2013 Annual Report

Ashland County Engineer's Office & Highway Department

Ashland County Commissioners
Ashland, Ohio 44805

February 12, 2014

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 2013 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 2014. 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
Glenn Frank, Tax Map Draftsperson
Kelly Hickey, Administrative Assistant
Guy Keener, Construction Coordinator
Jim McDaid, Engineering Aid/Draftsperson
Becky Schaly, Administrative Assistant
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Mark Stauffer, Highway Superintendent

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Bridges:

2013 EXPENDITURES: $134,679 2014 PROJECTED EXPENDITURES: $600,000

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 2013, 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	1
SERIOUS	3
POOR	14
FAIR	35
SATISFACTORY	44
GENERAL GOOD	37
VERY GOOD	55
NEW	45

BRIDGE SUFFICIENCY RATINGS (DOES NOT INCLUDE BORDER BRIDGES)	
Sufficiency Rating	# of Bridges
< 50%	14
50% - 59%	14
60% - 69%	19
70% - 79%	22
80% - 89%	34
90% - 100%	120

*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 – 2013:

County workers performed routine maintenance and repair work on 37 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 $10,636.

BRIDGE FORCE ACCOUNT WORK - 2013

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 2013 using County resources.

Structure	Township	Plan	Cost
30A-465	Mohican	Box Culvert	$45,718
346-1310	Ruggles	Replaced as culvert	$19,766

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	63-1220	20
Mifflin	1808-1345*	20		Perry	13-1210*	15
Montgomery	1500-505	11		Ruggles	126-1230	15
* 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.

We also became aware of 80% funding to replace Bridge 126-1230 in Ruggles Township. Estimated cost for this replacement is $416,000. In 2013, Bridge 175-995 in Jackson Township, was replaced by V.O. Menuez & Son, Inc. and the total cost for replacement was $281,629. In 2014, ODOT will replace Bridges 1500-505 in Montgomery Township and 63-1220 in Perry Township at no cost to Ashland County.

Culverts:

2013 EXPENDITURES: $109,727 2014 PROJECTED EXPENSES: $200,000

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 2013			
Culvert work done in 2013 included replacements, extensions, and general repair. Twenty-nine culverts were replaced and an additional two culverts were worked on. The major culvert projects and their costs are listed in the table below.			
Culvert	Township	Description	Cost
1095-14A	Montgomery	(1)-44' x 36" x 96" CMP (1)-48' x 43" x 68" Concrete	$21,054.00
1353-30	Clear Creek	40’ x 38” x 57” CMP 40’ x 38” x 57” CMP	$7,846.00
1095-11A	Vermillion	38' x 48" CMP 50' x 48" - Plastic	$7,932.00

Proposed Culvert Work - 2014:

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-three culverts in 2014.

Roads Section:

2013 EXPENDITURES: $1,996,912 2014 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 2013 and our plans for 2014.

Paving

In 2013, we continued the practice of paving with the less expensive cold mix asphalt. Close to 6 miles of road received this treatment by Sarver Paving Co. at an expenditure of $379,744 for a cost of $62,830 per mile. The chart below itemizes the roads paved under this contract.

A spring assessment will determine the paving to be done in 2014.

Road	Mileage	Begin	End
CR 1353	2.679	SR 96	CR 956
CR 175	2.699	SR 302	US 42
CR 251	.666	US 250	CR 1302

Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2013, about 51 miles of roads throughout the County Road system were chip sealed by Sarver Paving Co. using Ashland County materials. Sarver Paving Co. was paid $88,435 for their labor and used $531,221 worth of materials. The total cost of the sealing program was $619,656, which is a unit cost of about $12,073 per mile. For 2014, we anticipate sealing close to the same amount of miles.

Patching

In addition to the contract work done by Sarver Paving Co., our own workforce spent 1617 man hours in 2013 patching various road sections. The total cost for materials and equipment was $125,739 to perform this type of work.

Pavement Marking

All roads received new pavement marking during 2013. The roads were marked with centerlines, edge lines, turning lanes, and school zones by Aero-Mark, Inc. who was paid $195,515. We plan to repeat this marking program in 2014 using federal aid money.

Roadside Maintenance

During 2013, the County Highway Department spent the following amounts maintaining county rights-of-way: Ditching/Sloping - $48,135; Berming - $44,330; Erosion Protection - $2,898; and Road Cleaning - $2,686; Mowing – $110,899; Brush Cutting - $98,704. This totals $310,399 for roadside maintenance.

During 2013, we built our own sprayer to apply weed control to approximately 87,120 linear feet of guardrail. Cost of this project was $2,747.

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 2013 there were 13 residential driveways; 7 field drives, 5 ditch enclosures; 1 commercial drives; 29 utility work projects; and 3 residential driveways/ditch enclosures.

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 2013 the following permits issued: 3 overwidth/overweight trips and returns; 36 overwidth 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 2013 was $65,765. We anticipate spending $70,000 for sign work in 2014.

In January, 2012, the Engineer's Office purchased a retroreflectometer for $9,000 to test reflectivity of all road signs to comply with the FHWA mandate. All signs on Ashland County roads were tested during 2013. The signs not meeting the minimum reflectivity were replaced.

Snow and Ice Control

In 2013, we spent $320,980 on snow and ice control. The chart below shows the snow and ice control trend for the past five years.

Snow & Ice Control	2008-09	2009-10	2010-11	2011-12	2012-13
# of days with snow	68	55	54	35	38
Inches of snowfall	64.30	84.10	86.80	32.50	39.30
Tons of Salt & Grits used	7,251	7,162	9,332	3,122	3,841
Hours of labor	5,406	5,885	5,430	2,181	4,318

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 13,425 feet of guardrail along county roads in 2013. In addition we spent $2,045 for guardrail maintenance and installation done by our work force. Construction of a similarly funded project for 2014 has been bid and awarded to Lake Erie Construction. 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 2014.

Special Projects/Outside Funding

Just as with our bridges the County Engineer seeks federal and state funds to finance road projects and studies. In 2013, one project was completed and a second project had funds authorized. These two projects are described below:

County Road 1035 Guardrail

County Road 1035 Guardrail

- 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 775, 1775, 601, 1475, 995, and 500. Total cost for the project was $287,324 which was all paid for by HSIP.

- Awaiting Release of Funds: We were approved for another guardrail project late in 2013. Funds for this project will be available in 2015.

- Awarded funds for our Pavement Marking Program for 2014.

Equipment:

A total of $703,762 was spent purchasing and servicing the equipment used to maintain the county road system. For 2013, we purchased a new loader for $147,392, a new pick-up/dump bed combination for $44,000, and spent $4,665 for retrofitting an older pick-up to be able to spray for weeds at our guardrail locations. For 2014, we anticipate purchasing 2-single axle dump trucks for approximately $220,000 and 2-3/4 ton pick up trucks for approximately $44,000.

Equipment Maintenance-2013 $507,705			
Parts	Labor	Outside Service	Fuel
$204,577	$92,915	$20,894	$189,319

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 $16,683. An additional $29,729 was paid for utilities bringing the entire amount paid for maintaining the Engineer's work and office space in 2013 to $46,412.

In 2010, we found out that due to a design flaw, our salt shed was in danger of collapsing in high winds. Studies of the structure done by Richland Engineering concluded that making alterations would diminish the integrity of the structure and leave it vulnerable to corrosion. The project to replace the upper portion of the shed has been completed by Miller Brothers. The cost to replace this roof structure was $147,687 plus $5,329 from our own work force.

Personnel:

During 2013, there was only one change in personnel working for the Ashland County Engineer.

Highway Department: Ross Baldner retired in May, 2013 with 30 years of service with the Highway Department. 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	1,997
New Parcels tranferred by deeds	189
Surveys reviewed/approved	137
New Parcels surveyed (created by survey docs-not necessarily transferred)	202

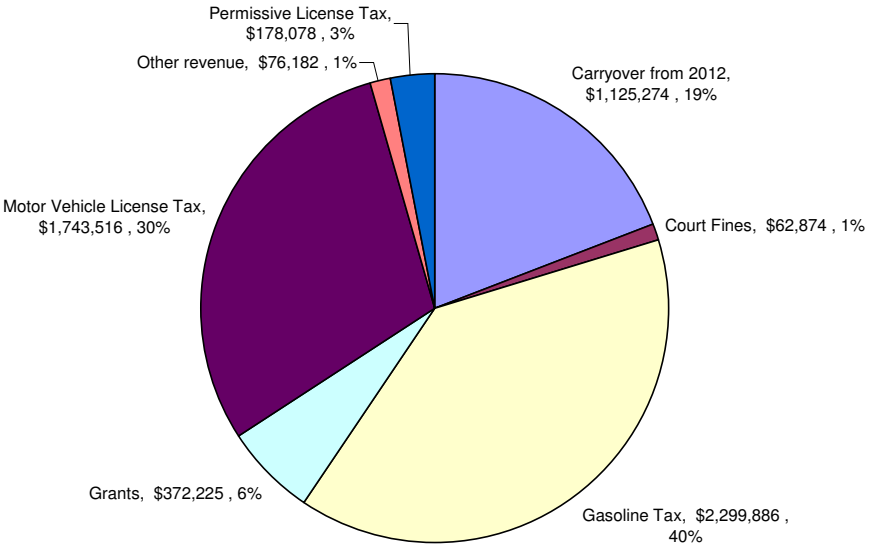
Financial Information for 2013:

As the chart on the next page indicates, 40% 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 30% 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.

Revenue 2013



As the chart below indicates, 36% of the expenses are for Materials, 25% for Payroll and Benefits, 15% is Carryover to 2014, 15% for Projects, 4% for Contract Repairs/Services, 4% for Highway Equipment, and 1% for Other Expenses.

Expenses 2013