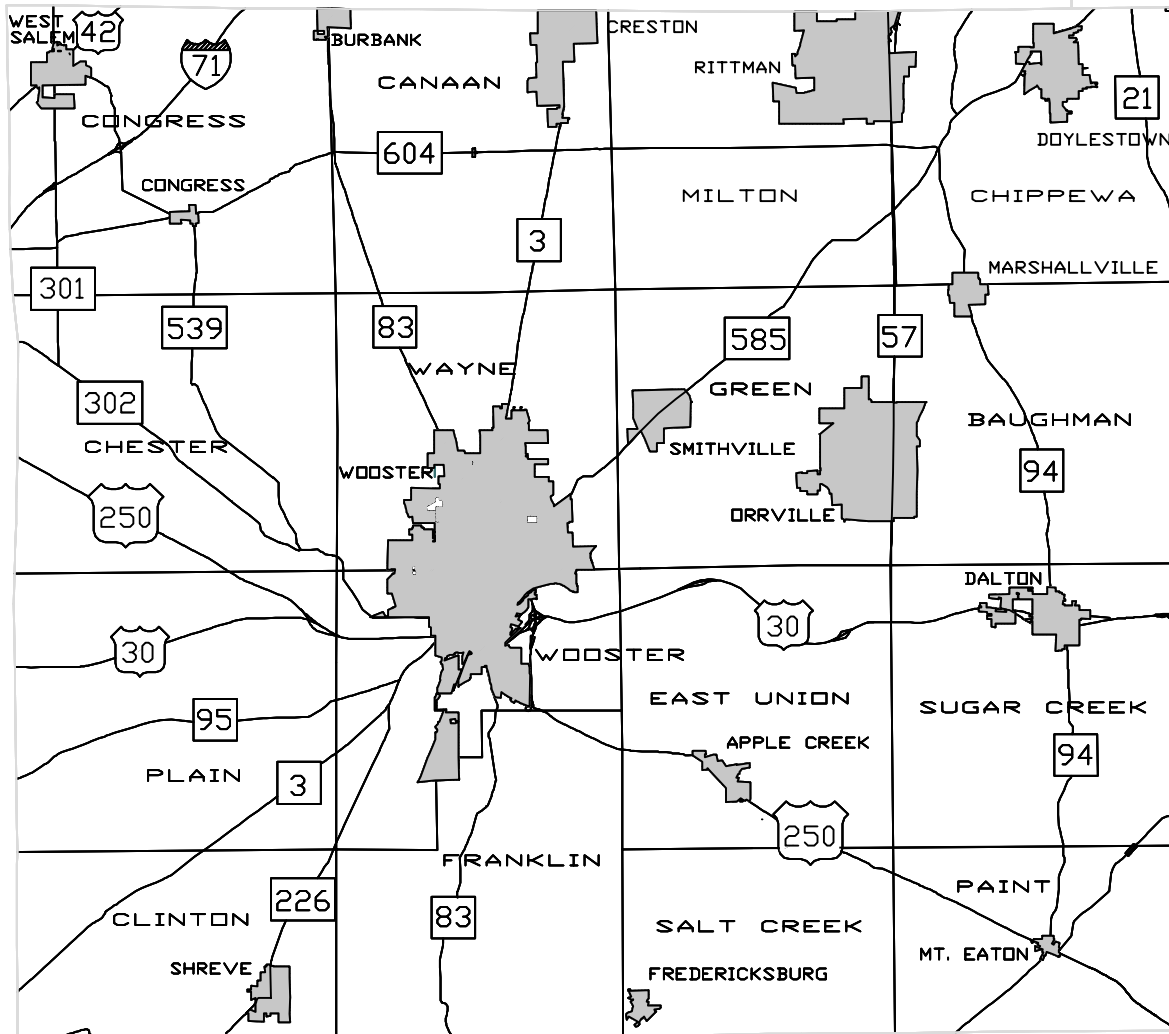




# 2011 Annual Report

Roger K. Terrill, P.E., P.S.  
Wayne County Engineer



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WAYNE COUNTY ENGINEER'S OFFICE  
ROGER K. TERRILL, P.E., P.S.  
WAYNE COUNTY ENGINEER

April 19, 2012

Wayne County Commissioners  
428 West Liberty Street  
Wooster, Ohio 44691

Honorable Commissioners:

I am proud to present the Wayne County Engineer's 2011 Annual Report, summarizing the activities of the Engineering, Highway Maintenance and Tax Map Departments.

As can be seen on the included chart, receipts have increased moderately from 2002 through 2011. Due to layoffs and attrition, actual total salaries increased less than the increase in receipts from 2002 through 2011, whereas employee benefits increased more than salaries during the same period. Employee benefits also make up approximately one-third of total of salary and employee benefits. Salary and employee benefits make up approximately forty (40) percent of the Engineer's Office total budget. The remaining sixty (60) percent of the budget is made up of materials (gravel, concrete, asphalt, etc.), construction costs (labor, equipment & material for construction of roads & bridges), equipment, fuel, etc. and increased extensively from 2002 through 2011. Materials, construction costs, equipment, fuel, etc. also increased at a rate far greater than receipts for the same period. Please note that gasoline and diesel fuel in 2012 are anticipated to increase to over 300% since 2003.

Construction in 2011 included the replacement of four (4) bridges and the rehabilitation of one (1) other bridge. We also replaced five (5) large culverts. Our goal is to replace ten (10) bridges annually.

We continue to utilize all available grants in the most efficient manner possible. However, state and federal funding have become much more difficult to obtain. We were not successful in obtaining funding through CDBG. Federal funding for bridges was not available from 2008 to 2011.

I want to express my sincere appreciation to my staff for compiling this report and to the Board for their cooperation in helping us achieve our goals. Your comments and suggestions are welcome.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Roger K. Terrill", is written over the typed name below.

Roger K. Terrill, P.E., P.S.  
Wayne County Engineer

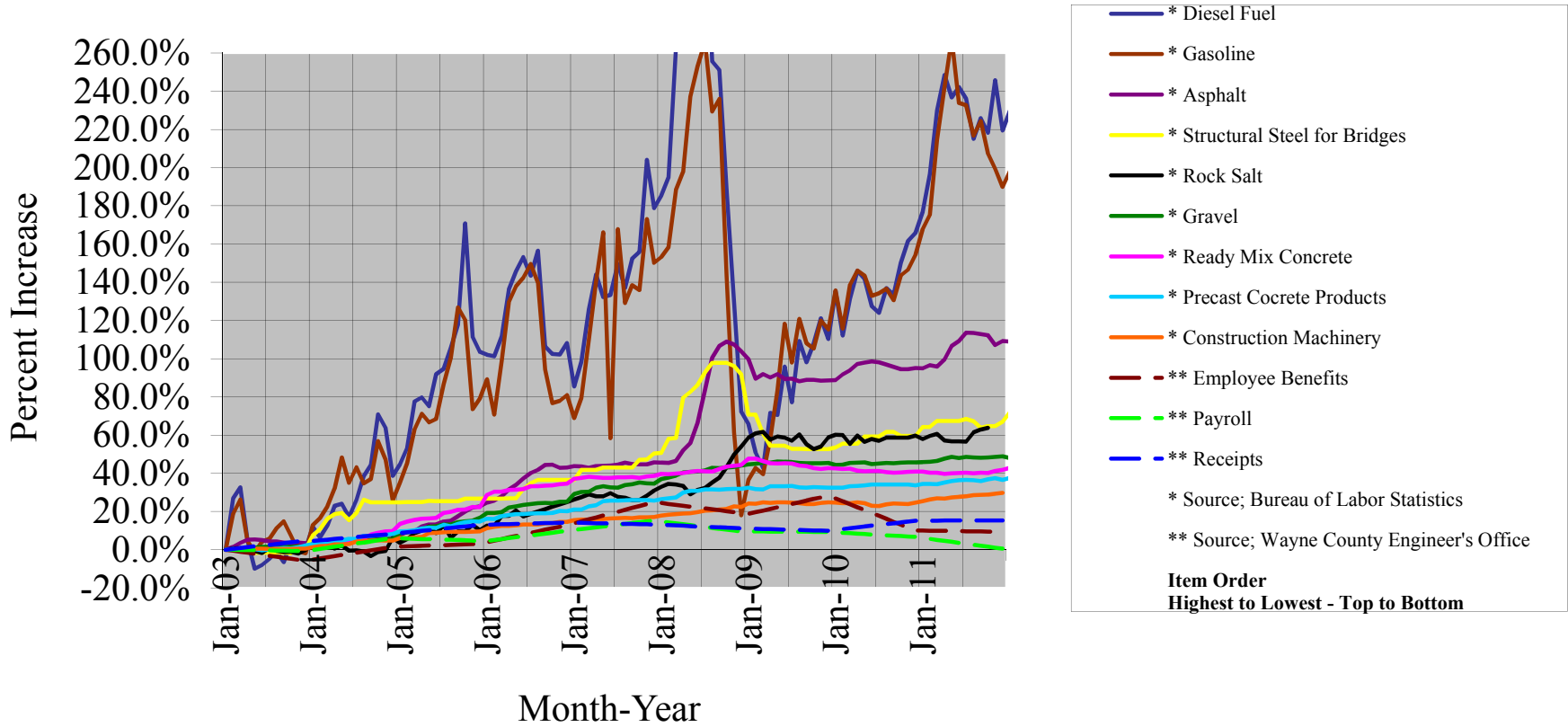
# Wayne County Engineer's Office

## Major Expenses and Receipts

### Percent Increase since 2003

(\* <http://data.bls.gov:8080/PDQ/outside.jsp?survey=pc>)

(\*\* [www.wayne-county-engineer.com](http://www.wayne-county-engineer.com))



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# DUTIES OF THE COUNTY ENGINEER

The Engineer has the responsibility of performing for the County all duties authorized or declared by law to be done by a civil engineer or surveyor, and accordingly must hold registration certificates of the State of Ohio as both Professional Engineer and Professional Surveyor.

The Engineer, in cooperation with the County Commissioners, is responsible for all maintenance, repair, widening, resurfacing, reconstruction, and construction of roads and bridges on the county highway system.

The Engineer serves as an advisor to the Township Trustees for the maintenance, repair, widening, resurfacing, and reconstruction of their highways. The bridges on the township highway system are the full responsibility of the County.

The Engineer is also responsible for many bridges within municipalities. These bridges are located on streets which are extensions of county or township roads.

Also, the Engineer must maintain a perpetual inventory of all bridges on the county and township highway system, including an annual inspection and evaluation of the condition and load carrying capacity of each bridge.

The Engineer is the Tax Map Draftsman for the County and at the discretion of the County Commissioners, he may also serve as the Acting Sanitary Engineer and as a member of the County Planning Commission.

# OHIO HIGHWAYS AND ROADS

System	Mileage	Maintained By
State Highway	19,254	Ohio Department of Transportation
County Road	28,953	County Engineers
Township Road	41,424	Township Trustees
Municipal Street	31,661	Incorporated Cities & Villages
TOTAL	121,292	

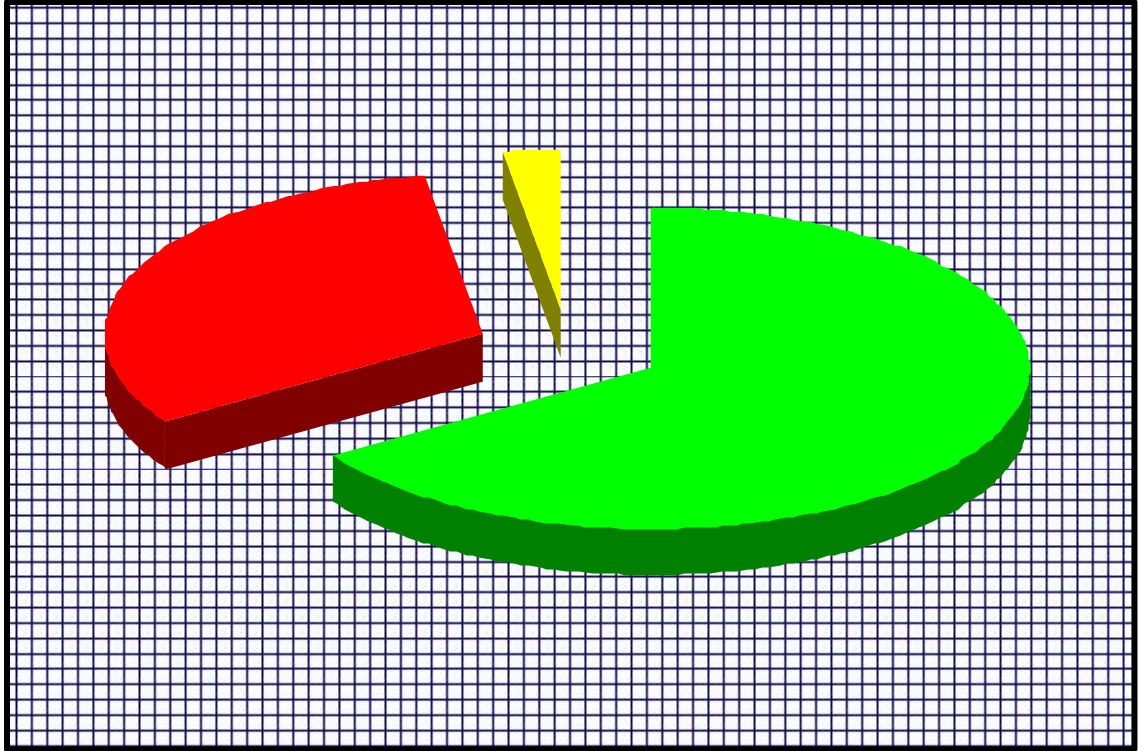
# WAYNE COUNTY HIGHWAYS AND ROADS

System	Mileage	Maintained By
State Highway	253	Ohio Department of Transportation
County Road	499	Wayne County Engineer
Township Road	563	Township Trustees
Municipal Street	276	Incorporated Cities & Villages
TOTAL	1,591	




# TOWNSHIP ROAD MILEAGE

Baughman -	36.87	Clinton -	26.05	Green -	34.69	Salt Creek -	23.81
Canaan -	26.57	Congress -	36.08	Milton -	33.71	Sugar Creek -	46.98
Chester -	44.79	East Union -	41.92	Paint -	24.30	Wayne -	34.30
Chippewa -	50.82	Franklin -	31.50	Plain -	37.59	Wooster -	33.34

# 2011 INCOME

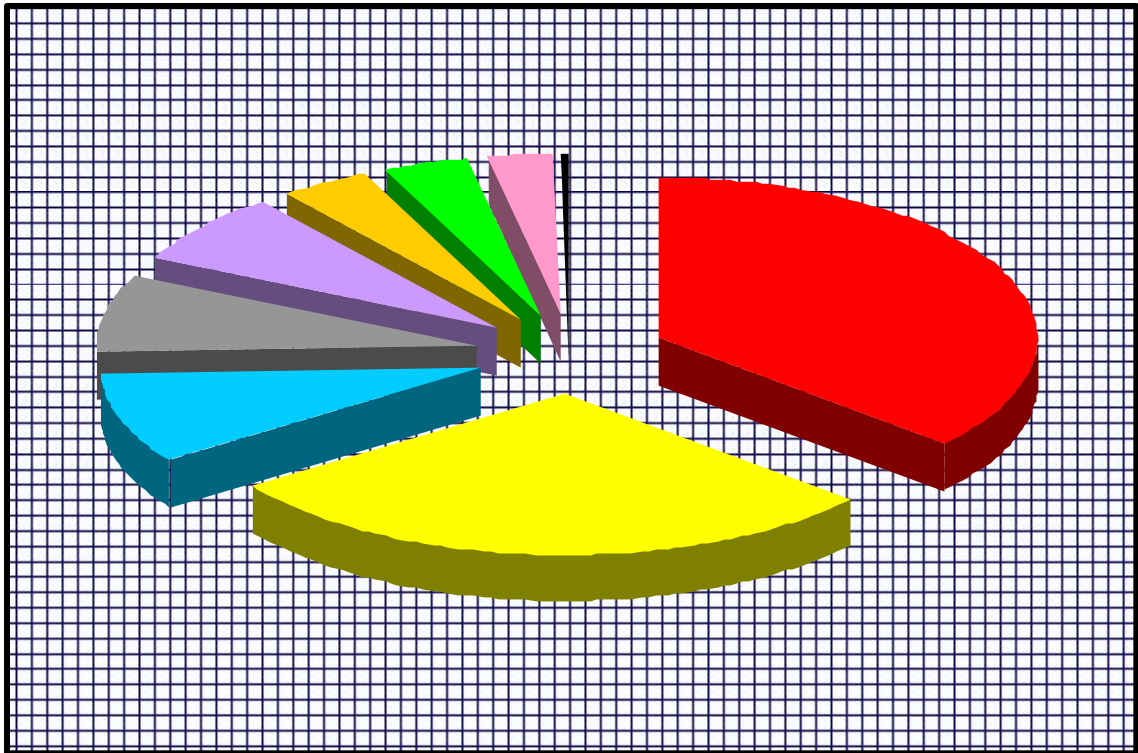


## WHERE THE MONEY COMES FROM










	License Fees & Permissive Tax	\$4,844,129	65.9%
	Gasoline Tax	2,310,207	31.5%
	Traffic Fines, Fees, & Misc.	192,804	2.6%
	<b>TOTAL</b>	<b>\$7,347,140</b>	<b>100.0%</b>

**REAL ESTATE TAXES ARE NOT USED FOR COUNTY HIGHWAY PURPOSES.**

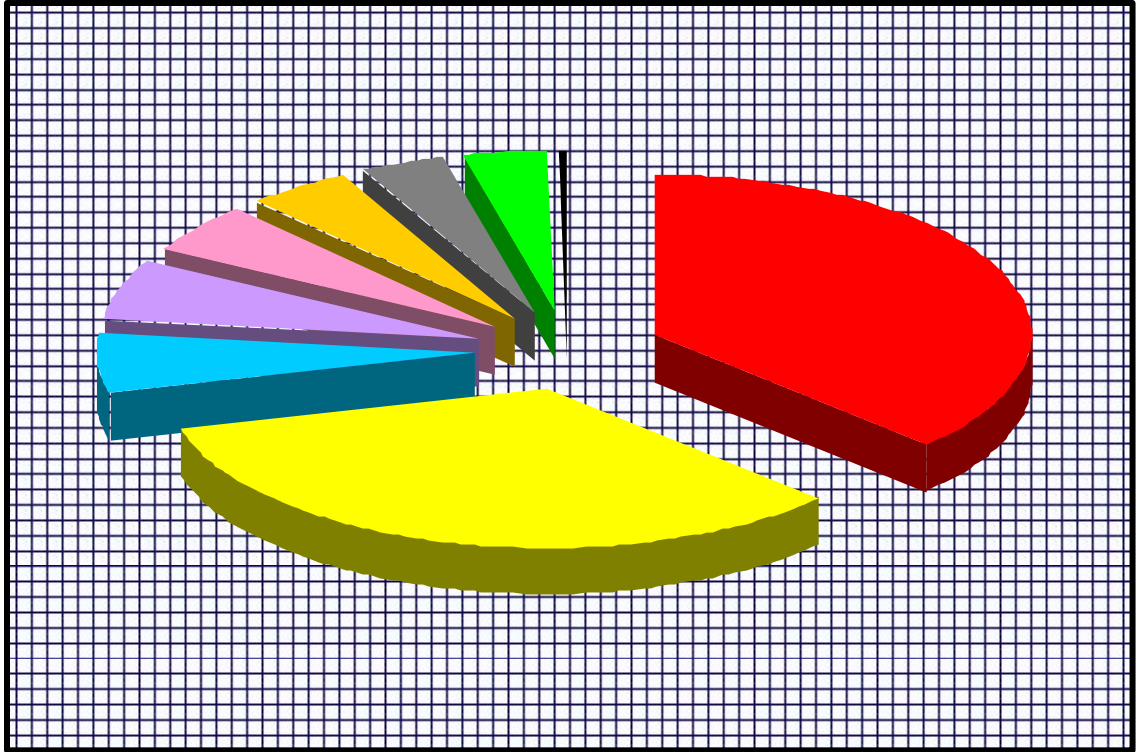
# 2011 EXPENDITURES

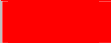










## WHERE THE MONEY GOES

	Labor and Fringes	\$2,743,242	36.3%
	Road Materials & Contracts	2,185,712	28.9%
	Bridge Materials & Contracts	690,518	9.1%
	Equipment	601,104	8.0%
	Repair, Fuel, Etc.	536,685	7.1%
	Contracts (Repairs & Services), Compensation & Damage, Advertising & Printing	297,883	3.9%
	Note Repayment	263,946	3.5%
	OPWC Projects	216,090	2.9%
	Grants to Townships	19,723	0.3%
	<b>TOTAL</b>	<b>\$7,554,903</b>	<b>100.0%</b>

# 2012 PROJECTED APPROPRIATIONS



	Labor and Fringes	\$3,033,693	37.2%
	Road Materials & Contracts	2,741,494	33.6%
	Bridge Materials & Contracts	500,500	6.2%
	Repair, Fuel, Etc.	500,000	6.2%
	OPWC Projects	402,000	4.9%
	Contracts (Repairs & Services), Compensation & Damage, Advertising & Printing	351,500	4.3%
	Equipment	313,300	3.8%
	Note Repayment	285,000	3.5%
	Grants to Townships	21,000	0.3%
	<b>TOTAL</b>	<b>\$8,148,487</b>	<b>100.0%</b>

# PERSONNEL

*Roger K. Terrill*  
*County Engineer*

## ADMINISTRATIVE SERVICES DEPARTMENT

Linda Mong  
Administrative Assistant

Cindy Nolt  
Account Clerk II

## ENGINEERING DEPARTMENT

Larry Conn  
Engineering Services Manager

Eric Liew  
Deputy Engineer (Bridges)

Mark Spademan  
Deputy Engineer (Subdivisions)

Jeffrey Sparr  
Deputy Engineer (Highways)

Terry Vorhies  
Deputy Surveyor

Bill McDaid  
Engineering Inspector

Larry Warner  
Engineering Inspector

Michael Barnhouse  
Engineering Technician

## TAX MAP DEPARTMENT

Michael Daugherty  
Tax Map Supervisor (Ret'd. 9-30-11)

Douglas Green  
Tax Map Supervisor (Eff. 10-3-11)

Donald Long  
Tax Map Specialist  
(Eff. 10-3-11)

**PERSONNEL**

*Continued*

**HIGHWAY MAINTENANCE DEPARTMENT**

**Highway Superintendent**

Ben Saurer

**Supervisors**

Rick Barnes                      Bud Weiker

Brett Hughes                    Gale Wilcox

**H i g h w a y      W o r k e r s**

Keith Badertscher

John Baldner

Larry Bresson

Les Durstine

Bob Ewing

Kevin Miller

Patrick Miller

David Mowrer

Tom Nolletti

Trevor Ogi (Eff. 6-20-11)

Alan Poulson

Paul Schafrath

Brian Spotts

Bill Sprinkle

Stephen Stewart

Kevin Troyer

Dean Whitman

Patrick Wilson

Brock Yoder

John Yungen

Jeffrey Zerrer

**Garage Mechanics**

Mike Pritchett

**Parts Department**

Bob Tenney

**Sign Shop**

Jeff Grassman

Jeffrey Metcalf



# HIGHWAY MAINTENANCE REPORT

## MAINTENANCE AND CONSTRUCTION

County forces improved the pavement surface on several roads by placing a leveling (or scratch) course of asphalt concrete or bituminous cold mix. The roads in the following table were scratched full-width in 2011.

Road No.	Name	Section	Miles
22	Cedar Valley	F*	0.74
27	Fulton	K,M*	1.48
37	Winesburg	A	1.56
44	Apple Creek	G*,H	3.00
86	Smithville-Western	I,J*	1.07
150	Eastern	A*,B,C*	2.30
363	Mt. Hope	A	1.02
<b>Total</b>			<b>11.17</b>

\* - Partial Section

- Sections A-C (3.49 Mi.) of C.R. 23 (Back Orrville Road) were resurfaced with a 1.5" course of asphalt concrete in 2011. Prior to resurfacing, a pavement overlay fabric composite (6.25' width) was placed along the outer portion of each pavement lane. The project also included additional paving at the intersection of C.R. 44 (Apple Creek Road). The total cost of the project was \$435,474. The project was financed by the Ohio Public Works Commission (\$193,815), Wayne County (\$216,090), and the City of Wooster (\$25,569). Melway Paving Company, Inc. from Millersburg, Ohio was the prime contractor.



## HIGHWAY MAINTENANCE REPORT

### *Continued*

Several roads also received a chip/seal surface treatment by county forces.

Road No.	Name	Section	Miles
6	Friendsville	I -K	3.14
22	Cedar Valley	F*	0.64
44	Apple Creek	B*,C-D	3.76
139	Heyl	C-F	3.71
142	Millborne	A-C	3.22
154	Myers	C	1.30
161	Martin	D-E	1.60
174	Columbus Avenue Ext.	A	0.45
<b>Total</b>			<b>17.82</b>

\* - Partial Section

- The Wayne County Engineer's Office also assisted the Chippewa Township Trustees on an Ohio Public Works project. Development of construction plans, project administration, and construction inspection was provided by the Engineer's Office for the replacement of Culvert No. CHI 172-2.54 located on Galehouse Road. An existing 48" diameter corrugated metal pipe was replaced with 88' of 78" diameter corrugated metal pipe. V. O. Menezes & Son, Inc. from Millersburg, Ohio was the prime contractor.



## HIGHWAY MAINTENANCE REPORT

*Continued*

### SNOW AND ICE CONTROL

Heavy equipment available for snow and ice control includes; 28 plow trucks with spreaders and 2 V-plow graders.

	<u>WINTER</u> <u>2008-09</u>	<u>WINTER</u> <u>2009-10</u>	<u>WINTER</u> <u>2010-11</u>
Salt & Cinders (Tons)	9,924	10,006	12,182
Labor	\$189,336	\$184,602	\$202,658
Equipment	114,020	191,191	204,272
Material	<u>198,483</u>	<u>200,383</u>	<u>244,033</u>
Total	\$501,839	\$576,176	\$650,963

### WEED AND BRUSH CONTROL

In 2011, guardrail spraying was performed by DeAngelo Brothers, Inc. from Hazleton, Pennsylvania at a total cost of \$15,729. County maintenance crews conducted mowing operations in the summer and performed brush cutting during the winter months.

### EQUIPMENT PURCHASES

2011	2012 - Tentative
2 Single-Axle Dump Trucks	1 Used Paver
2 Pickup Trucks	1 Sign Truck
1 Tractor w/Mower	1 Grader

# PLANNING AND PROGRAMMING

The roads comprising the maintenance program are selected after an evaluation of the condition of each road. Information for all county roads is available in various electronic files. This information aids in the preparation of the annual highway maintenance program.

The highway inventory consists of approximately 470 road sections. During 2011, all sections were reevaluated.

Permits were issued for the following:

84 Drive Pipes

32 Road Bores

57 Ditch Enclosures

The road bore permits were primarily for public utilities and the oil and gas industry. Drive pipe permits were for private, commercial, and industrial drives. Permits were also issued for 11 oversize or overweight loads.

In addition, the engineering inspectors are often asked to inspect a variety of problems, to determine whether or not the problems are the responsibility of the County, and if so, what measures should be taken to correct the problems.

# WAYNE COUNTY ROAD AND BRIDGE FACTS

- 📍 Ranked 4th in the state for county road mileage.
- 📍 Ranked 4th in the state for bridges maintained.
- 📍 Ranked 14th in the state for land area.
- 📍 Ranked 24th in the state for population - 114,520 (2010 Census)

## COMPARISON WITH ADJOINING COUNTIES

	Ashland	Holmes	Medina	Stark	Summit	Wayne
Co. Road Mileage	281	250	327	409	183	499
Twp. Road Mileage	405	567	489	1,309	344	564
Bridges, 10' Span or Greater	223	281	290	333	311	490
Land Area (Sq. Mi.)	424	423	422	576	413	555

# BRIDGE STATUS

## 1) INSPECTION, MAINTENANCE, AND CONSTRUCTION RESPONSIBILITY

- 28 On streets within municipalities (extensions to county or township roads).
- 238 On county roads.
- 224 On township roads.
- 490 Total bridges for inspection.

## 2) GENERAL DATA FOR COUNTY INSPECTED BRIDGES

- 126 Too narrow (less than 20').
- 44 Posted load limits.
- 52 Structurally deficient.
- 124 Functionally obsolete.

## 3) OTHER 2011 BRIDGE FACTS

Average age for 437 bridges with a recorded year built is 42 years - useful life is considered to be 50 years. For the other 53 bridges, the year built is unknown.

Average overall bridge length is 39.6 feet.

Maintain 3.25 miles of bridge deck.

*Note: The information shown above is for bridges having a span of 10' or greater.*

# **BRIDGE REPORT**

The Wayne County Engineer is responsible for inspection, maintenance, and construction of 490 bridges on county and township roads, and extensions of those roads through municipalities.

## **INSPECTION**

Annual inspections for 490 bridges are performed in accordance with the latest Ohio Department of Transportation Bridge Inspection Manual. Some bridges are inspected and monitored more frequently because of known deficiencies.

## **LOAD RATINGS**

To be in compliance with the National Bridge Inspection Standards; the Federal Highway Administration (FHWA) requires ratings on all structures with a span of 20' or greater. The load rating is performed for the safety of the traveling public. The carrying-capacity of all bridges in the State of Ohio are rated using a standard set of vehicles, called "Ohio Legal Loads". Ratings for 21 bridges were submitted to ODOT in 2011. The ratings performed resulted in the posting of load limits on 2 bridges (formerly not posted) and the posting of revised limits on 4 bridges.

## **MAINTENANCE**

Maintenance work by county forces was performed on 23 bridges in 2011. Repairs ranged from patching decks to replacing damaged guardrail.



## BRIDGE REPORT

*Continued*

### CONSTRUCTION

Four (4) bridges were replaced and 1 bridge was rehabilitated in 2011.

Considering the average life expectancy is 50 years for the typical bridge, we should be replacing more than 10 bridges per year. An average of 6.7 bridges per year has been replaced over the past 10 years.

#### ***THE FOLLOWING BRIDGES WERE REPLACED IN 2011:***

- CAN 59-2.56 on Sterling Road in Canaan Township. Age 78 years, 16' span, 22.5' wide, single span concrete slab bridge was replaced with a 15' span x 4' rise x 68' length precast reinforced concrete box culvert by G. E. Baker Construction, Inc. from Shreve, Ohio. Local monies financed the project at a cost of \$146,413.
- MIL 108-4.28 on Steiner Road in Milton Township. Age unknown, 15' span, 16.0' wide, single span steel beam bridge was replaced with an 8' span x 3' rise x 40' length precast reinforced concrete box culvert by county forces. Local monies financed the project.
- PLA 149-5.09 on Elyria Road in Plain Township. Age 66 years, 120" diameter x 35' length circular corrugated metal pipe culvert was replaced with a 96" diameter x 72' length circular precast reinforced concrete pipe culvert by Page Excavating, Inc. from Lucas, Ohio. Local monies financed the project at a cost of \$128,682.
- WAY 86-5.72 on Smithville-Western Road in Wayne Township. Age 88 years, 13' span, 23.0' wide, single span concrete slab bridge was replaced with a 10' span x 5' rise x 53' length precast reinforced concrete box culvert by G. E. Baker Construction, Inc. from Shreve, Ohio. Local monies financed the project at a cost of \$116,599.

## **BRIDGE REPORT**

*Continued*

### ***THE FOLLOWING BRIDGES WERE REHABILITATED IN 2011:***

CLI 9-1.15        on Metcalf Road in Clinton Township. Removal of existing timber deck and steel beam superstructure. Replaced with new steel beam superstructure and timber deck. The work was done by county forces.

### ***THE FOLLOWING BRIDGES WERE PAINTED IN 2011:***

CLI 9-1.15        on Metcalf Road in Clinton Township.



BEFORE

STERLING ROAD  
BRIDGE REPLACEMENT (CAN 59-2.56)

AFTER







BEFORE

STEINER ROAD  
BRIDGE REPLACEMENT (MIL 108-4.28)

AFTER







BEFORE

ELYRIA ROAD  
BRIDGE REPLACEMENT (PLA 149-5.09)

AFTER







BEFORE

SMITHVILLE-WESTERN ROAD  
BRIDGE REPLACEMENT (WAY 86-5.72)

AFTER





METCALF ROAD  
BRIDGE REHABILITATION  
(CLI 9-1.15)



# TRAFFIC CONTROL

The primary responsibility of our traffic control staff is the inspection and maintenance of over 8,500 road signs along nearly 500 miles of county roads and at nearly 230 bridges on township roads. In 2011, under a recent FHWA mandate, our sign crew replaced 986 warning, regulatory, and guidance signs not meeting federal minimum retro-reflectivity standards. We anticipate achieving substantial compliance with the applicable standards for these signs by the close of 2012, and for our road name signs by 2018.

Wayne County has responsibility for traffic signals and flashers on Back Orrville Road, Canal Road, East Lincoln Way, and Smithville-Western Road. In 2011, McClintock Electric, who services these lights as needed, billed us for service calls totaling \$1,410. In addition, the Back Orrville Road / Apple Creek Road intersection traffic signal system was upgraded in 2011 through the installation of new detector loops (\$19,200) and replacement of the incandescent signal bulbs with high-efficiency LED units (\$2,916).

Due to budgetary limitations, Wayne County again had a reduced longitudinal pavement marking program in 2011. Markings included; 170 miles of center lines and 114 miles of edge lines. Dura Mark, Inc. of Aurora, Ohio, performed this work at a total cost of \$97,702.

The auxiliary pavement marking program for 2011 included the painting of 55 railroad crossing symbols, 26 ASCHOOL® words on the pavement, 50 stop bars at intersections, and 50 feet of crosswalk lines as well as special lane markings on East Lincoln Way (C.R. 30A). The work was done by Timco Pavement Striping of Wooster, Ohio. The cost of this work was \$11,620.

# SUBDIVISIONS

Construction of public improvements in the following subdivisions was inspected by personnel of the Wayne County Engineer's Office in 2011:

Jackson Heights Allotment: Wooster Township

Reflecting the continuing downturn in the rural residential housing market, no new public streets were accepted by the Board of Wayne County Commissioners in 2011.

# TAX MAP DEPARTMENT

The primary functions of this department are to process all deeds for transfer and to provide a current set of tax maps that are used by the County Auditor for taxation purposes.

The reproducible base maps are on file in the drafting room and a set of working prints are used as counter maps in the front office.

All deeds are processed through this office and property transfers are recorded on the appropriate map as the transfer occurs to insure that the mapping reflects current data.

In 2011, there were approximately 56,455 tax parcels in Wayne County. There were 3,120 conveyances processed through this department during the year.

This office prepares and maintains numerous volumes of other related maps, plats and drawings that form a part of the county mapping system.

Tax maps of past years dating from the year 1929 have been retired to a reference library in the front office where they are available for research purposes. The plat files include approximately 3,894 plats of allotments, subdivisions and annexations. There are also 33,000 surveys dating back to 1815 kept on file.

In 2011, 196 plats for allotments, subdivisions, annexations, and other surveys were processed through this office.

## **TAX MAP DEPARTMENT**

### ***Continued***

For many years surveyors have been required to submit their survey plats to be included in the land records. These records contain some of the original land surveys of Wayne County.

During 2011, receipts from the sale of prints amounted to \$657.

The Tax Map Department also administers continuation of the county house numbering system. House numbers are assigned to new building sites that require a mailing address. The locations are plotted on tax maps, which are on file in the office. New addresses are submitted to area post offices.

The office personnel deserves credit for performing the diversified duties that are required in serving the public and maintaining an efficient and well managed Tax Map Department.

# **RIGHT-OF-WAY**

The Right-of-Way Section of the Engineering Department is responsible for maintaining the right-of-way records for county and township roads and drainage systems within the county.

The main duty of this office is the acquisition of additional right-of-way required for road and bridge improvements. The work involves preparation of documents which include easements, work agreements and rights-of-entry for specific purposes on privately owned lands. Negotiations with property owners are of vital importance in the acquisition process.

Services offered by this office are used extensively by local governments, private and public utility companies, engineering and surveying practitioners, the highway maintenance department, and the general public.

The office also establishes existing and proposed right-of-way limits on various roads and reviews annexations for accuracy for the Board of Wayne County Commissioners.

Work will be required in 2012 on several projects that are now in the design stage along with other 2012 projects that will develop within the year.

# SURVEYING

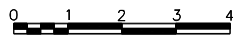
The primary function of the Surveying Section is to perform field surveys for engineering projects for roads, bridges, culverts, and drainage; and to set grade stakes for construction.

The office also maintains an inventory of monuments that mark the original land divisions of the county and they re-establish those monuments if they have become obliterated or have not been recovered in recent years. Also, an inventory is maintained of permanent elevation monuments which have been established county-wide.

In addition to the above, there were many general miscellaneous surveys completed during the year.



Scale in Miles



BRIDGE REPLACEMENT



BRIDGE REHABILITATION



ROAD RESURFACING

WAYNE COUNTY, OHIO

STATE ROUTES 

COUNTY ROADS 

TOWNSHIP ROADS 

