



2009 ANNUAL REPORT

ASHLAND COUNTY ENGINEER'S OFFICE & HIGHWAY DEPARTMENT



Ashland County Commissioners
Ashland, Ohio 44805

April 5, 2010

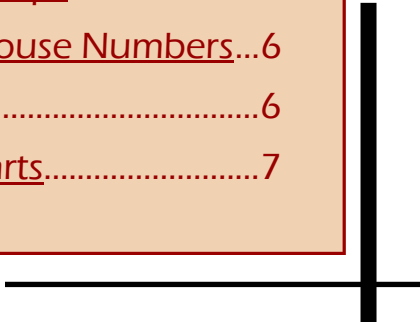
Your Honorable Body:

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 2009 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 2010. 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, P.E., P.S.
Ashland County Engineer

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Bridges—Status

The Ashland County Engineer takes care of structures spanning 10 feet or more on County or Township Roads within Ashland County. In the event that the structure is on a road that forms the county boundary maintenance costs are shared with the neighboring counties.

To begin 2009, we had a list of 237 structures to inspect and maintain. In spring it was discovered that a bridge on the Richland County border was being maintained solely by Richland County. Accepting responsibility for this bridge increased our number to 238. However, in July our work force slid a 60” culvert through a 10 foot corrugated arch thereby removing Structure 1302-710 from our

roster and keeping our number at 237.

To monitor the health of our bridges we have done an annual inspection of each structure since 1973. This inspection is a thorough, on-site review of the structural and functional elements of each of our bridges. Following inspection a numeric condition rating is assigned to each bridge: 0=“closed” to 9=“as new, excellent.” The data collected during inspection are also used in a sufficiency formula 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.

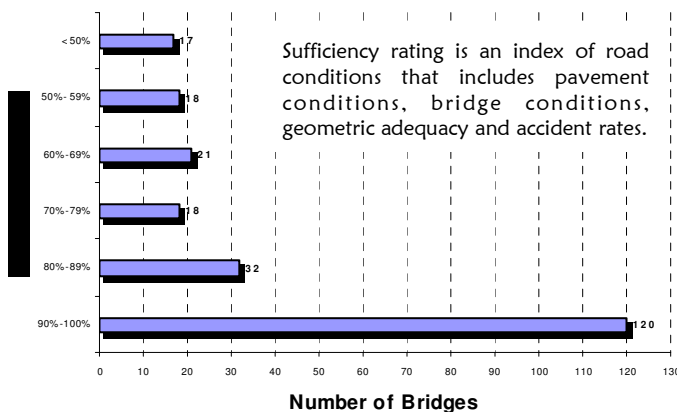
In 2006 we began updating our Bridge Analysis records making them comply with currently accepted load ratings calculations. Shaffer, Johnston, Lichtenwalter and Associates has analyzed 50 of the more complex bridge structures. Going forward simpler structures will be analyzed in-house and professional engineering services will be sought out for the rest of the structures. This puts us ahead of many Ohio counties as ODOT is now requiring such updated load ratings in the wake of the I-35 bridge failure in Minneapolis that happened in 2007.

Bridge Condition Ratings

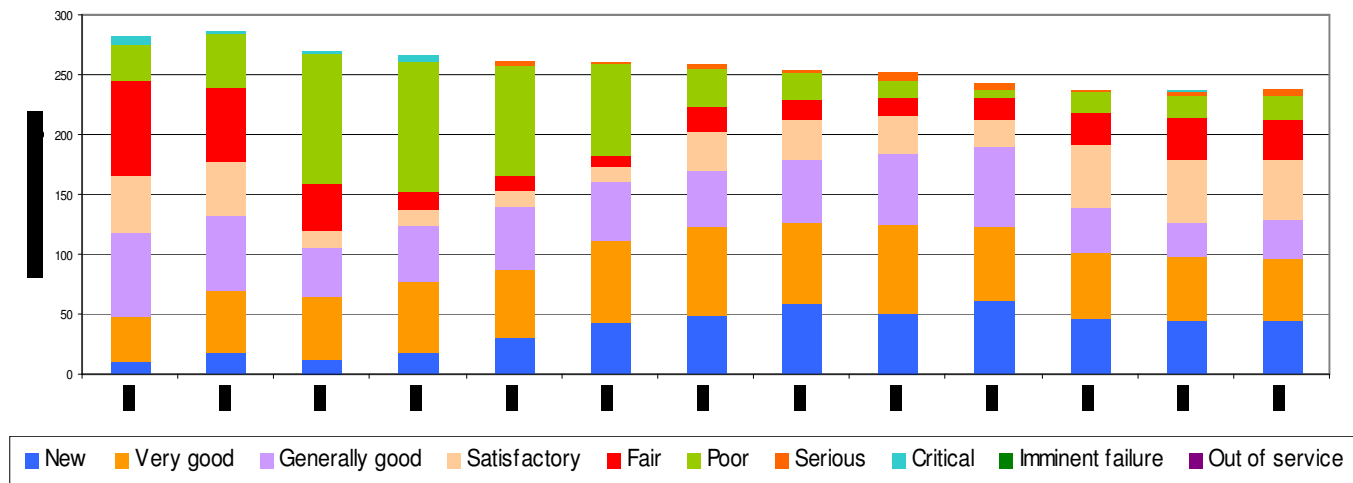


Bridge Sufficiency Ratings

(Does not include Border Bridges)



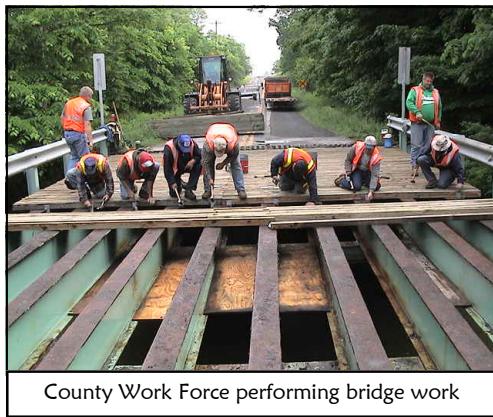
Bridge Conditions Over Time



Bridges—Completed Projects and Maintenance

Bridge Work Completed 2009				
Structure	Township	Type of Work	Description of rehabilitation	Cost
956-1140	Clear Creek	Rehabilitation	Installed stronger floor beams	\$11,668
1451-650	Clear Creek	Rehabilitation		\$11,842
3275-1050	Hanover	Rehabilitation		\$8,252
1302-710	Montgomery	Retirement	60" culvert slid through 10' corrugated arch	\$11,977

Along with the large construction projects listed above we performed routine maintenance and repair work on 55 bridges throughout the county. That work consisted of beam patching, deck repair, debris removal, washing, erosion control, scour countermeasures and the bridge conversion project discussed above. The cost of this work done by force account was \$ 25,916.



Posted Bridges					
Township	Structure	Posted Weight	Township	Structure	Posted Weight
Lake	2575-170	19	Perry	63-1220	20
Mifflin	1808-1345*	20		13-1210*	15
Mohican	1975-180	19	Ruggles	500-1411	16
Montgomery	1500-505	11		126-1230	15
* Border 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.

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 to be worked on in 2010 using County resources.

Bridge Force Account Work Proposed 2010				
Structure	Township	Posting	Plan	Estimated Cost
1975-180	Mohican	Rehab	Replace beams and decking	\$67,231
3374-635	Hanover	Replacement	Remove existing CMP arch with 6' x 8' concrete box	\$30,000

Bridges—Outside Funding

The County Engineer continually seeks federal and state funds 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 that have been awarded funding and are working toward construction.

In 2008 we were awarded a maximum of \$409,080 from the Ohio Public Works Commission (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 contract to build the bridge

has been awarded to V.O. Menuez for \$314,928. The project is scheduled to be completed by August 2010.

In the fall of 2005 we applied



for and were awarded a maximum of \$100,00 from the 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. Funding for this project was originally expected to be in 2009 but has been pushed back.

In 2006 we were awarded a maximum of \$462,650 from the 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.



Culverts

2009 Expenditures = \$168,996

2010 Projected Expenses = \$100,000.00

A culvert is described as being any structure with a span less than ten feet. After replacing bridge 1302-710 with a culvert Ashland County now maintains 1423 culverts.

Culverts – Completed Projects

Culvert work done in 2009 included replacements, extensions, and general repair. Fifty-four culverts were replaced and an additional 17 culverts were worked on costing a total of \$168,996. The major culvert projects of 2009 and their costs are listed in the table to the right.

Major Culvert Work 2009			
Culvert	Township	Description	Cost
1475-19	Milton	56' of 72" Plastic	\$ 18,830
2175-35	Vermillion	70' of 72" Plastic	\$ 21,192
2575-34	Lake	56' of 72" Plastic	\$ 16,542

Culverts—Proposed Work

Each year we determine which culverts to replace by considering condition and/or length (short lengths create narrow roads) Currently, there are plans to replace approximately 45 culverts in 2010. Two of the major culvert projects and their estimated costs are listed in the table to the right.

Major Culvert Replacements Proposed 2010			
Culvert	Township	Existing / Planned Replacement	Estimated Cost
775-41	Mifflin	50' x 30" cast iron & corrugated metal / 40' x 36" plastic	\$8,891
775-26	Green	70' x 24" CMP/CIP / 70' x 24" plastic	\$4,500



Roads

2009 Expenditures = \$ 2,852,436

2010 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 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 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 2009 and our plans for 2010.

Roads—Surface—Paving

In 2009, we continued the practice of paving with the significantly cheaper cold mix asphalt followed by a chip seal. Close to 12 miles of road received this treatment by Lytle Construction at an expenditure of \$887,324 for a cost of \$73,944 per mile. The chart to the right itemizes the roads paved under this contract.



A spring assessment will determine the paving to be done in 2010.

Roads Paved in 2009			
2" of cold mix followed with chip seal			
Road	Mileage	Begin	End
County Road 281	4.9	County Road 500	Lorain County Line
County Road 1754	5.8	County Road 1095	County Road 1775
County Road 175	1.2	County Road 620	County Road 500

Roads—Surface—Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2009, about 55 miles of roads throughout the County Road system were chip sealed by Sarver Paving Company using Ashland County materials. Sarver was paid \$90,686 for their labor and used \$534,278 worth of materials. The total cost of the sealing program was \$624,964 which is a unit cost of about \$11,363 per mile. This is a **14% increase over the unit cost of 2008**. For 2010, we anticipate sealing close to the same amount of miles.

Roads—Surface—Patching

Our own workforce spent 4,915 man hours in 2009 patching various road sections. With expenditures for materials and the cost to run equipment included, \$355,620 was spent to perform this type of work.

Roads—Surface—Marking

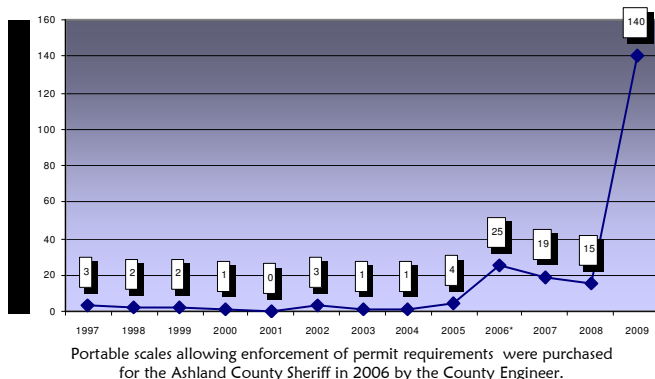
During 2009 Aero-Mark was paid \$184,722 to apply centerlines on all 281 miles of county roadway. They also applied edgelines to 69.5 miles of roadway and three intersections received channel markings. Additional markings applied were 4 lane arrows, 31 school zone markings and 20 railroad crossing markings. We plan to repeat this marking program in 2010 and expect to spend as much as \$200,000.

Roads—Surface—Permits

To safeguard 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 the Engineer aware of unusual loads that our roads are bearing and allows him to restrict the movement of loads that could result in a failure of our infrastructure. The permit includes a route which avoids bridges that cannot support the stated weight of the shipment. The Sheriff's Department provides enforcement of this regulation using a portable scale system purchased by the County Engineer.

The Engineer's office also issues overwidth permits. In 2009 our office issued 130 trip and return overwidth permits, 2 annual overweight permits, 3 annual overwidth permits, and 5 construction equipment permits. Currently the Engineer does not assess any fees associated with the permitting process.

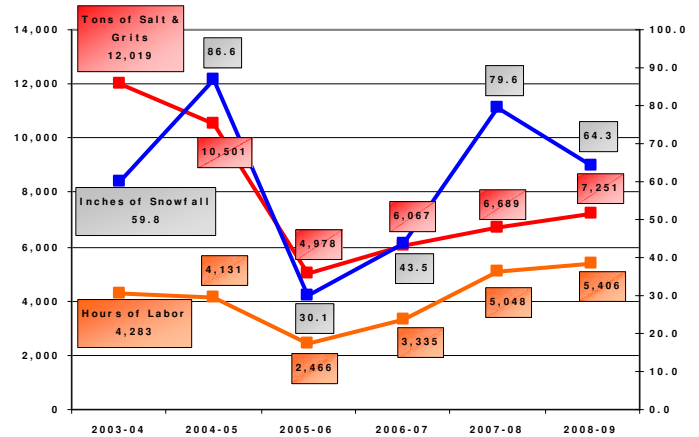
Special Hauling Permits Assigned



Roads—Surface—Snow & Ice Control

In recent years 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 and we saw a significant drop in our salt usage. Since then systems have been installed on 80% of our fleet that calibrate the salt dispersal rate based on truck speed which further cuts our usage. Despite these conservation efforts the rising price of salt is cutting into our cost savings. In 2009 we spent \$444,686 on snow and ice control.

Snow and Ice Control Trends



Roads—Right-of-Way—Maintenance

During 2009 the County Highway Department spent the following amounts maintaining county rights-of-way in the following ways:

- Berming—\$ 84,607
- Ditching/Sloping—\$ 38,241
- Erosion Protection—\$ 726
- Road Cleaning—\$ 2,211

Roads—Right-of-Way—Vegetation Control

During 2009 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 \$ 6970.

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

- Mowing — \$ 79,162
- Brush Cutting — \$ 64,490

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. The Engineer's Office provides design and material specifications for such projects but the construction and maintenance costs are the responsibility of the property owner in accordance with Section 5543.16 of the Ohio Revised Code. During 2009 permits were issued for **13** residential driveways, **6** field drives, **2** commercial driveways **5** ditch enclosures, **1** ditch resloping and **41** utility work projects.

Roads—Right-of-Way—Guardrail

On Ashland County roads guardrail is used to prevent vehicles from crashing against solid objects or falling into ravines. 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. When time and money allow we install or upgrade guardrail in locations identified in a study completed in 1994. During 2009 we spent \$3,721 for guardrail maintenance and installation and expect to spend about \$8,500 in 2010.



In late December of 2009 we were awarded a maximum of \$300,000 in federal Highway Safety Improvement Program (HSIP) funds for the installation or improvement of guardrail along our roadways. This funding requires a 10% local funds match and is administered through ODOT. During 2010 the office staff will develop and file the required documentation and plans. In early 2011 the project will go out for bid with completion scheduled for later in the year.

Roads—Outside Funding

In July of 2009 Ashland County was approved by the OPWC for funding to repair slides that are occurring on County Roads 1027 and 3006 in Hanover Township. We were awarded 75% of the cost of this project—an estimated \$500,000.

Progress made in 2009 toward completing this project includes geotechnical work performed by North Central Engineering to determine the feasibility of a permanent fix. Also, Richland Engineering was chosen in January, 2010 through a competitive

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 2009 was \$43,138. We anticipate spending \$50,000 for sign work in 2010.

process to provide preliminary engineering designs.

The construction portion of the project will bid later this spring with work to be completed in 2010.



Equipment

2009 Expenditures = \$ 552,595

2010 Projected Expenses = \$ 200,000

A total of \$552,595 was spent purchasing and servicing the equipment used to maintain the county road system. Taking advantage of the GovDeals website we received \$8,951 for two pick-ups, a service truck, a paver and various pieces of

smaller equipment. The charts below itemizes major equipment that was purchased and the cost of running and maintaining our equipment for the year.

Description	Amount (each)
Bomag Paver	\$101,992
2—Ford F-250 Pick-ups	\$35,048

Equipment Maintenance \$ 415,006			
Parts	Labor	Outside Service	Fuel
\$ 106,124	\$ 93,972	\$ 88,060	\$ 126,850



Buildings & Grounds

The Ashland County Highway Department maintains three physical locations: the main garage and office building at 1511 Cleveland Ave., a mixing plant on Simanton Road and a garage outpost at 2697 State Route 39 in Perrysville. In addition to routine

maintenance projects at these sites the sidewalk and exterior stairwell at the office building were replaced in 2009. All together \$47,416 was spent maintaining our facilities.

We expect this number to increase significantly in 2010 due to an

agreement reached between the Engineer and the County Commissioners that will see the utility bills for these locations being paid by the Engineer rather than the Commissioners.



Personnel

Difficult personnel decisions were faced in 2009. Budget cuts within the General Fund meant one employee was laid off from the Tax Map Office and the remaining employees had their

hours cut.

At the Highway Garage an opening created by the removal of an individual was filled by Shawn Shriver.



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 \$60,800 to the fifteen townships of Ashland County in 2008. This practice has now been eliminated due to the Engineer assuming building utility and maintenance costs.



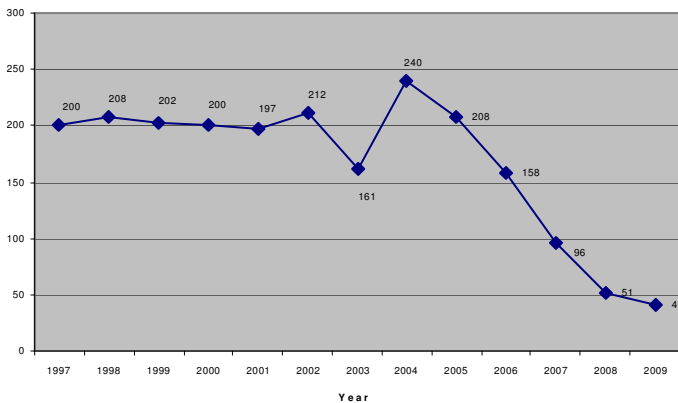
Activities Supported by General Fund: Tax Map and House Numbering

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 to the right itemizes some of the activities of the Tax Map Office.

In 2009, like all offices funded by the General Fund, the Tax Map Office had to deal with a decreased budget. To stay within budget an employee was laid off and the hours of the others were reduced. Although this translates into a 42% reduction in man-hours schedules have been juggled so the Tax Map Office continues to remain open 40 hours a week.

TAX MAP DATA	
Deed transfers	1636
New Parcels transferred by deeds	223
Surveys reviewed/approved	133
New Parcels surveyed (created by survey docs—not necessarily transferred)	180

House numbers assigned in Ashland County



Assigning house numbers entails utilizing the county grid system and keeping other entities apprised of new addresses, most notably, the 911 Office at the Sheriff's department for emergency services. In 2009 the Ashland County Engineer's Office provided new residences with house numbers as we have done for many years and the chart on the left illustrates the house numbering trend over the last 13 years. Beginning in 2010 the house numbering duties will be taken over by Mark Rafeld, County EMA Director.



Other Items

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. The Tax Map Staff continues to work toward completing this goal, fitting the digitization process in around their other duties. With a 42% reduction in man-hours a marked slow-down in their progress can be anticipated.

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. The Engineer has 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 have been made and should provide some relief.



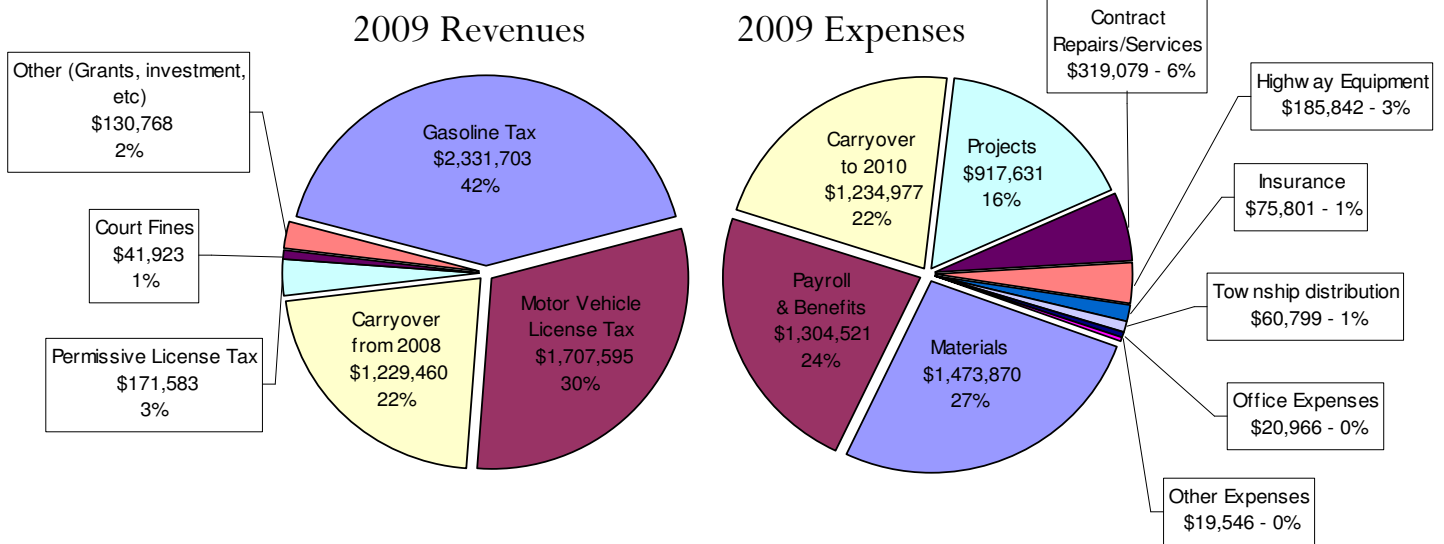
Financial Information

As the chart below indicates, 42% of revenue 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.

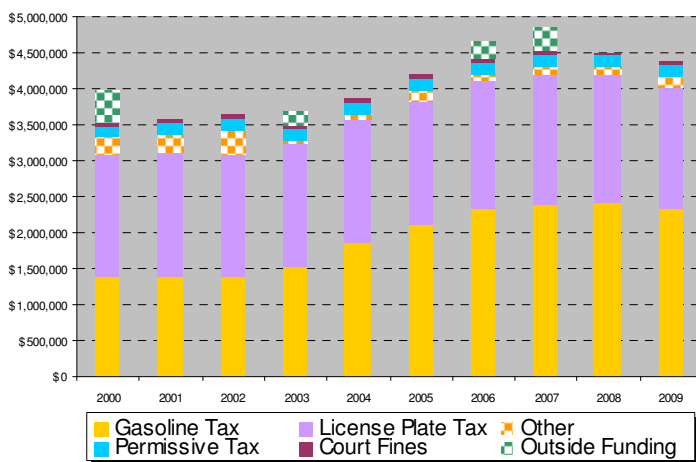
Providing 30% of revenue is the Motor Vehicle License Tax. This tax is assessed when you apply for or renew a vehicle registration. The Ashland County Engineer receives a portion of this tax after the funds are processed by the state. Distribution of this tax is more complicated than the Gasoline Tax. Some of it is distributed to 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 (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.

Once received, these funds are restricted to being used for the maintenance and improvement of roads within Ashland County by Article XII, Section 5a of the Ohio Constitution.



Trend in Revenue Sources



Trends Revenue, Expenses, Carryover

