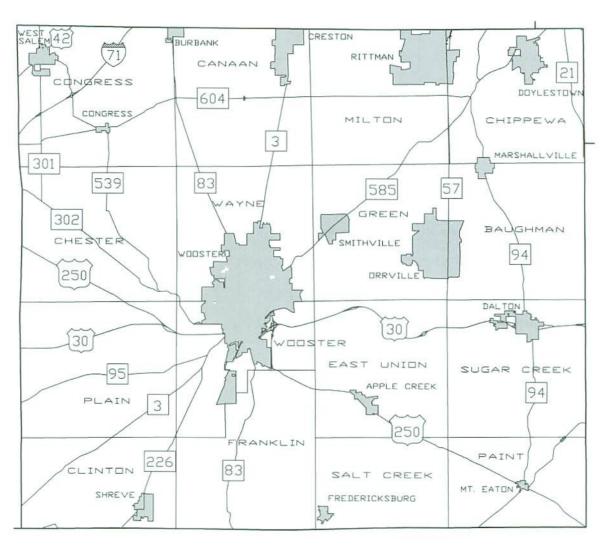


# 2010 Annual Report

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

May 2, 2011

Wayne County Commissioners 428 West Liberty Street Wooster, Ohio 44691

Honorable Commissioners:

I am proud to present the Wayne County Engineer's <u>2010 Annual Report</u>, 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 2010. Due to layoffs and attrition, actual total salaries increased less than the increase in receipts from 2002 through 2010, 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 2010. Materials, construction costs, equipment, fuel, etc. also increased at a rate far greater than receipts for the same period.

Construction in 2010 included the replacement of three (3) bridges and the rehabilitation of three (3) other bridges. 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 fortunate to receive approximately \$227,000 to replace two (2) bridges with OPWC funding. We were not successful in obtaining funding through CDBG. Federal funding for bridges is not available until 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,

Roger K. Terrill, P.E., P.S. Wavne 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) \* Diesel Fuel \* Gasoline 150.0% \* Asphalt 130.0% \* Rock Salt \* Structural Steel for Bridges 110.0% Percent Increase \* Gravel 90.0% \* Ready Mix Concrete \* Precast Concrete Products 70.0% \* Construction Machinery 50.0% - \*\* Employee Benefits - \*\* Payroll 30.0% \*\* Receipts 10.0% \* Source; Bureau of Labor Statistics Jan-09 Jan-11 Jan-06 \*\* Source; Wayne County Engineer's Office -10.0% Month-Year

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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	19,261	Ohio Department of Transportation
County Road	28,949	County Engineers
Township Road	41,387	Township Trustees
Municipal Street	31,645	Incorporated Cities & Villages
TOTAL	121,242	

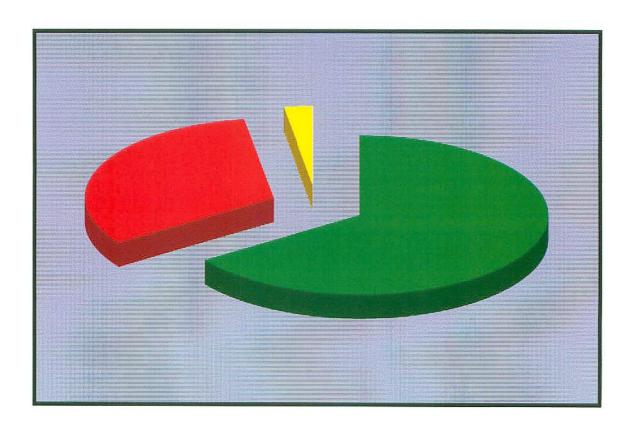
## WAYNE COUNTY HIGHWAYS AND ROADS

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

## 2010 INCOME

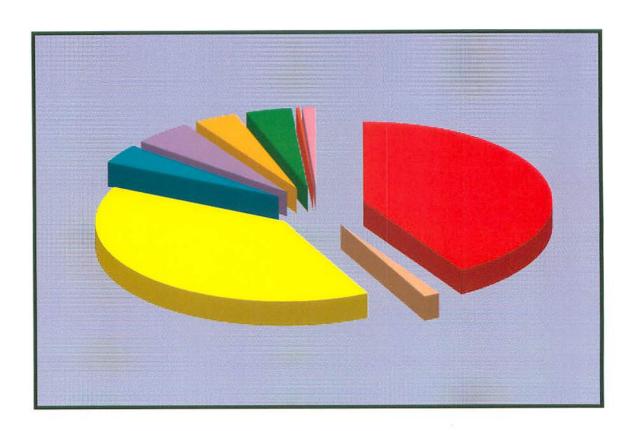


## WHERE THE MONEY COMES FROM

License Fees & Permissive Tax	\$4,793,816	65.3%
Gasoline Tax	2,366,745	32.2%
Traffic Fines, Fees, & Misc.	180,150	2.5%
TOTAL	\$7,340,711	100.0%

REAL ESTATE TAXES ARE NOT USED FOR COUNTY HIGHWAY PURPOSES.

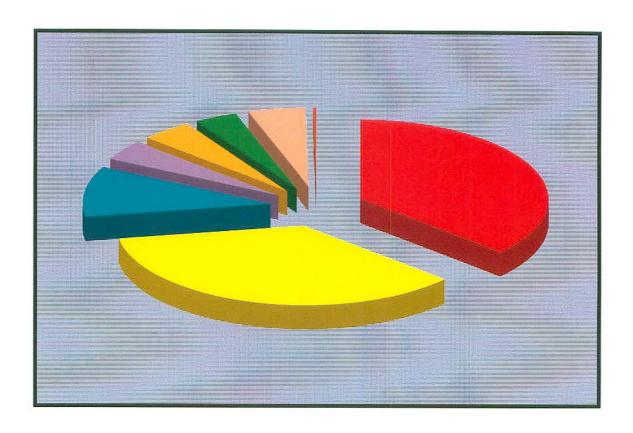
## 2010 EXPENDITURES



## WHERE THE MONEY GOES

Labor and Fringes	\$2,874,185	41.4%
Road Materials & Contracts	2,754,623	39.7%
Repair, Fuel, Etc.	349,942	5.0%
Note Repayment	285,515	4.1%
Bridge Materials & Contracts	259,725	3.7%
Contracts (Repairs & Services), Compensation & Damage, Advertising & Printing	241,830	3.5%
Equipment	88,272	1.3%
OPWC Projects	69,524	1.0%
Grants to Townships	19,761	0.3%
TOTAL	\$6,943,377	100.0%

# 2011 PROJECTED APPROPRIATIONS



Labor and Fringes	\$3,014,693	36.8%
Road Materials & Contracts	2,914,716	35.5%
Bridge Materials & Contracts	829,000	10.1%
Equipment	414,900	5.0%
Contracts (Repairs & Services), Compensation & Damage, Advertising & Printing	367,000	4.5%
Repair, Fuel, Etc.	350,000	4.3%
Note Repayment	285,000	3.5%
Grants to Townships	21,000	0.3%
TOTAL	\$8,196,309	100.0%

## 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 (5-24-10) Deputy Surveyor Bill McDaid

Engineering Inspector

Larry Warner

Engineering Inspector

Michael Barnhouse (3-22-10)

Engineering Technician

#### TAX MAP DEPARTMENT

Michael Daugherty Tax Map Supervisor

Douglas Green
Tax Map Specialist

Joanne LaPalme
Tax Map Specialist
(Temporary)

# PERSONNEL Continued

#### HIGHWAY MAINTENANCE DEPARTMENT

#### Highway Superintendent Ben Saurer

#### Supervisors

Rick Barnes Bud Weiker

Brett Hughes Gale Wilcox

#### Highway Workers

Keith Badertscher Tom Nolletti Alan Poulson John Baldner Paul Schafrath Larry Bresson Rich Collins (Ret'd. 12-31-10) Brian Spotts Bill Sprinkle Les Durstine Bob Ewing Stephen Stewart Jeff Grassman Kevin Troyer Jeffrey Metcalf Dean Whitman Patrick Wilson Paul Middaugh (Ret'd. 1-29-10) Brock Yoder Kevin Miller Patrick Miller John Yungen David Mowrer Jeffrey Zerrer

Garage Mechanics Parts Department
Mike Pritchett Bob Tenney

Sign Shop Larry Badger (Ret'd. 12-31-10)

## 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 2010.

Road No.	Name	Section	Miles
6	Friendsville	C*,D*,E*,F*,G*,J,K*	3.76
22	Cedar Valley	F*	0.63
51	Canaan Center	A*,B*,C*,D*,E*	3.52
52	Kidron	D-E*	1.40
80	Jericho	B*	0.31
86	Smithville-Western	J*	0.64
105	West Lebanon	E,F*,H*	2.76
225	Criswell	C*,D*,E*	1.80
242	Burton City	A*-B*	1.12
		Total	15.94

\* - Partial Section

Section E (1.56 Mi.) of C.R. 30A (Old Lincoln Way), Sections E-G (4.29 Mi.) of C.R. 94A (Carr Road), and Sections A-D (5.56 Mi.) of C.R. 504 (Sterling Road) were resurfaced with a leveling course in 2010. The total cost of the project was \$590,730. The project was financed with local monies. Melway Paving Company, Inc. from Millersburg, Ohio was the prime contractor.



C.R. 30A



C.R. 94A



C.R. 504

# HIGHWAY MAINTENANCE REPORT

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

Road No.	Name	Section	Miles	Road No.	Name	Section	Miles
12	Sylvan	A-C	3.26	86	Smithville- Western	F	1.66
14	Kimber	Α	0.75	90	James	A-B	2.15
22	Mechanicsburg- Cedar Valley	B-C,D*-E*	5.45	159	Graber	A-B	2.55
24	Connector	Α	0.19	184	Milltown	Α	0.83
44	Apple Creek	A-B	3.60	187	Fountain Nook	A-B	2.14
49	Messner	Α	1.15	201	Hoy	A-B	2.82
54	Honeytown	A-G	7.77	204	Clark	A*-B	1.93
76	Valley	В	0.32	228	Willow	В	1.31
77	Moreland	A-C,E*	4.58	359	Secrest	B-C	1.66
	Total 44.12						

#### \* - Partial Section

- Deficient guardrail was replaced at several locations along county roads in 2010. Also, guardrail was installed at several locations which were unprotected. The project was federally funded at a total cost of \$245,120. Lake Erie Construction Company from Norwalk, Ohio was the prime contractor.
- The Wayne County Engineer's Office also assisted the Baughman Township Trustees on an Ohio Public Works project for improvements to T.R. 299 (Huprick Road). Development of construction plans and assistance in acquisition of right-ofway, preparation of bidding documents, contract administration, and construction inspection was provided by the Engineer's office. The project included the reconstruction of approximately 0.37 mile of roadway north of C.R. 29 (Back Massillon Road). The total cost of the project, which included engineering, right-of-way acquisition, and construction was \$322,265. The project was financed by Ohio Public Works funds (\$161,133), Baughman Township (\$151,004), and Wayne County (\$10,128). Terra Valley Excavating from Bellville, Ohio was the prime contractor.

# HIGHWAY MAINTENANCE REPORT

#### SNOW AND ICE CONTROL

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

	WINTER 2007-08	WINTER 2008-09	<u>WINTER</u> 2009-10
Salt & Cinders (Tons)	11,364	9,924	10,006
Labor	\$219,128	\$189,336	\$184,602
Equipment	131,055	114,020	191,191
Material	<u>154,397</u>	<u>198,483</u>	200,383
Total	\$504,580	\$501,839	\$576,176

#### WEED AND BRUSH CONTROL

In 2010, 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

2010	2011 - Tentative
2 Single-Axle Dump Trucks	2 Pickup Trucks
2 Pickup Trucks	1 Tractor w/Mower
2 Minivans	1 Grader
1 Wheel Loader	

## 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 2010, all sections were reevaluated.

Permits were issued for the following:

71 Drive Pipes

74 Road Bores

37 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 5 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	406	567	488	1,309	344	563
Bridges, 10' Span or Greater	223	295	291	332	313	492
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).
- 240 On county roads.
- 224 On township roads.
- 492 Total bridges for inspection.

#### 2) GENERAL DATA FOR COUNTY INSPECTED BRIDGES

- 128 Too narrow (less than 20').
- 44 Posted load limits.
- 57 Structurally deficient.
- 125 Functionally obsolete.

#### 3) OTHER 2010 BRIDGE FACTS

Average age for 438 bridges with a recorded year built is 41.5 years - useful life is considered to be 50 years. For the other 54 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 492 bridges on county and township roads, and extensions of those roads through municipalities.

#### INSPECTION

Annual inspections for 492 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 45 bridges were submitted to ODOT in 2010. The ratings performed resulted in the posting of load limits on 5 bridges (formerly not posted) and the posting of revised limits on 4 bridges.

#### MAINTENANCE

Maintenance work by county forces was performed on 10 bridges in 2010. Repairs ranged from patching decks to replacing damaged guardrail.

# BRIDGE REPORT Continued

#### CONSTRUCTION

Three (3) bridges were replaced and 3 bridges were rehabilitated in 2010.

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 6.9 bridges per year has been replaced over the past 10 years.

#### THE FOLLOWING BRIDGES WERE REPLACED IN 2010:

- on Shreve Eastern Road in Franklin Township. Age 83 years, 23' span, 26.0' wide, single span concrete slab bridge was replaced with a 12' span x 7' rise x 60' length precast reinforced concrete box culvert by V. O. Menuez & Son, Inc. from Millersburg, Ohio. Funds from the Ohio Public Works Commission and local monies financed the project at a cost of \$139,367.
- WAY 51-1.34 on Canaan Center Road in Wayne Township. Age unknown, 21' span, 19.9' wide, single span steel beam bridge was replaced with an 18' span x 6' rise x 54' length precast reinforced concrete box culvert by V. O. Menuez & Son, Inc. from Millersburg, Ohio. Funds from the Ohio Public Works Commission and local monies financed the project at a cost of \$132,158.
- WAY 54-0.61 on Honeytown Road in Wayne Township. Age 46 years, 169" span  $\times$  105" rise  $\times$  50' length corrugated metal pipe arch culvert was replaced with a 12' span  $\times$  5' rise  $\times$  66' length precast reinforced concrete box culvert by county forces. Local monies financed the project.

# BRIDGE REPORT Continued

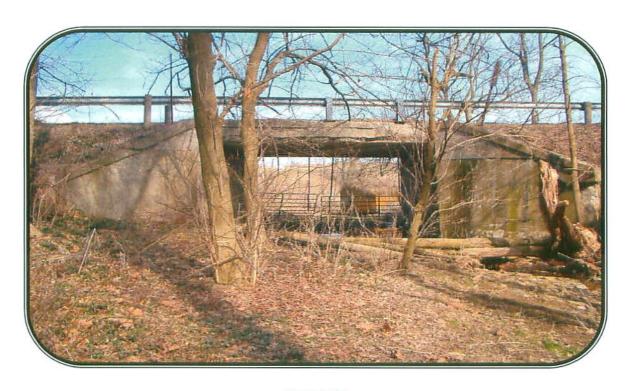
#### THE FOLLOWING BRIDGES WERE REHABILITATED IN 2010:

- CAN 48-4.80 on Pleasant Home Road in Canaan Township. Removal of existing concrete slab superstructure. Replaced with new concrete beam superstructure. The work was done by county forces.
- SUG 151-0.86 on Davis Road in Sugar Creek Township. Removal of existing concrete jack arch deck and steel beam superstructure. Replaced with new steel beam superstructure and timber deck. The work was done by county forces.
- SUG 188-4.23 on Hackett Road in Sugar Creek 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 2010:

SUG 151-0.86 on Davis Road in Sugar Creek Township.

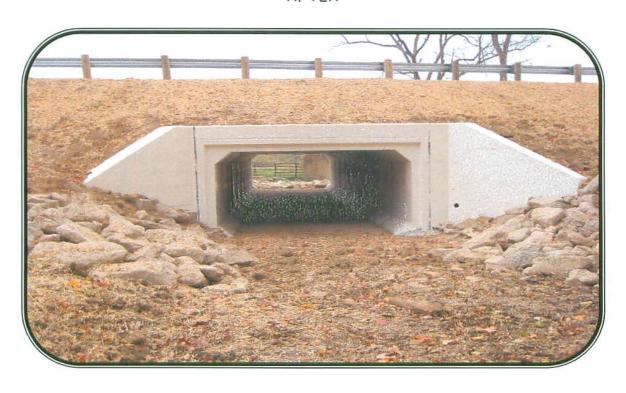
SUG 188-4.23 on Hackett Road in Sugar Creek Township.



BEFORE

#### SHREVE EASTERN ROAD BRIDGE REPLACEMENT (FRA 8-0.71)

AFTER

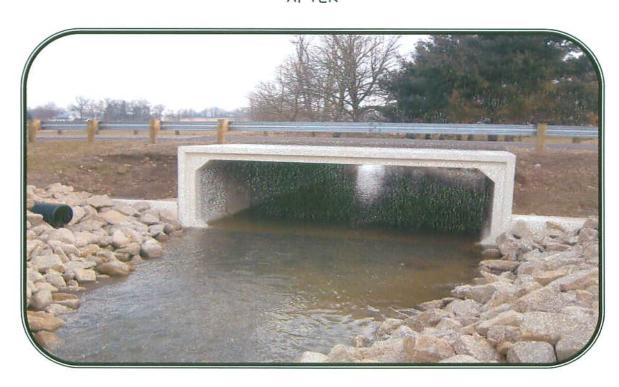


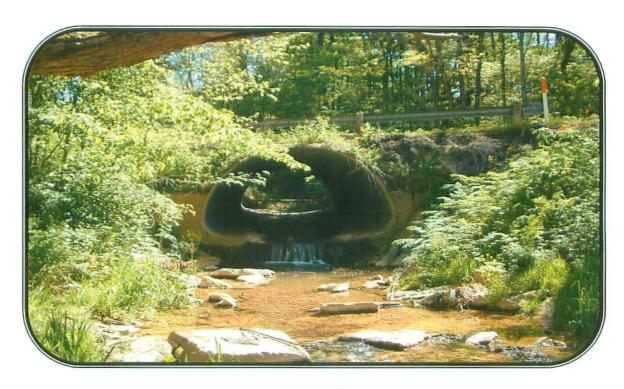


BEFORE

### CANAAN CENTER ROAD BRIDGE REPLACEMENT (WAY 51-1.34)

AFTER

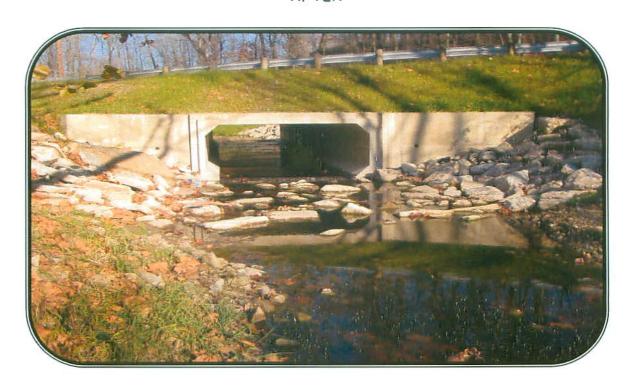




BEFORE

#### HONEYTOWN ROAD BRIDGE REPLACEMENT (WAY 54-0.61)

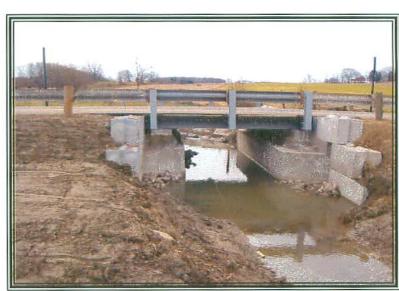
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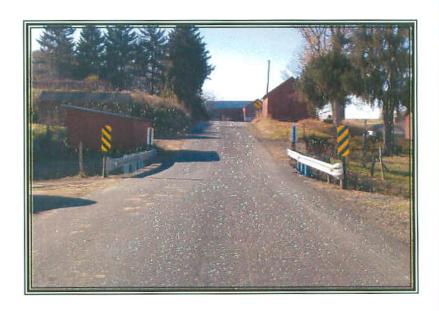
PLEASANT HOME ROAD BRIDGE REHABILITATION (CAN 48-4.80)



DAVIS ROAD BRIDGE REHABILITATION (SUG 151-0.86)



HACKETT ROAD BRIDGE REHABILITATION (SUG 188-4.23)



## TRAFFIC CONTROL

The primary responsibility of our traffic control staff is the inspection and maintenance of over 8,500 road signs. To accomplish this, we continually and systematically inspect signs along nearly 500 miles of county roads and at over 200 bridges on township roads. Under a recent FHWA mandate, Wayne County is required to establish a sign inventory and inspection process by 2012, replace all warning, regulatory, and guidance signs not meeting minimum retro-reflectivity standards by 2015 and to upgrade all green road name signs by 2018. In response, the County Engineer's Office adopted one of the sign inspection and inventory methods approved by FHWA for public agencies in March 2010. Also, we began in 2010 a program intended to bring our yellow, white, and red signs in our inventory into substantial compliance by 2012.

As Wayne County cannot justify the cost of equipment and spare parts needed to maintain our traffic signals and flashers on Back Orrville Road, Canal Road, East Lincoln Way, and Smithville-Western Road; we employ a local contractor to service these installations as needed. In 2010, McClintock Electric's service calls totaled \$2,625.

Due to budgetary limitations, the longitudinal pavement marking program was scaled back for 2010. Markings included; 190 miles of center lines, 176 miles of edge lines, and one mile of lane lines. Aero-Mark, Inc. of Streetsboro, Ohio, performed this work at a total cost of \$100,572.

The auxiliary pavement marking program for 2010 included the painting of 55 railroad crossing symbols, 26 "SCHOOL" words on the pavement, 58 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 \$16,961.

## SUBDIVISIONS

Construction of public improvements in the following subdivisions was inspected by personnel of the Wayne County Engineer's Office in 2010:

Jackson Heights Allotment: Wooster Township

Reflecting the downturn in the rural residential housing market, no new public streets were accepted by the Board of Wayne County Commissioners in 2010.

## 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 2010, there were approximately 60,105 tax parcels in Wayne County. There were 3,231 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 3,889 plats of allotments, subdivisions and annexations. There are also 25,657 surveys dating back to 1815 kept on file.

In 2010, 210 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 2010, receipts from the sale of prints amounted to \$1,254.

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 2011 on several projects that are now in the design stage along with other 2011 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

COUNTY ROADS

STATE ROUTES TOWNSHIP ROADS -

