



2020 Annual Report

Ashland County Engineer's Office & Highway Department

Ashland County Commissioners
Ashland, Ohio 44805

March 10, 2021

Your Honorable Body:

This report from the Ashland County Engineer is in accordance with Section 5543.02 of the Ohio Revised Code and provides information as to the condition of Ashland County's roads, bridges, and culverts. It outlines the work performed in 2020 to improve and maintain our roadways and the associated costs. This report also estimates the probable amount of funds required to maintain and improve any roads, bridges, or culverts in 2021. All monetary figures are rounded to the nearest dollar. The Ashland County Engineer will clarify or provide any additional information that may be requested.

Respectfully submitted,

Edward J. Meixner, PE, PS
Ashland County Engineer

Staff:

Ryan Athy, Assistant Engineer
Kelly Hickey, Administrative Assistant
Guy Keener, Construction Coordinator
Becky Schaly, Engineering Assistant
LynAnn Spoerr, Tax Map Supervisor
Mark Stauffer, Highway Superintendent
Mike Weber, Highway Superintendent
Ernie Weiler, Tax Map Technician

Contents	
Bridges	2-3
Culverts	4
Roads	5-7
Equipment	7-8
Buildings & Grounds	8
Personnel	8
Tax Map	8
Financial Information	9-10

Bridges:

2020 EXPENDITURES: \$570,706 2021 PROJECTED EXPENDITURES: \$500,000

The Ashland County Engineer is responsible for maintaining bridges or “structures” spanning 10 feet or more on County or Township Roads within Ashland County. In the event the structure is on a road forming a county boundary the maintenance costs are shared by Ashland County and that particular county.

The program for caring for these structures includes annual inspections and data analysis. In 2020, Guy Keener of the Ashland County Engineer’s Office inspected the 233 structures under our care. Since 1973, this thorough on-site review of the structural and functional elements of each of our bridges provides the data needed to monitor and assess the health of our bridges. Following inspection, a numeric condition rating is assigned to each bridge: 0=“closed” to 9=“new, excellent”, as well as sufficiency rating that incorporate a public safety factor. Together the condition and sufficiency scores provide indications of relative bridge condition and public safety risk and are used to plan maintenance and improvement projects. This data is also submitted to ODOT.

BRIDGE CONDITION RATINGS	
Condition	# of bridges
OUT OF SERVICE	0
IMMINENT FAILURE	0
CRITICAL	0
SERIOUS	2
POOR	10
FAIR	25
SATISFACTORY	48
GENERAL GOOD	57
VERY GOOD	81
NEW	10

BRIDGE SUFFICIENCY RATINGS	
(DOES NOT INCLUDE BORDER BRIDGES)	
Sufficiency Rating	# of Bridges
< 50%	10
50% - 59%	5
60% - 69%	15
70% - 79%	14
80% - 89%	56
90% - 100%	122

*Sufficiency rating is a measure of the condition of the bridge and includes pavement conditions, bridge conditions, geometric adequacy and accident rates.

Bridge Work Completed – 2020:

County workers performed routine maintenance and repair work on 32 bridges throughout the county. That work consisted of beam patching, deck repair, debris removal, washing, erosion control, and scour countermeasures. The cost of this work done by force account was \$17,220.

BRIDGE FORCE ACCOUNT WORK - 2020

Bridge projects estimated to be under \$100,000 can be undertaken by the Ashland County Highway Department work force. The following structures were rebuilt in 2020 using County resources.

Structure	Township	Plan	Cost
30A-1080	Vermillion	New Beams	\$87,424
126-1571	Ruggles	Replace	\$55,047
1802-600	Vermillion	New Beams	\$114,670
2156-1111	Mifflin	Replace	\$44,130

POSTED BRIDGES

Following inspection, a bridge considered unable to carry a legal load is marked with a sign identifying the load it can bear. This is known as "Posting" a bridge. It is illegal to cross a posted bridge with a load above the posted weight.

Township	Structure	Posted Weight	Township	Structure	Posted Weight
Mifflin	1808-1345*	20	Perry	13-1210*	15
Montgomery	1356-1021*	35			

* Border bridges *City Bridge

Township	Structure	New Load Limit
Clear Creek	658-1340	6+ axle – 31 tons
Green	2654-800	3 axle – 23 tons
Hanover	3275-1050	4 axle – 26 tons 5 axle – 27 tons 6+ axle – 28 tons
Mohican	175-1960	5 axle – 29 tons 6+ axle – 29 tons
Montgomery	1600-720	3 axle – 23 tons
Perry	1550-50	2 axle – 12 tons 3 axle – 14 tons 4 axle – 14 tons 5 axle – 16 tons 6+ axle – 18 tons 18 Wheeler – 25 tons
Sullivan	281-110	4 axle – 25 tons 5 axle – 27 tons 6+ axle – 28 tons
Vermillion	585-2060	4 axle – 25 tons 5 axle – 27 tons 6+ axle – 28 tons

Bridges – Outside Funding:

This office continually seeks federal and state funds to finance major bridge projects. Using these funds sets a project on a completion timeline dictated by the funding source. This timeline can be 6 months to 6 years. We will replace Mohican Twp. bridge structure #175-1960 in 2021 using State Exchange Funds administered by ODOT.

Culverts:

2020 EXPENDITURES: \$62,706

2021 PROJECTED EXPENSES: \$60,000

A culvert is described as being any structure with a span less than ten feet. They are installed to allow water courses to flow under county roads. Ashland County maintains 1423 culverts.

MAJOR CULVERT REPLACEMENTS-2020

Culvert work done in 2020 included replacements, extensions, and general repair. Eleven culverts were replaced. The major culvert projects and their costs are listed in the table below.

Culvert	Township	Description	Cost
795-3	Vermillion	64"x43"x40' 60" Plastic	\$11,102
801-23	Orange	74"x46"x32' CMP 73"x55"x40' CMP	\$13,719
2175-13	Vermillion	57"x38"x40' CMP 48"x40' Plastic	\$9,174

Proposed Culvert Work - 2021:

Each year we determine which culverts to replace by considering condition and/or length (short lengths limit road width.) Currently, there are plans to replace two culverts in 2021.

MAJOR CULVERT REPLACEMENTS PROPOSED-2021

Culvert	Township	Existing / Planned Replacement	Estimated Cost
1975-12	Mohican	36"x37' cast iron 36"x40' plastic	\$10,000
30A-12	Vermillion	30"x74' corrugated metal 30"x80' plastic	\$15,000

Roads Section:

2020 EXPENDITURES: \$2,715,965 2021 PROJECTED EXPENSES: \$5,500,000

Maintaining the usability, safety, and stability of the county road system consumes the greatest amount of resources by employees of the Ashland County Engineer's Office and Highway Garage.

To be usable, roads must be kept clear of obstructions so we plow snow, distribute salt; remove debris, patch, seal, and pave. To increase safety, roads must be well marked and have appropriate signs and sight distance so we paint the pavement, install signs, mow, and clear brush. For roads to remain stable, water must drain away from them so we can clean out culverts and maintain ditches. To accomplish all these things, equipment is purchased and maintained. To track and analyze our costs and to plan our future activities, all the work is documented. The following sections itemize the maintenance activities undertaken in 2020 and our plans for 2021.

Paving

In 2020, 9.73 miles of road were paved with 1½" hot mix asphalt by Sarver Paving Co. at an expenditure of \$754,980 for a cost of \$77,593 per mile. The chart below itemizes the roads paved under this contract. Four hundred fifty cubic yards of partial depth pavement repair of County Road 700 was paved with 1½" hot mix asphalt, Sarver Paving Co. completed this work under the same contract at a cost of \$94,031. Total contract cost \$849,011.

Road	Mileage	Begin	End
CR 801	4.717	SR 58	CR 500
CR 1775	5.013	SR 60	CR 30A
CR 700	450 cu. Yds.	SR 89	CR 175

In 2020, we continued the practice of paving with cold mix asphalt followed by a chip seal. 8.304 miles of road received this treatment by Melway Paving Co. at an expenditure of \$723,380 for a cost of \$87,112 per mile. The chart below itemizes the roads paved under this contract.

Road	Mileage	Begin	End
CR 795	.77	CR 30A	CR 1904
CR 1904	1.489	SR 511	CR 795
CR 2404	2.565	CR 2175	SR 60
CR 739	.687	SR 3	Knox County Line
CR 2175	2.793	CR 775	SR 60

A spring assessment will determine the paving to be done in 2021.

Sealing

Sealing roads extends the life of the pavement and is much cheaper than paving. During 2020, about 7.442 miles of roads throughout the County Road system were chip sealed by Melway Paving Co. using Ashland County materials. Melway Paving Co. was paid \$19,158 for their labor and used \$91,717 worth of materials. The total cost of the sealing program was \$110,875, which is a cost of about \$14,898 per mile. For 2021, we anticipate sealing close to 50 miles.

Patching

In addition to the contract work done by Sarver Paving Co. and Melway Paving Co., our own workforce spent 1006 man hours in 2020 patching various road sections. The total cost for materials and equipment was \$31,610 to perform this type of work.

Pavement Marking

All roads received new pavement marking during 2020. The roads were marked with centerlines, edge lines, turning lanes, and school zones by JD Striping & Service, Inc. who was paid \$223,872. We plan to repeat this pavement marking program in 2021.

Roadside Maintenance

During 2020, the County Highway Department spent the following amounts maintaining county rights-of-way: Ditching/Sloping - \$64,337; Berming - \$25,405; Road Cleaning - \$6,095; Mowing – \$116,749; Brush Cutting - \$127,138; Spraying - \$3,573. This totals \$343,297 for roadside maintenance.

Permits

Right-of-way permits are issued for work within county road right-of-ways, which includes residential driveways, ditch enclosures, farm field entrances, commercial entrances and utility work. Driveway entrance construction and maintenance are the responsibility of the property owner in accordance with Section 5543.16 of the Ohio Revised Code. During 2020, there were 40 residential driveways; 11 field drives, 18 ditch enclosures; 4 commercial drives; and 38 utility work projects.

Special hauling permits are also issued pursuant to Section 4513.34 of the Ohio Revised Code. All individuals, firms, partnerships, companies and corporations wishing to operate or move a vehicle or combination of vehicles of a size or weight of a vehicle or load exceeding the maximum specified in Sections 5577.01 to 5577.09 of the Ohio Revised Code on any Ashland County maintained highway must obtain a SPECIAL HAULING PERMIT. During 2020, the following permits were issued: 7-construction equipment; 1-annual over width; 1-trip & return (14 days).

Signs

Our Superintendent relies on direct observation and reports from work crews in the field and the public to determine what signs need to be cleaned, reset, or replaced. The Highway Department performs an annual inspection of all signs along county roads which provides an excellent record of the signs' condition. The amount for sign work in 2020 was \$173,473. We anticipate spending \$70,000 for sign work in 2021. The signs are tested each year with a retroreflectometer to determine their effectiveness.

Snow and Ice Control

In 2020, we spent \$257,659 on snow and ice control. The chart below shows the snow and ice control trend for the past five years:

Snow & Ice Control	2015-16	2016-17	2017-18	2018-19	2019-20
# of days with snow	34	32	48	49	40
Inches of snowfall	21.90	31.10	46.30	45.80	17.40
Tons of Salt & Grits used	4,386	5,168	4,181	7,234	4,297
Hours of labor	2,400	2,799	4,222	4,044	2,275

Guardrail

Guardrail is used to prevent vehicles from crashing against solid objects or falling into ravines.

Most of the guardrail work done by our Highway Department is to maintain existing guardrail or install new guardrail in conjunction with paving, widening, or bridge projects. When time and money allow, we install or upgrade guardrail in various locations.

In 2020, we spent \$2,789 for guardrail maintenance and installation done by our work force. In addition to the outside funds spent on the contracted project, we expect to spend about \$5,000 for guardrail work done by our work force in 2021. We are using federal safety funds administered through ODOT to replace and install guardrail in various locations. The contract work for this work will be completed by Lake Erie Construction Co. for \$266,975.00.

Equipment:

A total of \$837,707 was spent purchasing and servicing the equipment used to maintain the county road system. For 2020, we purchased 2 new Freightliners - \$200,720; 1 new Kobelco excavator - \$106,170; 1 new Ford pickup truck - \$28,643.

Equipment Maintenance-2020			
\$502,174			
Parts	Labor	Outside Service	Fuel
\$147,962	\$76,567	\$210,268	\$67,377

Buildings and Grounds:

The Ashland County Highway Department maintains three physical locations: the main garage and office building at 1511 Cleveland Avenue; a mixing plant on Simanton Road; and a garage outpost at 991 CR 2796 in Perrysville.

Routine maintenance projects carried out by our work force totaled \$4,844. An additional \$29,487 was paid for utilities bringing the entire amount paid for maintaining the Engineer’s work and office space in 2020 to \$34,331.

Personnel:

During 2020, there were changes in personnel working for the Ashland County Engineer:

Engineer’s Office: There were no changes in the Engineer’s Office in 2020.

Highway Department: The Highway Department had five employees resign in 2020, and one was promoted to Highway Superintendent. Replacements are currently being interviewed and hired.

General Fund Activities-Tax Map:

Surveys and deeds are reviewed in the Tax Map Office to assure they meet state law and local regulations. These are then used to provide the County Auditor with detailed maps used to assess property taxes. The requirement that an Ohio County Engineer be a professional surveyor assures that the staff has appropriate guidance to fulfill these duties. The chart below itemizes some of the activities of the Tax Map Office.

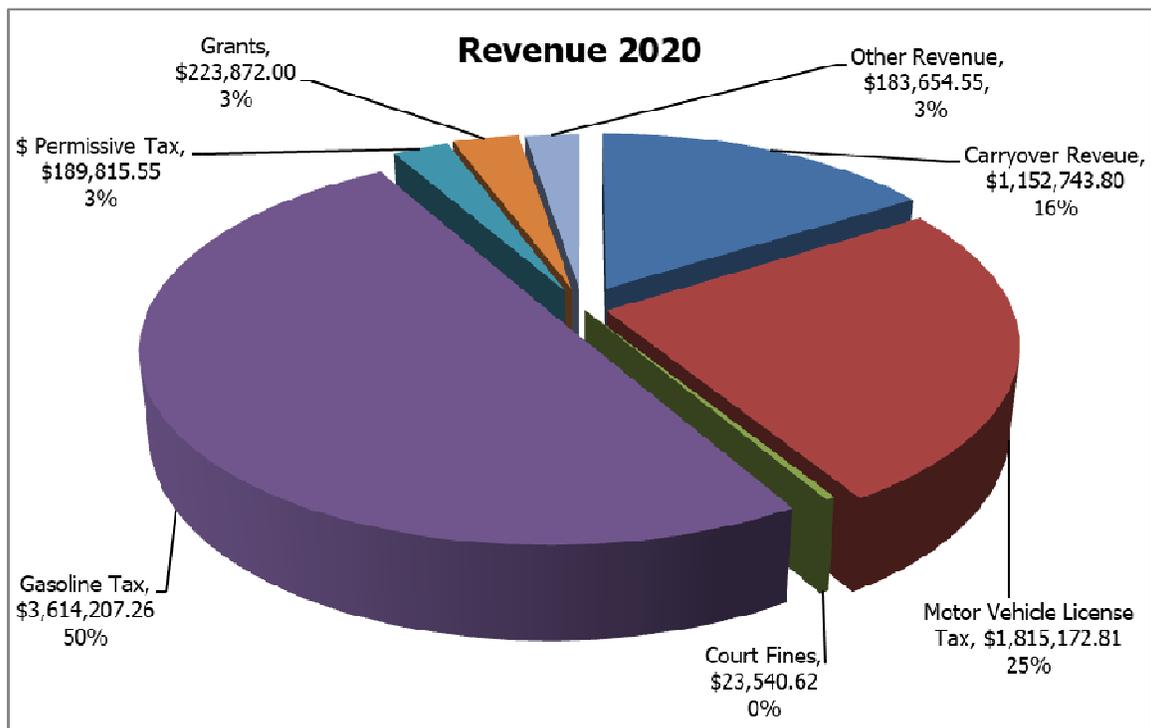
TAX MAP DATA - 2020			
Deed Transfers	2,189	Surveys reviewed/approved	182
New Parcels transferred by deeds	174	New Parcels surveyed (created by survey docs-not necessarily transferred)	243

Financial Information for 2020:

As the chart on the next page indicates, 50% of revenue is received by the Engineer's office is gasoline tax. This tax is applied per gallon creating a direct correlation between gasoline consumption and the amount of gasoline tax collected. Distribution of the gasoline tax is on a state-wide basis so buying gasoline anywhere in Ohio generates funds for the Ashland County Engineer. All 88 counties in the State of Ohio receive the same share of Gasoline Tax regardless of population, geographic size or amount of road miles.

Providing 25% of revenue is the Motor Vehicle License Tax. This tax is assessed when you apply for or renew a vehicle registration. The Ashland County Engineer receives a portion of this tax after the funds are processed by the state. Distribution of this tax is more complicated than the Gasoline Tax. Some of it is distributed to counties based on road mileage and some is distributed to counties, townships, and municipalities based on residence of the person registering the vehicle.

A considerably smaller revenue stream (3%) is generated by the Permissive License Tax. Like the Motor Vehicle License Tax, the Permissive License Tax is assessed when you apply for or renew a vehicle registration. This tax is distributed to counties based solely on the residence of the registrant.



As the chart below indicates, 16% of the expenses are for Materials, 21% for Payroll and Benefits, 31% is Carryover to 2021, 25% for Projects, 3% for Contract Repairs/Services, 4% for Highway Equipment.

