

Lawrence County Engineer's Annual Report 2014



Douglas E. Cade, PE, PS
Lawrence County Engineer

County Engineer's Office

111 South 4th Street
Ironton, Ohio 45638
740-533-4317
Hours 8:00—4:00 M-F

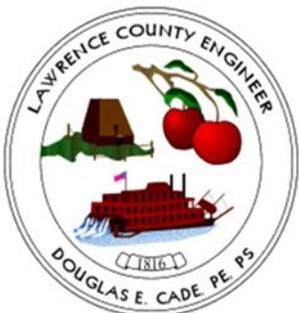
County Engineer's Maintenance Garage

3001 South 6th Street
Ironton, Ohio 45638
740-532-3436
Hours
7:30—4:00 M-F
Summer Hours
6:30—5:00 M-Th

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Requirement for this Report

The Ohio Revised Code 5543.02 mandates the County Engineer to Annually Report to the Board of County Commissioners the state of the County Roadways and Bridges

Message from the County Engineer

It has been an honor to serve the citizens of Lawrence County the past 22 years and as your County Engineer the last four of those years. As many of you know, my last day as County Engineer will be June 5, 2015. My family has been given a great opportunity for personal and professional advancement and we will be leaving for Hancock County to start a new chapter in our careers and our lives.

Lawrence County and southern Ohio will always be dear to me. It is the place that I was born and raised, the place that I learned the value of hard work and dedication to family, the place that gave me my first job and taught me the importance of serving the community. I will forever take those values with me and pass those values to my children and grandchildren.

I have been fortunate to spend the last 20 plus years serving Lawrence County as a project manager, consultant, and elected official. I am glad to have been a small part of over \$300 million in water, sewer and highway projects during that time. All of which improved our community's lives in some measure. This could not have happened with just me, it takes a **team** and a team effort. From the team member that answers the telephone to listen to citizens concerns over their road to the highway worker that gets out of bed in the middle of the night to cut a tree that has fallen in the road during a storm, all of them are dedicated to the citizens of Lawrence County and I will be forever grateful to them.

I would be remiss if I did not also thank all of the elected and appointed County Officials that we interact with on a daily basis, from the 3 am phone calls from my dear friend Sheriff Jeff Lawless to the text messages about a road concern from Commissioners Boggs, Pratt and Hayes to the sounding board and voice of reason of my best friend County Auditor Jason Stephens each of you have made me a better public servant and a better person.

Lastly, I want to thank the citizens of Lawrence County, you are why we are here and why we do what we do. Each of you have help keep me grounded and focused on our mission to serve the public, improve the roads and bridges, and keep our transportation system safe. While I was not able to make every road and bridge perfect, I hope I have been able to make a small improvement and place Lawrence County on a path for a better transportation system for generations to come.

Thank you and God Bless,

A handwritten signature in blue ink that reads 'D. Cade'.

Douglas E. Cade, PE, PS

Roads

2014 was one of the most active paving seasons that we have seen in quite some time. We were fortunate enough to receive the first of three Federal Grant Awards for paving County Roads that are on the Federal Aid System. County Road 1 was completed in early May as part of a \$1.3 million project that included safety edges and thermoplastic striping. These items were included in the project to enhance the safety of this heavily traveled road and to provide a longer lasting pavement edge and better night time visibility. This project was so successful that the Contractor and County received a National Asphalt Pavement Association Award in the Spring of 2015.



This year also saw a pilot project on County Road 411 and 406. While many in the Rome Township thought that this pilot project was going to be a “Chip Seal” experiment. After the Mirco-surfacing project was underway, many saw the advantage of the new type of paving. While mirco-surfacing has a 10-year life span it is about 30% of the cost of asphalt paving. This project gave us a good opportunity to take these two roads and extend their life and place them in a better location in the paving rotation.

We continued our annual paving program with \$1,069,976.41 in paving for just three County Roads. While most of our paving programs were successful, the contractor started late on this project and was not able to complete these three roads in 2014. County Road 2 was completed with County Road 54 and 69 to be completed by May 2015.

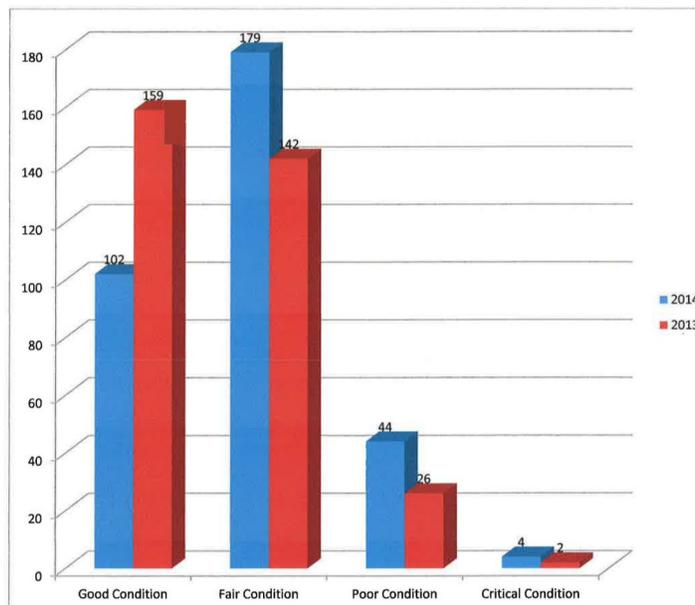
In 2014, we were able chip-seal 27.04 miles of County Roads at a total cost of \$294,883.60. Roads that were chip-sealed in 2013 were County Road 5, County Road 230, County Road 55, County Road 131, County Road 34, County Road 210, County Road 41N, County Road 41S, County Road 7, County Road 33, County Road 38, County Road 39 and County Road 193.

Bridges

Bridges are not the most visible part of the county highway infrastructure but are one of the most expensive items that we maintain in our department. Lawrence County has 329 bridges on the County and Township highway system. Based on our 2014 Annual Inspection, 102 bridges were classified as being in Good Condition, 179 in Fair Condition, 44 in Poor Condition and 4 in Critical Condition. If you compare this to the 2013 Annual Bridge Inspections, you will see that we are not going in the right direction in terms of condition of our bridges. We have been working toward a holistic approach to our transportation system where we address safety, roadway, and bridges. While this has visibly helped road conditions in the past few years, we need to look at a better approach to maintenance of our bridges and work to replace as many as possible to turn this step downward trend of bridge condition.

In 2014, we replaced five bridges and began design on eleven bridges to be replaced in 2015. While it may appear to be a light year in terms of the number of bridges, two of these bridges presented major challenges due to their location and depth. County Road 2 was replaced in about 7 work days at a cost of \$81,330.29, County Road 5 was replaced in 4 work days at a cost of \$29,922.17, Township Road 336 was replaced in 4 work days at a cost of \$36,425.34, Township Road 546 was replaced in 1 work day at a cost of \$18,498.45 and Township Road 130A was replaced in 2 work days at a cost of \$13,010.26.

I am often asked when people read this report or when we Tweet that we are working on a Township Bridge, “Why is the County working on Township Bridges?” Ohio Law gives the County responsibility to build and maintain bridges and culverts over 10-foot in diameter or length.



Bridges



County Road 19
Scheduled for Replacement in Summer of 2015



County Road 2
Replaced in Summer of 2014

Maintenance

Maintenance is a job that we do everyday at the County Highway Department. Whether it is roadside mowing, bridge repair, ditching, pothole patching or snow and ice removal they all keep us swamped in our daily activities. Our 21 Highway Employees work on over 376 miles and 329 bridges in nearly 450 square miles of hills and valley that makes Lawrence County one of the most difficult counties in the State of Ohio to maintain roadways. Currently, we have 527 work requests from residents and from our own inspections that we perform on a daily basis. The challenge is addressing all of those work items with three work crews.

Each work request is evaluated within 24 hours of receiving the request from the constituent or bridge / road inspector and determine the level of priority. While many do not think that we pay attention to their concern, we do the best we can with what we have.

During 2014, we performed roadside mowing with three mower crews from May to December covering 4,431 miles of roadside which is about 1,300 acres. Typically, it takes about 5 weeks for a single mower pass and as you know during the spring and early summer grass and weeds grow at an extraordinary rate. We have changed the way we operate over the past four years and will continue to evolve and improve the efficiency of how we maintain roadside vegetation.

The other major maintenance activity that we perform is roadside ditching. This is a major and never ending task that only works to improve the quality of our roadways. Since coming into office in February 2011, we have had at least one crew working on a daily basis, with very few exceptions to ditch our roadways and replace dilapidated culverts. Our focus has been to ditch and replace culverts on roadways that are scheduled to be paved the next year. This year we focused on County Road 230, County Road 181, County Road 24, County Road 7C, County Road 43 and County Road 31 all of which are schedule for resurfacing in August 2015.

Luckily, we are just far enough south in Ohio and along the Ohio River that we are not blessed with as much snow as the rest of the State. As you can see from the chart below, snow and ice removal consumes 15-20% of our annual budget. Each year and each snow event is different. Our highway crews are to be commended for their hard work and dedication, when others are not out driving they are out there working to make our roads safe for the public.

WINTER HIGHWAY MAINTENANCE

	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
	SEASON	SEASON	SEASON	SEASON	SEASON	SEASON	SEASON	SEASON	SEASON
LABOR COST W/FRINGES	\$39,583.74	\$49,777.15	\$45,354.64	\$72,056.92	\$59,227.70	\$17,649.09	\$43,862.41	\$102,483.49	\$80,511.78
EQUIPMENT COST	\$27,404.20	\$35,286.60	\$26,502.65	\$43,808.00	\$35,104.80	\$8,201.40	\$17,742.80	\$51,246.90	\$38,334.25
MATERIAL COST	\$42,402.35	\$59,469.94	\$55,277.26	\$92,005.39	\$88,336.26	\$21,363.76	\$39,031.90	\$123,138.10	\$62,445.40
TOTAL COST	\$109,390.29	\$144,533.69	\$127,134.55	\$207,870.31	\$182,668.76	\$47,214.25	\$100,637.11	\$276,868.49	\$181,291.43
SALT QUANTITIES	671.5	883.25	606	1033.7	942.25	211.3	381.75	1163	600.5
SLAG QUANTITIES	2523.27	2745.84	1953.15	2574.27	2807.08	580	1099.86	3162	1506.5
TOTAL QUANTITIES	3194.77	3629.09	2559.15	3607.97	3749.33	791.3	1481.61	4325	2107

2011 Flood Damage

We wrapped up work to repair the damage caused by the heavy rains on May 10-11, 2011 in September of 2014. While the construction work may be over the paperwork is in full gear. We have went through a State, Federal and currently completed a Homeland Security Audit during 2014 with No Recommendations in the Final Report. While many may think this is an excruciating task to be audited, we have welcomed the audits to prove that we were accountable to the taxpayer funds and only spent money on those things that need to be done to repair the roadway or bridge to pre-disaster condition and nothing more.

We have appreciated the patience of our citizens during the re-construction period. We will continue to see the affects of the 2011 Disaster for years to come in the form of debt payments that we incurred as a result of the local share for the re-construction projects.



Future Projects

This year we were able to get several major projects off the Planning and / Funding list and move them to Design stage. The CR 410, US 52 / CR 1 / CR 15 and the US 52 / Solida Road Interchange were major projects that we were able to secure funding and begin design. Each of these projects have a signification safety component to them and expect to have plans ready for construction or Preliminary Plans completed by May 2015.

Other projects that we have moved into the design stage this year are:

- ◇ County Road 10A Bridge 0091 Replacement
- ◇ County Road 104 Bridge 0240 Replacement
- ◇ County-wide Pavement Marking
- ◇ US 52 Solida Road Interchange Improvements
- ◇ County Road 410 Intersection Improvements
- ◇ US 52 / County Road 1 / County Road 15 Intersection Improvements
- ◇ County Road 29 Resurfacing (5.40 Miles)
- ◇ County Road 5 Resurfacing (3.92 Miles)
- ◇ County Road 15 Resurfacing (8.539 Miles)
- ◇ County Road 18 Resurfacing (2.796 Miles)

Estimated Total Project Cost \$15,040,374

Tax Mapping and GIS

Our office has over 250 years of surveys for our County. It will be decades before we get accurate surveys on all of the 56,000+ parcels. Many of these parcels have very poor surveys that often show problem areas, such as buildings, porches and fences built across property lines, when placed on top of an aerial photograph. On a typical day, my office see 5 to 10 property owners that come in to look at their property on the Aerial Photo and often they see a significant difference in where they think is their property line and what we have drawn on the maps. We are only able to draw the property line from the legal description that is in the property owners deed. That is why my staff and I sat down and reviewed the Conveyance Standards for Lawrence County and the Minimum Standards for Boundary Surveys in Ohio and now we try to ensure that the surveys that we review for recording conform to those standards. A little more than a year ago, we began "Red Stamping" legal descriptions that do not meet Conveyance Standards for Lawrence County and the Minimum Standards for Boundary Surveys in Ohio. This allows the property owner to know that there is a problem with the survey so that they will have time to get the property surveyed before the next time they sell the property. This is the only way to improve our Tax Maps through having accurate surveys.

Last year we reviewed over 1,880 conveyances compared to 1,983 in 2013 and 1,927 in 2012. This is an average of 8 surveys per work day, and includes reviewing each for 36 items in the County's Conveyance Standards, over 50 items for State Minimum Standards, verifying that the parcel is the correct Tax Parcel number, verifying that the deed of prior record is correctly identified, and other tasks to ensure that we gather the necessary information to map the property correctly as possible. In order to draw an accurate map for taxation purposes in the future, we are now notifying property owners of issues with their property description so that they can get an accurate survey made before the next time they transfer their property.

We continue to add layers to our GIS and have added over 200 data layers since 2011 to make the product useful to everyone who is interested in making Lawrence County accessible to the global marketplace.

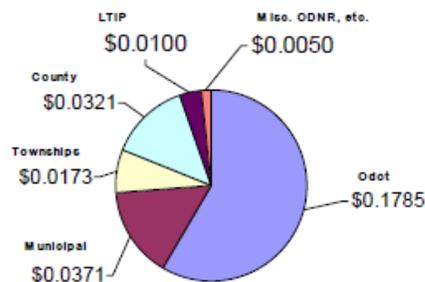
The obligation of the County Engineer to perform this function is in ORC 5713.09 through funds provided by the General Fund. Ohio Law does not permit the use of Motor Vehicle Gas Tax Revenues to perform this work.

Budget

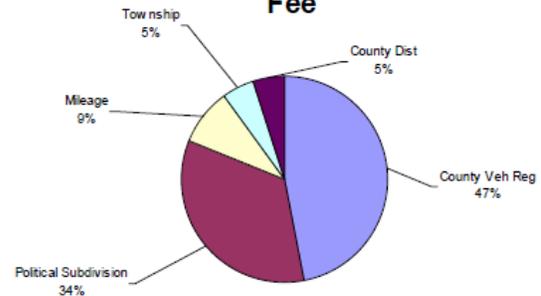
Engineering is easy when compared to living within a budget that has not increased nearly close to the same rate as the expenses that we have year in and year out. As an example, one mile of road cost us about \$22,000 per mile in 2002. That same mile in 2014 cost about \$110,000. That is a 500% increase in 14 years all the while our Revenue in 2002 was approximately \$3.6 million compared to today's \$4.1 million for an increase of 6%. That is what we are faced with on a daily basis at the County Engineer's Office. We, like many of our citizens, are faced with the daily decisions on what I can afford based on the money we have, not on what we work that is needed to keep the County Road System in minimal repair but what absolutely has to be done to get by. I truly wish it were different, but we live with what we are given by the State Government.

So where does all that Gas Tax and License Plate Fees that we pay go to. ...

Distribution of \$0.28 State Gasoline Tax

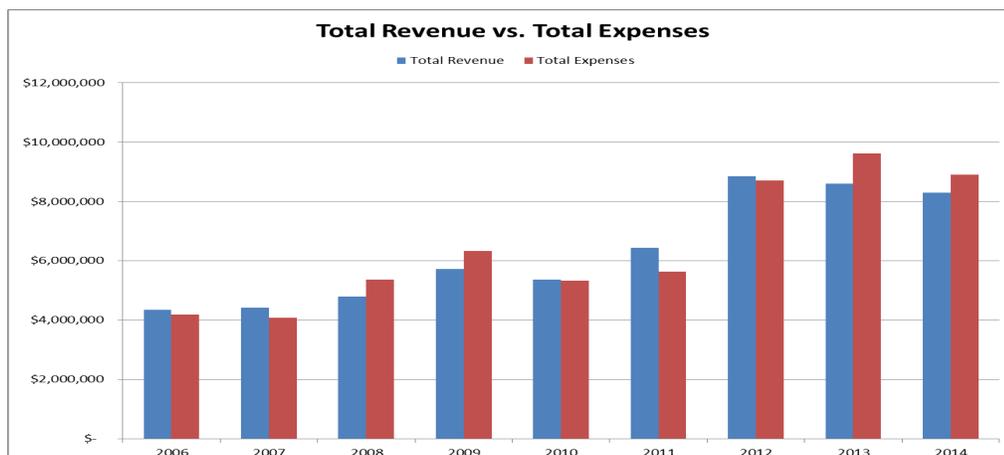


Distribution of \$20 License Plate Fee



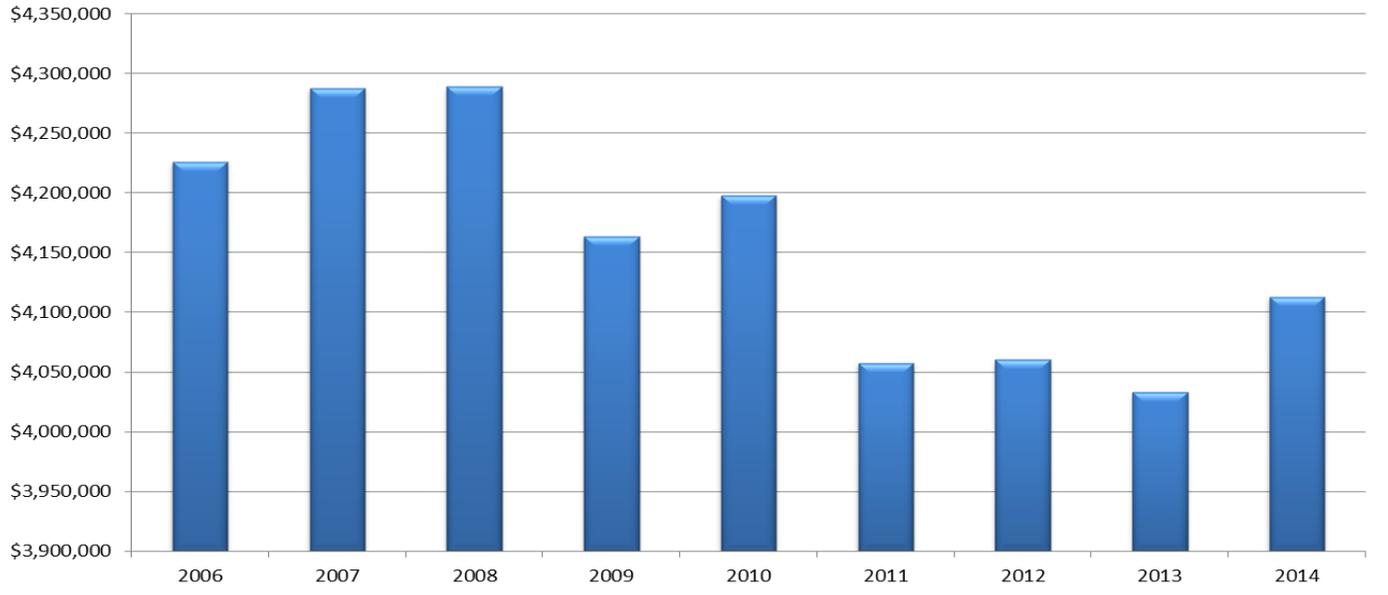
As you can see from these charts, the larger counties with more vehicles will get more money than smaller counties like ours with fewer vehicles. We continue to work with our State and Federal legislators to see how we can reduce regulation, give the County more flexibility and be the most efficient with the funds we have, before we look at increasing taxes on our citizens to perform the basic maintenance and bridge replacement that we have to do in order to make our roads safe for travel.

	2006	2007	2008	2009	2010	2011	2012	2013	2014
Income									
Motor Vehicle License - Gas Tax	\$ 4,226,200	\$ 4,288,020	\$ 4,289,087	\$ 4,163,684	\$ 4,198,201	\$ 4,057,610	\$ 4,060,432	\$ 4,033,102	\$ 4,113,056
Grant Revenue	\$ 127,520	\$ 137,216	\$ 510,426	\$ 1,569,390	\$ 1,176,671	\$ 2,387,581	\$ 4,787,483	\$ 4,562,092	\$ 4,183,288
Total	\$ 4,353,720	\$ 4,425,236	\$ 4,799,513	\$ 5,733,074	\$ 5,374,872	\$ 6,445,191	\$ 8,847,915	\$ 8,595,194	\$ 8,296,344
Expenses									
2011 Disaster Debt							\$ 28,513	\$ 57,183	\$ 1,249,759
Maintenance Expenses	\$ 2,816,811	\$ 2,990,216	\$ 3,383,094	\$ 3,429,516	\$ 3,435,604	\$ 4,178,390	\$ 3,701,814	\$ 3,972,186	\$ 3,777,553
Construction Projects Expense	\$ 1,381,471	\$ 1,086,781	\$ 1,981,696	\$ 2,903,115	\$ 1,903,650	\$ 1,450,228	\$ 5,010,020	\$ 5,644,618	\$ 5,123,551
Total	\$ 4,198,282	\$ 4,076,997	\$ 5,364,790	\$ 6,332,631	\$ 5,339,254	\$ 5,628,618	\$ 8,711,834	\$ 9,616,804	\$ 8,901,104

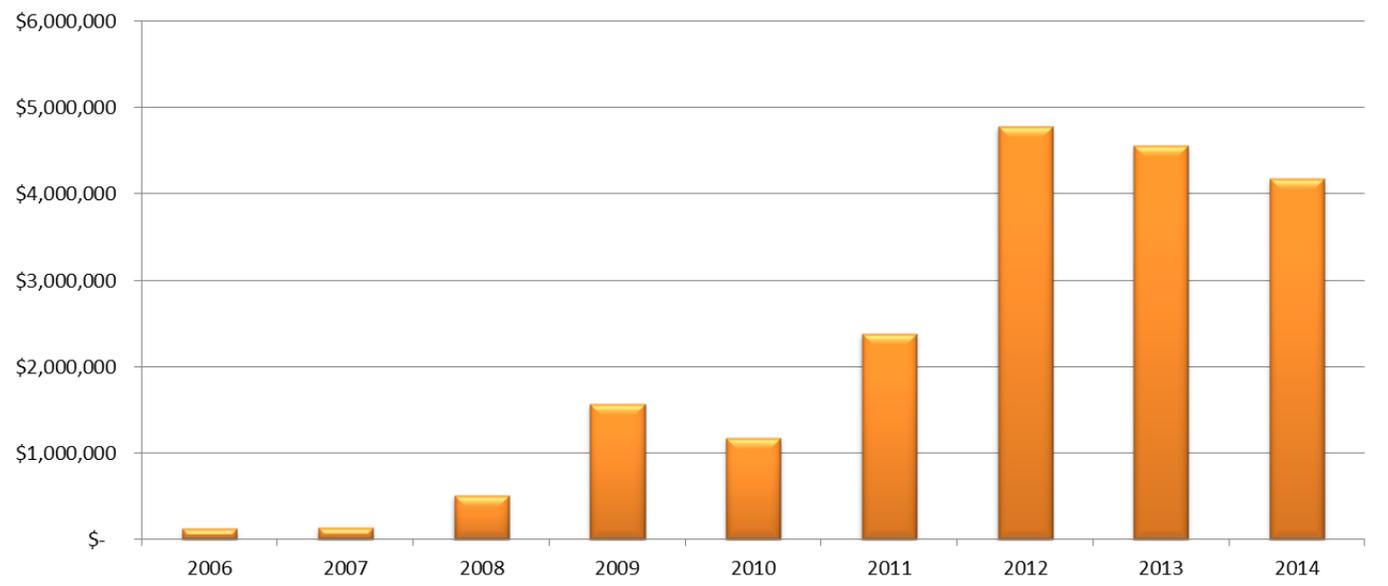


Budget

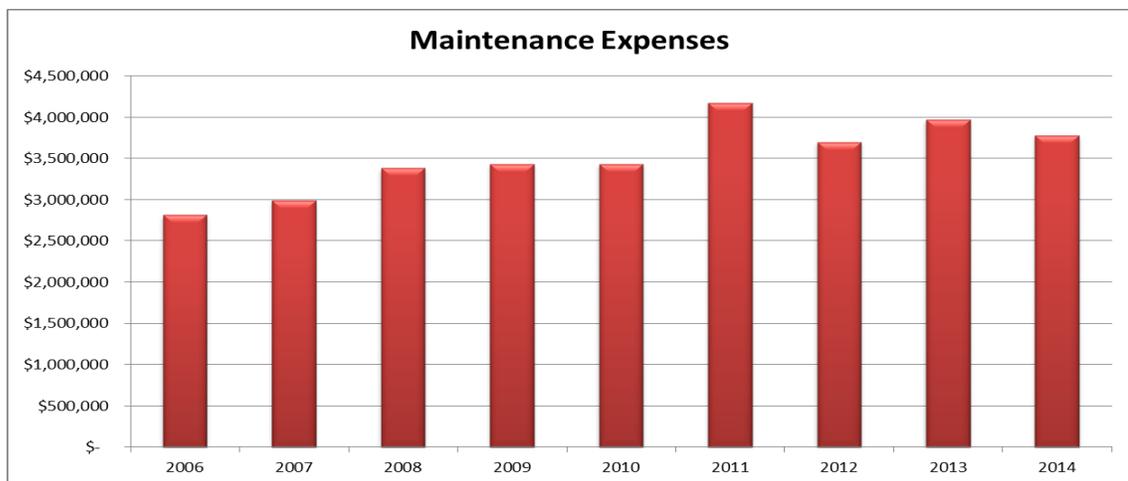
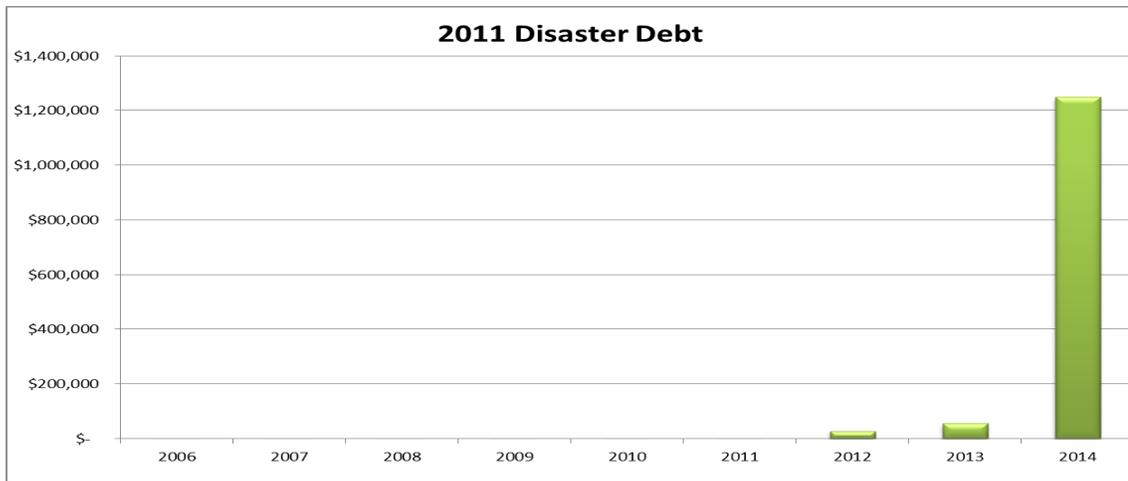
Motor Vehicle License - Gas Tax Revenue

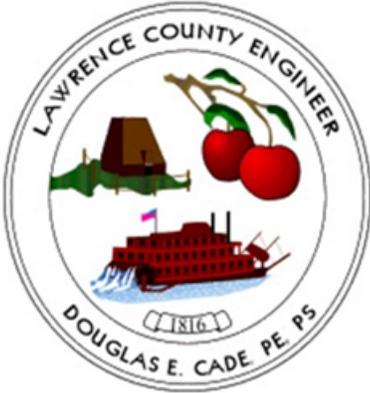


Grant Revenue



Budget





Lawrence County Engineer

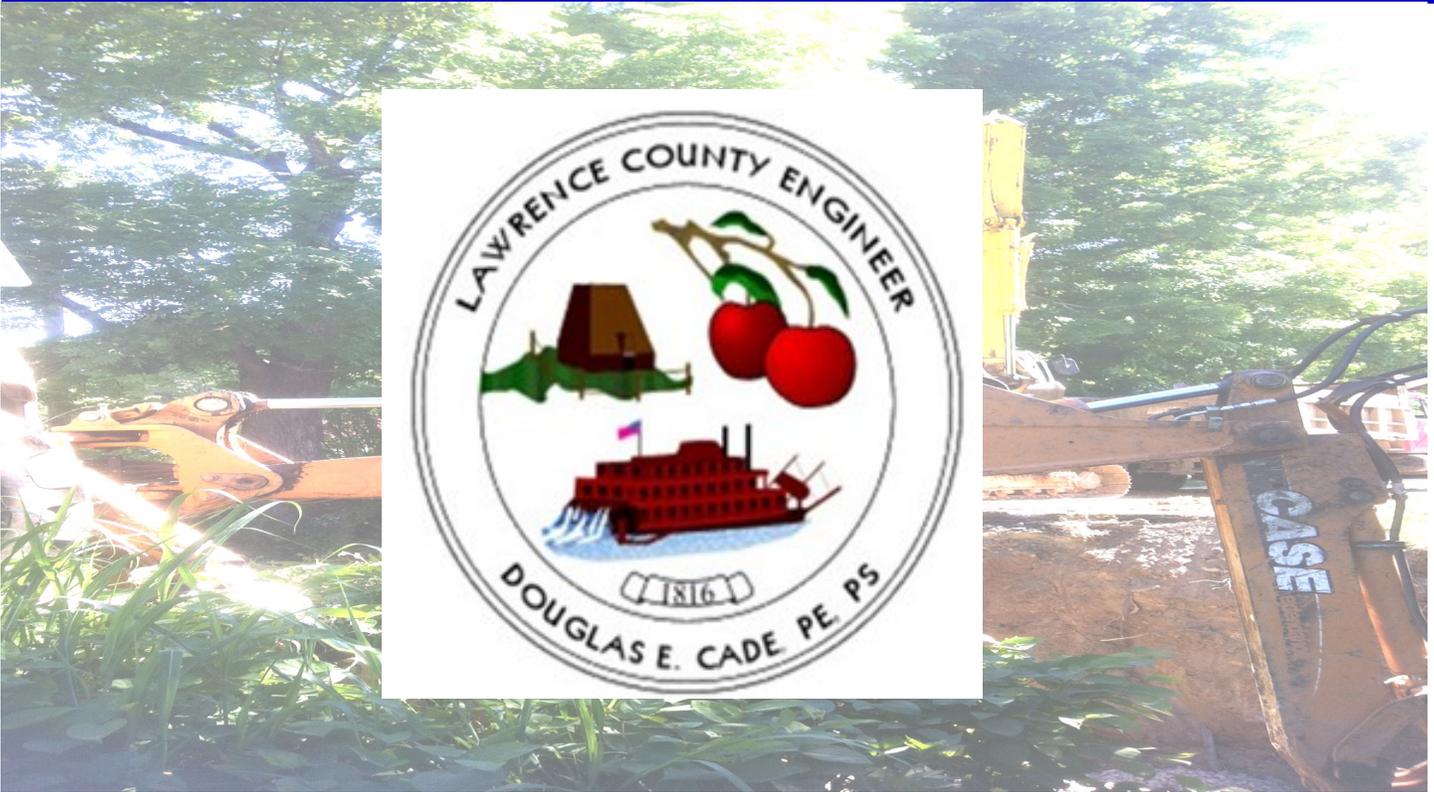
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Thank You, Lawrence County!



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