2015 Annual Report

Ashland County Engineer's Office & Highway Department

Ashland County Commissioners
Ashland, Ohio 44805

April 13, 2016

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 2015 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 2016. 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:

2015 EXPENDITURES: $26,022 2016 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 2015, 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 incorporates 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	0
SERIOUS	5
POOR	10
FAIR	36
SATISFACTORY	42
GENERAL GOOD	39
VERY GOOD	54
NEW	48

BRIDGE SUFFICIENCY RATINGS

(DOES NOT INCLUDE BORDER BRIDGES)

Sufficiency Rating	# of Bridges
< 50%	13
50% - 59%	13
60% - 69%	20
70% - 79%	19
80% - 89%	34
90% - 100%	124

*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 – 2015:

County workers performed routine maintenance and repair work on 46 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 $26,022.

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
Lake	2575-170	19		Perry	13-1210*	15
Mifflin	1808-1345*	20				

* Border bridges

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.

Funding Granted: We received notice that our 2010 application for funds to replace Bridge 2575-170 in Lake Township was accepted. In 2017, we will receive 80% of the costs related to construction and construction engineering. Outside contractors will be used for soil testing and construction. Engineer's Office staff will do the design work and monitor the construction.

Funding for Bridge 1075-2525 super structure replacement.

Culverts:

2015 EXPENDITURES: $127,420 2016 PROJECTED EXPENSES: $100,000

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.

CULVERT WORK 2015

Culvert work done in 2015 included replacements, extensions, and general repair. Twenty-five culverts were replaced. The major culvert projects and their costs are listed in the table below.

Culvert	Township	Description	Cost
457-1	Lake	(1)-39' x 44" x 72" CMP (1)-59' x 5' x 8' Concrete Box	$12,143
175-41	Mohican	30"x48"x44' Stone 60'x36" Plastic	$12,299
15-15	Mohican	48"x72"x37' Concrete 60'x48" Plastic	$13,356

Proposed Culvert Work - 2016:

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 twenty culverts in 2016.

Major Culvert Replacements Proposed 2016			
Culvert	Township	Existing / Planned Replacement	Estimated Cost
175-107	Perry	112"x75"x44' multi-plate/ 112"x75"x50' multi-plate	$31,374
175-78	Perry	42"x60' CMP / 36"x60' Plastic	$14,518

Roads Section:

2015 EXPENDITURES: $2,614,997 2016 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 2015 and our plans for 2016.

Paving

In 2015, we continued the practice of paving with the less expensive cold mix asphalt followed by a chip seal. Close to 9 miles of road received this treatment by Melway Paving Co. at an expenditure of $742,900 for a cost of $82,544 per mile. The chart below itemizes the roads paved under this contract.

A spring assessment will determine the paving to be done in 2016.

Road	Mileage	Begin	End
CR 1171	.947	US 224	CR 1183
CR 1183	1.629	CR 1171	CR 500
CR 1975	3.720	Jeromesville	Wayne Co.
CR 377	2.689	CR 2575	SR 179

Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2015, about 54 miles of roads throughout the County Road system were chip sealed by Melway Paving Co. using Ashland County materials. Melway Paving Co. was paid $118,700 for their labor and used $548,345 worth of materials. The total cost of the sealing program was $667,045, which is a unit cost of about $12,335 per mile. For 2016, 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 3889 man hours in 2015 patching various road sections. The total cost for materials and equipment was $296,997 to perform this type of work.

Roadside Maintenance

During 2015, the County Highway Department spent the following amounts maintaining county rights-of-way: Ditching/Sloping - $57,473; Berming - $22,310; Erosion Protection - $1,065; and Road Cleaning - $2,745; Mowing – $94,685; Brush Cutting - $105,365. This totals $283,643 for roadside maintenance.

In 2013, we built our own sprayer to apply weed control twice to approximately 87,120 linear feet of guardrail. Cost of the spraying in 2015 was $4,777.

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 2015, there were 21 residential driveways; 13 field drives, 10 ditch enclosures; 1 commercial drives; and 17 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 2015, the following permits issued: 14 over width trips and returns.

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 2015 was $40,882. We anticipate spending $70,000 for sign work in 2016. The signs were tested with the retroreflectometer that was purchased in 2012.

Snow and Ice Control

In 2015, we spent $573,034 on snow and ice control. The chart below shows the snow and ice control trend for the past five years:

Snow & Ice Control	2010-11	2011-12	2012-13	2013-14	2014-15
# of days with snow	54	35	38	79	74
Inches of snowfall	86.80	32.50	39.30	58.40	57.60
Tons of Salt & Grits used	9,332	3,122	3,841	7,360	10,169
Hours of labor	5,430	2,181	4,318	6,114	5,870

Guardrails

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.

With federal safety funding, we contracted to improve or install close to 13,263 feet of guardrail along county roads in 2015. In addition we spent $5,719 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 2016.

Special Projects/Outside Funding

Just as with our bridges the County Engineer seeks federal and state funds to finance road projects and studies. In 2015, three projects were completed. Three additional projects had funds authorized. These projects are described below:

County Road 1027 Slide Repair

County Road 1027 Slide Repair

As mentioned the Highway Safety Improvement Program (HSIP) funds were used to contract with Lake Erie Construction to improve guardrail along portions of County Roads 2175, 2256, 801, 1975, and 377. Total cost for the project was $360,021, which $300,000 was paid for by HSIP.

All roads received new pavement marking during 2015. The roads were marked with centerlines, edge lines, turning lanes, and school zones by Aero-Mark, Inc. who was paid $196,874. We plan to repeat this marking program in 2016.

The picture on the left side of page 6 shows the slippage that occurred on CR 1027 in early 2014. This has been an ongoing problem that the county has spent considerable funds in an attempt to fix the slippage problem and to keep this section of road open to the public. This route serves as one of the ways to reach the Mohican Lodge and is one of the more scenic routes in Ashland County as it parallels Pleasant Hill Lake. A recent geotechnical report completed by PSI of Columbus, Ohio, recommended the installation of drilled reinforced concrete shafts ranging in depth from approximately 30 feet to 60 feet in length. These shafts provide lateral support in an effort to prevent slippage of the road bed and pavement. We were able to obtain a Federal Lands Access grant of $300,000.00 administered through ODOT in conjunction with a $400,000.00 Ohio Public Works Commission Grant. Through the bid process, a contractor was selected with a low bid of approximately $793,000.00. The project was completed in the fall of 2015 and the final construction cost was approximately $742,000.00.

Equipment:

A total of $413,211 was spent purchasing and servicing the equipment used to maintain the county road system. For 2015, we purchased a set of new portable traffic lights-$42,900, new SUV for $23,800, and a used motor grader-$37,000.

Equipment Maintenance-2015 $446,860			
Parts	Labor	Outside Service	Fuel
$158,820	$93,717	$58,287	$136,036

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 $24,823. An additional $30,628 was paid for utilities bringing the entire amount paid for maintaining the Engineer's work and office space in 2015 to $55,451.

Personnel:

During 2015, there was one change in personnel working for the Ashland County Engineer:

Highway Department: The Highway Department had one employee resign in 2015. 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.

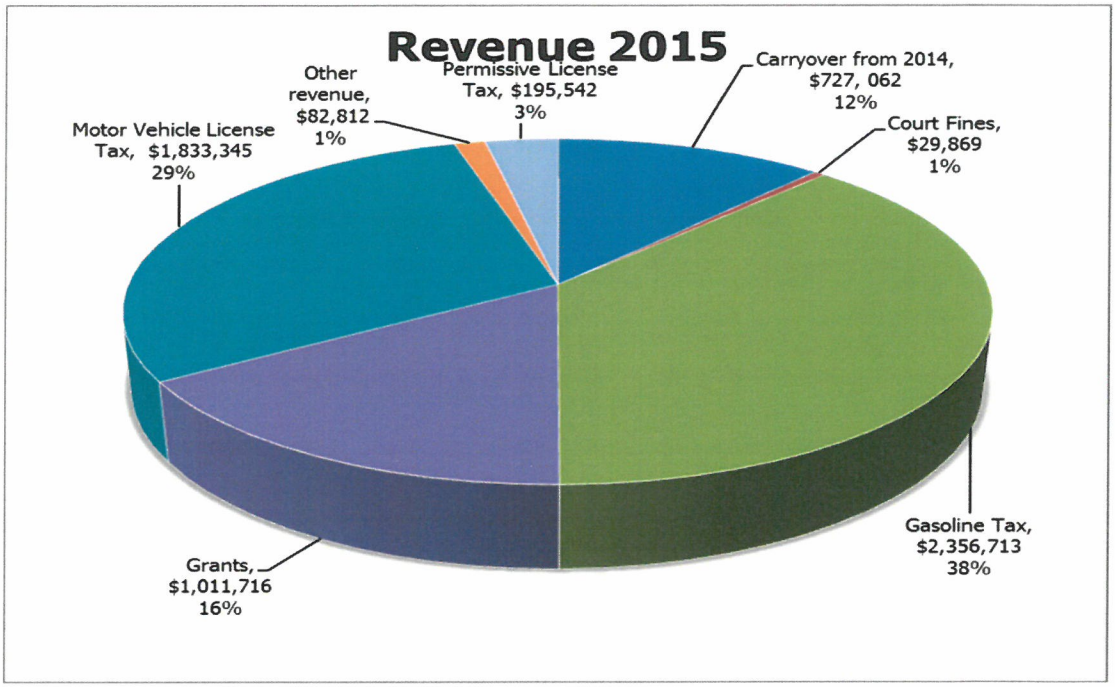
TAX MAP DATA	
Deed Transfers	2,148
New Parcels transferred by deeds	250
Surveys reviewed/approved	159
New Parcels surveyed (created by survey docs-not necessarily transferred)	214

Financial Information for 2015:

As the chart on the next page indicates, 38% 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 29% 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, 28% of the expenses are for Materials, 23% for Payroll and Benefits, 15% is Carryover to 2016, 30% for Projects, 2% for Contract Repairs/Services, 2% for Highway Equipment.