



2008 ANNUAL REPORT

ASHLAND COUNTY ENGINEER'S OFFICE & HIGHWAY DEPARTMENT



Ashland County Commissioners
Ashland, Ohio 44805

March 19, 2009

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. This report outlines the work performed in 2008 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 2009.

Respectfully submitted,

Edward J. Meixner, P.E., P.S.
Ashland County Engineer

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Foreword

The purpose of this report is to provide information to the Ashland County Board of Commissioners in accordance with Section 5543.02 of the Ohio Revised Code. Additionally, it becomes a public statement on what the Office of the County Engineer does and how it receives its funding. All monetary figures are rounded to the nearest dollar. The Ashland County Engineer will clarify or provide any additional information that may be requested.



Bridges

2008 Expenditures = \$ 316,977

2009 Projected Expenditures = \$ 600,000

The Ashland County Engineer is responsible for improving and maintaining structures with a span of 10 feet or more on County or Township Roads within Ashland County. 237 structures fit that definition. Bridges on state or federal highways or privately owned are maintained by other entities.

Bridges—Completed Projects and Maintenance

Bridge Work Completed 2008				
Structure	Township	Type of Work	Description of replacement	Cost
1688-1455	Milton	Rehabilitation	Heavier galvanized steel beams and new wood deck were installed.	\$193,386
2175-1870	Mohican	Rehabilitation	Regalvanized main girders. Remaining steel was replaced with new galvanized steel. New wood deck was added.	\$63,746

Along with the large construction projects listed above we performed routine maintenance and repair work on 74 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 \$ 59,513.

Bridges—Status

A new bridge is designed to carry loads 50% higher than the legal load limit of 40 tons. As a bridge ages its load bearing capacity diminishes and eventually becomes unsafe. By annually inspecting all bridges under its jurisdiction the Ashland County Engineer monitors bridge deterioration and makes plans to replace bridges. These inspections yield a Condition Rating and Sufficiency Rating for each structure.

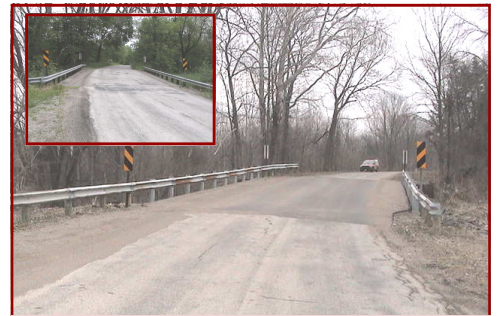
Following inspection, a bridge considered unable to carry a legal load is marked with a sign identifying the load it can bear. This is known as "Posting" a bridge. It is illegal to cross a posted bridge with a load above the posted weight.

Systematic inspections and programmed replacements have significantly improved the condition of Ashland County's bridges as a whole.

In 2009 the two bridges with the lowest condition ratings are scheduled to be replaced.



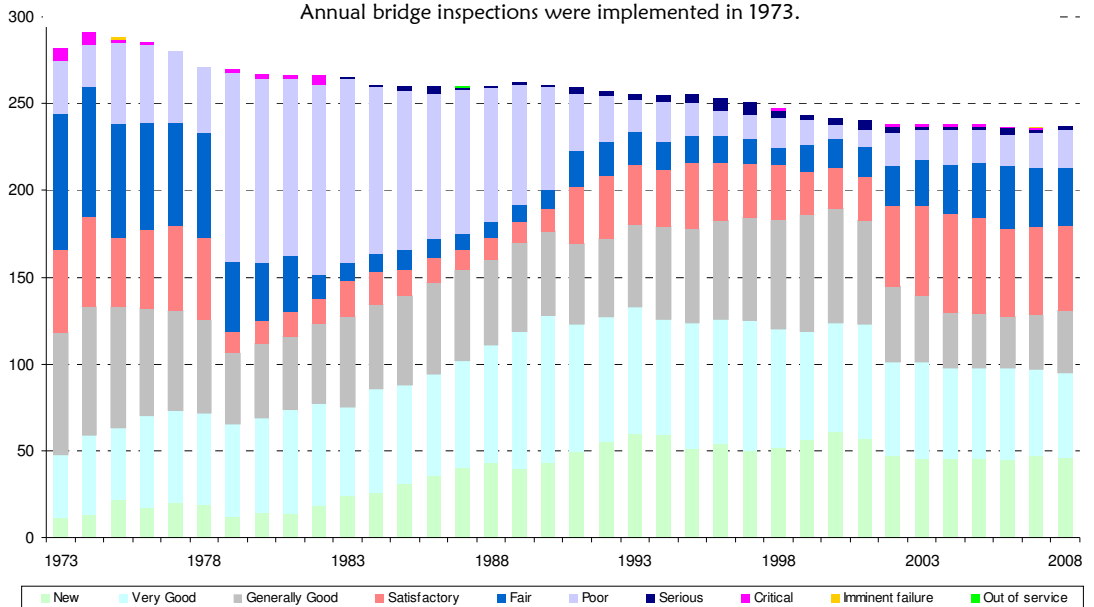
Bridge 2175-1870



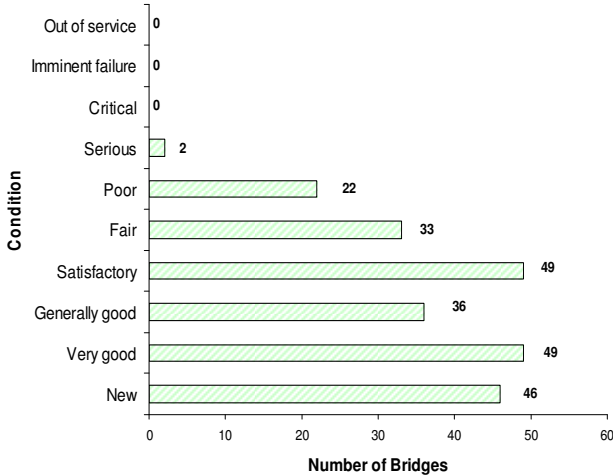
Bridge 1688-1455

Bridge Conditions Over Time

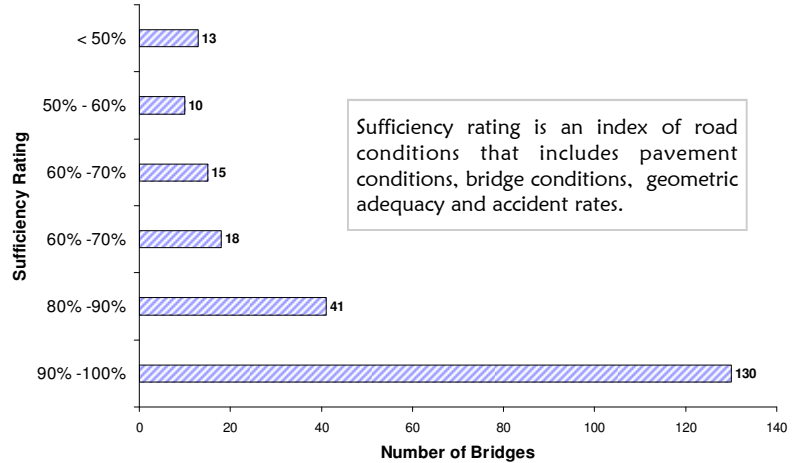
Annual bridge inspections were implemented in 1973.



Bridge Condition Ratings

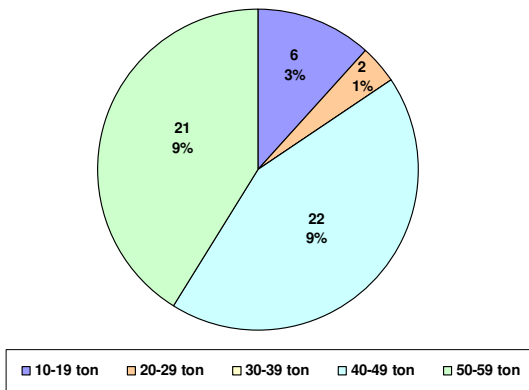


Bridge Sufficiency Ratings



Sufficiency rating is an index of road conditions that includes pavement conditions, bridge conditions, geometric adequacy and accident rates.

Number and percentage of bridges with load limits under 60 ton



Bridges—Proposed Work

Bridge projects estimated to be under \$100,000 can be undertaken by the Ashland County Highway Department work force. The following structures are scheduled for rehabilitation in 2009 using County resources.

Bridge Force Account Work Proposed 2009				
Structure	Township	Posting	Plan	Estimated Cost
956-1140	Clear Creek	18 ton	Replace with heavier deck beams	\$16,200
3275-1050	Hanover	18 ton		\$12,000
1451-650	Clear Creek	21 ton		\$18,500

Bridges—Outside Funding

Whenever possible, federal and state funds are sought to finance major construction 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. We currently have three bridge projects working their way toward construction.

In the fall of 2005 we applied for and were awarded a maximum of \$100,000 from Ohio Public Works Commission (OPWC) to replace Bridge 30A—390 located in Mohican Township. Following the terms of the grant the Ashland County Engineer will pay about \$83,000 toward this project. Construction on this project is expected to begin during the summer of 2009.

In 2006 we applied for and were awarded a maximum of \$462,650 from Federal Highway Administration (FHWA) to replace Bridge 1275-535 located in Montgomery Township. Following the terms of the grant the Ashland County Engineer will pay about \$15,500 toward this project. In preparation for construction, Richland Engineering has rendered engineering services and Professional Service Industries has provided subsurface analysis. The construction contractor has yet to be determined but will be selected through a competitive bid process to be completed in 2012.

In 2002 we applied for and were awarded a maximum of \$409,080 from OPWC to replace Bridge 500-1411 located in Clear Creek Township. Following the terms of the grant the Ashland County Engineer will pay about \$102,000 toward this project. In preparation for construction, Richland Engineering has rendered engineering services and Professional Service Industries has provided subsurface analysis. The construction contractor has yet to be determined but will be selected through a competitive bid process to be completed in 2009 or 2010.



Culverts

2008 Expenditures = \$ 148,311

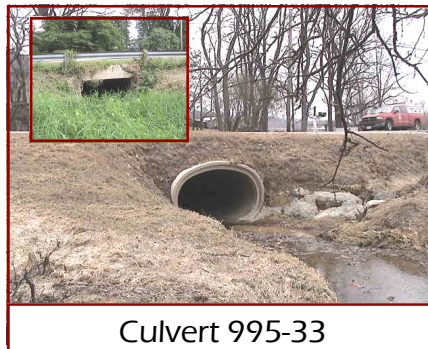
2009 Projected Expenses = \$100,000.00

A culvert is described as being any structure with a span less than ten feet. Ashland County currently maintains 1422 culverts.

Culverts – Completed Projects

Culvert work done in 2008 included replacements, extensions, and general repair. A total of 60 culverts were worked on. The major culvert projects of 2008 and their costs are listed below.

Major Culvert Work 2008			
Culvert	Township	Description	Cost
175-114A	Jackson	75' of 30" N12 Plastic	\$3,541
175-120	Jackson	40' of 44" x 72" CMP	\$8,565
175-127	Jackson	48' of 72" CMP	\$13,393
175-66	Mohican	40' of 60" N12 Plastic	\$ 7,233
377-14	Mohican	60' of 60" N12 Plastic	\$ 24,169
995-33	Montgomery	48' of 53" x 83" Concrete elliptical	\$ 25,048
1035-3	Vermillion	60' of 36" N12 Plastic inserted as liner	\$ 7,501



Culvert 995-33

Culverts—Proposed Work

In recent years we have been able to place a priority on replacing culverts because of the general good health of our bridges. In determining which culverts to replace, condition and/or length (short lengths create narrow roads) are considered. Currently, there are plans to replace approximately 35 culverts in 2009. Three of the major culvert projects and their estimated costs are listed below.

Major Culvert Replacements Proposed 2009			
Culvert	Township	Existing / Planned Replacement	Estimated Cost
1095-8A	Green	44' x 30" steel / 50' x 30" plastic	\$6,914
1075-28	Green	34' x 36" cast iron & corrugated metal / 40' x 36" plastic	\$6,955
775-41	Mifflin	50' x 30" cast iron & corrugated metal / 40' x 36" plastic	\$8,891



Culvert 175-66



Roads

2008 Expenditures = \$ 2,688,067

2009 Projected Expenses = \$ 1,800,000

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 so we paint the pavement, install signs, mow and clear brush. For roads to remain stable water must drain away from them so we clean out culverts and maintain ditches. Special equipment must be purchased and serviced to allow us to do these things. Time and effort is spent documenting the work we do and collecting data that enables us to analyze our past actions and plan our future activities. The following sections itemize the maintenance activities undertaken in 2008 and our plans for 2009.

Roads—Surface—Paving

The cost of asphalt continued to rise in 2008, as a result, only six sections of road (approximately 14 miles) were selected to receive a 2 inch paving of cold mix asphalt followed by a chip seal. This is significantly cheaper than paving with hot mix asphalt. The contract for this work was awarded to Lytle Construction at an expenditure of \$994,285. The chart to the right itemizes the roads paved under this contract.



A spring assessment will determine the paving to be done in 2009.

Roads Paved in 2008			
Road	Mileage	Begin	End
County Road 500	1.8	County Road 175	Wayne/Medina County Line
County Road 175	2.6	County Road 620	US Route 42
County Road 775	3.6	Loudonville Corp Limit	State Route 95
County Road 800	3.3	County Road 601	Polk Corp Limit
		Polk Corp Limit	County Road 175
County Road 2256	2.4	State Route 603	State Route 511
County Road 1102	.3	Township Road 713	Ashland County Airport

Roads—Surface—Sealing

During 2008, about 56 miles of roads throughout the County Road system were chip sealed by Melway Paving using Ashland County materials. A total of 181,074 gallons of liquid asphalt and 6,194.39 tons of limestone were used at a cost of \$455,375. Melway Paving Company was paid \$99,907 for their labor. The total cost of the sealing program was therefore \$ 555,282 providing a unit cost of about \$9,941.86 per mile for a 20-foot wide road. For 2009, we estimate we will contract to seal 50- 60 miles of road.

Roads—Surface—Patching

Our own workforce spent 4,097 man hours in 2008 patching various road sections. With expenditures for materials and the cost to run equipment included \$209,963 was spent to perform this type of work.

Roads—Surface—Marking

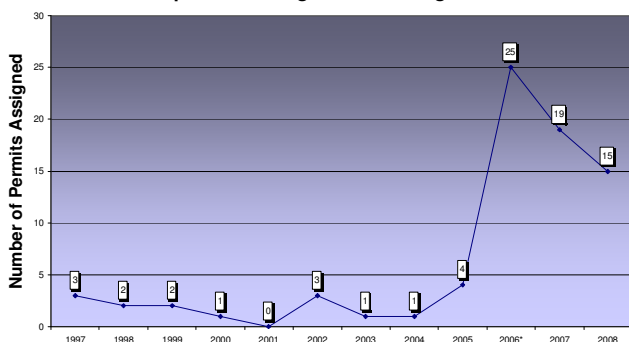
During 2008 we contracted with Dura Mark Inc. in the amount of \$188,574 to apply pavement markings on various county roads. Dura Mark applied centerlines on all 281 miles of County roadway. Edgelines were applied to 69.5 miles of roadway. Three intersections received channel markings. Additional markings applied were 4 lane arrows, 31 school zone markings and 20 railroad crossing markings. We plan to repeat this marking program in 2009 and expect to spend as much as \$200,000.

Roads—Surface—Permits

To safeguard all of our bridges and the people who cross them, individuals wishing to transport loads that are in excess of the legal weight limit (40 ton) are required to apply for a Special Hauling Permit from the Ashland County Engineer. These permits make us aware of unusual loads that our roads are bearing and allow us to restrict the movement of such loads that could result in failure of our infrastructure. The permit includes a route which avoids bridges that cannot support the stated weight of the shipment.

Using portable scales the Sheriff's Department provides enforcement of this regulation. In 2008 our office issued 4 trip and return overwidth permits, 3 annual overweight permits, 2 annual overwidth permits, and 6 construction equipment permits. Currently the Engineer does not assess any fees associated with the permitting process.

Special Hauling Permits Assigned

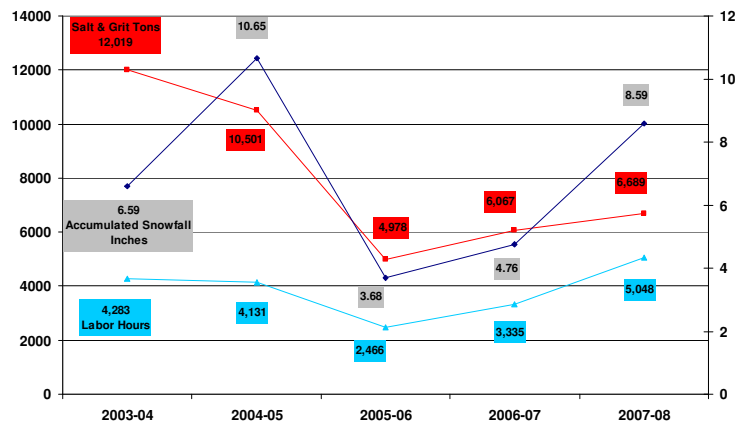


*Portable scales allowing enforcement of permit requirements were purchased for the Ashland County Sheriff .

Roads—Surface—Snow & Ice Control

As with other materials, the cost of salt has been on the rise. Noticing this trend the Ashland County Highway Department has taken steps to reduce the amount of salt used while maintaining an effective level of snow and ice control. In the fall of 2005 the salt spreaders were calibrated for the first time. As you can see in the chart below it cut our salt usage drastically. However, the system was only able to reduce usage to about 400 pounds per lane mile and the rate recommended by the Salt Institute is 200 pounds per lane mile. In 2006, two new tandem trucks were purchased and equipped with a computerized calibration system that could reduce the amount of salt to the recommended level. Based on the success of these first systems six more of these systems were purchased in 2007 and installed on our existing equipment. As the chart below indicates even though the amount of snow was significantly higher in 2007/08 our materials consumed did not increase much from the previous year. It looks as if these systems are producing the savings hoped for.

Snow and Ice Control Trends



Roads—Right-of-Way—Maintenance

During 2008 the County Highway Department spent the following amounts to have our workforce do the following work:
 Ditching/Sloping—\$ 38,842 Erosion Protection—\$ 10,363
 Roadside Cleaning—\$ 1,195

Roads—Right-of-Way—Vegetation Control

During 2008 the County Highway Department contracted with DeAngelo Brothers, Inc. to apply weed control to 87,120 linear feet of guardrail. Cost of this project was \$ 6,273.

The following additional amounts were spent to have our workforce control vegetation:

Mowing — \$ 73,375 Brush Cutting — \$ 72,761

Roads—Right-of-Way—Permits

Right-of-way permits are issued by the County Engineer for work within county road rights-of-way. Such work includes enclosing ditches, performing utility work, and installing residential/commercial driveways and farm field entrances. Driveway entrance construction and maintenance are the responsibility of the property owner in accordance with Section 5543.16 of the Ohio Revised Code. During 2008 permits were issued for **22** residential driveways, **6** field drives, **14** ditch enclosures, and **35** utility work projects.

Roads—Right-of-Way—Guardrail

Most of the guardrail work done by the Ashland County Highway Department is to maintain existing guardrail and install new guardrail in conjunction with paving, widening, or bridge projects. During 2008 we spent \$8,578 for guardrail maintenance and installation. We project spending \$8,500 for guardrail in 2009.



Roads—Right-of-Way—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. Additionally, the Highway Department performs an annual night inspection of all signs along county roads which provides an excellent record of the signs' conditions.

When signs need to be installed or replaced it has been our policy to use "diamond" grade sign faces. This grade of sign is the most highly reflective and has the longest life currently available. Due to this policy we are already in compliance with regulations recently established by the Federal Highway Administration.

The cost for sign work in 2008 was \$41,177. We anticipate spending \$50,000 for sign work in 2009.



Equipment

2008 Expenditures = \$ 404,036

2009 Projected Expenses = \$ 200,000

We retired several pieces of equipment in 2008 taking advantage of the GovDeals website. Tapping competitive bidders scattered across the eastern United States enabled us to receive a total of \$8,709 for an excavator and a bucket truck. The following equipment was purchased in 2008:

Quantity	Description	Amount
1	GradeAll Excavator	\$253,521
1	John Deere Mowing Tractor	\$70,506
1	GMC 3500 HD 1 ton Pickup modified with utility bed and crane	\$74,009



GradeAll Excavator



Buildings & Grounds

In 2008 the final payment of \$ 33,424 was made on the bond for the County Highway Department's garage building.



Personnel

During 2008 the County Engineer employed 25 permanent full-time, 2 permanent part-time, 3 seasonal full-time, and 4 seasonal part-time workers to staff the Highway Garage, Engineer's Office and Tax Map Office. Near the end of 2007 and beginning of 2008 we welcomed four new employees: LynAnn Spoerr as Tax Map Supervisor and Sam Adams, Chris Glasener, and Scott Mowry as highway workers. They have all performed well in their respective roles.

In March 2008 we said farewell to Jim Beattie who retired after 30 years of service. Jim plans to continue to farm and enjoy his family. We wish him well.



Jim and Becky Beattie speak with then County Business Administrator Barb Queer and former County Commissioner Matt Miller



Jim Beattie receives gift from Engineer Ed Meixner



Aid to Townships

Since 1968 the county and the townships have had an agreement whereby the county provides financial assistance to each township primarily based on the miles of roadway contained within that township. Due to this agreement we provided some \$60,804 to the fifteen townships of Ashland County in 2008. We anticipate continuing this practice for 2009.

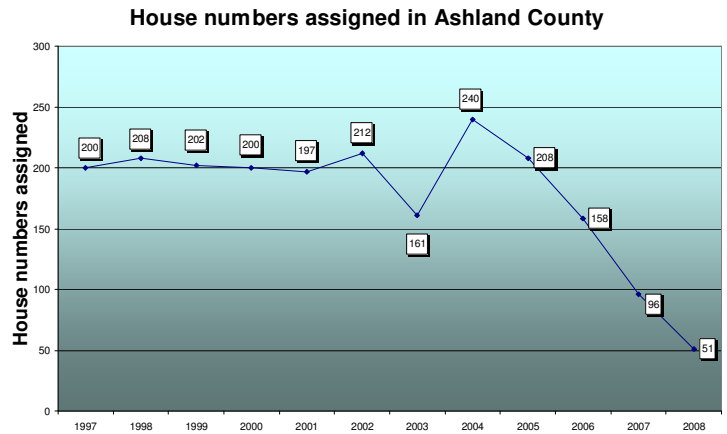


Tax Map and House Numbers

The activities in this section are funded through the County's General Fund. The Tax Map Office provides the County Auditor with detailed maps needed to assess property taxes. The staff also reviews surveys and deeds to assure they meet state law and local regulations. The requirement that a County Engineer in Ohio be a professional surveyor assures that the staff has appropriate guidance as these duties are fulfilled. The chart below itemizes some of the activities of the Tax Map Office

As in years past the Ashland County Engineer's Office has provided new residences with house numbers for the commissioners. Using a grid system these numbers are assigned based on the location of the drive that provides access to the property. The chart on the right shows the number of house numbers assigned per year for the last 12 years.

TAX MAP DATA	
Deed transfers	1836
New Parcels transferred by deeds	225
Surveys reviewed	161
New Parcels surveyed	284



Financial Information

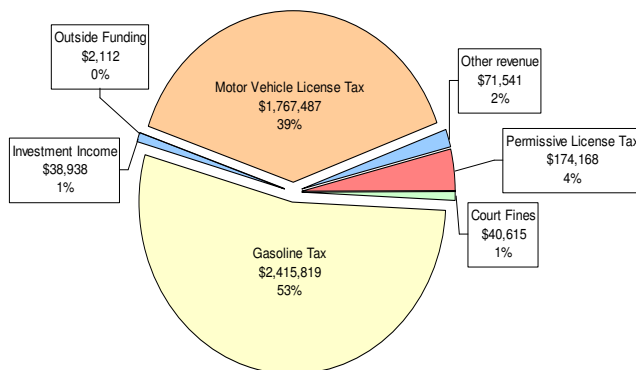
As the chart below indicates, 53% of revenue received by the Engineer's Office is Gasoline Tax. This tax is applied per gallon so as gasoline consumption fluctuates so does the amount of Gasoline Tax collected. The Gasoline tax is distributed on a state-wide basis so buying gasoline anywhere in Ohio 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 39% 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 all counties equally, some is distributed to counties based on road mileage and some is distributed to counties, townships and municipalities based on the residence of the person registering the vehicle.

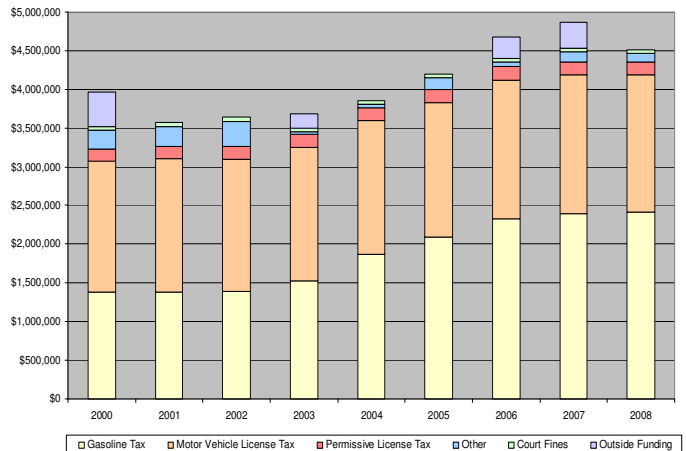
A considerably smaller revenue stream is generated by the Permissive License Tax. Like the Motor Vehicle License Tax, the Permissive License Tax is assessed when you apply for or renew a vehicle registration. This tax is distributed to counties based solely on the residence of the registrant.

Once received, these funds are restricted to being used for the maintenance and improvement of roads within Ashland County.

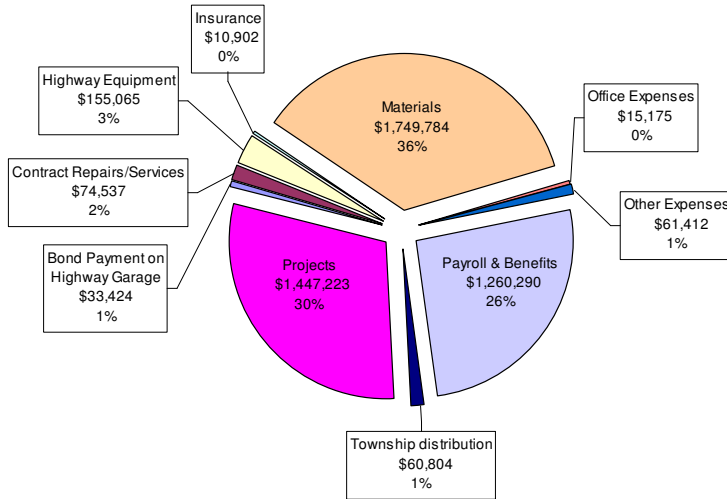
2008 Revenue \$4,510,680



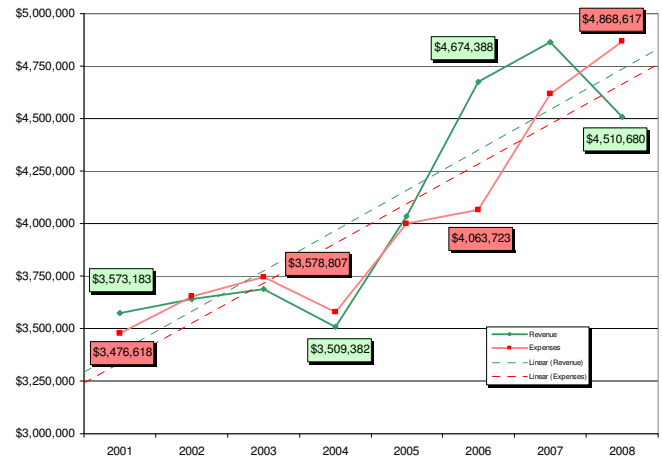
Revenue Sources



2008 Expenses 4,868,616



Expense and Revenue Trends



Items of Recommended Change

GIS Project In 1998 the Engineer's Office in conjunction with the County Auditor, the County Commissioners, and other entities began the process of developing a GIS system by deciding to digitize the tax maps. In 2004 new computers were purchased with a grant based on developing a GIS system that would be beneficial during emergency situations. We either possess or have access to information that can be layered into an interactive GIS system (aerial photos, digital orthophotos, elevation data, centerline data, house number points, Census Bureau data.) What we lack is a final tax map layer and the hardware/software to make the map available online.

Ten years into the project a few things have become apparent:

- Based on the amount of mapping accomplished thus far the project will take at least another 9 years if we rely on our staff to digitize. Funding to outsource this work became unavailable in 2007 due to the current budget situation. The tax map staff is willing and able to continue with this project but is facing a 42% reduction in work hours by mid 2009.
- Industry standards have shifted making a switch in software desirable if not inevitable. Regardless of platform the reality of this type of software is that technical support is necessary and periodic hardware and software upgrades are needed to maintain productivity. Planning for and financially committing to these upgrades would ensure that the staff is able to make the best use of its time and the tax payers' money.

Growth Issues Growth issues that affect our office are usually one of three types. First, we see road access problems of the type where driveways are located in areas that have sight distance problems. We attempt to dissuade the owners from situating driveways in dangerous locations through our right-of-way permit process, but we usually have little success. Second, we see situations where storm water runoff from newly developed lots cause runoff problems for neighbors and residents further downstream. Finally, we see water quality problems from outflows from septic tanks that outlet into ditches and slow moving watercourses. I have no authority to resolve the storm water runoff or septic outflow concerns that come to our attention. This causes the public great frustration, as they do not know whom to contact to resolve their problems. A county building department and a sewer district could help to solve many of these concerns. Changes to the County's subdivision regulations as permitted by Senate Bill 115 would also provide some relief.

House Numbering System As stated previously, for many years the Ashland County Engineer's Office has provided house numbers for new residences for the commissioners. This numbering system is slowly becoming obsolete and eventually will have to be changed. It is my opinion that this work is more appropriately provided by the Sheriff's 911 Department, the County EMA Department or the County Planning Commission. A new system tied into a GIS program could allow us to eliminate our involvement and reduce a level of bureaucracy that is unneeded.