

Fiscal Year 2015



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# Boone County Road & Bridge Annual Report

A cooperative effort between  
Engineering Division of Resource  
Management and Public Works  
Maintenance Operations

# Road & Bridge Vision Statement

All citizens of Boone County benefit from a safe, modern and well maintained transportation system which results in a high level of trust and confidence placed in Boone County Public Works-Maintenance Operations & Boone County Resource Management-Engineering Division

## Letter from the Chief Engineer

Dear Boone County Commissioners and Boone County Residents,

### Inside this issue:

Drainage Structures	1
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The Boone County Resource Management – Engineering Department is pleased to present our Annual Report which highlights major activities and accomplishments for fiscal year 2015. Our mission is to maintain and improve the County's 750+ mile road network. The department has grown confident that the programs that have been developed in the past 3-4 years remain the core reason for our success. This success stems from the ability to remain PROACTIVE!

The Bridge Rehabilitation and Replacement Program is now coming up to speed. This effort encompasses efforts from replacement of small culverts to hydro-demolition of bridge decks. Over 450 structures (greater than 4 feet diameter but less than 20 feet in span length) were identified. This plan has gotten off to a good start. Ninety-nine percent of the identified culverts have been inspected. This data will allow a proactive work plan to be developed over next few years. A GIS layer exists that allow maintenance operations to identify structures with issues. This layer allows each department to identify targeted structures and assign responsibility for which department will address.

Of course, the old programs of pavement preservation, asphalt and concrete road rehabilitation, along with concrete panel replacement are continuing to function well. The majority of the planning was done last summer and fall, with the budget process. This collaborative planning effort was mentioned several times in last years annual report by Chet Dunn and the maintenance employees at Public Works. Staff is already bidding some projects.

The continued buy in from the Commission is the key. The identified continued funding facilitates long term planning and allows flexibility in adapting to obstacles introduced by Mother Nature. For this we are thankful.

In closing the dedication of all our employees plays an integral part in our accomplishments, for without them none of this is possible. Together we will continue to provide a safe, modern, well maintained transportation system by serving the citizens of Boone County with excellence and integrity. Experience teaches us that the coming year will present its unique challenges as it will also provide opportunities to excel. Thanks again for the support and the occasion to serve.

Respectfully,



Derin Campbell, P.E.

Fiscal Year 2015  
Expenses

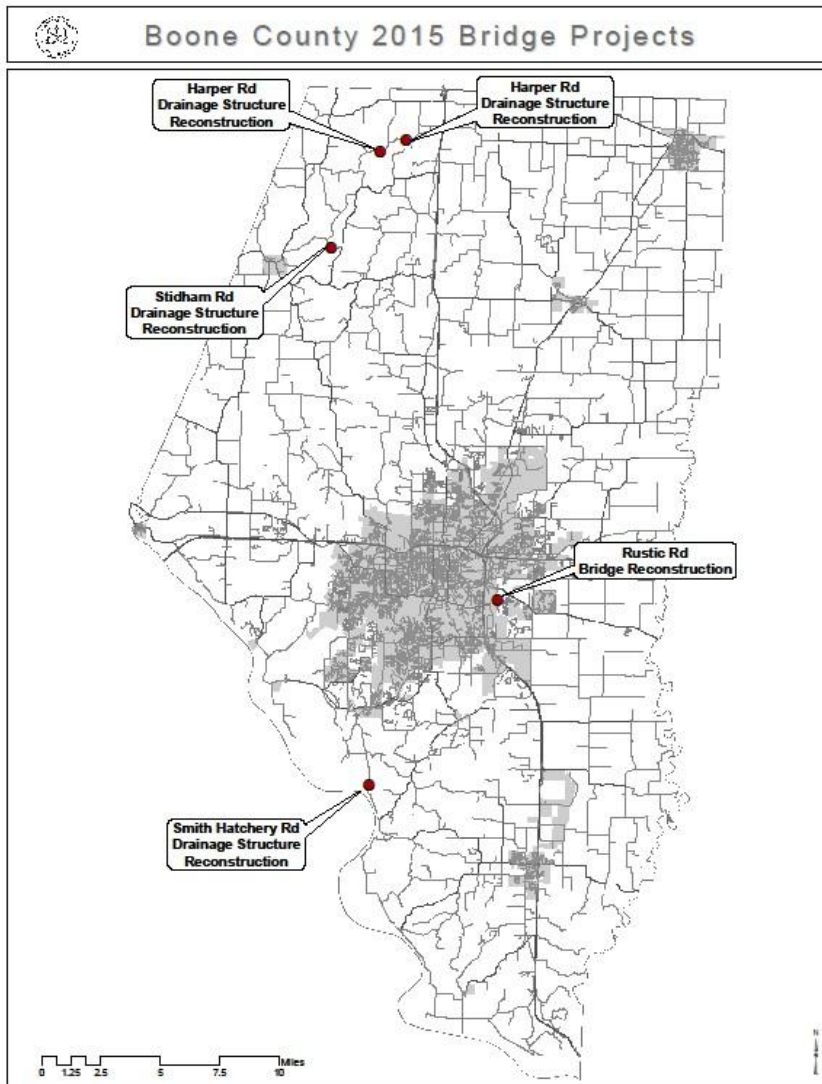
# Requirement #1

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Report the money expended  
for construction,  
maintenance and repair of  
such highways, roads,  
bridges and culverts during  
the preceding year.

# Drainage Structure Projects

**Drainage Structure:** a term to include both bridges (a structure having a span greater than 20 feet measured on a horizontal plane along the centerline of roadway; width from one side of the structure to the other) and culverts (a structure not classified as a bridge that provides an opening under a portion of a roadway)



## Stidham Road and Harper Road Drainage Structure Improvements

Refinement and classification of our culvert database allowed us to identify 3 culverts that were in close proximity to each other, of similar size and having similar drainage issues. Thus we were able to develop one design that could be used 3 times, with minor changes for each location.

This project involved replacement of existing roadway culverts with a single CMP (corrugated metal pipe) arch culvert at one location on Stidham Road and two locations on Harper Road. The single pipe arch design should reduce the frequency of debris clogs on the upstream end and reduce maintenance costs.



*Photo to the left is debris that had to be cleaned up before work could begin at one of the project sites.*

Harper Rd #1501—54 feet long

Harper Rd #2242—52 feet long

Stidham Rd #10000322—76 feet long



# Drainage Structure Projects

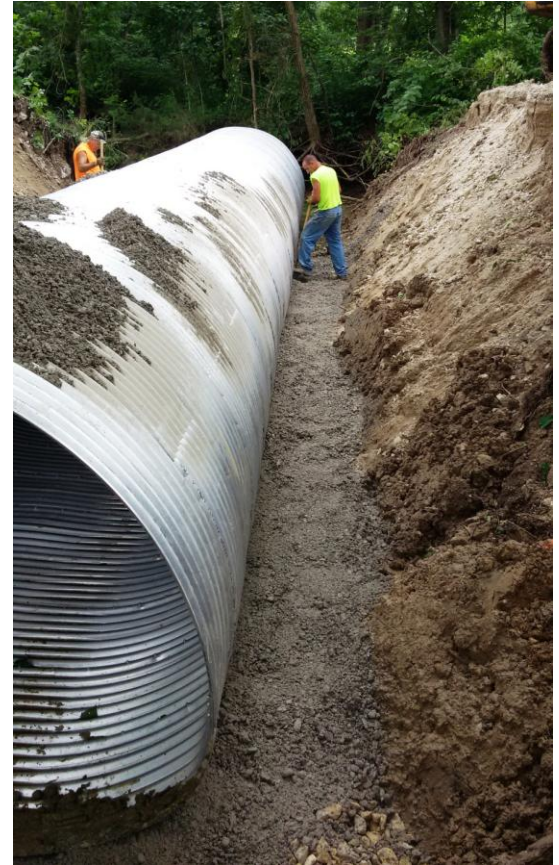
Boone County has approximately 485 drainage structures that are at least 4 ft wide but less than 20 ft wide.



The photo above is an example of the culverts that were removed.

The picture to the right shows the working conditions and size of the replacement

Below is the completed project at one of the sites.



Mother Nature decided to unleash an unusually wet December in 2015.

## Smith Hatchery Road Drainage Structure Improvement

North of Cooper's Landing Marina and Campsite on Smith Hatchery Rd. lay two 8' diameter corrugated metal culverts. These culverts carry the Mayhan Branch under the road, and were in a significant state of corrosion. The corrosion had reached a point that the bottom of the pipes, also known as the inverts, had been completely eaten away. Given enough time and enough loss of material, the pipes would lose their structural capacity, collapse and cause a public danger. It was decided the Smith Hatchery culverts were to be replaced before this danger could occur.

The project was designed by Boone County Resource Management staff and called for the existing twin 8' diameter culverts to be replaced with a single 12' diameter, aluminized, corrugated metal culvert.



# Drainage Structure Projects

## Smith Hatchery Road Drainage Structure Improvement

The aluminized coating can provide better corrosion protection and longer service life when compared to the traditional galvanized coatings of the existing culverts. This is important for the project given its close proximity to the Missouri River. The water levels of the Missouri River dictate the levels of the Mayhan Branch. If levels are high on the river, water can back up in the channel until the river recedes and allows the channel to drain. The design also called for the use of a single barrel culvert, as opposed to multiple barrels. During storm events a single large opening has less chance of clogging from floating debris than multiple small openings.

Construction began in early December, when traffic would be minimal and the water level should be low in the project area. However, Mother Nature decided to unleash an unusually wet December. These conditions have caused significant delays to the project. At the time of this publication, the project is still under construction. Boone County staff and the contractor are still striving to deliver a quality product given these difficult circumstances.



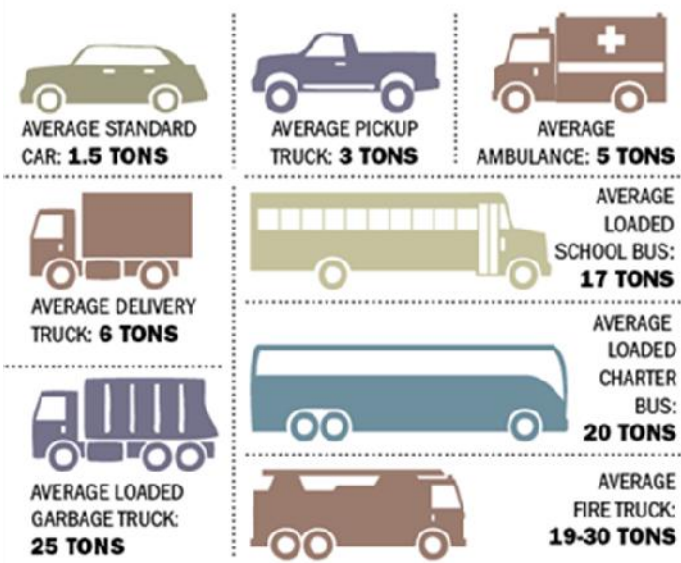
*Smith Hatchery  
Culvert to be  
replaced*

### *Rustic Road Bridge*

*American Consulting  
Engineers Council of  
Missouri*

*2016 Engineering Excellence  
Award Competition - Grand  
Conceptor or Grand Award  
Recipient!*

### Approximate vehicle weights



## Rustic Road Bridge

The 1950 structure over the North Fork of the Grindstone Creek on Rustic Road had been reduced to a 3 ton weight limit, creating concerns for conducting everyday life. As depicted in the map on the next page, there were a number of residents that would be stranded without the bridge. The project to replace the Rustic Road Bridge was a true collaboration. County Maintenance Operations Staff constructed a temporary bypass allowing those residents to proceed as normal during the replacement. Boone County and the City of Columbia partnered on both work and funding for the part of the project not covered by a federal IBRD grant. The IBRD (Innovative Bridge Research and Deployment) grant was awarded for the use of innovative abutment and superstructure design elements.



# Drainage Structure Projects

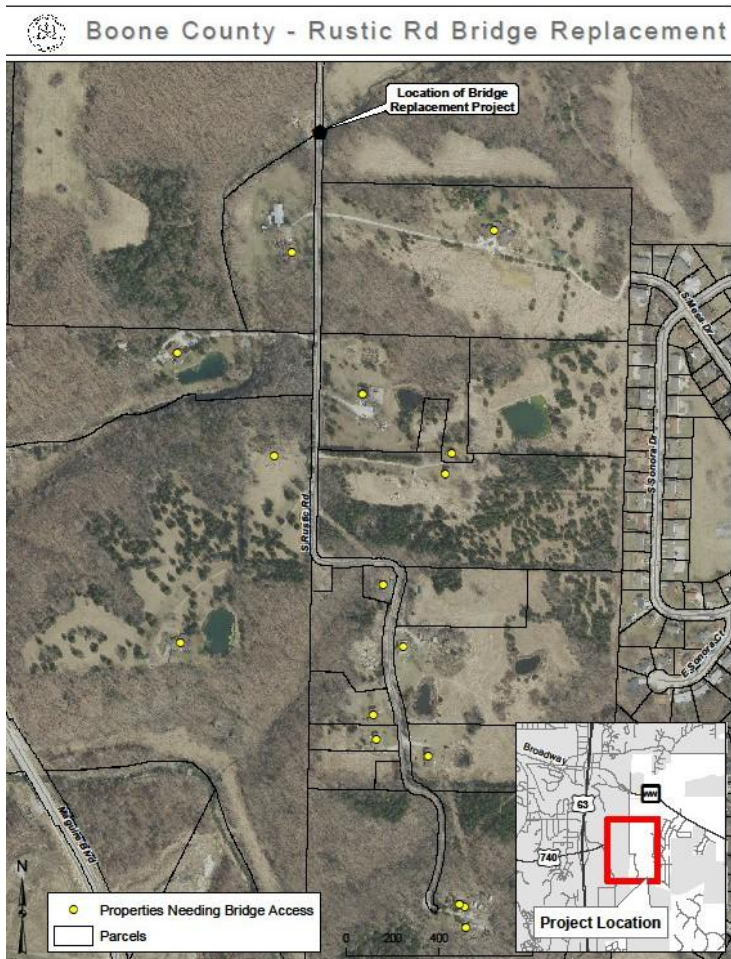
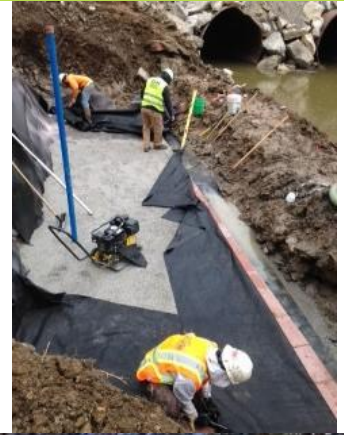


Photo to the right  
Building the abutment with  
the temporary bypass in  
the background



Old abutment with bridge deck removed

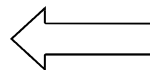
Abutment: a substructure at the ends of a bridge span or dam whereon the structure's superstructure rests or contacts

Girder: a large iron, steel, concrete or wood beam or compound structure used for building bridges

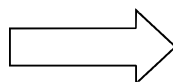
(source: Wikipedia)



New abutment Rustic Rd Bridge



New Girder Rustic Rd Bridge





# Drainage Structure Projects

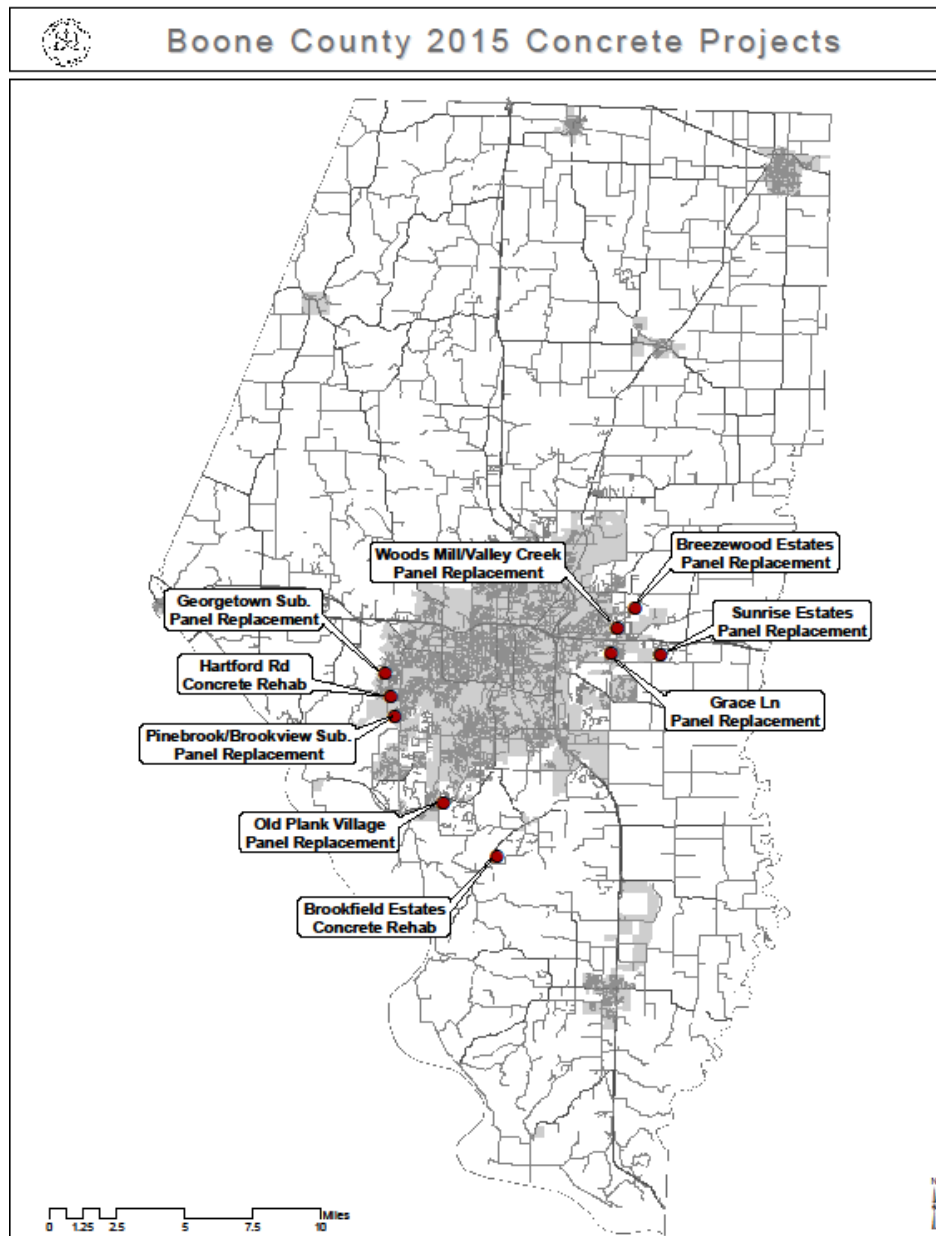


*Placing girders Rustic Rd Bridge*



*Completed Project Rustic Rd Bridge*

# Concrete Rehab Projects



*There are 41,640 panels in Boone County concrete roads.*

The management of concrete roads is much different than asphalt roads. Concrete roads tend to stay in good condition for a long time, then fail very quickly. Due to the nature of the material, the idea of low cost preventative maintenance treatments is not really applicable. Boone County's management of its concrete roads currently focuses on the systematic replacement of failed panels. These replacements are done with two basic mechanisms, targeted panel replacements and rehab projects.



# Concrete Rehab Projects

## Targeted Panel Replacement

Targeted Panel Replacements involve the removal and replacement of individual concrete panels in a road that have deteriorated to a point where they are no longer serviceable. These replacements are performed by either a contractor or by the Public Works Maintenance Operations Department. In 2015 approximately 311 panels were replaced by contractors.

The photo to the far right shows the inspection ratings for that section of road.

### Concrete Panels

#### Rating



## Targeted Panel Replacement Areas 2015

Georgetown Subdivision

Grace Lane

Pinebrook/Brookview Subdivision

Old Plank Village

Sunrise Estates

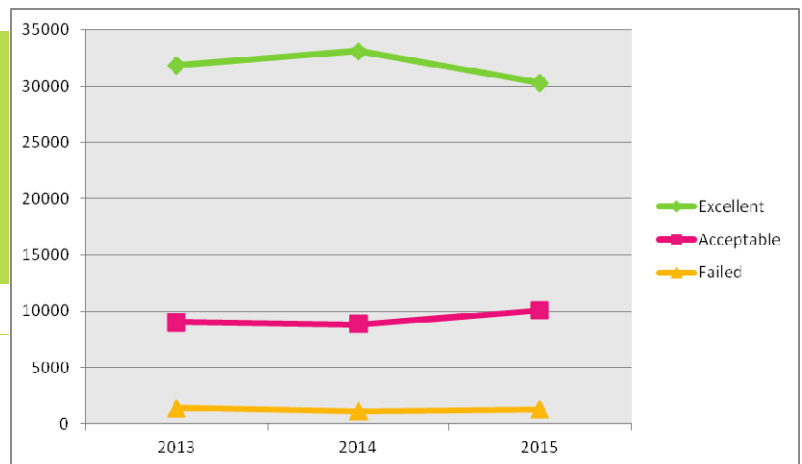
Breezewood Estates

Woods Mill/Valley Creek

Work in these areas was performed by a contractor and inspected by Resource Management Road Construction Inspectors

Year	Excellent	Acceptable	Failed	Total
2013	31,839	9,020	1,402	42,261
2014	33,070	8,834	1,137	43,041
2015	30,270	10,092	1,278	41,640

The graph to the right illustrates both the quick change in rating that can occur with concrete roads; and that the Boone County approach to maintaining concrete roads has allowed us to keep over 95% of our concrete panels in acceptable or better condition.





# Concrete Rehab Projects

## Concrete Road Rehab Projects

Concrete Road Rehab projects are a much larger scale of removal of failed panels and replacement with new pavement. These projects typically encompass an entire neighborhood. The new pavement could be conventional concrete, full depth asphalt, or Roller Compacted Concrete (RCC) topped with a 2" asphalt wearing surface. In 2015 Concrete Road Rehab projects were performed in Brookfield Estates Subdivision and on Hartford Rd. (Cul-de-sac north of Salem Dr. only) in Meadowbrook West Subdivision.

### Brookfield Estates



In Brookfield Estates extensive partial and full depth patching and resurfacing was performed.



# Concrete Rehab Projects

## Concrete Road Rehab Projects

### Hartford Rd Cul-de-Sac



The cul-de-sac at the end of Hartford Rd. in the Meadowbrook West subdivision was showing signs of deterioration in the form of excessive cracking in the concrete pavement and curb. The cul-de-sac was also the only section of concrete roadway in the subdivision, whereas the rest is asphalt. This becomes problematic given concrete and asphalt are treated differently in terms of maintenance and preservation. Due to the deterioration and differing materials, it was decided the cul-de-sac should be replaced.



The project was designed by Boone County Resource Management staff and called for the complete removal of the existing concrete curb and pavement. The new cul-de-sac would consist of concrete "rollback" curb and gutter and 8"

of asphalt pavement over 4" of stone base. The design also called for lowering the curb height across all driveways in order to provide a smoother transition from the road. Provisions were put into the project to add an additional 4" of stone base and a layer of geogrid fabric under the pavement in case soft sub soils were discovered during construction.



Construction began and soft sub soils were present so the additional stone base was needed. It was also discovered that a large area of wet, soft clay existed which would require even more stabilization efforts before paving operations could take place. Despite these unforeseen issues the project was still completed on time.





# Asphalt Rehab Project

## Mexico Gravel Road



In 2015 an Asphalt Rehabilitation Project was performed on Mexico Gravel Road. Full Depth Reclamation was used on a portion of the project that was severely distressed. In this process, the existing pavement, gravel base, and sub-grade are pulverized and combined with cement and water and compacted into a stabilized base. Following curing, an asphalt overlay is installed for the driving surface. For the rest of the project, spot patching and an asphalt overlay were performed. Approximately 0.8 mile received the Full Depth Reclamation; 1.3 mile received patching and overlay.



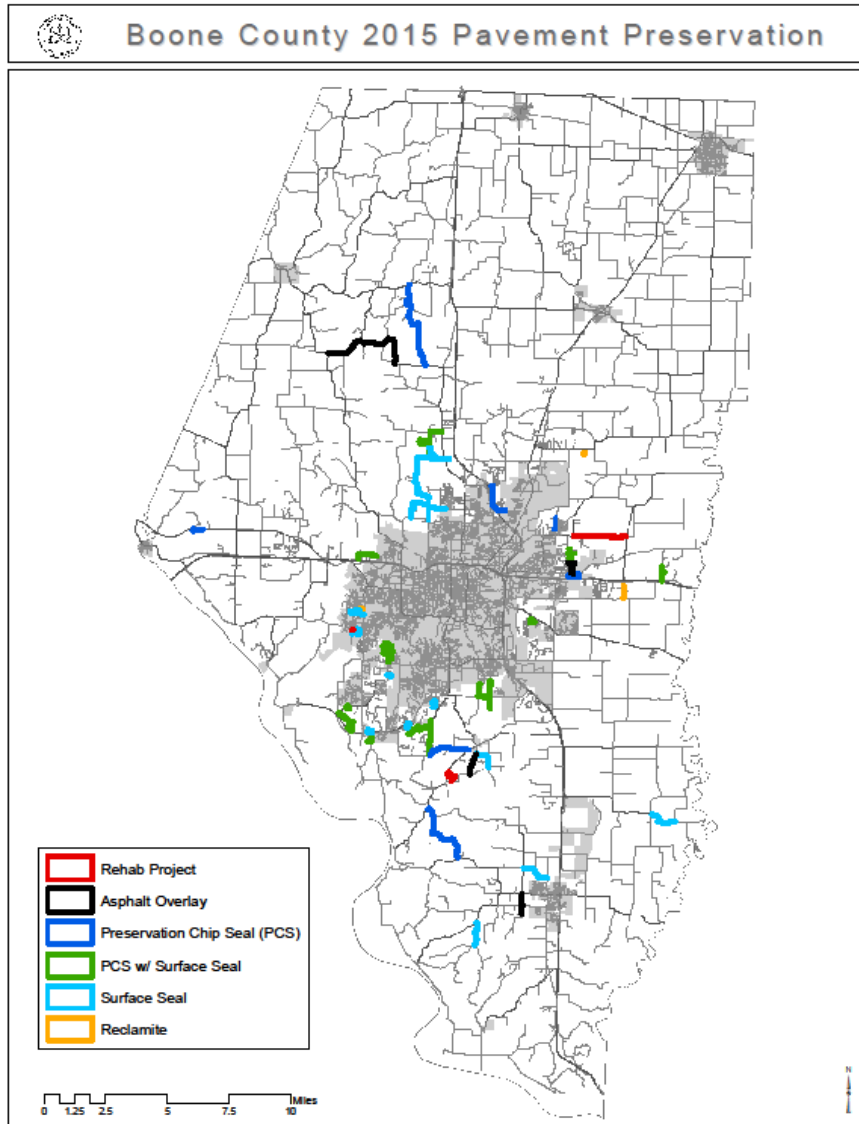
2015

*Single Asphalt Rehab Project .8 mi FDR, 1.3 mi overall treatment*

*Cost \$409,238*



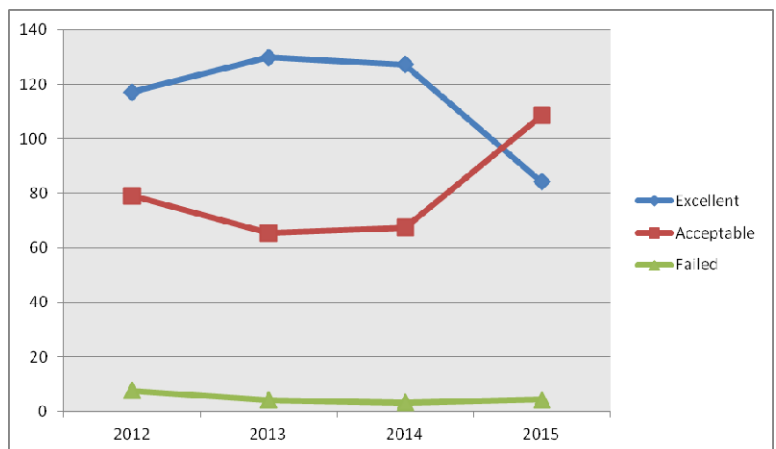
# Pavement Preservation Projects



In 2015 the Pavement Preservation Program continued to make progress in its mission of protecting the investments made on asphalt roads and extending the life of those roads. The basic tactic in pavement preservation is to perform lower cost treatments to roads while they are in good condition to keep them in good condition rather than performing higher cost treatments to roads in worse condition.

*The graph below illustrates that the Boone County approach to maintaining asphalt roads has allowed us to keep over 95% of our asphalt roads in acceptable or better condition.*

Year	Excellent	Acceptable	Failed	Total
2012	117.10	79.08	7.59	205.54
2013	129.91	65.41	4.25	199.57
2014	127.21	67.39	3.33	197.93
2015	84.17	108.49	4.44	197.10



# Pavement Preservation Projects

## Preventive Maintenance Performed in 2015

### Asphalt Overlay

Asphalt overlays are performed on roads that exhibit some moderate distress and smoothness irregularities, but otherwise are in good condition. Typically 2" of new asphalt mix is placed on the road surface. In 2015 approximately 6.9 centerline miles of road received an asphalt overlay.



### Preservation Chip Seal

Preservation Chip Seals are performed on roads in excellent condition – typically within 2-3 years of being constructed or receiving an asphalt overlay. The heavy application of asphalt emulsion oil that is applied as part of a chip seal creates a very robust barrier between the pavement and the environment limiting the deteriorating effects of sunlight and moisture. The chips applied to the road, Iron Mountain Trap Rock, is a very hard, durable rock which provides a wearing surface and traction to the road. In 2015 approximately 28.4 centerline miles of roads received a Preservation Chip Seal treatment.

### Fog Seal – GSB-88

Fog Seals are performed on roads in excellent condition. Currently, every road that receives a Preservation Chip Seal is planned to also get Fog Sealed in the same or following construction season. This type of treatment using GSB-88, a gilsonite asphalt based sealant, was first used on Boone County roads as part of the Asphalt Pavement Preservation Program in 2011. It has been used to supplement and extend the life cycle of Preservation Chip Seal treatments. In 2015 8.7 centerline miles of roads were treated with a GSB-88 Fog Seal treatment.

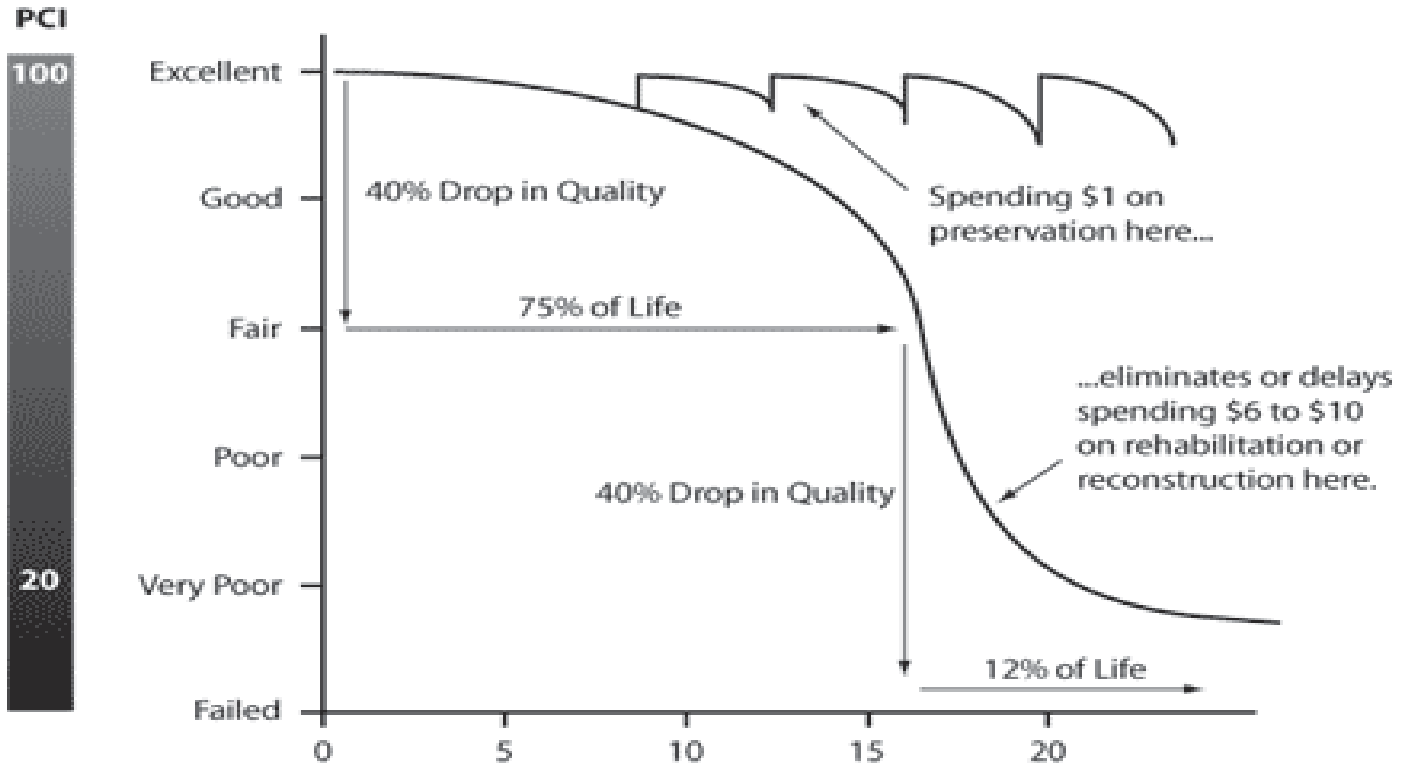
### Onyx Surface Seal

As with the Fog Seal treatment using GSB-88 material, the purpose of this treatment is to supplement and extend the life cycle of Preservation Chip Seal treatments on roads in excellent condition. Onyx Surface Seal is applied similar to a fog seal with the same intended purpose. In 2015 22.8 centerline miles of roads were treated with an Onyx Surface Seal

### Reclamite Treatment

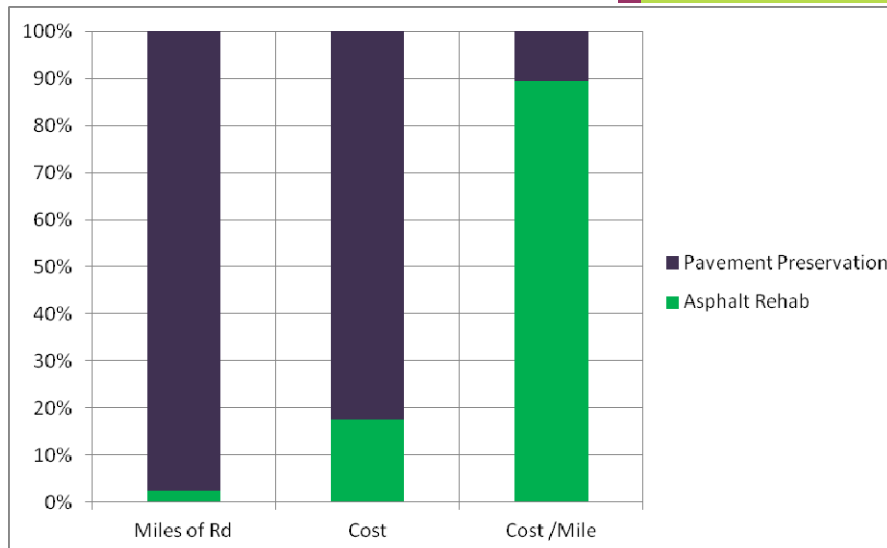
Reclamite is a rejuvenator type surface treatment. Rejuvenators are designed to restore asphalt pavements to a better condition by replenishing asphalt components that have been lost to oxidation and wear or were never present. Reclamite is applied to pavements in excellent condition. In 2015 2.0 miles were treated with Reclamite.

# Pavement Preservation Projects



	Asphalt Rehab	Pavement Preservation
Miles Treated	1.3	52.1
Total Cost	\$409,238	\$1,111,800
Cost per Mile	\$314,798.46	\$36,691.82

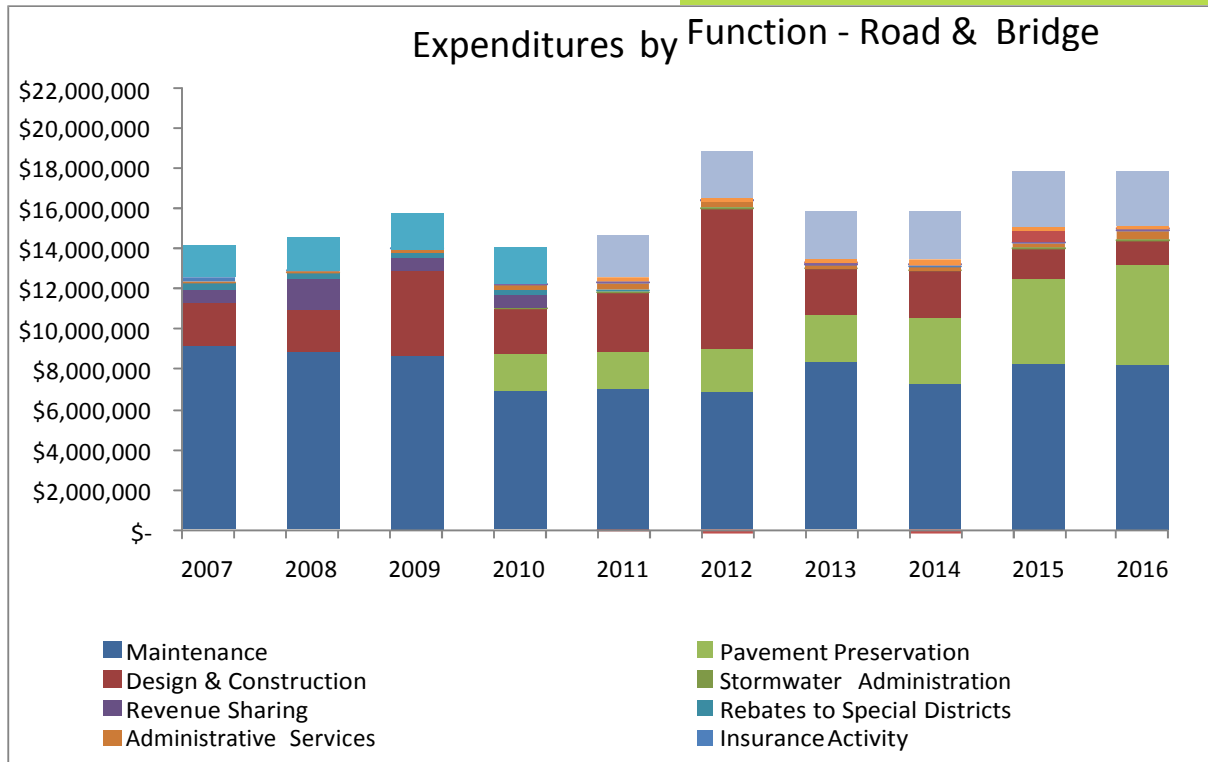
*In 2015 Boone County spent \$1,911,800 on Pavement Preservation treating 52.1 miles of road.*



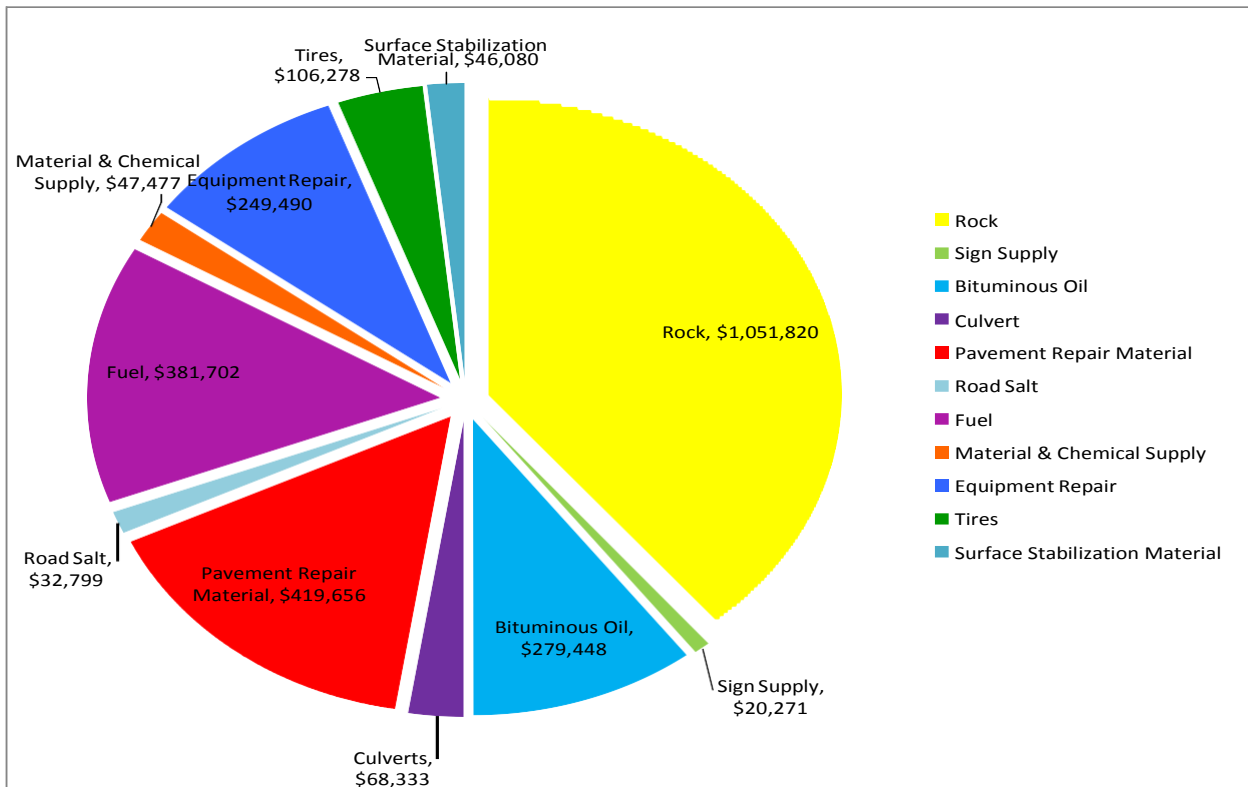


# Road & Bridge Expenses

## Total Road & Bridge Expenditures in 2015

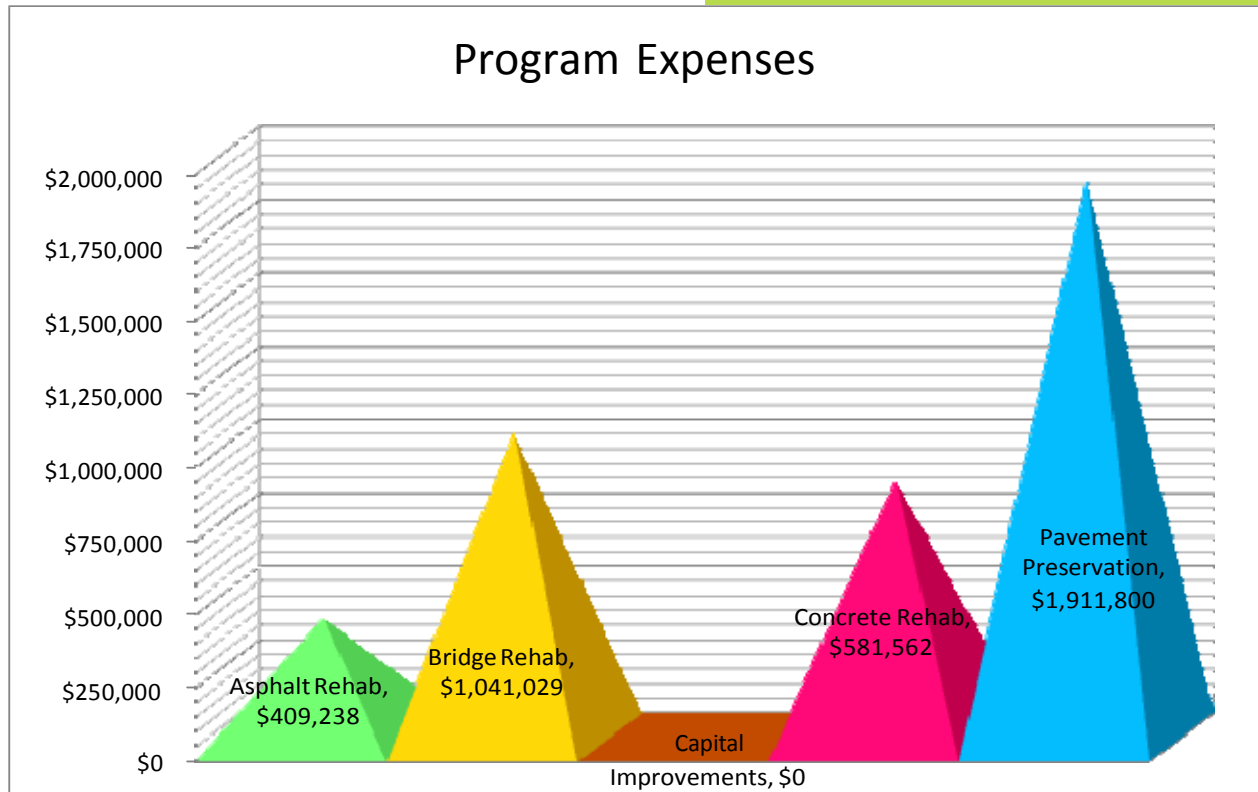


## Major Maintenance Operations Supply Expenditures 2015

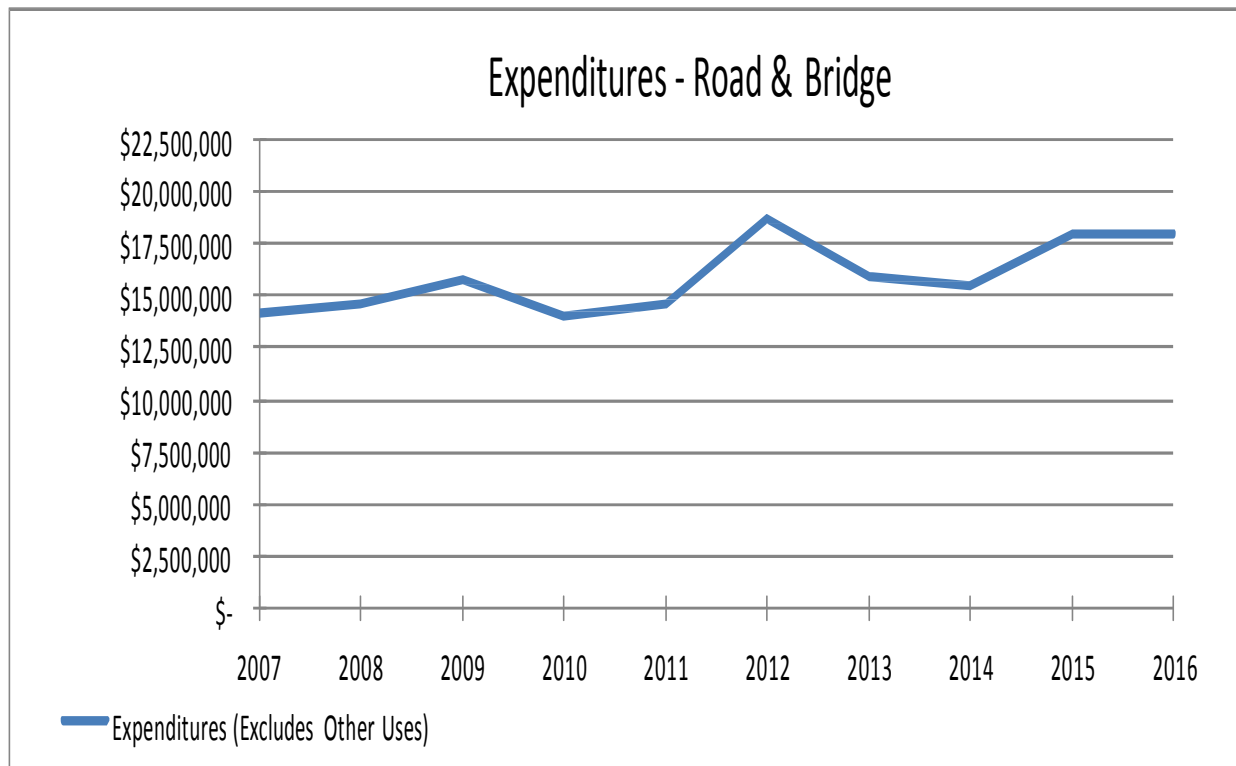


# Road & Bridge Expenses

Design & Construction Program Expenditures 2015



## Total Road & Bridge Expenditures in 2015



# Requirement #2

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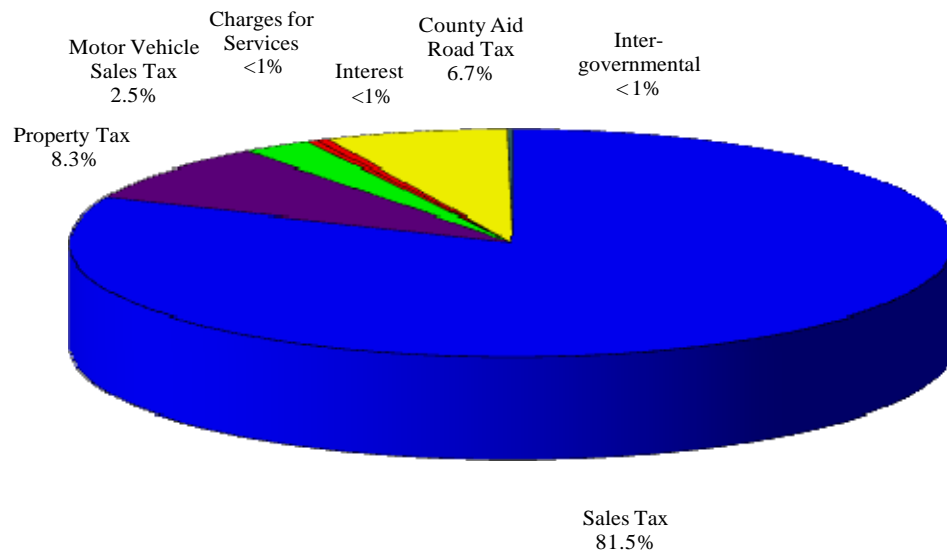
Submit a plan for construction, reconstruction, maintenance and repair of existing established public highways, roads, bridges, and culverts proposed to be undertaken and completed during the current year.

# 2016 Work Plan

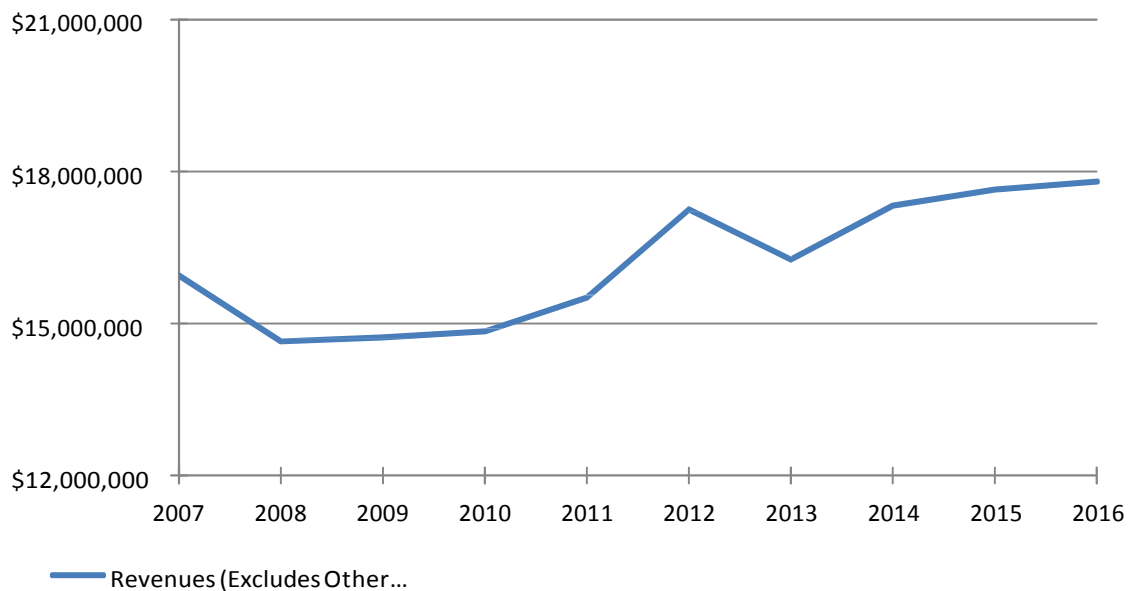
## Where the Revenue Comes From

### Total Projected Road & Bridge Revenue in 2016

Where The Money Comes From - Total Revenues  
Road & Bridge Fund 2016



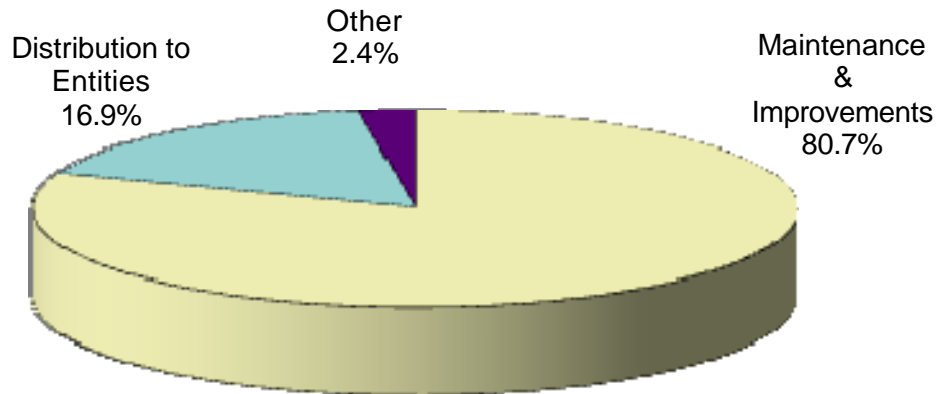
Revenues - Road & Bridge



# 2016 Work Plan Where the Money Goes

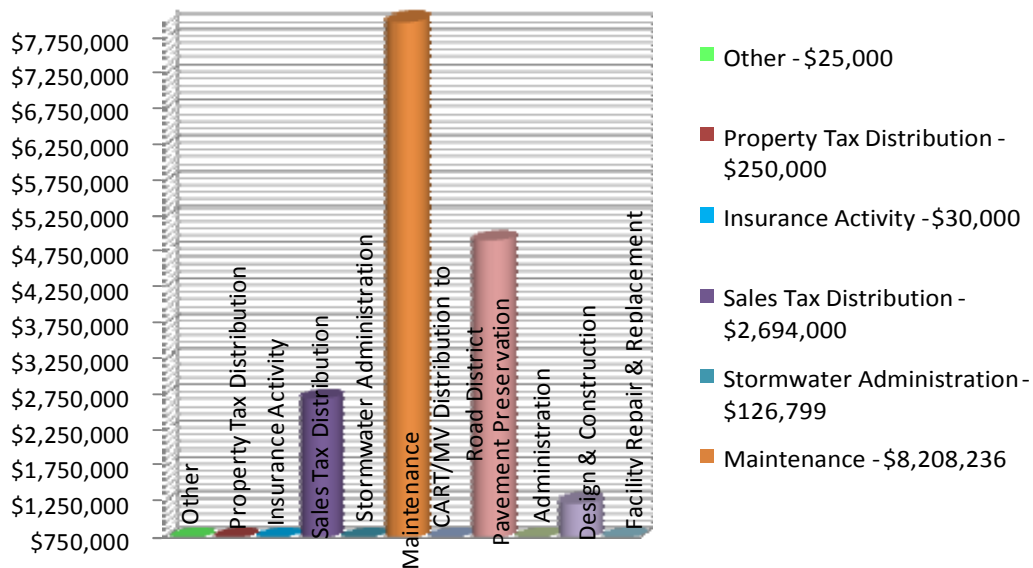
## Overall Budget for Road & Bridge in 2016

**What The Money Is Used For  
Road & Bridge Fund 2016**



## Total Road & Bridge Distribution in 2016

**Total Road & Bridge Budget 2016**



# 2016 Work Plan

## Projects in Development

### Pavement Preservation Projects

These projects are currently under design and proposed to be constructed in 2016

78,628 sq yd of Asphalt Overlay  
286,861 sq yd of Preservation Chip Seal  
460,794 sq yd of Surface Sealing

### Asphalt Rehabilitation Projects

These projects are currently under design and proposed to be constructed in 2016  
South Cowan Road

### Concrete Rehabilitation Projects

These projects are currently under design and proposed to be constructed in 2016

Willow Brook Subdivision  
Shalimar Subdivision  
Projects estimated to replace 5,600 sq yd of concrete  
Individual Panel Replacement is projected to be 200 panels

### Drainage Structure Projects

These projects are currently under design, in the right of way acquisition phase or under contract and proposed to be constructed in 2016 or 2017

W. Red Rock Road Bridge #BR0470006  
E Mount Zion Church Bridge #BR2750020  
Gillespie Bridge #BR4720012 Abutment Modification  
& Hydro-demolition  
Calvert Hill Road Bridge #BR450009 Hydro-demolition  
Marshall Lane Culvert #2076  
Rangeline Rd Bridge #BR3380002  
Remie Rd Bridge #BR2650011  
Mexico Gravel Bridge #BR3070006  
McBaine Bridge #BR48700342 approach repair and stabilization  
Hill Creek Rd Bridge #BR5020005

A number of other large culverts are currently under evaluation for replacement

### Capital Improvement Projects

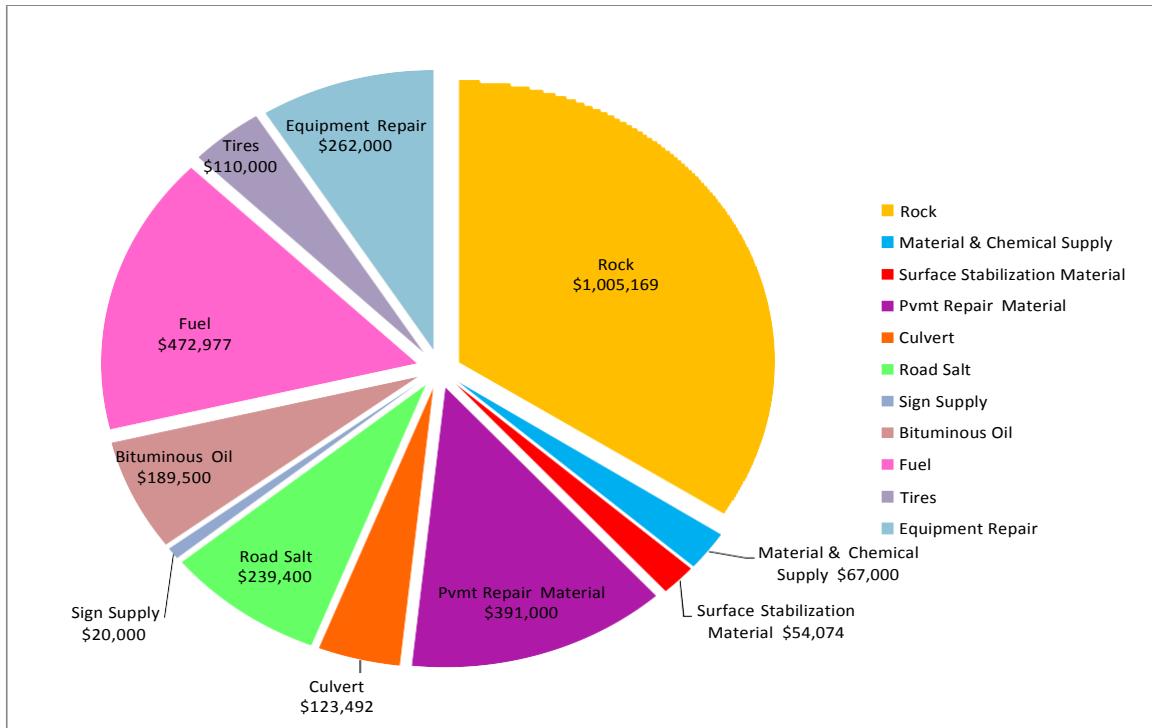
These projects are currently under design, in the right of way acquisition phase or under contract and proposed to be constructed in 2016 or 2017

Boone Industrial Intersection Repair  
Waters Edge Drainage Improvements

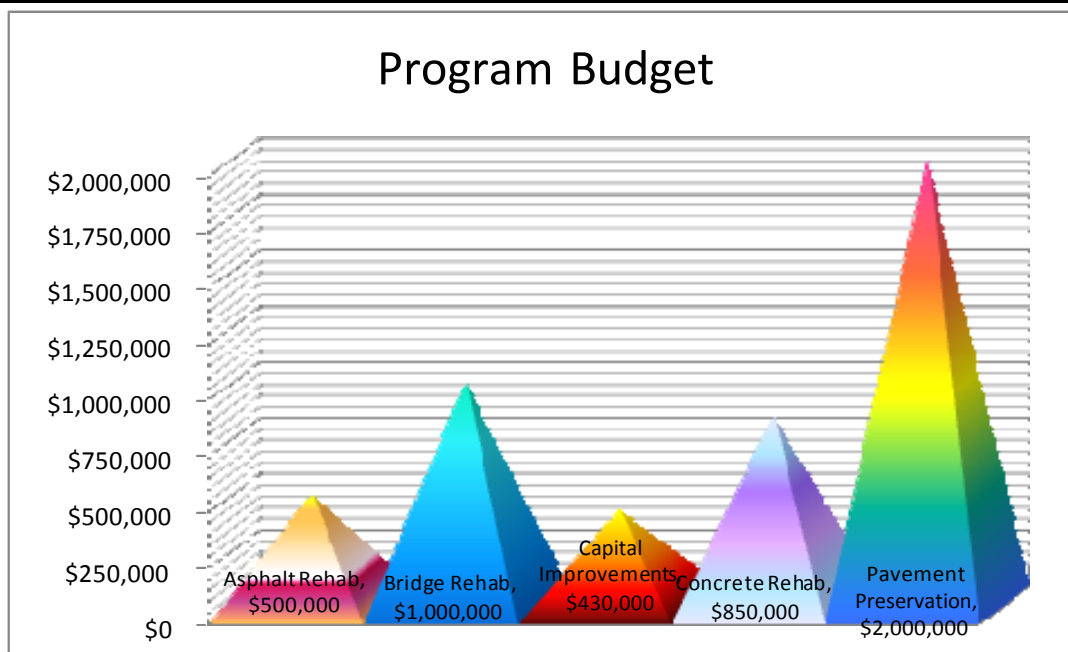


# 2016 Work Plan Where the Money Goes

## 2016 Major Maintenance Operations Supplies



## 2016 Design & Construction Budget by Program



Fiscal Year 2015  
Condition

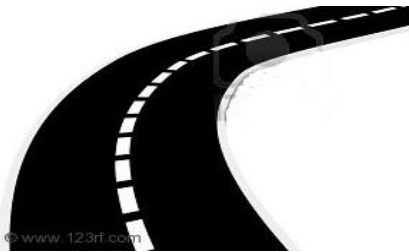
# Requirement #3

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Report the general condition  
of all established public  
highways, roads, bridges and  
culverts in the county.

# Condition of Boone County Maintained

## Roads, Bridges & Culverts



## Total Miles of Road Maintained by Boone

Surface Type	Total Miles	Percent of Total Road Network	<i>Change in Total Miles from 2014</i>
Asphalt	197.1	25.54%	<i>-0.83 Miles</i>
Concrete	31.1	4.03%	<i>-1.16 Miles</i>
Limestone Chip Seal	74.5	9.65%	<i>-0.51 Miles</i>
Gravel	469	60.77%	<i>0.8 Miles</i>
	771.7	99.99%	<i>-1.7 Miles**</i>

\*\*Total miles of County Maintained road change due to error corrections, to annexations and acceptance of roads built by someone other than the County.

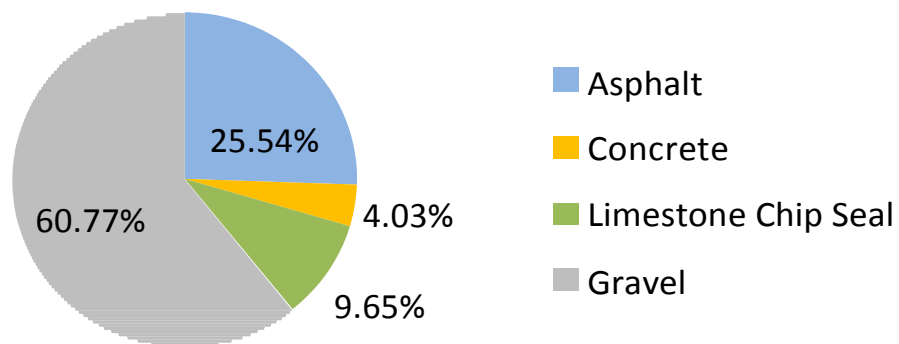
The following charts are based on information stored in Cartegraph, our infrastructure database program. These figures only represent non retired roads that are currently maintained by Boone County. Roads that are partially owned by the County but not maintained by the County are NOT included in these values. The categories are also based on surface type values. The only exception is Preservation Chip Seal, which is considered the same as an Asphalt surface and therefore combined with the Asphalt category in these statistics.

# Condition of Boone County Maintained

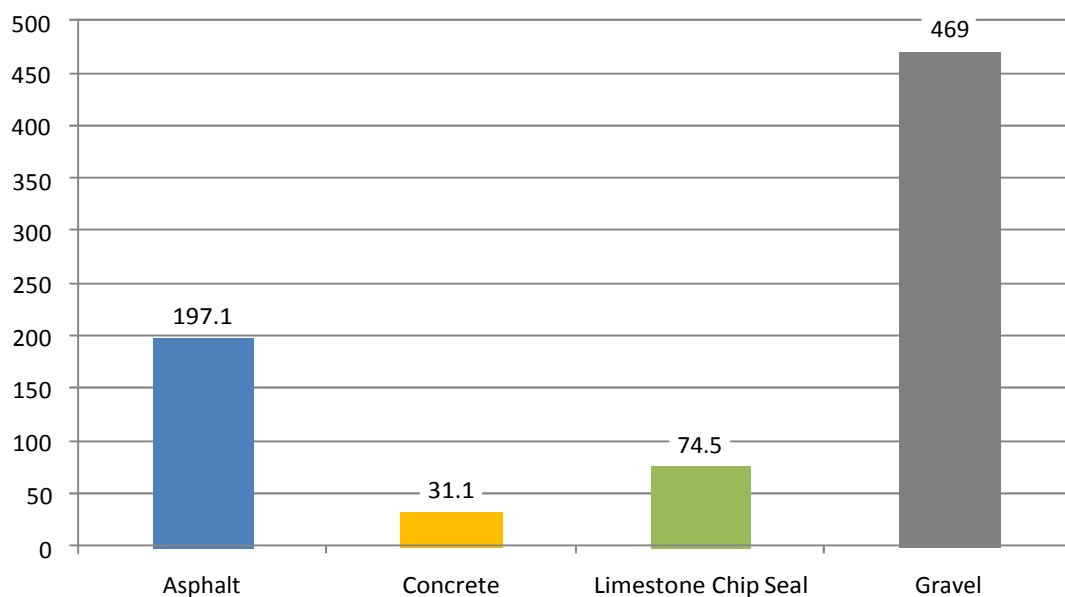
## Roads, Bridges & Culverts

### Total Miles of Road Maintained by Boone

Percent of Total Road  
Network



Boone County Pavement Types (In miles)



# Condition of Boone County Maintained

## Roads, Bridges & Culverts

Ratings for roads and bridges are done in several different ways. The method varies based on the type of road or the size of bridge.

### Asphalt Surface Ratings

*Asphalt Roads* are inspected by segment and their conditions are based on curves that also account for work done on the segments. This value is generated by Cartegraph and the following values are used for the classes.

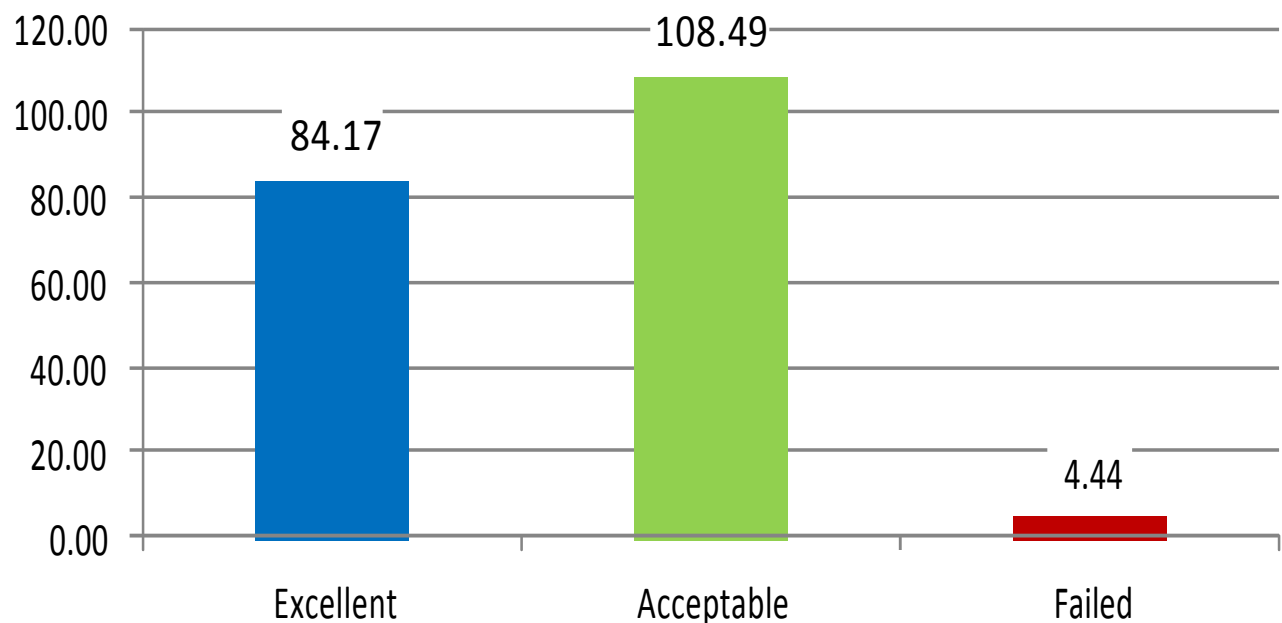
Excellent is any OCI value that is 85 and above

Acceptable is an OCI value between 55 and 85,

Failed is anything less than 55

(OCI = Overall Condition Index)

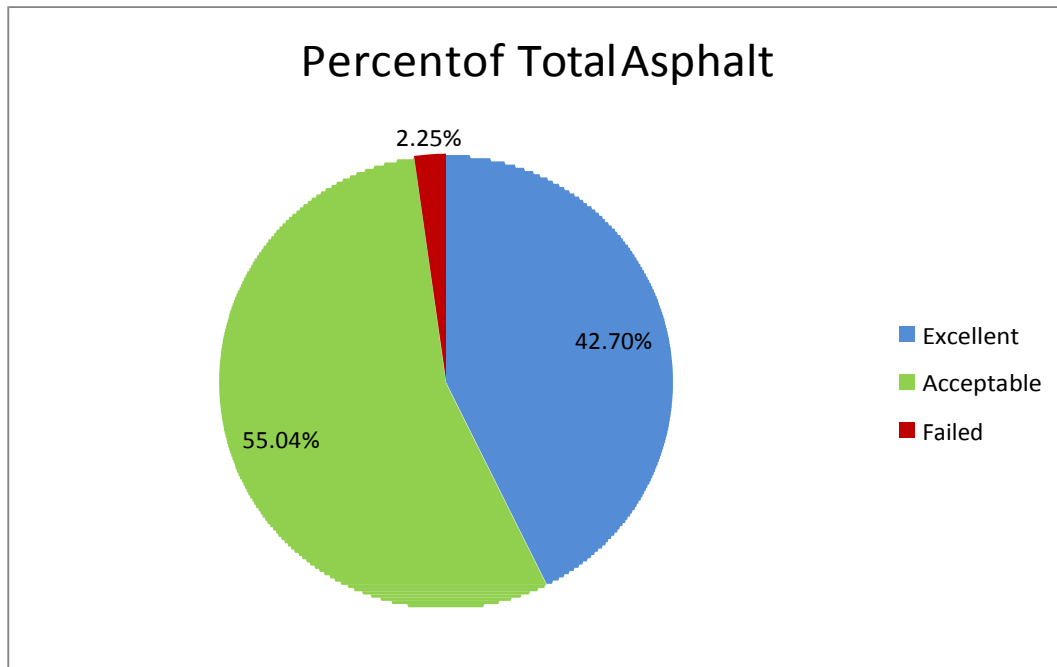
### Asphalt Pavement Length (In miles)



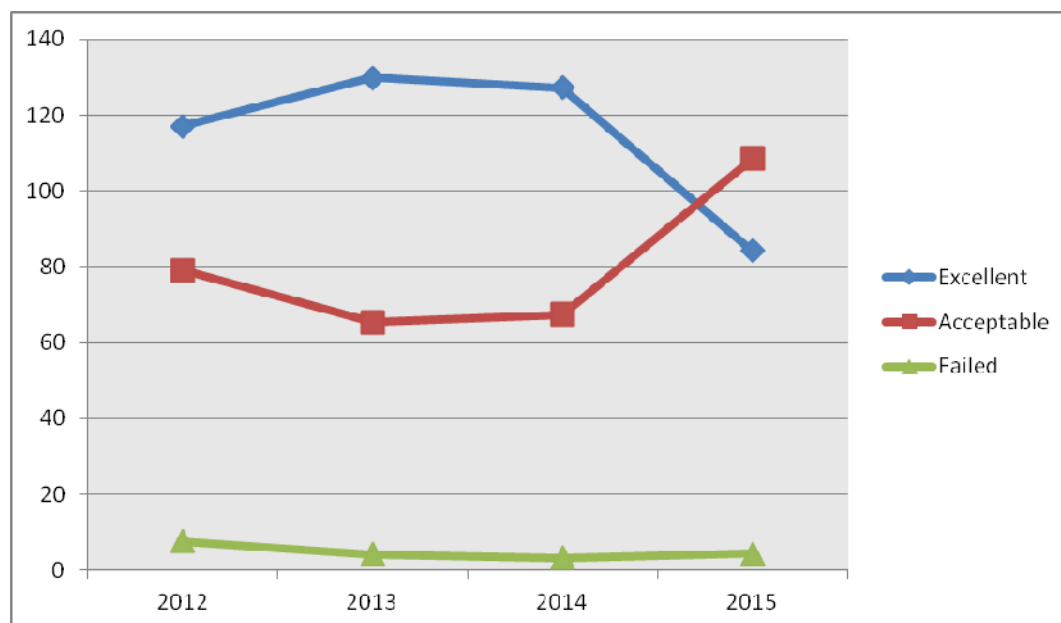
# Condition of Boone County Maintained

## Roads, Bridges & Culverts

### Asphalt Surface Ratings 2015



### Asphalt Surface Ratings 2012-2015





# Condition of Boone County Maintained

## Roads, Bridges & Culverts

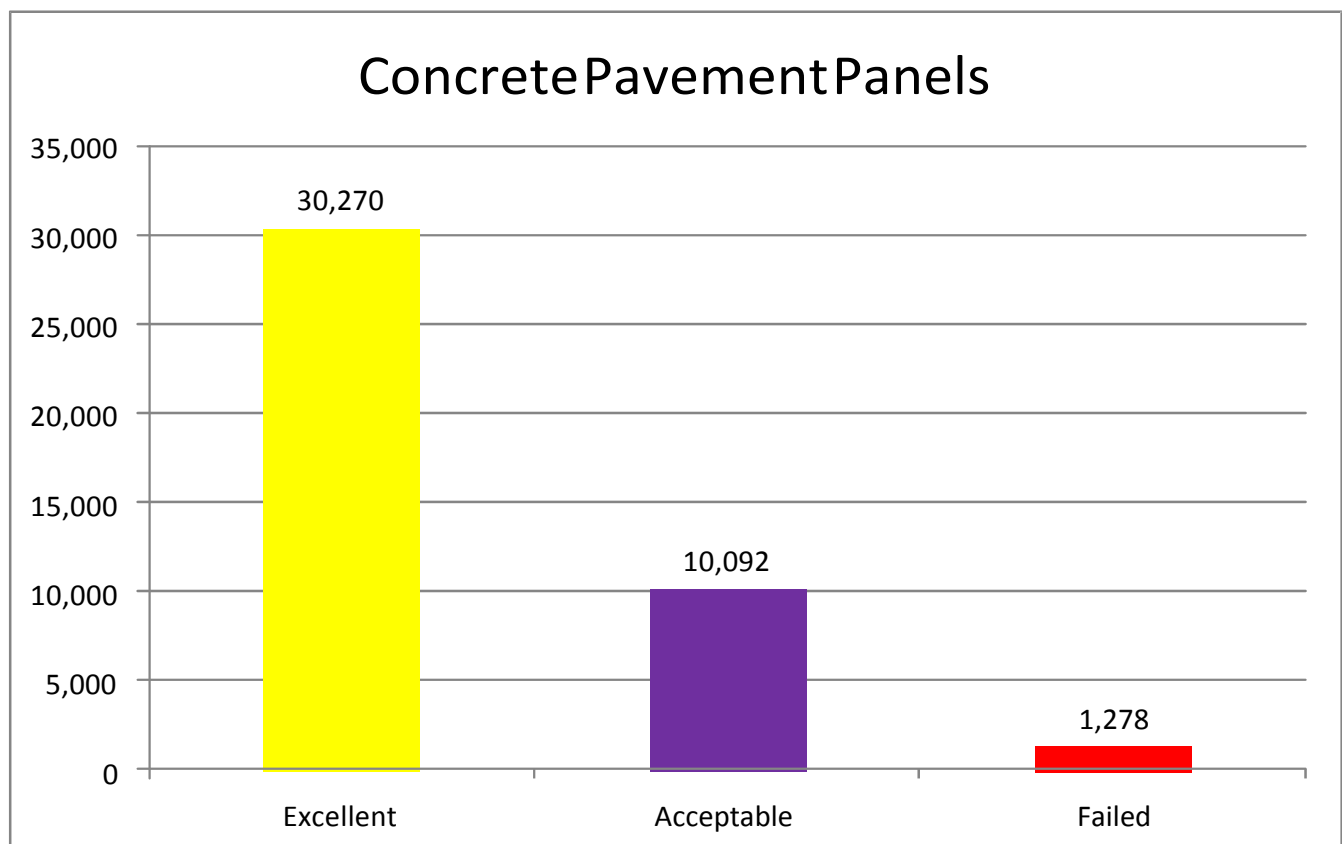
### Concrete Panel Ratings

Concrete roads are not inspected the same as the asphalt roads and therefore cannot be compared the same way. Concrete roads are inspected by each individual panel. The ratings below are based on the panels in each category and not in road miles.

Good means panel has no damage

Acceptable means panel is damaged

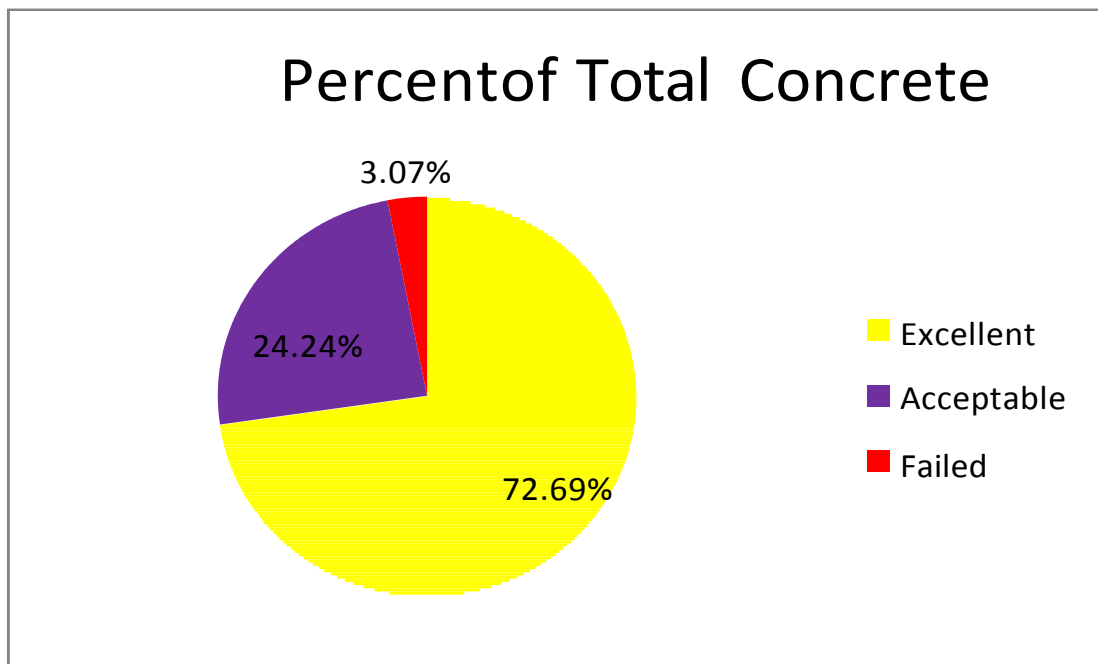
Failed means panel needs replaced



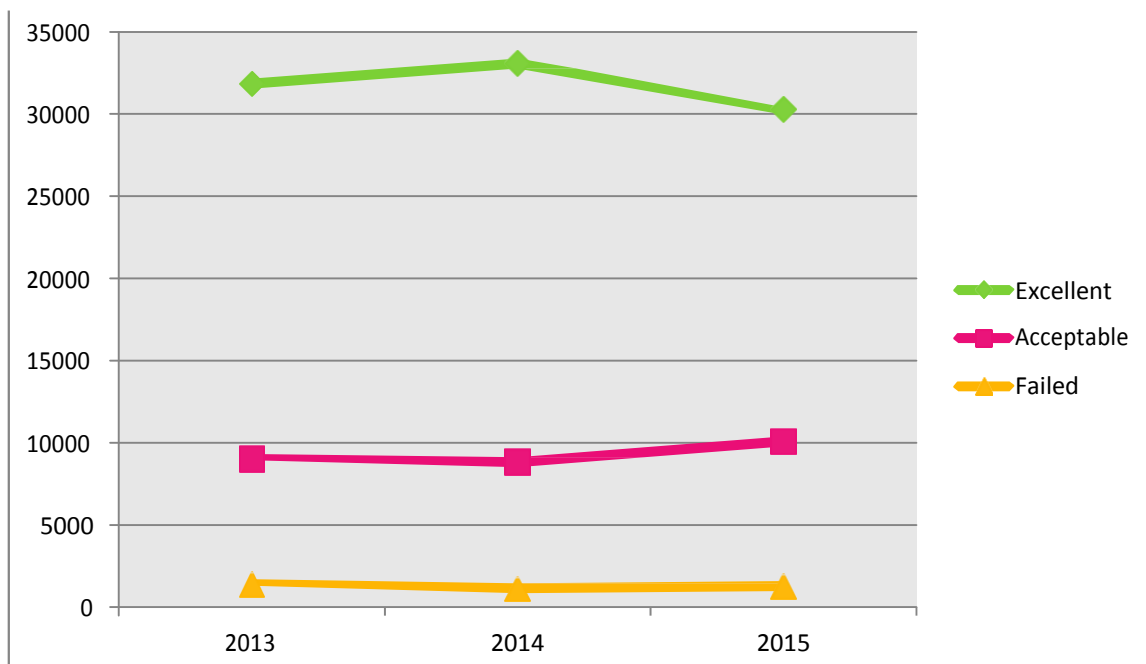
# Condition of Boone County Maintained

## Roads, Bridges & Culverts

### Concrete Panel Ratings 2015



### Concrete Panel Ratings 2013-2015



# Condition of Boone County Maintained

## Roads, Bridges & Culverts

### Bridge Ratings

Bridge ratings are based on MoDOT inspections that are performed every other year. The most recent inspections were performed in 2015. From the MoDOT inspections the Deck Condition, Substructure Condition, and Superstructure Condition are rolled into an average value based on a 0 – 100 scale. This value is generated by Cartegraph and the following values are used for the classes.

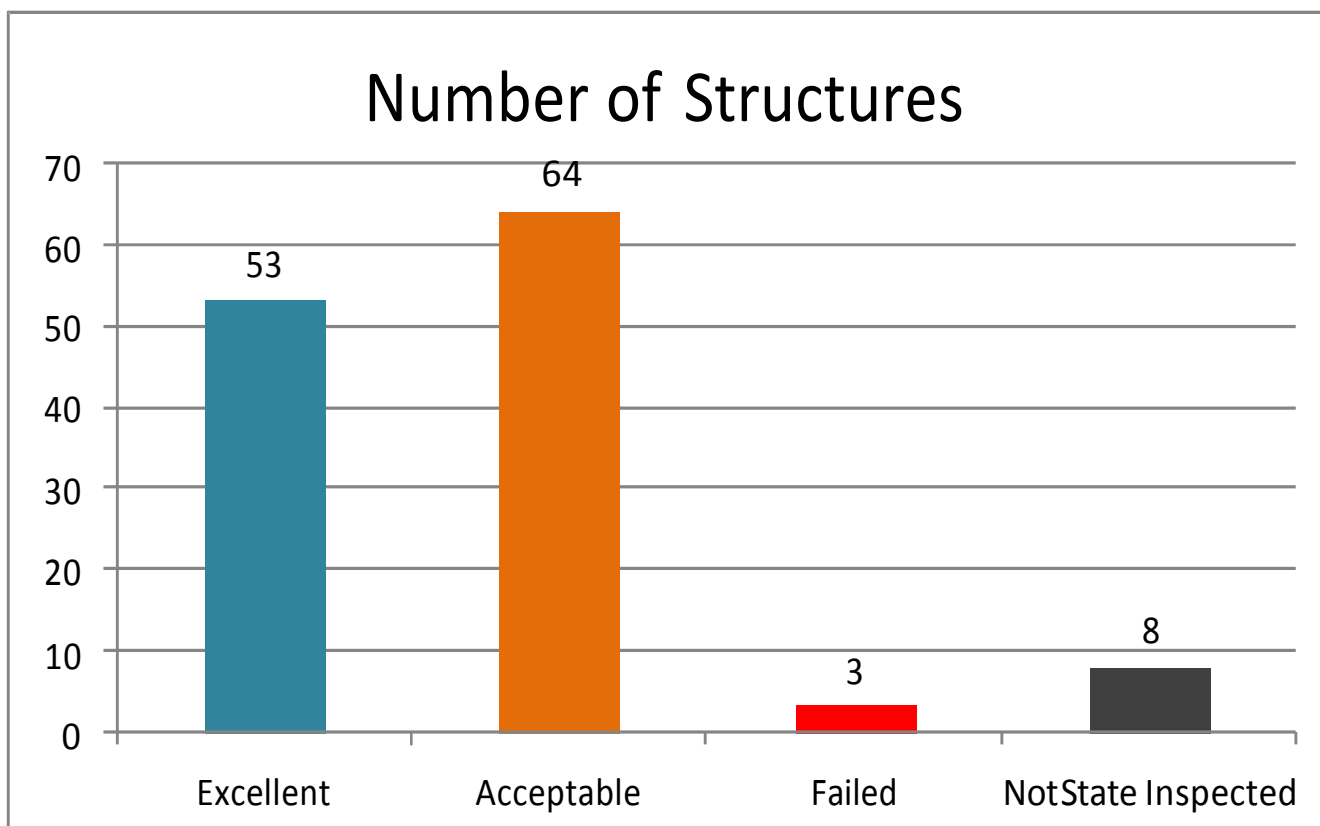
Excellent is any OCI value that is 75 and above

Acceptable is an OCI value between 50 and 75,

Failed is anything less than 50

(OCI = Overall Condition Index)

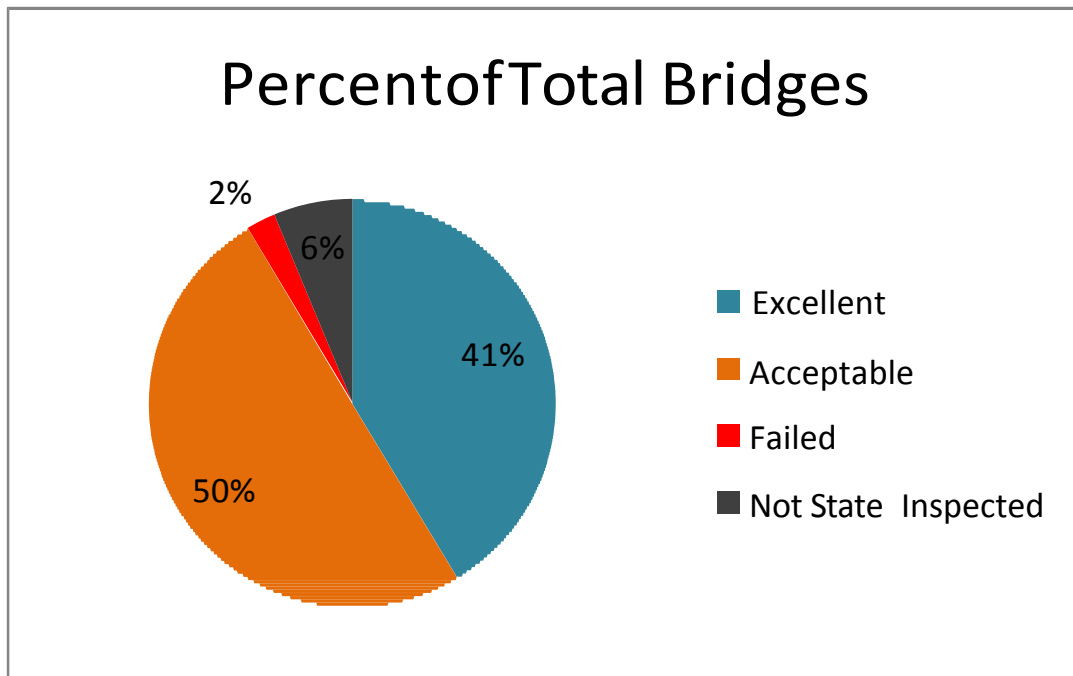
Not all of the structures called bridges are inspected by MoDOT due to size requirements. Bridges must be a minimum of 20 feet long to be inspected by MoDOT. Structures not inspected by MoDOT are therefore separated out in the following statistics.



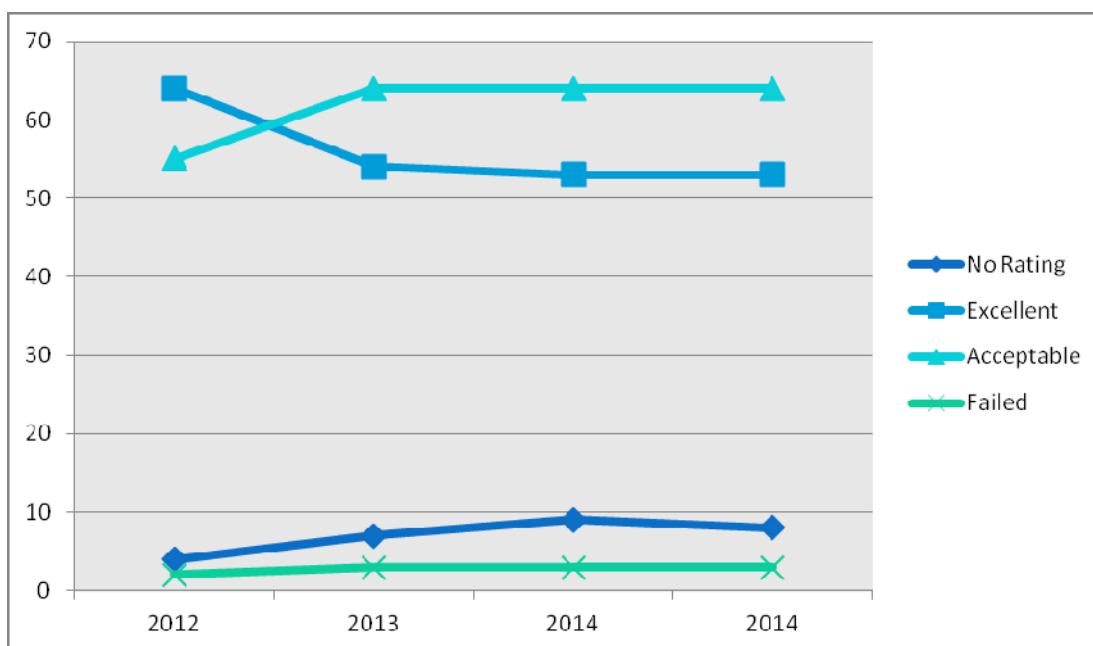
# Condition of Boone County Maintained

## Roads, Bridges & Culverts

### Bridge Ratings



### Bridge Rating Comparison 2012-2015



Fiscal Year 2015

# Additional Responsibilities

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\*Surveying

\*Stormwater

\*Stormwater Grants

\*Sales Tax Distribution

# Surveying

## Assistance to the Public

- Responded to the many requests that Boone County receives from property owners, title companies, realtors, other governmental agencies, surveyors and engineers, and others regarding existing road rights-of-way
- Placed permanent monuments in the position of selected corners of the Public Land Survey System (Section and ¼ Section Corners) as part of the Missouri Department of Agriculture County Surveyor Co-op Program
- Represented Boone County Public Works at concept reviews held by the Boone County Planning Department for review of upcoming developments
- Responded to 4 inquiries for NID's. One, to date, has applied for County assistance
- Attended the National Society of Professional Surveyors conference in Washington D.C., with visits to Capitol Hill to help lobby for new legislation regarding the FLAIR act to create an accurate inventory of all real property owned by the U.S. Government, the 3DEP program which would create a national elevation system, and a Pipeline, Utilities and Infrastructure bill to have better data regarding precise locations of pipelines and other utilities

## Assistance to County Staff

- Assisted Public Works Maintenance and Operations personnel by providing a variety of surveying services and right-of-way and easement information as necessary
- Assembled topographic data for the preparation of plans for projects
- Assisted right-of way personnel by staking easements (both temporary and permanent) for reviewing proposed plans and assisting them when meeting and negotiating with property owners on proposed projects. At times, accompanied right-of-way personnel to those meetings
- Assisted Planning & Building Inspections Divisions with complete reviews of all plats of proposed subdivisions and administrative surveys, submitting comments and suggestions to the Planning Division, and notifying the surveyors of those comments and suggestions. Additionally, all descriptions for granting easements for public roadways and utilities (these are required when preparing many of the administrative surveys) were reviewed
- Assisted other county departments by reviewing and staking for various components of the County 911 center



# Stormwater

## Boone County Stormwater Mission Statement

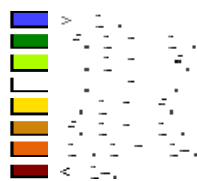
Establish stormwater management requirements and controls to enhance and protect water quality, reduce stormwater pollutant runoff, and protect and safeguard the general health, safety, and welfare of the public residing in watersheds within Boone County.

## What is Stormwater ?

Stormwater is any water coming from precipitation. It may be rain, water from snowmelt, or water that runs off streets, parking lots, lawns and other surfaces. Stormwater drains into natural or manmade drainage systems such as ditches and storm sewer inlets. Neither the natural nor the manmade drainage ways connect to the wastewater treatment plant; instead, the water is discharged directly to our streams and rivers.

January 2015 - December 2015 Departure (in.)

Annual Precipitation



Boone County Stormwater Division  
2015 Annual Precipitation Departure  
8.4 inches



## What is Boone County doing to address Stormwater runoff?

Boone County is jointly permitted with the City of Columbia and University of Missouri in accordance with the Stormwater Phase II Final Rule requirements specified in section 4.1.4 of the site-specific permit MO-0136557 for discharges from small regulated Municipal Separate Storm Sewer Systems (MS4s), as well as per state regulation 10 CSR 20-6.200 and federal regulations 40 CFR Parts 9 and 122.

In order to fulfill its permit requirements, Boone County has implemented Minimum Control Measures (MCM) set by EPA, which are expected to help significantly reduce pollutants into receiving water bodies. The following pages provide a brief overview of the Boone County Stormwater Division's effort to execute our permit requirements.

# Stormwater

## Public Education & Participation

Boone County Stormwater Division presented an interactive participation activity using the county stream table to demonstrate the effects of watershed erosion, pollution, and civic responsibility to the following groups:

- **Southern Boone Elementary School Ashland, MO – 4<sup>th</sup> Grade Scientist Week** — 134 students were in attendance



- **Sturgeon Goalseekers 4-H** — 65 parents & children saw this program
- **Columbia Home Educators Science Fair** — this program served 30 families and a total of 112 individuals



- **Columbia Home School** - 20 parents and children were involved in this program
- **Columbia Earth Day**—Boone County Stormwater was on ECO Avenue along with other educational activities



- **Rock Bridge State Park Water Festival** - this program reached approximately 150 parents and children

# Stormwater

## Public Education & Participation Cont'd

- **Douglass High School Science Expo** — This was the first time the school has hosted this event. English as a Second Language students from ten (10) international countries, accompanied by interpreters, were part of the 47 students and 15 faculty members who participated in our presentation.



Informational presentations were also made to the following groups:

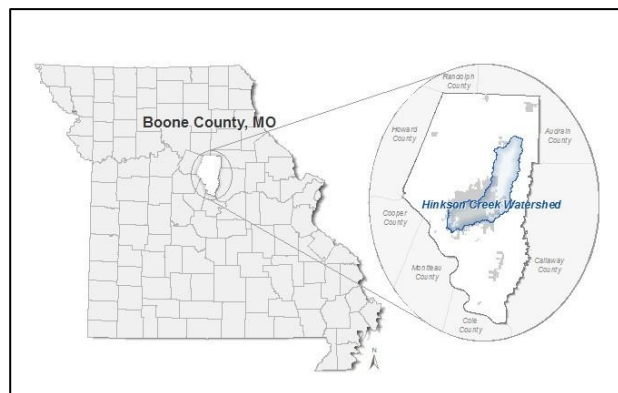
- **City of Columbia Energy and Environment Commission Meeting**  
Boone County Stormwater Coordinator gave a presentation on the rules and regulations of stormwater and land disturbance in Boone County. Topics included types of permits needed, the County's right for inspections, and the violations and potential enforcements that take place if an area is not treated properly.
- **Southern Boone Elementary School Ashland, MO – 4<sup>th</sup> Grade Science Teachers**  
Boone County Stormwater Educator presented and trained the 4th grade staff on five (5) activities from the Project Wet Program.
- **Columbia Public Schools (CPS) Science Teachers**  
Boone County Stormwater Educator presented information and overview of the Project WET/PLT curriculum to the CPS science teachers during an in-service day. 35 teachers attended.
- **Annual Right-of-Way & Utility Meeting**  
Boone County Stormwater Educator presented a review of the land disturbance permitting process. Topics covered were the Boone County stormwater and stream buffer ordinances as they relate to utilities and linear construction activities. This program had representatives from 12 participating utility organizations.
- **MACC Conservation Biology Class**  
Boone County Stormwater Educator presented a historical overview of the Clean Water Act and how it is still relevant to current local watersheds. This program served six (6) students studying to enter environmentally related fields.

# Stormwater

## Public Education & Participation Cont'd

Education materials distributed include:

- **Stormwater Newsletter – Winter**  
The winter newsletter included winter safety on the road; health safety with snow shoveling and carbon monoxide; proper deicing using salt and the environmental impact of salt use; preventing roof collapse by safely removing ice and snow build up.
- **Stormwater Newsletter – Spring**  
The spring newsletter included environmental education projects within Boone County schools; rain barrel sales information, as well as proper care of your rain barrel; and algal blooms – causes, treatment, and physical hazards related to them.
- **Stormwater Newsletter – Summer**  
The summer newsletter included information on the positive effects of flooding for our natural waterways; the effects of mosquitoes and how to properly protect yourself from their harmful bites; a follow up on harmful algal bloom treatment; and how to avoid stoppages in sewer lines by common household choices.
- **Stormwater Newsletter – Fall**  
Fall clean water tips opened up our fall newsletter and also introduced our newest team member Boone County Urban Hydrologist, Lynne Hooper. Fall leaf clean up and yard care was also revisited, including proper uses of leaves and fertilizer application. Finally, the topic of microbeads in household beauty products and their effect upon the environment wrapped up the year of newsletter education.
- **CAM StoryMap**  
The Urban Hydrologist for Boone County, conducted a Physical Habitat Assessment (PHA) of Hinkson Creek for her Master's thesis research. The PHA was funded by the University of Missouri, the City of Columbia and Boone County as partners in this Hinkson Creek Collaborative Adaptive Management (CAM) project. Using photographs taken along the entire length of Hinkson Creek, a StoryMap Tour was created that will soon be featured in the Stormwater section of the Boone County website, Resource Management page. The photographic tour showcases the beauty of Hinkson Creek including wildlife observed during the PHA and also illustrates some of the problems in the creek including eroding stream banks and highly sedimented reaches of stream bed. Various surrounding land use types are also compared with adjacent views in the creek. The StoryMap Tour will be available for public viewing after final approval by the CAM stakeholder Committee.
- **Boone County Stormwater Website**  
The stormwater website underwent substantial changes again this year. Although still under construction, the site is a clearinghouse for the stormwater and stream buffer ordinances, stormwater design manual, stormwater hydraulic calculations, permits, and more. The website also provides information on upcoming events, environmentally sensitive areas, and stormwater education.





# Stormwater

## Public Education & Participation Cont'd

Educational tours were also given:

- **CAM EPA/DNR Tour**

The CAM Action Team took the Environmental Protection Agency (EPA) Region 7 Acting Director Mark Hague, Missouri Department of Natural Resources (MDNR) Director Sara Parker Pauley, and a representative from Senator Claire McCaskill's office on a tour of Hinkson Creek and associated sites including Twin Lakes Recreation Center, Forum Nature Area Level Spreader, 3M Wetlands, Hinkson Creek Recreation Area, Columbia Fire Station #7, and the bridge at N. Hinkson Creek Rd. 29 people were in attendance.



- **MU BMP Fall Field Tour**



Boone County Stormwater hosted a tour of local best management practices (BMP's) within the City of Columbia for MU Professor Allen Thompson's Watershed Modeling class. Tom Wellman, engineer for the City of Columbia, discussed various applications used within the Hinkson Creek Watershed. Sites visited included projects completed at the City of Columbia Grissom site and also the CNG refueling station. This program served 30 students studying a range of environmental and engineering fields

## Public Involvement Opportunities

- **City of Columbia/Boone County Rain Barrel Sale**

This year's annual Rain Barrel Sale sold 150 units. Two (2) sizes were offered this year with the addition of gutter diverters and the convenience of online ordering. Due to the substantial amount of rain throughout the spring and early summer months sales were less than they had been in previous years.

- **Area-wide Household Hazardous Waste Collection Event**

The household hazardous waste event was initiated by Boone County, City of Columbia, and MU, and held in coordination with the Mid-Missouri Solid Waste District. More than 125 tons of waste was collected and properly disposed of or recycled.

# Stormwater

## MS4 Compliance

Inspections and permitting are vital in evaluating the effectiveness of stormwater controls and (BMP's) best management practices used. Reviewing (SWPPP) stormwater pollution prevention plans and site plans prior to construction allows us to assist the public with development plans that ensure growth and improvement occur while also controlling stormwater and protecting the environment.

### STORMWATER PROGRAM COMPLIANCE

	SWPPP's Reviewed	Pre-Application Meetings Held	Land Disturbance Permits Issued	Stormwater Discharge Permits Issued	Pre-con Meetings Held	Site Inspections Conducted	Notice of Violation Issued
2011	19	21	15	4	9	45	3
2012	17	4	17	4	5	47	0
2013	15	13	32	10	7	49	4
2014	15	4	24	6	6	28	2
2015	9	6	24	8	4	85	2

#### Joint MS4 Coordination Meetings

Stormwater staff from Boone County, City of Columbia, and MU meets each month to coordinate and work on stormwater activities. This year the committee met 10 times.

## Staff Training Opportunities

- **Boone County Land Disturbance Permitting Procedure Refresher**

Boone County Stormwater Coordinator provided a refresher course regarding the issuance of land disturbance permits and the proper procedural actions to complete this permit. Regulations regarding which projects require a land disturbance permit and environmentally sensitive areas as they pertain to land disturbances were also discussed. This training served eight employees of the Resource Management Department.

- **Boone County Public Works Safety Day**

Boone County Stormwater presented an overview of Spill Prevention Control and Countermeasures (SPCC) training as it pertains to the county's Public Works operations and its facilities. Employees were given possible scenarios and large group discussions took place to problem solve and implement the proper procedures to be used in case of an accidental spill. This program served 55 employees.



# Stormwater

## Staff Training Opportunities

- **Project Wet Training – Wetland Habitat Protection**  
The Boone County Stormwater Educator attended a continuing education program presented by the Missouri Project Wet Program. Topics centered on Wetland and Native Glade Habitat Protection.
- **El Chaparral Tree Planting**  
In an effort to assist with a low lying area in the El Chaparral neighborhood park that was holding water, three river birch trees were planted in order to aid in water absorption, soil stabilization and beautification. This project was in collaboration with Boone County Facilities Maintenance.
- **MWEA (Missouri Water Environment Association)**  
Stormwater staff attended the MWEA conference in September to learn about stormwater practices and stormwater related topics currently in use throughout the state.
- **REGFORM**  
Stormwater staff attended Missouri REGFORM in September to learn about EPA stormwater rulings and other stormwater related topics.
- **Boone County Wellness Fair**  
Boone County Stormwater presented an interactive participation activity using the Boone County stream table to demonstrate the effects of watershed erosion, pollution, and civic responsibility. Those who signed up received a shower timer to help assist them in monitoring their water usage. This program served 26 individuals.
- **Boone County GIS Training – Getting to Know ArcMap... Just the Basics**  
New ArcMap users learned basic skills to work with data and create map projects that are sharp and do not fall flat. Topics included main components of ArcMap, working with data, ArcMap tools, queries and expressions, symbology, and map layouts. This was a four-hour presentation and workshop with hands-on exercises that included tasks commonly used in local government processes.
- **Webinars**  
Multiple webinars relating to permitting, BMP's, Total Maximum Daily Loads (TMDLs), and pollution removal were viewed over the course of the year.

## Monitoring and Assessments

- **Urban Stormwater Retrofit & BMP Validation Project – Ended 2/28/15**  
**Sunrise Estates Wrap-Up Event**  
All community members were invited to breakfast in the park to receive information regarding the ending of the Hinkson Creek Urban Retrofit & BMP Validation Study - 319 Grant. A historical overview of the project was presented by the Boone County Stormwater Coordinator. Data collection conclusions were presented by Geosyntec Consulting. Eight (8) community members were in attendance.  
**Grissum Wrap-Up Event**  
Boone County Stormwater provided a poster presentation for the staff at the City of Columbia Grissum Site. The presentation covered the history and finalization of the various BMP's installed at the site and was made available to approximately 65 city and county employees.

# Stormwater

## Monitoring and Assessments Continued

- **Hinkson Creek Bacteria Assessment**

The University of Missouri, Boone County, and City of Columbia hired Geosyntec Consultants to develop and implement a monitoring approach that would provide a more representative estimate of bacteria concentrations in the streams within the Hinkson Creek Watershed during the 2015 recreation season. Geosyntec's final report will be completed in early 2016.

- **Lakes of Missouri Volunteer Program (LMVP) Sampling**

The LMVP started in 1992 as an effort to get citizens involved in the lake water quality monitoring. The goals of the LMVP are to:

- Determine the current water quality based on productivity of Missouri's lakes.
- Monitor for changes in water quality over time.
- Educate the public about the lake ecology and water quality issues.

This year stormwater staff continued sampling at Stephens Lake, Tri City Lake and Lick Creek Lake. Staff collected 12 samples between June and September. By participating in this effort, Boone County receives free sampling equipment and information on the status of the lakes in Boone County. For more information visit [www.LMVP.org](http://www.LMVP.org).

- **Hinkson Creek Collaborative Adaptive Management**

The goal of the collaborative adaptive management process is to improve water quality in Hinkson Creek by using a science-based approach guided by a local stakeholder committee. It will assess the entire stream system including the creek and other parts of the watershed. Improving the ecosystem should help support the return of the biological community to a fully functioning level as well as address other pollutants that may be contributing to water quality issues.

**Stakeholders** - The Stakeholder group met five (5) times.

**Action Team** - The Action Team met twelve (12) times.

**Science Team** - The Science Team met five (5) times.

**Physical Habitat Assessment** – Physical Assessment is 100% complete. The final report and map can be viewed at [www.helpthehinkson.org](http://www.helpthehinkson.org).

**Forum Nature Area Level Spreader** – Construction is 100% complete.

Monitoring: Soil water sensors have been installed at various distances and depths around the level spreader and soil water content will be compared with two (2) controls located elsewhere on the Forum Nature Area property. In addition, fifty-four (54) trees were planted at the site and their growth will be tracked to determine whether trees closer to the level spreader grow more quickly.

**Combined Flow & Suspended Sediment Study** – This collaborative project has begun and will continue for four (4) years. Goals of the project are:

- \* identify land use related impacts to stream flow
- \* understand the impairment of the Hinkson Creek
- \* assess proposed recovery strategies



# Town of Harrisburg

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).

Reporting Entity: Town of Harrisburg

Reporting on Calendar Year: 2014

Narrative for use of funds received

The funds were used for street maintenance including snow and ice removal. 2013 Street Project funds are in a separate ledger accumulating for larger projects. The 2014 Street Project funds were saved in a separate ledger to accumulate for larger projects.

Narrative on overall condition of roads and bridges within reporting municipality:

As of 12/15/15 roads and bridges are in good condition.

Allocation and Expenditure of Funds Received listed by project, with a projection description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.

Projects with descriptions

Street Maintenance - including snow and ice removal: \$7372.85

2013 Street Project (\$11067.33 awarded) - saved in a separate ledger to accumulate funds for larger project.

2014 Street Project (\$13917.06 awarded) - saved in a separate ledger to accumulate funds for larger project.





# Centralia Special Road District

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

*For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).*

Reporting Entity:  
Centralia Special Road District of Boone County Mo.

Reporting on Calendar Year: 2015

### Narrative for use of funds received

Routine maintenance of roadways within the District including hauling gravel on unpaved roads, replacing road pipes, cleaning ditches, cutting brush, and mowing right of ways as needed. No paving projects were done in 2015.

### Narrative on overall condition of roads and bridges within reporting municipality:

The overall condition of the gravel roads in the district are considered to be in average or better condition. The condition of the blacktop roads is average to below average with about 45% of the blacktops needing to be overlayed. The bridges are in average condition considering their age.

**Allocation and Expenditure of Funds Received listed by project, with a project description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

### Projects with descriptions \_

1. Hauled approximately \$45,000.00 of rock on non-paved roads.
2. Used approximately \$625.00 of cold mix to patch paved roads
3. Replaced one road grader at a cost of \$135,000.00.
4. Replaced \$390.00 of road culverts
5. Repaired banks under and along bridges \$2,000.00

# ROAD & BRIDGE ANNUAL SUMMARY REPORT

Page 2

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**\$183,105.00**

I declare that I have examined this report, including accompanying schedules and statements, and to the best of my knowledge; certify that the information provided above is true, complete and accurate.

Signature Anthony Renduch

12/20/2015  
Date

Title: Treasurer

Anthony Kendrick

573-881-2169

Printed Name

Day Time Phone number

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.



# City of Columbia

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

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Reporting Entity: City Of Columbia-David A. Nichols, Public Works Director

Reporting on Calendar Year: 2015

Narrative for use of funds received Scott Blvd Phase III, funds will be used for construction Costs

Narrative on overall condition of roads and bridges within reporting municipality:

Scott Phase III is under reconstruction to widen the existing roadway to improve vertical and horizontal alignment, the project is scheduled for completion prior to August 2016.

**Allocation and Expenditure of Funds Received listed by project, with a projection description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

Projects with descriptions \_ Scott Boulevard Phase 3 consists of two travel lanes with left turn lane pockets at all public streets. The typical section provides an 11 foot center turn median, 11 foot vehicle lanes, two foot marked bicycle lane measured from the two foot gutter sections, portland cement concrete pavement, marked lanes for vehicles and bicycles. The cross section also includes an eight foot sidewalk on the east side, setback 6.5 foot from the back of curb and a five foot sidewalk on the west side, setback 6.5 foot from the back of curb. The total Right of Way width required for the recommended typical section is 76 feet. All drainage structures will be set back for the future 4 lane build out. Total cost of construction is \$7.9 million.

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

Page 2

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**see attached sheet**

I declare that I have examined this report, including accompanying schedules and statements, and to the best of my knowledge, certify that the information provided above is true, complete and accurate.

Signature

Title

Printed Name \_\_\_\_\_

Day Time Phone number

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.

# City of Columbia

City of Columbia  
County Road Tax Rebate -C00503  
Cash Balances

	Sept 30 2010	Sept 30 2011	Sept 30 2012	Sept 30 2013	Sept 30 2014	Sept 30 2015
Cash Balance Forward	265,902.58	431,429.52	-	1,569,924.31	1,810,343.41	406,396.32
Receipts:						
County Road Tax Rebate from Boone County	1,649,274.62	1,657,714.81	1,874,958.65	1,915,419.10	1,996,052.91	2,063,125.23
Investment Income	29,677.32	14,463.90	-	-	-	-
Total Receipts	1,678,951.94	1,672,178.71	1,874,958.65	1,915,419.10	1,996,052.91	2,063,125.23
Disbursements:						
Transfer to Fund 440 (Capital Projects):						
C00128 Maguire Blvd	-	-	-			
C00241 Mexico Gravel Rd	(1,400,000.00)	-	1,369,965.66			
C00149 Scott Blvd	-	-	-			
C00320 Rolling Hills Road		(1,400,000.00)	-			
C00319 Scott - Vawter to MKT PH II		(590,183.23)	(1,675,000.00)	(311,686.00)		
C00274 Scott-Vawter to KK III				(1,363,314.00)	(3,400,000.00)	(2,042,126.00)
Transfer to Fund 110 (General Fund)	(113,425.00)	(113,425.00)	-			
Total Disbursements	(1,513,425.00)	(2,103,608.23)	(305,034.34)	(1,675,000.00)	(3,400,000.00)	(2,042,126.00)
Cash Balance @ Year End	431,429.52	-	1,569,924.31	1,810,343.41	406,396.32	427,395.55



# City of Ashland

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

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Reporting Entity: City of Ashland

Reporting on Calendar Year: 2015

### Narrative for use of funds received

The Boone County Road and Bridge fund provided the City of Ashland with \$151,610.37 in calendar year 2015. This money was dedicated to the rehabilitation of our residential streets to restore and extend their useful life. The Street Department staff developed a list of roads in need of surface improvements beyond our normal maintenance procedures. From that list, the Board of Aldermen narrowed the assignment of funds to streets determined to be of highest priority based on their current condition of spauling, cracking, sinking or heaving. Proper funneling of storm water was also a consideration.

### Narrative on overall condition of roads and bridges within reporting municipality:

There are no bridges maintained by the City of Ashland. All of our approximately 20 miles of public streets are constructed of hard surface, impervious materials. Weather and multiple types of users (cars, pickup trucks, trash trucks, construction vehicles) continually degrade the integrity of our street surfaces. In general, our roads are in good condition. Some pavement would be considered in fair condition while a small percentage is in poor condition. As funds allow, we prioritize the poorest surfaces for the earliest attention, with additional consideration of traffic volume.

**Allocation and Expenditure of Funds Received listed by project, with a project description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

Projects with descriptions \_

#### Mustang Drive

Mustang Drive is a residential Street of the Palomino Subdivision in the northwest section of Ashland. It is a two way street used mostly by residents of, and visitors to the area. Along Mustang Drive is a City Park where community members can picnic, play games and enjoy the outdoors.

The condition of Mustang was poor. Spauling was widespread and several spots resembled a gravel surface. Neighborhood dissatisfaction with the road surface was displayed with the words "Fix our Street" spray painted on the pavement, near the Park. Revitalization of this street included street edge milling, curb repair, butt joint milling and a 2" asphalt overlay. APAC-Missouri Inc., was awarded the job at a cost of \$38,856.30.

# City of Ashland

## South College Street

College Street South is an asphalt surfaced, residential street with mostly passenger vehicle traffic. This street was in poor condition with soft spots that resulted in deformities in the pavement similar to ruts in a dirt road where vehicle wheels would travel.

The solution to this repair was a full depth removal of the existing pavement and replacement of the base rock and impervious asphalt surface. The price presented for this full depth removal and repair was \$71,360.00. APAC-Missouri, Inc., was selected as the vendor for this project. The repair included the removal of all asphalt and base rock to an 18" depth, repair to the subgrade, placement of new base rock, 4" of asphalt base and 2" of asphalt overlay.

## Salinda Drive

Salinda Drive is an asphalt surfaced, residential dead end street with mostly passenger vehicles, pick up trucks and school buses as it's daily volume. Salinda drive had not only poor pavement conditions but also broken and failing curbing. The curb condition contributed to storm water runoff onto yards along the street rather than following the curb line and carrying the storm water along the road edge.

The proposed repair to Salinda Drive included street edge and street surface milling, concrete patching, curb repair and a 2" asphalt overlay. The price presented for this revitalization was \$70,983.60.

## Summary

The previously described projects totaled \$181,199.90. Our Ashland Transportation Tax dollars supplemented the County shared funding to make the above listed projects a reality. With that being said, I emphasize the importance of the Boone County shared funding program. Major road repairs in our City would be scheduled on a much longer timetable without the funding assistance. If that were the case, frustration and a lack of confidence could develop by those who travel daily on streets continuously in bad condition.

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## Page 2

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.

# City of Hallsville

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

*For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).*

Reporting Entity: City of Hallsville

Reporting on Calendar Year: July 1, 2014 - June 30, 2015

Narrative for use of funds received

Grant funding was held over for Fall, 2015 for projects that were completed in November of 2015.

Narrative on overall condition of roads and bridges within reporting municipality:

The streets, both asphalt and concrete curb and gutter are in good condition at this time.

**Allocation and Expenditure of Funds Received listed by project, with a project description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

Projects with descriptions \_The City spent \$5,000 on Engineering and Surveying fees for an alleyway improvement in the fiscal year 2014/2015, and \$46,090.70 from the City's General Fund for general street upkeep and repairs. The alleyway that was engineered and surveyed, is located between City Hall and Boone County National Bank and connects Rt. B with Highway 124-East. The alleyway project is on hold until the final plat can be agreed upon by all affected parties.

# City of Hallsville

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

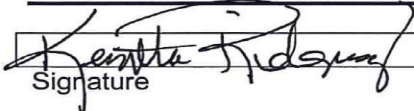
Page 2

Projects completed in November of 2015: Fourteen ADA Crosswalks in Townsquare for a total of \$3,036.56; Potholes in City repaired for a total of \$12,285.59; Overlay on Brown, Elaine, Elm, East, Boone, and Lisa Court along with crack repair on Concert for a total of \$109,769.85. Total spent in fiscal year 2015/2016 on streets so far is \$125,092.00.

### TOTAL

\$5,000.00 from Road Grant Funds and \$46,090.70 from General Funds.

I declare that I have examined this report, including accompanying schedules and statements, and to the best of my knowledge; certify that the information provided above is true, complete and accurate.

  
Signature

12/21/15  
Date

City Administrator/City Clerk

Title

Kenyetta Ridgway

Printed Name

573-696-3885

Day Time Phone number

# City of Rocheport

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).

Reporting Entity:

*City of Rocheport*

Reporting on Calendar Year:

*2015*

Narrative for use of funds received

*Chip n seal / maintenance*

Narrative on overall condition of roads and bridges within reporting municipality:

*The streets in Rocheport are in fairer  
good condition*

Allocation and Expenditure of Funds Received listed by project, with a projection description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.

Projects with descriptions

*The City of Rocheport did not perform  
any street repairs / maintenance in 2015.  
The Board is in the planning stages for  
2016 repairs with 2014 and 2015 funds  
The city will be able to complete most  
if not all of the list for 2016.*



# City of Rochepoort

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

Page 2

The City does not have any  
numbers as yet for 2016 repairs

TOTAL

I declare that I have examined this report, including accompanying schedules and statements, and to the best of my knowledge; certify that the information provided above is true, complete and accurate.

Signature Shirley Jenkins-Old

Date 1-7-16

Title City Clerk

Printed Name Shirley Jenkins-OLD

Day Time Phone number 513 698-3245

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.



# City of Sturgeon

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

*For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).*

Reporting Entity:

City of Sturgeon

Reporting on Calendar Year:

2015-2016

Narrative for use of funds received

Chip & Seal Project

Narrative on overall condition of roads and bridges within reporting municipality:

Good- with continual upgrades

Allocation and Expenditure of Funds Received listed by project, with a projection description. Include only direct design and construction costs pertaining to roads, bridges and storm water; Indirect and other administrative costs are not allowable. Attach extra pages as necessary.

Projects with descriptions

Chip & Seal Project for City of Sturgeon  
Chip & Seal done by Missouri Petroleum

# ROAD & BRIDGE ANNUAL SUMMARY REPORT

Page 2

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**TOTAL**

\$55,784.97

I declare that I have examined this report, including accompanying schedules and statements, and to the best of my knowledge; certify that the information provided above is true, complete and accurate.

Signature \_\_\_\_\_

Signature: [Signature]

Date \_\_\_\_\_

1/8/16  
Date

**Title**

Maintenance Superintendent

Printed Name

John J. Gingerich  
ed Name

573-687-3321

Day Time Phone number

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.

# City of Sturgeon

8:16 AM  
01/08/16  
Cash Basis

## CITY OF STURGEON - TREASURE Custom Transaction Detail Report July 2015 through June 2016

Type	Date	Num	Name	Memo	Account	Paid Amount
Jul '15 - Jun 16						
Bill	07/13/2015	12128	CHRISTENSEN AS...	ASPHALT	LABOR/PAVING	751.25
Bill	07/13/2015	12138	CHRISTENSEN AS...	ASPHALT	LABOR/PAVING	781.25
Bill	07/13/2015	12144	CHRISTENSEN AS...	ASPHALT	LABOR/PAVING	743.75
Bill	07/27/2015	12149	CHRISTENSEN AS...	ASPHALT	LABOR/PAVING	757.50
Bill	07/27/2015	12162	CHRISTENSEN AS...	ASPHALT	LABOR/PAVING	760.00
Bill	08/24/2015		MISSOURI PETRO...	CHIPSEAL A...	LABOR/PAVING	10,000.00
Bill	12/14/2015		MISSOURI PETRO...	CHIPSEAL A...	LABOR/PAVING	45,784.97
Jul '15 - Jun 16						<u>59,578.72</u>

Christensen 3,793.75.

Missouri  
Petroleum 55,784.97

# City of Centralia

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

*For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).*

Reporting Entity: City of Centralia

Reporting on Calendar Year: 2015

Narrative for use of funds received The funds received went to ward the annual overlay of streets which is detailed below, as well as the operation of the Street Department. In addition to road maintenance we did a little bit of in house sidewalk improvement on Sneed Street and funded cooperation with two homeowners. We also completed linig storm drains under Gano Chance and South Jefferson Street for \$66,000. Failure to do so would eventually have compromised the integrity of the street.

Narrative on overall condition of roads and bridges within reporting municipality:

The City of Centralia conducts an annual review of the 34.08 miles of streets under our control and scores their condition on a scale of 1 - 10 where 10 is a functionally new road. The results were:

Miles of Road	Condition
---------------	-----------

8.31	10
------	----

10.24	7-9
-------	-----

9.58	4-6
------	-----

5.86	1-3
------	-----

**Allocation and Expenditure of Funds Received listed by project, with a project description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

Projects with descriptions \_See attached sheets. This rpeort concerns the left-most column, Calendar year 2015. The other numbers are supplied for comparison.



**ROAD & BRIDGE ANNUAL SUMMARY REPORT**  
Page 2

TOTAL

**\$413,911**

Signature \_\_\_\_\_

Date \_\_\_\_\_

City Administrator

Title

Matt Harline

573-682-2139

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Printed Name

Day Time Phone number

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.



# City of Centralia

## PUBLIC WORKS HIGHWAYS & STREETS

ACCOUNT NUMBER	ACCOUNT TITLE	Calendar 2015	Calendar 2014	FY2016 Budgeted	FY2015 Audited	FY2015 Budgeted	FY2014 Audited
PLANNING & ADMIN							
01-03-01-01-001	SALARIES AND WAGES	12,361	12,018	13,920	14,096	13,000	13,107
01-03-01-01-002	OVERTIME WAGES	686		300			
01-03-01-01-010	ACCRUED EMPLOYEE BEN	8,570	8,202	7,924	10,354	12,308	12,254
01-03-01-01-110	PRINTING,PUBLICATION	44	57	200	57	200	42
01-03-01-01-120	DUES/MEMBER/SUBS/TUI	50	-	50	50	50	50
01-03-01-01-142	PROF. SERV.ARCHT.ENG	-	-				0
01-03-01-01-150	CONTRACT LABOR	1,120	1,401	1,300	1,511	1,300	1,318
01-03-01-01-170	MAINT.AGREEMENTS,LEA	1,091	1,216	1100	1193	1,000	1,044
01-03-01-01-180	MEALS,LODGING,TRAVEL	11	-	100	11	100	0
01-03-01-01-201	OFFICE SUP. FURNITUR	-	-				0
01-03-01-01-210	OPERATING SUPPLIES	91	123	300	147	300	657
01-03-01-01-490	EQUIPMENT USE CHARGE	6,015	2,090	2,200	2,573	2,200	1,954
01-03-01-01-506	DATA PROCESSING EQUI	-	-				0
	<b>SUBTOTAL</b>	<b>30,039</b>	<b>25,107</b>	<b>27,394</b>	<b>29,992</b>	<b>30,458</b>	<b>30,426</b>
STREET MAINT.							
01-03-01-02-001	SALARIES AND WAGES	16,108	9,407	12,192	11,267	11,146	11,723
01-03-01-02-002	OVERTIME WAGES	1,485		250			
01-03-01-02-010	ACCRUED EMPLOYEE BEN	9,493	6,037	7,419	6,982	6,537	7,134
01-03-01-02-110	PRINTING, PUBLICATIO	-	56	150	56	150	53
01-03-01-02-132	UTILITIES-NATURAL GA	376	405	450	376	450	394
01-03-01-02-150	CONTRACT LABOR	737	1,013	1,000	1,013	1,000	1,823
01-03-01-02-160	REPAIR SERVICE	117	-	400		400	0
01-03-01-02-170	MAINT.AGREEMENTS, LE	-	315	500	315	500	1,589
01-03-01-02-190	INSURANCE	504					

# City of Centralia

ACCOUNT NUMBER	ACCOUNT TITLE	Calendar 2015	Calendar 2014	FY2016 Budgeted	FY2015 Audited	FY2015 Budgeted	FY2014 Audited
01-03-01-02-210	OPERATING SUPPLIES	29,838	8,206	15,000	12,640	18,000	13,600
01-03-01-02-220	TOOLS/SMALL EQUIPMEN	274	-	200	274	200	0
01-03-01-02-450	EQUIPMENT RENTAL	-	-	1000		1,000	0
01-03-01-02-490	EQUIPMENT USE CHARGE	19,423	9,476	12,000	10,896	13,000	13,576
01-03-01-02-502	VEHICLES	61,500	32,114	44,333	32,114		0
01-03-01-02-503	FURNITURE AND FILES	-	-			32,114	0
01-03-01-02-508	OTHER EQUIPMENT	-	1,575		1,575		0
01-03-01-02-509	MISCELLANEOUS CAPITA	-	-	1600		1,600	0
01-03-01-02-801	TRANSFER TO OTHER FU	-	-				0
	<b>STREET MAINT. SUBTOTAL</b>	<b>139,855</b>	<b>68,604</b>	<b>96,494</b>	<b>77,508</b>	<b>86,097</b>	<b>49,892</b>

ACCOUNT NUMBER	ACCOUNT TITLE	Calendar 2015	Calendar 2014	FY2016 Budgeted	FY2015 Audited	FY2015 Budgeted	FY2014 Audited
01-03-01-03-001	SALARIES AND WAGES	549	435	273	350	273	540
01-03-01-03-002	OVERTIME WAGES	-					
01-03-01-03-010	ACCRUED EMPLOYEE BEN	408	343	83	231	83	336
01-03-01-03-210	OPERATING SUPPLIES	1,918	1,750	1,000	2,700	1,000	100
01-03-01-03-490	EQUIPMENT USE CHARGE	2,277	2,616	1,000	2,163	400	805
	<b>SUBTOTAL</b>	<b>5,152</b>	<b>5,144</b>	<b>2,356</b>	<b>5,444</b>	<b>1,756</b>	<b>1,781</b>

## SIDEWALK & PARKING

01-03-01-04-001	SALARIES & WAGES	3,612	11,739	7,689	11,628	3,770	3,832
01-03-01-04-002	OVERTIME WAGES	118					
01-03-01-04-010	ACCRUED EMPLOYEE BEN	2,200	6,118	4,095	6,047	2,090	2,217
01-03-01-04-142	PROF.SERV.ARTHCH.ENG.	-		14,000	2,375		
01-03-01-04-150	CONTRACT LABOR	200	-	200		200	0
01-03-01-04-160	REPAIR SERVICE	-	-	100		100	0
01-03-01-04-210	OPERATING SUPPLIES	4,627	2,060	10,000	2,060	10,000	10,446
01-03-01-04-220	TOOLS/SMALL EQUIPMEN	-	7		7		0
01-03-01-04-490	EQUIPMENT USE CHARGE	806	3,770	2,600	3,793	2,600	1,279
	<b>SUBTOTAL</b>	<b>11,563</b>	<b>23,694</b>	<b>38,684</b>	<b>25,910</b>	<b>18,760</b>	<b>17,774</b>

# City of Centralia

## BLDG & GROUNDS

01-03-01-05-001	SALARIES AND WAGES	2,637	3,560	4,084	3,542	2,028	2,752
01-03-01-05-002	OVERTIME WAGES	28		1,200			
01-03-01-05-010	ACCRUED EMPLOYEE BNE	1,916	2,231	2,630	2,630	3,941	4,374
01-03-01-05-132	UTILITIES-NATURAL GA	1,443	1,909	1900	1662	1,900	1,869
01-03-01-05-133	UTILITIES, TELEPHONE	416	370	550	377	550	419
01-03-01-05-150	CONTRACT LABOR	290	5,766	400	327	400	5,667
01-03-01-05-160	REPAIR SERVICES	-	-				0
01-03-01-05-170	MAINT AGREEMENTS & L	90	-	163		163	217
01-03-01-05-190	INSURANCE	1,075	1,030	1,048	1,030	1,048	1,048
01-03-01-05-201	OFFICE SUPP FURNITUR	-	-	100		100	718
01-03-01-05-210	OPERATING SUPPLIES	1,411	965	1500	1445	1,500	1,186
01-03-01-05-220	TOOLS/SMALL EQUIPMEN	78	386	300	464	300	0
01-03-01-05-490	EQUIPMENT USE CHARGE	9	44	200	49	200	191
01-03-01-05-510	BUILDING IMPROVEMENT	1,695	1,560	1500	1170	5,430	750
	<b>SUBTOTAL</b>	<b>11,088</b>	<b>17,821</b>	<b>15,575</b>	<b>12,696</b>	<b>17,560</b>	<b>19,191</b>

## SNOW & ICE REMOVAL

01-03-01-06-001	SALARIES AND WAGES	10,325	11,757	12000	7709	17,037	14,248
01-03-01-06-002	OVERTIME WAGES	55		4000			
01-03-01-06-010	ACCRUED EMPLOYEE BEN	7,353	7,741	9300	5559	13,510	9,277
01-03-01-06-160	REPAIR SERVICE	-	-	200		200	0
01-03-01-06-210	OPERATING SUPPLIES	9,895	8,713	10,000	8,497	15,000	3,068
01-03-01-06-490	EQUIPMENT USE CHARGE	12,911	5,931	7000	4294	9,000	6,967
	<b>SUBTOTAL</b>	<b>40,539</b>	<b>34,142</b>	<b>42,500</b>	<b>26,059</b>	<b>54,747</b>	<b>33,560</b>

# City of Centralia

ACCOUNT NUMBER	ACCOUNT TITLE	Calendar 2015	Calendar 2014	FY2016 Budgeted	FY2015 Audited	FY2015 Budgeted	FY2014 Audited
STREET SIGNS & MARKINGS		-					
01-03-01-07-001	SALARIES AND WAGES	3,307	5,126	3,795	5,600	3,795	4,126
01-03-01-07-002	OVERTIME WAGES	23		15			
01-03-01-07-010	ACCRUED EMPLOYEE BEN	1,654	2,815	1,936	2,875	1,936	2,288
01-03-01-07-150	CONTRACT LABOR	-	-	150			0
01-03-01-07-160	REPAIR SERVICE	-	-			150	0
01-03-01-07-210	OPERATING SUPPLIES	2,537	3,397	5,000	3,455	5,000	2,462
01-03-01-07-220	TOOLS/SMALL EQUIPMEN	-	-				0
01-03-01-07-490	EQUIPMENT USE CHARGE	1,304	1,458	1,400	1,944	1,400	1,112
	<b>SUBTOTAL</b>	<b>8,825</b>	<b>12,796</b>	<b>12,296</b>	<b>13,874</b>	<b>12,281</b>	<b>9,988</b>
STORM DRAINAGE							
01-03-01-08-001	SALARIES AND WAGES	14,748	9,824	12,236	11,814	12,236	12,226
01-03-01-08-002	OVERTIME WAGES	226		600			
01-03-01-08-010	ACCRUED EMPLOYEE BEN	17,776	11,488	13,088	2,795	13,088	9,880
01-03-01-08-150	CONTRACT LABOR	150	715	1000	715	1,000	1,200
01-03-01-08-170	MAINT AGREEMENTS & L	-	-				0
01-03-01-08-210	OPERATING SUPPLIES	3,232	5,212	10,000	5,351	13,000	18,877
01-03-01-08-220	TOOLS/SMALL EQUIPMEN	52	26	100	26		0
01-03-01-08-490	EQUIPMENT USE CHARGE	4,001	4,276	6,000	7,010	6,000	5,359
01-03-01-08-509	MISCELLANEOUS CAPITA	66,000	-	66000		50,000	0
01-03-01-08-901	MISCELLANEOUS	-	-				0
	<b>SUBTOTAL</b>	<b>106,185</b>	<b>31,541</b>	<b>109,024</b>	<b>27,711</b>	<b>95,324</b>	<b>47,542</b>

# City of Centralia

ACCOUNT NUMBER	ACCOUNT TITLE	Calendar 2015	Calendar 2014	FY2016 Budgeted	FY2015 Audited	FY2015 Budgeted	FY2014 Audited
BRUSH & TREE CONTROL							
01-03-01-09-001	SALARIES AND WAGES	4,651	2,989			1,466	1,265
01-03-01-09-002	OVERTIME WAGES	795					
01-03-01-09-010	ACCRUED EMPLOYMEE BE	2,269	1,616			923	747
01-03-01-09-160	REPAIR SERVICE	-	-			50	0
01-03-01-09-170	MAINT AGREEMENTS & L	-	-				0
01-03-01-09-210	OPERATING SUPPLIES	59	172				3
01-03-01-09-490	EQUIPMENT USE CHARGE	1,170	960			1,300	908
	<b>SUBTOTAL</b>	<b>8,944</b>	<b>5,737</b>	<b>-</b>	<b>-</b>	<b>3,739</b>	<b>2,923</b>
	<b>TOTAL (EXCLUDES MOWING)</b>	<b>\$ 362,190</b>	<b>\$ 224,586</b>	<b>\$ 344,323</b>	<b>\$ 219,194</b>	<b>\$ 320,722</b>	<b>\$ 213,077</b>
CAPITAL SUMMARY							
02-03-01-01-509	CAPTIAL EXPENDITURES	<u>\$ 162,871</u>	<u>\$ 189,325</u>	<u>\$ 184,422</u>	<u>\$ 182,053</u>	<u>\$ 335,884</u>	<u>\$ 335,538</u>
	<b>TOTAL ALL EXPENDITURES</b>	<b>\$ 525,061</b>	<b>\$ 413,911</b>	<b>\$ 528,745</b>	<b>\$ 401,247</b>	<b>\$ 656,606</b>	<b>\$ 548,615</b>
REVENUES							
02-03-01-41-520	TRANSPORTN SALES TAX	219,628	178,781	201,299	217,151	195,186	193,517
02-03-01-43-650	COUNTY GRANT REVENUE	61,523	55,468	57,000	55,468	52,000	52,520
01-00-00-43-620	COUNTY ROAD & BRIDGE	81,818	72,032	72,752	72,032	65,147	65,147
	<b>TOTAL REVENUES</b>	<b>\$ 362,969</b>	<b>\$ 306,282</b>	<b>\$ 331,051</b>	<b>\$ 344,652</b>	<b>\$ 312,333</b>	<b>\$ 311,184</b>



# City of Centralia

## STREET PAVING -2014

### RECOMMENDED PRIORITY LIST

#### Estimated Price for Street Improvements

\$75.00 Estimated Price

74.78 Actual best Bid

Streets	Section	Width	Length	Depth in inches	Estimated Tons of Asphalt	Estimated Price	Actual tons	Actual Price per ton	
Orchard	(Lakeview to Ivy)	19	906	1.8	370.000	34,461.85	285.00	\$74.78	\$ 21,312.30
Columbia	(Switzler to Highway 22)	20	1260	1.5	288.283	21,621.24	270.00	\$74.78	\$ 20,190.60
Jefferson St	Hwy22 - Wigham	21	920	1.8	257.853	19,338.99	233.00	\$74.78	\$ 17,423.74
Southgate St	Allen-Jefferson	20	1034	1.5	236.575	17,743.14	250.00	\$74.78	\$ 18,695.00
N. Jefferson	RR to Southgate	25	800	1.5	228.796	17,159.71	232.00	\$74.78	\$ 17,348.96
Wigham	full length	20	890	1.5	203.629	15,272.14	226.00	\$74.78	\$ 16,900.28
Fairview St.	full length	20	575	2	175.410	13,155.78	147.00	\$74.78	\$ 10,992.66
Pioneer	full length	23	290	2	101.738	7,630.35	126.00	\$74.78	\$ 9,422.28
Fullenwider St	Southgate-Switzler	20	400	1.5	91.518	6,863.88	102.00	\$74.78	\$ 7,627.56
North St.	remaining piece	17	635	1	82.328	6,174.64	120.00	\$74.78	\$ 8,973.60
Jefferson Street	Between the Tracks	38	375	1.5	163.017	12,226.29	186.00	\$74.78	\$ 13,909.08
<i>Jefferson St was an add on project</i>									
		243	8,085.00		2,036.13	\$ 159,421.72	2,177.00		\$162,796.06

# Village of Pierpont

## ROAD & BRIDGE ANNUAL SUMMARY REPORT

*For use by all Entities (Application, Formula and Centralia Special Road District) to provide annual information in accordance with the Cooperative Agreement entered into with Boone County, Missouri (Commission Orders 459-2011 through 471-2011 approved on November 15, 2011, by the Boone County Commission).*

Reporting Entity: Pierpont, Mo

Reporting on Calendar Year: 2015

Narrative for use of funds received none

Narrative on overall condition of roads and bridges within reporting municipality:

good

**Allocation and Expenditure of Funds Received listed by project, with a project description. Include only direct design and construction costs pertaining to roads, bridges and storm water; indirect and other administrative costs are not allowable. Attach extra pages as necessary.**

Projects with descriptions

\_none\_

# Village of Pierpont

## Page 2

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TOTAL	
—	_____

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Date \_\_\_\_\_

Chairman of Board of Trustees
-------------------------------

Title
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Ronald L. Skiles	573-999-1212
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Day Time Phone number

Complete this report and send to Boone County Resource Management, Attn: Kelle Westcott, 801 East Walnut Room 315, Columbia, MO 65201; by December 15<sup>th</sup>.

# Entities Not Submitting Reports

Village of Hartsburg  
Village of Huntsdale  
City of McBaine



## Boone County Resource Management

801 East Walnut  
Room 315  
Columbia, MO 65201

Phone: 573-886-4480  
Fax: 573-886-4340  
E-mail:  
[resmgt@boonecountymo.org](mailto:resmgt@boonecountymo.org)

## Boone County Public Works

5551 S Tom Bass Road  
Columbia, MO 65201

Phone: 573-886-4480  
Fax: 573-886-4340  
E-mail:  
[resmgt@boonecountymo.org](mailto:resmgt@boonecountymo.org)

# We are on the Web & Facebook!

For the latest on projects, road closures etc check out:

[www.showmeboone.com/resourcemanagement](http://www.showmeboone.com/resourcemanagement)

[www.showmeboone.com/publicworks](http://www.showmeboone.com/publicworks)

[www.facebook.com/pages/Boone-County-Missouri-Public-Works/343596835780384](https://www.facebook.com/pages/Boone-County-Missouri-Public-Works/343596835780384)

## Mission:

To provide a safe & modern transportation network constructed & maintained in a fiscally sound & environmentally responsible manner that is effectively coordinated with city, state & federal agencies.