NOBLE COUNTY ECONOMIC DEVELOPMENT STRATEGIC PLAN

Prepared for: Noble County

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Executive Summary

This report, developed by Ohio University's Voinovich School of Leadership and Public Affairs, investigates strategies to enhance economic development for Noble County, Ohio as requested by the Ohio State University Extension Office in Noble County. This "Economic Development Strategic Plan" was funded by the U.S. Economic Development Administration (EDA) and the Appalachian New Economy Partnership, a program of the Ohio Department of Higher Education and the State of Ohio.

Noble County has seen population stagnation over the last two decades, as well as overall decline in working age adults and school enrollment. Over 46% of Noble County's population is 55 or older. Additionally, the labor participation rate of only 39% in the county lags behind the state's rate of 63%. The availability of quality housing is limited, which restricts Noble County's ability to address this population decline and boost school enrollment by attracting middle-class families. Additionally, the closure of MAHLE Engine Components in 2009 resulted in 190 direct job losses and hundreds of indirect job losses as the automotive industry declined in Noble County. Subsequently, oil and gas production and transportation has become Noble County's top industry.

Noble County has key decisions to make to stabilize and ultimately reverse this population decline and ancillary challenges. This plan specifically recommends five focus areas: 1) Infrastructure; 2) Small Business Support; 3) Flooding; 4) Housing; and 5) Tourism and Outdoor Recreation. Concentrated strategic investment and support of these themes may help capitalize on emerging business opportunities, infrastructure improvements, and ways to retain and attract families to the area. Noble County should focus on implementing the priorities put forth in this plan.

Noble County Economic Development Strategic Plan

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1. Introduction

In 2022, the Extension Educator from the Ohio State University Extension Office in Noble County asked Ohio University's Voinovich School of Leadership and Public Service (GVS) for assistance in updating the economic development strategic plan for Noble County, Ohio. This update would be to a previous plan completed by the team at GVS in July 2019. The research team was in contact with the extension educator starting in April 2022 and work began that same month. The project was funded by the U.S. Economic Development Administration (EDA) program and the Appalachian New Economy Partnership, a program of the Ohio Department of Higher Education and the state of Ohio

The Rural Universities Consortium (RUC) University Center, a partnership between Ohio University and Bowling Green State University, is a designated U.S. EDA University Center. Collectively, the RUC serves 59 rural Ohio counties: 32 Appalachian counties and 27 counties in Northwestern Ohio with direct business assistance services, applied research initiatives, and annual State of the Region Conferences.

This effort proposes several recommendations that were developed through the findings of core research tasks. These tasks included a comprehensive economic scan and workforce inventory, swot analysis with key community stakeholders, community engagement (e.g., public meetings) intended to identify economic development desires, and an analysis of regional industry clusters. We identified several areas for improvement of Noble County's regional economy, which are noted in the executive summary.

2. Existing Conditions & Community Trends

The first task associated with this work involved a demographic and economic scan in order to compile a foundation of solid information on key economic and demographic descriptors (e.g., unemployment rates, income, labor markets, etc.) of Noble County and the surrounding areas.

This section provides the existing population and household trends and characteristics of Noble County and Ohio, including age, educational attainment, school enrollment, and household incomes.

2.1 Population Growth Trends¹

As shown in Figure 1, Noble County's population increased overall from 1970 to 2020. Specifically, the population of Noble County saw a dramatic increase from 1990 to 2000. However, the population has been declining since 2010. Domestic migration (in-migrants minus out-migrants) caused the maximum decline during this period. In contrast, international migration added populations. Natural increase (births minus deaths) was 267 from 2000 to 2018. Noble County is losing population as a result of outmigration to other counties and states.

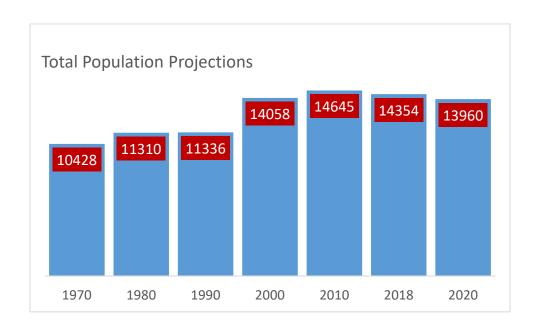


Figure 1: Noble County Population Trends, 1970-2020

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¹ Figure 1 Sources: U.S. Census Bureau –1970 Decennial Census-2020 Decennial Census, 2018 Estimates

2.2 Age Distribution

As shown in Table 1, there is a significant rise in the elderly population from 2016 to 2020. Approximately 46.8% of the population in Noble County is at least 55 years old in 2020, compared to 30.1% in Ohio. Likewise, the median age in Noble County has increased from 47.9 in 2016 to 51.2 in 2020, while the median age in Ohio has remained 39.3 during this time period. Furthermore, there Noble County has experienced a significant decrease in the population age 15-24, decreasing approximately 21.4% from 2016 to 2022. Finally, the total working age (people age 15-64) of Noble County in 2016 was 8,813 in 2016 and fell to 8,220 in 2020. Noble County's working age population decreased more than 6.7% from 2016 to 2020.

Table 1: Age Distribution: Noble County and Ohio, 2016 and 2020

	2016 2020				Percent
Age Range	Number	Percent	Number	Percent	Change
Noble County					
Under 15	2,219	15.4	2,237	15.6	1.3
15-24	1,491	10.3	1,175	8.1	-21.4
25-34	1,745	12.1	1,757	12.2	0.8
35-44	1,426	9.9	1,363	9.5	-4.0
45-54	1,285	8.9	1,133	7.9	-11.2
55-64	2,866	19.9	2,792	19.3	-3.0
65 and over	3,397	23.5	3,953	27.5	17.0
Total Population	14,429		14,410		-0.1
Median Age	47.9		51.2		6.9
Ohio	_				
Under 15	2,178,344	18.8	2,157,165	18.5	-1.6
15-24	1,564,237	13.5	1,547,629	13.3	-1.5
25-34	1,471,542	12.7	1,505,481	12.9	1.6
35-44	1,413,607	12.2	1,393,553	11.9	-2.5
45-54	1,598,998	13.8	1,544,429	13.3	-3.6
55-64	1,564,237	13.5	1,600,761	13.8	2.2
65 and over	1,795,976	15.5	1,892,861	16.3	5.2
Total Population	11,586,941	_	11,675,275		0.8
Median Age	39.3		39.3		0
Source: U.S. Census But Housing Estimates 2016	•	nmunity Surve	ey, Demographic	and	

Housing Estimates, 2016-2020

2.3 Educational Attainment

Table 2 shows estimations of the educational attainment of residents at three levels. In 2020, roughly 37% of the population of Noble County reported having some amount of college education, compared to roughly 58% in Ohio. This shows that Noble County trails in the statewide averages. Additionally, 17% of Noble County's population did not have a high school diploma, while only 9% of the population in Ohio did not have a high school diploma. From 2016 to 2020, the proportion of the population that reported having some college education increased from roughly 34% to 36%. However, the proportion that did not have a high school diploma increased from 15.9% to 17%. This proportion is both significantly higher than the state number and a worrying direction for the trend.

Table 2: Educational Attainment: Noble County and Ohio, 2016 and 2020

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	201	6	202	0	Percent		
	Number	Percent	Number	Percent	Change		
Noble County							
Some high school or less	1,708	15.9	1,827	17	6.9		
High school diploma	5,342	49.8	5,256	48	-3.6		
Some college, no degree	1,857	17.3	1,761	16	-7.5		
Associate's degree	799	7.5	940	9	20		
Bachelor's degree	585	5.5	828	8	45.5		
Graduate or professional degree	428	4	386	4	0		
Population 25 years and over	10,719		10,998		2.6		
Ohio							
Some high school or less	825,155	10.5	738,770	9	-14.3		
High school diploma	2,654,140	33.8	2,629,870	33	-2.4		
Some college, no degree	1,616,966	20.6	1,628,291	20	-2.9		
Associate's degree	658,910	8.4	702,496	9	7.1		
Bachelor's degree	1,310,995	16.7	1,438,177	18	7.8		
Graduate or professional degree	781,880	10	877,362	11	10		
Population 25 years and over	7,848,046		8,014,966		2.13		
Source: U.S. Census Bureau, America	Source: U.S. Census Bureau, American Community Survey, Educational						
Attainment, 2016-2020							

2.4 School Enrollment Trends²

Figure 2 visualizes the number of students enrolled in Noble County's school districts from 2020 to 2020. Enrollment has been relatively stable around 2,500 students with alternating periods of growth and decline, increasing from 2,360 students in 2010 to 2859 in 2020, an overall gain of roughly 21%. To show how this compares to the overall state, Figure 3 shows the total enrollment of all schools in Ohio. The enrollment for the state also peaked in 2011 with a total enrollment of 3,056,969 students. This declined to 2,771,293 in 2020, over a 9.3% decrease. Therefore, while the state's school enrollment has decreased over the last decade, Noble County's schools have been remained relatively stable.

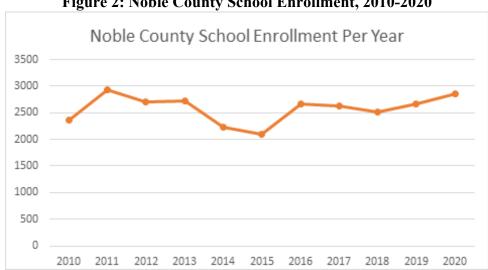


Figure 2: Noble County School Enrollment, 2010-2020

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² Figures 2 and 3 were developed using data from the Ohio Department of Education. Figure 2 includes the following Noble County schools: Noble Local and Caldwell Exempted Village.

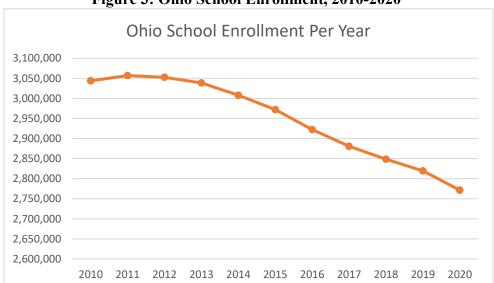


Figure 3: Ohio School Enrollment, 2010-2020³

2.5 Household Income Distribution

Table 3 describes the number and annual income distributions of households in Noble County and Ohio for the years of 2016 and 2020. By the Census Bureau definition, household income is the sum of annual earnings for all residents of a household, related or unrelated to the homeowner, who are at least 15 years old. In 2020, Noble County lagged behind Ohio with a median household income of \$50,070 compared to \$58,116 for Ohio. The largest percent of both Noble County and Ohio households fell into the \$50,000 to \$74,999 income range. Furthermore, 26.4% of Noble County's households earned less than \$25,000 in 2020, compared to 20.5% for Ohio. Noble County's median income grew by roughly 21% from 2016 to 2020, a relatively quicker growth than Ohio's 14.7%. The number of households in Noble County also increased by 2% during this timeframe.

-

³ Figure 3 includes all of the school districts in Ohio.

Table 3: Household Income Distribution: Noble County and Ohio, 2016 and 2020

	201	6	2020)	Percent	
Household Income	Number	Percent	Number	Percent	Change	
Noble County					- U	
Less than \$10,000	292	6	437	8.8	46.7	
\$10,000 to \$14,999	297	6.1	268	5.4	-11.5	
\$15,000 to \$24,999	744	15.3	606	12.2	-20.3	
\$25,000 to \$34,999	739	15.2	477	9.6	-36.8	
\$35,000 to \$49,999	710	14.6	696	14	-4.1	
\$50,000 to \$74,999	1,069	22	1078	21.7	-1.4	
\$75,000 to \$99,999	598	12.3	507	10.2	-17.1	
\$100,000 to \$149,999	282	5.8	686	13.8	137.9	
\$150,000 to \$199,999	68	1.4	109	2.2	57.1	
\$200,000 or more	73	1.5	109	2.2	46.7	
Total Households	4872	_	4969	-	2	
Median income	\$41,398		\$50,070		21	
Mean income	\$53,284		\$66,022		24	
	2016		2020		Percent	
Household Income	Number	Percent	Number	Percent	Change	
Ohio						
Less than \$10,000	363,514	7.9	311,337	6.6	-16.5	
\$10,000 to \$14,999	248,478	5.4	207,558	4.4	-18.5	
\$15,000 to \$24,999	515,362	11.2	448,136	9.5	-15.2	
\$25,000 to \$34,999	492,355	10.7	452,854	9.6	-10.3	
\$35,000 to \$49,999	653,405	14.2	627,391	13.3	-6.3	
\$50,000 to \$74,999	851,268	18.5	867,970	18.4	-0.5	
\$75,000 to \$99,999	561,376	12.2	613,239	13	6.6	
\$100,000 to \$149,999	561,376	12.2	679,281	14.4	18	
\$150,000 to \$199,999	188,659	4.1	264,165	5.6	36.6	
\$200,000 or more	170,253	3.7	245,296	5.2	40.5	
Total Households	4,606,046		4,601,449		-0.1	
Median income	\$50,674		\$58,116		14.7	
Mean income	\$68,341		\$78,797		15.3	
Source: U.S. Census Bureau, American Community Survey,						
Income in the Past 12 M	Income in the Past 12 Months, 2016-2020					

2.6 Year Housing Structure Built

Table 4 shows the distribution of when housing structures were built in Noble County and Ohio. It shows that the 39.6% of housing was built from 1960 to 1989 in Noble County, as compared to 35.2% in Ohio. Likewise, 26.4% of housing was built in 1990 or later in Noble County, as compared to 24.8% in Ohio. Finally, it shows that 34% of housing was built in 1959 or earlier in Noble County, compared to 37% in Ohio. This shows that the age of housing in Noble County is currently comparable to the age of housing in Ohio. However, it is important to note that since 2010 the percentage of new housing has begun to outpace that of Noble County.

Table 4: Year Structure Built: Noble County and Ohio, 2020

	Noble C	Noble County)
YEAR BUILT	Number	Percent	Number	Percent
Built 1939 or earlier	1,219	19.7	880,680	16.9
Built 1940 to 1949	386	6.2	316,465	6.1
Built 1950 to 1959	502	8.1	728,663	14
Built 1960 to 1969	608	9.8	625,077	12
Built 1970 to 1979	974	15.7	739,669	14.2
Built 1980 to 1989	875	14.1	471,628	9
Built 1990 to 1999	713	11.5	617,753	11.8
Built 2000 to 2009	767	12.4	488,431	9.4
Built 2010 to 2013	74	1.2	85,407	1.6
Built 2014 or later	78	1.3	102,262	2
Total Housing Units	6,196	_	5,217,090	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2020

2.7 Housing Property Values

Below, Table 5 displays the current property value distribution of housing structures in Noble County and Ohio. This data shows that the property values in Noble County are much lower than that of the surrounding area. The median value in Noble County is \$106,100, which is \$45,300 lower than the rest of Ohio. This is further supported by the fact that 47.3% of Noble County's housing units are valued at less than \$100,000, while only 28.2% of Ohio's are worth less than \$100,000.

Table 5: Property Values: Noble County and Ohio, 2020

Noble C	Noble County		0		
Number	Percent	Number	Percent		
587	14.5	255,428	8.2		
1,328	32.8	626,907	20		
759	18.7	663,381	21.2		
486	12	555,056	17.7		
449	11.1	570,232	18.2		
356	8.8	340,442	10.9		
79	1.9	99,127	3.2		
8	0.2	17,599	0.6		
\$106,100	_	\$151,400			
	Number 587 1,328 759 486 449 356 79 8	Number Percent 587 14.5 1,328 32.8 759 18.7 486 12 449 11.1 356 8.8 79 1.9 8 0.2	Number Percent Number 587 14.5 255,428 1,328 32.8 626,907 759 18.7 663,381 486 12 555,056 449 11.1 570,232 356 8.8 340,442 79 1.9 99,127 8 0.2 17,599		

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2020

2.8 Rent Distribution

Characteristics, 2020

Table 6 presents the rent payment distribution of Noble County and Ohio in 2020. The highest rent range that Noble County has is \$1,500 to \$1,999 which only accounts for 0.1% of the units. This shows that Noble County lacks higher end rental units. Collectively, Tables 4 and 6 show that rent paying units make up approximately 12% of Noble County's housing units, which is lower than the rest of Ohio at 29%. As such, there could be opportunities for new rental units to be developed in the area.

Table 6: Units Paying Rent: Noble County and Ohio, 2020

	Noble C	Noble County		1
GROSS RENT	Number	Percent	Number	Percent
Less than \$500	200	26.9	193,689	12.8
\$500 to \$999	502	67.5	862,417	57.2
\$1,000 to \$1,499	41	5.5	353,383	23.4
\$1,500 to \$1,999	1	0.1	68,204	4.5
\$2,000 to \$2,499	0	0	17,494	1.2
\$2,500 to \$2,999	0	0	5,219	0.3
\$3,000 or more	0	0 _	7,162	0.5
Total Units	744		1,507,568	
Median (dollars)	\$623		\$825	
No rent paid	173		81,486	
Source: U.S. Census Bure	eau, American (Community Su	urvey, Selected	Household

2.9 Health Outcomes⁴

Figure 4 depicts the percentages of asthma diagnosed in children and adults, diagnosed diabetes, and obesity prevalence in Noble County and Ohio in 2013 and 2014. A lower percentage of asthma was recorded in persons of Noble County, with 9.7% of adults and 10.1% of children diagnosed as compared to the 10.8% of adults and 14.2% of children in all of Ohio in 2014. In contrast, both Noble County's population's proportion of diagnosed diabetes of 14% and obesity prevalence of 33.5% were higher than Ohio averages. Diagnosed diabetes recorded as roughly 5% greater than the state's percentage, and the obesity prevalence was 3% higher than the state's percentage.

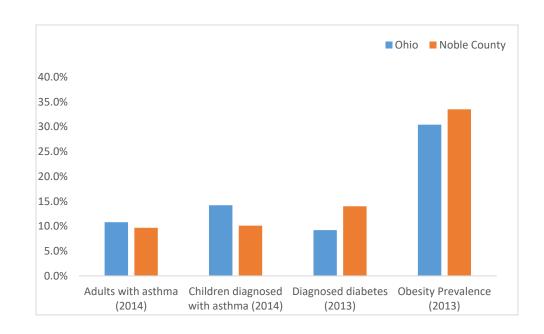


Figure 4: Asthma, Diabetes, and Obesity Percentages: Noble County and Ohio

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⁴ Figure 4 was created using data from Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2013 and 2014. Figure 5 was developed with data from National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, 2013-2016. Table 7 was created using the University of Wisconsin Population Health Institute, County Health Rankings, 2018.

Figure 5 presents heart disease and stroke hospitalization rates from 2013-2015 and death rates from 2014-2016 in Noble County and Ohio. Per 100,000 persons, about 120 were hospitalized for heart disease and almost 20 were hospitalized for stroke in Noble County, showing that the county's hospitalization rates were slighter higher than those recorded in Ohio. However, death rates in Noble County were lower than those in the state, with about 40 more heart disease patients and 6 more stroke patients surviving hospitalization.

Figure 5: Heart Disease and Stroke Hospitalization and Death Rates: Noble County and Ohio

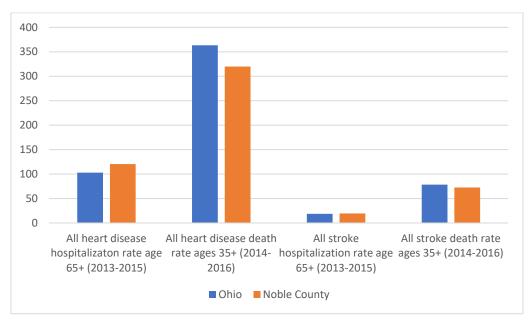


Table 7 compares the results of certain measures used to rank health statistics for the United States, Ohio, and Noble County in 2022. The table lists the rankings of health outcomes, health behaviors, clinical care, and physical environments. Most notably, Noble County trails behind national and state ratios comparing the population to clinical care providers available. Additionally, Noble County residents lack access to exercise opportunities.

Table 7: Health Rankings with Measures and Results: United States, Ohio, and Noble County, 2022

Measure	Description	Noble County	Ohio	United States
HEALTH OUTCOMES				
Premature Death	Years of potential life lost before age 75 per 100,000 population	7,500	8,700	7,300
Poor or fair health	% of adults reporting fair or poor health	22%	18%	17%
Poor physical health days	Average # of physically unhealthy days reported in past 30 days	4.8	4.2	3.9
Poor mental health days	Average # of mentally unhealthy days reported in past 30 days	5.6	5.2	4.5
Low birthweight	% of live births with low birthweight (< 2500 grams)	6%	9%	8%

Measure	Description	Noble County	Ohio	United States
HEALTH BEHAVIORS				
Adult Smoking	% of adults who are current smokers	27%	22%	16%
Adult obesity	% of adults that report a BMI ≥ 30	39%	35%	32%
Food environment index	Index of actors that contribute to a healthy food environment, (0-10)	6.3	6.8	7.8
Physical inactivity	% of adults aged 20 and over reporting no leisure-time physical activity	33%	28%	26%
Access to exercise opportunities	% of population with adequate access to locations for physical activity	26%	77%	80%
Excessive drinking	% of adults reporting binge or heavy drinking	20%	21%	20%
Alcohol-impaired driving deaths	% of driving deaths with alcohol involvement	38%	33%	27%
Sexually transmitted infections	# of newly diagnosed chlamydia cases per 100,000 population	298.1	559.4	551.0
Teen births	# of births per 1,000 female population ages 15-19	28	21	19

Measure	Description	Noble County	Ohio	United States
CLINICAL CARE				
Uninsured	% of population under age 65 without health insurance	8%	8%	11%
Primary care physicians	Ratio of population to primary care physicians	7,210:1	1,290:1	1,310:1
Dentists	Ratio of population to dentists	4,790:1	1,570:1	1,400:1
Mental health providers	Ratio of population to mental health providers	840:1	350:1	350:1
Preventable hospital stays	# of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	3,961	4,338	3,767
Mammography screening	% of female Medicare enrollees ages 67- 69 that receive mammography screening	37%	45%	43%

Measure	Description	Noble County	Ohio	United States
PHYSICAL ENVIRONMENT				
Air pollution - particulate matter	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	8.2	9.0	7.5
Drinking water violations	Indicator of the presence of health related drinking water violations. Yes - indicates the presence of a violation, No - indicates no violation.	No		
Severe housing problems	% of households with overcrowding, high housing costs, or lack of kitchen or plumbing facilities	11%	13%	17%
Driving alone to work	% of workforce that drives alone to work	84%	82%	75%
Long commute - driving alone	Among workers who commute in their car alone, % commuting > 30 minutes	42%	31%	37%

3. Economic Scan and Workforce Inventory

This section provides a report of the current and historic industry and occupational employment trends for Noble County and Ohio, as well as an analysis of regional employed resident commuter behavior.

3.1 Employment by Industry

Table 8 breaks down industry-specific employment data for Noble County and Ohio in 2016 and 2020. The education services, and health care and social assistance industry is Noble County's most significant employer with 26.4% of the county's working population. This industry is also the most significant employer for Ohio.

Noble County had 8 industries with employment growth from 2016 to 2020, compared to 5 with employment decline. Of the growth industries, 2 had a growth rate of over 25%, including 118% growth in agriculture, forestry, fishing and hunting, and mining. On the other hand, this industry declined in Ohio overall by 8%, Additionally, 2 of the 7 loss industries experienced employment declines of at least than 25%, including losses of over 38% professional, scientific, and management, and administrative and waste management services. However, this industry grew in Ohio overall by 8%.

Table 8: Employment by Industry: Noble County and Ohio, 2003 and 2019

Noble County	2016		2020		Percent
Industry	Estimate	Percent	Estimate	Percent	Change
Agriculture, forestry, fishing and hunting, and					
mining:	78	2.0	170	3.8	117.9
Construction	259	6.6	246	5.5	-5.0
Manufacturing	562	14.3	659	14.9	17.3
Wholesale trade	103	2.6	85	1.9	-17.5
Retail trade	541	13.8	621	14.0	14.8
Transportation and warehousing, and utilities:	407	10.4	443	10.0	8.8
Information	48	1.2	36	0.8	-25.0
Finance and insurance, and real estate and rental					
and leasing:	168	4.3	199	4.5	18.5
Professional, scientific, and management, and					
administrative and waste management					
services:	248	6.3	152	3.4	-38.7
Educational services, and health care and social					
assistance:	875	22.3	1169	26.4	33.6
Arts, entertainment, and recreation, and			2.12		
accommodation and food services:	196	5.0	213	4.8	8.7
Other services, except public administration	145	3.7	162	3.7	11.7
Public administration	302	7.7	278	6.3	-7.9
Civilian employed population 16 years and over	3932		4433		12.7

Ohio	2016		2020		Percent
Industry	Estimate	Percent	Estimate	Percent	Change
Agriculture, forestry, fishing and hunting, and mining:	58,264	1.1	53,718	1.0	-7.8
Construction	277,035	5.1	313,136	5.6	13.0
Manufacturing	841,515	15.5	845,301	15.1	0.4
Wholesale trade	148,026	2.7	144,516	2.6	-2.4
Retail trade	633,530	11.7	631,658	11.3	-0.3
Transportation and warehousing, and utilities:	262,232	4.8	301,653	5.4	15.0
Information	91,987	1.7	84,723	1.5	-7.9
Finance and insurance, and real estate and rental and leasing:	347,200	6.4	361,765	6.5	4.2
Professional, scientific, and management, and administrative and waste management					
services:	509,829	9.4	548,595	9.8	7.6
Educational services, and health care and social assistance:	1,310,242	24.1	1,358,326	24.2	3.7
Arts, entertainment, and recreation, and accommodation and food services:	497,112	9.2	499,405	8.9	0.5
Other services, except public administration	240,997	4.4	244,238	4.4	1.3
Public administration	207,678	3.8	216,596	3.9	4.3
Civilian employed population 16 years and over	5,425,647		5,603,630		3.3

3.2 Labor Force Overview⁵

Figure 6 reports data for labor force eligibility and employment in Noble County from 2016 to 2020. In 2016, the county's labor force included 4221 individuals, of whom around 3993 were employed and 228 were unemployed. This corresponds to an 5.4% unemployment rate for the year. Figure 7 shows how the Noble County unemployment rate compares with Ohio's rate from 2016 to 2020. During this period, Noble County's unemployment rates were lower than or relatively equal to Ohio's rates. Figure 8 shows the participation rate of Noble County and Ohio. In this graph, the county is shown to have increased from a participation rate of 31.5% in 2016 to

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⁵ Figures 6-9 were developed by authors from the U.S. Census Bureau, American Community Survey, Selected Economic Characteristics, 2010-2016

a rate of 39.1% in 2020, equaling a gain of almost 8%. For context, this still places Noble County over 24% below Ohio's participation rate in 2020. To further explore why Noble County's rate was significantly lower, Figure 9 separates the county's participation rate by gender. Women consistently have a higher rate than men, with there being nearly a 19% difference between the genders in 2020. Typically, this trend is the opposite with males having a higher labor force participation rate than females. Together these figures show that even though there is low unemployment, there is also very low participation in Noble County's labor force. This could indicate a need to focus on increasing participation particularly of males in Noble County.

4800
4600
4400
4200
4000
3800
3600
3400
2016
2017
2018
2019
2020
Employed

Figure 6: Noble County Labor Force and Employment, 2016-2020



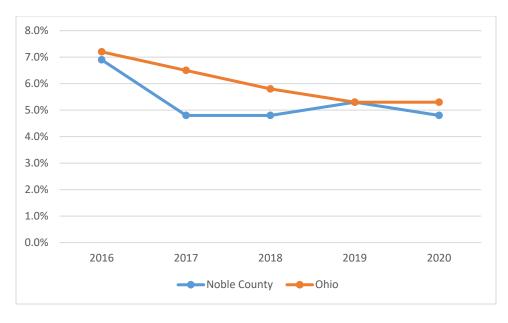


Figure 8: Participation Rate: Noble County and Ohio, 2016-2020

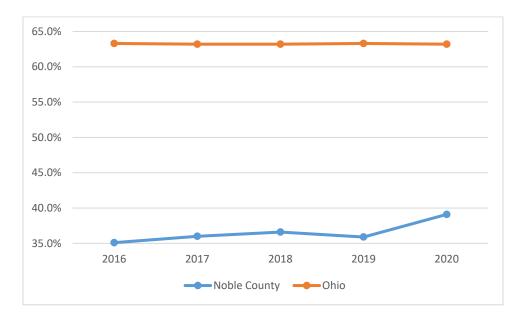
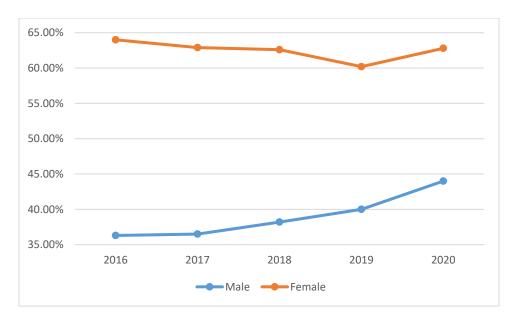


Figure 9: Noble County Participation Rate by Gender, 2016-2020



3.3 Employed Resident Commute Shed⁶

Figure 10 and 11 shows the distribution of the Noble County workforce. Figure 10 shows the commute shed, or where Noble County residents are employed. 30% of employed Noble County residents remain in the county for work. The remaining 70% of employed Noble County residents work outside of Noble County. In total, 3,443 Noble County residents commute to another county for employment. On the other hand, Figure 11 shows the labor shed, or in which county people who work in Noble County reside. Approximately 53% of the individuals employed in Noble County also reside in Noble County. The remaining 47% of individuals working in Noble County reside in a different County. In total, Noble County attracts 1350 from other counties to work in Noble County. This results in a net difference of 2,093 more individuals leaving the county for work then coming to Noble County for work.

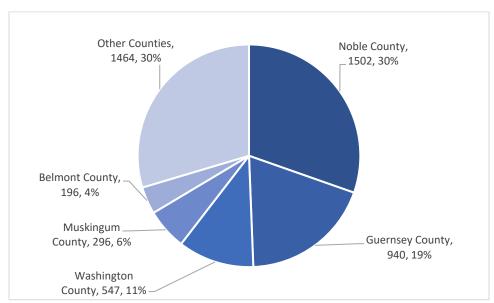


Figure 10: Commute shed in 2017

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⁶ Figures 10 and 11 were developed by from data produced by Purdue University, Center for Regional Development, County Data Snapshot, October 2020 update

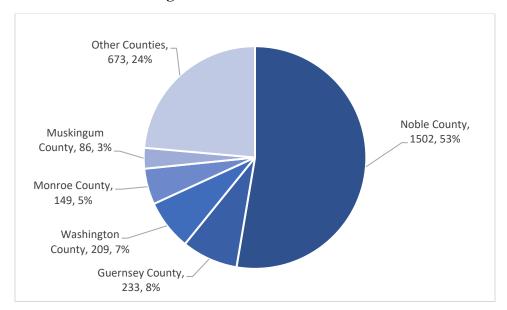


Figure 11: Labor shed in 2017

4. Industry Cluster Analysis

Our research team also investigated the prominent industry clusters in the region for local targeting. Industry clusters are "geographic concentrations of interconnected companies and institutions in a particular field" (Porter, 1998, 78) that are "linked by similar needs such as production inputs, specialized labor, and technology," (Hagadone & Grala, 2012, 16). In other words, these clusters are geographically concentrated and include interrelated businesses, vendors, and other organizations within a certain industry.

4.1 Industry Employment by Cluster⁷

In 2008, the automotive industry was the largest employer in Noble County, employing around 400 people, as shown in Figure 12. However, in 2009, MAHLE Engine Components closed, laying off 190 workers. This led to a decline in the automotive industry overall in Noble County and by 2016 the automotive industry was no longer a significant source of employment in Noble County. In 2016, the largest industry employer was the Oil and Gas Production and Transportation Industry, as shown in Figure 13. Noble County is located in the Marcellus and Utica Shale region. As this source of oil and gas has gained popularity, employment in the industry has grown in Noble County.

Figure 14 examines the three digit NAICS code industries in Noble County. This bubble chart shows the percent change in employment from 2018 to 2021, the location quotient (LQ), and the number of employees in 2021 as indicated by the size of the bubble. An LQ of >1 indicates that the industry is relatively stronger in Noble County than compared to the overall strength in the

⁷ Figures 12 and 13 were developed by authors from the U.S. Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School.

US. Likewise, an LQ <1 indicates that it is a relatively weak industry. Ideally, one would want industries in the upper right of the figure, indicating growth in employees and relative strength. This figures shows there are many industries in Noble County that could benefit from strengthening their presence in Noble County, such as support services, specialty trade contractors, or wholesalers. There are fewer industries that that could benefit from trying to reverse loss in employment. On the other hand, the mining industry is very strong in Noble County and has seen employment growth during the time period.

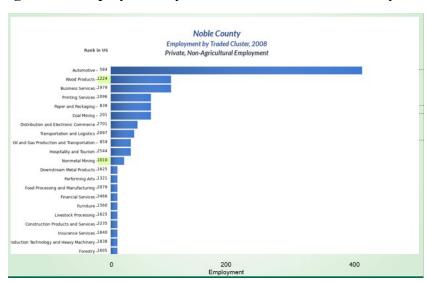
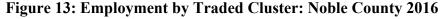
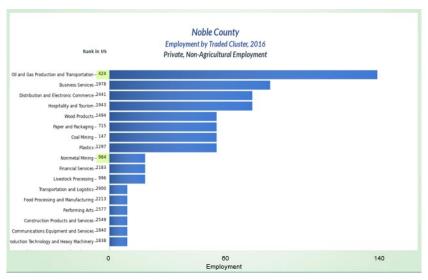


Figure 12: Employment by Traded Cluster: Noble County 2008





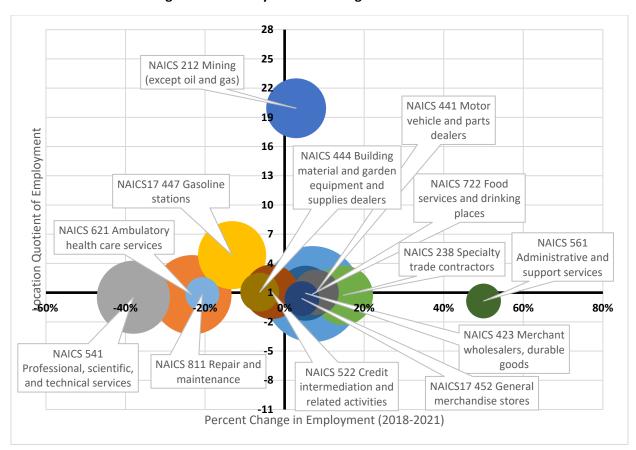


Figure 14: Industry Clusters Change from 2018 to 2021

5. Community Engagement

On September 22, 2022, the research team conducted a public meeting in Caldwell to share the updates and successes of the previous strategic plan, explain the current demographic and economic trends in Noble County, show the findings of the SWOT analysis, and ask for comprehensive input to economic development priorities for Noble County in a public setting.

At the end of the meeting, community members were asked to volunteer if interested to be involved on the task force to help with refining specific goals and implementing the priorities for Noble County. Overall, these community engagement activities helped identify community goals and promote buy-in from the citizenry.

After compiling the results of the SWOT analysis, the research team met with Gwynn Stewart, Community Development Educator IV at the Ohio State University Extension in Noble County. Through our discussion, we determined broad categories of priorities to use as a starting point during the community meeting. These categories were Infrastructure, Small Business Support, and Tourism/Outdoor Recreation.

The community engagement research for this project involved a formal meeting that was open to the public. This meeting served as a platform to provide citizens and Noble County leadership with objective information about the area's economy and subsequently seek feedback on determining the community's economic development priorities. We invited local stakeholders, such as the county commissioners and other government officials, business owners, health department employees, and the concerned citizenry of Noble County. There were approximately 20 attendees in the audience.

After a formal presentation of the economic scan data (e.g., age, educational attainment, household income, unemployment rates, employment by industry, commuter patterns, etc.), our team shared the results of SWOT Analysis and asked for community input for anything that may have been left off our lists. Afterward, we placed the categories of priorities on a series of posters, and then asked attendees for specific needs under each category. Additionally, the community noted two other priorities: flood control and affordable housing. After the note-taking was completed, the attendees were each given three green dots and one red dot. We asked the attendees to place a green sticky dots next to each of the priorities that they felt should be focused on. Specifically, if the dots were placed on the broader category to indicate support for all potential work in that category, and on the specific ideas to highlight the importance of that aspect. On the other hand, the red dot was placed on the priority they felt should be the last one focused on.

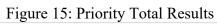
The detailed results of this exercise are displayed below in Table 9. Likewise, Figure 15 shows the totaled results for each broad category. It is also important to remember that the use of red dots does not necessarily indicate that the priority should not be chosen, but rather that it should be chosen last as compared to the other options. Furthermore, one will see that many attendees chose not to use their red dots at all, indicating that there was no obvious "last choice" priority in their opinion. Additionally, it is important to note that for Tourism/Outdoor Rec, two of the three red dots were specifically placed on "The Wilds" as opposed to Tourism in general. Likewise,

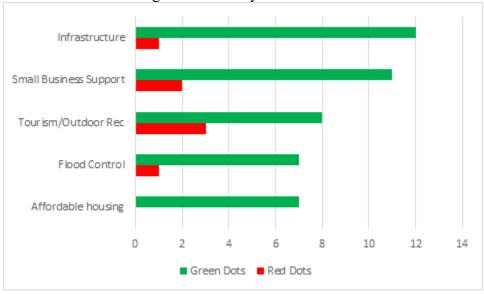
both of the reds received for Small Business Support were placed on "Incubator/Tech Support". Therefore, it is the specific ideas under each category that lacked support rather than the category itself. Using the results from the community meeting, priority and goals will be chosen based upon community support, alignment with the scope of work of the extension office, and whether or not it is attainable given the resources and time available.

Table 9: Priority Balloting Results

Table 9: Priority Balloting Results		
	Green Dots	Red Dots
<u>Infrastructure</u>	4	1
Public water	2	0
Broadband	5	0
Site development/prep	1	0
TOTAL	12	1
Small Business Support	9	0
"Buy Local" marketing	0	0
Succession planning	0	0
More customers	1	0
Late night business	0	0
Business education	0	0
Incubator/tech support	0	2
Existing business support	1	0
Networking/knowledge sharing	0	0
TOTAL	11	2
Tourism/Outdoor Rec	3	1
The Wilds	0	2
Events	0	0
Wolf Run & Caldwell Lake	2	0
Byway national designation	0	0
AEP lands	0	0
Hunters — ROI	0	0
Marketing	3	0
Seneca Lake	0	0
Linkages between assets	0	0
"Centerpiece" for attraction	0	0
TOTAL	8	3
Flood Control	5	1

advocacy partnership	2	0
TOTAL	7	1
Affordable housing	6	0
lack for younger/newly employed	0	0
"small homes"	0	0
Senior living	1	0
Feasibility study	0	0
TOTAL	7	0





6. Priorities

Utilizing the information gathered from the economic scan and community engagement sections, 5 priorities were identified for Noble County: Infrastructure, Small Business Support, Flooding, Housing, and Tourism and Outdoor Recreation. Tables 16-20 break down each priority into objectives to be achieved in Noble County.

6.1 Infrastructure

The lack of access to Broadband was mentioned top voted opportunity under the infrastructure category to pursue by the community. Work under this infrastructure category will include, but not be limited to, extending broadband services; water and sewer extensions to economic / community development projects; and site preparation / business park construction. Table 16 outlines the strategies for infrastructure in Noble County. The strategies were developed with input from the Noble County Regional Planning Commission. See Appendix A for list of members.

Table 16: Noble County Strategic Plan Priorities: Infrastructure

Strategies	Timeline
Coordinate completion of JobsOhio OSIP project in new business park and additional speculative or as-builds, as funding is available	2023-2025
Complete two Appalachian Regional Commission grants for broadband (see Appendix B)	2023-2025
Assist with implementation of the Village of Caldwell Downtown Planning project ⁸ (Planning with Appalachian Community Grant Program)	Q1-3 of 2023 if funded, implementation by 2026

30

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⁸ https://issuu.com/designing local/docs/v8-caldwell downtown plan book issuu

Complete Belle Valley Downtown	Q1-3 of 2023
Planning project (Q1 – 2023) and use plan for planning with Appalachian Community Grant Program	if funded, implementation by 2026
Complete Land-Use planning effort (with Buckeye Hills)	Due by Oct. 2023
Complete Water Company feasibility planning effort (through Noble County Water Authority & Pure Water with Buckeye Hills)	Due by Oct. 2023
Complete GIS mapping of Village of Caldwell & Belle Valley Storm Sewer Assets with Ohio RCAP	2023

Coordinate with CD Program	Ongoing
Coordinator on Community	
Development Block Grants &	
Community Grants with Villages &	
Townships, nonprofits	

6.2 Small Business Support

Noble County's established company data reflects 17% are self-employed, 62% have 2-9 employees and 20% have 10-99 employees. Only one percent have 100+ employees an there are no stage 4 companies, with 500+. Under the area of Small Business Support, work will include, but not be limited to, extending broadband services; connecting businesses with funding streams, and marketing resources. Table 17 outlines the strategies for infrastructure in Noble County. The strategies were developed with input from the Noble Chamber of Commerce Board of Directors. See Appendix C for list of members.

Table 17: Noble County Strategic Plan Priorities: Small Business Support

Strategies	Timeline
CD Educator to host a Business Succession Planning Lunch & Learn	2023
Deliver the Building Entrepreneurial Communities Curriculum in Noble County	(following Peer Review in 2023)
CD Educator to make referrals to the Small Business Development Center	ongoing
CD Educator to serve on the Noble County Chamber of Commerce Board	ongoing
CD Educator to serve on the Appalachian Ohio Manufacturers' Coalition, Eastern Ohio Development Alliance (2023, Vice-Chair), Appalachian P-20 Planning Committee and Noble Schools Business Advisory Committee	ongoing

6.3 Flooding

Flood control is both a priority identified by the community and an area of focus identified in Buckeye Hills Comprehensive Economic Development Strategy (CEDS)⁹ as part of their Disaster Resilience strategies. Between 1964 and 2019 there have been 32 flood related disaster declarations in the state of Ohio of which half have taken place in the Buckeye Hills region. Buckeye Hills has indicated that flooding is the most prevalent and destructive physical disaster that historical affects this region.

Not only is flooding physically damaging and dangerous, it is also a significant cost to effected areas, with over \$1.7 billion in estimated property damage and \$62 million in cop destruction in the Buckeye Hills region. See Appendix D for a map of the Flood Hazard Risk Assessment from the Buckeye Hills CEDS. Under the topic of flooding, work will include advocacy and collaboration, where possible toward planning or efforts around preventative flood management to limit flooding impacts. Table 18 outlines the strategies for flood control in Noble County. The strategies were developed with input from the Noble County Regional Planning Commission. See Appendix A for list of members.

Table 18: Noble County Strategic Plan Priorities: Flooding

Strategies	Timeline
Coordinate collaborative meetings	2023
with key stakeholders around the	
topic (Noble Commissioners, Noble	
EMA, Noble County Engineer,	
Noble County Soil & Water,	
Muskingum Watershed	
Conservancy District, US Army	
Corps of Engineers)	
Investigate funding opportunities	2023 and ongoing
for debris removal in county	
creeks/streams	

https://static1.squarespace.com/static/5bcf4ef5b2cf79f60ff09deb/t/627ea940466fba5bbdd54b59/165246803582 4/CEDS Updated 2022.pdf

⁹

6.4 Housing

In 2021-22, the Noble County Planning Commission, in partnership with Ohio State Extension – Noble County, Community Development and Iowa State University Extension and Outreach, developed an action plan to improve the availability, affordability and quality of housing in Noble County. Table 19 outlines the strategies for housing in Noble County. The strategies were developed with input from the Noble County Regional Planning Commission. See Appendix A for list of members.

Table 19: Noble County Strategic Plan Priorities: Housing

Strategies	Timeline
Continue implementation of the 2021 OSU/Iowa State Noble County Rural Housing Readiness Action Plan	Ongoing
Coordinate with Buckeye Hills Regional Council and the Ohio Department of Development on housing needs and potential funding for Noble County development	2023
Research feasibility of a Phase II housing study including the development of a housing forecast and market analysis	2024

6.5 Tourism and Outdoor Recreation

The US Bureau of Economic Analysis data show that the outdoor recreation economy accounted for 2.1% (\$459.8 billion) of current-dollar gross domestic product (GDP) in 2019. In Ohio, it is \$1.5%. ¹⁰ Ohio and Noble County have abundant natural assets that present opportunities for growth. Table 20 outlines the strategies for tourism and outdoor recreation in Noble County. The strategies were developed with input from the Noble County Convention & Visitors Bureau Board. See Appendix E for list of members.

Table 19: Noble County Strategic Plan Priorities: Tourism and Outdoor Recreation

Strategies	Timeline
CD Educator to serve on the Noble County Convention & Visitors Bureau and the Ohio Hills Country Heritage Area Boards (assist with enhancing social media and marketing)	Ongoing
CD Educator to serve as the Appalachian Byway of Ohio Scenic Byway Coordinator a. Submit updates to the ODOT Corridor Management Plan, as needed b. Coordinate regional public relations and marketing efforts, in conjunction with CVBs. c. Coordinate with ODOT on application for National Scenic Byway status	Ongoing
Coordinate with CD Program Coordinator on researching establishment of a Friends of the Park for ODNR Wolf Run State Park	2022-23

¹⁰ ORCA 2021 ARC POWER Project Scope

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Coordinate with the Village of Caldwell on its Main Street Affiliate program	2023
Coordinate with the Noble & Belle Valley Historical Societies on development of Historic Marker program signage (for Caldwell Downtown Historic District, Noble Jail Museum and Belle Valley Greek Church	Due May 2023
Partner with regional entities in the Outdoor Recreation sector on trails planning and asset assessments. (ie: Outdoor Recreation Council of Appalachia (ORCA), Ohio's Appalachian Country, Mid-Ohio Valley Tourism, & Winding Roads)	

7. Conclusion

This report represents a student-led and faculty/staff supported effort to assist Noble County in identifying economic and community development opportunities. The recommendations found in the Executive Summary and expanded upon in '6. Priorities' provide a framework of both short-term and long-term steps, for Noble County to pursue as part of the county's economic development agenda. Our hope is that this study and the accompanying public meetings act as a starting point for the community to continue conversations about Noble County's future economic development. The continuing task force meetings will inform the resources, timelines, and budget needed for each strategy.

References

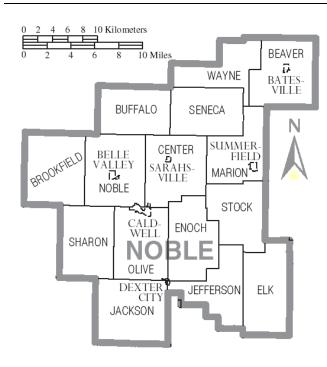
- Hagadone, T. A., & Grala, R.K. (2012). Business clusters in Mississippi's forest products industry. *Forest Policy and Economics*, 20, 16-24.
- Porter, M.E. (1998). Clusters and the new economics of competition. *Harvard Business Review*, 76(6), 77-90.

Appendix A

2023 Noble County Regional Planning Commission Members

Dates Note Individual Term Expirations

VOTING MEMBERS:



District 1 – Wayne, Beaver, Seneca and Marion Townships

Guy Carpenter 12-2026 Merlin Wentworth 12-2025

District 2 – Buffalo, Brookfield, Noble and Center Townships

Milton Lisak 12-2025 Greg Phibbs 12-2026

District 3 – Sharon, Olive, and Jackson Townships

Kirby Moore 12-2024 Erica Rossiter 12-2026

District 4 – Enoch, Stock, Jefferson and Elk Townships

Vernon Thomas 12-2024 Claire Shockling 12-2023

Village of Caldwell

Ryan Singer 12-2025 Jeff Minosky 12-2024

Departments

Jay McElroy – NRCS/Natural Resources Conservation Service (Noble)

Shawn Ray – Noble Co. Health Department

Gwynn Stewart – Ohio State University Extension Noble County

At Large

Brooke Campbell	12-2025
Chasity Schmelzenbach	12-2024
JoAnn Steed	12-2023
Jim Warren	12-2025

EX-OFFICIO / NON-VOTING MEMBERS

Noble County Commissioners Ty Moore; Allen Fraley & Gary Saling

Noble County Engineer

Noble County Prosecutor

Noble County Auditor

Noble Local Schools Superintendent

Caldwell Schools Superintendent

Noble County Sheriff

Todd Coss

Jordan Croucher

Peggy Davis

Justin Denius

Greg Gifford

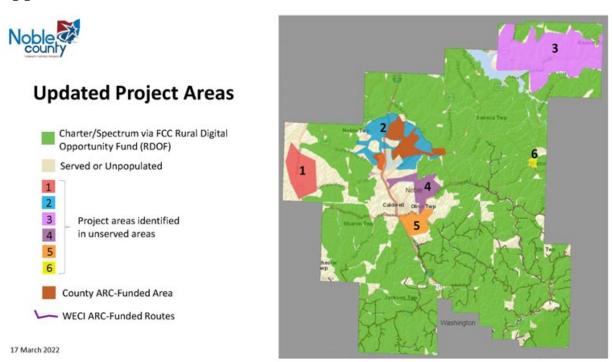
Jason Mackie

2023 Officers

Jim Warren – Chairperson Kirby Moore – Vice Chairperson

Gwynn Stewart – Secretary (Roster updated - Revised 3/2/2023)

Appendix B



Areas 2, 3, 4&5 – estimated to be covered by ARC Implementation grants (with Noble Commissioners).

WECI is Washington Electric Cooperative, Inc., ARC POWER "Make-Ready" grant. As of Jan., 2023, the Charter/Spectrum RDOF Build-out is underway.

As of Jan., 2023, the initial ARC Implementation grant (with Noble Commissioners) is awarded and in process – areas are being determined with Charter/Spectrum.

Appendix C

Noble County Chamber of Commerce Board 2023

Guy Carpenter – Ohio Valley Excavating

Braun Schwieterman – Southeastern Med Sports Medicine & Rehab

Interim President: Richard Rutherford – Retired

Brandon Crock - Crock Construction & Do-It Best Hardware

Scholarships: Darlene Miser – M&M Delivery

Chris Lashley – Lashley Tractor

Mike Buckey – Buckey Disposal

Trevor Black – Farmers & Merchants Bank

Jamie Smith – Smith PVF

Treasurer: Joann Steed – Caldwell Redi-Mix

Sherri Starr – Peoples Bank

Jordan Croucher – Noble Co. Prosecutor

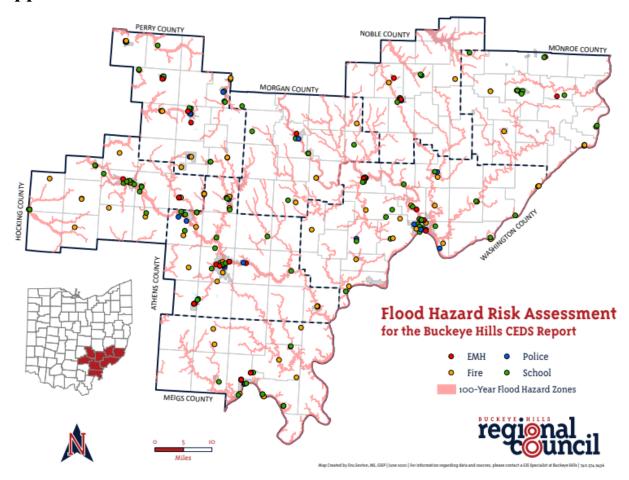
Dr. Holly Overmiller – Ohio Hills Health Centers

Gwynn Stewart - OSU Extension Community Development

Noble Local Schools Supt. – Justin Denius

Caldwell Schools Supt. – Greg Gifford

Appendix D



Source: BHRC CEDS (Comprehensive Economic Development Strategy)

Appendix E

Noble County Convention & Visitors Bureau Board

President – Jeff Minosky, Noble County Historical Society

President-Elect – Scott Braden – Noble County Community Improvement Corp.

Secretary – Gwynn Stewart, Noble County OSU Extension, Community Development

Treasurer – Judd Lori, Lori's Restaurant & Best Western lodging

Caldwell Mayor – Misty Wells

Scott Braden – Noble County Community Improvement Corp.

Richard Rutherford – Noble County Chamber of Commerce

At-Large – Anne Chlovechok, Editor, Caldwell Journal-Leader

At-Large – Matthew Miller – Muskingum Watershed Conservancy District / Seneca Lake

At-Large – Julie Caldwell, Owner Liberty Store/Belle Valley