



# 2010 ANNUAL REPORT

## ASHLAND COUNTY ENGINEER'S OFFICE & HIGHWAY DEPARTMENT



Ashland County Commissioners  
Ashland, Ohio 44805

March 18, 2011

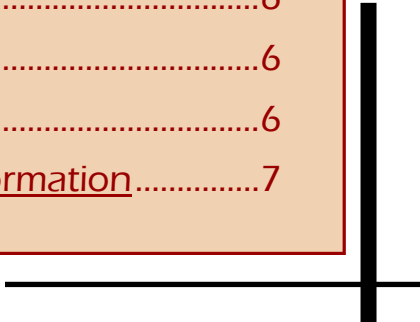
Your Honorable Body:

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 2010 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 2011. 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

<u>Contents</u>	
<u>Bridges</u>	
Status.....	1
Completed Projects.....	2
Proposed Work.....	2
Outside Funding.....	2
<u>Culverts</u>	
Completed Projects.....	3
Proposed Work.....	3
<u>Roads</u>	
Surface	
Paving .....	3
Sealing .....	4
Patching .....	4
Marking .....	4
Permits .....	4
Snow & Ice .....	4
Right-of-Way	
Maintenance.....	4
Vegetation Control.....	4
Permits .....	4
Guardrail .....	5
Signs .....	5
Outside Funding.....	5
<u>Equipment</u> .....	5
<u>Buildings and Grounds</u> .....	5
<u>Personnel</u> .....	6
<u>Tax Map</u> .....	6
<u>Other Items</u> .....	6
<u>Financial Information</u> .....	7





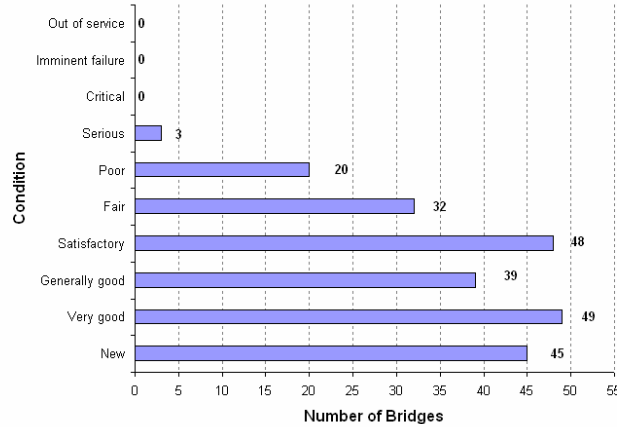
**Bridges—Status**

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 and the neighboring county.

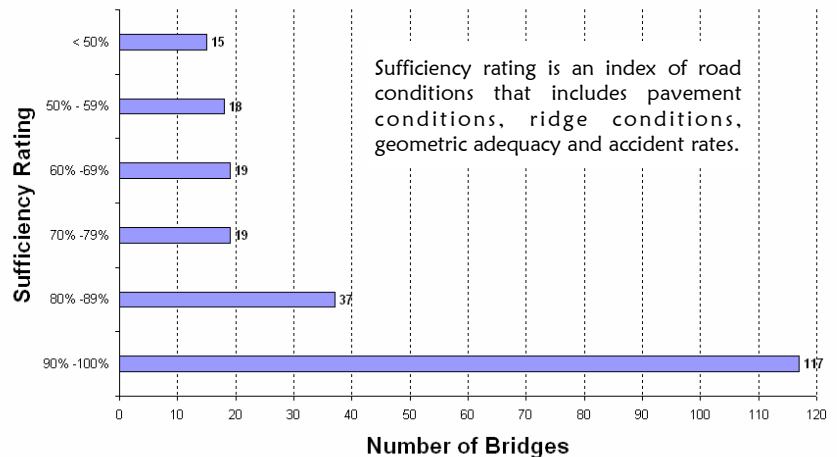
The program of caring for these structures includes annual inspections and data analysis. In 2010 Guy Keener of the Ashland County Engineer’s Office inspected the 237 structures under our care. Since 1973 this thorough, on-site review of the structural and functional elements of each of our bridges provides 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=“as new, excellent;” as well as a 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.

In 2006 we began updating our Bridge Analysis records bringing them into compliance with currently accepted load ratings calculations. To date, analyses of 53 of the more complex bridges have been undertaken by Shaffer, Johnston, Lichtenwalter and Richland Engineering while 69 of the simpler structures were analyzed in-house this summer by intern, Ryan Athy.

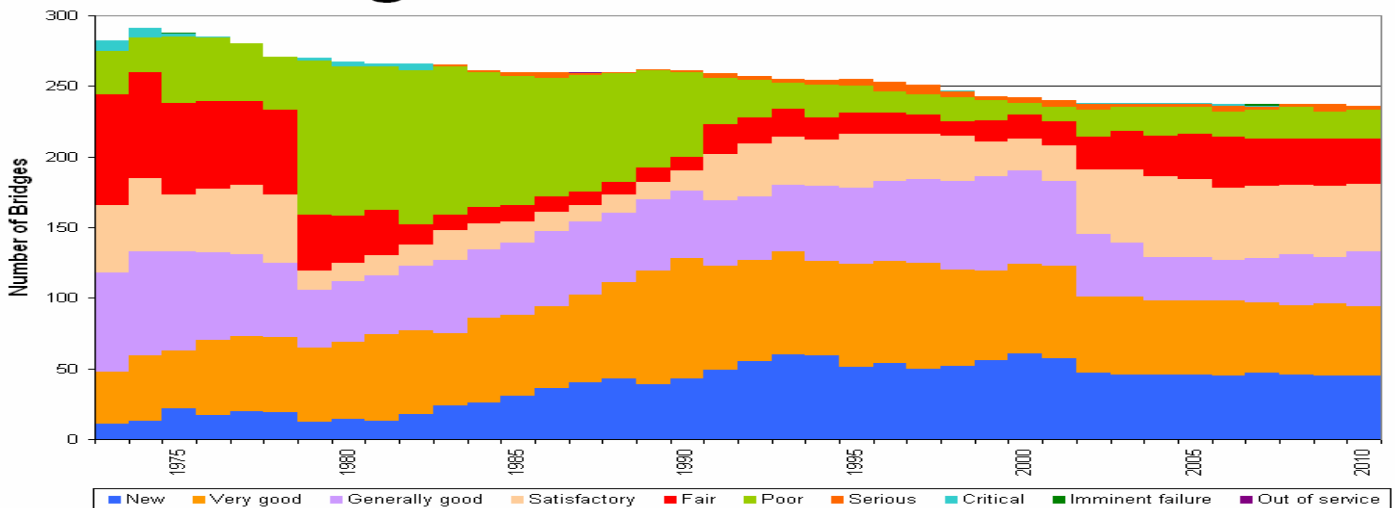
**Bridge Condition Ratings**



**Bridge Sufficiency Ratings**  
(Does not include Border Bridges)



**Bridge Conditions Over Time**



### 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		13-1210*	15
Montgomery	1500-505	11	Ruggles	126-1230	15

\* Border Bridges

### Bridges—Completed Projects and Maintenance

#### Major Bridge Work Completed 2010

Structure	Township	Type of Work	Description of Rehabilitation	Construction Cost
500-1411	Clear Creek	Replacement		\$308,351
30A-390	Mohican	Rehab	Concrete overlay	\$116,372
1975-180	Mohican	Rehab	Superstructure replaced	\$56,464
3374-635	Hanover	Replacement		\$36,673

Along with the large construction projects listed above we performed routine maintenance and repair work on 33 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 \$ 117,659.

### 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 2011 using County resources.

#### Bridge Force Account Work Proposed 2011

Structure	Township	Posting	Plan	Estimated Cost
63-1220	Perry	20	Replacement	\$90,000
175-995	Jackson	-	Replacement	\$ 190,000
126-1230	Ruggles	15	Replacement	\$180,000
1275-535	Montgomery		Replacement	\$ 455,000



Bridge 3374-635

### Bridges—Outside Funding

The County Engineer 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. In 2010 we completed two funded projects leaving us with one project awaiting the release of funds. We also made application for Ohio Public Works (OPWC) funding to help replace three more bridges.

#### Completed

As mentioned above, in 2010 we replaced Bridge 500-1411. The entire project cost \$406,794 of which the county paid 20% or \$81,359. The remaining 80% was funded by the OPWC. The work was done by V.O. Menezes and brought to completion a project awarded in 2008.

We also rehabilitated Bridge 30A-390. The entire project cost \$119,418 of which the county paid 45% or \$53,738. The remaining \$65,680 was funded by the OPWC. The work was done by B.G. Trucking and brought to

completion a project awarded in 2006.

#### Awaiting Release of Funds

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 slated for 2012 or when funds are available.

#### Applications in Review

In the fall of 2010 we made application to the OPWC for 60% funding to replace Bridges 126-1230 in Ruggles Township and 175-995 in Jackson Township. It is estimated these replacements will cost \$832,000.

We also applied for 80% funding to replace Bridge 2575-170 in Lake Township. The estimate for this project is \$608,000.



## Culverts

2010 Expenditures = \$117,961

2011 Projected Expenses = \$100,000.00

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 2010

Culvert work done in 2010 included replacements, extensions, and general repair. Forty-four culverts were replaced and an additional 55 culverts were worked on. The major culvert projects and their costs are listed in the table below.

Culvert	Township	Description	Cost
775-41	Mifflin	40' x 36" plastic replaces 50' x 30" cast iron/CMP	\$15,915
775-26	Green	70' x 24" plastic replaces 70' x 24" CMP/CIP	\$6,602
1475-13	Milton	60' x 24" plastic replaces 44' x 24" concrete/steel	\$5,994
2000-18	Mohican	40' x 36" plastic replaces 40' x 36" CMP	\$5,589



### Major Culvert Replacements Proposed 2011

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 37 culverts in 2011. The major culvert projects and their estimated costs are listed in the table below.

Culvert	Township	Existing / Planned Replacement	Estimated Cost
1075-38	Green	38'x72" CMP/60'x48" Plastic	\$6,612
1035-23	Vermillion	36'x42" CMP/40'x42" Plastic	\$7,677
3275-26	Hanover	35'x48" CMP/ 60'x48" Plastic	\$11,476
2404-19	Green	45'x54" CMP/60'x48" Plastic	\$12,119

## Roads

2010 Expenditures = \$ 873,822

2011 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 2010 and our plans for 2011.

### Roads—Surface—Paving

In 2010, we continued the practice of paving with the significantly less expensive cold mix asphalt followed by a chip seal. Close to 12 miles of road received this treatment by



Small's Asphalt Paving at an expenditure of \$878,624 for a cost of \$73,219 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 2011.

### Roads Paved in 2010

2" of cold mix followed with chip seal

Road	Mileage	Begin	End
County Road 1475	4.2	Richland County Line	County Road 1600
County Road 1281	2.5	County Road 500	US 224
County Road 530	1.8	County Road 175	Wayne County Line
County Road 1600	3.5	County Road 1475	State Route 60



### Roads—Surface—Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2010, about 55 miles of roads throughout the County Road system were chip sealed by Melway Paving using Ashland County materials. Melway was paid \$82,979 for their labor and used \$545,729 worth of materials. The total cost of the sealing program was \$628,708 which is a unit cost of about \$11,431 per mile. For 2011, we anticipate sealing close to the same amount of miles.

### Roads—Surface—Patching

In addition to the contract work done by Melway, our own workforce spent 4,561 man hours in 2010 patching various road sections. With expenditures for materials and the cost to run equipment included, \$268,928 was spent to perform this type of work.

### Roads—Surface—Marking

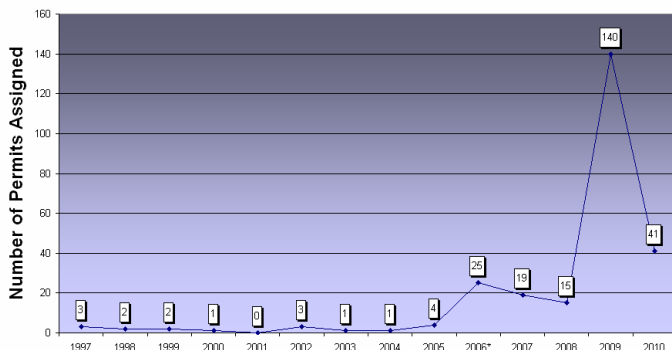
During 2010 Mar-King was paid \$174,378 to apply centerlines on all 281 miles of county roadway. They also applied edgelines to 69.5 miles of roadway and three intersections received channel markings. Additional markings applied were 4 lane arrows, 34 school zone markings and 20 railroad crossing markings. We plan to repeat this marking program in 2011 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 in 2006.

The Engineer's office also issues overwidth permits. In 2010 our office issued 33 trip and return overwidth permits, 2 annual overweight permits, 1 annual overwidth permit, and 5 construction equipment permits. Currently the Engineer does not assess any fees associated with the permitting process.

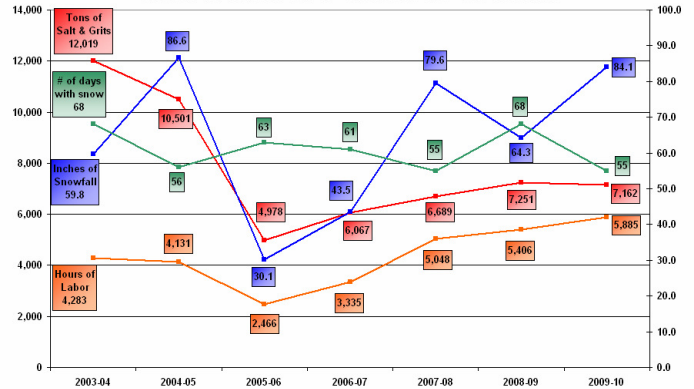
### **Special Hauling Permits Assigned**



### 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 2010 we spent \$551,260 on snow and ice control.

### **Snow and Ice Control Trends**



### Roads—Right-of-Way—Maintenance

During 2010 the County Highway Department spent the following amounts maintaining county rights-of-way in the following ways:

- Ditching/Sloping—\$ 30,346
- Berming—\$ 68,628
- Erosion Protection—\$ 2312
- Road Cleaning—\$ 6,968

### Roads—Right-of-Way—Vegetation Control

During 2010 we contracted with DeAngelo Brothers, to apply weed control to 87,120 linear feet of guardrail. Cost of this project was \$ 6,970.

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

- Mowing — \$ 94,385
- Brush Cutting — \$ 67,851

### 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 2010 permits were issued for 17 residential driveways, 7 field drives, 17 ditch enclosures, and 17 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



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. During 2010 we spent \$2,930 for guardrail maintenance and installation. In 2011 we will use up to \$300,000 of federal funds to improve about 11,000 feet of existing guardrail and install an additional 4,000 feet. We expect to spend about \$40,000 in 2011 on guardrail projects.

**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. Which increase the required reflectivity of road signs.

The cost for sign work in 2010 was \$34,447. We anticipate spending \$50,000 for sign work in 2011.

**Roads—Outside Funding**

Just as with our bridges the County Engineer seeks federal and state funds to finance road projects and studies. In 2011 three funded projects will be undertaken, a fourth project awaits the release of funds and a fifth awaits approval. These projects are described below.

**Funding Available in 2011**

Approval by the OPWC for funding to repair slides that are occurring on County Roads 1027 and 3006 in Hanover Township was received in 2009. The award covers 75% of the estimated \$500,000 cost of this project. Richland Engineering provided preliminary engineering designs for this

project in 2010. Bids for this project are advertised to be opened on March 3, 2011.

In late December of 2009 we were awarded a maximum of \$300,000 from the federal Highway Safety Improvement Program (HSIP) to upgrade or install guardrail along our roadways. This project, mentioned previously in the guardrail section requires a 10% local match. We expect the project to sell in March or April of 2011.

In December of 2010 application was made for 90% HSIP funding for a study of Ashland County crash data. By examining county crash data this study

will provide us with a tool to plan road improvements based on safety issues. Approval has been received and we expect to obtain authorization allowing us to proceed with this project in 2011.

**Awaiting Release of Funds**

We were approved for a second guardrail project in October of 2010. The funds for this second project will be available in 2016.

**Application in Review**

Application was made in fall of 2010 for 80% funding of a project to widen County Road 281 to 20 feet in Sullivan Township. The estimate for this project is \$540,200.



**Equipment**

2010 Expenditures = \$ 519,269

2011 Projected Expenses = \$ 200,000

A total of \$773,960 was spent purchasing and servicing the equipment used to maintain the county road system. Taking advantage of the GovDeals website we received \$5,377 for a tractor, an engine and a grinder. The following charts itemize major equipment that was purchased and the cost of running and maintaining our equipment for the year.

Description	Amount
John Deere Tractor w/mower	\$70,658
Trailer	\$2,350

Equipment Maintenance \$ 445,786			
Parts	Labor	Outside Service	Fuel
\$ 116,660	\$ 97,557	\$ 84,712	\$ 146,857





## **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 991 CR 2796 in Perrysville.

2010 costs for routine maintenance projects and sealing the parking lots at the Ashland and Perrysville sites totaled \$69,141. In addition, the Engineer began paying utility bills previously paid by the Commissioners. These totaled

\$30,430 and brought the entire amount paid for maintaining the Engineer's work and office space in 2010 to \$99,571.

Some unexpected costs were incurred when we received notification in March from Cover-All Building Systems, the manufacturer of our salt shed, that the structure might fail under weight and wind stresses far below engineering standards. Because Richland and Wayne Counties also have Cover-All structures we shared the \$18,000 cost to have

Richland Engineering do a structural analysis of the buildings. Based on those findings we partnered with Richland County to have Richland Engineering develop structural modifications splitting the \$52,135 planning cost. We intend to implement these adaptations in the summer of 2011 and can reasonably expect to pay an estimated \$36,000 based on an ODOT project to modify a similar Cover-All structure.

## **Personnel**

In 2010 full-time personnel was stable in all departments, budget constraints required some creativity for the Tax Map employees, and seasonal help was used by the Engineer's Office and the Highway Department.

### **Engineer's Office**

**4 full time, 3 part time, 1 intern**

Ryan Athy, an Ohio Northern University engineering student, joined the staff this summer as an intern. Ryan worked to bring our Bridge Analysis records up-to-date by reviewing simpler bridges.

LynAnn Spoerr continued to split her time between the Tax Map Office and the Engineer's Office where she is developing an index of our large format documents. In 2011 she reduced her number of hours working on the index and increased her hours at the Tax Map Office.

### **Highway Department**

**18 full time, 4 seasonal, multiple as needed**

The Highway Department continued the practice of hiring additional summer help and maintains a list of CDL drivers who

help with snow and ice removal in the winter. This will continue in 2011.

### **Tax Map Office 1 full time, 1 part time**

The Tax Map Office staff remained at reduced hours throughout 2010 with staff arranging their schedules to allow full public access while the courthouse is open for most of the year. In November the decision was made to close the office for two hours a day to help process an increasing backlog of surveys. In 2011 staff hours have been increased but are not back to full hours.

## **Activities Supported by General Fund: Tax Map**

Surveys and deeds are reviewed in the Tax Map Office to assure they meet state law and local regulations in order 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 to the right itemizes some of the activities of the Tax Map Office.

Secondarily, the Tax Map staff continues to work toward creating a base layer for a GIS system by digitizing the tax maps, a project committed to in 1998 by the Engineer, Auditor, Commissioners and other county entities. Due to the reduced staffing only five new maps have been started since 2009 and none of these have been brought to completion.

<b>TAX MAP DATA</b>	
Deed transfers	1,746
New Parcels transferred by deeds	186
Surveys reviewed/approved	134
New Parcels surveyed (created by survey docs—not necessarily transferred)	214

## **Other Items**

**Growth Issues** Growth issues that affect our office are usually one of three types. First, we see road access problems caused when driveways are located in areas that have sight distance problems. Second, we see situations where storm water runoff from newly developed lots causes runoff problems for residents further downstream. Finally, we see water quality problems from septic tanks that outlet into

ditches and slow moving watercourses. A new tool to limit these issues was gained when the 2010 revision of the Ashland County Subdivision Regulations was adopted. The County now has the authority to review and approve proposed lot splits up to 20 acres. To implement this authority the County Planning Director has developed an approval process that

includes input from the Health Department, Soil and Water and the Engineer's Office addressing the problems itemized above. Specifically our office verifies each proposed lot has a location with enough sight-distance to allow safe entry onto the roadway. Hopefully this new process will minimize the negative impact as Ashland County continues to develop.



## 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.

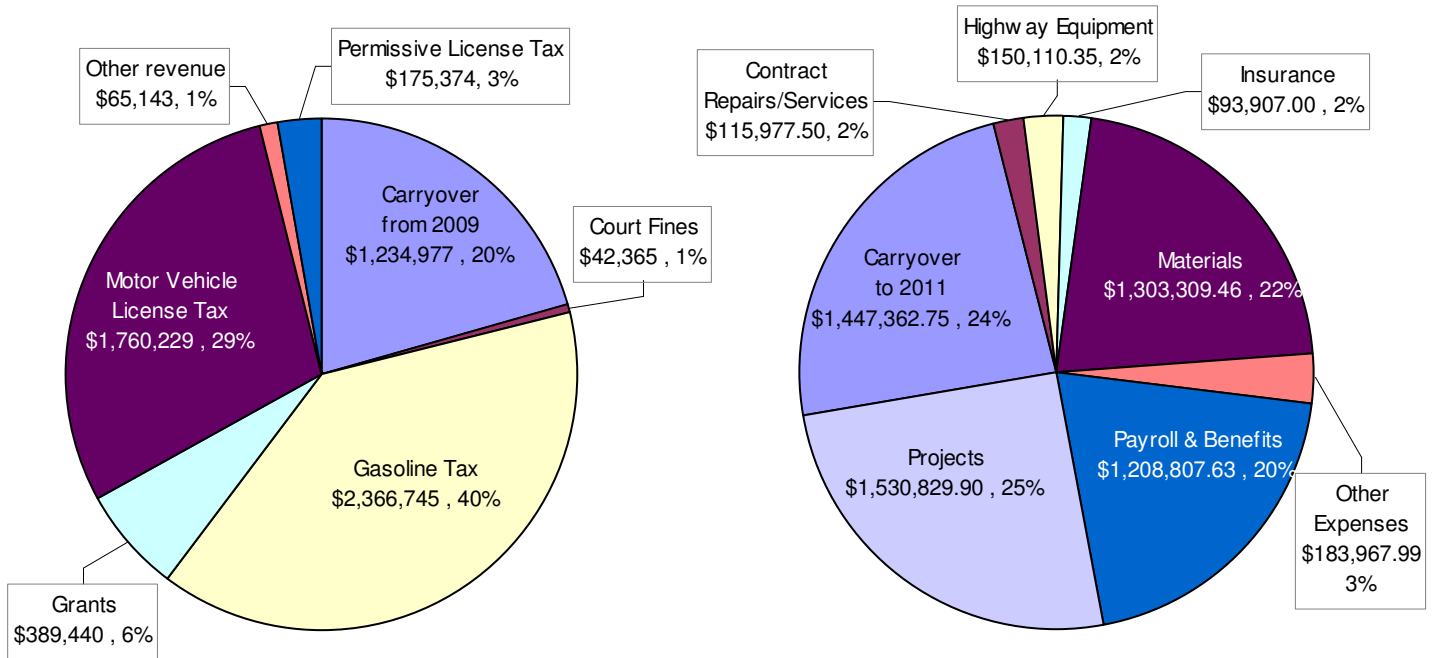
Providing 30% of revenue is the Motor Vehicle License Tax. This tax is assessed when you apply for or renew a vehicle registration. The Ashland County Engineer receives a portion of this tax after the funds are processed by the state. Distribution of this tax is more complicated than the Gasoline Tax.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

2010 Revenues \$ 4,799,296

2010 Expenses \$ 4,586,910



Trends in Revenue, Expenses and Carryover

