Concrete repair

Bath Road (CUY 048-0561): Slope protection project

Bath Road (CUY 48-0781): Culvert repair

Coventry Road: (BAR 17-0084): Guardrail project

East North Street: (AKR 10-0646): Erosion repair

Front Street (AKR 59-0275): Steel cross frame repair

Glenmount Avenue (AKR 149-0024): Deck repair

Highland Road (SAG 111-0000): Pier cap concrete repair

High Level Bridge (AKR-8-0908): Patch bridge deck and routine bi-annual maintenance

Ira Road (CUY 46-0477): Deck repair

Martin Road (BAT 195-0086): Erosion repair

Portage Lakes Drive: Curb sandblasting project

South Main Street (COV 50-0750): Parapet wall removal

In addition to work mentioned above, the Bridge Crew removed numerous logjams, performed bridge deck washing and other various maintenance tasks.



West Bath Road
Bridge Slope Protection Project

Engineering Division

The Engineering Division is active in the development of plans for highway, drainage, and bridge improvements and new construction on Summit County roads. The engineers and technicians prepare improvement plans for federal, state and locally funded projects on County highways. They also assist townships by preparing plans for township roads and drainage systems. Our project managers are responsible for overseeing large projects from initial scoping through the design phase and into construction.

Arlington Road Improvement Project (Coventry and Springfield Townships)

Road improvements began in 2016 for Arlington Road from City of Green line to beyond Swartz Road. Improvements include upgrading traffic signals, resurfacing, installing a north bound left hand turn lane at Warner Road, constructing sidewalks, relocation of utilities, and upgrading signage and pavement markings.

Karvo Companies is the contractor for this \$2,537,296.90 project. The project is 80% funded with Federal Highway Administration grant funds and will be completed in 2017.

Yellow Creek Road Stabilization (Bath Township)

A landslide shut down one lane of Yellow Creek Road at the end of 2015. Slope stabilization was urgently needed between Yellow Creek Road and Yellow Creek just east of Revere Road. The stabilization system consisted of 150 feet of sheet pile wall, drilled shafts, and tie backs across Yellow Creek Road. The project also included 200 linear feet of full depth pavement and 251 feet of resurfacing. Drainage improvements, erosion control, and natural bank stabilization were used to enhance slope stability. Lockhart Concrete was the contractor on the \$927,100.45 project.

Van Buren Road Bridge over the Tuscarawas (New Franklin)

This project was a rehabilitation of the Van Buren Road Bridge over the Tuscarawas River. The Summit County Engineer's Office applied and received Credit Bridge Program eligibility for this project. The Credit Bridge Program allows counties that are using local funds replacing or rehabilitating bridges on non-Federal aid highways to get credit for those bridge replacements to be used later on a federal aid highway bridge replacement.

The bridge replacement cost was \$345,176.00 and the contractor was Lockhart Concrete.

Bank Street Bridge over the Little Cuyahoga River (Akron)

This was also a bridge rehabilitation project. Work included replacing the bridge superstructure, repairing existing abutments, removal of an existing pier, and reconstruction of the approach roadway.

Lockhart Concrete was the contractor for this \$874,000.00 bridge rehabilitation project. The project was 80% funded with Federal Highway Administration grant funds.



Bank Street Bridge Beam Setting

Engineering Division

Summit County is proud to offer a county-wide regional pavement maintenance program. We encourage local communities in Summit County to join our bid process, allowing to go out to bid as one unit and, as a result, getting lower per unit costs for all of our communities who participate. Our pavement maintenance programs include hot mix resurfacing, motor paving, chip and seal, asphalt rejuvenation, crack sealing, pavement marking, culvert replacements, and concrete road repair. In 2016, 11 individual local governments participated. Twenty-eight projects were combined into 8 larger projects worth \$5.6 million. Below are some of the county-owned roads included in 2016's pavement maintenance program.

405 (Motor Paving)

Hametown Road from SR 162 to Ridgewood Road (Bath)
Myersville Road from Killian Road to Krumroy Road (Springfield)
Pressler Road from Killian Road to Krumroy Road (Springfield)
Northampton Road from Akron-Peninsula Road to the Cuyahoga Falls line (Boston)

422 (Chip Seal)

Hametown Road from Bath Road to Everett Road (Bath)
Minor Road from SR 21 to Cleveland-Massillon Road (Copley)
Pressler Road from City of Green to Killian Road (Springfield)

Hot Mix Asphalt North

Highland Road from Olde 8 Road to Macedonia line (Northfield Center)
Olde 8 Road from SR 82 to SR 8 (OPWC project) (Northfield Center)
Brandywine Road from Highland Road to SR 82 (OPWC project) (Sagamore Hills)
Sourek Road from Sourek Road Extension to Revere Road (Bath)

Hot Mix Asphalt South

Mayfair Road from SR 241 to Green line (Springfield)
Portage Lakes Drive from Cormany Road to South Turkeyfoot Road (Coventry)

Asphalt Rejuvenating

Bath Road from Cleveland Massillon Road to Revere Road (Bath)
Crystal Lake Road from Idlebrook Drive to Granger Road (Bath)
State Mill Road from SR 93 to Portage Lakes Drive (Coventry)
Summit Road from Norton line to Jacoby Road (Copley)

Asphalt Crack Sealing Program

Old Mill Road from Twinsburg line to Ravenna Road (Twinsburg Township)
Riverview Road from Cuyahoga Falls line to Peninsula line (Boston Township)
Riverview Road from Peninsula Line to Cuyahoga County line (Boston Township)
Yellow Creek Road from Cleveland-Massillon Road to Yellow Creek Lane (Bath Township)
Pickle Road from Green line to Killian Road (Springfield Township)

Engineering Division

Survey Section

The Summit County Engineer's (SCE) Survey Section has a survey field crew under the direct supervision of a Professional Surveyor, all having over 20 years of experience. Their experience provides a high level of consistency and reliability. The SCE's in-house surveyors provide flexibility for instant response to changes in project priorities.

The SCE performs surveying for internal departments and townships and other local government agencies. They use a Trimble S6 robotic total station and a Ranger data collector with TDS software to collect survey data. They also use a 2016 Nikon Nivo total station with reflectorless technology to serve as backup unit. Computers with Civil 3D 2013 CAD and specialized survey software are used to process and analyze the field data to create the base mapping for design and field staking purposes. The Survey Section uses two dual frequency GPS receivers to establish horizontal and vertical control on jobsites. The receivers can utilize the Ohio Department of Transportation's (ODOT) Continuously Operating Receiver System (CORS)/Virtual Reference System (VRS), which provides real time coordinates having survey accuracy. The Survey Section annually prepares and adheres to an efficient and cost effective budget.

Public Records on File

- Geodetic control in Summit County used to reference the GIS
- Records for County and Township Roads
- Road improvement plans
- Road Dedication and Vacation Plats
- Summit County survey field notes
- Survey Drawings of Minor Subdivisions
- Records of Summit County Surveys
- State Road Improvement Plans
- Major Subdivision Plats and Improvement Plans in unincorporated areas
- Ditch and Drainage Records
- Summit County Bridge Records
- Cemetery Maps
- Survey Maps of Ohio-Erie Canal

The Survey Section provided various surveying services including record research, plan review, topographical mapping, field staking, calculations to determine road centerline, right-of-way lines, property lines, and the preparation of legal descriptions for easement acquisitions.

The Survey Section provided:

- Base mapping with topography, centerline and right of way determination, property line determination, and plan review for plans to replace culverts along four county highways, and creation of legal descriptions for easements relating to the construction and future maintenance of the culverts.
- Base mapping with topography, centerline and right of way determination, property line determination, plan review and field staking of proposed easement for negotiations with property owner for the in-house design of a drainage improvement on Cleveland-Massillon Road.
- Survey pins set or verified inside 64 survey monument boxes defining the centerline of right of way of ten county highways during road resurfacing projects.
- Twelve survey spindles set to mark the centerline of township roads in subdivision during road resurfacing projects.
- Review of consultant plans for a county highway improvement and three bridge improvements.
- The creation and field staking of a temporary easement for a bridge project.
- Base mapping with topography, centerline and right of way determination, and property line determination for design of two highway resurfacing improvements.
- Provided survey services to the Public Service Department to survey the right of way at the Bath Road and Hametown Road intersection for removal of trees in the right of way.
- A signed and sealed dedication plat to widen road right of way at highway intersection, and a property split map with associated legal descriptions.
- Field staking for the location for the installation of a guy poles.
- Field verification that a design consultant set pins on the new right of way of a bridge project after completion of construction.
- Surveying to monitor movement in a sidewalk along a highway and lake.
- Surveying to monitor movement in a slide area along a highway and river, and surveying for as-built mapping after the project to repair the slide.

Engineering Division

Survey Section continued

- Survey services to field stake the R/W of township road to identify encroachment of a partially constructed fence.
- Survey services to survey a township road for discussion of the potential vacation of an irregular portion of the road.
- Survey services to determine the centerline of a township road and for future construction of a park trail.
- Support to the National Park System with an on-site meeting to discuss and provide field measurements and a drafted sketch follow up to a long time flooding issue.
- Provided survey field services to the Ohio EPA to meet them on site and measure elevations along a portion of a run between in the Portage Lakes.
- Support to the Executive and the Fiscal Office with survey research and meeting with Fiscal Office employees to verify and coordinate the acceptance of existing legal descriptions for the conveyance of county property to a third party
- Survey services to a Joint Recreation District to research a road to verify whether it is a public road.
- Assistance to the Subdivision Engineer by reviewing all proposed final plats and re-plats, and by verifying that survey pins are set for the centerline of right of way and all lot corners for subdivisions entering into maintenance bond.
- Review of 25 survey drawings with legal descriptions for parcel splits or consolidations to help ensure requirements of state and local standards are met.
- Review and research for explanation of easements in assessed subdivision.
- Fieldwork assistance for Highway Section and Construction Section as needed.
- Research assistance to surveyors, engineers, and the public for various public and private projects.



The Survey Section utilized a Ricoh Aficio MP W3601 large format copier/printer/color scanner to produce scanned images of: Road Record Plan Sheets, Dedication Plats, Vacation Plats, Private Surveys, Major Subdivision Final Plats and Major Subdivision Improvement Plans. Other historic images include: Drainage Plans, Cemetery Maps, Abandoned Mines Maps, Portage Lakes Maps, Nimisila Reservoir Maps, and Miscellaneous Township Surveys.

In cooperation with the Office of Information Technology, the Survey Section is working towards our goal of a "digital records room" that can be accessed anytime from the internet. Scanned images of surveys, subdivisions and subdivision improvement plans and road record scanned images, all from the SCE records archive, are currently available through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>. The Survey Section has scanned images of all the road and survey records on file at the Summit County Engineer's Office, and maintains the record information in hard copy format and in a data base format to better serve the residents of Summit County.

The Survey Section has been instrumental in maintaining the geodetic survey monumentation that comprises the foundation of the Summit County GIS Program. There are over 900 survey monuments with accurate horizontal and/or vertical data. We inventoried 90 percent of the monuments in 2016, to update information on the data sheets. Data sheet information on these survey monuments is available through the "ON LINE TOOLS" section on the Summit County Engineer website: <http://www.summitengineer.net/resources/tools>

Engineering Division

Bridge Section

The Summit County Engineer Bridge Section is responsible for bridge inspections, bridge inventory, coordination of our bridge maintenance program and developing recommendations for rehabilitation or replacement of County bridges. The bridge section also reviews all bridge plans prepared by consultants. Our project inspectors serve a dual role. They are ODOT certified bridge inspectors and perform our bridge inspections annually to ensure they remain safe for the traveling public.

RECENTLY COMPLETED BRIDGE PROJECTS

Bank Street Bridge Rehab in City of Akron – Major Rehabilitation \$874K, Single span, 60 ft. long, prestressed box beam on modified concrete abutments.

Van Buren Road Bridge Rehab in the city of New Franklin– Rehabilitation \$346K, 3-span, 134 ft. long, concrete slab, deck repairs/micro-silica overlay, concrete repairs, pile encasement, bridge & approach guardrail.

UPCOMING BRIDGE CONSTRUCTION

Greenwich Rd over Branch Hudson Run in City of Norton – Total Replacement \$180K, Concrete box culvert, 9 ft. span.

Vanderhoof Rd over Tuscarawas River in City of New Franklin – Total Replacement \$900K Single span, prestressed box beam, 103 ft. long.

Home Ave. over Little Cuyahoga River in City of Akron – Total Replacement \$1.8M, 3-span, concrete slab, 74 ft. long.

N. Main St. over Cuyahoga River Valley in Cities of Akron & Cuyahoga Falls – Structure Repairs \$400K, Truss Gusset Plates retrofits, expansion joint replacement, deck repairs and other miscellaneous repairs.

UPCOMING BRIDGE MAINTENANCE

Fishcreek Rd over Powers Brook in City of Stow – Concrete Repairs.

Highland Rd over Cuyahoga River in Sagamore Hills Township – Concrete slope protection repairs under bridge.

2016 Bridge Maintenance information can be found in the Public Services section on page 7.



2016 Underwater Bridge Inspector

BRIDGE INSPECTION

Summit County Bridges – Completed required inspections and inventory updates for all 313 bridges, including hiring a contractor to perform needed underwater bridge inspections.

Summit MetroParks – Completed the inspection of 9 vehicular bridges and 28 pedestrian bridges for the Summit MetroParks.

COMMUNITY INVOLVEMENT

The Bridge Section participates in the Annual Miniature Bridge Building Competition. This year's competition featured 34 teams of Summit County High School students.

Summit County Engineer Bridge Facts

313 total bridges
117 in Townships
196 in Cities and Villages

Planning Section

The Planning Section supports and regularly attends meetings of various committees and organizations that affect roads and bridges in the County. Attendance at these meetings enables this Office to communicate the impact of their projects on County facilities, advise them of County projects that may affect their programs, and assist in planning County projects to coordinate with other community programs. This office participated in the following committees and organizations:

Supported Committees & Organizations:

- National Pollution Discharge Elimination System Phase II Countywide Program
- Northeast Ohio Four County Planning and Development Organization (NEFCO) Environmental Resources Technical Advisory Committee (ERTAC)
- Akron Metropolitan Area Transportation Study (AMATS) Technical Advisory Committee Watershed Group
- Providing municipal engineering services to the City of Norton
- Assists townships with grant applications through the Ohio Public Works Commission and other agencies

Planned 2017 Projects

- **Arlington Road Improvement Project:** Improve Arlington Rd from City of Green to beyond Swartz Rd. Project began in 2016 and is ongoing into 2017.
- **Greenwich Road Culvert Construction:** Remove existing structure and replace with concrete box culvert. Project estimate: \$160,000
- **High Level Bridge repairs:** In depth inspection, zone painting, and gusset plate repairs on the County's most expensive structure. Project estimate: \$400,000.00
- **Riverview Road Bridge Rehabilitation:** Bridge rehabilitation project including a deck, pier cap, wingwall, and parapet replacement. Project estimate: \$300,000.00
- **Vanderhoof Road Bridge Replacement:** Complete bridge replacement project located in the City of New Franklin. Project estimate: \$882,430.00
- **Boston Mills Road Improvement:** Using federal funds from the Eastern Federal Lands Access Program, improve Phase 1 of Boston Mills, starting at Riverview Road intersection and extending west for one mile. Project estimate: 698,500.00

G.I.S. Section

The Geographic Information System (G.I.S.) Section is a complement to our engineering section by supporting the design engineers by creating design drawings, mapping infrastructure features, including the mapping of infrastructure features using handheld G.P.S. equipment and other miscellaneous spatially based mapping necessary to provide information to make informed engineering decisions. They also provide the Summit County maps to the public. In 2012, the GIS functions of the office combined with the Executive and Fiscal offices' GIS departments, creating a unified GIS division for the county.



Engineering Division

Drainage Section

The Drainage Section coordinates requests, reviews, inspects, designs and schedules improvements to ditches, culverts, storm sewers and other drainage-related items for landowners, townships and/or County maintenance. Preliminary studies and improvement plans were prepared for several township and county drainage projects. There were several proposed commercial improvement plans reviewed

2016 Drainage Projects

Bath	Martin Road Culvert 195-00840	Repairs to culvert and headwall to be performed by County forces in 2017. Design completed in 2015.
Coventry	N. Turkeyfoot Road Culvert @ Falcon Court	Plans are being prepared to replace deteriorating culvert. Work to be completed in 2018.
	N. Turkeyfoot Road Culvert @ Hohman Drive	Plans will be prepared to replace deteriorating culvert. Work to be completed in 2018.
	Vaughn Trail Culvert @ Long Lake Blvd	Plans are being prepared to replace deteriorating culvert. Work to be completed in 2018.
Norton	Greenwich Road Bridge Replacement	Plans prepared to replace bridge with new culvert. Construction began March 2017.
Sagamore Hills	Boyden Rd Culvert @ Meadowview	Culvert replacement plans prepared in 2016. Work to be performed in 2017.
Springfield	Albrecht Road Culvert 44-05052	Culvert replacement plans prepared in 2016. Work to be performed in 2017.
Countywide	Storm Sewer Video/Inspection Contract	Countywide program to provide full inspection of inaccessible drainage systems. Inspection began early in 2017.

2016 Commercial Plan Reviews

Bath

- Cleveland Clinic/Akron General Medical Center—SR 18 and Crystal Lake
- S&T Bank—491 N. Cleveland Massillon Road
- Starbucks—3899 Medina Road

Copley

- Dollar General—S. Cleveland Massillon Road
- Dollar General—Collier Road
- Ultimate Golf, Traffic Impact Study

Coventry

- Hickory Harvest Building Addition—90 Logan Parkway
- P.L. Storage Units—SR 619/Lockwood Road

Northfield Center

- The Church in the Valley—9851 Olde Eight Road
- Hot Heads Salon—209 E. Aurora Road

Springfield

- Dollar General—Arlington Road/Archmere Road

Twinsburg

- North Coast Roofing—7950 Bavaria Road

Engineering Division

Surface Water

Surface Water Activities funded by the County General Fund:

Two studies funded by 2015 general fund appropriations were completed in 2016 to provide assessment estimates for projects at Brice Ditch in Springfield Township and Copley Meadows / Sunny Acres Ditch in Copley Township. Due to the limited funding from the general fund, no new studies were started in 2016, and any future off-road ditch work will require property owner assessments.



Cleveland-Massillon Road Bank Stabilization Project

County Ditch Petitions

Two petitioned ditch projects, Dorwick in Northfield Center Township and Pine Point in Bath Township, were submitted to County Council in 2016 in accordance with Chapter 6131 of the Ohio Revised

Code. Preliminary construction cost estimates and preliminary assessments were prepared by this office, funded by the general fund, however, neither project has proceeded to the design phase at this time. The County Engineer has begun working with the County Executive and County Council to implement a Countywide Surface Water Management District that jurisdictions could opt into. The associated storm water utility fee could fund planning, design and a portion of the construction of storm water projects.

Assessed Subdivisions

Our Inspectors and Ditch Maintenance Crews continued to carry out regular inspections and maintenance of the storm water management facilities within those subdivisions that pay assessments into the Ditch Maintenance Funds. Our crews performed inspections at forty-two subdivisions and regular maintenance at an additional twenty-three subdivisions. In addition, our crews completed drainage maintenance repair projects at detention basins in four subdivisions.

Commercial Storm Water Management

Within the townships, commercial sites greater than 1 acre in size are subject to Summit County Ordinance 943, adopted in 2013. This requires that storm water management facilities be included in the site development to provide a level of storm water quality and quantity control. Consequently, the developers agree to submit a storm water management plan, perform quarterly inspection of the facilities, and report annually to the Summit County Engineer. It was determined that owners of four sites were to comply in 2016, and these owners were contacted and advised to respond by March 15, 2017. There were currently three new sites under construction in 2016 that are subject to Ordinance 943.

Roadside Ditches

Using funds from the MVGT fund, the Public Service Division continues to maintain ditches along county roads. In 2016, 109 ditches were cleaned.

Engineering Division

Highway Section

The Highway Section is responsible for highway design, installation and maintenance of traffic control devices such as signs, pavement markings and traffic signal systems/warning flashers. These functions are integral parts of all improvements made to the Summit County highway system. In addition to the section's primary function of preparing plans for roadway improvements, the Highway Section also conducts studies and/or evaluations of roadway traffic, geometrics, physical features and access. The Highway Section determines the need for signage, guardrail, lane assignments/construction, speed limit revisions and other safety capacity improvements. This Section also reviews and coordinates construction projects to ensure that alternate routes for traffic detours are free of major obstructions and available during the construction season.

Design Complete

Boston -- Boston Mills Road Improvements (Riverview Road to Boston Station)

Springfield -- Portage Line/Waterloo Road Traffic Signal Upgrade

Current Design

Bath -- Medina Line Road (SR 18 to Granger)

Springfield -- Canton Road Resurfacing (Salmon Drive to Tri-County Plaza)

Springfield -- Canton Road Sidewalk (Springfield HS to Tri-County Plaza)

Studies Completed

Bath -- Bonnebrook Speed Study

CEAO Safety Studies for Pavement Markings and Sign Compliance

Current Studies

Bath -- Cleveland-Massillon/Ghent Signal Timing

CEAO Safety Study -- S. Main/Killian Intersection

CEAO Safety Study -- Valley View/N. Boyden/Acadia

Copley -- Cleveland-Massillon/W. Ridgewood Lane Configuration

Allotment Section

The Allotment Section works with developers, engineers, contractors, governmental agencies and the public to regulate the design, construction and acceptance of subdivisions. This section also coordinates inspections under the Engineer's annual stormwater maintenance program. This consists of inspecting detention/retention ponds, catch basins, headwalls and storm sewers in subdivisions throughout the County. When required, corrective measures are taken to update the stormwater facilities to assure that stormwater is appropriately managed in allotments.

2016 SUBDIVISION PLAN REVIEW & CONSTRUCTION INSPECTION

Arbor Chase Subdivision Phase 2—Copley

Bentley Reserve—Copley

Hart's Landing—Springfield

Hidden Ridge Subdivision—Sagamore Hills

Hillside Estates Phase 4—Copley

Lions Park Allotment—Springfield

Nature's Preserve Phase 3—Twinsburg Twp

Rotili Lane—Copley

The Preserve at Miller's Farm Phase 2 & 3—Copley



2016 FINAL PLATS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Copley	3	97	47
Springfield	1	23	10
TOTALS	4	120	57

2016 PRELIMINARY PLANS

TOWNSHIP	SUBDIVISIONS	SUBLOTS	ACRES
Bath	1	17	13
Sagamore	1	22	23
TOTALS	2	39	36

Engineering Division

Construction Section

The Construction Section is responsible for the quality, cost, and timeliness of improvements to the County's highways and bridges. This includes reviewing preliminary plans, acquiring property, relocating utilities, construction inspection, testing construction materials, and completing final construction contract documents.

2016 Construction Projects

Road Projects

	<u>Cost</u>
Yellow Creek Road Stabilization Project	\$ 869,782.34
S. Arlington Road Improvement Project	\$ 2,537,296.90

Bridge Projects

	<u>Cost</u>
Van Buren Road Bridge Rehabilitation	\$ 363,352.42
Bank Street Bridge Replacement	\$ 874,000.00

Drainage Projects

Culvert Program	\$ 33,430.00
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TOTAL **\$ 4,677,861.66**



Bank Street Bridge Beam Setting

The Construction Section manages the Regional Pavement Maintenance Program. We invite all pavement owners in Summit County to join in joint projects for common roadway maintenance work types. The goal is to achieve savings through economy of scale and standardization of specifications.

The individual entities develop their own scopes and provide their own inspection. This office condenses the numerous smaller projects into larger projects and advertises, awards, and administers the projects.

This year, 11 individual local governments participated. 28 individual projects were combined into 8 larger projects worth \$5.36 Million.

<u>Regional Pavement Maintenance Program</u>	<u>SCE Cost</u>	<u>Other Cost</u>	<u>Total Cost</u>
405 Motor Paving	\$ 590,081.50	\$ 638,604.06	\$ 1,228,685.56
422 Seal Coat	\$ 176,158.75	\$ 342,239.30	\$ 518,398.05
448 North	\$ 737,626.73	\$ 1,375,363.99	\$ 2,112,990.72
448 South	\$ 388,688.24	\$ 359,672.52	\$ 748,360.76
Asphalt Crack Sealing	\$ 36,905.06	\$ 82,502.37	\$ 119,407.43
Asphalt Rejuvenation	\$ 51,223.12	\$ 46,209.69	\$ 97,432.81
Concrete Pavement Repair	\$ -	\$ 388,756.36	\$ 388,756.36
Pavement Marking	\$ 114,348.90	\$ 30,719.83	\$ 145,068.73
	\$ 2,095,032.30	\$ 3,264,068.12	\$ 5,359,100.42

Engineering Division

Construction Section

The Construction Section provides assistance as requested by townships and various other municipalities, which may include review of construction documents and plans, preparation of cost estimates and bid documents, inspection of construction activities and contract administration. This Section also performs annual inspection of bridges, culverts and roads. In addition the Construction department administers permits for road openings and closings, special hauling, ditch enclosures, and driveway culverts.

Utility Coordination

Existing utilities, private and public, overhead and underground, conflict with almost every construction project. Our Utility Coordinator is responsible to ensure that all conflicts are identified and addressed before construction begins. This entails detailed reviews of preliminary construction plans, visits to the proposed construction site, and constant coordination with representatives of the utility companies.

In addition, to coordinating utilities for this office, our Utility Coordinator also performs this work for other government agencies that do not have a Utility Coordinator.

Other Construction Projects Administered, Inspected, and Tested	
Township	Projects
Bath	4
Boston	0
Copley	4
Coventry	1
Northfield Center	0
Richfield	1
Sagamore Hills	3
Springfield	2
Twinsburg	5
Other	
City of Akron	2
City of Norton	2
Village of Richfield	1
MetroParks	3
Total	28

Right-of-Way Acquisition

Many public works projects require the acquisition of property. Our office is very fortunate to have a skilled staff member trained in all aspects of ROW acquisition. The following ROW was cleared in 2016:

- Complete Arlington Road through litigation -21 easements for \$28,875.
- Greenwich Road-Bridge Replacement-3 Easements -\$900.
- Cleveland-Massillon Road-Embankment Protection-2 Easements-\$2,351.
- Vanderhoof Road-Bridge Replacement-2 Easements-\$600.

Construction Management, Inspection, and Materials Testing

Our project coordinators and construction inspectors work with our general contractors to ensure that work is performed in conformance with the contract documents.

The Construction Section managed a total of \$10,624,095.06 worth of improvements in 2016.

2016 Township Highway Miles	
Bath	62.395
Boston	10.175
Copley	61.085
Coventry	54.780
Northfield Center	20.750
Richfield	15.705
Sagamore Hills	37.370
Springfield	70.071
Twinsburg	15.075
TOTAL	347.406
2016 County Highway Miles	181.545

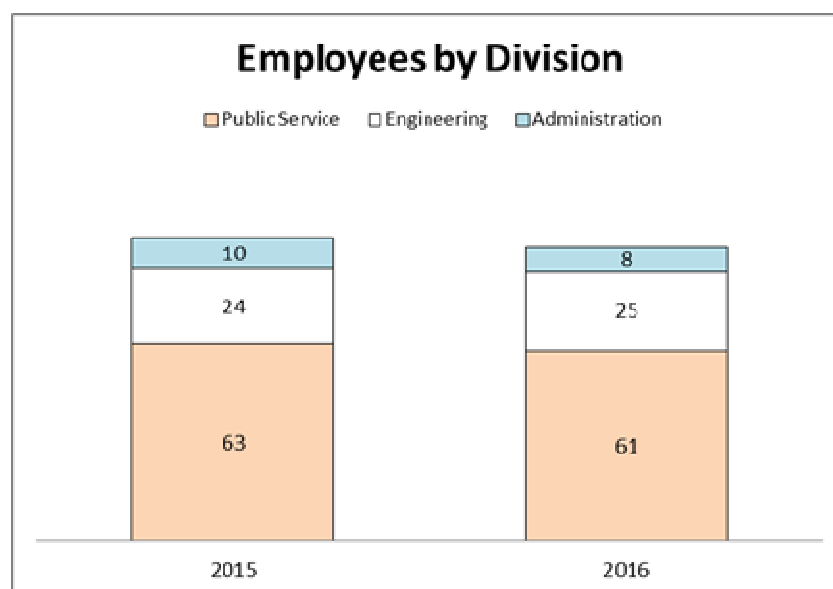
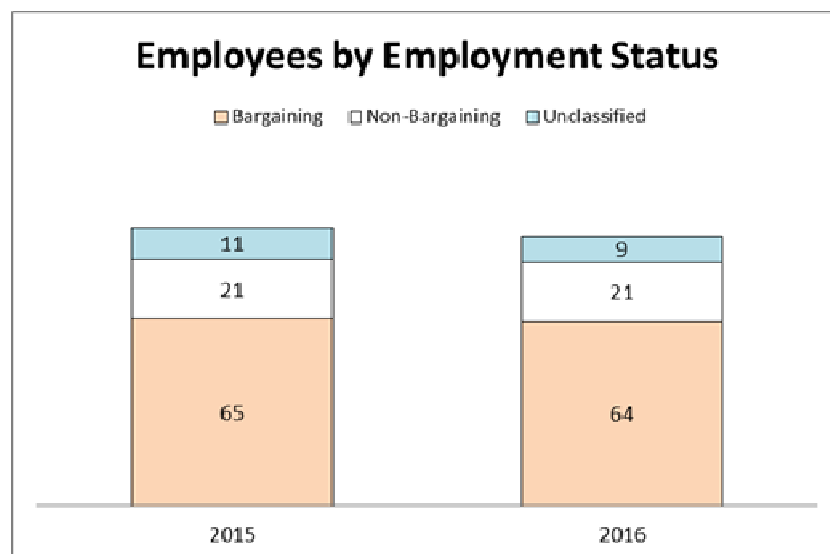
TOWNSHIP PROJECTS	
	Township Cost
Sagamore Hills Township	
Canyon View Phase 1—Roadway Improvements	\$ 364,770.98
Springfield Township	
Pontius Road Resurfacing	\$ 222,362.00
Total Value of Improvements to SCE Facilities	\$ 6,772,893.96
Total Value of All Improvements Managed by Construction Section	\$ 10,624,095.06

Administration Division

Human Resource Section

The Human Resource functions of the Engineer's office are coordinated through our Personnel Administrator and the Department of Human Resources which reports to the County Executive. The Personnel Administrator assures compliance with all rules and policies established by the County Human Resource Commission, the County Department of Human Resources and any federal, state or county labor laws. The Personnel Administrator also maintains an employee database for the 97 employees of the County Engineer.

The total number of employees decreased by 3 employees between 2015 year-end and 2016 year-end. This was due to several factors. Five of our employees retired under PERS. Two other employees left service during the year for various reasons.



Finance Section

Personnel

Personnel expenditures, including fringe benefits, were approximately \$7.9 million in 2016. This was a decrease of approximately 5% from our personnel expenditures in 2015. The decrease was primarily due to there being 27 pays in 2015. In addition, our labor force was reduced by 3 employees. In 2009, SCE had 135 employees. By the end of 2016, we had 97.

Operations (Non-Personnel)

Operating costs continued to decline by approximately \$100,000 in 2016. Total operating expenditures in 2016 were just under \$3.5 million including debt service.

The final debt service payment was made on the \$7 million in outstanding debt that existed at the end of 2008 when we took office. This was a major milestone in our effort to restore financial stability to the office and the MVGT fund. This came in a nick-of-time because we needed the debt capacity to issue nearly \$1.5 million in new debt to help pay for the collapse of Yellow Creek Rd and the E. North Street Bridge replacement.

Operating Expenditures	2015 Actual	2016 Actual
Personnel	\$8,303,732	\$7,905,188
Operations	\$2,759,262	\$2,645,838
Debt Service	\$823,085	\$846,656

Capital Improvement Program

Total capital expenses for the motor MVGT fund were approximately \$4.5 million in 2016. Approximately \$500,000 of the total capital expenditures in 2016 were from prior year encumbrances.

Revenue

In 2016, total revenue from all sources continued to exceed \$15.6 million. Our major sources of revenue are license taxes and gasoline taxes. Tax revenue increased by approximately \$400,000 but this was not enough to counteract reductions in other revenue sources. As a result, our total revenue for 2016 was down 0.46% from 2015 total revenue. The distribution of our tax revenue only is detailed in the chart below. In addition to tax revenue, the motor vehicle gas tax (MVGT) fund received over \$600,000 from other revenue sources including contracts with local communities. In 2016, our capital program was supplemented by over \$3 million from state and federal grant funding sources which is reported separately from MVGT revenue.

Revenue	2015	2016
Permissive Auto Tax	\$412,716	\$417,334
County Permissive Tax	\$3,725,323	\$3,736,607
Gas Tax	\$2,224,129	\$2,471,199
License Tax	\$8,237,611	\$8,384,680
Total Tax Revenue	\$14,599,779	\$15,009,820

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For more information on projects of the Summit County Engineer's Office please contact us or check our website:

www.summitengineer.net

Pothole Season

Summit County Public Services Department is open Monday - Friday 7:30 a.m. – 4:00 p.m. for reporting any potential problems or concerns affecting the roadways throughout the County.

We also have a 24/7 reporting system to gather information reports of roadway problems. To report a pothole or roadway defect call 330-643-2860.

Thank you!

Thank you to the citizens of Summit County who alert us to problems they see along the roadways and who are patient when our construction and maintenance work causes inconvenience.

We are especially grateful to the Summit County Engineer employees who have embraced hard changes and who strive to provide the citizens of Summit County safe and smooth travel over our County highway system.



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