



Issue No. 15

The Benchmark

April 2006

2005 Annual Report of the Condition of Roads, Bridges & Culverts in Richland County, Ohio

Engineer's Message . . .

We had a really chilly start to 2005 when Richland County was hit with, quite possibly, the worst ice storm ever in this area. While the northern half of the county was hit a little harder than the southern half, damage was extensive everywhere. While we have managed to clear most of the fallen limbs and trees from our roads and rights of way, one can still see a tremendous amount of fallen timber in the woodlands beside our roads. Work clearing the damage from this ice storm resulted in our highway department expending \$170,904 in labor and machinery through May 31st. We still have some more cleanup in progress. So, with the added expense of this ice storm, 2005's cost in snow and ice control resulted in the 2nd most expensive winter in the last eleven years—\$695,019. While very high, this amount still boils down to a cost of but \$5.52 per person in Richland County, a cost most would agree is a very reasonable amount to keep county roads open all winter long.

One of the area's big news stories in 2005 resulted when it became known that Wal-Mart had acquired land on Possum Run Road (just south of the Cracker Barrel) and was planning to build a "super" store there. For many years, I had been working with ODOT, Washington Township, the Richland County Regional Planning Commission and others to bring about a badly needed improvement for access to Possum Run Road at its northern junction with SR 13. When the Wal Mart story broke, the improvement I had been planning took a big jump in size and scope. The existing Possum Run/State Route 13 junction could in no way handle the increase of thousands of motorists who would need a simple way to access the new store. Likewise, the originally planned connector road would also be totally inadequate. Plans had to be completely revised to accommodate the projected traffic to Wal Mart. Wal Mart did agree and has paid for these increased costs.

As this highway improvement now involved Richland County, the City of Mansfield, ODOT, Washington Township, Regional Planning, property owner, Tom Peterson, and, of course, Wal Mart, negotiations to arrange funding were quite complicated. In spite of a completely erroneous front page newspaper story (while I was still in the midst of negotiations) which said that Richland County most likely was going to get stuck with \$480,000 of unanticipated costs, I was able to conclude the financial arrangements as follows:

Richland County and the City of Mansfield	\$ 193,300 (each)
Washington Township	\$ 12,000
Thomas Peterson	\$ 125,000
ODOT	\$ 300,000

Thomas E. Beck, P.E., P.S.
Richland County Engineer

*This report is prepared by
the Richland County
Engineer
as directed by Section 5543
of the Ohio Revised Code.*

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The Benchmark
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Engineer's Message (continued)

Regional Planning STP	\$ 384,026
Wal Mart	\$ <u>818,000</u>
Total Project Cost	\$2,025,727

Since some final paving and finishing work remains for spring, these figures, while not final, will not change significantly. Although negotiation complications resulted in the project starting rather late in the year, we managed to get the rearranged roads open to Wal Mart by the end of 2005.

This view, taken from the west side of SR 13 looking east shows finishing work being done on the new connector road between SR 13 & Possum Run Road. The Wal Mart store is in the background.

Our bridge program, largely supported by grants, was smaller than usual in 2005 as we were devoting a lot of our planning effort to the Possum Run and the South Illinois Avenue railroad overpass project. Nevertheless, we did complete five replacement/major rehabilitation of bridges this year. In 2006, our bridge program will again be in full swing and we are looking at about 12 new bridges. Since my taking office, we have replaced 150 failing or inadequate bridges on county/township roads.

In addition to the major road projects previously mentioned, I'm pleased to report that our experienced highway department crews stayed very busy with a great variety of road maintenance work which is outlined in detail in the following pages.

You will note that we did chip and seal pavement maintenance on 98 miles of county roads during 2005. This, as in 2004, is another increase to that which we have been doing, the reason being the loss of county sales tax dollars which we had been receiving from the County Commissioners for five years which had enabled us to overlay 155 miles of roads during that period. Since grant money for routine overlaying of roads is virtually nil, we completely depend upon funding from the Commissioners to handle our overlay projects. As this million dollars a year from the sales tax revenue is no longer available, we are doing a lot more "patch and make do" repair work to keep our rural roads serviceable.

Engineer's Message (continued)

2006 will see construction begin on the long awaited and badly needed railroad overpass on South Illinois Avenue. This will be one of the largest construction projects with which the County Engineer's Office has been involved since I've been Engineer.

*These photos show the
Bridge Crew "having
fun" assembling an
aluminum box culvert
for bridge replacement
on Amstutz Road*

Engineer's Message (continued)

Shown below is a photograph of the historic steel truss bridge on Benedict Road, down near Butler. The approaches and guardrail will be completed as soon as weather permits this spring and the bridge, first constructed around 1900, will be ready to handle traffic for another 75 to 100 years. As it is one of the few remaining bridges of this type in our county, it was restored, as nearly as possible, to its original form. In this process, the bridge was disassembled and hauled to an Ohio Bridge Co. location where it was inspected and restored as needed. Then the entire bridge was galvanized. Drive down there and take a look at it some nice day. It's too bad that the historic old mill, just a few yards from the bridge, has not been saved and restored. It, unhappily, is in the process of falling completely apart.

*Here is the restored 105 year old steel truss bridge on Benedict Road.
It is galvanized, now, so it may well see the turn of the next century.*

Perhaps because the work there is not as exciting as new highways and bridges, our Tax Map Office doesn't get in the news very often. It, however, is a very busy place. Currently, it is being brought into the 21st century with upgrades putting a lot of the stored and filed paperwork into our computer system. One of our computer-aided drafting employees, Sheri Myers, has, this past winter, been adding to her workload by scanning Tax Map Office survey plats into the computer. Of an estimated 9,000 or so plats, Sheri has entered roughly 5,000 into the computer system and will, when her regular workload allows, complete the input. The final result will be a big assist to Tax Map Office employees who will now be able, thanks to computer magic, to almost instantly pull up a particular survey plat.

We have 350 miles of roads and 365 bridges to maintain. Contained in this report is information concerning the fiscal, material and personnel management involved in the maintenance and improvement of these components of our County's transportation infrastructure. We continued to make good progress during 2005 thanks to professional planning and supervision by my staff and skilled and dedicated work from an experienced Highway Department work force.

Road Maintenance

Following is a list showing the many categories involved in our road maintenance program with a yearly cost associated with each item (costs include personnel, machinery and material). All figures involve only work done by our highway department. Contracting costs will be discussed separately.

General Road Work

Grading	\$ 2,981	Pile Materials	\$ 7,040
Rebuild Base	\$ 6,384	Haul Gravel / Dirt	\$ 135,585
Asphalt Work (\$389,144)		Miscellaneous (deer/dogs)	\$ 3,720
Wholesale Patching	\$ 38,785	Repair / Replace Mailboxes	\$ 2,621
Spot Paving	\$ 221,857	Choking Roads	\$ 20,055
Hand Patching	\$ 80,923	Drainage (\$273,410)	
DuraPatching	\$ 32,332	Ditching	\$ 80,028
(includes cracksealing)		Let Water Off Roads	\$ 8,703
Sweeping	\$ 3,175	Culverts (\$80,430)	
Vegetation Control (\$459,373)		Install	\$ 5,029
Spraying	\$ 1,216	Replace	\$ 59,078
Cut Brush & Trees	\$ 231,625	Repair	\$ 8,364
Mowing	\$ 226,532	Maintain / Clean / Flush	\$ 3,107
Berms (\$83,362)		Extend	\$ 4,852
Cut Berm	\$ 13,526	Drivepipes (\$47,288)	
Widen/Build Berm	\$ 63,361	Install	\$ 24,213
Erosion Control	\$ 6,475	Replace	\$ 21,195
Clean Road ROW & Ditches	\$ 36,216	Extend	\$ 1,880
Bank Removal	\$ 20,165	Yard Tile (\$35,791)	
(safety - improve visibility & reduce snow drifting)		Install	\$ 32,494
Snow & Ice Control (\$695,019)		Replace	\$ 931
Plowing / Salting	\$ 656,102	Repair	\$ 762
Pile / Mix Salt & Grit	\$ 13,084	Maintain / Clean / Flush	\$ 1,604
Loading	\$ 4,357	Catchbasins (\$21,170)	
Haul Salt	\$ 11,905	Install	\$ 8,371
Haul Grit	\$ 17,942	Replace	\$ 6,035
Install / Remove Plows	\$ 1,629	Repair	\$ 2,808
		Maintain / Clean Flush	\$ 2,799

Road Maintenance (continued)

Replace Grates (catch basins)	\$	1,157
Guiderail (\$4,781)		
Install	\$	1,120
Replace / Repair	\$	2,555
Maintain / Paint	\$	1,106
Inspection—Construction	\$	25,242
Vehicle Repair Garage (74% of a total of \$302,757)	\$	224,040
Miscellaneous (74% of total of \$258,632)	\$	191,387
In-house Engineering Staff Work	\$	63,879
(that portion of staff work devoted to roads of a total of \$249,366)		
TOTAL FOR ROADS	\$	2,647,579

Note: Miscellaneous includes the following:

Maintenance—Building & Grounds	\$	14,557
Maintenance—Equipment (in addition to that done by Vehicle Repair Shop)	\$	28,680
Moving & Positioning Equipment	\$	11,724
Special Projects	\$	37,861
Sign Work (install / maintain)	\$	44,962
Welding Shop	\$	49,843
Supervision—Various for road / bridge totals	\$	71,005

Note: In-house engineering staff work includes:

In-house Engineering Staff work* (involving design, drafting, surveying, hydraulics, utility coordination, CAD drafting, environmental, right-of-way, contract preparation and grant and non-grant administrative work) on a variety of future projects is conducted on both road and bridge projects. Of the total, the amount devoted to roads was \$63,879 and that for bridges was \$185,487.

* a good bit of the expenditure of this design work is reimbursable from the grant monies devoted to the various construction projects.



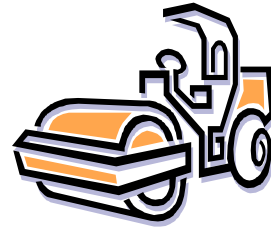
Before and after shot of bridge replacement on Tugend Road. Not only a lot safer, now, but will also easily handle largest of farm equipment.

A four-sided pre-cast concrete box culvert used for bridge replacement on Renie Road

Road Maintenance by Contract

One major contract involved a redesigned/improved access from SR 13 to Possum Run Road. In spite of many complications and problems resulting from the intricate coordination and cooperation necessary for this project among the County, the City, Washington Township and ODOT, construction, although not quite completed when winter set in, proceeded to the point that the rearranged roads and new traffic signals were useable in time for Wal Mart to start business.

Continued improvement of guardrail on county roads continued significantly during 2005, thanks to a safety grant obtained by the Engineer and his staff. \$220,875 work of repair and/or replacement of guardrail was completed in 2005.



Paving

Since loss of the one million dollar portion of the 1/2% sales tax, which for five years had been provided by the County Commissioners, asphalt paving in 2005 was severely curtailed. As a consequence, spot paving done by our crews doubled over that done last year.

Seal Coat (chip & seal) - Again, without a share of the 1/2% county sales tax which we had received from the County Commissioners the last five years, we were unable to carry out the 30+ miles of paving we had accomplished each year during that time. So, to preserve as much of our hard-surfaced roads as possible with the funding available, we increased our chip and seal program during 2005. We sealed all or parts of the following roads:

Mansfield Lucas	Washington North	Pleasant Valley
Hastings East	Hanley	Cook
Millsboro	Mansfield Washington	Washington South
Hastings Newville	Swigart	Middle Bellville
Lexington Ontario	Adario West	London East
Brenneman	Rome Greenwich	Opdyke
Ankneytown	Bunker Hill South	Wheatcraft
Woodbury	Kings Corners	Linn
Ernsberger	Shiloh Norwalk	Doup
Harlan	Olivesburg Fitchville	Rome South
Plymouth Springmill	Dininger	Hamilton
Harris	Teeter	Darlington West
Broadway	Franklin Church	Myers
Clear Creek	McCurdy	

97.87 miles—\$766,975

Road Maintenance by Contract (continued)

Pavement Marking: No funding was available for pavement marking in 2005, but we expect to acquire grant monies for striping in 2006.

We contracted with local engineering firms for additional design/engineering work we were unable to do in-house:

\$ 258,261

TOTAL CONTRACT EXPENDITURES

\$3,022,111



So, the bottom line on road maintenance expenditures during the past year is:

Work by our employees: \$2,647,579
 Work done by contract: \$3,022,111

TOTAL 2005 ROAD MAINTENANCE EXPENDITURES

\$5,669,690

Bridge Maintenance

Since Tom Beck took office in 1989, 150 bridges have been replaced or undergone major rehabilitations resulting in a like-new bridge. That's the good news. The bad news is that there are another 100 plus bridges which need the same treatment during the next few years. The reason more bridges have not been replaced, of course, is because there is insufficient funding available to do this work. Consequently, approximately 108 of Richland County's bridges still are considered inadequate including 27 narrow bridges and 21 one-lane bridges in our system.

Each of our 365 bridges is inspected annually (critical bridges more often) with results of the 2005 inspections shown below. Inspection standards are established by the state:

Bridge Status as a result of Annual Inspection

<u>Condition</u>	<u>No. of Bridges</u>	<u>Percent (%)</u>
"Fair" thru "Good" & "New"	292	80.0
"Poor"	68	18.6
"Critical"	5	1.4
"Failed" (Closed)	None	

The following table is a summary of bridge load limits.

<u>Load Limit in Tons</u>	<u>No. of Structures</u>	<u>Percent (%)</u>
Over 40	235	64
35-39	8	2
30-34	43	12
25-29	20	6
20-24	22	6
15-19	11	3
10-14	17	4.5
5-9	7	2
Under 5	2	.5
Total	365	100

Bridge Maintenance (continued)

Bridge maintenance, both in-house work and by contract, continued as ambitiously as funding allowed during 2005. Again, staff work resulted in obtaining considerable grant monies for numerous future major bridge projects.

Force Account (in-house) Bridge Work

The following list shows the various categories involved in our bridge maintenance program with a yearly cost associated with each item (costs include personnel, machinery and material). All figures involve only work done by our bridge crews. Contracting costs will be discussed separately.

Complete Bridge Replacement

Renie Road	\$	137,202
Tugend Road	\$	160,114
Amstutz Road	\$	<u>89,000</u>
	\$	386,316

Bridge Inspections (annual)	\$	14,137
Bridge Inspections (construction)	\$	25,112
Miscellaneous (26% of total)	\$	67,244

(see "misc" under "road maintenance" for list of work tasks covered under this category)

Bridge Repair (Major)

Kings Corners	\$	641
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Vehicle Maint. Garage	\$	78,717
(26% of total)		

Bridge Repair (Minor)

Hamilton	\$	2,904
Plymouth Springmill	\$	923
Stein	\$	256
Shelby Ganges	\$	9,574
Trease	\$	<u>7,716</u>
	\$	21,373

Additionally, we did in-house engineering staff work (involving design, drafting, surveying, hydraulics, utility coordination, CAD drafting, environmental, right-of-way and contract preparation on future bridge projects) totaling: \$ 185,487

**TOTAL IN-HOUSE
BRIDGE WORK \$ 806,721**

Bridges—Maintain

4 bridges	\$	2,616
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Bridges—Underpinning	\$	0
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Bridge Channel Protection

3 bridges	\$	1,744
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Bridge & Approach Guiderail

10 bridges	\$	18,548
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Bridge Debris/Log Jam Removal

7 bridges	\$	4,786
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BRIDGE WORK BY CONTRACT

Bridge Replacement / Major Rehabilitation
Two by contract in 2005.

Chesrown Road / J & J Schlaegel	\$189,484
Benedict Road / Ohio Bridge	<u>\$653,859</u>

TOTAL \$843,343

Contracted bridge design / engineering work we were unable to handle: **\$ 61,552**

(includes soil boring and concrete & asphalt testing)

TOTAL 2005 BRIDGE EXPENDITURES

Total In-house Bridge Work	\$ 806,721
Total Contract Bridge Work	<u>\$ 904,895</u>
Total	\$1,711,616

GRAND TOTAL ROAD & BRIDGE INVESTMENT IN 2005

Roads	\$	5,669,690
Bridges	\$	<u>1,711,616</u>
Total	\$	7,381,306

**REVENUE**

While most of the Engineer's local working revenue comes from a portion of license plate fees and gasoline taxes, industrious pursuit of grant money by the Engineer and his staff during 2005 resulted in a most significant acquisition of grants. Grants typically are obtained from the Ohio Department of Transportation, Ohio Public Works Commission and the Governor's Office of Highway Safety.

**TRAFFIC CONTROL DEVICES**

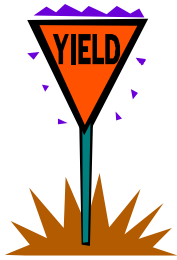
The County operates but one traffic signal—at the Millsboro and Lexington-Springmill roads intersection. We also have school zone warning signs and flashers on Crider Road and South Illinois Avenue. Maintenance on these signals is contracted out.

SIGNS

We currently have 7,811 signs on our rural road system. Most of these are on county roads, but we install and maintain bridge-related signs on township roads. There are about 95 various types of signs used by the County. The sign inventory summary looks like this:

Warning signs	4,347
Regulatory signs (of which, 626 are stop signs)	1,785
Bridge-end marking signs	1,180
Road name signs	482
Miscellaneous	<u>17</u>
	7,811

Thanks to grant dollars, as well as an increase in sign expenditures from our own budget, we have steadily changed the quality of signs we install. Formerly, almost all of our signs were rated "Engineer Grade" in reflectivity. Now, we are regularly installing signs rated "High Intensity." These high intensity signs are visible from a greater distance, particularly at night. We are confident that these new sign installations will result in significant safety improvement on our County road system.



RAILROAD CROSSINGS

Railroad tracks cross country roads in 22 locations. At one of these locations, an overpass takes cars above the crossing. The other 21 locations are at-grade crossings. Of these, 16 are equipped with gates and flashers, 1 has flashers only and 4 have passive warnings (crossbucks). Gates and flashers are maintained by the rail companies under the supervision of the PUCO. The County maintains railroad advance warning signs and railroad pavement markings. It is noteworthy that during Tom Beck's term in office, all major railroad grade crossings on county roads have been equipped with gates and flashers. The 4 which remain passively guarded are all crossings over the lightly used Ashland Railway.

Currently, we have one more possible railroad crossing safety initiative underway which, if consummated, (depends upon our success in obtaining a grant), will further enhance crossing safety in our county. This project involves eliminating a grade crossing on Bistline Road (a township road) by constructing a new, short modification to Bistline which will route traffic to a nearby grade crossing on Plymouth-Springmill Road where there are gates and flashers in place.

And then there is the big one—this being the South Illinois Avenue railroad overpass which will be of great significance to motorists both because of the safety enhancement involved and because it will make driving on South Illinois Avenue swifter and ever so much smoother. This project will carry traffic above the current 6-track, very bumpy grade crossing. Planning and engineering on this project is pretty much completed and should go out for bid late this spring. Construction should commence this year.

*Southbound on SR 13—in left turn lane at traffic signal waiting to
turn left onto the new connector road to Possum Run Road*

*Heading east on the new connector road to Possum Run Road -
Top of the Wal Mart store is visible beneath the traffic signals on Possum Run*

Contact: Gene Del Greco at gdelgreco@rcengineer.com

Comments and suggestions for the site are welcome.



The site also features information on upcoming bids, permitting regulations, downloadable county highway maps and links to a number of other transportation and government resources.

<http://www.rcengineer.com>

All of this and more can now be found at the Richland County Engineer's website. It can be reached at:

Want to know how to contact the Engineer's Office?

Interested in what projects the County Engineer has up for the new construction season?

Want to find out about the latest road closures?

THE BENCHMARK

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