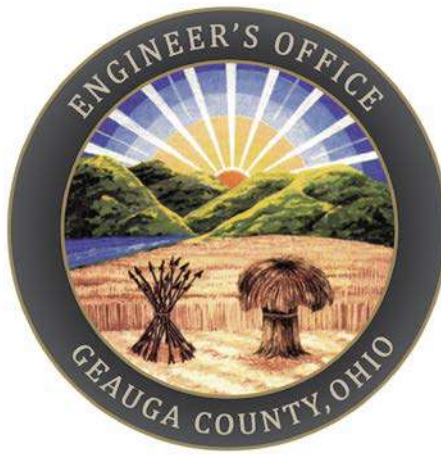


2015

Annual Report

The Geauga County Engineer's Office



2015

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The Geauga County Engineer's Office

Executive Summary

Thank you for taking the time to review and learn about the projects and maintenance that the Geauga County Engineer's Office managed in 2015.

Please utilize this document as an overview of the Engineer's responsibilities and performance to help you better understand the essential service that the Geauga County Engineer provides to the residents of Geauga County, Ohio.

The County Engineer is required per the Ohio Revised Code, Section 5543, to perform the following duties on all County roads and all bridges on county and township roads:

- Construction
- Reconstruction
- Improvement
- Maintenance



The County Engineer is also statutorily required to perform engineering services on all township roads.

The following document details the Geauga County Engineer's successful fulfillment of those duties in 2015.

Thank you,



Joe Cattell, PE, PS

Joe Cattell, PE, PS

Joe was elected to the office of Geauga County Engineer in November 2012 and took office on January 7th, 2013.

Prior to his election, Joe served as an employee at the Geauga County Engineer's Office from 1994-2013.

Joe received his Professional Surveyor's license in 2001 and his Professional Engineer's license in 1999.

Joe graduated from Cleveland State University in 1993 with a B.S. in Civil Engineering.



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Cost Increases

Costs have gone up exponentially over the past two decades. The Engineer's Office has combatted these rising costs by developing a more efficient and effective workforce that is able to provide more services to residents while doing so with fewer resources. Below is a chart that explains the cost increases to the Engineer's Office over the past two decades.

Type	1996	2006	2013	2014	2015	Percentage Increase since 2006
Aggregates	\$9.00 per ton	\$14.00 per ton	\$20.00 per ton	\$20.25 per ton	\$20.45 per ton	31.54%
Asphalt Hot Mix	\$23.00 per ton	\$37.50 per ton	\$62.50 per ton	\$62.50 per ton	\$62.50 per ton	40.00%
Cinders	\$10.50 per ton	\$11.75 per ton	\$19.00 per ton	\$19.50 per ton	\$16.65 per ton	29.43%
Salt	\$143,000.00	\$300,000.00	\$306,000.00	\$383,817.76	\$817,915.37	63.32%
Fuel	\$81,000.00	\$187,000.00	\$344,000.00	\$315,278.61	\$177,283.47	-5.48%
Cost to Resurface 1 Mile of Road	\$90,000.00	\$125,000.00	\$180,000.00	\$225,000.00	\$225,000.00	44.44%
Cost to Reconstruct 1 Mile of Road	\$220,000.00	\$380,000.00	\$600,000.00	\$700,000.00	\$700,000.00	45.71%

While costs have increased, the Engineer's total budget has not increased proportionately to the rising costs. In fact, while the Engineer's income has increased overall since 1996, until a modest increase in 2015, the budget has actually **decreased since 2006**.

Year	1996	2006	2013	2014	Decrease since 2006	2015	Increase since 2015
Total Budget	\$7,139,629.07	\$9,647,391.70	\$9,168,806.74	\$9,624,245.63		\$10,459,826.19	7.77%

Accordingly, the Engineer's Office has developed more efficient methods and practices to combat the disproportionately rising costs.

Unfortunately, the Engineer's Office is already predicting a significant decrease in total revenue for 2016 and is diligently preparing to respond to the decrease.

Design, Funding, and Planning Department

Shane E. Hajjar, P.E., Deputy Engineer

The Design, Funding, and Planning Department is responsible for various project design duties on the 235.674 miles of county roads, 187 bridges, and 577.362 miles of township roads. This department uses professional engineering expertise to perform statutory engineering responsibilities on roads and bridges for the Geauga County Commissioners and all 16 Township Boards of Trustees within Geauga County.

The Design Department performs the following statutory duties:

- Design of all bridges, culverts, ditches and roads
- Hydraulic studies
- Preparation of improvement plans, specifications, and estimates
- Right-of-way acquisition

The most recent assessment found that eighty-nine percent (89%) of all County roads have a numerical rating of six (6) or higher.

Condition Assessment of County Roads and Bridges

The County reports its roads infrastructure assets using the modified approach. The following disclosures pertain to the condition assessment and budgeted versus actual expenditure in 2015 for the preservation of these assets. The Geauga County Engineer administers a five year program for road and bridge repairs and improvements. This plan changes continually based upon conditional inspections and budget allowances.

A general overall numerical rating ranging from 0 to 9 is assigned to sections of roadways as a result of the yearly visual observations, with 0 being the lowest ranking and 9 being the highest. It is the practice of the Geauga County Engineer's Office to maintain at least eighty percent (80%) of the mileage of the county highway system at an appraisal rating of 6 or more. The most recent assessment found that eighty-nine percent (89%) of all County roads have a numerical rating of 6 or higher.

ODOT Ratings	Gauga Road Mileage
Failure (0)	0
Imminent Failure (1)	0
Critical (2)	0
Serious (3)	0
Poor (4)	0
Fair (5)	25.1
Satisfactory (6)	46.1
Good (7)	61.3
Very Good (8)	50.1
Excellent (9)	53.1
Total	235.674

All 235.674 Centerline Miles of Geauga County Roads
have a condition assessment of Fair to Excellent.

County Project	Miles	Bid Amount	Final Cost
Rapids Road (resurfacing)	5.59	\$887,314.60	\$893,770.20
Old State Road (mill and resurfacing) NOACA	4.22	\$712,217.40	\$677,329.03
Chagrin Road (mill and resurfacing) NOACA	2.39	\$416,624.02	\$414,815.70
Burton-Windsor Road (resurfacing) OPWC	2.55	\$610,241.40	\$579,542.80
Thwing Road (resurfacing) OPWC	2.88	\$548,067.75	\$519,393.81
Ravenna Road (resurfacing) NOACA	3.43	\$742,475.40	\$715,060.96
Polyester Pavement Marking PPM 2015	N/A	\$215,215.00	\$220,075.23
Heath Road Bridge Replacement (two locations)	N/A	\$283,829.00	\$285,016.71
2015 County Project Totals	21.06	\$4,415,984.57	\$4,305,004.44



Through conservative design and diligent project management on County road and bridge projects, Geauga County Engineer project managers saved taxpayers a total of \$110,979.89 as the difference between the bid price and the actual project cost.

Township	Project	Miles
Auburn	Chip Seal Project	2.17
Auburn	Reconstruct - Stafford Road	1.40
Bainbridge	Resurface - Peppermill/Chase/Amber	1.55
Bainbridge	Reconstruct - Tall Tree/Trails End	0.66
Bainbridge	Concrete Repairs – Park Cir./W. Park Cir.	N/A
Chester/Munson	Resurface - Heath Road (OPWC)	1.67
Chester	Chip Seal Project	2.50
Chester	Pavement Repairs Project	N/A
Hambden	Resurface Various Roads	2.38
Montville	Repair-Chip Seal – Whitney Road	2.30
Munson	Resurface Various Roads	0.96
Newbury	Resurface Various Roads	2.06
Russell	Resurface Various Roads	1.14
Troy	Resurface Greystone Road	0.39
Total Township Project Mileage		19.18

2015 Township Project Bid Amount: \$4,330,103.30

2015 Township Project Finals Costs: \$4,293,315.35

Through diligent project management, Geauga County Engineer project managers on township roads saved taxpayers a total of \$36,787.95 as the difference between the bid price and the actual project cost.

Construction, Permitting, and Traffic Management Department

Nicholas J. Gorris, PE - Deputy Engineer

Responsibilities in 2015 included:

- All traffic related studies including, but not limited to, volume counts, speed studies, signal warrant studies, crash review and analysis
- Existing Culvert Inventory Management and Inspection
- The management and inspection of all resurfacing, repair, reconstruction, culvert and bridge replacements on all county and township roads
- The management of all Subdivision development, plan review of new and expanded subdivisions and permitting
- Prevailing Wage Law Contract Compliance
- The issuance of all new and replacement driveway culvert permits
- The issuance and enforcement of Highway Use Permits along all county roadways, including ten (10) of the sixteen (16) townships. Auburn, Bainbridge and Burton Townships passed resolutions transferring this responsibility to the Engineer's Office in 2015 at no cost to these townships.
- The issuance of overweight/over-width hauling permits



Construction Management & Inspection

The Geauga County Engineer’s Office recorded over 4,200 hours of management and inspection services on the following County and Township improvement construction projects:

- Two (2) Bridge Replacement Projects
- Six (6) County Road Resurfacing Projects
- Two (2) Township Reconstruction Projects
- Six (6) Township Resurfacing Projects
- Four (5) Township Maintenance Projects
- One (1) Roadway Pavement Marking Project

The above referenced projects included the placement of over 89,000 tons of Hot Mix Asphalt, and the application of over 115 miles of Polyester Pavement Markings.

COUNTY PROJECTS

Project	Start Date	Completion Date	Total Working Days
Rapids Road, CH 1 (Resurface)	1-May-15	11-Jun-15	13
Old State Road, CH 6 (Drainage Improvements – Completion)	15-APR-15	30-MAY-15	37
Old State Road, CH 6 (Mill & Resurface)	30-Jul-15	22-Aug-15	9
Chagrin Road, CH 9 (Mill & Resurface)	27-Jun-15	27-Jul-15	10
Burton-Windsor Road, CH 14 (Resurface)	18-Sept-15	30-Oct-15	9
Thwing Road, CH 27 (Resurface)	14-Sept-15	3-Nov-15	10
Heath Road, TR 105, (Two Bridge Replacements)	30-Jul-15	10-Aug-15	20
Ravenna Road, CH 601 (Widen & Resurface)	22-Jun-15	27-Jul-15	12
County Wide – Polyester Pavement Marking	20-May-15	16-June-15	5

Abbreviations: CH – County Highway, TR – Township Route

Construction Management & Inspection (continued)

TOWNSHIP PROJECTS

Project	Start Date	Completion Date	Total Working Days
Auburn Township: Reconstruction of Stafford Road, Section C, TR 187	27-May-15	28-Oct-15	82
Auburn Township: Chip Seal of Franks Road, TR 193	8-Aug-15	21-Sept-15	3
Bainbridge Township: Resurfacing of Peppermill Run, Chase and Amber Drives	18-Jun-15	11-Sept-15	18
Bainbridge Township: Concrete Pavement Repairs of Park Circle & West Park Circle	3-Jun-15	26-Jun-15	14
Bainbridge Township: Reconstruction of Tall Tree and Trails End	21-Jul-15	13-Aug-15	15
Chester Township: Chip Seal of Various Roads	27-Aug-15	29-Aug-15	3
Chester Township: Pavement Repair to Various Roads	31-Aug-15	7-Oct-15	10
Hambden Township: Resurfacing of Various Roads	30-May-15	17-Jun-15	10
Montville Township: Chip Seal of Whitney Road, TR 65	20-Jul-15	7-Aug-15	2
Munson Township: Resurfacing of Various Roads	11-Aug-15	22-Aug-15	7
Munson & Chester Township: Resurfacing of Heath Road, TR105	14-Aug-15	26-Aug-15	7
Newbury Township: Resurfacing of Various Roads	27-Jul-15	12-Sept-15	10
Troy Township: Resurfacing of Greystone Drive, TR 968	13-May-15	21-May-15	5

Abbreviations: CH – County Highway, TR – Township Route

Subdivisions

In 2015, three subdivisions were under active construction, no subdivisions were under maintenance guaranty, and one subdivision was released from maintenance guaranty.

Permitting

Nineteen (19) Highway Use Permits were issued allowing private contractors to work within the road right-of-way for the installation, maintenance, and/or replacement of private infrastructure projects.

One hundred fifty (150) Drive Permits were issued for the installation of new driveway culverts and the replacement of existing driveway culverts. In addition fifty-seven (57) new addresses were issued to existing parcels.

Four (4) "Over-Width" permits for annual, single trip and return operations were also issued.



Bridge Department

Andy Haupt, P.E., P.S., Deputy Engineer

The County Engineer is responsible for inspecting and maintaining Geauga County's 187 bridges located on county and township roads.



The Bridge Department, along with all other state-wide entities, have made the transition to the Ohio Department of Transportation's Structure Management System for reporting 2015 inspection year condition ratings, work orders, and inventory updates. Through effective management of inspection data, the Engineer has developed a scheduled bridge maintenance program to efficiently preserve and extend the life of these essential pieces of infrastructure.

Each bridge is evaluated annually based on the State and Federal Law and in accordance with Ohio Department of Transportation (ODOT) recommendations. Each bridge is given an ODOT sufficiency rating and an overall appraisal rating based upon bridge inspection rating factors. The County Engineer's Office is responsible to maintain all bridges located on County and township roads in Geauga County. The most recent inspection assessment found that ninety-eight percent (98%) of the County bridges have a numerical rating of 5 or higher.

98% of Geauga County Bridges Are Rated Fair To Excellent.

ODOT Ratings	Gauga County Bridges
Failure (0)	0
Imminent Failure (1)	0
Critical (2)	0
Serious (3)	0
Poor (4)	3
Fair (5)	11
Satisfactory (6)	24
Good (7)	34
Very Good (8)	94
Excellent (9)	21
Total	187



Survey Department

Andy Haupt, P.E., P.S., Deputy Engineer

The survey department continues to improve and develop as a team.

In 2015, the Engineer's Office effectively and efficiently utilized recently acquired cutting edge survey equipment consisting of a robotic total station and GPS receiver configured to utilize the Ohio Department of Transportation's VRS (Virtual Reference Station) system which has enabled the survey department to increase efficiency and accuracy, while utilizing fewer staff members. The department provided the Engineer's Office with the following survey related data collection:

- Control
- Topological
- Drainage
- Easement
- Right-of-Way and centerline surveys

The Survey Department supported the Design Department by providing record research, records assembly, and diligent field recovery of monuments.

The Survey Department also supported the townships by performing centerline retracement, right of way staking, drainage surveys, record research of easements, as well as right of way vacations and dedications.



Highway Maintenance Department

Trace Turnbull, Highway Superintendent

The Geauga County Engineer Highway Maintenance forces maintain approximately 236 miles of county roads and 187 bridges. During the 2015 calendar year, the Department worked tirelessly to respond to requests from residents. County forces also efficiently and safely provided snow and ice control measures on county roads and bridges.

The Maintenance Department worked closely with the Design and Construction Departments by ditching and grading the roadsides prior to resurfacing projects to ensure proper drainage. The department also maintained all roadside signs on county roads to ensure safe and efficient traffic control.

The list below indicates some of the work completed by the department in 2015.

- Crack Sealing Program
 - Material Used: 180,000 Pounds
 - Materials costs: \$80,100.00
- Asphalt Repair Program
 - Asphalt Type 404 – 842.55 tons
 - Asphalt Type 402 – 60.05 tons
 - Asphalt Type 301 – 438.92 tons
- Brush Cutting and Removal
- Bridge and Culvert Repair and Maintenance
- Ditch Repair and Maintenance
- Sign Management and Replacement



In 2015, the Geauga County Engineer's Office utilized the Resource Rental Program (RRP) to assist numerous townships with highway maintenance work.



RESOURCE RENTAL PROGRAM

**GEOGA COUNTY ENGINEER
JOE CATTELL, PE, PS
2015 YEAR END WRAP-UP**

The Geauga County Engineer's Resource Rental Program (RRP) helped our community in the past year in the following ways:

<u>Bainbridge Township</u>		
9/2/2015	Seeding	\$1,257.39
10/8/2015	Seeding	\$1,607.20
<u>Burton Township</u>		
4/29/2015 to 4/30/2015	Ditching	\$560.00
9/14/2015 to 9/25/2015	Crack Sealing	\$13,741.84
<u>Chester Township</u>		
8/24/2015 to 9/3/2015	Crack Sealing	\$19,521.10
5/27/2015	Seeding	\$691.60
10/13/2015 & 10/15/2015	Crack Sealing	\$8,930.66
9/16/2015	Seeding	\$545.98
<u>Hambden Township</u>		
10/19/2015 to 11/5/2015	Crack Sealing	\$19,855.78
<u>Huntsburg Township</u>		
11/17/2015 to 11/18/2015	Crack Sealing	\$2,801.15
<u>Parkman Township</u>		
9/21/2015 to 9/23/2015	Hot Box rental	\$230.00
10/5/2015 to 10/8/2015	Crack Sealing	\$6,712.27
<u>Troy Township</u>		
10/1/2015 to 10/2/2015	Crack Sealing	\$2,521.99
9/8/2015 to 9/11/2015	Pavement Plane	\$14,156.68
11/9/2015, 13th & 18th	Crack Sealing	\$8,395.83
10/26/2015 & 10/27/2015	Pavement Plane	\$7,042.60
<u>Gauga County Transit</u>		
8/25/2015	Crack Sealing	\$214.94
Grand Total		\$108,787.01

The goal of the RRP is to encourage resource sharing with Geauga County entities that are responsible for highway maintenance, thus reducing the overall burden on taxpayers.



Administrative Department

Frank Antenucci, Esq., Administrator

The Administrative Department is responsible for providing the support services necessary for the County Engineer's Office. These responsibilities include the following areas of work:

- Human Resources Administration
- Employee Training and Safety Programs
- Drug and Alcohol Training and Testing
- Benefits Administration
- Payroll
- Invoice Procurement and Processing
- Prevailing Wage Compliance
- Contract Negotiations
- Records Retention
- Ohio Public Records Compliance

The administrative department has focused on moving forward by using technological advances to become more effective and efficient. Accordingly, the department has a dual role in supporting and managing the day-to-day activities of the Engineer's Office, and also coordinating the long-term strategic planning and procedural improvements for the office.

The department has been responsible for managing the scanning, digitizing, and organization of all historical records. These historical records once encompassed over twenty file cabinets and included the following documents: survey data, correspondence, and past road project information. They once used a significant amount of office space and required hours of tedious searching to acquire a specific document. The Department is working to scan and digitally index all of these files for efficient storage and easy document acquisition. This ease of document acquisition not only aids engineering staff for faster research, but also aids the public in quicker and more efficient public records research.

Further, the administrative department has worked to rewrite and update specific policies related to the long-term administration of the Engineer's Office.

Safety Committee

Frank Antenucci, Dennis Boyd, Rick Carlson, Bob Hanck, Dave Loucka, Trace Turnbull

The Engineer’s Safety Committee exists to encourage all employees of the Geauga County Engineer’s Office to actively participate in suggestions pertaining to health and safety issues relevant to employment and also to recognize outstanding employee performance safety suggestions that make the Geauga County Engineer’s Office a safer and healthier place to serve.

The Safety Committee’s job is to provide safety planning, problem solving, and strategic safety related leadership for The Geauga County Engineer’s Office.



The Safety Committee works as a vehicle to ensure that safety suggestions from employees are received, considered, and possibly implemented. Ultimately, the Safety Committee exists to improve safety and heighten awareness of health and safety issues for all employees of the Office.



SAFETY AWARD WINNERS 2015

Top Award: Darrell Robinson

Top Award: Tom Ross

Top Award: Zack Sipan

Staffing

As mentioned previously about budget reductions, the Engineer’s total budget reduction has necessitated a decrease in staffing. The Engineer has been able to reduce staff through attrition, while still ensuring that the Office provides Geauga County with the very best engineering services and highway maintenance.

Below is a list detailing the staffing reductions and corresponding employee cost savings at the Engineer’s Office over the past three (3) years.

2013	55 Total Employees	Total Employee Cost
2014	52 Total Employees	Savings from 2013-
2015	46 Total Employees	2015: \$825,779.10

Since the beginning of 2013, the Engineer’s Office was able to save over \$825,000 by reducing total employee costs through staff reductions, yet worked to provide safer roads and bridges for the traveling public in Geauga County.

The Engineer’s current staff has worked more efficiently and effectively to provide more services, while doing so with fewer resources and staffing.

Promotions in 2015

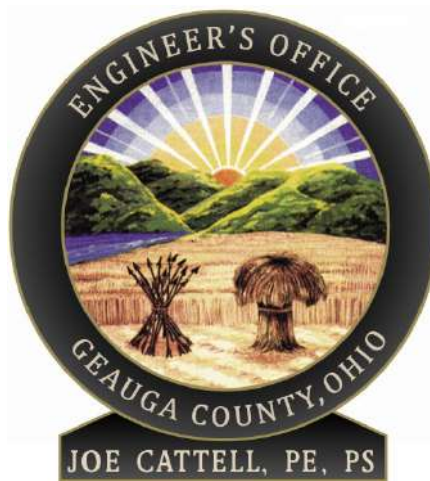
Nicholas Kovach – Foreman

Katie Schaab – Account Clerk II

Current Employee Listing

Frank Antenucci, Esq. – Administrator	David Loucka – Engineer I
Jeff Baldauf – Highway Worker V	Steve Markey – Engineer Technician II
Dennis Boyd – Highway Worker II	Carl Matthews – Foreman
Ray Busser – Highway Worker IV	Mike Pennell – Highway Worker III
Rick Carlson – Highway Worker III	Brian Phillips – Equip./Main. Manager
Keith Delfs – Survey Technician III	Rick Poff – Highway Worker IV
Mike Donaldson – Mechanic V	Alan Prescott – Bridge Designer/Inspector
Bill Dudinsky – Highway Worker VI	Joe Prosser – Highway Worker VI
Mike Farrell – Highway Worker III	Ron Quercioli – Highway Worker IV
Kristy Filppi – Fiscal Officer	Darrell Robinson – Highway III
Nicholas J. Gorris, PE – Deputy Engineer	Tom Ross – Highway Worker V
Bob Hagenbaugh – Maintenance Repair Worker II	Katie Schaab – Account Clerk II
Shane Hajjar, PE – Deputy Engineer	Kevin Shea – Highway Worker II
Bob Hanck – Assistant Highway Superintendent	Ben Shrock – Engineer Aide
Don Hatch – Mechanic IV	John Sines – Highway Worker IV
Andy Haupt, PE, PS – Deputy Engineer	Zack Sipan – Highway Worker II
Bridget Holy – Clerk/Receptionist	Lee Thomas – Highway Worker III
Kevin Holy – Highway Worker IV	Trace Turnbull – Highway Superintendent
Brent Huffman – Highway Worker III	Dave Tvergyak – Highway Worker V
Rory Judd – Mechanic III	Kirk Walker – Highway Worker V
Nick Kovach – Foreman	Scott Warner – Foreman
Paul Kucharski – Engineer Technician I	Robert Weigle – Highway V
Ken Lewis – Highway Worker IV	

This report sets forth the condition of the roads, bridges, culverts, and facilities under the responsibility of the County Engineer. It includes an estimate of the funds needed to maintain and improve this infrastructure and complies with the requirements of the Ohio Revised Code Chapter 5543.



2015

End