



2017 Annual Report

Ashland County Engineer's Office & Highway Department

Ashland County Commissioners
Ashland, Ohio 44805

March 26, 2018

Your Honorable Body:

This report from the Ashland County Engineer is in accordance with Section 5543.02 of the Ohio Revised Code and provides information as to the condition of Ashland County's roads, bridges, and culverts. It outlines the work performed in 2017 to improve and maintain our roadways and the associated costs. This report also estimates the probable amount of funds required to maintain and improve any roads, bridges, or culverts in 2018. All monetary figures are rounded to the nearest dollar. The Ashland County Engineer will clarify or provide any additional information that may be requested.

Respectfully submitted,

Edward J. Meixner, PE, PS
Ashland County Engineer

Staff:

Ryan Athy, Assistant Engineer
Kelly Hickey, Administrative Assistant
Guy Keener, Construction Coordinator
Becky Schaly, Engineering Assistant
LynAnn Spoerr, Tax Map Supervisor
Mark Stauffer, Highway Superintendent
Ernie Weiler, Tax Map Technician

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Bridges:

2017 EXPENDITURES: \$330,728 2018 PROJECTED EXPENDITURES: \$300,000

The Ashland County Engineer is responsible for maintaining bridges or “structures” spanning 10 feet or more on County or Township Roads within Ashland County. In the event the structure is on a road forming a county boundary the maintenance costs are shared by Ashland County and that particular county.

The program for caring for these structures includes annual inspections and data analysis. In 2017, Guy Keener and Ryan Athy of the Ashland County Engineer’s Office inspected the 234 structures under our care. Since 1973, this thorough on-site review of the structural and functional elements of each of our bridges provides the data needed to monitor and assess the health of our bridges. Following inspection, a numeric condition rating is assigned to each bridge: 0=“closed” to 9=“new, excellent”, as well as sufficiency rating that incorporate a public safety factor. Together the condition and sufficiency scores provide indications of relative bridge condition and public safety risk and are used to plan maintenance and improvement projects. This data is also submitted to ODOT.

BRIDGE CONDITION RATINGS	
Condition	# of bridges
OUT OF SERVICE	0
IMMINENT FAILURE	0
CRITICAL	1
SERIOUS	3
POOR	13
FAIR	30
SATISFACTORY	45
GENERAL GOOD	46
VERY GOOD	87
NEW	9

BRIDGE SUFFICIENCY RATINGS	
(DOES NOT INCLUDE BORDER BRIDGES)	
Sufficiency Rating	# of Bridges
< 50%	11
50% - 59%	12
60% - 69%	21
70% - 79%	19
80% - 89%	33
90% - 100%	126

*Sufficiency rating is a measure of the condition of the bridge and includes pavement conditions, bridge conditions, geometric adequacy and accident rates.

Bridge Work Completed – 2017:

County workers performed routine maintenance and repair work on 35 bridges throughout the county. That work consisted of beam patching, deck repair, debris removal, washing, erosion control, and scour countermeasures. The cost of this work done by force account was \$42,191.

BRIDGE FORCE ACCOUNT WORK - 2017

Bridge projects estimated to be under \$100,000 can be undertaken by the Ashland County Highway Department work force. The following structures were rebuilt in 2017 using County resources.

Structure	Township	Plan	Cost
350-912	Troy	Replace	\$50,424
1550-50	Perry	New Deck	\$31,687
1175-880	Orange	Rehab	\$58,866
658-1441	Clear Creek	Bid Materials	\$99,960
658-1441	Clear Creek	Rehab	\$20,325
3275-1050	Hanover	Rehab	\$27,274

POSTED BRIDGES

Following inspection, a bridge considered unable to carry a legal load is marked with a sign identifying the load it can bear. This is known as "Posting" a bridge. It is illegal to cross a posted bridge with a load above the posted weight.

Township	Structure	Posted Weight	Township	Structure	Posted Weight
Mifflin	1808-1345*	20	Perry	13-1210*	15

* Border bridges



Structure # 1175-880



Structure # 1550-50

Bridges – Outside Funding:

This office continually seeks federal and state funds to finance major bridge projects. Using these funds sets a project on a completion timeline dictated by the funding source. This timeline can be 6 months to 6 years.

Culverts:

2017 EXPENDITURES: \$127,489

2018 PROJECTED EXPENSES: \$175,000

A culvert is described as being any structure with a span less than ten feet. They are installed to allow water courses to flow under county roads. Ashland County maintains 1423 culverts.

MAJOR CULVERT REPLACEMENTS-2017

Culvert work done in 2017 included replacements, extensions, and general repair. Twenty-six culverts were replaced. The major culvert projects and their costs are listed in the table below.

Culvert	Township	Description	Cost
529-6	Hanover	36"x72"x26' Concrete Box 53"x83"x40' Elliptical Concrete	\$23,773
995-30	Montgomery	60"x40' Corrugated Metal 60"x60' Plastic	\$8,062
1302-19	Perry	48"x60"x26' Concrete Box 60"x40' Plastic	\$9,582

Proposed Culvert Work - 2018:

Each year we determine which culverts to replace by considering condition and/or length (short lengths limit road width.) Currently, there are plans to replace thirty culverts in 2018.

MAJOR CULVERT REPLACEMENTS PROPOSED-2018

Culvert	Township	Existing / Planned Replacement	Estimated Cost
30A-38	Mohican	41"x71"x56' CMP 60"x50' Plastic	\$16,004
1095-8A	Mifflin	30"x44' Steel 30"x60' Plastic	\$10,794
1095-13A	Vermillion	36"x58"x32' CMP 38"x57"x40' CMP	\$14,906

Roads Section:

2017 EXPENDITURES: \$2,545,200

2018 PROJECTED EXPENSES: \$2,900,000

Maintaining the usability, safety, and stability of the county road system consumes the greatest amount of resources by employees of the Ashland County Engineer's Office and Highway Garage.

To be usable, roads must be kept clear of obstructions so we plow snow, distribute salt; remove debris, patch, seal, and pave. To increase safety, roads must be well marked and have appropriate signs and sight distance so we paint the pavement, install signs, mow, and clear brush. For roads to remain stable, water must drain away from them so we can clean out culverts and maintain ditches. To accomplish all these things, equipment is purchased and maintained. To track and analyze our costs and to plan our future activities, all the work is documented. The following sections itemize the maintenance activities undertaken in 2017 and our plans for 2018.

Paving

In 2017, we continued the practice of paving with the less expensive cold mix asphalt followed by a chip seal. 8.414 miles of road received this treatment by Melway Paving Co. at an expenditure of \$621,764 for a cost of \$73,896 per mile. The chart below itemizes the roads paved under this contract. Three roads had partial depth pavement repair done by Melway Paving Co. under this contract also, CR 1575 – 148 cubic yards, CR 1775 – 63 cubic yards and CR 1475 – 9.95 cubic yards for a cost of \$63,199.

Road	Mileage	Begin	End
CR 529	2.004	Loudonville	Holmes Co.
CR 700	2.741	SR 89	CR 175
CR 2175	3.669	US 30	SR 60

A spring assessment will determine the paving to be done in 2018.

Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2017, about 55 miles of roads throughout the County Road system were chip sealed by Melway Paving Co. using Ashland County materials. Melway Paving Co. was paid \$141,042 for their labor and used \$535,664 worth of materials. The total cost of the sealing program was \$676,707, which is a cost of about \$12,477 per mile. For 2018, we anticipate sealing close to the same amount of miles.

Patching

In addition to the contract work done by Melway Paving Co., our own workforce spent 4,497 man hours in 2017 patching various road sections. The total cost for materials and equipment was \$321,692 to perform this type of work.

Pavement Marking

All roads received new pavement marking during 2017. The roads were marked with centerlines, edge lines, turning lanes, and school zones by Aero-Mark, Inc. who was paid \$223,218. We plan to repeat this pavement marking program in 2018.

Roadside Maintenance

During 2017, the County Highway Department spent the following amounts maintaining county rights-of-way: Ditching/Sloping - \$29,861; Berming - \$30,486; Erosion Protection - \$0; and Road Cleaning - \$1,443; Mowing – \$111,748; Brush Cutting - \$120,541; Spraying - \$2,148. This totals \$296,227 for roadside maintenance.

Permits

Right-of-way permits are issued for work within county road right-of-ways, which includes residential driveways, ditch enclosures, farm field entrances, commercial entrances and utility work. Driveway entrance construction and maintenance are the responsibility of the property owner in accordance with Section 5543.16 of the Ohio Revised Code. During 2017, there were 36 residential driveways; 16 field drives, 15 ditch enclosures; 2 commercial drives; and 34 utility work projects.

Special hauling permits are also issued pursuant to Section 4513.34 of the Ohio Revised Code. All individuals, firms, partnerships, companies and corporations wishing to operate or move a vehicle or combination of vehicles of a size or weight of a vehicle or load exceeding the maximum specified in Sections 5577.01 to 5577.09 of the Ohio Revised Code on any Ashland County maintained highway must obtain a SPECIAL HAULING PERMIT. During 2017, the following permits were issued: 13-construction equipment; 4-annual over width; and 30-Special-over length; 1-trip & return (14 days).

Signs

Our Superintendent relies on direct observation and reports from work crews in the field and the public to determine what signs need to be cleaned, reset, or replaced. The Highway Department performs an annual inspection of all signs along county roads which provides an excellent record of the signs' condition. The amount for sign work in 2017 was \$45,259. We anticipate spending \$70,000 for sign work in 2018. The signs were tested with the retroreflectometer that was purchased in 2012.

Snow and Ice Control

In 2017, we spent \$270,090 on snow and ice control. The chart below shows the snow and ice control trend for the past five years:

Snow & Ice Control	2012-13	2013-14	2014-15	2015-16	2016-17
# of days with snow	38	79	74	34	32
Inches of snowfall	39.30	58.40	57.60	21.90	31.10
Tons of Salt & Grits used	3,841	7,360	10,169	4,386	5,168
Hours of labor	4,318	6,114	5,870	2,400	2,799

Guardrail

Guardrail is used to prevent vehicles from crashing against solid objects or falling into ravines.

Most of the guardrail work done by our Highway Department is to maintain existing guardrail or install new guardrail in conjunction with paving, widening, or bridge projects. When time and money allow, we install or upgrade guardrail in locations identified in a study completed in 1994.

In 2017, we spent \$3,249 for guardrail maintenance and installation done by our work force. In addition to the outside funds spent on the contracted project, we expect to spend about \$5,000 for guardrail work done by our work force in 2018.

Equipment:

A total of \$305,215 was spent purchasing and servicing the equipment used to maintain the county road system. For 2017, we purchased a Bandit Brush Chipper - \$34,961; John Deere Tractor with Tiger Mower - \$106,600; 2-F250 Pick-up trucks with plows -\$63,458.

Equipment Maintenance-2017			
\$442,285			
Parts	Labor	Outside Service	Fuel
\$220,227	\$89,078	\$62,114	\$70,866

Buildings and Grounds:

The Ashland County Highway Department maintains three physical locations: the main garage and office building at 1511 Cleveland Avenue; a mixing plant on Simanton Road; and a garage outpost at 991 CR 2796 in Perrysville.

Routine maintenance projects carried out by our work force totaled \$4,408. An additional \$27,546 was paid for utilities bringing the entire amount paid for maintaining the Engineer's work and office space in 2017 to \$31,954.

Personnel:

During 2017, there were some changes in personnel working for the Ashland County Engineer:

Engineer's Office: There were no changes in the Engineer's Office in 2017.

Highway Department: The Highway Department had one employee retire in 2017. Jeff Dziak retired on November 17, 2017 with 17 years of service with the Highway Department. The Highway Department had one employee resign and an additional four employees were hired in 2017. The practice of hiring additional summer help and maintaining a list of CDL drivers, who help with snow and ice removal in the winter, continued.

General Fund Activities-Tax Map:

Surveys and deeds are reviewed in the Tax Map Office to assure they meet state law and local regulations. These are then used to provide the County Auditor with detailed maps used to assess property taxes. The requirement that an Ohio County Engineer be a professional surveyor assures that the staff has appropriate guidance to fulfill these duties. The chart below itemizes some of the activities of the Tax Map Office.

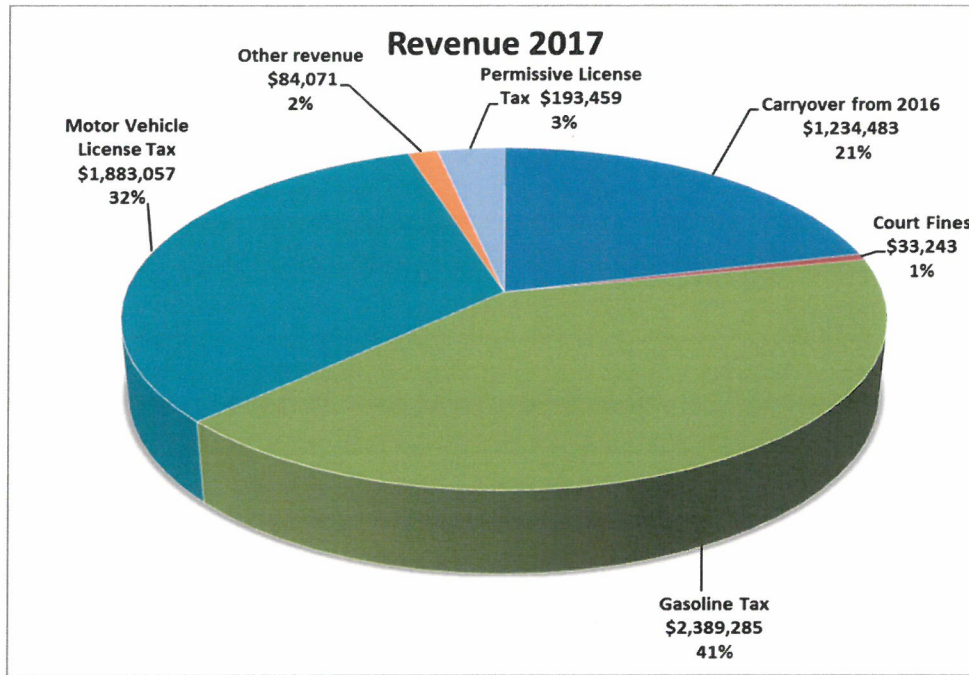
TAX MAP DATA			
Deed Transfers	2,192	Surveys reviewed/approved	164
New Parcels transferred by deeds	205	New Parcels surveyed (created by survey docs-not necessarily transferred)	257

Financial Information for 2017:

As the chart on the next page indicates, 41% of revenue is received by the Engineer’s office is gasoline tax. This tax is applied per gallon creating a direct correlation between gasoline consumption and the amount of gasoline tax collected. Distribution of the gasoline tax is on a state-wide basis so buying gasoline anywhere in Ohio generates funds for the Ashland County Engineer. All 88 counties in the State of Ohio receive the same share of Gasoline Tax regardless of population, geographic size or amount of road miles.

Providing 32% of revenue is the Motor Vehicle License Tax. This tax is assessed when you apply for or renew a vehicle registration. The Ashland County Engineer receives a portion of this tax after the funds are processed by the state. Distribution of this tax is more complicated than the Gasoline Tax. Some of it is distributed to counties based on road mileage and some is distributed to counties, townships, and municipalities based on residence of the person registering the vehicle.

A considerably smaller revenue stream (3%) is generated by the Permissive License Tax. Like the Motor Vehicle License Tax, the Permissive License Tax is assessed when you apply for or renew a vehicle registration. This tax is distributed to counties based solely on the residence of the registrant.



As the chart below indicates, 26% of the expenses are for Materials, 24% for Payroll and Benefits, 27% is Carryover to 2018, 18% for Projects, 1% for Contract Repairs/Services, 4% for Highway Equipment.

