

# Building Opportunities Beyond Coal Accelerating Transition (BOBCAT) Network

## Executive Summary

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*January 31, 2022*



*This project was funded under the U.S. Economic Development Administration Assistance to Coal Communities Program*

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## Executive Summary

In October 2018, the U.S. Economic Development Administration (EDA) funded the Building Opportunities Beyond Coal Accelerating Transition (BOBCAT) Network under the Assistance to Coal Communities (ACC) program. The BOBCAT Network is a joint project of Ohio University's George V. Voinovich School of Leadership and Public Service (GVS) and the Ohio Valley Regional Development Commission (OVRDC). The project was designed to assist the region with economic diversification and transition with decline in the coal economy. Over a three-year period the BOBCAT Network has catalyzed regional collaborations to accelerate the region's transition out of the coal economy through a potent portfolio of economic development implementation and actionable applied scholarship in entrepreneurial growth, workforce development, industry cluster expansion, opportunity zone enhancement, and infrastructure investment.

The majority of this work took place during the 2020-2021 COVID pandemic, with all the complications which that imposed. These circumstances created challenges that sometimes slowed but never deterred the execution of the BOBCAT Network agenda. More importantly, the collective commitment required to work through such impediments elicited perseverance and innovativeness that refined and strengthened the original BOBCAT Network concept. That process is reflected throughout the results detailed in this report and summarized in this preface. Our goal herein is to not only to describe the tangible and significant accomplishments of the BOBCAT Network, but also to highlight how navigating the COVID pandemic environment enabled the Voinovich School and its partners to enhance the original BOBCAT Network strategy in ways that revealed unanticipated new opportunities for the region and strengthened this regional collaboration to meet its future challenges.



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## **BOBCAT Network Genesis and Scope**

The impetus for the BOBCAT Network was the decommissioning of two Dayton Power & Light (DP&L) (*major electrical generating facilities*) facilities and a training facility in Adams County (*the OVRDC region*). An Ohio University EDA-funded analysis previously documented these closures would have significant detrimental economic, fiscal, and workforce impacts on Adams and surrounding counties (the regional economy). These detrimental impacts demonstrated not only the need for immediate economic development responses to offset these losses, but also the necessity of actions reinforcing the region's long-term economic vitality by strengthening its economic development capacity and identifying opportunities for future, diverse growth.

The BOBCAT Network was designed to address these goals through a three-pronged strategy of collaborative actions. One focus was a set of initiatives focused on Adams County, which, as the site of the closing power facilities, would bear a disproportionate share of forecasted direct economic losses. A second strategic focus was on adjacent Lawrence and Scioto Counties, which were expected to experience powerful erosion of their electrical power generation workforce and supply-chain industries. The third focus of the BOBCAT Network was on elements reinforcing the economic robustness of the entire OVRDC region through initiatives focused on opportunities in workforce development, industry cluster enhancement, entrepreneurial economy growth, and opportunity zone readiness.

The BOBCAT Network project was designed to directly assist these impacted communities in a variety of ways, as outlined in the full report. Several key elements are noted here. First, Ohio University directly embedded two employees in the region

to assist with the project and its implementation. One employee was placed in the Adams County Economic and Community Development Office. Another employee was placed in the Lawrence County Chamber of Commerce offices, where he also spent some time working in Scioto County. Second, two recovery coordinators were contracted to directly assist these communities with implementation of project recommendations in real time. One recovery coordinator worked in Adams County around recovery related to the coal-fired power plant closures, and the other recovery coordinator worked in Lawrence and Scioto Counties on brownfields redevelopment. Lastly, Ohio University and OVRDC worked across the entire OVRDC region on a variety of efforts related to opportunity zones, industry cluster expansion, workforce development/remote work, and a host of other economic diversification efforts.

## **Findings**

The BOBCAT Network strategy yielded immediate economic development results, identified economic opportunities, and strengthened regional collaboration. It also demonstrated how applied scholarship and research leads to direct actionable economic development. Following are a few key results of the project in the areas of Economic Development Outcomes, Economic Development Opportunities, and Regional Capacity and Collaboration.

## **Economic Development Outcomes**

### ***Winchester Industrial Park***

The BOBCAT Network's work in Adams County led to the securing of major grant support for a new industrial park in the county. That achievement began with the Voinovich School's performance of a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis which found a major

economic development weakness in Adams County was the absence of “shovel ready” industrial sites. Further engagement by Ohio University, OVRDC, and Scurti Consulting (e.g., the recovery coordinator) with numerous public and private sector leaders identified further priorities in natural gas and broadband availability to be addressed in a prospective industrial park.

These discussions culminated in an Industrial Park Demand and Financial Analysis feasibility study that both validated the concept and coalesced community support for the plan, leading to a \$4.2M grant from JobsOhio to support the Winchester Industrial Park. Located near the Village of Winchester, this site is located along SR 32 and Graces Run Rd. It is near the rail line that passes through northern Adams County, and it also located in the County’s Opportunity Zone.

### ***Adams County Workforce Training Center***

The BOBCAT Network’s SWOT analysis also identified that another major weakness for Adams County was the lack of a training center and/or community center to prepare current and prospective employees for more diverse job opportunities. The need for such a training center identified as a priority by local leaders and residents during subsequent interviews, surveys, and community meetings. Adams County officials acknowledged this need and identified a Workforce Development/Training Center as its second priority for the county’s Economic Development Vision Plan. Partners are working with the county on plans to renovate a 15,100 s.f. building to provide training in Computer Numeric Control (milling, tooling, lathing, blueprint reading and drafting), Welding, Licensed Practical Nurse (LPNs), and Nursing Assistant programs.

### ***Brownfield Ohio Department of Development Grant Submission***

The BOBCAT Network project ended December 31, 2021, just prior to the formal submission of a brownfield remediation grant to the Ohio Department of Development (ODOD). However, the Hamman Consulting Group (e.g., the second recovery coordinator), prepared a draft application for the Brownfield ODOD grant program. The anticipated funding request will be in excess \$10 million, with the final total still to be finalized, for the New Boston Coke property in Scioto County. This application came after extensive work and analyses as outlined in the final report to determine appropriate steps for remediation of this property.

## **Economic Development Opportunities**

Through the BOBCAT Network several collaborations with local leaders and economic development organizations led to the identification and strengthening of economic diversification efforts reducing the region’s dependence on coal.

### ***Adams County Targeted Industry Clusters***

Building on the Adams County SWOT analysis, BOBCAT Network teams identified competitive advantages enabling an economic development focus on the aerospace production and testing, logistics (warehouse/distribution), and the wood processing and products industries. Development in these industry would diversify the economy – shifting it from its historic dependence on the energy sector - while supporting re-employment of displaced workers from that sector.

### ***Lawrence/Scioto Counties Coal Supply Chain Evolution***

Over the next ten years, it is estimated that Lawrence and Scioto Counties will lose \$7.8 and \$9.3 million, respectively, regarding the impacts of the coal economy on the supply chain businesses if no action is taken by the counties. BOBCAT Network analysis found that there are, however, other existing

economic capabilities and strengths in Ohio that could provide alternative opportunities for coal-driven business activity that could 1) supplant the loss of the coal powered electric plants, 2) create new manufacturing jobs, 3) support the infrastructure initiative funded by new federal funding, and 4) use coal with a net reduction in national and possibly, international CO<sub>2</sub> emissions. This “Shift to Steel Production” strategy would make use of Ohio’s capabilities in coal wholesales, coke production – an essential component required for steel production – and transportation.

### ***OVRDC Region***

A BOBCAT Network investigation of the OVRDC regional industry clusters identified several areas of advantageous enhancement opportunities that would strengthen existing industries and support the development/attraction of additional firms to expand the region’s current clusters. Advanced Manufacturing, Aerospace & Aviation, Automotive, Biohealth, Energy, Financial Services, Food Processing, Hardwood Products and Manufacturing, Information Technology and Services, Logistics, and Polymers and Chemicals industry clusters were identified as the most influential clusters within the OVRDC region. Examinations of the status and development trends within those clusters found that as OVRDC economic development should continue its support of its current major employers (automotive, polymers, and energy), the region should shift emphasis to growth sectors such as food processing, logistics, advanced manufacturing, and wood products for which OVRDC offers operational advantages. During the BOBCAT Network project, two major food industry cluster announcements were made. Nestle-Purina is locating a major pet food manufacturing facility and creating 300 jobs in Clermont County, and Herr Foods Incorporated is building/expanding operations to create 150 jobs in potato chip production in Jackson County and

Ross County. Both companies build on the strong heritage of the food manufacturing cluster in the OVRDC region. Both locations offer manufacturing employment within a reasonable driving distance for displaced coal economy workers.

### ***Remote Working***

An example of the BOBCAT Network addressing novel developments revealed by the COVID pandemic was its investigation of remote working as a rural economic development opportunity. This research found that the remote working necessitated by the COVID pandemic has accelerated pre-existing trends and revealed market preferences that create opportunities for non-metro communities to both retain and attract remote workers, especially young professionals and working family demographic segments, with preferences for smaller communities previously thwarted by limited local employment opportunities. Remote working is therefore a particularly significant opportunities for primarily rural areas such as the OVRDC region experiencing population and talent loss from reluctant out-migration and thwarted in-migration. Ohio University researchers developed a multi-factor “Rural Remote Work Readiness” assessment matrix that, when applied to the OVRDC region, found that there were numerous significant economic benefits the region could attain through a targeted enhancement program.

### ***Entrepreneurial High Growth Companies Development Opportunities***

Nationally, independently owned companies that experience high growth rates in their development process, thus becoming among the largest businesses in their industries, account for a disproportionately large share of new jobs. Often called “gazelles”, such high growth companies (HGCs) were found to be similarly important in the OVRDC region. A Voinovich School study found that

555 HGCs that represented only 2.3% the region's businesses accounted for more than 15% - 39,874 - of the region's total employment. Comparing their occurrence to national benchmarks revealed that the Wholesale Trade, Manufacturing and Retail Trade sectors represented the region's most promising sectors for the development of future HGCs. The study estimated that the region's HGCs would require growth capital of \$954 million in more than 50 investments over the next ten years, but that a scarcity of resident private equity firms could lead to capital constraints limiting future growth. These findings suggested that the Ohio economic development policy emphasis on increasing capital access should be expanded beyond venture capital and small business lending to address the availability of private equity growth capital for HGCs as well.

These findings provided the foundation for a collaboration with Clermont County economic developers. An assessment of the county's entrepreneurial economy found that the county's relatively healthy economic growth of the past few decades was providing a fertile ground for new entrepreneurs. But it also revealed that, while the county was home to a disproportionately small share of local high growth companies, its vibrant industry clusters provided a strong basis for attracting such companies. The study identified the county's most promising industry sectors for such a strategy and a database of prospects who's geographic, employment, and infrastructure parameters made them appropriate candidates.

## **Regional Capacity and Collaboration**

The BOBCAT Network strengthened regional collaboration to meet new challenges and promote ongoing collaboration even after the project period ended.

### ***Creating Investment Ready Communities/ Opportunity Zones***

Many communities in the OVRDC region lack the fundamental components to successfully attract private investment. The creation of Opportunity Zones provides a new tool for these communities, yet assistance is needed to help communities realize the full potential of this investment draw. Through the BOBCAT Network an OVRDC Opportunity Zone Analysis was performed covering all 12 counties in the OVRDC region.

The Opportunity Zones for each county were marked prominently to highlight their importance. The work on the Opportunity Zone Analysis was completed in the form of 12 county maps and zoomed in maps for each Opportunity Zone within each of the 12 OVRDC counties. The OVRDC assisted communities with GIS and other components to support the analysis, while The Voinovich School leveraged its expertise in venture capital, angel investment, and entrepreneurship support to help communities become investment ready. A total of 8 of the 37 sites located in Opportunities Zones in OVRDC counties were identified as most investable. Portfolios were created for the identified sites that can be used for marketing of those sites to potential investors. A prominent example identified is the Winchester Industrial Park which is located in an Opportunity Zone in Adams County.

### ***Actionable Partnerships Post Project***

Three years of sustained engagement in the OVRDC region has strengthened partnerships between local and regional economic development organizations and Ohio University. While these relationships existed prior to the project, the BOBCAT Network identified ongoing areas for collaboration to support future regional growth, including the identification of new projects (e.g., Ohio River development asset mapping, workforce shortage analysis, etc.) that will take place in the near future.

## Conclusions

The BOBCAT Network was designed to assist the OVRDC region with economic diversification and transition with decline in the coal economy.

The impetus for the BOBCAT Network was the decommissioning of two Dayton Power & Light (DP&L) (*major electrical generating facilities*) facilities and a training facility in Adams County (*the OVRDC region*). An Ohio University EDA/Ohio ANEP-funded analysis previously documented these closures would have significant detrimental economic, fiscal, and workforce impacts on Adams and surrounding counties (*the regional economy*). These detrimental impacts demonstrated not only the need for immediate economic development responses to offset these losses, but also the necessity of actions reinforcing the region's long-term economic vitality by strengthening its economic development capacity and identifying opportunities for future, diverse growth.

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regional collaboration. It also demonstrated how applied scholarship and research leads to direct actionable economic development.

Over a three-year period the BOBCAT Network catalyzed regional collaborations to accelerate the region's transition out of the coal economy through a potent portfolio of economic development implementation and actionable applied scholarship in entrepreneurial growth, workforce development, industry cluster expansion, opportunity zone enhancement, and infrastructure investment.

The majority of this work took place during the 2020-2021 COVID pandemic, with all the complications which that imposed. These circumstances created challenges that sometimes slowed but never deterred the execution of the BOBCAT Network agenda. More importantly, the collective commitment required to work through such impediments elicited perseverance and innovativeness that refined and strengthened the original BOBCAT Network concept. Ultimately, the success of the BOBCAT Network is to be found in both the tangible and significant accomplishments detailed in this report, and in how navigating the COVID pandemic environment enabled the Voinovich School and its partners revealed unanticipated new opportunities for the region and strengthened this regional collaboration to meet its future challenges.

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VOINOVICH SCHOOL OF LEADERSHIP AND PUBLIC SERVICE

ADAMS COUNTY

1. ECONOMIC DEVELOPMENT SCAN

# Adams County Economic Development Scan

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of  
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August 2021

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## Existing Conditions & Community Trends

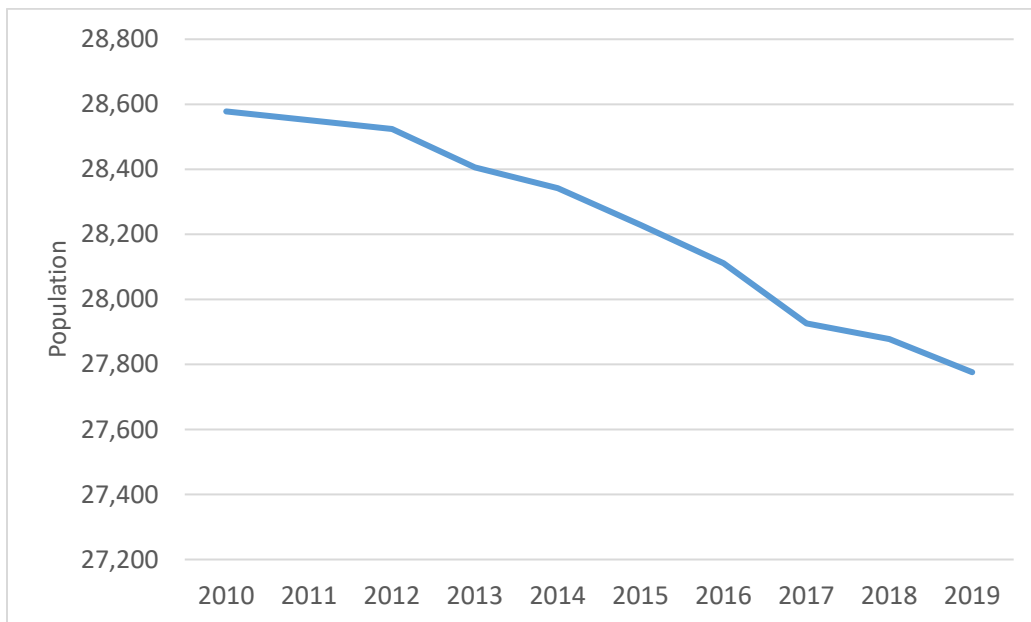
The first task associated with this work involved a demographic and economic scan to compile a solid informational foundation on key economic and demographic descriptors of Adams County.

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

### Population Growth Trends

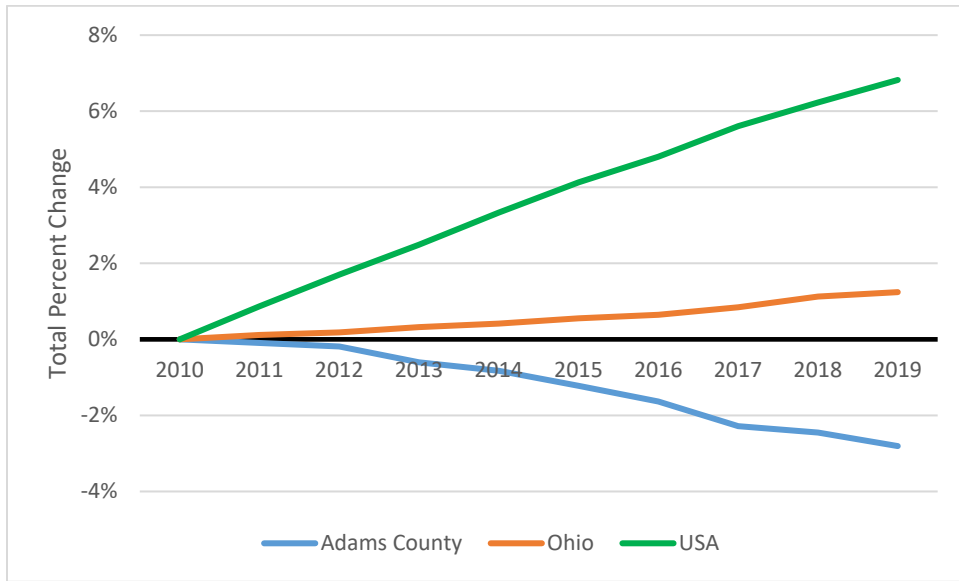
As shown in Figure 1, the population of Adams County experienced a decrease from 2010 through 2019, shrinking from 28,578 in 2010 to 27,776 in 2019. Figure 2 shows the total percent change in population in Adams County, Ohio, and the United States since 2010. From 2010 to 2019, Adams County experienced a change of -2.81%. However, Ohio and the United States experienced an increase of 1.24% and 6.82%, respectively, over the same period. Figure 3 breaks down the total percent change into annual percent change during 2011 through 2019. This shows that Adams County experienced negative growth every year, while Ohio and the United States experienced positive growth each year.

**Figure 1: Adams County Population, 2010-2019<sup>1</sup>**

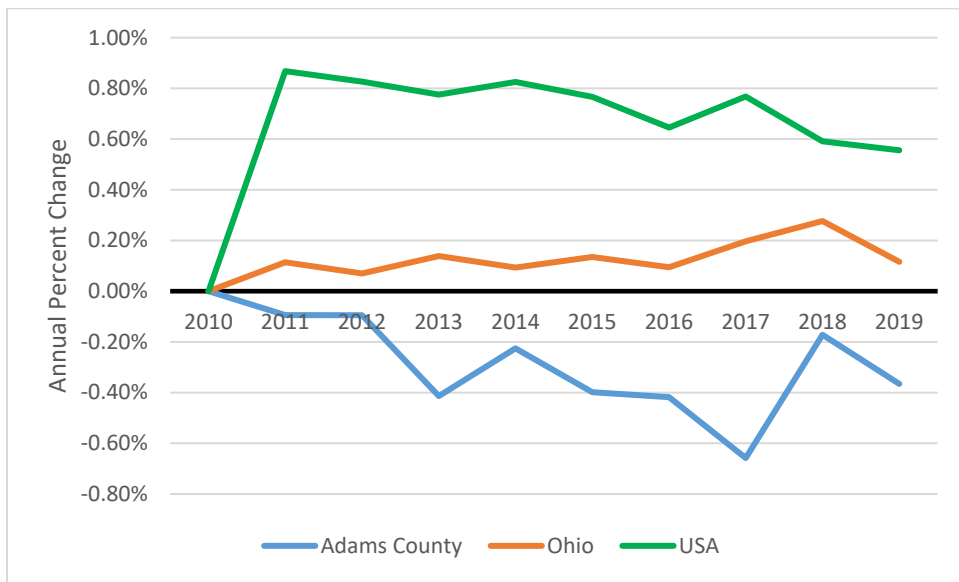


<sup>1</sup>Source: U.S. Census Bureau, 2010-2019 American Community Survey 5-Year Estimates

**Figure 2: Total Percent Population Change, 2010-2019<sup>2</sup>**



**Figure 3: Annual Population Growth, 2011-2019<sup>3</sup>**



<sup>2</sup> Source: Annual Estimates of the Resident Population: April 1, 2010, to July 1, 2019, U.S. Census Bureau, Population Division

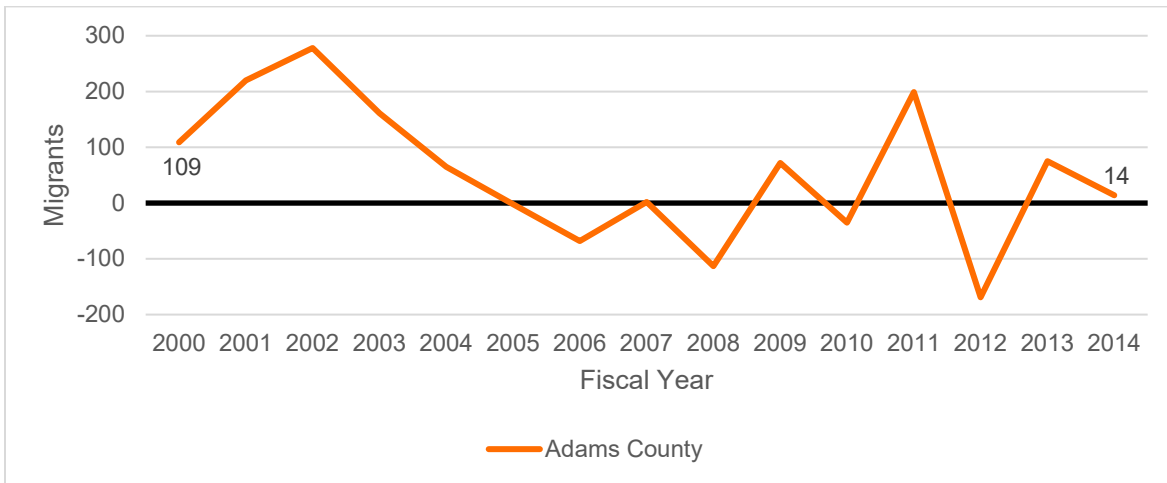
<sup>3</sup> Source: Annual Estimates of the Resident Population: April 1, 2011, to July 1, 2019, U.S. Census Bureau, Population Division



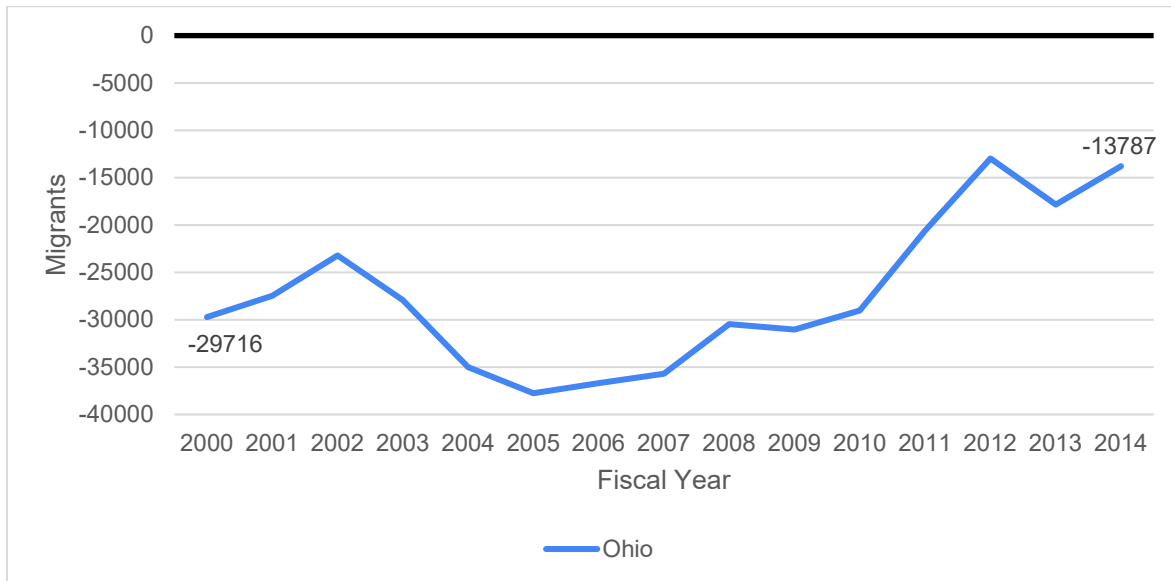
## Migration

Figures 4 and 5 show the trends in net domestic migration in Adams County and Ohio from 2000 to 2014. Although, in 2014, Adams County experienced a positive net migration and Ohio experienced a negative net migration, Adams County's overall trend has been decreasing, while Ohio's overall trend has been increasing. Adams County experienced a reduction of 87.16% in net migration from 2000 to 2014, while Ohio experienced an increase of 53.60% in net migration.

**Figure 4: Net Domestic Migration: Adams County, 2000-2014<sup>4</sup>**



**Figure 5: Net Domestic Migration: Ohio, 2000-2014<sup>5</sup>**



<sup>4</sup> Source: County Migration Patterns, Ohio Development Services Agency, Research Office, September 2017.

<sup>5</sup> Source: County Migration Patterns, Ohio Development Services Agency, Research Office, September 2017.

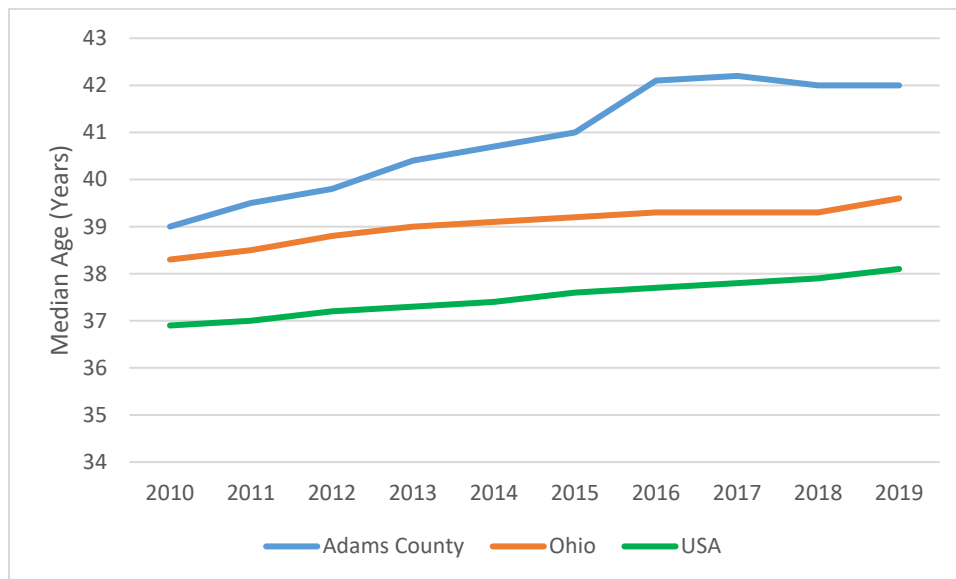
## Age Distribution

Figure 6 shows the median age in Adams County, Ohio, and United States from 2010 to 2019. The median age in Adams County has been consistently higher than in Ohio and the United States during this period. Additionally, the median age in Adams County has been increasing at a faster rate than both Ohio and the United States.

As shown in Table 1, 17.5% of the population of Adams County was older than 65 in 2019, compared to 16.7% of Ohio. Likewise, 19.7% of the population of Adams County was younger than 15, compared to 18.4% of Ohio. In contrast, only 10.9% of the population of Adams County is aged 25-34, compared to 13.1% of Ohio. Additionally, from 2010 to 2019, Adams County experienced an increase in population only in ages 55 and over, while Ohio experienced an increase in ages 25-34 in addition to ages 55 and over. Moreover, the median age of Adams County is 42.0, compared to 39.6 in Ohio. Finally, the total working age (people ages 15-65) of Adams County in 2010 was 18,503 and fell to 17,460 in 2019. Adams County's working age population decreased 5.64% from 2010 to 2019, while Ohio experienced a 1.24% decrease. This suggests that not only does Adams County have an aging population, but that they are losing a key demographic in their workforce as young people move away from the county.

Figure 7 shows the distribution of the population in Adams County in all age groups and in both sexes. This population pyramid with a very wide base and a narrow top section indicates that Adams County has a population with both high fertility and death rates. The narrowing middle of the pyramid indicates that the adult labor force is leaving Adams County for more attractive job markets, which is possibly motivated by high persistent unemployment rates shown in Figure 33.

**Figure 6: Median Age, 2010-2019<sup>6</sup>**



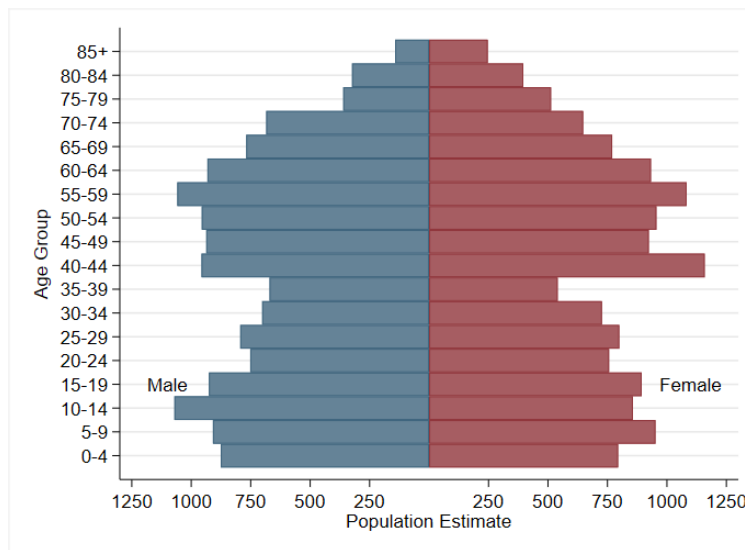
<sup>6</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

**Table 1: Age Distribution: Adams County and Ohio, 2010 and 2019**

Age Range	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					
Under 15	5,938	20.9	5,460	19.7	-9.40
15-24	3,552	12.4	3,329	12.0	-2.73
25-34	3,401	11.9	3,023	10.9	-12.50
35-44	3,882	13.6	3,328	12.0	-16.80
45-54	4,217	14.8	3,773	13.6	-12.11
55-64	3,451	12.1	4,007	14.4	13.70
65 and over	4,137	14.5	4,856	17.5	14.66
<b>Total Population</b>	<b>28,578</b>		<b>27,776</b>		<b>-2.89</b>
<b>Median Age</b>	<b>39.0</b>		<b>42.0</b>		
<b>Ohio</b>					
Under 15	2,265,348	19.7	2,147,099	18.4	-5.63
15-24	1,591,089	13.8	1,532,521	13.1	-3.67
25-34	1,414,705	12.4	1,521,875	13.1	6.95
35-44	1,546,960	13.4	1,391,747	11.9	-10.84
45-54	1,745,227	15.2	1,514,333	13.0	-14.79
55-64	1,364,403	11.9	1,606,528	13.8	14.72
65 and over	1,584,699	13.8	1,941,294	16.7	18.76
<b>Total Population</b>	<b>11,512,431</b>		<b>11,655,397</b>		<b>1.24</b>
<b>Median Age</b>	<b>38.3</b>		<b>39.4</b>		

Source: U.S. Census Bureau, American Community Survey, 2010-2019

**Figure 7: Adams County Population Pyramid, 2019<sup>7</sup>**



### Educational Attainment

Table 2 shows estimations of the educational attainment of residents aged 25 and older. Likewise, Figure 8 visualizes the educational attainment of the populations in Adams County, Ohio, and the United States. In 2019,

<sup>7</sup> Source: Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2019, U.S. Census Bureau, Population Division

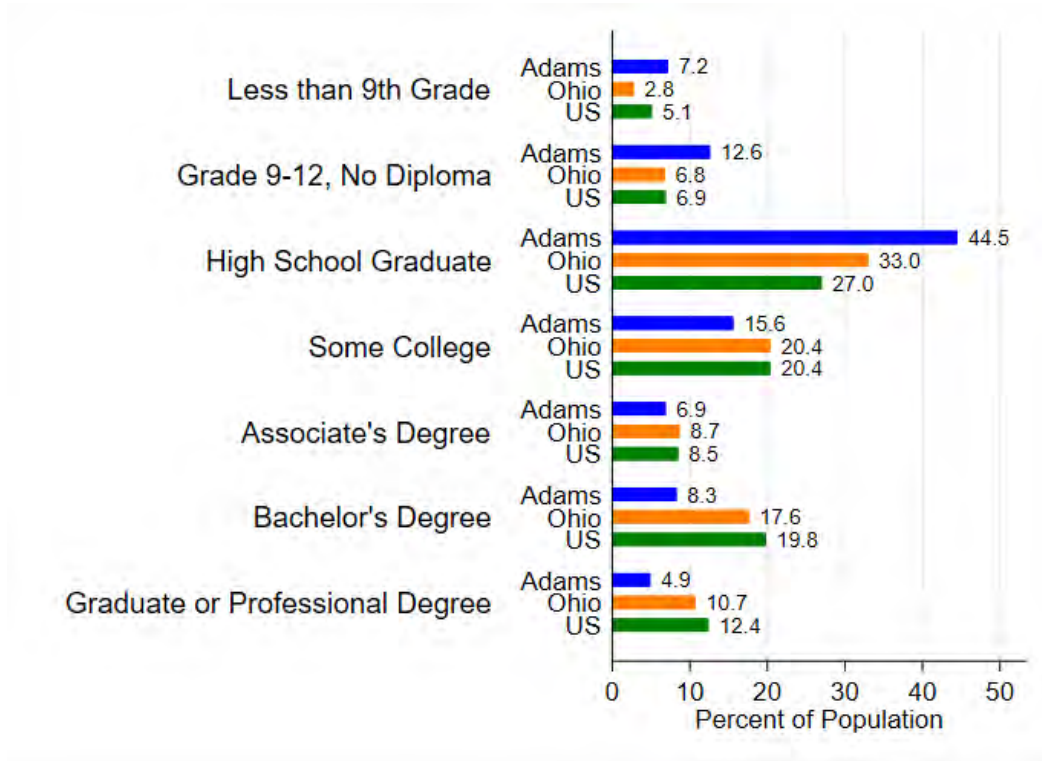
35.66% of the population of Adams County reported having some amount of college education, compared to 57.34% of Ohio and 61.04% of the United States. This shows that Adams County trails in comparison to both state and national averages. Additionally, 19.8% of Adams County's population did not have a high school diploma, while only 9.6% of the population in Ohio did not have a high school diploma. From 2010 to 2019, the proportion of the population that reported having some college education increased from roughly 28.5% to 35.7% in Adams County. Furthermore, the proportion that did not have a high school diploma decreased from 25.4% to 19.8%. This shows that both the rate of residents attaining at least some higher education and of residents graduating from high school has increased.

**Table 2: Educational Attainment: Adams County and Ohio, 2010 and 2019**

	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					
Some high school or less	4,848	25.4	3,764	19.8	-22.36
High school diploma	8,819	46.2	8,453	44.5	-4.15
Some college, no degree	2,367	12.4	2,957	15.6	24.93
Associate's degree	1,031	5.4	1,311	6.9	27.16
Bachelor's degree	1,145	6.0	1,575	8.3	37.55
Graduate or professional degree	897	4.7	927	4.9	3.34
<b>Population 25 years and over</b>	<b>19,088</b>		<b>18,987</b>		<b>-0.53</b>
<b>Ohio</b>					
Some high school or less	964,655	12.6	767,378	9.6	-20.45
High school diploma	2,740,846	35.8	2,634,997	33.	-3.86
Some college, no degree	1,538,855	20.1	1,626,965	20.4	5.73
Associate's degree	558,888	7.3	691,111	8.7	23.66
Bachelor's degree	1,171,367	15.3	1,401,609	17.6	19.66
Graduate or professional degree	673,727	8.8	853,717	10.7	26.72
<b>Population 25 years and over</b>	<b>7,655,994</b>		<b>7,975,777</b>		<b>4.18</b>

Source: U.S. Census Bureau, American Community Survey, Educational Attainment, 2010-2019

**Figure 8: Educational Attainment, 2019<sup>8</sup>**

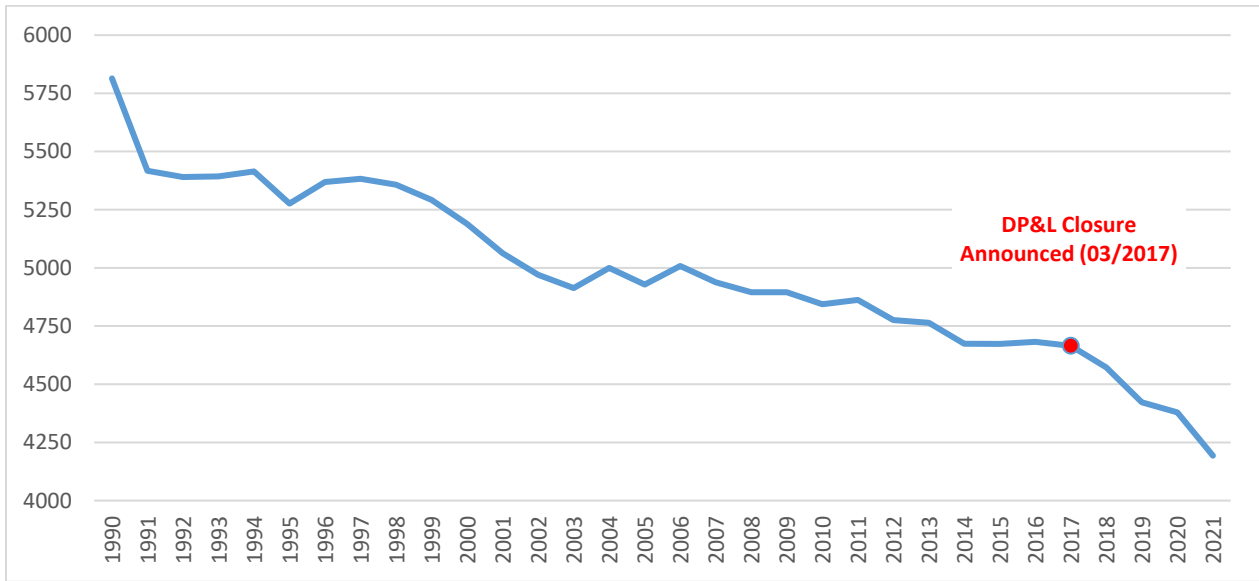


### School Enrollment Trends

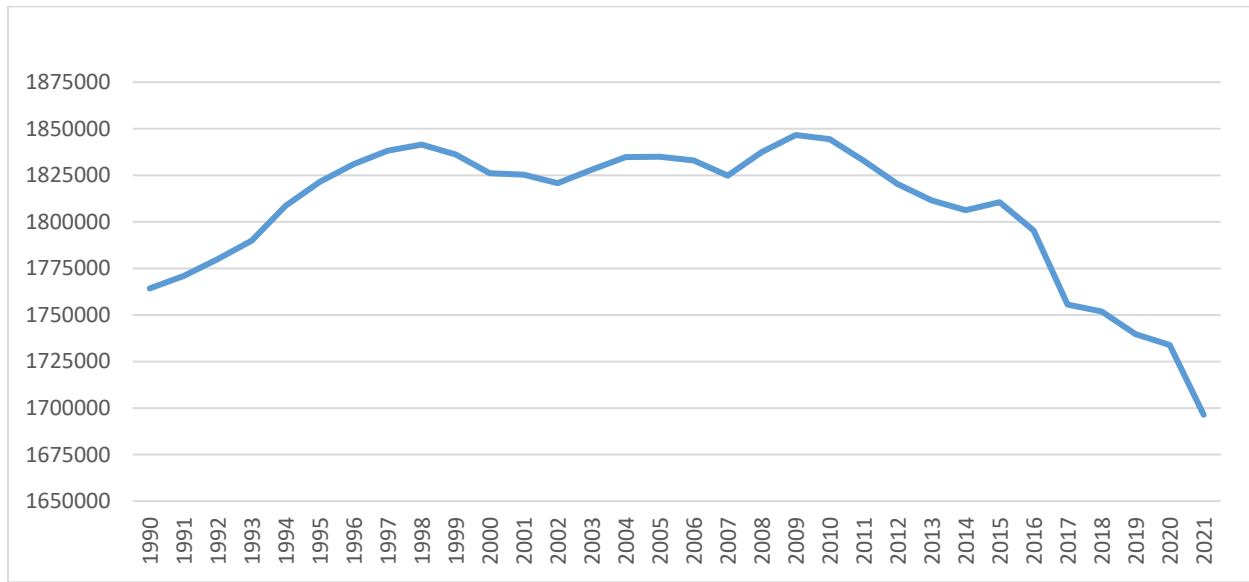
Figure 9 visualizes the number of students enrolled in Adams County’s school districts from 1990 to 2021. During this period, enrollment generally declined with periods of stabilization, decreasing from 5,814 students to 4,193, an overall loss of 27.88%. To show how this compares to the overall state, Figure 10 shows the total enrollment of all schools in Ohio. The enrollment for the state peaked in 2009 with a total enrollment of 1,846,658 students and has generally declined since. State enrollment declined 3.85% from 1990 to 2021. Therefore, while the state’s school enrollment has decreased over the last decade, Adams County’s schools have been hit especially hard. Additionally, the rate of decline increased after it was announced that the DP&L plants were closing. Figures 11 and 12 show enrollment in Adams County’s two school districts: Ohio Valley and Manchester Local. These figures show that while enrollment in the Ohio Valley School District had been steadily decreasing, enrollment in the Manchester Local School District had been stable or increasing most years between 2005 and 2017. After the announcement of the DP&L closures, enrollment fell at a faster rate than previous years, decreasing to 724 students, which is the lowest the enrollment has been since the creation of the district in 2005.

<sup>8</sup> Source: U.S. Census Bureau, 2013-2019 American Community Survey 5-Year Estimates

**Figure 9: Adams County School Enrollment, 1990-2021<sup>9</sup>**



**Figure 10: Ohio School Enrollment, 1990-2021<sup>10</sup>**



<sup>9</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2021

<sup>10</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2021

Figure 11: Ohio Valley School District Enrollment, 1990-2021<sup>11</sup>

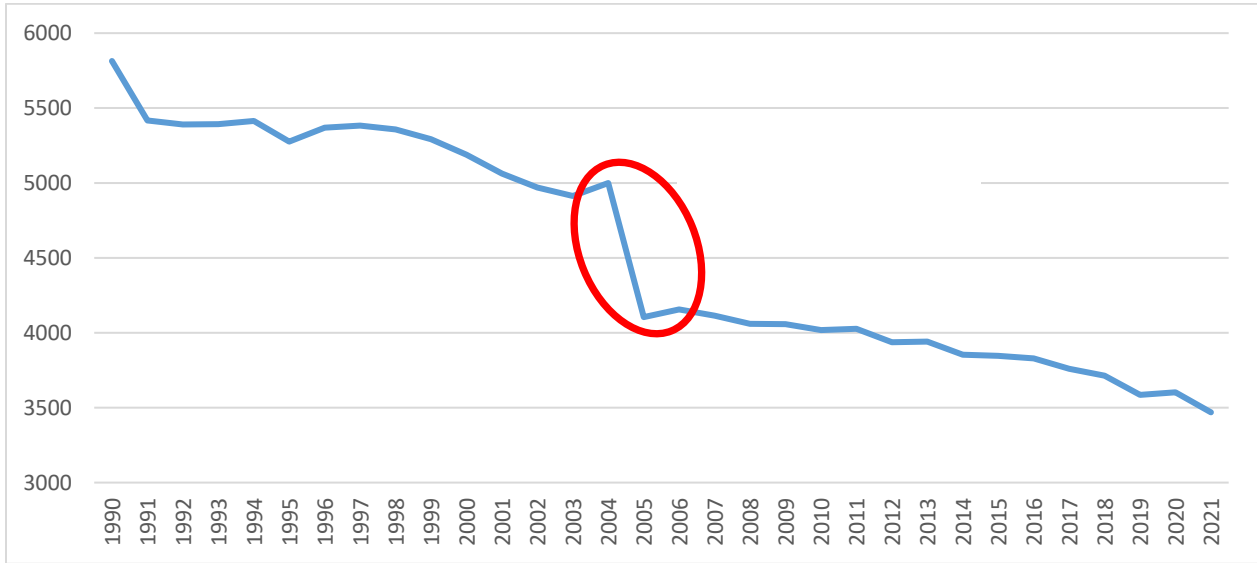
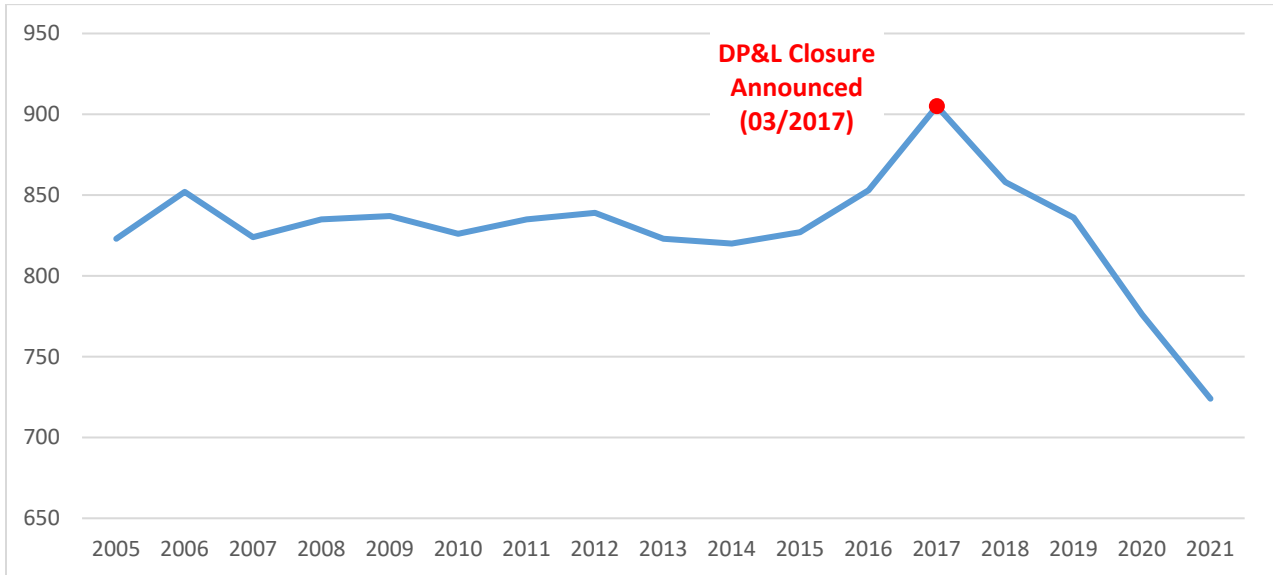


Figure 12: Manchester Local District Enrollment, 2005-2021<sup>12</sup>



<sup>11</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2021

<sup>12</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2021

## Quality of Schools

The Ohio Department of Education grades each school district in the state according to how well they meet certain criteria. Table 3 shows the ranking of the two school districts in Adams County, Ohio Valley and Manchester Local, in comparison to the average rankings for the state of Ohio. Overall, the two school districts of interest rank about as well as Ohio as a whole. The Manchester Local School District ranks better than or as well as the Ohio Valley School District in every category. However, the Manchester Local district was more severely impacted by the closures of the DP&L plants. One weakness worth mentioning for both school districts is how well they are perceived at preparing students for success. This component is measured as a proportion of students who either 1) earn a remediation-free score on the ACT or SAT, 2) earn an honor’s diploma, or 3) earn 12 points in an industry recognized credential or group of credentials in one of thirteen high-demand fields. A score of “F” means that less than 40% have achieved any of these three goals, indicating that high school graduates are not well prepared for successful careers. Figure 13 depicts the quality of each school in Adams County. Both schools in the Manchester Local School District were graded “C”. Two of six schools in the Ohio Valley School District were graded “C”. The other four schools were graded “D”.

**Table 3: Quality of Schools in Adams County’s School Districts and Ohio<sup>13</sup>**

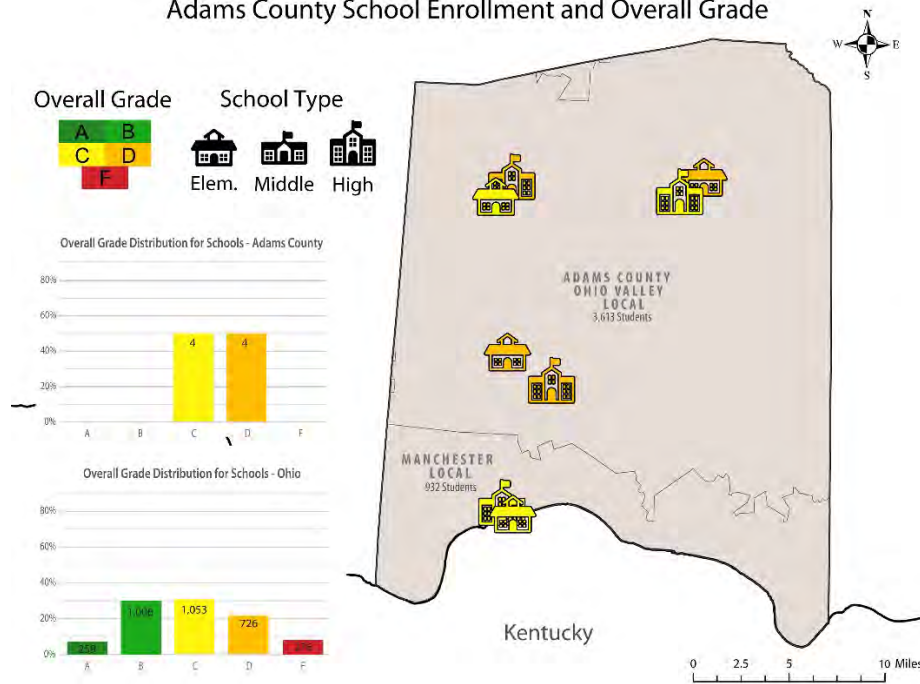
Component	Definition	Weight	Ohio	Ohio Valley	Manchester Local
Achievement	Number of students who passed the state tests	20%	C	C	C
Progress	Growth students make based on past years standardized tests	20%	C	D	B
Graduation Rate	How many students successfully complete high school in 4-5 years	15%	B	B	A
Gap Closing	How well schools meet performance expectations for all students	15%	B	B	B
Improving At-Risk K-3 Readers	How successful the school is at getting struggling readers on track to proficiency in third grade and beyond.	15%	D	D	C
Prepared for Success	How well students are prepared for all future opportunities, not just college	15%	D	F	F
Overall	Weighted total average of all six components	-	C	D	C

<sup>13</sup> Source: Ohio Department of Education, Ohio School Report Cards Data 2019



**Figure 13: Quality of Schools in Adams County<sup>14</sup>**

Adams County School Enrollment and Overall Grade



Household Income Distribution

Table 4 describes the number and annual income distributions of households in Adams County and Ohio for the years of 2010 and 2019. 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 2019, the largest proportion of Adams County households fell into the \$15,000-24,999 income range. However, the largest proportion of households statewide fell into \$50,000-74,999 income range. Furthermore, 46.1% of Adams County’s households earned less than \$35,000 in 2019, compared to 31.1% for Ohio. Adams County’s median income grew by 19.18% from 2010 to 2019, a comparable growth rate to Ohio at 19.52%.

Figure 14 shows the changes in median household income for Adams County, Ohio, and the United States from 2011 to 2019. From 2011 to 2019, Ohio and the United States both experienced a steady increase in household income. Adams County appears to have been mostly insulated from the growth in household income observed at the state and national levels, having real median household income increase by only \$6,200 compared to \$9,200 and \$10,900 for Ohio and the United States, respectively. Additionally, Adams County experienced two years of negative real growth in 2014 and 2016.

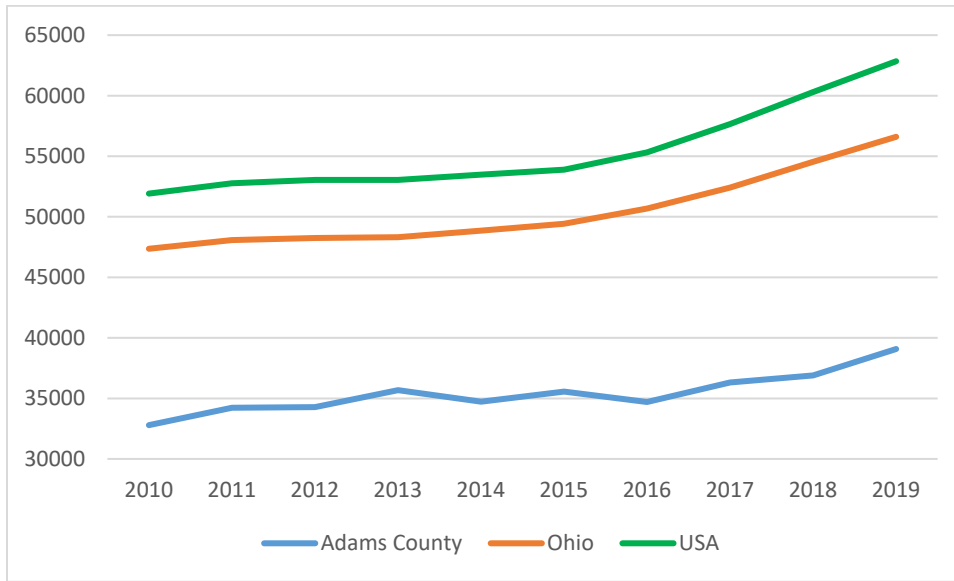
<sup>14</sup> Source: Ohio Department of Education, Ohio School Report Cards Data 2019

**Table 4: Household Income Distribution: Adams County and Ohio, 2010 and 2019**

Household Income	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					
Less than \$10,000	1,422	13.2	1,195	11.2	-15.96
\$10,000 to \$14,999	1,073	10.0	544	5.1	-49.30
\$15,000 to \$24,999	1,734	16.1	1,846	17.3	6.46
\$25,000 to \$34,999	1,436	13.4	1,334	12.5	-7.10
\$35,000 to \$49,999	1,736	16.1	1,494	14.0	-13.94
\$50,000 to \$74,999	1,599	14.9	1,537	14.4	-3.88
\$75,000 to \$99,999	869	8.1	1,067	10.0	22.78
\$100,000 to \$149,999	646	6	1,142	10.7	76.78
\$150,000 to \$199,999	136	1.3	299	2.8	119.85
\$200,000 or more	103	1.0	213	2.0	106.80
<b>Total Households</b>	<b>10,734</b>		<b>10,673</b>		<b>-0.57</b>
Median income	\$32,791		\$39,079		19.18
Mean income	\$45,351		\$56,865		25.39
<b>Ohio</b>					
Less than \$10,000	372,468	8.2	317,992	6.8	-14.63
\$10,000 to \$14,999	268,211	5.9	215,112	4.6	-19.80
\$15,000 to \$24,999	534,177	11.7	462,959	9.9	-13.33
\$25,000 to \$34,999	520,543	11.4	458,283	9.8	-11.96
\$35,000 to \$49,999	691,867	15.2	626,632	13.4	-9.43
\$50,000 to \$74,999	874,828	19.2	855,774	18.3	-2.18
\$75,000 to \$99,999	546,220	12	607,927	13.0	11.30
\$100,000 to \$149,999	481,959	10.6	659,366	14.1	36.81
\$150,000 to \$199,999	144,656	3.2	247,847	5.3	71.34
\$200,000 or more	117,341	2.6	229,142	4.9	95.28
<b>Total Households</b>	<b>4,552,270</b>		<b>4,676,358</b>		<b>2.73</b>
Median income	\$47,358		\$56,602		19.52
Mean income	\$62,205		\$76,958		23.72

Source: U.S. Census Bureau, American Community Survey, Income in the Past 12 Months, 2010-2019

**Figure 14: Median Household Income, 2011-2019<sup>15</sup>**



### Year Housing Structure Built

Table 5 shows the distribution of when housing structures were built in Adams County and Ohio. It shows that 33.4% of housing structures in Adams County were constructed between 1980 and 1999. This is greater than that of Ohio, which had 20.9%. Furthermore, 49.6% of housing units in Adams County were constructed before 1980, compared to 66.6% constructed in Ohio. This shows that Adams County has constructed fewer new housing units, but also has fewer amounts of much older housing units compared to the statewide averages.

**Table 5: Year Structure Built: Adams County and Ohio, 2019**

YEAR BUILT	Adams County		Ohio	
	Number	Percent	Number	Percent
Built 1939 or earlier	2,359	18.2	1,045,218	20.1
Built 1940 to 1949	464	3.6	318,690	6.1
Built 1950 to 1959	769	5.9	732,150	14.1
Built 1960 to 1969	823	6.4	627,554	12.1
Built 1970 to 1979	2,003	15.5	741,862	14.3
Built 1980 to 1989	2,115	16.3	468,478	9.0
Built 1990 to 1999	2,209	17.1	616,264	11.8
Built 2000 to 2009	1,832	14.2	496,019	9.5
Built 2010 to 2013	255	2.0	82,036	1.6
Built 2014 or later	108	0.8	74,033	1.4
<b>Total Housing Units</b>	<b>12,937</b>		<b>5,202,304</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

<sup>15</sup> U.S. Census Bureau, American Community Survey, Income in the Past 12 Months, 2011-2019

## Housing Property Values

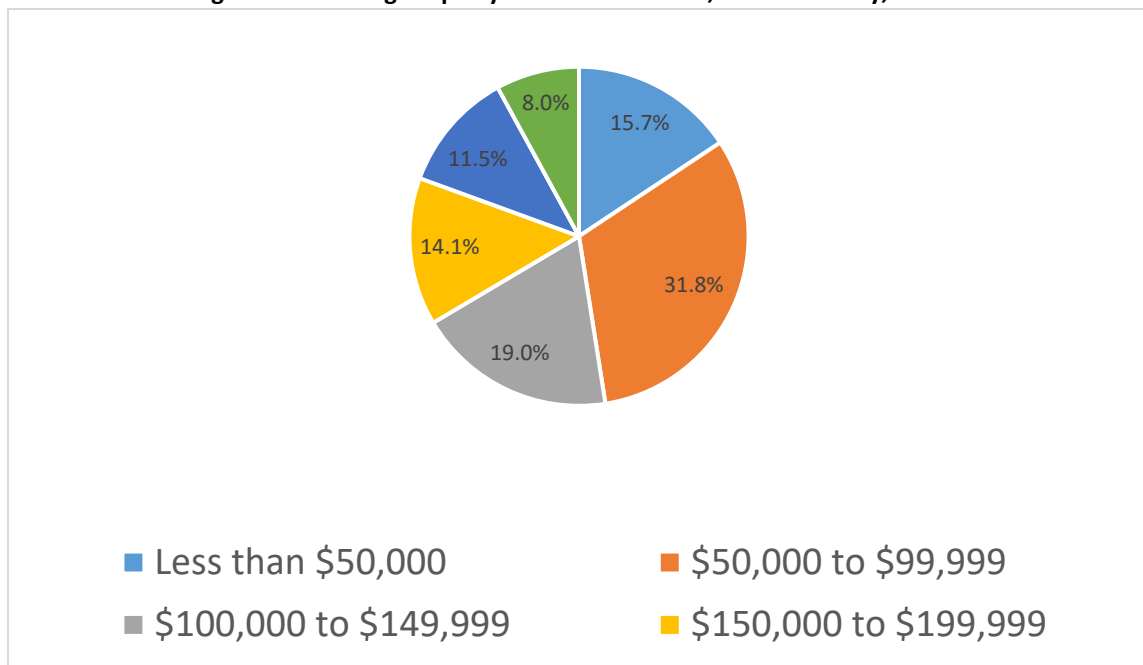
Table 6 displays the current property value distribution of housing structures in Adams County and Ohio. This data shows that the property values in Adams County are much lower than that of the surrounding area. In 2019, there were 7,559 recorded homes in Adams County with a median value of \$105,300, which is \$40,700 lower than Ohio and \$112,200 less than the United States. This is further supported by the fact that 47.5% of Adams County's housing units are valued at less than \$100,000, while only 30.1% of Ohio's are worth less than \$100,000. Figure 15 visualizes the distribution of housing property values in Adams County. The most common housing property value range was \$50,000 to \$99,999, comprising 31.33% of all houses. The least common range was greater than \$300,000, comprising 8.0% of all houses.

**Table 6: Property Values: Adams County and Ohio, 2019**

VALUE	Adams County		Ohio	
	Number	Percent	Number	Percent
Less than \$50,000	1,185	15.7	263,511	8.5
\$50,000 to \$99,999	2,406	31.8	667,512	21.6
\$100,000 to \$149,999	1,434	19.0	667,864	21.6
\$150,000 to \$199,999	1,065	14.1	544,500	17.6
\$200,000 to \$299,999	867	11.5	538,100	17.4
\$300,000 to \$499,999	321	4.2	302,961	9.8
\$500,000 to \$999,999	273	3.6	87,988	2.8
\$1,00,000 or more	8	0.1	16,610	0.5
<b>Median (dollars)</b>	<b>\$105,300</b>		<b>\$145,700</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

**Figure 15: Housing Property Value Distribution, Adams County, 2019<sup>16</sup>**



<sup>16</sup> Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

## Rent Distribution

Table 7 presents the rent payment distribution of Adams County and Ohio in 2019. The highest rent range in Adams County has been \$1,500 to \$1,999, which only accounts for 0.6% of the units. This shows that Adams County lacks higher end rental units. Additionally, the median rent price in Adams County is about \$232 less than the state median. Furthermore, Adams County has a large proportion of rental property collecting no rent.

**Table 7: Units Paying Rent: Adams County and Ohio, 2019**

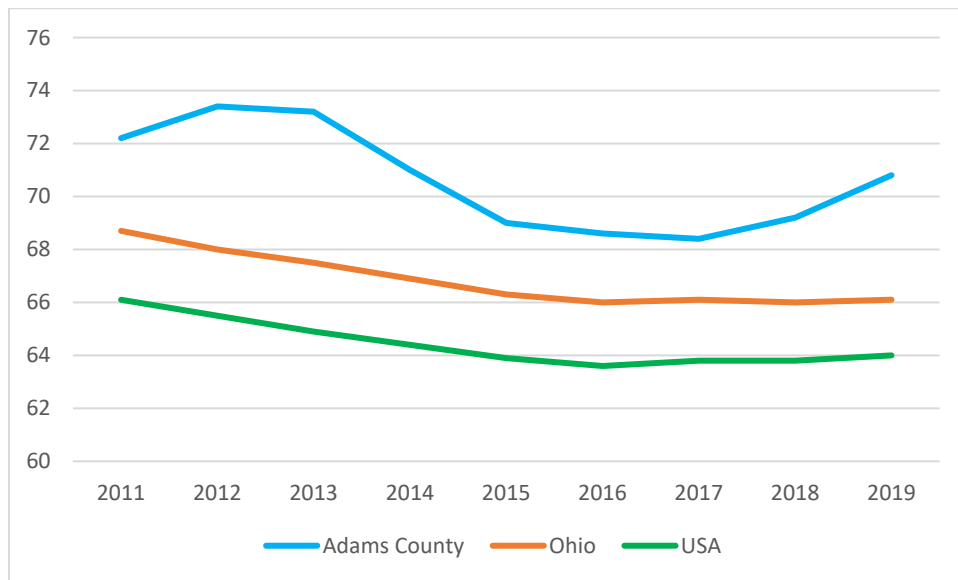
GROSS RENT	Adams County		Ohio	
	Number	Percent	Number	Percent
Less than \$500	861	36.1	203,826	13.5
\$500 to \$999	1,334	55.9	878,410	58.3
\$1,000 to \$1,499	175	7.3	336,129	22.3
\$1,500 to \$1,999	15	0.6	62,194	4.1
\$2,000 to \$2,499	0	0.0	15,765	1.0
\$2,500 to \$2,999	0	0.0	4,612	0.3
\$3,000 or more	0	0.0	6,168	0.4
<b>Total Units</b>	<b>2,385</b>		<b>1,507,104</b>	
<b>Median (dollars)</b>	<b>\$576</b>		<b>\$808</b>	
<b>No rent paid</b>	<b>729</b>		<b>80,208</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

## Homeownership

Figure 16 shows the homeownership trends for Adams County, Ohio, and the United States from 2011 to 2019. Adams County experienced decreasing homeownership rates as did the national and state-level rates following the 2008 housing crisis. By 2017, 68.4% of Adams County residents owned their house compared to 72.2% in 2011. This is a larger share than at both the national and state-level, with the national rate falling from 66.1% to 63.8% and the state rate falling from 68.7% to 66.1% during this period. However, while the national and state numbers stayed relative stable from 2017 to 2019, Adams County rebounded to 70.8% in 2019. This may be due be contributed to factors such as a limited housing stock allowing for larger swings with fewer purchases, as well as the less expensive nature of the housing stock being more affordable for homebuyers.

**Figure 16: Homeownership Rate, 2011-2019<sup>17</sup>**

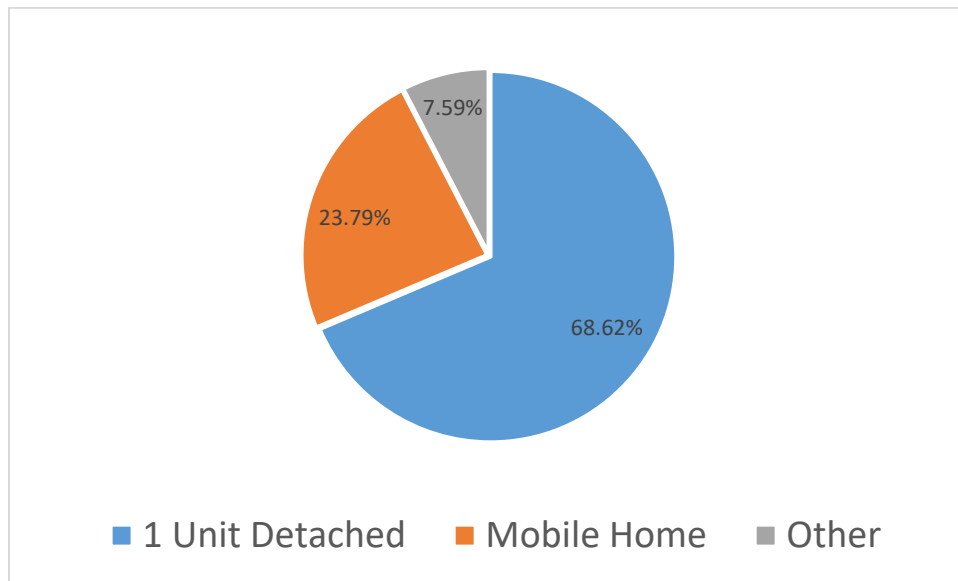


## Housing Units Structure

Figure 17 shows the distribution of type of housing units in Adams County. In 2019, the most common housing unit structure was a one unit detached house, or single-family home, and accounted for over 68% of housing units in Adams County. Additionally, over 23% of Adams County residents live in mobile home. This is much higher than the national average of mobile home occupancy, which was 6.2% in 2019.

<sup>17</sup> Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

**Figure 17: Housing Unit Structure Distribution, Adams County, 2019<sup>18</sup>**



## Health Outcomes

Figure 18 depicts the percentages of diagnosed adult asthma, diagnosed diabetes, and obesity prevalence in Adams County and Ohio in 2017. Adams County's proportion of adults with asthma of 15% and with diabetes of 12% were slightly higher than the Ohio averages of 13.7% and 11.3%, respectively. Additionally, Adams County has a higher obesity prevalence of 40% than the Ohio average of 33.8%.

Figure 19 presents heart disease and stroke hospitalization and death rates from 2014-2016 in Adams County and Ohio. Per 1,000 beneficiaries, about 145 were hospitalized for heart disease and 21 were hospitalized for stroke in Adams County, showing that the county's hospitalization rates were slightly lower than those recorded in Ohio. However, death rates in Adams County were higher than those in the state, with about 64 more heart disease patients and 5 more stroke patients dying in Adams County per 100,000 people.

Figure 20 shows the rate of the four most common cancers in Adams County and Ohio in 2016. The most common cancer in Ohio is prostate cancer, followed by breast cancer, lung and bronchus cancers, and colon and rectum cancers. The most common cancer in Adams County is lung and bronchus cancers, followed by prostate cancer, breast cancer, and colon and rectum cancers. The rates of breast cancer and prostate cancer in Adams County are lower, but comparable to the rates in Ohio. Similarly, the rate of colon and rectum cancers in Adams County is higher, but comparable to the rate in Ohio. However, the rate of lung and bronchus cancers in Adams County is much higher than the rate in Ohio.

Figure 21 shows the leading causes of death in Adams County and Ohio. Heart disease and malignant neoplasms (cancerous tumors) are the leading causes of death in Adams County and Ohio. The death rates for heart disease, malignant neoplasms, and cerebrovascular disease are slightly lower in Adams County than in Ohio. However, the death rates for chronic lower respiratory diseases and accidents are higher in Adams County than in Ohio.

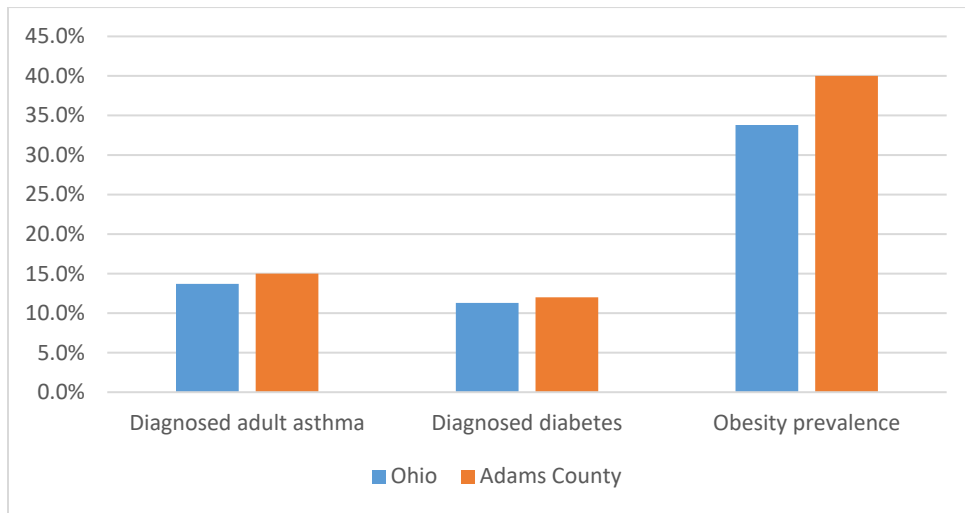
Figure 22 shows the unintentional drug overdose death rate per 100,000 people in Adams County and Ohio from 2007 to 2017. In 2017, the death rate in Adams County was 50.35 per 100,000 people, compared to 41.61 in Ohio.

<sup>18</sup> Source: U.S. Census Bureau, 2013-2019 American Community Survey 5-Year Estimates

While the Adams County death rate has been consistently higher than the Ohio death rate, they have followed a similar increasing trend during this period.

Table 8 compares the results of certain measures used to rank health statistics for the United States, Ohio, and Adams County in 2018. The table lists the rankings of health outcomes including health factors such as health behaviors, clinical care, social and economic factors, and physical environments. Most notably Adams County trails behind national and state ratios comparing the population’s health outcomes, access to clinical care providers, and access to exercise opportunities. Additionally, exceeds the national and state ratios comparing the population’s teen birth rate and injury death rate.

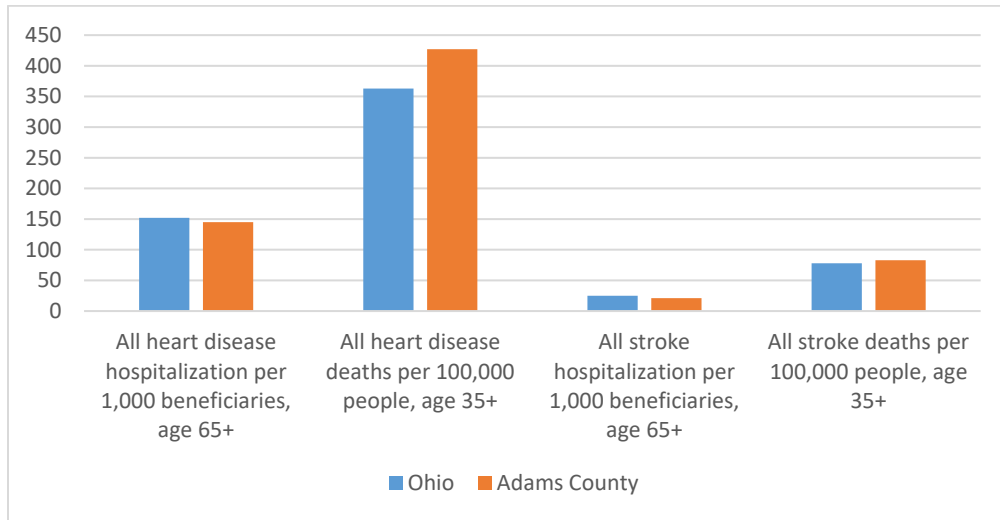
**Figure 18: Asthma, Diabetes, and Obesity Percentages, 2017<sup>19</sup>**



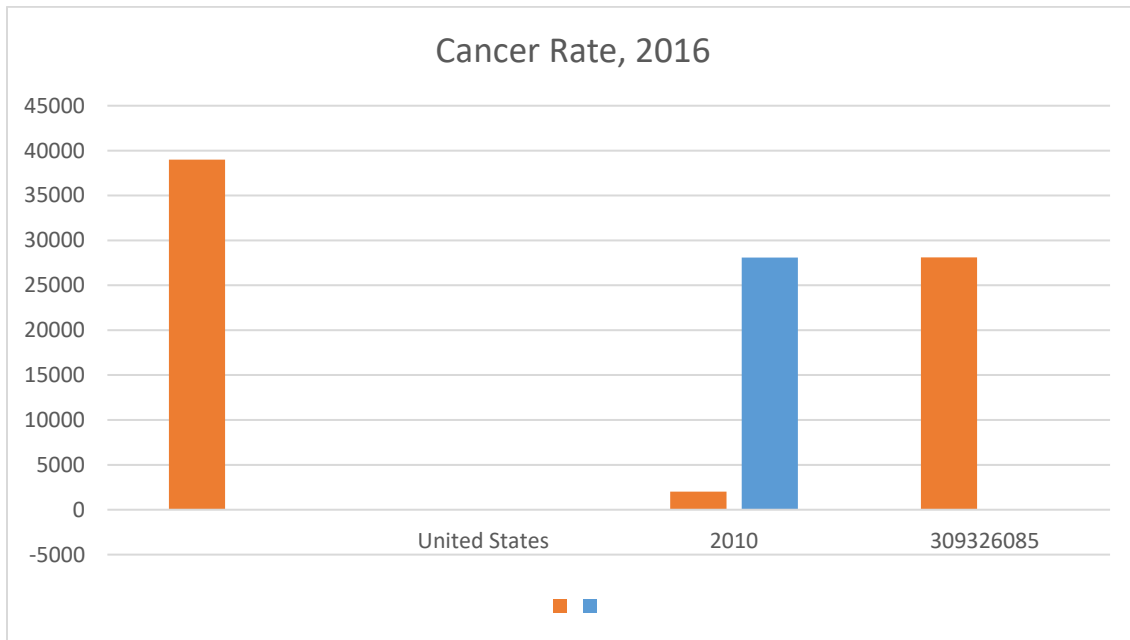
<sup>19</sup> Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2017



**Figure 19: Heart Disease and Stroke Hospitalization and Death Rates, 2014-2016 estimate<sup>20</sup>**



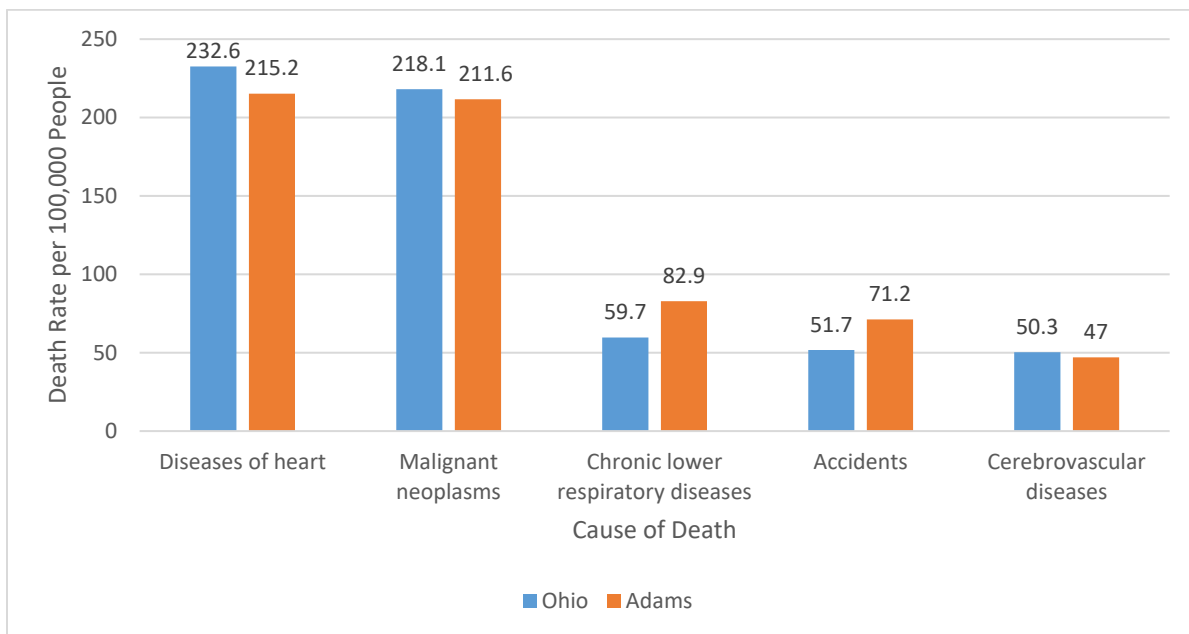
**Figure 20: Cancer Rate, Adams County and Ohio, 2016<sup>21</sup>**



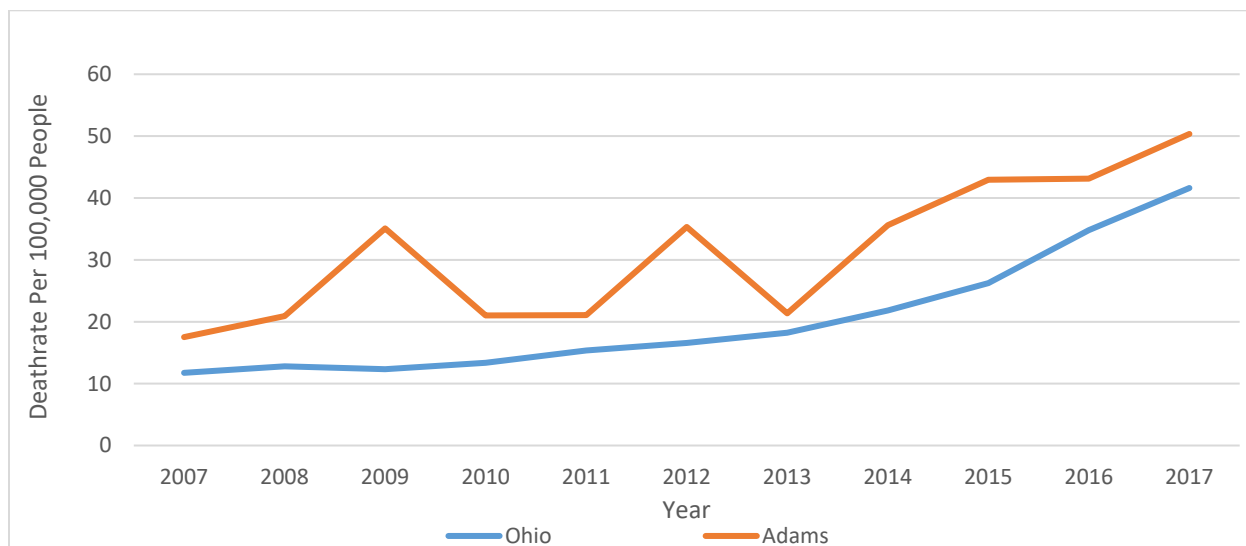
<sup>20</sup> Source: National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, 2014-2016

<sup>21</sup> Source: Ohio Department of Health, Cancer Incidence Data, 2016

**Figure 21: Leading Cause of Death: Adams County and Ohio, 2007-2017<sup>22</sup>**



**Figure 22: Unintentional Drug Overdose Death Rate, Adams County and Ohio, 2007-2017<sup>23</sup>**



<sup>22</sup> Ohio Department of Health, Mortality Dataset, 2007-Present

<sup>23</sup> Source: Ohio Department of Health, Mortality Dataset, 2007-2017

**Table 8: Health Rankings with Measures and Results: United States, Ohio, and Adams County, 2018<sup>24</sup>**

Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>HEALTH OUTCOMES</b>						
<b>Premature Death</b>	Years of potential life lost before age 75 per 100,000 population	6,700	7,700	3,800	11,700	10,600
<b>Poor or fair health</b>	% of adults reporting fair or poor health	16%	17%	10%	23%	23%
<b>Poor physical health days</b>	Average # of physically unhealthy days reported in past 30 days	3.7	4.0	3.0	4.7	4.7
<b>Poor mental health days</b>	Average # of mentally unhealthy days reported in past 30 days	3.8	4.3	3.3	4.7	4.6
<b>Low birthweight</b>	% of live births with low birthweight (< 2500 grams)	8%	9%	5%	11%	10%

<sup>24</sup> University of Wisconsin, Population Health Institute, County Health Rankings, 2018

Measure	Description	US	OH	OH Min	OH Max	Adams County
<b>HEALTH FACTORS</b>						
<b>HEALTH BEHAVIORS</b>						
<b>Adult Smoking</b>	% of adults who are current smokers	17%	23%	14%	25%	25%
<b>Adult obesity</b>	% of adults that report a BMI $\geq$ 30	28%	32%	27%	40%	32%
<b>Food environment index</b>	Index of actors that contribute to a healthy food environment, (0-10)	7.7	6.6	5.7	8.9	7.1
<b>Physical inactivity</b>	% of adults aged 20 and over reporting no leisure-time physical activity	23%	26%	19%	36%	29%
<b>Access to exercise opportunities</b>	% of population with adequate access to locations for physical activity	83%	85%	16%	97%	40%
<b>Excessive drinking</b>	% of adults reporting binge or heavy drinking	18%	19%	16%	21%	17%
<b>Alcohol-impaired driving deaths</b>	% of driving deaths with alcohol involvement	29%	34%	16%	60%	32%
<b>Sexually transmitted infections</b>	# of newly diagnosed chlamydia cases per 100,000 population	478.8	489.3	84.3	847.2	266.6
<b>Teen births</b>	# of births per 1,000 female population ages 15-19	27	28	8	53	46

Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>CLINICAL CARE</b>						
<b>Uninsured</b>	% of population under age 65 without health insurance	11%	8%	4%	22%	9%
<b>Primary care physicians</b>	Ratio of population to primary care physicians	1,320:1	1,310:1	14,780:1	750:1	2,800:1
<b>Dentists</b>	Ratio of population to dentists	1,480:1	1,660:1	15,310:1	980:1	2,790:1
<b>Mental health providers</b>	Ratio of population to mental health providers	470:1	560:1	10,980:1	340:1	1,990:1
<b>Preventable hospital stays</b>	# of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	49	57	33	120	120
<b>Diabetes monitoring</b>	% of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	85%	85%	74%	93%	80%
<b>Mammography screening</b>	% of female Medicare enrollees ages 67-69 that receive mammography screening	63%	61%	48%	69%	52%

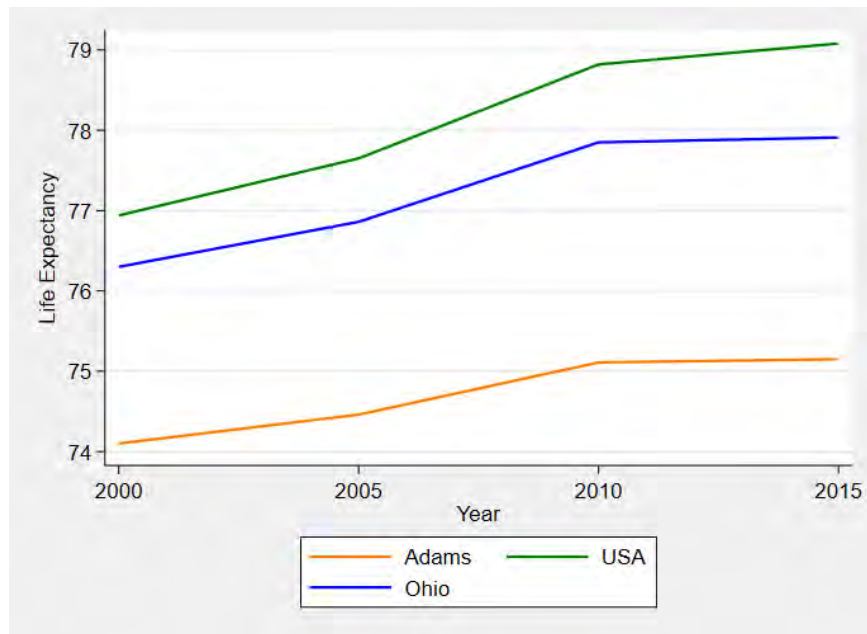
Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>SOCIAL AND ECONOMIC FACTORS</b>						
<b>High school graduation</b>	% of ninth-grade cohort that graduates in four years	83%	81%	33%	98%	93%
<b>Some college</b>	% of adults ages 25-44 with some post-secondary education	65%	65%	19%	83%	38%
<b>Unemployment</b>	% of population aged 16 and older unemployed but seeking work	4.9%	4.9%	3.2%	11.1%	7.5%
<b>Children in poverty</b>	% of children under age 18 in poverty	20%	20%	5%	32%	30%
<b>Income inequality</b>	Ratio of household income at the 80th percentile to income at the 20th percentile	5	4.8	3.5	6.9	5.5
<b>Children in single-parent households</b>	% of children that live in a household headed by a single parent	34%	36%	8%	47%	38%
<b>Social associations</b>	# of membership associations per 10,000 population	9.3	11.3	5.4	22.5	9.6
<b>Violent crime</b>	# of reported violent crime offenses per 100,000 population	380	290	20	794	84
<b>Injury deaths</b>	# of deaths due to injury per 100,000 population	65	75	40	111	107

Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>PHYSICAL ENVIRONMENT</b>						
<b>Air pollution - particulate matter</b>	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	8.7	11.3	10.5	13.0	11.3
<b>Drinking water violations</b>	Indicator of the presence of health related drinking water violations. Yes - indicates the presence of a violation, No - indicates no violation.	NA	NA	No	Yes	No
<b>Severe housing problems</b>	% of households with overcrowding, high housing costs, or lack of kitchen or plumbing facilities	19%	15%	8%	24%	18%
<b>Driving alone to work</b>	% of workforce that drives alone to work	76%	83%	53%	89%	80%
<b>Long commute - driving alone</b>	Among workers who commute in their car alone, % commuting > 30 minutes	35%	30%	16%	57%	49%

Life Expectancy

Figure 23 shows that life expectancy in Adams County has consistently remained below the national and state averages from 2000 to 2015. Specifically, Adams County life expectancy has increased from 74.1 years to 75.15 years, about a 1.42% increase. Ohio life expectancy was 76.3 years in 2000 and increased by 2.11% to 77.91 years in 2015. The average national life expectancy was 76.94 years in 2000 and increased by 2.78% to 79.98 years in 2015. In addition to Adams County experiencing a lower life expectancy by over 4 years with respect to the national average, Adams County’s growth rate has only been about half as fast as the national average.

Figure 23: Life Expectancy, 2000-2015<sup>25</sup>



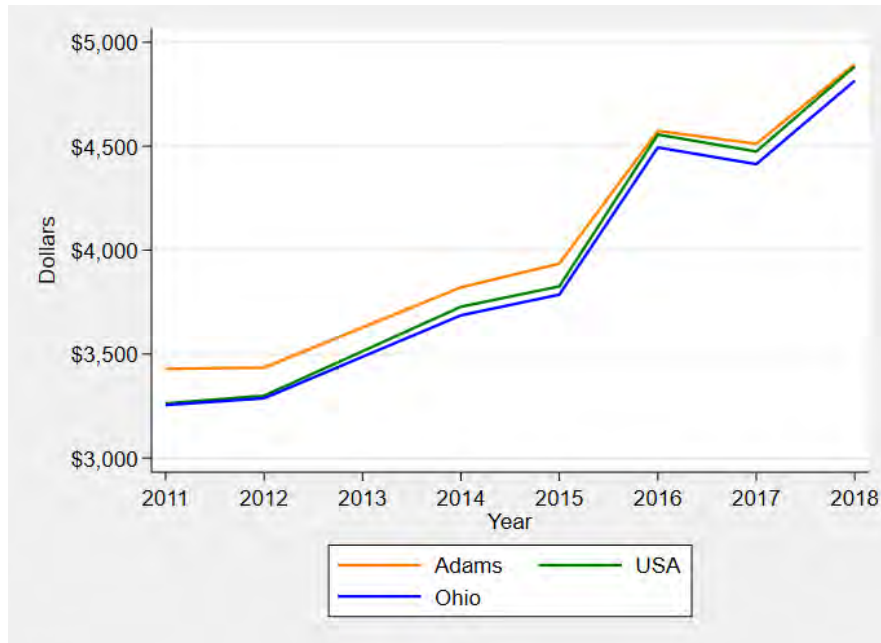
### Healthcare Spending

Figure 24 shows that healthcare spending in Adams County has followed a very similar trend to both Ohio and the United States. Median household spending was \$3,429 in 2011 and has grown to \$4,894 in 2018 in Adams County. This spending has been consistently slightly higher than both the state and national medians, which were about \$3,255 and \$3,263 in 2011 and \$4,815 and \$4,884 in 2018, respectively.

<sup>25</sup> Source: Institute for Health Metrics and Evaluation, Global Health Data Exchange, 2000-2015



Figure 24: Healthcare Spending, 2011-2018<sup>26</sup>

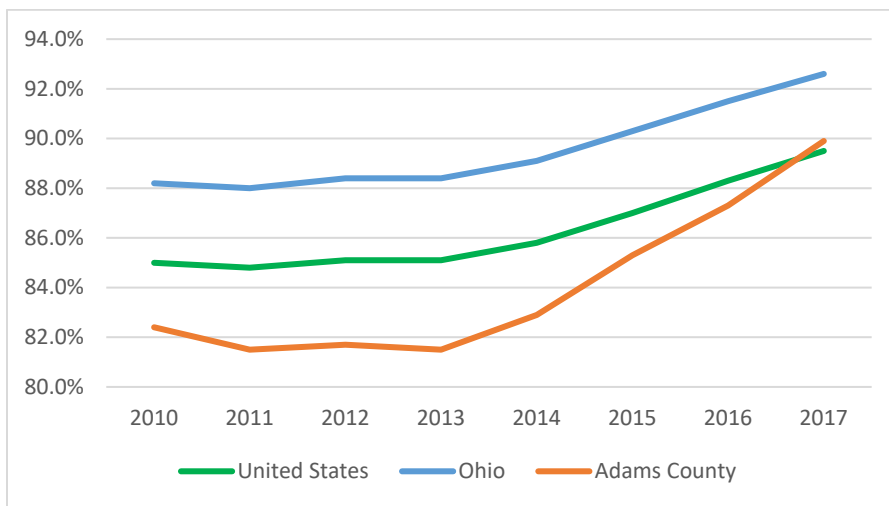


## Health Insurance

Figure 25 shows the percentage of population with health insurance in Adams County, Ohio, and the United States. The graph shows that the percentage with health insurance was relatively stable from 2010 to 2013, then experienced an increase afterwards at all three levels. This may correlate to the enactment of the Affordable Care Act in 2014. In 2017, 89.9% of the population of Adams County had health insurance, compared to 92.6% and 89.5% of Ohio and the United States, respectively. The percentage of the population with health insurance in Adams County has been consistently lower than Ohio from 2010 to 2017. Likewise, the percentage of the population with health insurance in Adams County was lower than the United States from 2010 to 2016. However, the percentage in Adams County was higher than percentage in the United States in 2017.

<sup>26</sup> Source: Easy Analytic Software, Inc <https://simplyanalytics.com/>

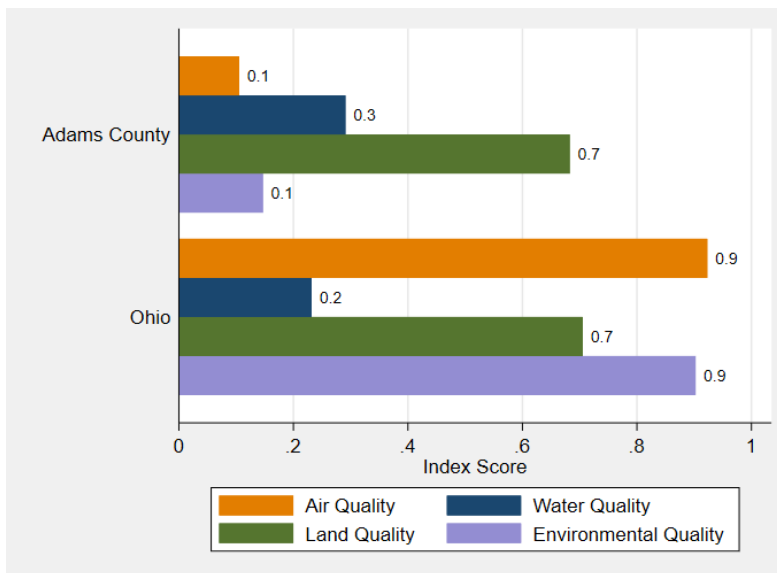
**Figure 25: Percent of Population with Health Insurance: Adams County, Ohio, and the United States, 2010-2017<sup>27</sup>**



### Environmental Quality

Figure 26 shows the EPA environmental quality rankings for Adams County and Ohio, standardized with respect to the United States. While Adams County boasts higher environmental quality than the national averages, it has generally scored lower compared to the state average. Most notably, air quality in Adams County in 2017 was scored at 0.1 standard deviations higher than the national average, while the Ohio average score was 0.9 standard deviations higher.

**Figure 26: Environment Quality Index, 2017<sup>28</sup>**



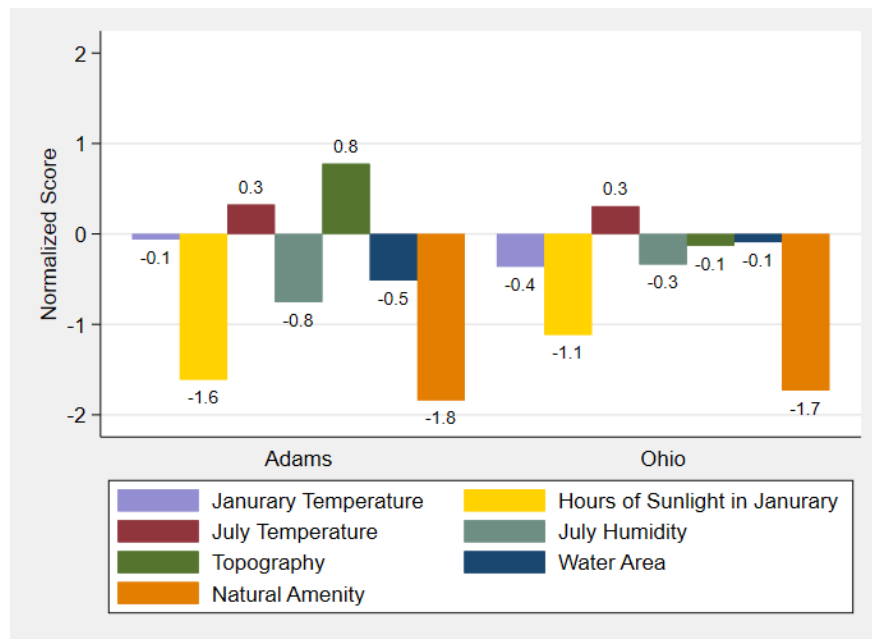
<sup>27</sup> Source: U.S. Census Bureau, 2010-2017 American Community Survey 5-Year Estimates

<sup>28</sup> Source: Environmental Protection Agency, Environmental Dataset Gateway, Environmental Quality Index, 2017

## Amenity Score

Figure 27 shows the amenity score rankings for Adams County and Ohio, standardized with respect to the United States. A positive ranking is associated with a more appealing attribute than the national average. Adams County has positive rankings for Topography and July Temperatures (indicating a milder summer). Additionally, Adams County scored better on Topography and January Temperatures when compared to Ohio. Adams County scored worse than Ohio and the United States on Hours of Sunlight in January, July Humidity, Water Area, and Natural Amenity.

**Figure 27: Amenity Score<sup>29</sup>**

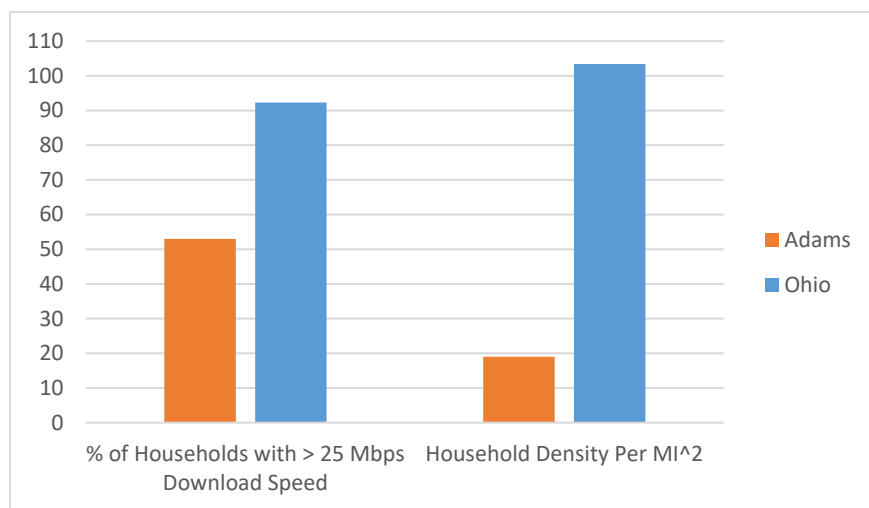


## Broadband

Figure 28 shows the percentage of households in Adams County and Ohio with internet download speed greater than 25 Mbps in 2017. Additionally, Figure 28 shows the household density per square mile. Only 52.97% of households in Adams County have a download speed greater than 25 Mbps, compared to 92.29% of households in Ohio. However, the household density per square mile in Adams County is 19, which is significantly lower than in Ohio, which is 103.4. Lower population density may be prohibitive for companies deciding whether to invest in broadband infrastructure in rural communities.

<sup>29</sup> Source: United States Department of Agriculture, Economic Research Service, Natural Amenities Scale, 2019

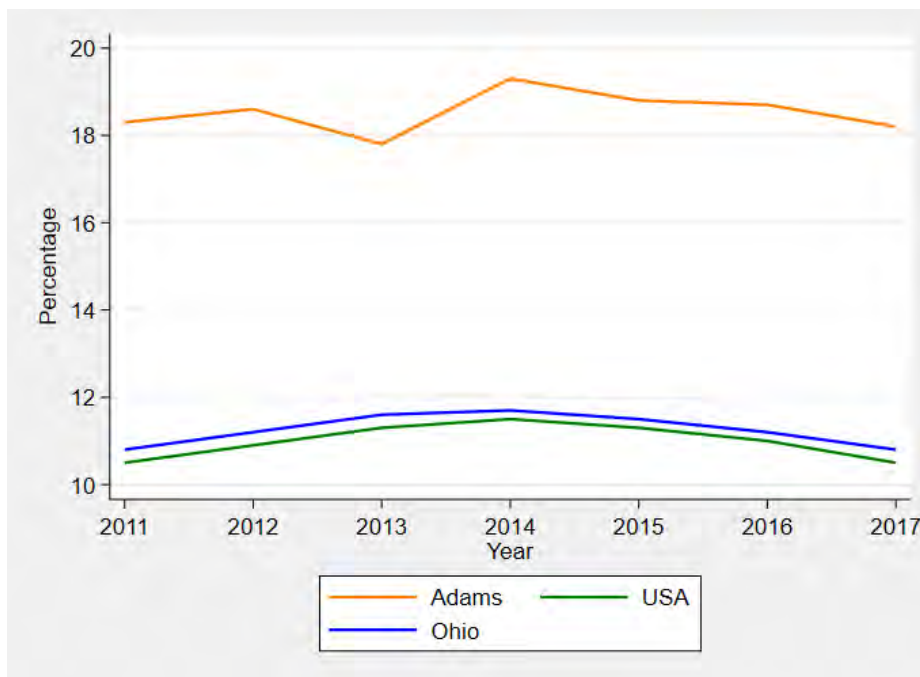
**Figure 28: Broadband, Adams County and Ohio, 2017<sup>30</sup>**



### Poverty

Figure 29 shows the poverty rates for Adams County, Ohio, and the United States from 2011 to 2017. Poverty rates in Adams County consistently remained high above state and national averages, fluctuating around 18.2% from 2011 to 2017. Meanwhile, the state and national poverty rates have both remained around 10.5%.

**Figure 29: Poverty Rate, 2011-2017<sup>31</sup>**



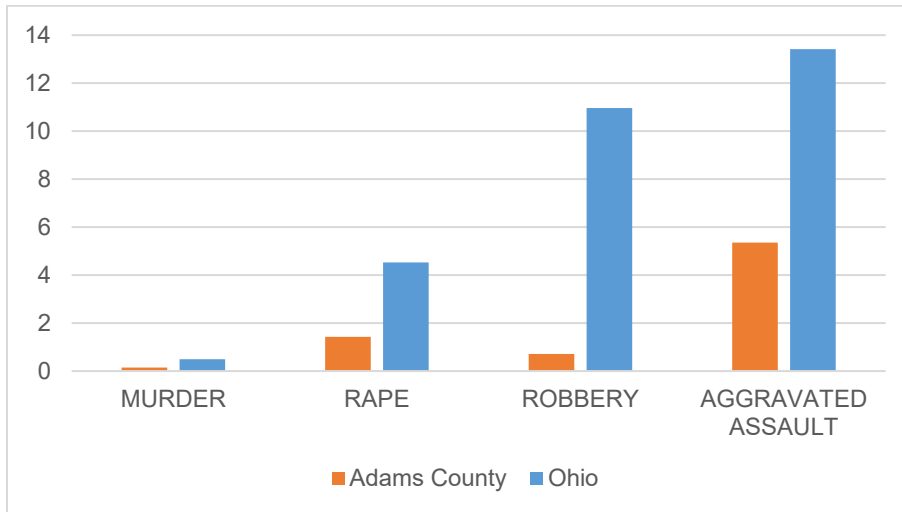
<sup>30</sup> Source: Connected Nation, Estimated Availability of Broadband Service by County Terrestrial Broadband, 2017

<sup>31</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2011-2017

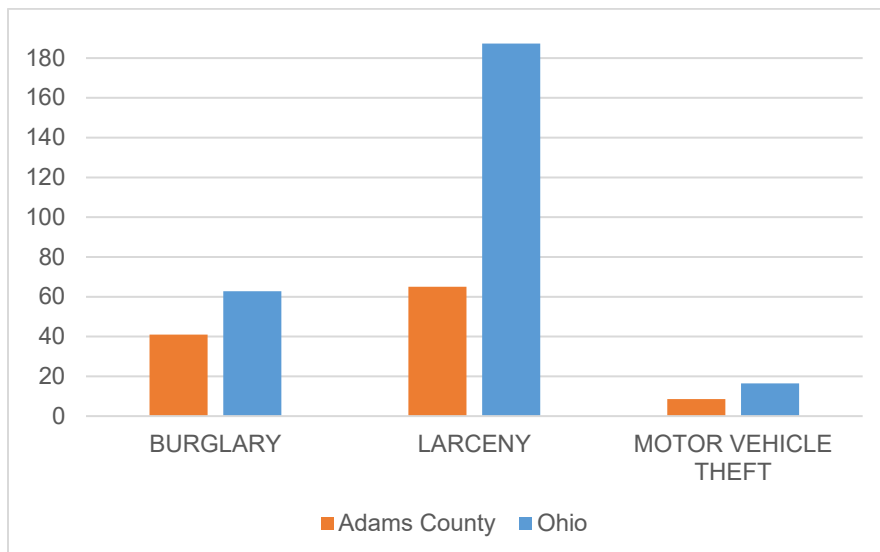
## Crime Rates

Figures 30 and 31 show the average crime rates in Adams County and Ohio from 2013 to 2017. The crime rates in Adams County are lower than the Ohio averages across all categories in both violent and property crimes. Note that the “arson” category within property crimes was left out due to lack of state-level data.

**Figure 30: Average Violent Crime per 10,000 persons: Adams County and Ohio, 2013-2017<sup>32</sup>**



**Figure 31: Average Property Crime per 10,000 persons: Adams County and Ohio, 2013-2017<sup>33</sup>**



<sup>32</sup> Source: Ohio Department of Public Safety, Office of Criminal Justice Services, Crime Statistics and Crime Reports, 2013-2017

<sup>33</sup> Source: Ohio Department of Public Safety, Office of Criminal Justice Services, Crime Statistics and Crime Reports, 2013-2017

## Economic Scan and Workforce Inventory

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

### Employment by Industry

Table 9 breaks down industry-specific employment data for Adams County and Ohio in 2010 and 2019. Education services, and health care and social assistance is Adams County's most significant employer with 26.8% of the county's working population. This industry is also the most significant employer for Ohio. Likewise, the second-most significant employer for both Adams County and Ohio is manufacturing, with 15.7% and 15.3% of the working population, respectively.

Adams County had three industries with employment growth from 2010 to 2019, compared to ten industries with employment decline. Of the growth industries, two industries had a growth rate of over 20%, including 59.18% growth in retail trade. On the other hand, three of ten loss industries experienced employment declines of greater than 20%, including a loss of 39.36% in wholesale trade.

**Table 9: Employment by Industry: Adams County and Ohio, 2010 and 2019**

Industry	2010		2019		Percent Change
	Estimate	Percent	Estimate	Percent	
<b>Adams County</b>					
Agriculture, forestry, fishing and hunting, and mining	425	4.0	340	3.3	-20.00
Construction	1,017	9.6	872	8.4	-14.26
Manufacturing	1,826	17.3	1,629	15.7	-10.79
Wholesale trade	188	1.8	114	1.1	-39.36
Retail trade	997	9.4	1,587	15.3	59.18
Transportation and warehousing, and utilities	699	6.6	866	8.3	23.89
Information	194	1.8	125	1.2	-35.57
Finance and insurance, and real estate and rental and leasing	348	3.3	287	2.8	-17.53
Professional, scientific, and management, and administrative and waste management	483	4.6	391	3.8	-19.05
Educational services, and health care and social assistance	2,612	24.8	2,791	26.8	6.85
Arts, entertainment, and recreation, and accommodation and food services	1,047	9.9	841	8.1	-19.68
Other services, except public administration	367	3.5	317	3.0	-13.62
Public administration	348	3.3	236	2.3	-32.18
<b>Civilian employed population 16 years and over</b>	<b>10,551</b>		<b>10,396</b>		<b>-1.47</b>

Industry	2010 Estimate	Percent	2019 Estimate	Percent	Percent Change
<b>OHIO</b>					
Agriculture, forestry, fishing and hunting, and mining	54,903	1.0	55,424	1.0	0.95
Construction	301,725	5.6	300,741	5.4	-0.33
Manufacturing	859,548	16.0	856,557	15.3	-0.35
Wholesale trade	163,458	3.0	147,060	2.6	-10.03
Retail trade	626,512	11.7	638,630	11.4	1.93
Transportation and warehousing, and utilities	266,567	5.0	289,114	5.2	8.46
Information	105,502	2.0	87,583	1.6	-16.98
Finance and insurance, and real estate and rental and leasing	353,630	6.6	359,661	6.4	1.71
Professional, scientific, and management, and administrative and waste management	478,692	8.9	540,325	9.7	12.88
Educational services, and health care and social assistance	1,254,969	23.4	1,350,405	24.1	7.60
Arts, entertainment, and recreation, and accommodation and food services	454,730	8.5	511,118	9.1	12.40
Other services, except public administration	239,248	4.5	247,660	4.4	3.52
Public administration	210,373	3.9	211,166	3.8	0.38
<b>Civilian employed population 16 years and over</b>	<b>5,369,857</b>		<b>5,595,444</b>		<b>4.20</b>

**Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, Industry by Occupation for the Civilian Employed Population 2010-2019**

## Labor Force Overview

Figure 32 reports data for labor force eligibility and employment in Adams County from 2010 to 2019. In 2010, 10,561 individuals were employed in Adams County. This fell to 10,110 in 2012 and has stabilized around this level before increasing to 10,402 in 2019. On the other hand, the labor force size was decreasing between 2013 and 2017 with the rate of the decrease getting more severe over time. The labor force has since stabilized around 10,991 in 2019. Although, for the most part, these numbers have decreased from the 2010 levels, the gap between the labor force and the employed has shrunk, indicating that a larger percentage of people who wish to be employed have been able to find employment in 2019 than in 2010.

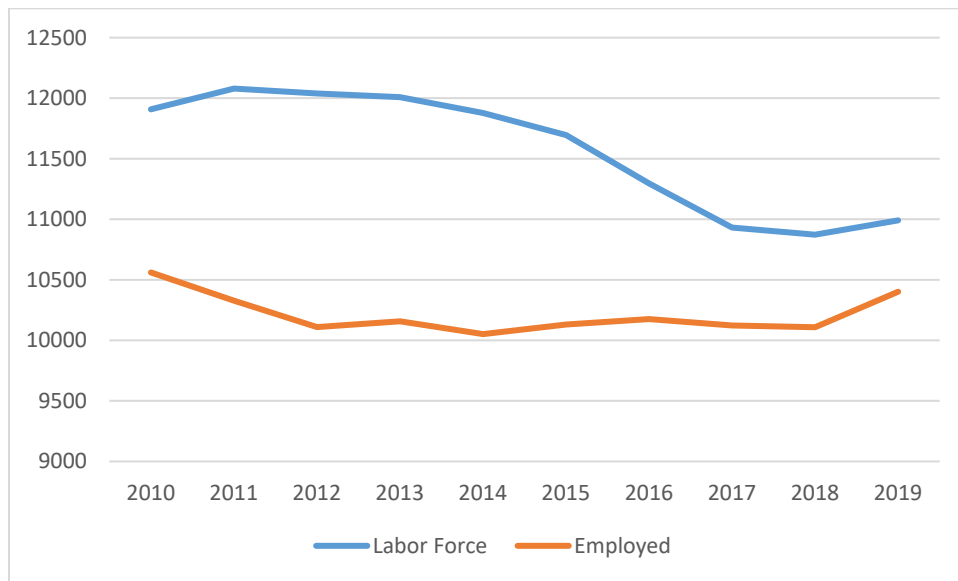
Figure 33 shows how Adams County's unemployment rate compares with Ohio and the United States. Adams County's unemployment rate has been consistently much higher than the state and national averages until 2019. Adams County experienced a reduction in unemployment from 2013 to 2019. However, it is important to note that during this time Adams County's labor force size was shrinking, while its employment remained relatively stable. In 2019, the unemployment rate for Adams County was only 0.1% higher than for Ohio and the United States.

To further examine how the unemployment rate decreased while the number of individuals employed remained stable, Figure 34 shows the participation rate of Adams County, Ohio, and the United States. The graph shows that while the state and national participation rates were nearly identical, Adams County's rate was significantly lower. From 2010 to 2015, Adams County's participation rate was about 10% lower than Ohio's rate. By 2019, Adams County's rate was about 13% lower than Ohio's rate. Additionally, while participation rates decreased for all three from 2013 to 2019, Adams County's rate decreased by 3.5%, while the state and national rates decreased by 1.6%.

To further explore why Adams County's rate was significantly lower, Figure 35 separates the county's participation rate by gender. Women have consistently had a lower participation rate than men in Adams County, with over an 8% difference between the genders in 2019. Additionally, the graph shows that male labor force participation was stable around 71% from 2011 to 2015. From 2015 to 2017, male participation rate fell 5.6%. It rose from 2017 to

2019 by 2.3%. Likewise, female labor force participation was stable around 63% from 2011 to 2013. From 2014 to 2017, the female participation rate fell by 5.6%. It rose as well from 2017 to 2019 by 2.5%. While male and female labor participation rate trends follow similar patterns, women are more likely to drop out of the labor force before men in an economic downturn but are just as likely to rejoin as men when the economy is an upturn.

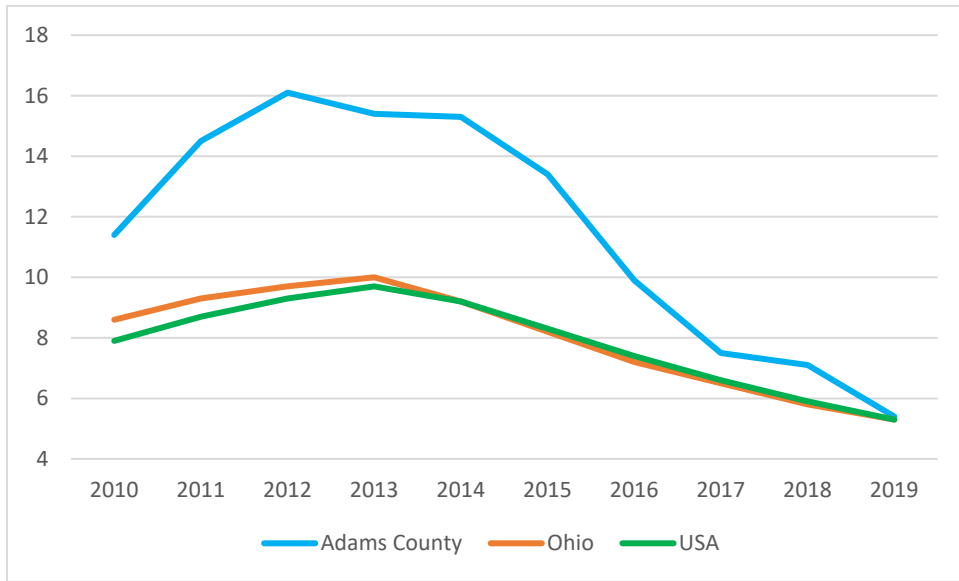
**Figure 32: Adams County Labor Force and Employment, 2010-2019<sup>34</sup>**



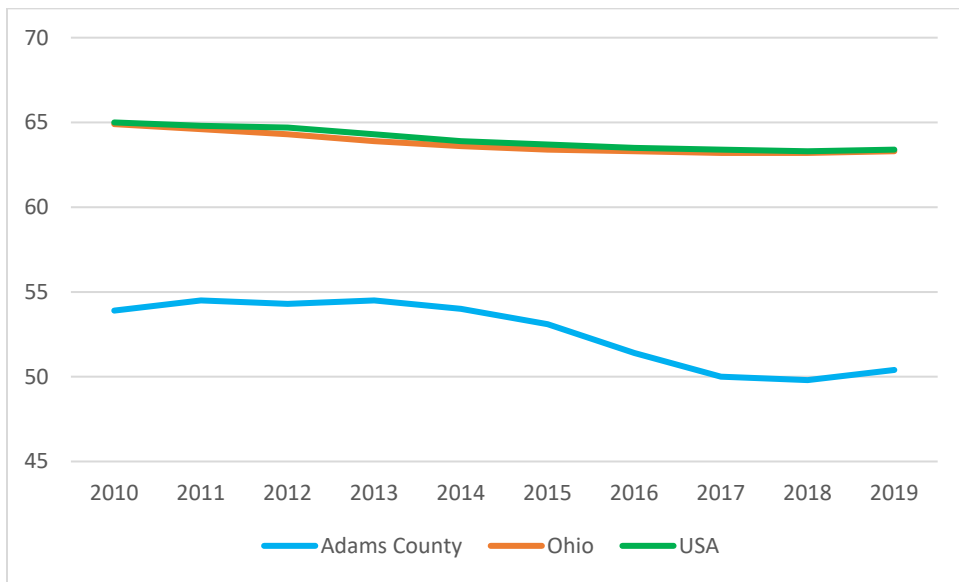
<sup>34</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019



**Figure 33: Unemployment Rate: Adams County, Ohio, and the United States, 2011-2019<sup>35</sup>**



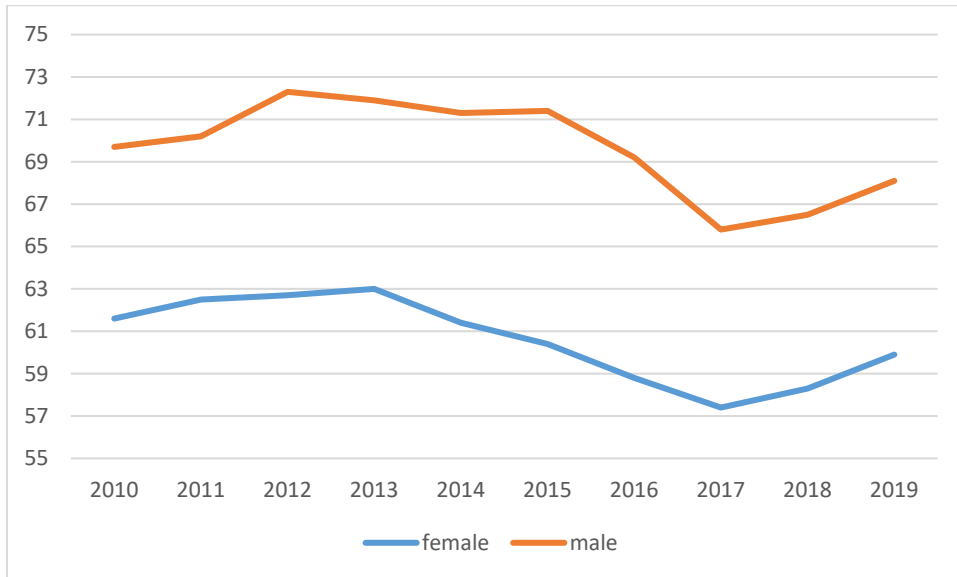
**Figure 34: Participation Rate: Adams County, Ohio, and the United States, 2010-2019<sup>36</sup>**



<sup>35</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

<sup>36</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

**Figure 35: Adams County Participation Rate by Gender, 2010-2019<sup>37</sup>**



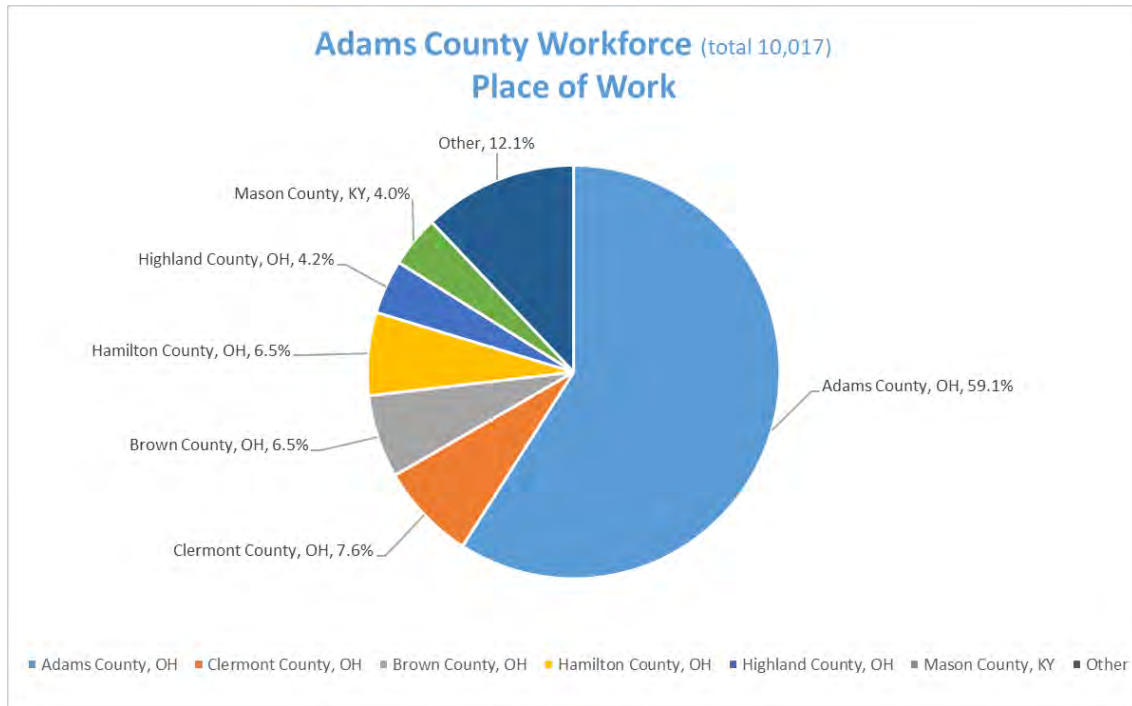
### Employed Resident Commute Shed

Figure 36 shows the distribution of Adams County residents' place of work by county. In 2015, there were 10,017 employed residents of Adams County. 59.1% of the employed Adams County residents stayed in-county to work. Of the 40.9% of residents who left the county to work, 7.6% commute to Clermont County. Additionally, 6.2% of residents leave the state of Ohio for work with 4.0% commuting to Mason County, Kentucky.

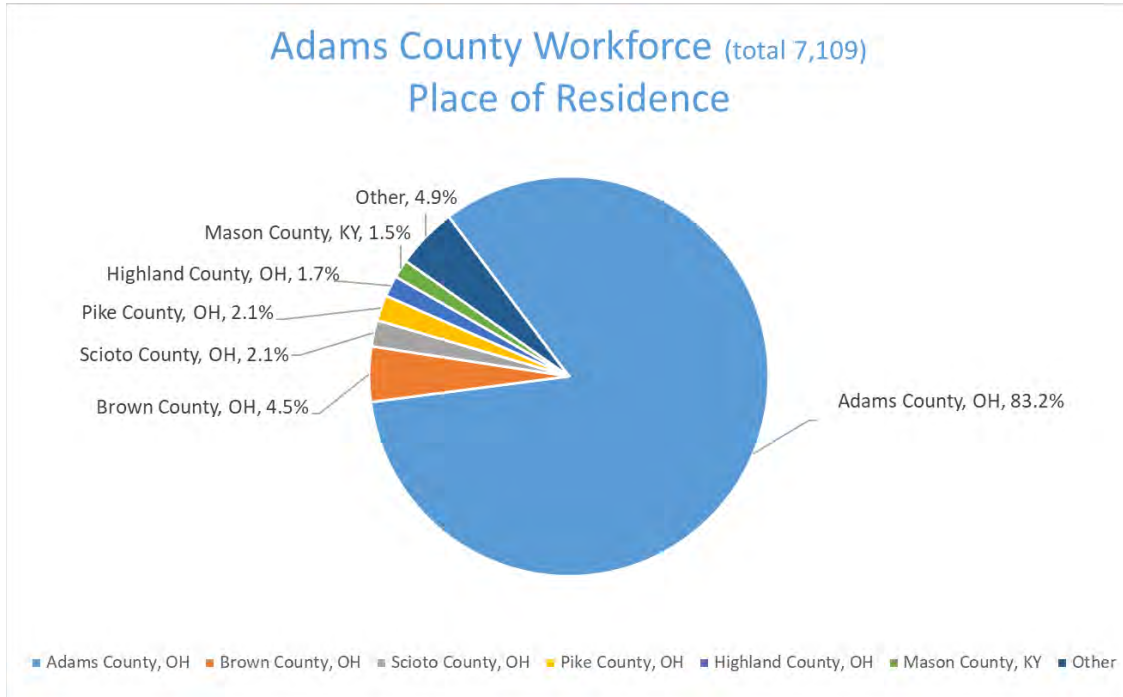
Figure 37 shows the distribution of the place of residence of those who work in Adams County. In 2015, there were 7,109 individuals employed in Adams County. 83.2% of individuals who work in Adams County also reside in Adams County. Of the 16.8% of individuals who reside in other counties, 4.5% of Adams County workers live in Brown County. Overall, Adams County experienced a net loss of 2,908 individuals to the commuting flow patterns.

<sup>37</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

**Figure 36: Adams County Workforce Place of Work, 2011-2015<sup>38</sup>**



**Figure 37: Adams County Workforce Place of Residence, 2011-2015<sup>39</sup>**



<sup>38</sup> Source: U.S. Census Bureau, 2011-2015 5-Year American Community Survey, Commuting Flows

<sup>39</sup> Source: U.S. Census Bureau, 2011-2015 5-Year American Community Survey, Commuting Flows

2. STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT)  
ANALYSIS/ASSET MAPPING

Adams County: Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis/Asset  
Mapping

Prepared by Center for Economic Development and Community Resilience, The Voinovich  
School of Leadership and Public Service, Ohio University

November 2019

Clara Bone, Marty Hohenberger, Jacob Taylor (OVRDC), and Jake Evans

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## Introduction

The research team held a SWOT meeting with stakeholders in Adams County in 2019. Additionally, information concerning the county's strengths, weaknesses, opportunities, and threats was gathered through further stakeholder interviews and a community engagement meeting. The research team used this information together with the data in the economic scan to complete the SWOT analysis which can be seen in figure 2.1.

Furthermore, the research team used the information gathered to identify assets in Adams County. These assets were divided into four sections which can be seen in figure 2.2. This asset map shows the physical and unchangeable assets, the currently available institutions and citizen associations, and the community champions who would support change and economic development projects in the county.

Finally, the research team, with the help of the OVRDC team, created a GIS map of Adams County showing particular assets of interest to Adams County. These include retail, lodging and recreation. The map helps to show the distribution of such assets and potential for capitalizing on such assets. This can be seen in figure 2.3.

## Adams County SWOT Chart

Figure 2.1 shows the SWOT Chart for Adams County. The SWOT analysis identifies the strengths, weaknesses, opportunities and threats facing Adams County. Strengths and Opportunities recognize the positive aspects and potential in Adams County. Weaknesses and Threats show the negative aspects affecting Adams County. While the strengths and weaknesses show factors internal to Adams County, Opportunities and Threats contain external factors. External factors are unlikely to change due to the actions of Adams County. For example, Adams County's relative position to metropolitan areas and to the Ohio River is unlikely to change regardless of actions taken by the county. Likewise, Adams County is unlikely to be able to address the opioid crisis that is affecting the country and more coordinated regional efforts would need to be made. However, the internal factors are identified as areas where Adams County can improve their weaknesses or bolster their strengths. The SWOT analysis was conducted using the data from the demographic and economic scan as background. The SWOT analysis was further refined using the data gathered from meetings, interviews and focus groups.

**Figure 2.1: Adams County SWOT Chart**

Strengths	Weaknesses
<p>Available land (industrial and residential)                      Available, productive and mobile workforce                      Low cost of living                      Community is compassionate, supportive, close knit, and willing to move forward                      Strong entrepreneurial spirit                      County leadership                      Good school districts                      Abundant tourism assets</p>	<p>Lack of access to private capital                      Lack of zoning laws                      No Shovel-Ready sites                      Aging and insufficient infrastructure                      Pockets of run down areas in all the villages                      Insufficient funding for county programs and improvements                      Lack of childcare services                      Insufficient transportation                      Inadequate housing stock                      Lack of training center and community college                      Untrained/unskilled workforce</p>
Opportunities	Threats
<p>Proximity to metropolitan areas                      Abundance of natural resources                      Access to Ohio River                      Large Amish population                      A business incubator and a workforce development center are being created                      Potential for repurposing the closed DP&amp;L sites                      Could draw on Cincinnati entrepreneurs                      Possibility for development and entrepreneurs along the Ohio River                      Adjust county marketing schemes to promote county</p>	<p>Opioid crisis                      Floodplain in Manchester and along Ohio River                      Out Migration of young adult labor force contributing to “brain drain” and an aging population                      Small financial base and shrinking tax revenue                      High poverty and unemployment rates                      Residents seeking services, entertainment, shopping, etc. outside of Adams County                      Unable to offer better financial packages to implement infrastructure                      Political uncertainty for future funding</p>

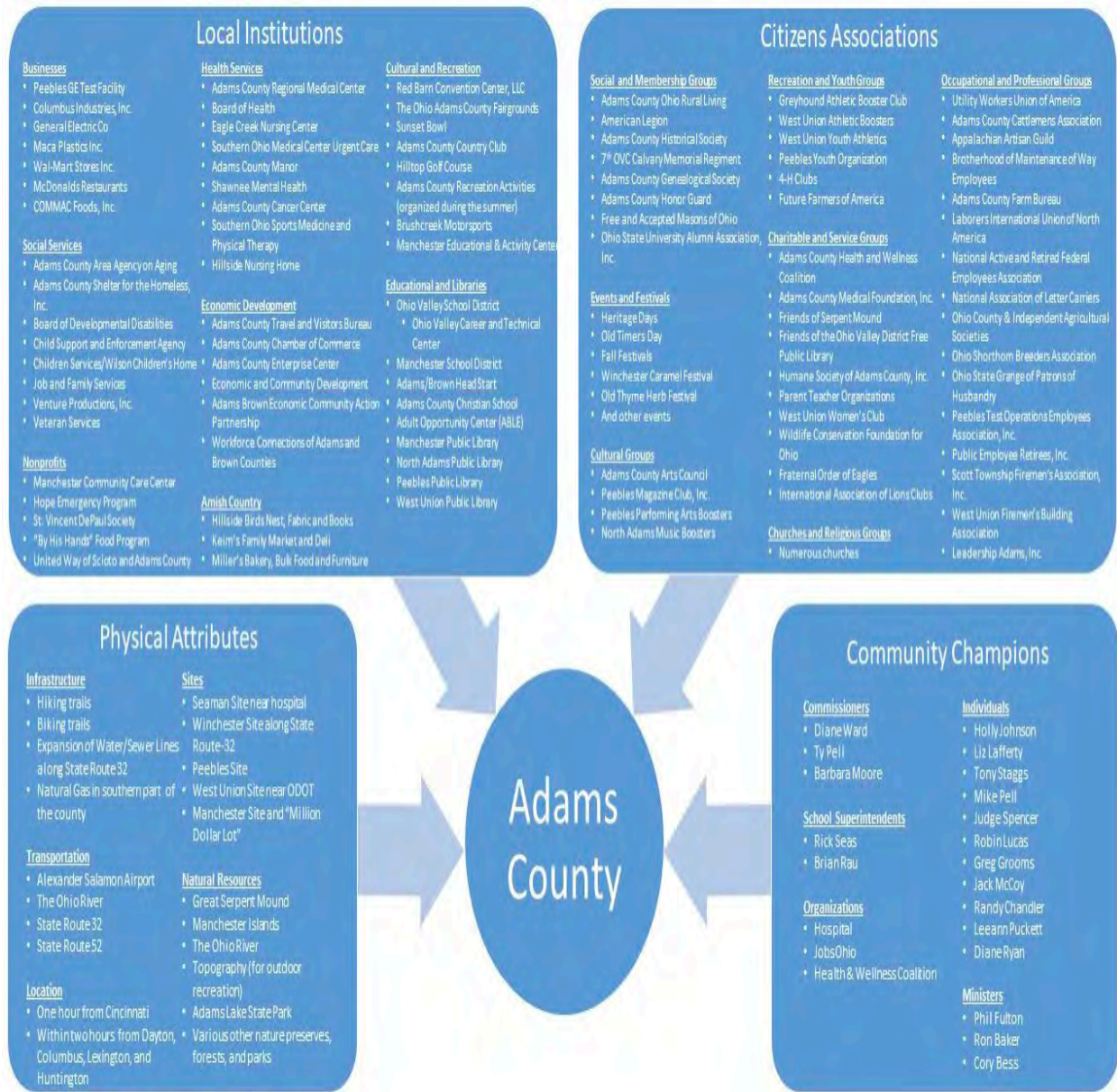
***Adams County Asset Map***

Figure 2.2 shows the asset map for Adams County. The asset map breaks down Adams County’s assets into four categories: Physical Attributes, Local Institutions, Citizens Associations, and Community Champions. The Physical Attributes of Adams County include the aspects of Adams County that are unlikely to change, such as the location, transportation/roadways, and the current infrastructure systems. Local institutions include businesses, nonprofits, and social and health services found within Adams County. Citizen Associations include membership, social, and professional organizations in Adams County. Finally, the Community Champions are individuals



and a few organizations who were identified by members of the Adams County community as the people who are leading Adams County forward and would be the individuals most helpful in promoting growth in Adams County in the future.

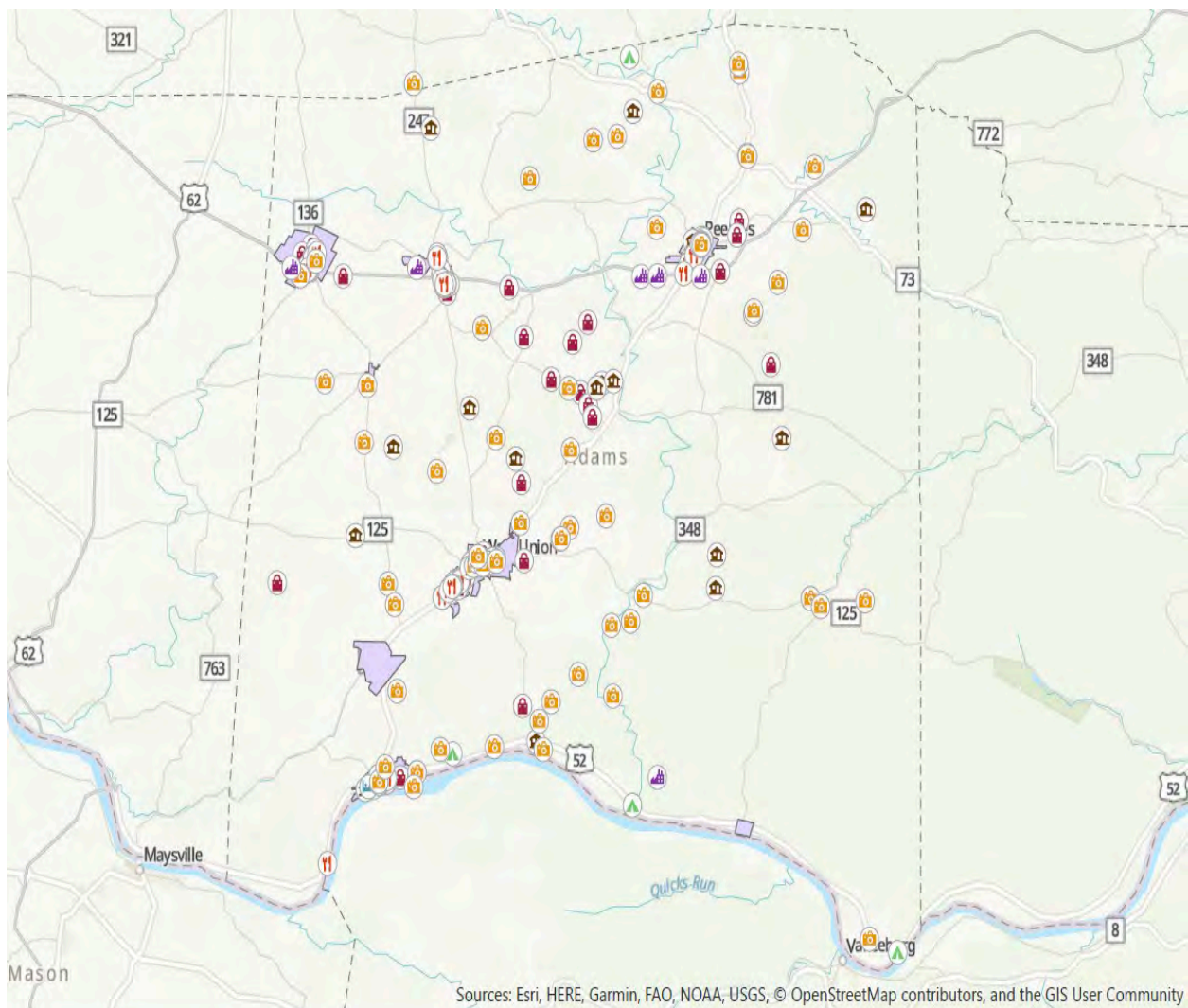
**Figure 2.2: Adams County Asset Map**



## Map of Adams County Assets

Figure 2.3 maps the physical location of some of the assets of Adams County. In particular, the map shows the retail businesses, restaurants, tourism assets, lodging locations, and development sites. Furthermore, additional interactive layer maps were created that can be used to further explore each subcategory in more depth. Likewise, these maps contain the addresses and names of the businesses at the location. These maps can be used in web page applications. Figure 3 shows that while assets like tourism are spread throughout the county, restaurant and retail assets tend to be clustered in the villages. Additionally, while Adams County has campgrounds and vacation rental type lodging, the county lacks options in hotels and motels.

**Figure 2.3: Map of Adams County Assets**



### 3. COMMUNITY ENGAGEMENT IN ECONOMIC DEVELOPMENT PRIORITIES

# Community Engagement in Economic Development Priorities

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Service

December 2019

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## Introduction

The research team conducted interviews and focus groups with stakeholders in Adams County to determine the economic development concerns, priorities, and needs for the county. Additionally, the research team held a meeting in October 2019 to share the findings of the SWOT analysis and receive feedback from the community. The meeting was used to identify the priorities for use in developing the overall economic development plan. The community identified utility and infrastructure improvements, increased access to healthcare, and workforce development as the highest priorities.

Additionally, the team supported the creation of the Adams County Economic Development Task Force. With help from the local economic developer, the team identified key business owners and community leaders in Adams County to invite to join the task. The taskforce began meeting in May of 2021. The first meeting provided an opportunity for the team to provide an update on the project and receive feedback on the project. Additionally, the task force supports the local economic development organization's goals in Adams County. The task force adopted the following mission statement:

“The mission of the Adams County Economic Development Task Force is to provide leadership and support in the community to enhance economic opportunity, attract and sustain businesses, and promote business-friendly practice.”

Likewise, the task force identified three goals to focus on:

1. Create classes to help people start business or entrepreneurship in Adams County
2. Focus on improving/preserving the character of main streets in Adams County
3. Increase foot traffic of existing occupants on main streets.

Our research team completed two distinct activities to support task three: Community Engagement in Economic Development Priorities. The first was to conduct interviews with members of the Adams County community to gauge general attitudes about the economic state of the county. The second was to hold a public meeting to present aggregated data from the economic scan and collect attitudes regarding the economic priorities of Adams County moving forward.

While completing the economic development scan of Adams County, members of the Voinovich School's research team conducted semi-structured, in-person and phone interviews with members of the community to support the efforts of the Community Engagement in Economic Development Priorities project. Those interviewed includes high school students, directors of economic development agencies, public service employees, mayors, county commissioners, private-sector representatives, not-for-profit organization representatives, and various other community leaders. A list of stakeholders was developed through research and the input of a local source that was knowledgeable about the individuals present in Adams County who possessed a variety of backgrounds and understandings of the economic development initiatives and challenges facing Adams County. As a result of this, the sample taken from the population of Adams County residents was not random but chosen based on a set of criteria.

Additionally, on Tuesday, October 29, 2019, members of Ohio University's research team, in collaboration with the leadership of Adams County, held an informational meeting to gather the input of residents of Adams County to formulate an economic strategic plan for Adams County. At this public

meeting, the team presented findings from the economic scan to the citizens and leaders of Adams County. Furthermore, the team elicited the priorities of the residents and answered questions raised about the project. The presentation was done to encourage public buy-in to economic development efforts and to encourage public officials to act in the best interest of the growth of Adams County.

## Resident Interviews

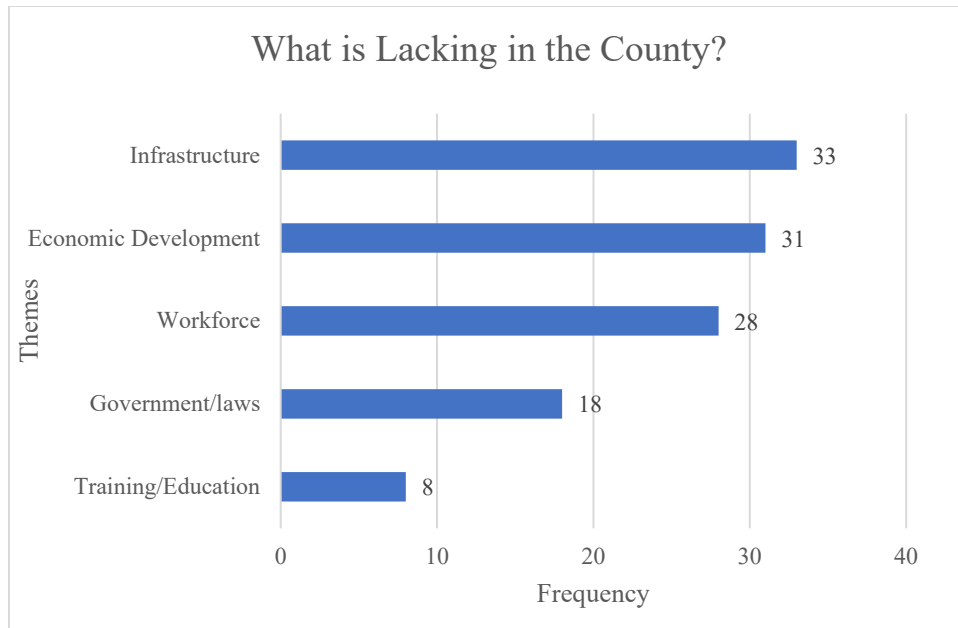
The interview process involved conducting nine in-person or phone interviews with community leaders and stakeholders, which ranged from 30 minutes to one hour in length. The research team conducted interviews with representatives from local economic development agencies, the public sector, the private sector, and not-for-profit sectors to gather general feelings about the current and future economic state of Adams County. The research team also held focus groups with students from the Ohio Valley Career and Technical Center, West Union High School, North Adams High School, and Peebles High School, at a duration of 45 minutes to one hour each.

## Community Leaders and Stakeholders

From the interviews with community leaders and stakeholders, the research team was able to categorize responses into three classifications. The categories were ‘what is lacking in the county’, ‘what the county has to offer’, and ‘what opportunities the interviewees suggest to explore’.

In the first category, interviewees identified infrastructure, economic development, and workforce needs as the most critical problems facing Adams County. Interviewees identified the lack of public transportation, daycare, industrial buildings, broadband internet access, adequate housing, hotels and other amenities for entertainment purposes, certain healthcare services, and new families and new residents as problematic for the county. In terms of economic development needs, interviewees identified a lack of consensus and teamwork on efforts, a lack of funding for projects, the lack of support for current industry/businesses, Adams County’s inability to attract and retain new businesses, the lack of adequate social programs, the prevalence of generational poverty and governmental dependence as a problem, the lack of a sense of urgency to economically develop, and the lack of funding and resources for economic development. In the realm of workforce needs in Adams County, interviewees mentioned the need for an increase in the skilled labor force, living-wage employment, more manufacturing jobs, current and potential employers, and remediation following the losses of jobs in the county. Figure 1 shows the frequency with which each theme was mentioned during the interviews.

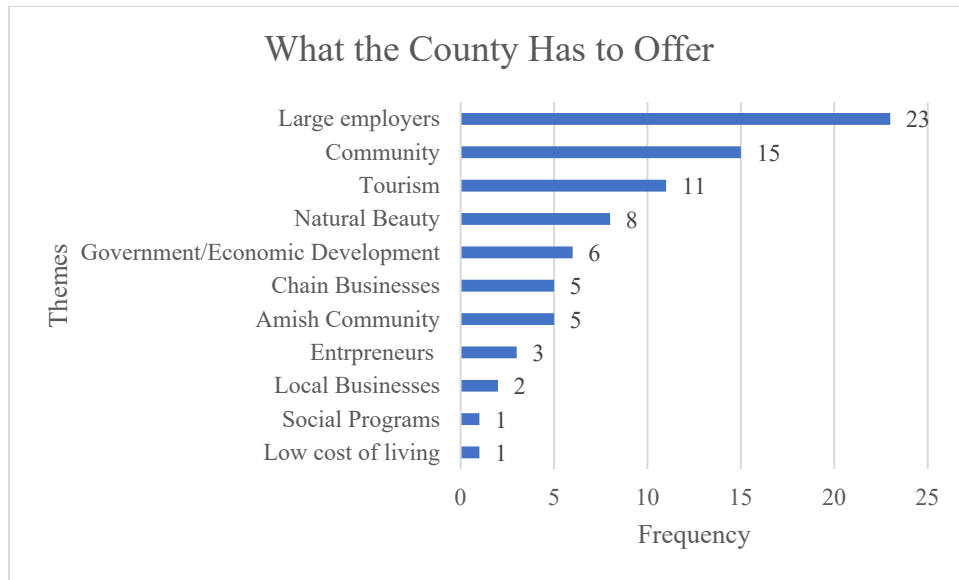
**Figure 1: Community Leader and Stakeholder Interviews: What is lacking in Adams County?**



Secondly, the interviewees overwhelmingly identified the presence of large employers, the strength of the community, and the tourism industry present as the primary assets of Adams County. In terms of large employers as a strength in the county, the interviewees referred to the GE Peebles Testing Facility, the Adams County Regional Medical Center, Columbus Industries, 1st State Bank, and the Cantrell Refinery as asset firms. Concerning the strength of the community, the interviewees referred to a variety of activities that highlight the depth of the community. They identified the support for development from the community, the government, local organizations, the hard-working ethics of the members of the community, and the religious community as assets to the county. Lastly, the tourism industry is an essential aspect of the economic vitality of Adams County. The Serpent Mound, the Amish Community, the natural beauty of the county, the Ohio River, and the wood industry—in terms of entertainment and timber usage—were all identified as assets to the tourism attractiveness of the county. Figure 2 shows the frequency with which each theme was mentioned during the interviews.

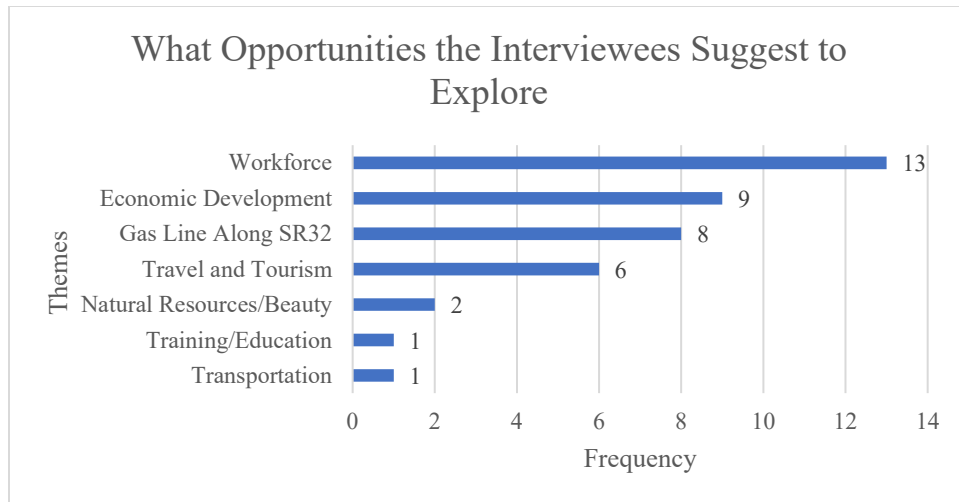


**Figure 2: Community Leader and Stakeholder Interviews: What Adams County has to offer?**



Lastly, the interviewees identified the need for exploration into workforce opportunities, economic development, and the inclusion of a gas line along State Route 32 as vital needs for Adams County. In terms of workforce opportunities, the interviewees would like to see investment in training programs, soft skills development, support for small businesses, support for current and potential employers, the need for a new large employer, the need to retrain dislocated workers, an increase in small employers, and the want for a second GE testing site in the region. The interviewees also identified the need to explore opportunities in economic development such as bottom-up development, an increase in small businesses, a regional sewer plant, an industrial park located on State Route 32, an increase in small business grants and loans, and the development of a port on the Ohio River—such as a rehabilitation of the DP&L locations. The need for a natural gas line is vital because for the county to develop manufacturing centers and industrial parks and then attract companies to these developments, natural gas needs to be a possibility. The introduction of the gas line will assist the county in building infrastructure, which will then attract essential companies. Figure 3 shows the frequency with which each theme was mentioned during the interviews.

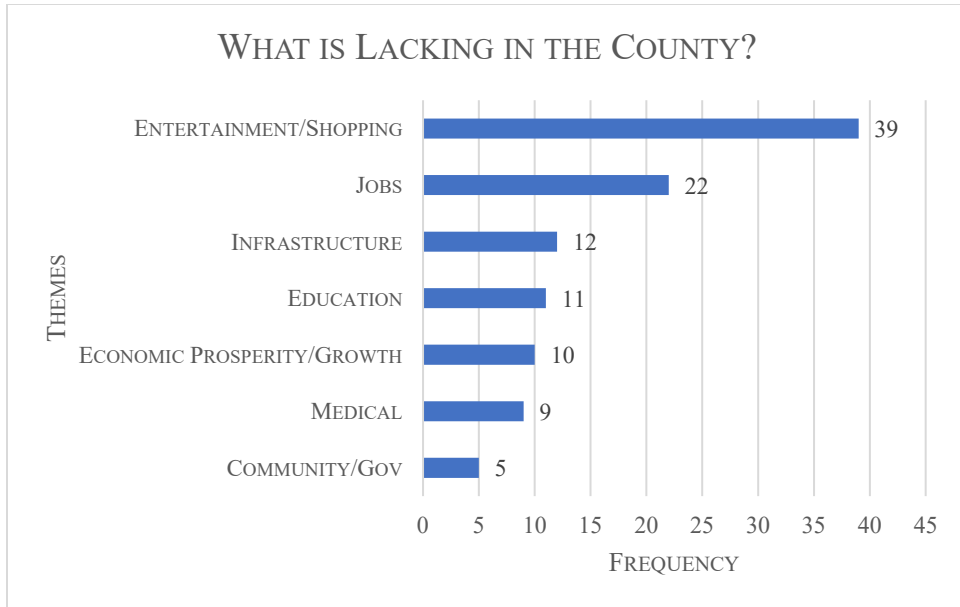
**Figure 3: Community Leader and Stakeholder Interviews: What opportunities should be explored?**



### Adams County Youth

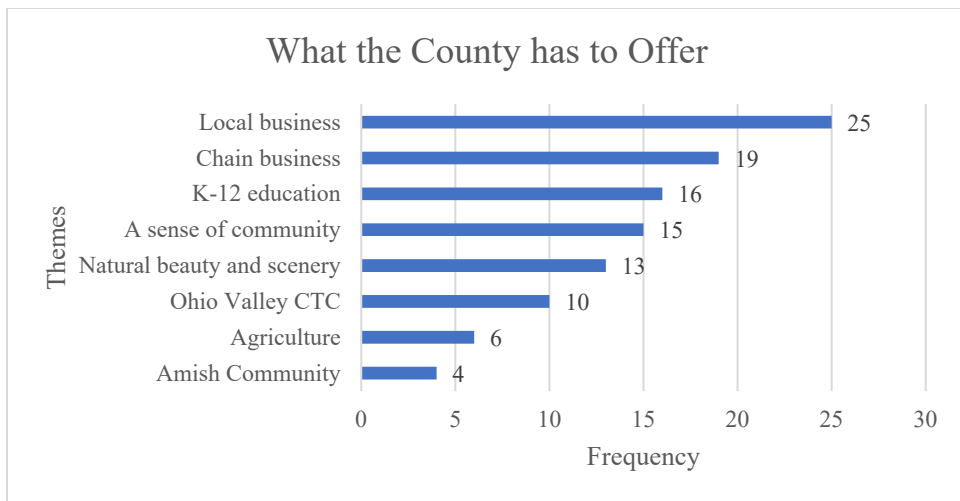
The high school students that the research team interviewed identified a multitude of underpinning problems, county offerings, and existing opportunities for Adams County. The students primarily identified the lack of sufficient entertainment and shopping opportunities, the lack of employment options, and the lack of adequate infrastructure as serious problems facing the economic stability of Adams County. In terms of infrastructure, the students identified the deteriorated state of the roadways in the county, the lack of access to broadband internet services, the lack of access to public transportation, and the lack of sufficient cellular reception as problems with infrastructure present in Adams County. Students expressed the desire for investment in the entertainment industry, as well. This investment includes attracting restaurants to the area, which is hindered by current alcohol laws, which discourage sit-down style restaurants from moving into the region. Likewise, students would like to see movie theaters, YMCAs, bowling alleys, and other entertainment offerings in the county. Furthermore, students expressed an interest in local grocery stores and clothing stores. Figure 4 shows the frequency with which each theme was mentioned during the interviews.

**Figure 4: Student Focus Groups: What is lacking in Adams County?**



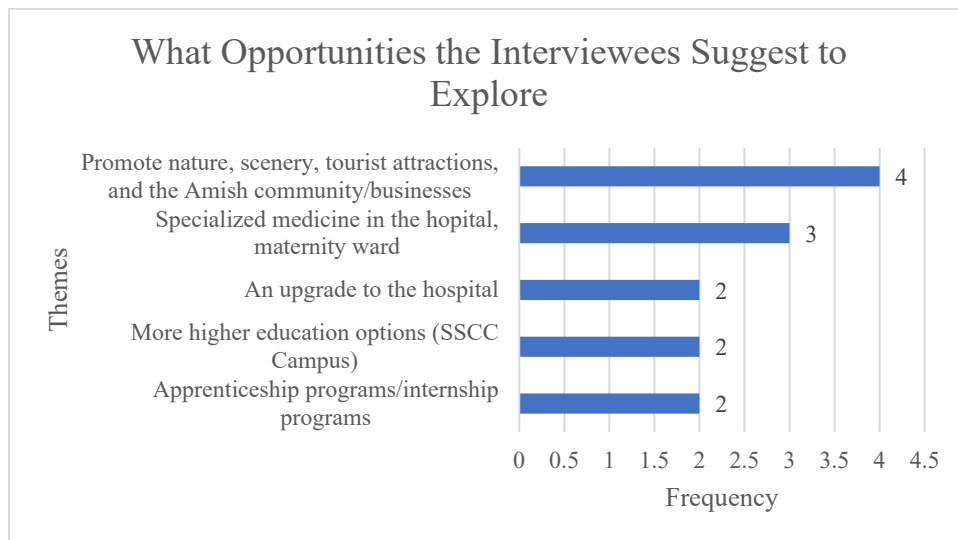
However, the students also identified the presence of local businesses, chain businesses, and the strength of the relationship of the community as legitimate offerings that Adams County possesses. In times of crisis, the community is fast to react and assist its members, and community members take great pride in supporting a reciprocal relationship with local businesses. Additionally, students recognized their school systems with access to college courses and the certificate programs at the career and technical center as assets. Figure 5 shows the frequency with which each theme was mentioned during the interviews.

**Figure 5: Student Focus groups: What Adams County has to offer?**



Lastly, the youth of Adams County believe that local leaders should explore the implementation of a variety of beneficial programming. The introduction of apprenticeship and internship programs for high school students would allow the youth of the county to explore career options earlier, which would ultimately lead to a variety of desirable outcomes on the labor market of Adams County. High school students in Adams County also expressed the desire to see the inclusion of a Southern State Community College branch campus located in West Union to increase higher education access in the county. Additionally, the students identified upgrades to the Adams County Regional Medical Center, such as a maternity ward and increased offering of medical specialists, and improvements to the tourist attractions and natural beauty of Adams County as viable economic improvement opportunities for the county. Figure 6 shows the frequency with which each theme was mentioned during the interviews.

**Figure 6: Student Focus Groups: What opportunities should be explored?**



### Public Meeting

In addition to the interviews conducted with the residents of Adams County, our research team held a public meeting on October 29, 2019, with all those that responded to the meeting invitation through direct invitations to community leaders, chamber businesses, local religious institutions, and other stakeholders identified with help from the Adams County Economic and Community Development office, and through local radio advertisements. Over 25 individuals attended the public meeting, all of which originate from diverse backgrounds, signifying a robust public-private partnership for economic development in the county.

Individuals from governmental organizations such as the Adams County Engineer’s Office, the Adams County Board of DD, Manchester Local Schools, the Adams County Commissioner’s Office, the City of Hillsboro, Scott Township, Ohio Means Jobs-Adams and Brown Counties, and the Adams County Regional Water District attended the meeting. Additionally, individuals from nonprofit organizations such as Adams County Economic Development, The People’s Defender, ACRMC Hospital, and Adams Brown Community Action (ABCAP) were in attendance. Lastly, individuals from the private sector such as Ward Construction, Frontier Fiber, Freestyle Consulting, Levi Hollow Tools LLC, Showboat

Majestic/Precinct/KAMT, Ohio Country Properties Real Estate, and retired pharmacists and RNs. These specialized citizens were able to provide personalized and informal input as to the preferred intended direction of Adams County’s development. The meeting itself, provided the leadership and citizens of Adams County with objective information about the area’s economy and to give feedback about the community’s economic development priorities.

Following the formal presentation of the economic scan data (e.g., age, educational attainment, household income, employment by industry, school enrollments, commuter patterns, etc.), the research team asked members of the meeting three questions: “What opportunities or businesses would you like to see in Adams County?”, “What changes need to occur in Adams County to capitalize on business and job opportunities?”, and “What would you like to maintain or preserve in Adams County?”. The responses to these questions were discussed at the meeting and used to develop a list of potential priorities for Adams County’s economic development efforts. After this list was developed, the team wrote the responses on a series of posters, then gave each attendee four green and one red sticky dot to place next to each of the categories that they felt should or should not be focused. The team explained that the green dots signified something that the attendee thought should be given priority in Adams County. Likewise, the red dots were explained to mean something that the attendee did not think needed to be a priority for Adams County. The detailed results of this exercise are displayed below in Table 1.

**Table 1: What priorities should be focused on in Adams County?**

Subject/Theme	Number of Green	Number of Red
Natural Gas	9	0
Broadband Access	9	0
Development of the Ohio River/A Floodwall	9	0
Access to Healthcare	8	0
Workforce Development/New Adult Trade School	7	0
Tourism/Marketing/Nature Tourism	6	0
Repurposing the DP&L Plants	6	5
Small Businesses/Entrepreneurs	5	0
Ties to Cincinnati MSA	5	1
Support Current Employers	4	0
Apprenticeship/Internship Programs	4	0
Airport	4	0
Attract New Employers	4	0
Agriculture/Soil Preservation	2	0
The Wood Industry	1	2

In general, the interviewees and members of the meeting are hopeful for the future of Adams County and are confident in its current assets. According to the findings of the meeting, the residents of Adams County would like to see the introduction of a natural gas line along State Route 32 to support the

establishment of a new industrial park and other new construction. A gas line is vital to the county in that large and small companies prefer to use natural gas as it is a cheap energy alternative. The residents of Adams County would also like to see a substantial investment in the increase of broadband internet and cellular reception access within the county. An increase in access to modern technology will allow county residents and businesses to perform on par with other areas and will make the county more attractive to potential companies. Lastly, members of the meeting identified the desire to develop the Ohio River and to build a floodwall as an essential task to the development of Adams County—in terms of business usage, tourist usage, and recreational usage, which could all positively impact the economy of the county. Per the table above, the majority of themes from the meeting involved the need for improvements to the infrastructure of Adams County and the need to attend to employment needs, tourism needs, and economic development needs.

## Summary

The Economic Development task force of Adams County identified three goals to prioritize: create classes to help people start businesses or entrepreneurship, focus on improving and preserving the character of main streets, and increase foot traffic of existing occupants on main streets. Once these goals were identified, two major activities were conducted: interviews with members of the Adams County community and a public meeting to present data and collect attitudes regarding the economic scan. Interviewing numerous diverse groups and individuals regarding different aspects of economic development in Adams County was successful.

Community leaders, stakeholders, and students from local schools identified issues within Adams County and then offered numerous solutions. Community leaders and stakeholders primarily saw infrastructure, economic development and workforce lacking in Adams County. However, they also noticed that Adams County has large employers, community, and tourism to offer. Regarding opportunities to explore, community leaders and stakeholders identified workforce, economic development, and the implementation of a gas line along State Route 32.

Students from schools across Adams County identified entertainment and shopping, jobs, and infrastructure as lacking in the county. However, they agreed that local businesses, chain businesses and K-12 education are something that Adams County has to offer. For potential opportunities for Adams County, students identified promoting nature, scenery, tourist attractions, and the Amish community and businesses, implementing specialized medicine, specifically a maternity ward in hospitals, and upgrading hospitals as economic development opportunities in Adams County.

Finally, at the public meeting, the specialized citizens' top three priorities included focusing on natural gas, broadband access, and the development of the Ohio River and a flood wall in Adams County. The wood industry was the only category where more people thought that it should not be prioritized than vice versa. Task three: Community Engagement in Economic Development Priorities was successful in working with diverse groups in the community to understand what they think is lacking, what is offered, and what economic opportunities should be explored in Adams County. Community members have not given up on Adams County and provided quality thoughts and ideas to take steps toward economically developing.

#### 4. TARGETED INDUSTRY CLUSTER CHARACTERIZATION

# Industry Cluster Analysis for Adams County and the OVRDC Region

Prepared by Center of Economic Development and Community Resilience, the Voinovich School of

Leadership and Public Service

June 2021

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## Introduction

The research team identified industry employment in both Adams County and the Ohio Valley Regional Development Commission (OVRDC) region. Along with the industry employment, the research team also identified the Location Quotients (LQ), which is the relative strength of each industry compared to the industry's strength across all of Ohio. Once the industries and their strengths were pinpointed, appropriate recommendations could be made on how to either ensure the continued strength and growth of an industry or how to successfully invest in an industry to foster growth.

## Industry Employment by 3 Digit NAICS Code

This section examines the largest industries by employment in Adams County. It not only shows the change in employment, but also compares the relative strength of each industry as compared to Ohio. Figure 1 depicts the change in employment from 2012 to 2018 for the selected industries. While eight industries experienced growth in employment, thirteen industries experienced a decline in employment. Additionally, of the eleven industries that employed over 100 people in 2012, eight experienced a decline while three experienced a growth. Furthermore, the top five industries (Food Services & Drinking Places, Transportation Equipment Manufacturing, Social Services Assistance, General Merchandise Stores, and Hospitals) all experienced a decline in employment, accounting for the loss of 229 jobs. The largest declines were seen in Merchant, Wholesalers, and Durable Goods (-64%), Social Services Assistance (-35%), and Amusement, Gambling, and Recreation (-32%). The largest growths were seen in Specialty Trade Contractors (71%), Heavy/Civil Engineering (56%), and Ambulatory Health Care (39%).

Figure 2 shows the industries' Location Quotients (LQ), or the relative strength of each of industry as compared to the industry's strength in Ohio. Industries with a higher LQ are stronger or more concentrated in the county than in the state at large. This may indicate how specialized an industry is in Adams County. Industries with an LQ above 1 have a higher proportion of employees in that industry than the proportion in the industry at the state level. Likewise, industries with an LQ below 1 have a lower proportion of employees in that industry than at the state level. Additionally, figure 2 also shows the employment of the industries in 2018 and whether the industry experienced employment loss (light blue) or gain (dark blue) from 2012 to 2018. This may indicate whether the industries are growing or shrinking and may signal the need for investment dependent on the LQ of the industry.

Investments may yield a higher impact if:

The given industry is a large source of employment

The given industry has a high LQ, but is experiencing a loss in employment

The given industry is experiencing growth in employment, but still has a low LQ

Investments may yield a lower impact if:

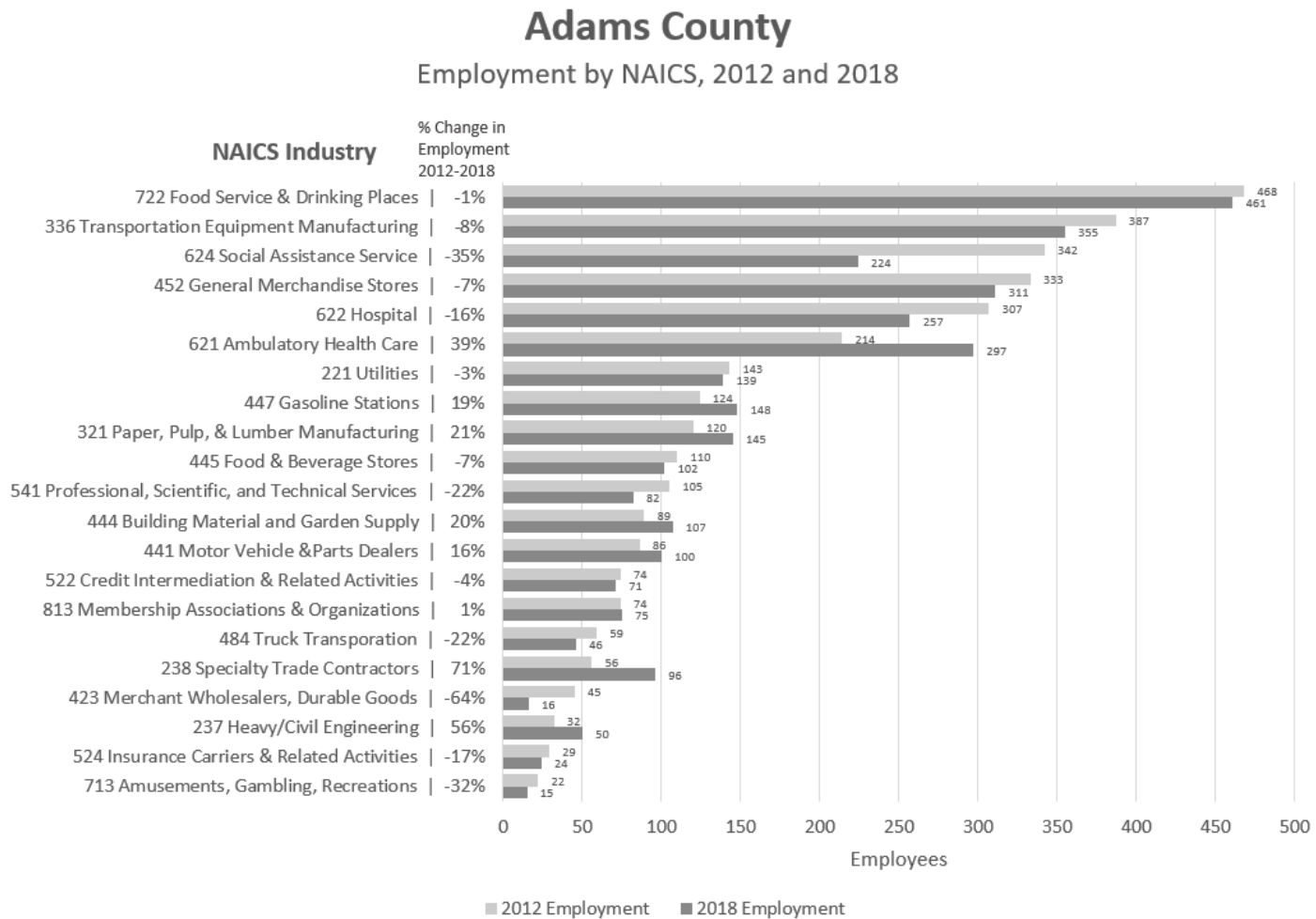
The given industry is a small source of employment

The given industry has a high LQ and is experiencing growth in employment

The given industry has a low LQ and is experiencing loss in employment

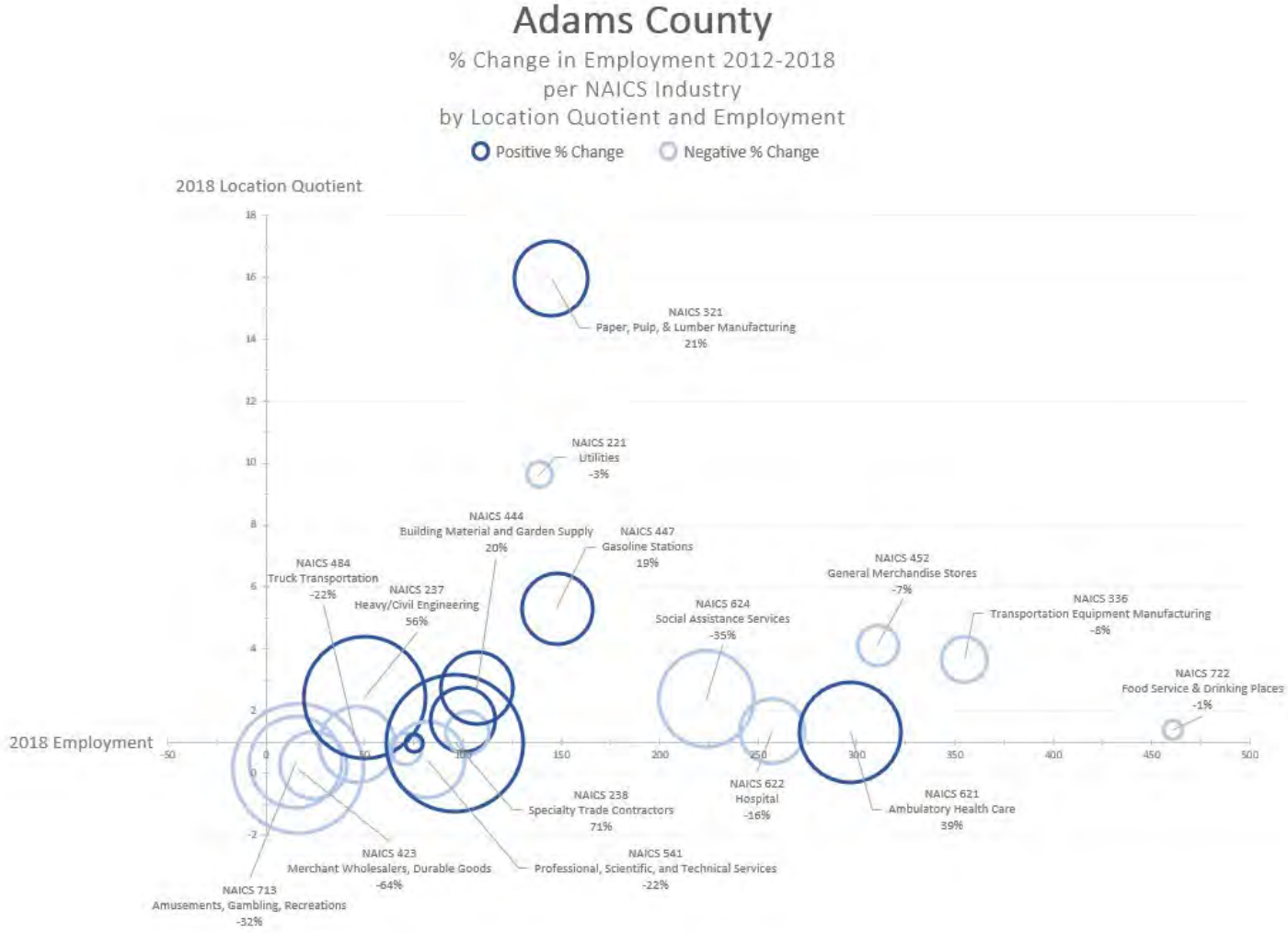
Table 1 shows how the industries fit into these categories. Bolded industries had at least 50 employees in 2018, while the italicized industries had fewer than 50 employees in 2018. The green categories indicate industries that may benefit more from investment. For category 2, this means using investment to counteract the loss of employment in an industry that is already strong in the county. For category 3, this means using investment to help specialize or strengthen the concentration of a currently growing industry in the county. The blue category indicates industries that may see less return on investment than those in the green categories. For category 5, this means industries that are both growing and strong in the county may continue along that trajectory without need of investment. For category 6, this means a substantial investment may be necessary to change both the loss of employment and to strengthen the industry in the county. This is not to say that investments should not be made in these two categories, but to acknowledge that to achieve the same results of an investment into a green category industry may require a much larger investment in the blue category industry.

**Figure 1: Adams County Employment by NAICS Code, 2012 & 2018<sup>1</sup>**



<sup>1</sup> Source: U.S. Census Bureau, County Business Patterns, 2012 & 2018

**Figure 2: Adams County, Change in Employment by Location Quotient and Employment, 2012-2018<sup>2</sup>**



<sup>2</sup> Source: U.S. Census Bureau, County Business Patterns, 2012 & 2018

**Table 1: Adams County Industries by Investment Category**

	High LQ (LQ > 1)	Low LQ (LQ < 1)
Loss in Employment	(2) <b>Social Assistance Services</b> <b>Hospital</b> <b>General Merchandise Stores</b> <b>Utilities</b> <b>Transportation Equip.</b> <b>Manufacturing</b> <i>Truck Transportation</i> <b>Food Services and Drinking Places</b> <b>Food and Beverage Stores</b>	(6) <i>Amusement, Gambling, Recreation</i> <i>Merchant Wholesaler, Durable Goods</i> <b>Professional, Scientific, Technical Serv.</b> <b>Credit Intermediation, Related Activities</b> <i>Insurance Carriers, Related Activities</i>
Growth in Employment	(5) <b>Paper, Pulp, &amp; Lumber Manufacturing</b> <b>Heavy/Civil Engineering</b> <b>Ambulatory Health Care</b> <b>Building Materials &amp; Garden Supply</b> <b>Gas Stations</b> <b>Motor Vehicle and Parts Dealers</b>	(3) <b>Specialty Trade Contractors</b> <b>Membership Associations &amp; Orgs.</b>

Following the examination of the industries in Adams County, clusters of related industries were identified, and the analysis was performed at this more detailed level to gain more insights into the potential for Adams County. Additionally, the analysis was further extended to examine industry clusters in the entire OVRDC region.

## Methodology

For this task, the industry clusters being targeted were identified. Relevant NAICS codes were assigned to each industry. In the 2015 Adams County Economic Development/Tourism Plan, Adams County identified Healthcare, Retail, Manufacturing, Utilities, and Accommodations as sectors in which they planned to focus.

Adams County	NAICS Code
Healthcare	621, 622, 623
Retail	44-45
Manufacturing	31-33
Utilities	22
Accommodations	721

In the 2011 CEDS Performance Report, the OVRDC identified Agriculture, Healthcare, the Wood industry, and Manufacturing as the prominent clusters in the region. The OVRDC is made up of Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties.

OVRDC	NAICS Code
Agriculture Related Businesses	111, 112, 1151, 1152
Healthcare Related Businesses	621, 622, 623
Wood Industry and Related Businesses	321, 337110, 337121, 337122, 337127, 337211, 337212, 337215, 3379, 4232, 423310
Total Manufacturing Sector	31-33

According to the JobsOhio website, the targeted industries for Ohio are Advanced Manufacturing, Aerospace and Aviation, Automotive, Healthcare, Energy and Chemicals, Financial Services, Food and Agribusiness, Information Technology, and Logistics and Distribution. Further research into these sectors, revealed a document with nine industries and four business functions that JobsOhio focuses on as posted on the Ohio Department of Higher Education website. Additionally, this document listed the associated NAICS codes for each. These NAICS codes were used as a baseline for assigning NAICS codes.

JobsOhio Website	NAICS Code
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Aerospace & Aviation	3345, 3364, 4811, 4812, 5174, 9271
Automotive	3336, 3361, 3362, 3363
Healthcare	621, 622, 623
Energy & Chemicals	2111, 2121, 2131, 2211, 2212, 3241, 2371, 3251, 3252, 3253, 3255, 3256, 3259, 3261, 3262
Financial Services	5221, 5222, 5223, 5231, 5232, 5239, 5241, 5251, 5259
Food & Agribusiness	111, 112, 1151, 1152, 311, 4244, 4245, 445
Information Technology	5112, 5182, 5191, 5415
Logistics & Distribution	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
JobsOhio Document	NAICS Code
Aerospace & Aviation	3345, 3364, 4811, 4812, 5174, 9271
Automotive	3336, 3361, 3362, 3363
Financial Services	5221, 5222, 5223, 5231, 5232, 5239, 5241, 5251, 5259
Biohealth	3254, 334510, 334516, 334517, 3391
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Energy	2111, 2121, 2131, 2211, 2212, 3241, 2371
Food Processing	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Information Technology and Services	5112, 5182, 5191, 5415
Polymers and Chemicals	3251, 3252, 3253, 3255, 3256, 3259, 3261, 3262
Headquarters and Consulting	5416, 5511
Back Office	5611, 5614

Logistics	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
Research & Development	5417

To further explore the OVRDC region, the targeted industries from the three overlapping JobsOhio regions were identified. The majority of the OVRDC counties are located within the APEG region. They are Adams, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties. According to the APEG website, the targeted industries in the region are Polymers & Plastics, Energy Production, Food Manufacturing, Automotive and Aerospace, Petrochemical, Hardwood Products Manufacturing, Metals Fabrication, Logistics, and Consumer Products. The REDI Cincinnati region contains two OVRDC counties: Brown and Clermont. The REDI Cincinnati website identifies the targeted industries as Aerospace, Advanced Manufacturing, Food and Flavoring, Information Technology, Shared Services, and Biohealth. The Dayton Development Coalition contains one OVRDC county: Fayette. Their website identifies Aerospace and Defense, Agriculture and Food Processing, Automotive, Bioscience, Cyber, and Logistics and Distribution as targeted industries.

APEG	NAICS Code
Polymers & Plastics	3252, 3261, 3262
Energy Production	2111, 2121, 2131, 2211, 2212, 3241, 2371
Food Manufacturing	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Automotive & Aerospace	3336, 3361, 3362, 3363, 3345, 3364, 4811, 4812, 5174, 9271
Petrochemical	325110
Hardwood Products Manufacturing	321, 337110, 337121, 337122, 337127, 337211, 337212, 337215, 3379, 4232, 423310
Metals Fabrication	3321, 3322, 3223, 3324
Logistics	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
Consumer Products	31-33 (businesses within codes that manufacture retail goods)

REDI Cincinnati	NAICS Code
Aerospace	3345, 3364, 4811, 4812, 5174, 9271
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Food and Flavoring	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Information Technology	5112, 5182, 5191, 5415
Shared Services	521, 522, 523, 525, 54
Biohealth	3254, 334510, 334516, 334517, 3391

Dayton Development Coalition	NAICS Code
Aerospace and Defense	3345, 3364, 4811, 4812, 5174, 9271, 9281
Agriculture and Food Processing	111, 112, 1151, 1152, 311, 4244, 445, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Automotive	3336, 3361, 3362, 3363

Bioscience	3254, 334510, 334516, 334517, 3391, 541714, 541715
Cyber (IT)	5112, 5182, 5191, 5415
Logistics and Distribution	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931

Next, using the JobsOhio document as a baseline, the different industries focused on by each entity were compared to see where there was overlap. Of the 13 industries focused on in the JobsOhio Document, ten of the industries overlap with at least two other entities. These industries are Advanced Manufacturing, Aerospace & Aviation, Automotive, Biohealth, Energy, Financial Services, Food Processing, Information Technology & Services, Logistics, and Polymers & Chemicals. Additionally, the Wood Industry also overlapped within three entities, specifically, Adams County, OVRDC, and APEG. Likewise, the Wood Industry had been brought up during interviews with Adams County residents and in conversations with the Adams County Economic and Community Development Director, Holly Johnson. Therefore, the Wood Industry was added to the ten industries previously identified. Five industries were identified as lacking overlap: Back Office, Headquarters & Consulting, Research & Development, Accommodations, and Retail. Therefore, these five industries will be left out of the cluster analysis.



JobsOhio Document	Adams County	OVRDC	JobsOhio Website	APEG	REDI Cincinnati	Dayton Development Coalition
Advanced Manufacturing	*Manufacturing	*Total Manufacturing Sector	Advanced Manufacturing	Consumer Products; Metals Fabrication	Advanced Manufacturing	
Aerospace & Aviation	*Manufacturing	*Total Manufacturing Sector	Aerospace & Aviation	*Automotive & Aerospace	Aerospace	Aerospace and Defense
Automotive	*Manufacturing	*Total Manufacturing Sector	Automotive	*Automotive & Aerospace		Automotive
Back Office						
Biohealth	Healthcare	Healthcare Related Businesses	Healthcare		Biohealth	Bioscience
Energy	Utilities		*Energy & Chemicals	Energy Production		
Financial Services			Financial Services		*Shared Services	
Food Processing		Agriculture Related Businesses	Food & Agribusiness	Food Manufacturing	Food and Flavoring	Agriculture and Food Processing
Headquarters & Consulting					*Shared Services	
Information Technology and Services			Information Technology		Information Technology	Cyber
Logistics			Logistics & Distribution	Logistics		Logistics and Distribution
Polymers and Chemicals	*Manufacturing	*Total Manufacturing Sector	*Energy & Chemicals	Petrochemical; Polymers & Plastics		
Research & Development						
	Accommodations					
	Retail					
	*Manufacturing	Wood Industry and Related Businesses		Hardwood Products Manufacturing		

\* Industry is repeated within column as it matches more than one category in "JobsOhio Document"

After narrowing down the industry clusters, data was retrieved for each from the County Business Patterns on number of establishments, paid employees, and annual wages. Data was retrieved for the United States, Ohio, the OVRDC region, and Adams County. The number of establishments was included in the data at every level. However, the number of paid employees and annual wages were often suppressed at the county level, due to a small number of establishments in the county. In these cases, the suppressed values were substituted for a reported value in a different year, conditional on the reported value year occurring within a 5-year window of the suppressed value year. For data that was still missing, estimates were created based on average employment by number of establishments, taking into consideration the industry cluster and the urban/rural status of counties. In the few cases, where there was not enough data for either of the previous methods to work, the median value of the range given by the County Business Patterns was used to estimate the suppressed number of paid employees.

After estimating the employment data, the location quotient for each industry cluster was calculated. A location quotient of 1 signifies that the selected region is equally as strong in the industry as the comparison region. A location quotient above 1 signifies the industry is stronger and below 1 signifies the industry is weaker.

## Results for Adams County

The following graphs show the relationship between the growth in the industry (percent change in employment since 2010) and the relative strength or concentration of the industry cluster (the location quotient). This relationship can be divided into four categories: Mature, Star, Transforming, and Emerging. Mature industries have a strong concentration but need investment to reverse downward growth trends. Star industries have strong growth and concentration. Star industries are the strength of the community. Transforming industries have low concentration and negative growth. Only a large investment could help change these trends and might be better invested into an industry in another category. Emerging industries have a low concentration, but high growth. These industries are poised for future growth and can use investment for support and strengthen the concentration of the industry. The graphs also show the relative number employed in the industry cluster by the size of the bubble.

Figures 3, 4, and 5 show the comparison of Adams County to the OVRDC region, Ohio, and the United States from 2010 to 2016, respectively. In all three cases, Aerospace is Adams County's highest concentrated industry. The Aerospace industry is almost 30 times stronger in Adams County than in the entire OVRDC region. Likewise, the Aerospace industry is over 14 times stronger compared to Ohio and over 9 times stronger compared to the United States. Because of the suppressed data and because the number of establishments have not changed from 2010 to 2016, the Aerospace industry is the one industry where the direction of growth could not be determined. However, investments in this industry could help spur growth whether the industry is considered mature or star.

Likewise, figure 3 shows that Advanced Manufacturing, Energy, Information Technology, and Logistics are considered star industries for Adams County compared to the OVRDC region from 2010 to 2016. However, when compared to Ohio, Advanced Manufacturing was categorized as emerging. This signifies that Advanced Manufacturing in Adams County is stronger than in other parts of the OVRDC and the US, but weaker than some other parts of Ohio. Also, it is important to note is that the percent growth for

Advanced Manufacturing is infinite as there were no establishments present in 2010. Similarly, Information Technology was classified as emerging when compared to Ohio and to the US.

Figure 3 also shows that the Wood industry and Financial Services are considered mature, while the Polymers industry was considered transforming when compared to the OVRDC region from 2010 to 2016. While the Wood industry was still considered mature when comparing to Ohio and to the US, Financial Services were considered transforming, and the Polymers industry was considered mature. As seen in figures 3, 4, and 5, Financial Services and the Polymers industry are positioned closer to x-axis or a location quotient of 1.

Additionally, it is important to note that three of the eleven industry clusters do not show up on figures 3, 4, or 5. The Automotive industry and Food Processing industry do not show up because no establishments were found in 2010 or 2016. The Biohealth industry does not show because there were no establishments in 2016 even though there were establishments in 2010 indicating that all Biohealth establishments had closed. It is also important to note that the data used was from before the two Dayton Power and Light plant closings in Adams County in 2018. Therefore, it is predicted that the size of the Energy industry bubble will shrink dramatically and that the Energy industry will be reclassified as mature or transforming depending on the remaining strength or concentration of other energy sector jobs in the county.

Figure 3:

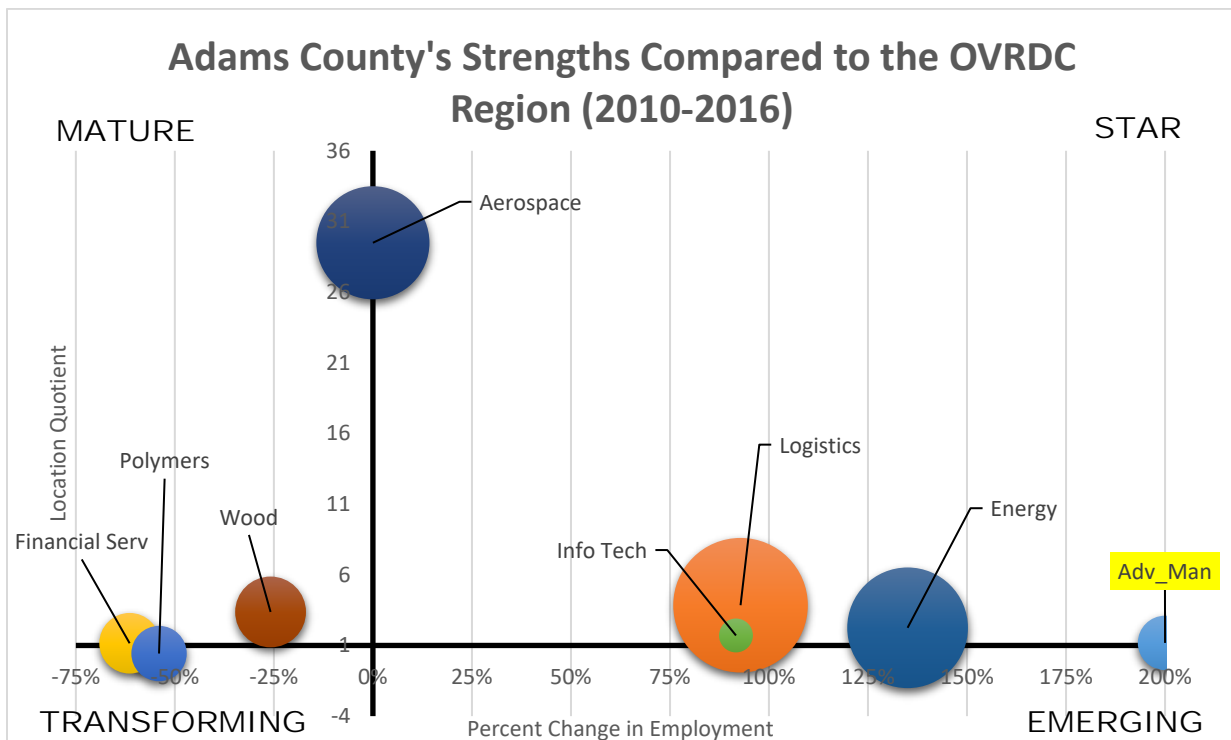


Figure 4:

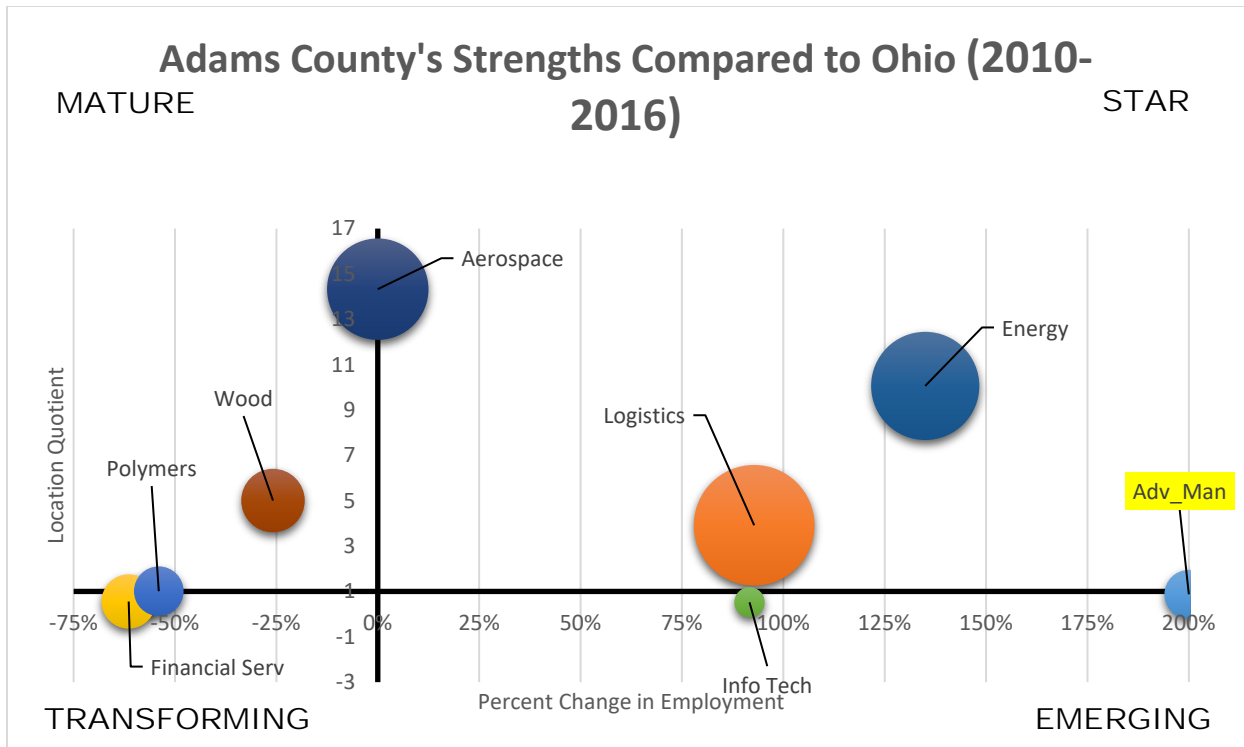
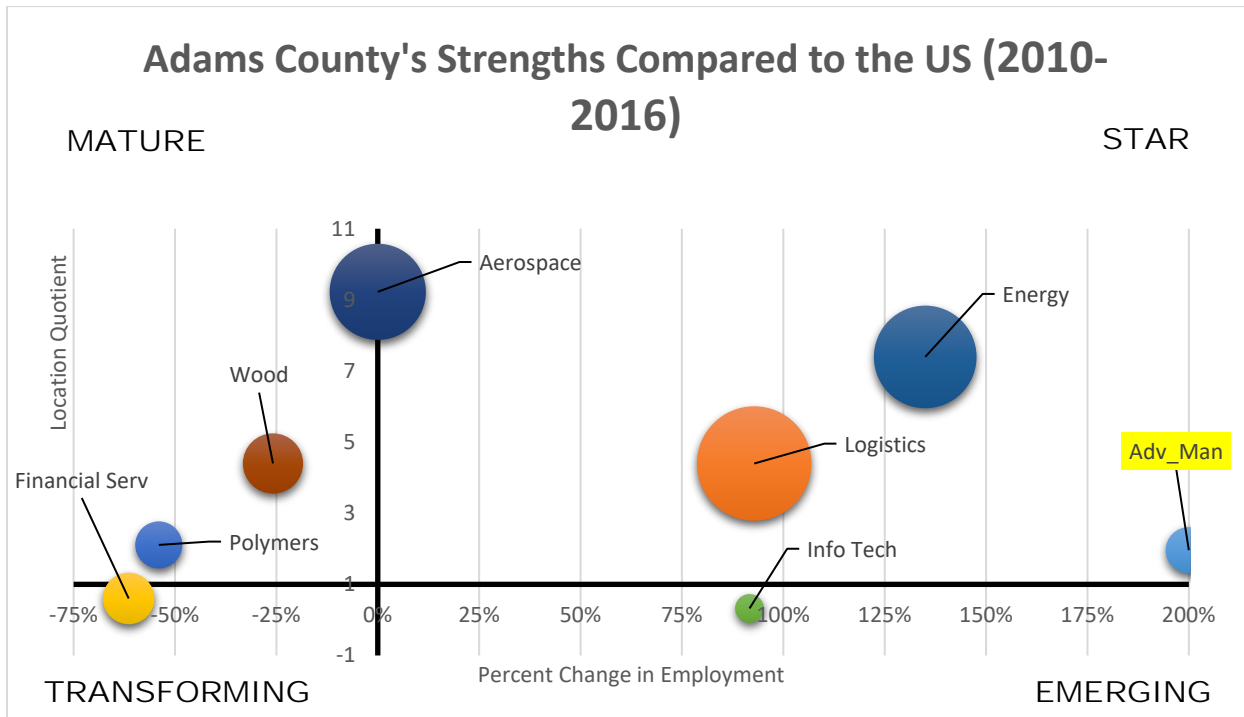


Figure 5:



## Recommendations for Adams County

Aerospace has a strong concentration in Adams County and is a major employer for the county. Investment should be made wisely to ensure future growth in current operations and in growing and supporting supply chain businesses.

Logistics is another major employer and investment could be made to increase strength of industry.

Advance Manufacturing is on the border of being considered a star industry by all three comparisons but employs less than the previous two industries. Investments could be made to grow existing businesses and increase employment in the industry.

The Wood industry is relatively strong in Adams County but needs investment to reverse the downward trend in growth. It would be beneficial to reverse the downward trend before there is a loss of concentration of the industry in Adams County.

Information Technology is also on the border of being a star industry but employs even less people.

Investment in this industry may also require broadband or fiber and other infrastructure to support the industry. Investment may be more cost effective in the previous four industries.

Depending on the remaining concentration in the Energy industry, investment in the industry could be beneficial. However, if the concentration is low, the size of the investment may outweigh benefits to the community.

## Results for OVRDC Region

Figures 6 and 7 show the comparison of the OVRDC region to Ohio and the United States from 2010 to 2016, respectively. Figure 6 shows that the three industries employing the most people, the Energy, Automotive, and Polymers industries, are categorized as star industries. Additionally, Figure 6 classifies Advanced Manufacturing as an emerging industry when compared to the state, but figure 7 classifies Advanced Manufacturing as a star industry when compared to the nation.

Furthermore, Figures 6 and 7 classify Food Processing, Logistics, and the Wood industry as mature industries. Food Processing and Logistics are the next two largest employers of the industries looked at in this analysis. Likewise, Figures 6 and 7 show that Aerospace, Information Technology, Financial Services, and Biohealth are considered transforming industries. Additionally, Biohealth, Aerospace, and Information Technology employ the least amount of people in the region.

**Figure 6:**

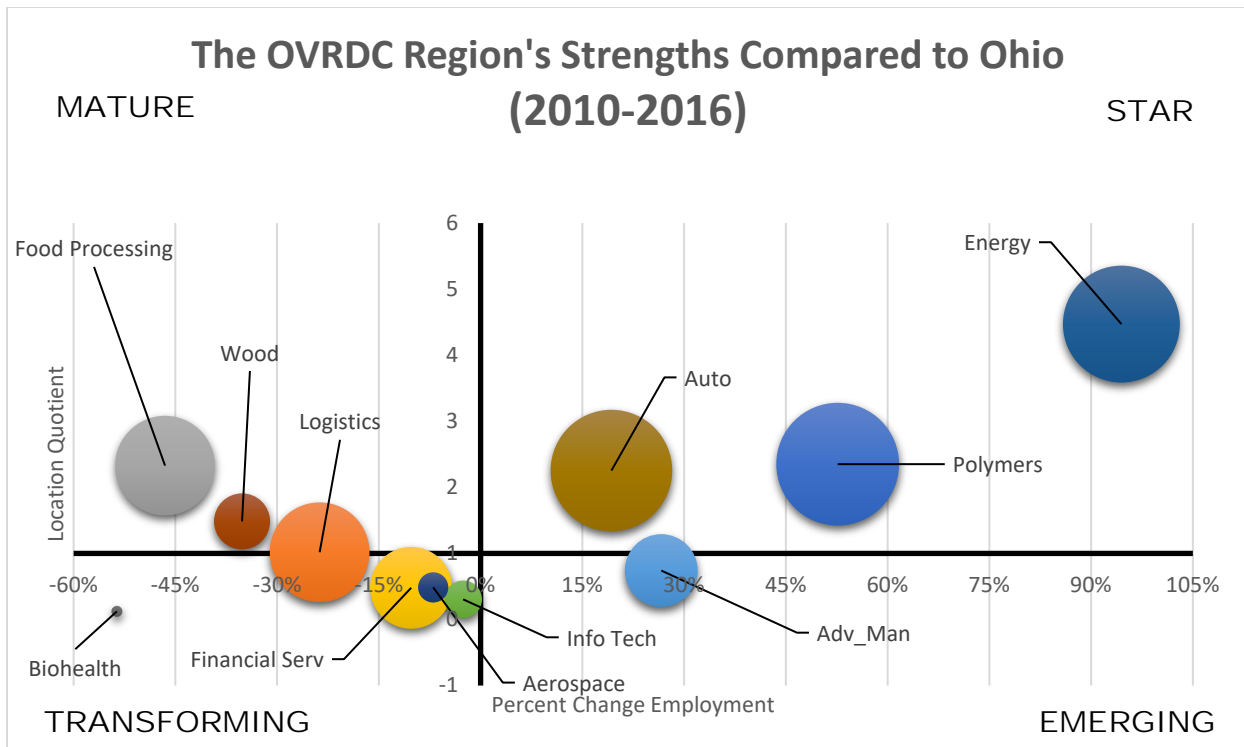
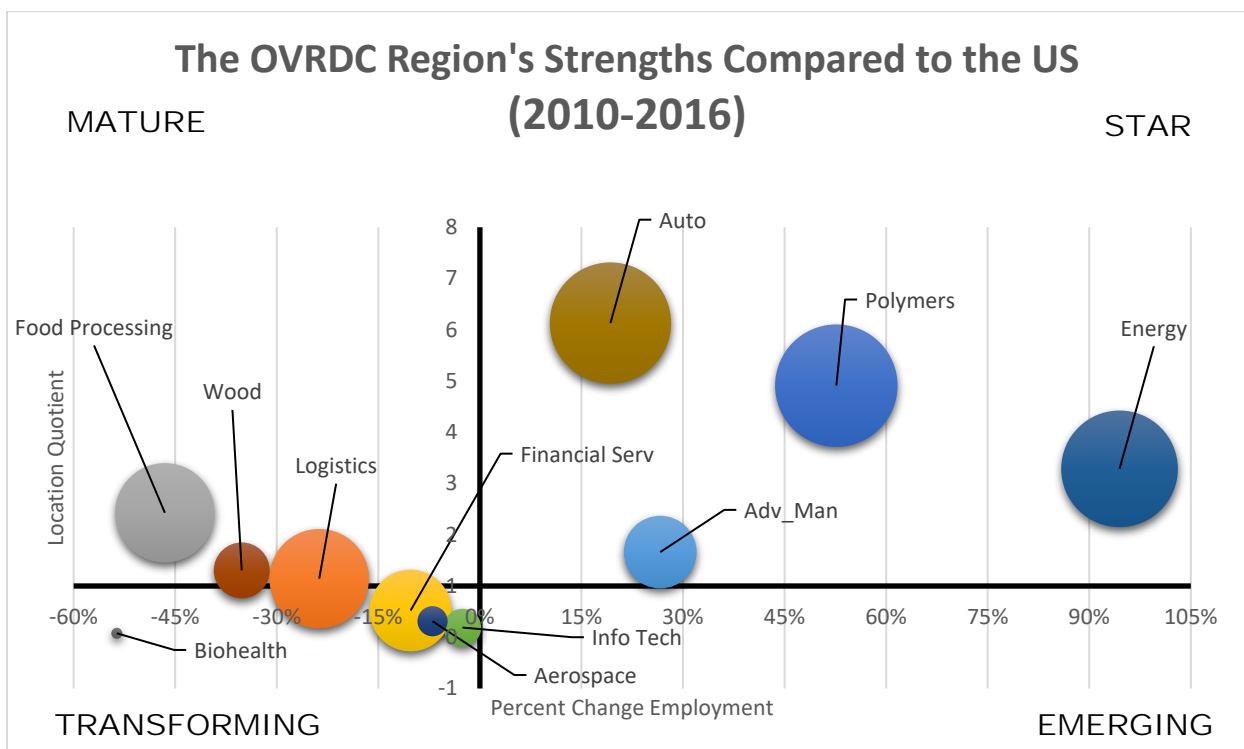


Figure 7:



## Recommendations for the OVRDC Region

The Food Processing and Logistics industries are both relatively large employers for the region. Investments should be made while the concentration of the industries exist in the region to reverse the downward growth trend.

Advance Manufacturing businesses should be invested in and supported to continue growth and further spur the concentration of the industry.

The Wood Industry would also benefit from investments to reverse the downward growth trend, but as the industry employs less people than the previously mentioned industries, may be given lower priority in terms of investments.

The Automotive, Polymers, and Energy industries are major employers. There should be continued support for these industries and for new supply chain business to maintain growth and concentration in these industries.

## Summary

Adams County, from 2012 to 2018 had eight industries experience a growth in employment while thirteen experienced a decline. The top five industries interestingly happened to be a part of the industries that experienced declines. Therefore, when determining the size of any investments, it is important to look at the location quotient of each industry since they each vary.

Regarding the methodology, for Adams County five industries and their corresponding NAICS codes were identified: Healthcare, Retail, Manufacturing, Utilities, and Accommodations. The same method was applied to the OVRDC region and the 2011 CEDS Performance Report identified the prominent clusters in the region as Agriculture, Healthcare, the Wood Industry, and Manufacturing. Once the industry clusters were narrowed down, data on the number of establishments, paid employees, and annual wages was retrieved, leading to results and recommendations for both Adams County and the OVRDC region.

Aerospace is Adams County's concentrated industry; it is nearly 30 times stronger in Adams County than in the entire OVRDC region, nearly 14 times stronger compared to all of Ohio, and over 9 times stronger compared to the entire United States. Advanced Manufacturing, Energy, Information Technology, and Logistics are considered stars in Adams County. Along with that, the Wood Industry and Financial Services are considered mature, but the Polymers industry was considered transforming. There were six recommendations made for Adams County. Regarding keeping their top industry, Aerospace, thriving, wise investments should continue to ensure future growth. In order to increase the information Technology Industry, investments may include broadband, fiber, and other infrastructure to support it.

In the OVRDC region, from 2010 to 2016 there were three primary industries that employed the most people: Energy, Automotive, and Polymer. Food Processing and Logistics are the next two largest employers, while Biohealth, Aerospace, and Information Technology employ the least amount of people in the region. Similarly, to the Adams County Analysis, there were recommendations on how to foster or sustain growth across all the industries. Even though the Food Processing and Logistics industries are relatively large employers throughout the region, there still must be investments made to reverse the downward growth trend. Concerning Automotive, Polymers, and Energy Industries there should be continued support to ensure growth.

## 5. EXISTING INDUSTRY NEEDS/OPPORTUNITIES ASSESSMENT



# Business Retention, Expansion, and Existing Industry Needs and Opportunities Assessment

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Affairs

June 2021

Keirsten Hall

Clara Bone

Maddie Denny

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## Introduction

The COVID-19 pandemic created numerous unforeseen challenges for businesses across the world, but especially those in places that were already facing obstacles to business retention and expansion. Adams County, for example, was already forced to navigate obstacles such as the closure of powerplants and the overall decline of the coal industry even before the pandemic. Regarding business retention, expansion, and already existing industries, Adams County identified the lack of a trained workforce as one of many setbacks. The Center for Economic Development and Community Resilience conducted surveys and interviews with local businesses in Adams County to identify what they view as obstacles to expansion. We then looked at how the COVID-19 pandemic has impacted Adams County's businesses.

## Surveys and Interviews

The research team conducted surveys and interviews with the local businesses in Adams County. The team identified the affects, and the resulting changes businesses underwent in response to the DPL plant closures and the COVID-19 pandemic. Additionally, the team used these interviews and survey in addition to BRE information gathered by OhioMeansJobs to identify the barriers to expansions that the businesses are experiencing. The majority of businesses noted lacking a qualified workforce as a barrier to expansion. This information was shared with the local economic developer to help her identify ways to assist the business community seeking expansion. The need for a workforce training center was identified as a step to help businesses that lacked a trained workforce wanting to expand.

The Center for Economic Development and Community Resilience conducted a survey among the Adams County businesses to understand how the closure of the DPL Power Plant and COVID-19 has impacted their business. Of the businesses surveyed, 40% said they had been impacted by the decline in the coal economy. DPL's two coal powered plants closed in 2018. The General Merchandise and Retail business sectors saw a loss of retail sales in a community that was already struggling. The power plant closures, along with the struggling former employees' loss of income, directly impacted spending habits in the county which led to a loss of retail sale. Other businesses in the social sector have assisted former DPL employees training and job searches. A business in the education sector stated they had lost over \$200,000 of yearly income after the power plants shut down. Only 10% indicated they made changes to address the impact or required more assistance to offset any losses.

## COVID-19 Impact

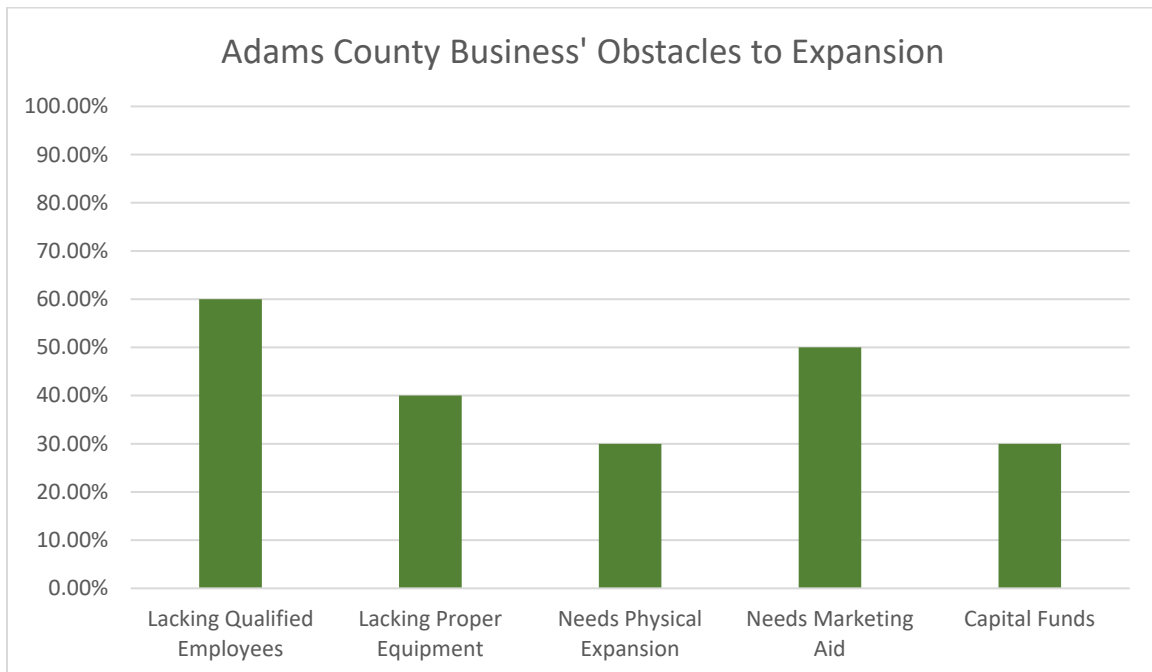
COVID-19 was declared a pandemic on March 11, 2020, the following week Governor DeWine prohibited mass gatherings, closed schools, and limited food service places to carry-out or delivery only. A few days later a state-wide stay-at-home order was issued mandating all non-essential businesses close their doors to the public. This directly impacted companies' abilities to maintain sales causing a swift decline in income. From the survey 90% of respondents commented that COVID-19 had a direct Impact on their company. 20% of businesses stated they were required to let go of employees, reduce hours, or stop overtime. From the responses the General Merchandise Retail and Restaurant Sectors saw a decrease in sales overall post COVID-19. The supply chain for merchandise stores has been notably clogged with an increase demand for products and not enough trucks and containers to fill them. The banking sector faced a coin shortage due to the treasury closing from the pandemic and, like many other businesses in Adams County, saw an adjustment with work. Employees either worked from home or worked in shifts while increasing cleaning and sanitizing efforts.

Adams County businesses had to adjust to the changes through reducing staff, hours, and following Ohio Department of Health (ODH) orders. The ODH allowed non-essential businesses to reopen if they followed certain conditions including social distancing, face masks, and constant sanitizing and cleaning. To address the impact of COVID-19, Adams County food service businesses were required to get creative and do carryout or delivery to keep their businesses operating. Most businesses surveyed indicated they applied for or received the Paycheck Protection Program to ease the strain of paying their employees. The businesses stated the PPP was necessary to better respond to the impact of COVID-19. 10% of respondents said their business was able to aid the community by procuring and selling PPE.

Businesses in Adams County have similar expansion issues. Over the last year, many have sought expansion in Adams County but were hindered by certain difficulties. These difficulties include finding skilled labor, infrastructure, capital funding, lack of equipment, marketing etc. There is a shortage of skilled labor in Adams County; 60% of the businesses reporting issues with staffing. 30% need bigger space for their business and are searching for new locations. Without enough space or aid to businesses requiring expansion, businesses will be driven out of Adams County.

30% of businesses in the restaurant sector reported that the issues preventing them from expanding their business was lack of capital funding, qualified staff, and marketing. These are key areas that affect development in Adams County. Most businesses surveyed cited that they lacked capital to pursue expansion and sought assistance from outside sources to receive grants or loans to meet their needs.

**Figure 1: Adams County Business' Obstacles to Expansion**



## Summary

Local businesses in Adams County identified numerous obstacles that are preventing successful business retention and expansion. The necessity of a workforce training center was a solution identified that would increase the availability of skilled labor, which was the most identified obstacle to expansion. 40% of businesses that were surveyed said that they had been negatively impacted by the decline of the coal economy along with the closure of two coal powered plants back in 2018. On top of the struggles created by the declining coal economy, COVID-19 was declared a pandemic in March of 2020, introducing new obstacles for the businesses of Adams County which include having to let go of employees, reducing business hours, cutting overtime, decrease in sales, the coin shortage, an increased demand for products but not enough resources such as trucks and containers to ship them, and also following the extensive list of orders from the Ohio Department of Health. From the businesses surveyed by the Center of Economic Development and Community Resilience, they identified five major obstacles to expansion in ranking order for most to least identified: lacking qualified employees (60%), needs marketing aid (50%), lacking proper equipment (40%), needs physical expansion (30%), and capital funds (30%).

## 6. COMPARABLE COMMUNITIES ASSESSMENT

# Comparable Communities Assessment

Prepared by Center of Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Service

September 2019

Clara Bone

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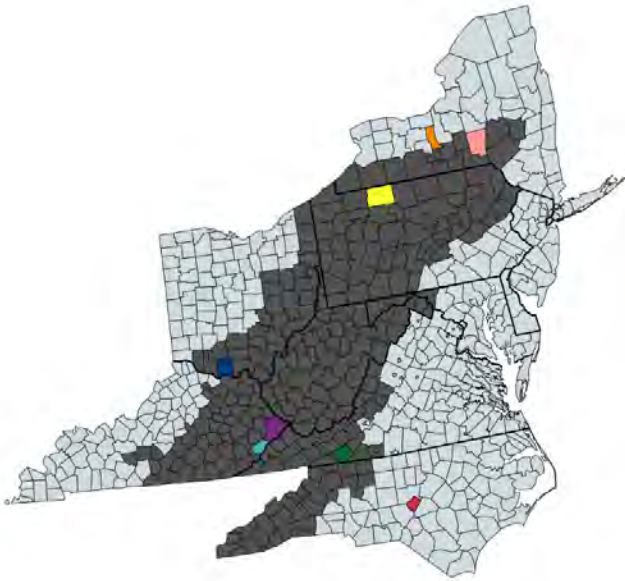


## Introduction

The closure of two coal-fired power plants in Adams County represents a unique regional challenge. However, there are communities elsewhere in the United States from which economic and community development insights may be drawn when guiding Adams County and regional efforts. A series of short case studies were developed to identify current best practices and facilitate learning from other communities. These case studies explore approaches used by other communities/counties with similar populations to Adams County challenged with closures and declines in industry. We mainly investigated communities with different strategic approaches to add to the richness of lessons learned. The findings of the identified case studies provide useful strategies that apply to the Adams County effort, despite not being exact matches.

## Strategies Used

- Attracting new major employers
- Supporting existing businesses
- Diversifying the local economy
- Developing workforce development and training programs
- Collaborating with...
  - educational institutions
  - local businesses
  - regional partners
  - the local community
- Enhancement of natural assets
- Blending/mixing of multiple strategies



- Adams County, OH
- Seneca County, NY
- Carroll County, VA
- McKean County, PA
- Lee County, NC
- Chenango County, NY
- Pike County, KY
- Letcher County, KY
- ARC Counties

Created with mapchart.net: <https://mapchart.net/usa-counties.html>

## Case Study 1: Industrial Redevelopment-Seneca Army Depot Closure (Seneca County, New York)<sup>1</sup>

Seneca County (pop. 34,843)<sup>2</sup> is similar in size to Adams County (pop. 27,926), and although Seneca County is not in the Appalachian region, it borders the northern boundary of the region. Like Adams County, Seneca County had struggled with issues of poverty, limited amenities, aging and insufficient infrastructure, lack of broadband access, and inadequate funding from state and other sources. Furthermore, Seneca County has abundant natural resources very similar to those found in Adams County. Seneca County's resources include unique tourism features like the Seneca White Deer herd, a large amount of cheap and available land, and the potential for waterfront development along Seneca Lake and Cayuga Lake, which are two Finger Lakes in the county. Additionally, Seneca County's experience with the closure of the Seneca Army Depot corresponds well to the closure of the DP&L plants in Adams County. The Seneca Army Depot was the largest employer for Seneca County before closing in 2000. In 1992, Seneca County first experienced a shock as the Depot eliminated over 550 civilian jobs and 500 military jobs. Therefore, it was not a surprise when the US Army placed the Depot on the 1995 Base Realignment and Closure list. The Depot further reduced employment from 1200 to 140 over five years. The base retained some staff to oversee the property and to begin site remediation and clean-up.

By 2016, the Seneca County Industrial Development Agency (IDA) had gradually obtained as much as 10,000 acres of the Depot's property throughout the remediation efforts led by the US Army. The IDA was tasked to redevelop the property on behalf of Seneca County. The IDA looked at the current assets that existed on the Depot and leveraged those assets to attract businesses. Those assets included the barracks, cold storage igloos that once housed chemicals and munitions, open land with natural amenities, and much more. The barracks and the native facilities of the location were used to attract programs for troubled youths. In 2000, the KidsPeace Seneca Woods Campus was opened as a residential program for troubled children and became the Hillside's Children Center in 2004.

Similarly, the IDA was able to attract the Five Points Correctional Facility to locate on the property in 2000, creating 600 direct jobs. The establishment of a training center for state and local police and a training tower for volunteer firefighters was an essential project for the IDA as well. The igloos on the property were perfect for data and server storage. The igloos, given their past of nuclear storage, were relocated away from all flooding dangers, are temperature-controlled, and are incredibly secure. The IDA included this knowledge in their marketing strategy and was able to attract the Finger Lakes Tech Group.

Additionally, the IDA sold around 7000 acres, which became the Deer Haven Park. The Deer Haven Park was established to preserve the rare Seneca White Deer herd that lives on the Depot property. The Deer Haven Park offers tours that allow people to see these uncommon deer, provides the military history of the area and features a tour of one of the ammunition bunkers on the property. Additionally, the

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<sup>1</sup> From MacCarald 2014, Roth 2018, Seneca County IDA 2011, Seneca County, NY 2014, and Seneca County Planning and Community Development Department 2014.

<sup>2</sup> All population estimates are based on the 2017 estimates from the U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates.

establishment of a visitor center for the unique feature of the Seneca White Deer has drawn people to the Deer Haven Park and boosted the tourism industry in the county and the region.

Like Adams County, Seneca County experienced the loss of a major employer in the county. After the closure, the Seneca County IDA focused on bringing in new large employers. They matched the existing infrastructure and special features of the Depot to benefit potential businesses. In addition to industrial development, the IDA sold part of the Depot to strengthen the tourism industry in the county. Adams County could investigate what businesses could use some of the specialty features of the DP&L sites to attract potential companies that could inhabit or redevelop the site.

Additionally, Adams County could look at more out-of-the-box approaches to use the land along the Ohio River to strengthen tourism. However, one key difference exists: The Army gave the area to Seneca County, but DP&L have not sold their sites to the county or another business. This fact impacts what Adams County can do directly regarding the sites. However, the county may be able to act as an intermediary to bring the type of businesses they would like to see in the area to the attention of DP&L. The county may also be able to offer financial incentives to those businesses that will then allow them to make more competitive offers to get DP&L to sell.

## Case Study 2: Business Retention, Small Business Support, and Economy Diversification-Declining Textile and Furniture Manufacturing Industry (Carroll County, Virginia)<sup>3</sup>

Carroll County (pop. 29,767) is a small Appalachian county in southwest Virginia, historically known for its textile and furniture manufacturing industries, which experienced long-term declines. In 1998, the Basset-Walker sewing plant in Carroll County closed. This closure resulted in 294 direct job losses. Additionally, Cross Creek Apparel, another textile manufacturer, closed in 2000, resulting in 245 jobs lost. During the early 2000s, Carroll County continued to face reductions and closures in their manufacturing industries. Carroll County's strategy for economic development was to retain their existing businesses while encouraging entrepreneurship and developing new industries to diversify their economy.

Carroll County implemented business retention strategies to keep businesses in the county. For example, in 2009, Mohawk, a carpet backing manufacturing plant and one of the county's largest employers, was having infrastructure problems that could have forced the plant to relocate. However, the Carroll County Board of Supervisors and Industrial Development Authority intervened and helped the company purchase a needed industrial power backup system. Additionally, Carroll County installed a natural gas line to help power the Mohawk plant. This gas line lowered the energy costs not only for Mohawk, but for many businesses in the area which helped ensure these businesses would remain long term.

Carroll County also focused on developing entrepreneurship programs to strengthen the economy and to raise the county's resiliency. To support entrepreneurship and small businesses, Carroll County created the Crossroads Small Business Development Center in 2006 in partnership with the Wytheville

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<sup>3</sup> From Istrate, Mak, & Nowakowski 2014, Plan Carroll County 2010, Business Facilities 2018, Krouse 1998, and Town of Hillsville, Virginia 2014.

Community College. This center was created to serve businesses with less than 50 employees and assists potential and existing small business owners with business planning, financing, and navigating laws and regulations for development. Additionally, they formed a joint public-private partnership, the Crossroads Institute, which focuses on many aspects of economic and community development, including workforce training and community education.

Carroll County recognized the need to diversify their economy from the textile and furniture manufacturing industries and to grow the economy from sales outside the county. In 1994, county officials along with representatives from the Southwest Virginia Farmer's Market, Virginia Department of Agriculture and Consumer Services, and Virginia Cooperative Extension Services met with local farmers and representatives from large retail chains located in the Mid-Atlantic region. They discovered that the county would be a prime location to serve as a pumpkin supplier to the region. Since then, pumpkin production has increased to several thousand acres and has added an estimated \$15 million to the local economy through pumpkin sales.

Like Adams County, the main factors driving population trends in Carroll County are the out-migration of young adults and the in-migration of older age groups. While Carroll County has an older median age than Adams County (47 and 42.2 respectively), Carroll County has a higher median household income, higher median property value, lower poverty rate, and larger ratio of the number of employees to the population size (0.44 and 0.36, respectively)<sup>4</sup>. This ratio means that for every 100 people residing in each county, there are 44 people employed in Carroll County and 36 people employed in Adams County. This fact demonstrates Carroll County's ability to thrive, even while facing disadvantageous population trends.

Additionally, like Adams County, Carroll County does not have a college or university. However, Carroll County was able to work with a community college in a neighboring county to help create the Crossroads Small Business Development Center. Southern State Community College operates campuses in two counties adjacent to Adams County: Brown and Highland Counties. Additionally, Shawnee State University operates in Portsmouth in the neighboring Scioto County. Therefore, Adams County could consider partnering with one or more of these local institutions to provide support to small businesses in their community.

While there are still many differences between the two counties, the key strategies utilized by Carroll County provide lessons for Adams County. Like Carroll County, Adams County can strengthen their community by working to provide strategic infrastructure and support to key businesses in the County to ensure that these businesses remain in Adams County. At the same time, Adams County can take steps to support new and small businesses and to diversify the industrial make-up of the community to become a more resilient economy in the future.

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<sup>4</sup>Data from <https://datausa.io/profile/geo/adams-county-oh?compare=carroll-county-va>.

### Case Study 3: Tourism, Asset Development, and Regional Strategy- Declining Oil and Timber Industries (McKean County, Pennsylvania)<sup>5</sup>

McKean County (pop. 43,640) is an Appalachian county in Pennsylvania that has experienced declines in the timber and oil industries following the 2008 recession. In response to the decline in industries following the recession, McKean County relied on strengthening its natural assets and tourism industry to improve economic resilience. Additionally, McKean County has utilized a regional strategy working with nearby counties to create a more buoyant region and to have greater access to more resources.

To strengthen its tourism industry, McKean County took advantage of the Pennsylvania Wilds program created by the Pennsylvania Department of Conservation and Natural Resources. Pennsylvania Wilds consists of 12.5 counties (Warren, McKean, Potter, Tioga, Lycoming, Clinton, Elk, Cameron, Forest, Clearfield, Clarion, Jefferson, and northern Centre). The collaboration with nearby counties has brought more people to the area, helping grow rural businesses in McKean County. Additionally, by joining this regional collaboration, McKean County has gained access to regional marketing efforts, the Pennsylvania Wilds Planning Team, and a Design Guide. These resources give businesses insight into improving their properties and attracting visitors. The Pennsylvania Wilds program helps shape development in the region in a consistent manner.

With the support of their region and the Pennsylvania Wilds program, McKean County was also able to identify and grow their community's particular assets. When a tornado destroyed the Kinzua Bridge and Viaduct in 2003, the state of Pennsylvania abandoned its plans to repair and restore the bridge. McKean County worked with the Kinzua Bridge State Park to turn the Kinzua Bridge into a tourism destination. The county built an observation deck, hiking trails, the Kinzua Sky Walk, and a Visitor Center with a gift shop. Additionally, McKean County recognized the visitor center located in the adjacent Elk County. The visitor center in Elk County had already been drawing in visitors to the region to see and learn about the largest elk herd in the northeastern United States. Elk and McKean Counties designated their visitor centers as sister centers and worked to promote each other's sites to tourists. Together, they pull even more people to the region.

Like Adams County, McKean County has abundant natural resources and beauty that was perfect for strengthening their outdoor tourism. Like the Kinzua Bridge, Adams County also has a unique site in the Great Serpent Mound as well as having sites with cultural and historical significance, such as the Underground Railroad or the Amish population. Adams County could work to enhance their assets to create a stronger tourism industry in the county.

While there are many similarities between the two counties, there is one significant difference worth mentioning. There is not an existing regional program, like Pennsylvania Wilds, for Adams County to take advantage. However, this does not mean that the lessons learned from this case study are unimportant. Instead, Adams County could strive to create a regional program with neighboring counties or with the entire OVRDC region to pool resources and strengthen the region's tourism industry. Additionally, Adams County could work with state-wide programs like TourismOhio to better market the county's assets. Likewise, there are funding opportunities that exist at the state and national levels, such as the Land and Water Conservation Fund or the Clean Ohio Fund programs. These sources

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<sup>5</sup> From Boettner et al. 2019, McKean County Planning Commission 2007, and Allegheny National Forest Visitors Bureau (n.d.).

can be used to strengthen the natural assets of Adams County by creating trails for walking, hiking, biking, and much more.

## Case Study 4: Workforce Development-Declining Manufacturing Industry (Lee County, North Carolina)<sup>6</sup>

Lee County (pop. 59,805) is a small rural county in central North Carolina. While the county has a larger population and is not in Appalachia, it still provides valuable lessons to learn. Lee County relied on the manufacturing industry and experienced a significant downturn in its economy as the industry declined following the 2008 recession. Lee County identified a deficit of educated and trained labor in their community, which was contributing to the decline of the manufacturing industry and the inability to attract new businesses. In response, the county developed robust workforce development programming to create a competitive advantage in attracting new businesses.

Lee County collaborated with the Central Carolina Community College (CCCC) to develop their Innovation Center that operated as both an industrial incubator and a workforce training facility, which opened in 2011. The Innovation Center offers businesses and local start-ups the opportunity to launch ideas. Lee County purchased the site and also funds the utility and maintenance costs. The CCCC provides cutting edge training designed to meet the specific needs of the local companies.

One such company is Caterpillar. The county worked with Caterpillar on an expansion project for the Innovation Center and developed an apprenticeship program for high school students. The expansion project helped to teach welding, a skill that was lacking in the local labor force. Other manufacturers in the area also started taking advantage of the training offered. The apprentice program provided at the center is an award-winning collaboration between the county, CCCC, and Caterpillar. Each year, the program offers 15 high school juniors a career pathway at Caterpillar. Students graduate with their high school diplomas, college credits, their welding certification, and are guaranteed an interview for full-time employment at Caterpillar. In return, Caterpillar receives a steady supply of trained workers that meets their specific needs.

Following the success of the Caterpillar Apprenticeship Program, the Central Carolina Works program was developed to inspire high school students to pursue career development training. This program, also partnered with by CCCC, places a career guidance counselor at local high schools providing advice and mentorship to students. The program aims to build a solid foundation for the county's future workforce by inspiring students to pursue vocational training as part of their education

Like Adams County, Lee County needed a workforce trained in the specific skills required by their major employers. Adams County should identify the skills required by employers in the area and work with nearby community colleges and high schools to offer training in these skills. Additionally, it would be mutually beneficial for Adams County and the major employers to establish an apprenticeship program. An apprenticeship program would allow businesses to tailor training to the skills they need and give them access to a steady supply of skilled workforce. Additionally, the apprenticeship program would encourage high school students to remain in Adams County after graduation by offering an interview for full-time employment.

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<sup>6</sup> From Istrate, Mak, & Nowakowski 2014.

## Case Study 5: Flexible and Responsive Strategies -2008 Economic Shock (Chenango County, New York)<sup>7</sup>

Chenango County (pop. 48,763) is an Appalachian county in New York with a rich manufacturing history. Chenango County experienced a shock with the 2008 recession but has used flexible and responsive strategies to recover. In particular, the county focused on workforce and industrial development.

Chenango County's economic development organization, Commerce Chenango, recognized the importance of their county's agriculture and manufacturing industries. Commerce Chenango worked with its well-established foundation of small manufacturing businesses to draw more small businesses to Chenango. Additionally, to be more attractive to companies, the county focused on improving the quality of life and the business climate in Chenango. The county was able to use this improved attractiveness to get large employers to relocate to the county. In 2010, Chobani expanded its operations, and the Raymond Corporation relocated to Chenango County.

Furthermore, Chenango County recognized the need for flexible strategies that can respond to changes as they arise in the county. The county specifically avoided "one size fits all" types of strategies in favor of approaches that consider Chenango County's particular strengths and assets. The county identified workforce development as a priority. To maximize the impact for Chenango County, their workforce development program incorporated support services such as daycare, transportation, and counseling to assist residents of the county.

Chenango County was able to respond to changing economic conditions with flexible strategies that consider the specific resources, needs, and assets of their community. In that way, Chenango County was able to limit the impact of the 2008 recession and recover much faster than similar communities. Likewise, Adams County should develop flexible strategies that can adjust as economic conditions change. The presence of such strategies would allow Adams County to be responsive to the needs of its citizens and local businesses and industries. Additionally, Adams County should learn from Chenango County's recognition of the importance of economic development strategies that encompass a holistic, rather than piecemeal, approach to economic development. In this way, Adams County could create a similar workforce development training center that also incorporates transportation and daycare programs, which were identified as needed in task three: Community Engagement in Economic Development Priorities.

## Case Study 6: Creative Place-Making and Transitioning from Coal Jobs-Mine Closures and the Declining Coal Industry (Pikeville, Kentucky; Whitesburg, Kentucky)<sup>8</sup>

In this case study, we are looking at two cities in adjacent counties in eastern Kentucky: Pikeville in Pike County and Whitesburg in Letcher County. Although comparing cities and not counties, there is still valuable information from this case study that could be helpful to Adams County. Pikeville (pop. 7,065) is more similar to the size of Tiffin Township (pop. 5,440), and the Pikeville Census County Division (pop.

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<sup>7</sup> From Boettner 2019.

<sup>8</sup> From Stone 2016, Andrus 2018, City of Pikeville 2013, Semuels 2015, Appalshop (n.d.), Smith 2016, and Economic Empowerment & Global Learning Project 2016.



15,743) is more similar to Adams County as a whole, while the total population of Pike County is 61,586. Whitesburg (pop. 2,230) and Letcher County (pop. 23,011) are more comparable to West Union (pop. 2,997) and Adams County.

Pikesville and Whitesburg are bright spots in a significantly disadvantaged region of Appalachia: eastern Kentucky. According to the ARC FY2020 County Economic Status designations<sup>9</sup>, eastern Kentucky has the most counties in Appalachia with a Distressed Status, both in percentages and absolute terms with 38 of 54 Kentucky counties ranking as Distressed. In fact, 47.5% of all distressed counties in Appalachia are in Kentucky. It is no wonder that eastern Kentucky became the symbolic representation for Appalachian poverty after President Johnson declared “War on Poverty” in 1964. Because of this, eastern Kentucky has had a long, complicated, and contentious history with economic development efforts in the region.

Eastern Kentucky has historically suffered from a lack of essential investment. The region has suffered from chronic underfunding of social services like education and healthcare and is underdeveloped in critical infrastructural systems, such as highways and broadband. Additionally, it has been unfairly stereotyped as backward and ignorant, is situated at the heart of the opioid epidemic, along with Ohio, West Virginia, and Pennsylvania. Eastern Kentucky has also relied heavily on the boom-and-bust cycling of the coal mining industry. However, it seems that the current condition of the coal industry is not just experiencing a temporary bust in the cycle, but a continued decline with no end in sight. Mining operations continue to be shut down in the region, which may be contributed to higher costs associated with environmental regulations, the falling costs for alternative energy sources, such as the Marcellus and Utica Shale Region, and a shifting socio-political climate that does not support the coal industry the way it once did. The region lost over 8,000 coal industry jobs from 2012-2016.

Both Pikeville and Whitesburg have become examples of success in an otherwise depressed area. While their implementation varies, both cities have used creative place-making strategies and have worked to transition from relying on the coal industry. In particular, Pikeville has worked to help transition from the coal industry by encouraging businesses that will repurpose closed mining sites and provide transitional jobs to former coal industry workers. For example, EnerBlue, a battery manufacturing company, is building a facility on the site of an old coal mine. The plant will bring an estimated 800 jobs with an average salary of \$39 per hour to Pikeville.

Similarly, in 2015, BitSource, a startup tech company, opened in Pikeville. This company was created as a direct response to the community devastation from the declining coal industry. BitSource hired those who had been laid off from the coal industry and provided them with 22 weeks of training to become coders. These former coal industry employees now develop websites, augmented reality coding, and mobile applications.

Unlike in most of Appalachia, Pikeville’s population is growing. This growth has been contributed to the University of Pikeville. Although the university is small, with only around 2500 students, the university attracts individuals to fill faculty and staff positions. The university also attracts business owners who want to take advantage of research, knowledge creation spillovers, and have access to an educated population. Also, as Pikeville has grown, county officials and economic development professionals have ensured that the city is becoming amenity dense. Specifically, they have begun revitalization efforts for the downtown area, are increasing and supporting attractions, like the Hatfield and McCoy Cemetery,

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<sup>9</sup> Data from [https://www.arc.gov/research/MapsofAppalachia.asp?MAP\\_ID=149](https://www.arc.gov/research/MapsofAppalachia.asp?MAP_ID=149)

and encouraging new businesses like bourbon distilleries and restaurants. Having these amenities will help safeguard that the growth is permanent and continues.

Additionally, Pikeville is undergoing efforts to integrate art and culture into the city and the community. The city has supported the Pikeville/Pike County Artisan Alliance, the construction of a new theater with year-round performances, various arts education opportunities, and much more. By recognizing its assets as an education center and developing a unique cultural and amenity-rich experience, Pikeville has separated itself from most of eastern Kentucky by experiencing growth in an otherwise depressed area.

Likewise, Whitesburg has been engaging in creative place-making since the late 1960s. In 1969, Appalshop was founded to train the local community in media skills and bolster economic development efforts by creating new jobs and new markets in the community. Appalshop has been essential in creating a unique identity for Whitesburg and for bringing in economic development projects and grant funding for the community. In fact, Lafayette College partnered with Appalshop to determine how communities can leverage their existing assets to strengthen their community with the goal of applying these lessons to communities around the world.

Another key aspect of economic development and creative place-making in Whitesburg is that it has been a collaborative and grassroots effort. Community revitalization efforts have come forth from the community itself. Many of these efforts focus on building up the cultural and artistic assets in the community by supporting artisan associations and local entrepreneurs that add to Whitesburg's cultural identity. Some of these entrepreneurs have focused on traditional crafts of the region such as woodworking. One artisan group in the area has formed the Route 7 Antique Alley. This collaboration created a listing of entrepreneurs, antique sellers, musicians, and other artists that tourists can use to create a unique shopping experience as they follow the route from business to business. This collaboration not only helps create the identity Whitesburg wants for the community, but actively increases tourism in the region.

Like Adams County, Pikeville and Whitesburg have felt the impact of the declining coal industry. Pikeville has worked to bring in businesses and transition workers into new sectors. Both cities have implemented creative place-making strategies branding the towns as somewhere enjoyable for both tourists and residents. These strategies diversify the cities' economies from reliance on the coal industry. Both cities also recognized the importance of collaboration among local officials, economic development professionals, business owners, state and federal representatives, and the community as a whole. Adams County could look to attract businesses that align with the skill set of laid-off workers or that are willing to train employees with new skills. Additionally, Adams County could begin to implement creative placemaking strategies. Adams County could re-brand its own distinct identity in the region by revitalizing the main street areas of the villages, and by supporting unique cultural attractions, festivals, and businesses. Collaboration is even more critical as a county than a city. Adams County should strive to engage representatives at the county, township, and village levels, but also engage with business owners and other community members. This will assist Adams County in creating an identity that is authentic to all involved parties. The county should also follow Whitesburg's model from Appalshop by supporting grassroots efforts to encourage entrepreneurs, artisans, or other organizations to identify their community. By encouraging collaboration and ideas from within the community, Adams County works to become amenity dense, which will help attract tourism and promote sustainable growth.

## Findings

The approaches that communities have taken in the wake of major employers closing or an industry declining are varied. Some communities focused on gaining new major employers, while others supported their remaining businesses. Still, others sought to diversify their economies away from the industries that were declining. Several communities looked to workforce development and training programs for their communities, also many communities recognized the importance of collaboration with educational institutions, local businesses, regional partners, and the community itself. Additionally, quite a few communities recognized the importance of developing the natural assets that made their community unique. Although each case study focused only on the key strategies utilized by each community, it is essential to note that these strategies were taking place among other economic development strategies. Therefore, Adams County does not have to choose just one approach but can mix and match the strategies that they find beneficial.

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## 7. INDUSTRIAL PARK DEMAND AND FINANCE ANALYSIS

# Feasibility Analysis for the Creation of the Winchester Industrial Park Adams County, OH

## **Submitted by:**

**Evan Scurti, Principal**

**Scurti Consulting LLC**

*-serving as Adams County Economic Recovery Coordinator via contract with the Ohio Valley Regional Development Commission (1/10/20—12/31/21).*

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## **Introduction**

The creation of a modern Industrial Park has been a goal of Adams County leaders dating back to at least 2015. As Adams County has historically been an agricultural and coal-dominated economy, with two Dayton Power & Light (DP&L) coal-fired power plants in southern Adams County, economic development leaders understood the need to diversify to build resiliency for local citizens. As coal-fired plants along the Ohio River Corridor and throughout Appalachia were being retired, momentum gathered to create a modern industrial park that would serve job-seekers for years to come. Of course, the wisdom of the vision was validated in 2018 when DP&L announced the immediate closure of the power plants, resulting in devastating effects on the local economy and local residents. Additionally, any analysis of available industrial real estate in Adams County and contiguous counties will lead to the conclusion that new industrial park creation is a very defensible goal for local government and quasi-government economic development agencies. There is very little industrial real estate “product” in the multi-county Southern Ohio area to offer to prospects. Thus, Adams County leadership understood their important role in filling this void and helping the area reach its economic development potential.

Adams County exhibited strong commitment to this goal in 2018/2019 with the purchase of 55 acres along US Highway 32 (the Appalachian Highway) for the ultimate creation of the Winchester Industrial Park. County Government and the Community Improvement Corporation (CIC) collaborated on the \$364,090.00 purchase, which was accomplished with local funds free of State or Federal subsidies. This bold commitment was recognized by regional and State leaders and discussions with them pertaining to an infrastructure buildout vision began in earnest.

## **Specific Economic Needs Analysis**

In addition to the general rationale described above, the need for a modern industrial park to attract new job opportunities could not be clearer. The following key socioeconomic and competitiveness statistics have been shared with various State and Federal grantors and other stakeholders to explain the importance of Winchester Industrial Park within the economic development framework:

- As outlined in the Ohio University Voinovich School’s May 2018 report, the DP&L closures had a devastating effect on the local economy:

- 1,130 jobs lost (370 direct and 760 indirect contractors/vendors) that accounted for a total annual payroll of \$82 million
  - A loss of \$8.5 million in annual local tax revenue
  - A loss of \$700 million in regional output
- Children in Poverty: Even prior to the DP&L closures, 2018 Census updates revealed that Adams County was the third poorest of Ohio's 88 counties in terms of children under 18, with a rate of 29.1% vs. Ohio's 19.2%.
  - Commute Times: Ohio Department of Development research indicates a need for local job creation as Adams County residents commute averages 36.5 minutes vs. an Ohio mean of 23.4 minutes.
  - Realizing the Potential for Petrochemical (and related sectors) Industrial Development: Since the 2018 land purchase, County leaders have focused on a close partnership with leadership at JobsOhio's regional affiliate, OhioSoutheast ([www.ohiose.com](http://www.ohiose.com)). As the regional arm of the state's dedicated economic development organization, OhioSE is a critical partner both in terms of petitioning for infrastructure funding assistance and implementing best practices in regard to marketing and prospect negotiations as the industrial park is prepared for parcel sales/leases to job creators.

OhioSE has remained a very close partner, as their leadership has explained how Winchester Industrial Park will fill a significant void of available industrial property in Adams, Scioto and surrounding counties. County leaders came to understand that this void was not only a problem in the local/regional economy, but an issue from a statewide economic development perspective as well. Natural gas development within the Utica Shale, despite some recent market volatility, continues to be a major opportunity for Ohio, with much of the activity and its associated industrial development potential occurring along the Ohio River Corridor throughout Ohio's Appalachian counties. Thus, if Adams County is to realize its potential and capture the investment of petrochemical corporations searching for locations along the corridor, the creation of Winchester Industrial Park is an absolute necessity. This dynamic coupled with the County's overall economic development track record is what led to a significant 2021 infrastructure grant from JobsOhio, as outlined below.

### **Infrastructure Analysis and Buildout Plan**

The Adams County Economic Development, led by Executive Director Holly Johnson since 2011, has developed a complete infrastructure deployment plan that will allow the industrial park to entertain development proposals beginning in late 2023. In addition to the new infrastructure that will be necessary for manufacturing and logistics activities, the Economic Development Office



has clearly communicated existing infrastructure attributes that make Winchester Industrial Park a wise investment for State and Federal grantors. This includes:

- The Park offers a unique and strategic industrial location along the Appalachian Highway (US 32) in Southern Ohio. The park's rural selling points will be coupled with easy access to a metropolitan workforce and other business relationships. Winchester Industrial Park is located only 40 miles east of the Cincinnati outerbelt and 54 miles from the Port of Cincinnati.
- US 32 is an approved business corridor within the Federal government's 3,090-mile Appalachian Development Highway System.
- A rail spur into the park is feasible if two rail bridges in Portsmouth are rehabilitated.
- JobsOhio recognized the potential for the park, beginning in 2019 and funded full due diligence studies, which revealed no environmental or soil bearing capacity issues.

JobsOhio jumpstarted the creation of the industrial park in 2021 by awarding \$4.2 million toward the thorough 12.8 million infrastructure buildout plan developed by the Economic Development Office. <https://ohiose.com/news/adams-county-community-improvement-corporation-cic-receives-4-2-million-jobsOhio-grant-to-develop-the-winchester-industrial-park-and-attract-new-business/>

JobsOhio fully vetted the situation and came to the strong conclusion that the local infrastructure plan is justified and will bring a solid return on investment to local and State tax revenue streams. The reasonable development analysis presented by the Economic Development Office included a buildout vision of 300,000 square feet of facilities and a \$10 million payroll throughout the Park, which would include a forecast of 300 jobs at an average salary of \$35,000.00 per year. This buildout potential will yield \$9 million cumulative over 20 years to local and State tax revenues, according to the JobsOhio-approved analysis.

In short, JobsOhio's large grant in an important Southern Ohio industrial asset validated the local leaders' vision and ability to procure the remaining \$8.6 million to complete infrastructure buildout. Applications to the Ohio EPA and federal Appalachian Regional Commission are in process and expected to be awarded in 2022. The \$12.8 million infrastructure plan will include:

- Land acquisition and roadwork construction to access the park at the eastern end from US 32.
- A 12" water main extension and construction of a 200,000-gallon tank to be owned by the Village of Winchester. At-site water capacity of 425,000gpd will be achieved.
- Construction of a 6" sewer main and a 700,000 gallon sewer system. At-site capacity will be 400,000gpd.

### **Alignment with Local Economic Development**

The creation and management of industrial parks can be a complex process that requires sophisticated skills and patience at the local economic development level. Despite Adams County's rural

location and depleted local tax revenue since the DP&L closures, the county is blessed with a high-performing local development office. Led by Holly Johnson's 10+ years as Executive Director, the local office offers complete economic development services, including marketing and prospect negotiations and grant management. Under Holly's leadership, the office has secured and managed over \$32 million in infrastructure grants. Specifically, Holly has experience with large corporate investment proposals and is thus more than prepared to entertain and execute Winchester Industrial Park development proposals. Major successes have included the recruitment of Columbus Industries to a 167,000 square foot facility and leading incentives procurement and road expansion to facilitate GE Testing's \$90 million expansion in Peebles.

In addition to a strong track record, the local development office can offer unique assets to Winchester Industrial Park projects. Those include the Opportunity Zone, which contains Winchester Industrial Park in its entirety, a Workforce Development Center being developed by Holly's team and ready to offer classes in 2022. In addition to real estate, County leaders recognized that the lack of post-secondary training (Adams County contains no community college or other post-secondary facilities) was a major drawback in terms of new business recruitment. Beginning next year, industrial prospects will be able to utilize a 15,000 square foot renovated facility that will offer certificate training programs in welding, CNC training, CDS truck driving, and nursing assistance. The creation of the County government-owned Workforce Training Center is a great testament to Adams County's understanding of modern, comprehensive economic development. The local team is very prepared to invite and execute new development proposals that will bring a much-needed diversity of job opportunities.

## **Conclusion**

The foregoing has hopefully illustrated how the creation of the Winchester Industrial Park is not only feasible but represents a once-in-a-generation opportunity for Adams County and all of Southern Ohio to realize its potential in modern site selection. Specifically, the successful development of the Park is likely because of:

1. A well-thought-out infrastructure deployment plan, utilizing local government partnerships and a significant grant (JobsOhio's \$4.2 million) that has spearheaded the process.
2. A local economic development office with deep experience in both infrastructure grant and construction processes and incentives negotiations. The team is well-equipped to lead parcel sale/lease negotiations and recommend final actions by the CIC Board and Board of County Commissioners.
3. Data presented by OhioSE clearly depicted the opportunity for 21<sup>st</sup> century industrial real estate development in the Adams County area. The growth of sectors like petrochemical along the Ohio River Corridor bodes very well for the likely success of job-creating parcel sales within Winchester Industrial Park.
4. Strong consensus around the overall *need* for the Park due to persistent poverty exacerbated by the DP&L closures. Local elected officials and regional/State leaders are expected to support the Park's growth and viability for years to come.

8. ASSESSMENT OF THE SOCIAL SECTOR IN ADAMS COUNTY AND ITS ABILITY TO ADVANCE ECONOMIC DEVELOPMENT STRATEGIES

## Adams County Social Sector Assessment

Prepared by Center of Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Service

November 2021

Clara Bone

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## Introduction

The loss of \$8.5 in annual property tax revenue from the decommissioning of the DP&L power plants left a significant hole in the budgets of Adams County and its local governments and schools. Such a loss would impact the ability of the public sector to deliver public services and may reduce employment in key industry clusters. Social enterprises in the County not only contribute to economic growth, diversification, vitality, job creation, etc., but also tend to privatize services typically supported by public spending through finding market-based solutions to social challenges, thereby helping to mitigate public sector impact of loss of tax revenue. The social sector often addresses the “social determinants” of economic development (e.g., education, workforce, health, etc.) and including an assessment of its capability and impact in a comprehensive economic development strategic plan helps to align these goals with making Adams County investment ready.

## Adams County Health and Wellness Coalition

The Adams County Health and Wellness Coalition (ACHWC) is an organization in Adams County that aims to *“Protect and improve the health and wellness of all people in Adams County through collaborative partnerships that implement sustainable strategies for health promotion and disease prevention.”*<sup>1</sup> Members of the coalition include business leaders, health professionals, economic developers, and a variety of other community stakeholders.<sup>2</sup> The ACHWC served as the team’s entry point into the social sector in Adams County. The ACHWC is well-established and accomplishing goals related to health in the social sector. Through regular meetings with the group, we determined that there was not, however, capacity for the ACHWC to support the public sector in areas that would be affected due to the loss of the utility PTP tax. Nor were there other organizations or private enterprises in the area that would be able to do so.

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<sup>1</sup> <http://achwc.org/about-us>

<sup>2</sup> <http://achwc.org/members>

## COVID-19 Pandemic and Funding

However, as we were assessing the very limited resources to combat this tax loss, the COVID-19 pandemic began. While this created many challenges with engaging the local community directly, there was one positive that came out of the pandemic: Relief Funding. Adams County was able to access relief funding during the pandemic that helped to remedy the tax loss that was expected to impact the ability to provide public services by the county. This funding was used to alleviate the most pressing issues in addition to the new issues sprung up by the pandemic. However, senior care was one area where the impact of the tax loss was still felt.

## Connecting with Other Teams

During the pandemic, the team was still able to connect the ACHWC with other teams at the Voinovich School that could have assisted with finding creative ways to meet public service needs and/or find funding opportunities to encourage private enterprises to meet some of the needs in Adams County created by the loss of the tax revenue. In particular, the team connected them with SEE (Social Enterprise Ecosystem) at the Voinovich School. SEE focuses on provided no-cost assistance (consulting, capital access, etc.) to social enterprises that also sell goods and services. Although, at the time there were not any social enterprises ready for such assistance, the contact was made and the ACHWC will now have a point of contact if they come across any such social enterprises in the future.

Additionally, the team made the introduction to TechGROWTH Ohio and the following information was shared: TechGROWTH Ohio is a venture development organization serving rural Southeast Ohio by providing intensive services, capital and talent to early-stage technology companies with high-growth potential. TechGROWTH Ohio helps companies identify and address opportunities and gaps to accelerate commercialization and prepare entrepreneurs for resource acquisition necessary for their next stage of growth and development. This hands-on engagement helps technology-based entrepreneurs and startup companies establish early market validation, engage in customer discovery, test business models and embrace go-to-market strategies. TechGROWTH Ohio is a premier program at the Voinovich School of Leadership and Public Service at Ohio University, a long-term partner with Ohio Third Frontier and the private sector.

In order to identify and cultivate early-stage deal flow qualified for the TechGROWTH Ohio program of services within the rural southeastern region of Ohio, TechGROWTH supports a wide cadre of partners and ancillary programs that are supportive in general of entrepreneurship and start-up and entrepreneurial endeavors in general at all levels. Specific to the counties and area represented by the BOBCAT network, some examples of the TechGROWTH-supported programs and activities include:

- Dare to Dream: Completing its 8th consecutive year in 2021, the Glockner Dare to Dream high school pitch competition provides an opportunity for high school student teams from schools in 6 counties in southern Ohio (Lawrence, Scioto, Pike, Gallia, Adams and Jackson), as well as 4 counties in Kentucky and two in West Virginia to compete in a pitch competition for prizes awarded to the best new business ideas. In 2021, 13 teams competed for \$36,000 in prize money, awarded to the top 5 teams. Each team receives coaching and mentoring in advance of the competition, helping to further hone and refine the business concepts and plans and improve their pitch.

- Kricker Innovation Hub @ Shawnee State University: "The Kricker Innovation Hub is Shawnee State University's Center for Entrepreneurship. This flagship downtown facility includes coworking space and business incubation space, with plan to include a digital technology makerspace when renovations are complete. The Hub offers training, mentoring and entrepreneurial resources, including events and programs targeting the entrepreneurial community. Specific programs and events include
  - The Entrepreneurial Journey Speaker Series promotes a culture of entrepreneurship through stories of successful business owners and encourages students and the community to learn skills needed to establish and growth their own business. This ongoing program hosts approximately 6 speakers each year.
  - Startup Weekend Portsmouth is a 54-hour entrepreneurship educational competitive event, in which groups of participants form teams around ideas on Friday evening, and work during the weekend to develop a working prototype, demo, and VC presentation by Sunday evening. Beginning in 2019, this event provides a place to connect with passionate people driven to build something new.
  - Ignite Portsmouth Entrepreneur Bootcamp & Pitch Competition, held virtually in 2021, is a six-week entrepreneurship training program. Eighteen teams participating, culminating in a virtual pitch competition with the top 5 teams awarded \$8500 in prizes.
- In addition opportunities to support programs and events in support of start-ups and entrepreneurship, TechGROWTH Ohio serves as a point of contact and point of referral for other regional economic development organizations in the region, such as the Lawrence County Economic Development Corporation and Southern Ohio Industrial District, OhioSE and JobsOhio, as well as others. TechGROWTH Ohio provides assistance to these entities in vetting new opportunities for the region.

## Conclusion

The team determined that the small population and economy of Adams County meant that the existing social sector was equally small and unable to support public services if the county felt the full impact of the tax loss after the closure of two coal-fired power plants in the county. However, because funding was received due to the Covid-19 pandemic, Adams County was able to combat most of the effects from the tax loss. The team also determined that Adams County was not in a position to create new social enterprises or technology based enterprises to help with any of the tax loss. However, the team still made introductions between the groups because as Adams County looks to grow in the future these could be two opportunities of areas to grow in. This continues to be an emerging area for Adams County and warrants further focus after the completion of this project.

## 9. ECONOMIC DEVELOPMENT VISION PLAN



# ADAMS COUNTY STRATEGIC PLAN 2021

PREPARED BY THE CENTER FOR ECONOMIC DEVELOPMENT AND  
COMMUNITY RESILIENCE

FUNDING PROVIDED BY THE US ECONOMIC DEVELOPMENT  
ADMINISTRATION AND THE OHIO APPALCHIAN NEW ECONOMY  
PARTNERSHIP AS PART OF THE BOBCAT NETWORK PROJECT

# Adams County Strategic Plan

## Executive Summary

This report developed by Ohio University's Voinovich School of Leadership and Public Affairs investigates the strategies to enhance economic development for Adams County, Ohio. This "Economic Development Strategic Plan" was funded by the U.S. Economic Development Administration (EDA) through the BOBCAT Network.

The Killen and Stuart power plant closures, and the closure of an associated training facility in Manchester, Ohio, will lead to the direct loss of 370 jobs. These 370 jobs generated an estimated \$56 million in employee compensation. An additional 760 jobs will be lost in a variety of industries as an ancillary consequence of the closures. In total, the closure of these facilities will result in 1,131 lost jobs, \$82 million in lost labor income, and a reduction in regional economic output of nearly \$700 million dollars. The increase in unemployment has made new growth and employment strategies for Adams County imperative. Adams County had seven industries with employment growth from 2010 to 2019, compared to six industries with employment decline. Of the growth industries, two industries had a growth rate of over 50%, including 84.89% growth in educational services

Adams County has a key decision to make to stabilize and ultimately reverse this population decline, workforce development issues, and additional challenges. This plan specifically recommends these focus areas: 1) Winchester industrial Park 2) Workforce Development. Concentrated strategic investment and support of these themes will help mitigating impact, transition, and recovery. This will help capitalize on emerging business opportunities, infrastructure improvements, and ways to retain and attract families to the area. Adams County should focus on implementing these priorities put forth in this plan.

# **Adams County Economic Development Strategic Plan**

Executive Summary

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## **Introduction**

In 2018 Adams County Commissioners and the Adams County Economic and Community Development partnered with the Center for Economic Development and Community Resilience at Ohio University's Voinovich School of Leadership and Public Affairs. Through the BOBCAT Network at Ohio University a team of researchers were brought on to support Adams County and developed a scope of work 2018. The project is funded by the US Economic Development Administration (EDA) program.

This effort proposes several recommendations that were developed through findings of core research tasks. These included a comprehensive economic scan and workforce inventory, interviews 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 Adams County's Regional Economy, which are noted in the executive summary.

## **2. Existing Conditions & Community Trends**

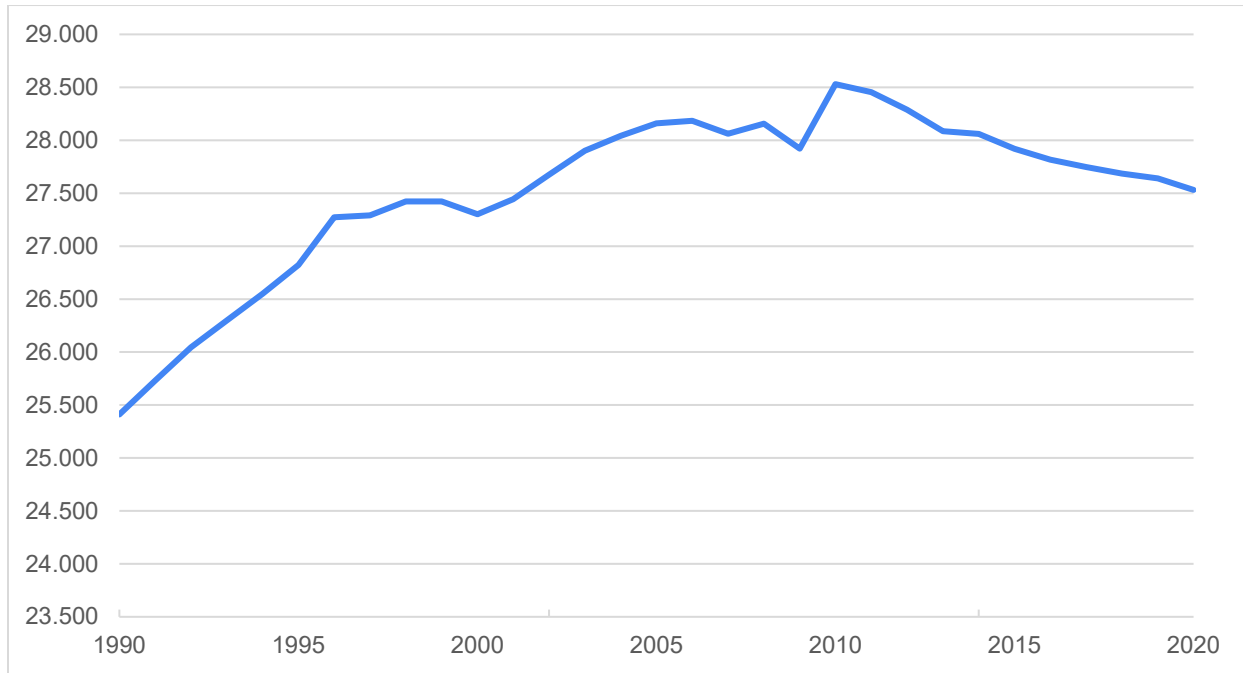
The first task associated with this work involved a demographic and economic scan in order to compile a solid informational foundation on key economic and demographic descriptors of Adams County.

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

### **2.1 Population Growth Trends**

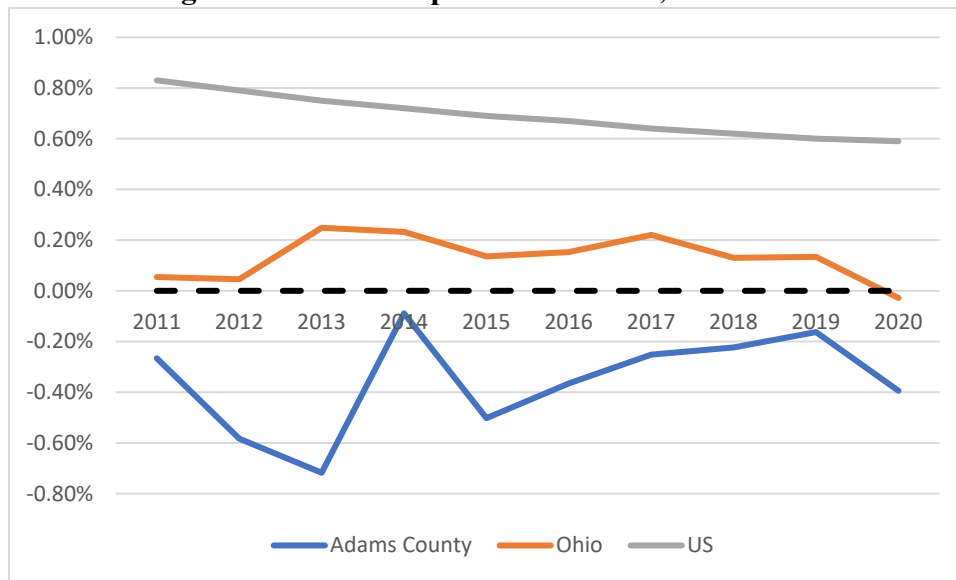
As shown in Figure 1, the population of Adams County experienced a decrease in population from 2010-2019, shrinking from 28,547 in 2010 to 27,531 in 2020. Figure 2 shows the total percent change in population in Adams County, Ohio, and the United States since 2010. From 2010 to 2020, Adams County experienced a decrease of -3.5%. However, Ohio and the United States experienced an increase of 1.33% and 6.65%, respectively, over the same period. Figure 3 breaks down the total percent change into annual percent change during the 2011-2020 period. This shows that Adams County experienced negative growth every year, while Ohio and the United States experienced positive growth each year.

**Figure 1: Adams County Population (In Thousands), 1990-2020<sup>1</sup>**



**Figure 2: Total Percent Population Change, 2010-2020<sup>2</sup>**

**Figure 3: Annual Population Growth, 2011-2019<sup>3</sup>**



<sup>1</sup>Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2017, U.S. Census Bureau, Population Division

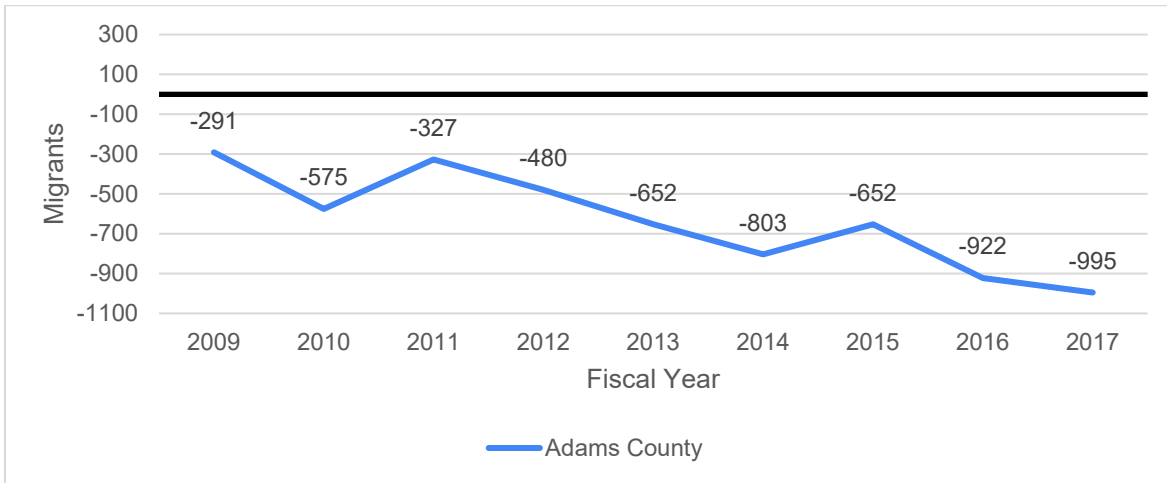
<sup>2</sup> Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019, U.S. Census Bureau, Population Division

<sup>3</sup> Source: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2019, U.S. Census Bureau, Population Division

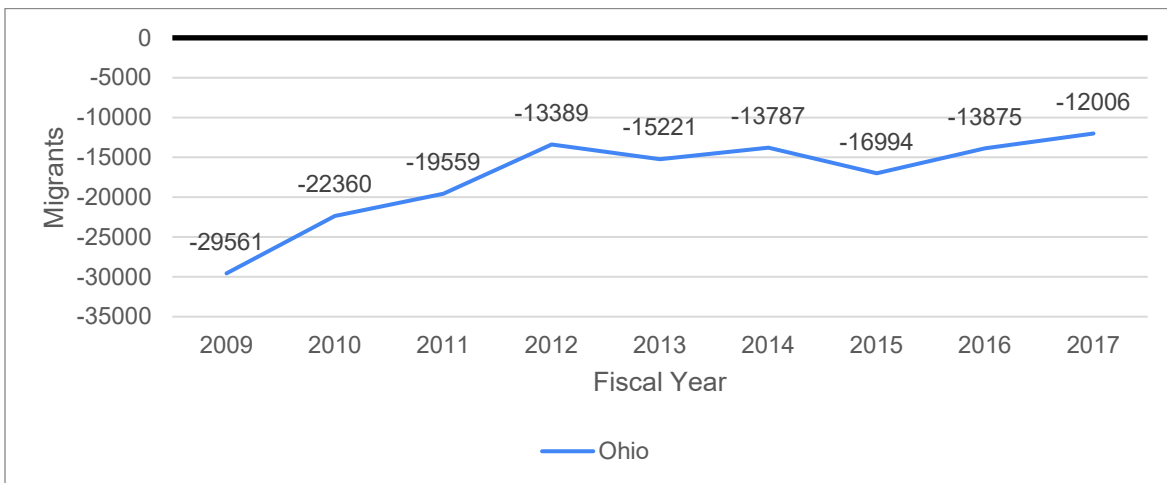
## Migration

Figures 4 and 5 shows the trends in net domestic migration in Adams County and Ohio from 2000 to 2019. Migration in both regions has been decreasing during this period, with a net total of 995 residents moving out of Adams County in 2019 and 12,006 people moving out of Ohio in 2019.

**Figure 4: Net Domestic Migration: Adams County, 2009-2019<sup>4</sup>**



**Figure 5: Net Domestic Migration: Ohio, 2009-2019<sup>5</sup>**



## 2.2 Age Distribution

<sup>4</sup> Source: County Migration Patterns, Ohio Development Services Agency, Research Office, September 2019.

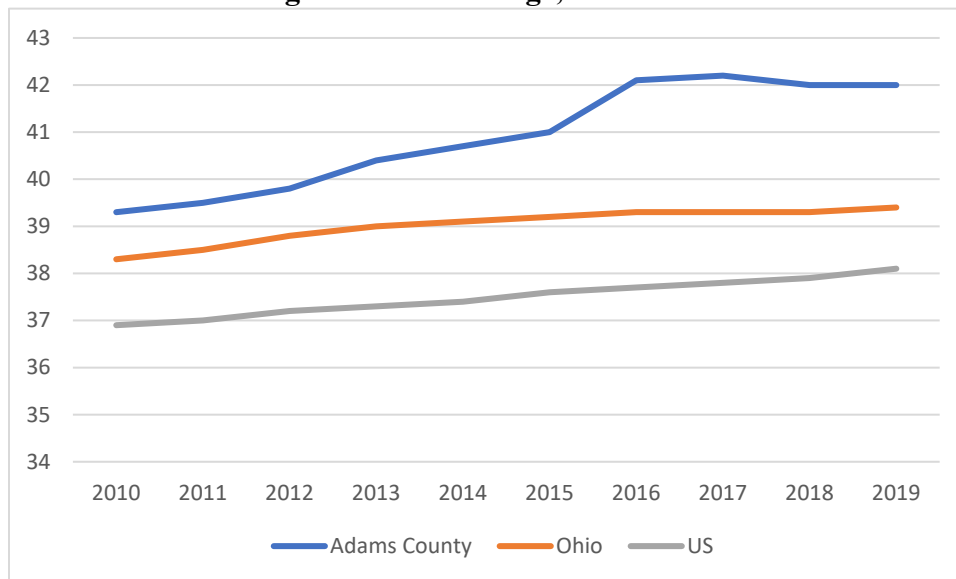
<sup>5</sup> Source: County Migration Patterns, Ohio Development Services Agency, Research Office, September 2019.

Figure 6 shows the median age in Adams County, Ohio, and United States from 2010 to 2019. The median age in Adams County has been consistently higher than in Ohio and the United States during this period. Additionally, the median age in Adams County has been increasing at a faster rate than in Ohio and the United States.

Furthermore, as shown in Table 1, 17.4% of the population of Adams County was older than 65 in 2020, compared to 17.48% of Ohio. Likewise, 19.6% of the population of Adams County was younger than 15, compared to 18.22% of Ohio. In contrast, only 12% of the population of Adams County is aged 25-34, compared to 12.92% of Ohio. Additionally, from 2010-2019, Adams County experienced an increase in population only in ages 55 and over, while Ohio experienced an increase in ages 25-34 in addition to ages 55 and over. Moreover, the median age of Adams County is 42, compared to 39.6 in Ohio. Finally, the total working age (people age 15-65) of Adams County in 2010 was 18,503 and fell to 17,719 in 2019. Adams County’s working age population decreased 4.24% from 2010-2019, while Ohio experienced a 22.16% increase. This suggests that not only does Adams County have an aging population, but that they are losing a key demographic in their workforce as young people move away from the county.

This is visualized in Figure 7 which shows the distribution of the population in Adams County in all age groups and in both sexes. This population pyramid with a very wide base and a narrow top section indicates that Adams County has a population with both high fertility and death rates. The narrowing middle of the pyramid indicates that the adult labor force is leaving Adams County for more attractive job markets, which is possibly motivated by high persistent unemployment rate shown in Figure 33.

**Figure 6: Median Age, 2010-2019<sup>6</sup>**



**Table 1: Age Distribution: Adams County and Ohio, 2010 and 2019**

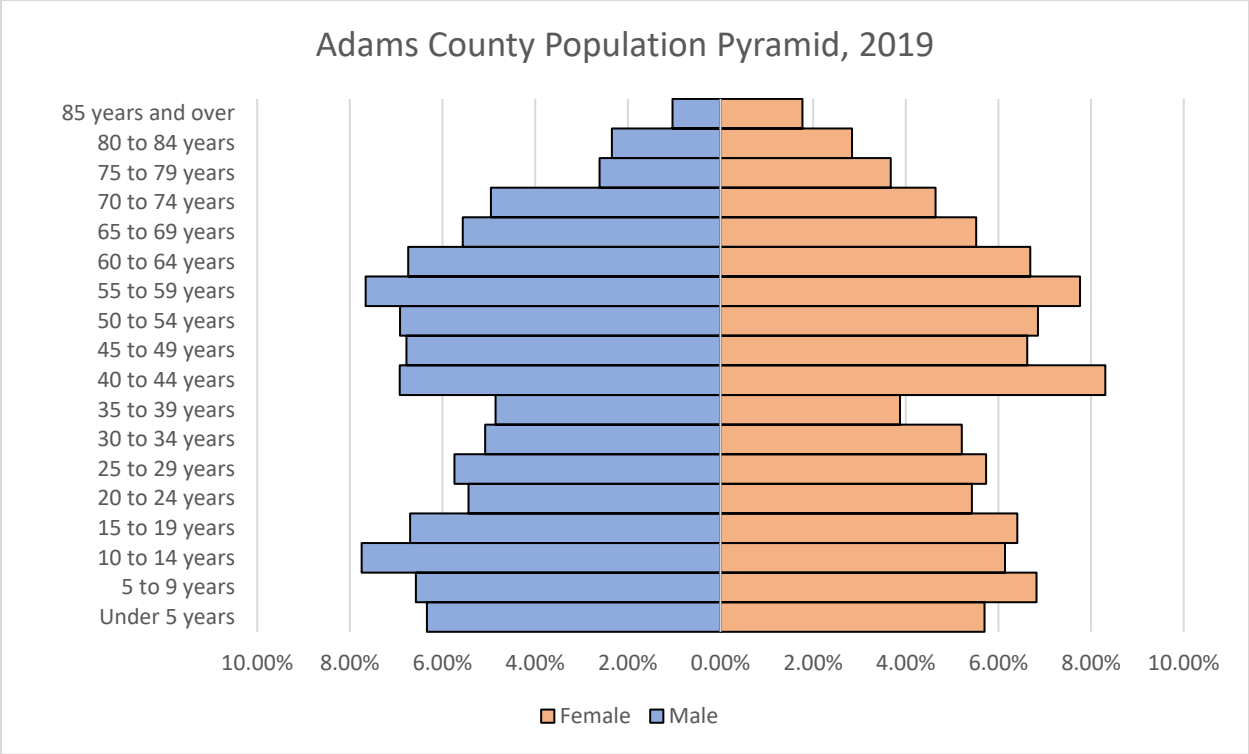
<sup>6</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

Age Range	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					
Under 15	5,963	20.90%	5,460	19.60%	-8.43%
15-24	3,538	12%	3,329	12.00%	-5.90%
25-34	3,395	11.90%	3,023	10.80%	-10.96%
35-44	3,880	13.60%	3,328	12.00%	-14.23%
45-54	4,222	14.80%	3,773	13.60%	-10.64%
55-64	3,452	12.10%	4,007	14.40%	16.07%
65 and over	4,137	14.50%	4,856	17.40%	17.38%
<b>Total Population</b>	<b>28,587</b>		<b>27,776</b>		-2.84%
<b>Median Age</b>	<b>39.0</b>		<b>42.0</b>		1.25%
<b>Ohio</b>					
Under 15	2,267,949	19.40%	2,129,249	18.22%	-6.12%
15-24	1,588,715	13.59%	1,510,046	12.92%	-4.95%
25-34	1,416,029	12.11%	1,544,717	13.22%	9.09%
35-44	1,542,666	13.20%	1,404,148	12.01%	-8.98%
45-54	1,738,377	14.87%	1,451,339	12.42%	-16.51%
55-64	1,369,979	11.72%	1,606,053	13.74%	17.23%
65 and over	1,577,203	13.49%	2,043,548	17.48%	29.57%
<b>Total Population</b>	<b>11,500,919</b>		<b>11,689,100</b>		1.64%
<b>Median Age</b>	<b>38.9</b>		<b>39.6</b>		1.80%
Source: U.S. Census Bureau, American Community Survey, Demographic and Housing Estimates, 2010-2019					

**Figure 7: Adams County Population Pyramid, 2019<sup>7</sup>**

<sup>7</sup> Source: Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2019, U.S. Census Bureau, Population Division





### 2.3 Educational Attainment

Table 2 shows estimations of the educational attainment of residents. Likewise, Figure 8 visualizes the educational attainment of the populations in Adams County, Ohio, and the United States. In 2019, roughly 35.7% of the population of Adams County reported having some amount of college education, compared to roughly 58.15% of Ohio and 61.2% of the United States. This shows that Adams County trails in comparison to state- and nationwide averages. Additionally, 19.8% of Adams County’s population did not have a high school diploma, while only 9.2% of the population in Ohio did not have a high school diploma. From 2010-2019, the proportion of the population that reported having some college education increased from roughly 28.5% to 35.7% in Adams County. Furthermore, the proportion that did not have a high school diploma decreased from 25.4% to 19.8%. This shows that both the rate of residents attaining at least some higher education and of residents graduating from high school has increased.

**Table 2: Educational Attainment: Adams County and Ohio, 2010 and 2019**

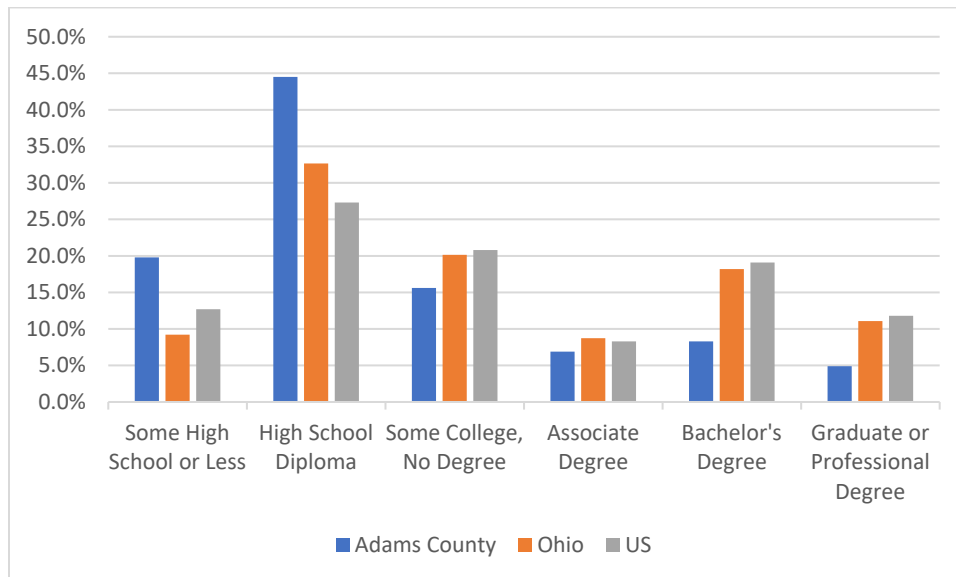
	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					

Some High School or Less	4,848	25.40%	3,759	19.80%	22.46%
High School Diploma	8,819	46.20%	8,449	44.50%	-4.19%
Some College, No Degree	2,367	12.40%	2,962	15.60%	25.14%
Associate Degree	1,031	5.40%	1,310	6.90%	27.10%
Bachelor's Degree	1,145	6.00%	1,576	8.30%	37.60%
Graduate or Professional Degree	897	4.70%	930	4.90%	3.70%
<b>Population 25 Years and Over</b>	<b>19,107</b>		<b>18,987</b>		<b>-0.63%</b>
<b>Ohio</b>					

Some High School or Less	918,781	11.90%	740,847	9.20%	19.37%
High School Diploma	2,717,739	35.20%	2,627,758	32.64%	-3.31%
Some College, No Degree	1,582,774	20.50%	1,622,014	20.15%	2.48%
Associate Degree	602,226	7.80%	702,601	8.73%	16.67%
Bachelor's Degree	1,212,173	15.70%	1,464,945	18.20%	20.85%
Graduate or Professional Degree	687,156	8.90%	891,640	11.08%	29.76%
<b>Population 25 and Over</b>	<b>7,720,849</b>		<b>8,049,805</b>		<b>4.26%</b>

Source: U.S. Census Bureau, American Community Survey, Educational Attainment, 2010-2019

**Figure 8: Educational Attainment, 2019<sup>8</sup>**



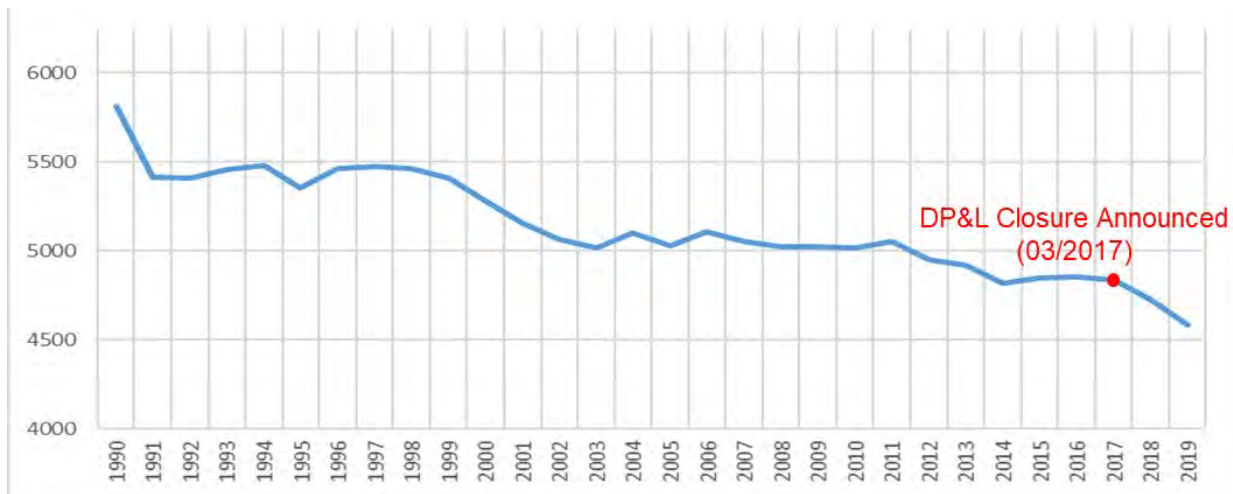
## 2.4 School Enrollment Trends

Figure 9 visualizes the number of students enrolled in Adams County’s school districts from 1990 to 2019. During this period, enrollment generally declined with periods of stabilization, decreasing from 5,814 students to 4,584, an overall loss of 21.16%. To shows how this compares

<sup>8</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

to the overall state, Figure 6 shows the total enrollment of all schools in Ohio. The enrollment for the state peaked in 1998 with a total enrollment of 1,824,451 students. This declined to 1,572,954 in 2019, an almost 11.9% decrease. Therefore, while the state’s school enrollment has decreased over the las two decades, Adams County’s schools have been hit especially hard. Additionally, the rate of decline increased after it was announced that the DP&L plants were closing. Figures 7 and 8 show enrollment in Adams County’s two school districts: Ohio Valley SD and Manchester Local SD. These figures show that while enrollment in the Ohio Valley SD has been steadily decreasing, enrollment in the Manchester Local SD had been increasing most years between 2005 and 2019. After the announcement of the DP&L closures, enrollment fell at a faster rate than previous years, decreasing to 856 students, which is the lowest the enrollment has been since 2009.

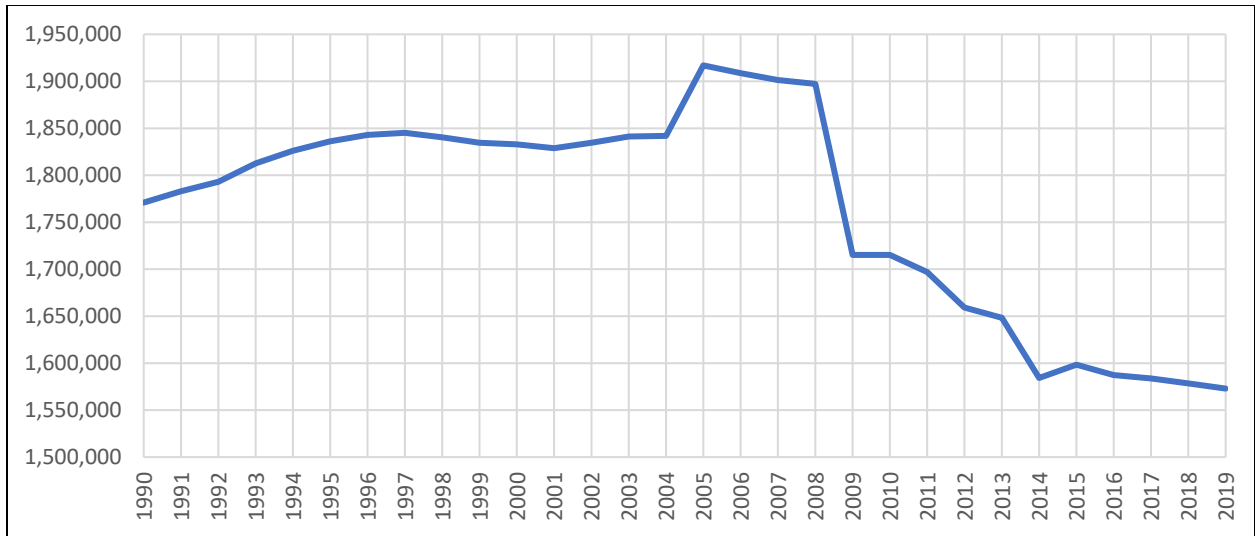
**Figure 9: Adams County School Enrollment, 1990-2019<sup>9</sup>**



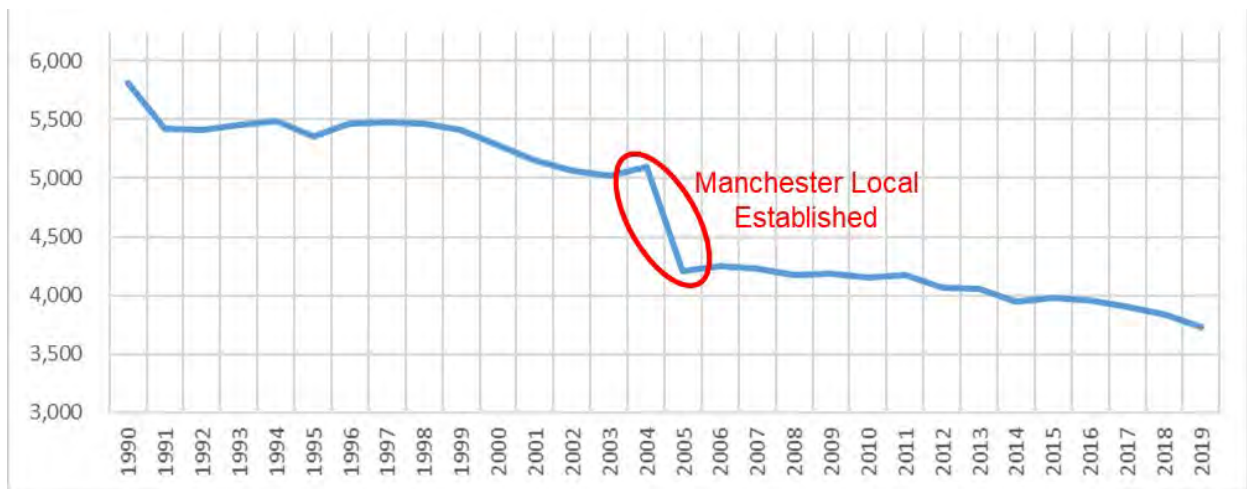
**Figure 10: Ohio School Enrollment, 1990-2017<sup>10</sup>**

<sup>9</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2019

<sup>10</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2019

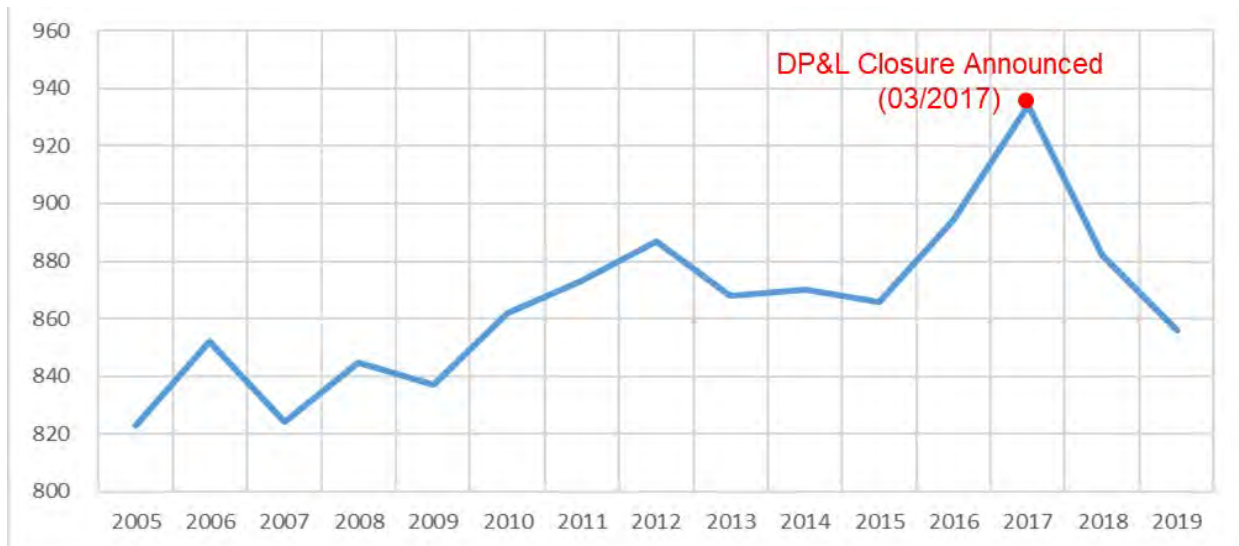


**Figure 11: Ohio Valley School District Enrollment, 1990-2019<sup>11</sup>**



<sup>11</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2019

**Figure 12: Manchester Local District Enrollment, 2005-2019<sup>12</sup>**



### Quality of Schools

The Ohio Department of Education grades each school district in the state according to how well they meet certain criteria. Table 3 shows the ranking of the two school districts in Adams County, Ohio Valley and Manchester Local, in comparison to the average rankings for the state of Ohio. Overall, the two school districts of interest rank about as well as Ohio as a whole. The Manchester Local SD ranks better than or as well as the Ohio Valley SD in every category. However, the Manchester Local district was more severely impacted by the closures of the DP&L plants. One weakness worth mentioning for both school districts is how well they are perceived at preparing students for success. This component is measured as a proportion of students who either 1) earn a remediation-free score on the ACT or SAT, 2) earn an honor's diploma, or 3) earn 12 points in an industry recognized credential or group of credentials in one of thirteen high-demand fields. A score of "F" means that less than 40% have achieved any of these three goals, indicating that high-school graduates are not well prepared for successful careers. Figure 13 depicts the quality of each school in Adams County. Both schools in the Manchester Local SD were graded "C". Two of six schools in the Ohio Valley SD were graded "C". The other four schools were graded "D".

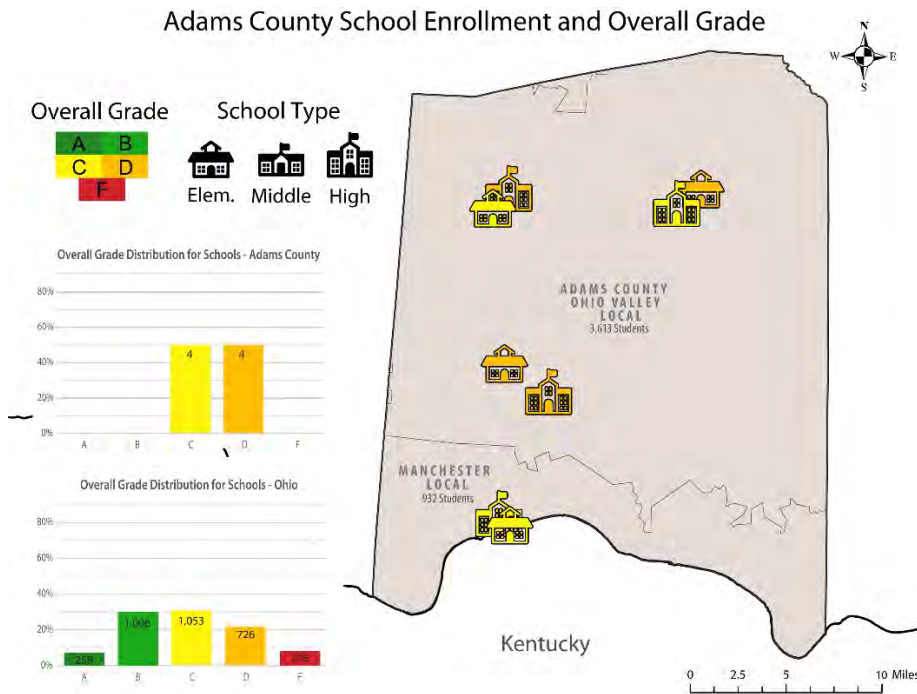
<sup>12</sup> Source: Ohio Department of Education, Enrollment Data, 1990-2019

**Table 3: Quality of Schools in Adams County’s School Districts and Ohio<sup>13</sup>**

Component	Definition	Weight	Ohio	Ohio Valley	Manchester Local
Achievement	Number of students who passed the state tests	20%	C	C	C
Progress	Growth students make based on past years standardized tests	20%	C	D	B
Graduation Rate	How many students successfully complete high school in 4-5 years	15%	B	B	A
Gap Closing	How well schools meet performance expectations for all students	15%	B	B	B
Improving At-Risk K-3 Readers	How successful the school is at getting struggling readers on track to proficiency in third grade and beyond.	15%	D	D	C
Prepared for Success	How well students are prepared for all future opportunities, not just college	15%	D	F	F
Overall	Weighted total average of all six components	-	C	D	C

<sup>13</sup> Source: Ohio Department of Education, Ohio School Report Cards Data 2019

**Figure 13: Quality of Schools in Adams County<sup>14</sup>**



## 2.5 Household Income Distribution

Table 4 describes the number and annual income distributions of households in Adams County and Ohio for the years of 2010 and 2019. 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 2019, the largest percentage of Adams County and Ohio households fell into \$15,000-\$24,999 income range and \$50,000-\$74,999 income range, respectively. Furthermore, 33.6% of Adams County’s households earned less than \$25,000 in 2019, compared to 20.1% for Ohio. Adams County’s median income grew by 19.1% from 2010 to 2019, while Ohio’s median household income grew by 30.1%.

Figure 14 shows the changes in median household income for Adams County, Ohio, and the United States from 2010 to 2019. During this time period, Ohio and the US both experienced a steady increase in per household income. Adams County appears to be mostly insulated from the growth in household income observed at the state and national levels, having real median household income increase by only \$7,000 compared to \$9,00 and \$11,000 for Ohio and the US, respectively. Additionally, Adams County experienced two years of negative real growth in 2014 and 2016.

<sup>14</sup> Source: Ohio Department of Education, Ohio School Report Cards Data 2019



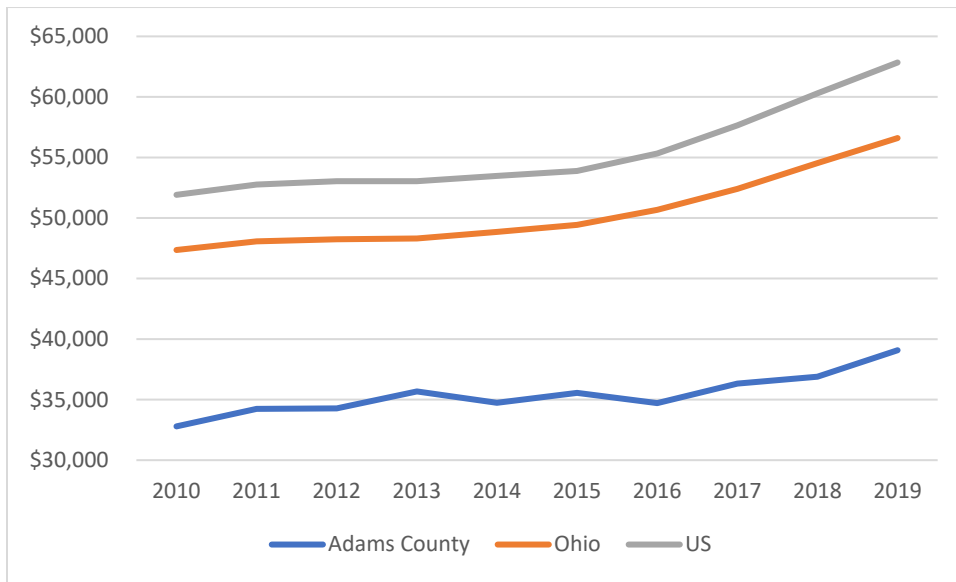


**Table 4: Household Income Distribution: Adams County and Ohio, 2010 and 2019**

Household Income	2010		2019		Percent Change
	Number	Percent	Number	Percent	
<b>Adams County</b>					
Less than \$10,000	1,420	13.20%	1,195	11.20%	-15.79%
\$10,000 to \$14,999	1,075	10.00%	544	5.10%	1.51%
\$15,000 to \$24,999	1,731	16.10%	1,846	17.30%	-42.94%
\$25,000 to \$34,999	1,441	13.40%	1,334	12.50%	13.79%
\$35,000 to \$49,999	1,731	16.10%	1,494	14.00%	-43.89%
\$50,000 to \$74,999	1,602	14.90%	1,537	14.40%	6.29%
\$75,000 to \$99,999	871	8.10%	1,067	10.00%	66.56%
\$100,000 to \$149,999	645	6.00%	1,142	10.70%	43.24%
\$150,000 to \$199,999	140	1.30%	299	2.80%	64.35%
\$200,000 or more	108	1.00%	213	2.00%	74.82%
<b>Total</b>	<b>10,754</b>		<b>10,673</b>		
<b>Median income (dollars)</b>	<b>32,791</b>		<b>39,079</b>		
<b>Mean income (dollars)</b>	<b>45,351</b>		<b>56,865</b>		
<b>Ohio</b>					
Less than \$10,000	384,631	8.50%	298,011	6.30%	-22.52%
\$10,000 to \$14,999	280,554	6.20%	203,405	4.30%	-27.50%
\$15,000 to \$24,999	574,683	12.70%	449,382	9.50%	-21.80%
\$25,000 to \$34,999	529,433	11.70%	458,843	9.70%	-13.33%
\$35,000 to \$49,999	692,335	15.30%	610,214	12.90%	-11.86%
\$50,000 to \$74,999	850,712	18.80%	889,304	18.80%	4.54%
\$75,000 to \$99,999	520,383	11.50%	614,944	13.00%	18.17%
\$100,000 to \$149,999	452,507	10.00%	681,169	14.40%	50.53%
\$150,000 to \$199,999	131,227	2.90%	269,629	5.70%	105.47%
\$200,000 or more	108,602	2.40%	255,438	5.40%	135.21%
<b>Total</b>	<b>4,525,066</b>		<b>4,730,340</b>		4.54%
<b>Median income (dollars)</b>	<b>45,090</b>		<b>58,642</b>		30.06%
<b>Mean income (dollars)</b>	<b>59,654</b>		<b>79,505</b>		33.28%

Source: U.S. Census Bureau, American Community Survey, Income in the Past 12 Months, 2010-2019

**Figure 14: Median Household Income, 2010-2019<sup>15</sup>**



## 2.6 Year Housing Structure Built

Table 5 shows the distribution of when housing structures were built in Adams County and Ohio. It shows that 23.4% of housing structures in Adams County were constructed between 1980 and 1999. This is greater than that of Ohio, which had 20.9%. Furthermore, 50.5% of housing units in Adams County were constructed before 1980, while 65.6% were constructed in Ohio. This shows that Adams County has constructed less new housing units, but also has fewer amounts of much older housing units compared to the statewide averages.

<sup>15</sup> U.S. Census Bureau, American Community Survey, Income in the Past 12 Months, 2010-2019

**Table 5: Year Structure Built: Adams County and Ohio, 2019**

Year Built	Adams County		Ohio	
	Number	Percent	Number	Percent
Built 1939 or earlier	92	1.2%	1,042,050	19.9%
Built 1940 to 1949	220	2.9%	310,238	5.9%
Built 1950 to 1959	1,198	15.8%	726,589	13.9%
Built 1960 to 1969	1,267	16.8%	611,358	11.7%
Built 1970 to 1979	1,043	13.8%	741,174	14.2%
Built 1980 to 1989	1,318	17.4%	473,490	9.0%
Built 1990 to 1999	450	6.0%	621,908	11.9%
Built 2000 to 2009	465	6.2%	478,360	9.1%
Built 2010 to 2013	279	3.7%	81,724	1.6%
Built 2014 or later	1,227	16.2%	146,052	2.8%
<b>Total Housing Units:</b>	<b>7,559</b>		<b>5,232,943</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

## 2.7 Housing Property Values

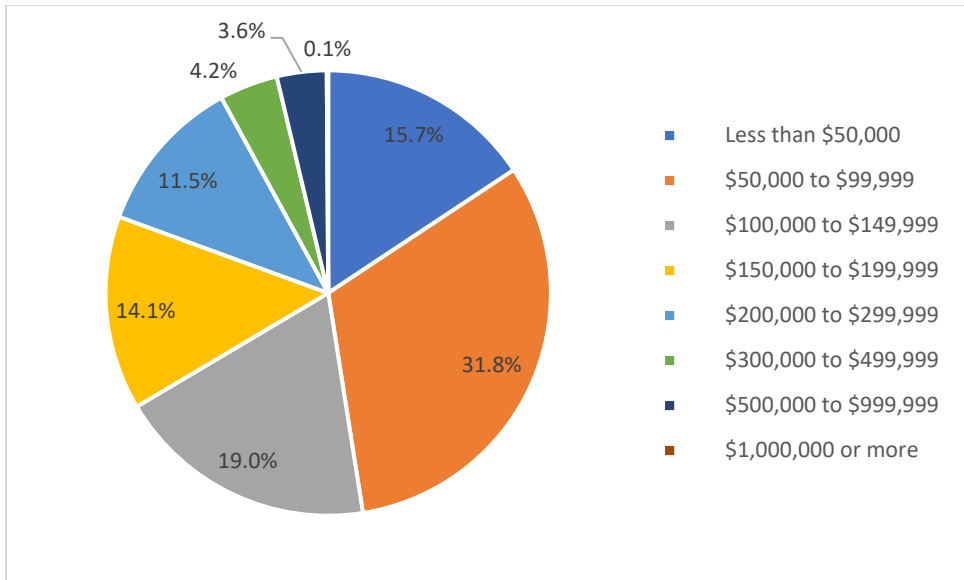
Table 6 displays the current property value distribution of housing structures in Adams County and Ohio. This data shows that the property values in Adams County are much lower than that of the surrounding area. In 2019, there were 7,559 recorded homes in Adams County with a median value of \$127,600, which is \$29,600 lower than Ohio and \$95,000 less than the United States. This is further supported by the fact that 47.5% of Adams County's housing units are valued at less than \$100,000, while only 26.8% of Ohio's are worth less than \$100,000. Figure 15 visualizes the distribution of housing property values in Adams County. The most common housing property value range was \$50,000 to \$99,999, comprising 31.8% of all houses.

**Table 6: Property Values: Adams County and Ohio, 2019**

VALUE	Adams County		Ohio	
	Number	Percent	Number	Percent
Less than \$50,000	1,185	15.7%	243,405	7.8%
\$50,000 to \$99,999	2,406	31.8%	593,771	19.0%
\$100,000 to \$149,999	1,434	19.0%	626,149	20.0%
\$150,000 to \$199,999	1,065	14.1%	560,671	17.9%
\$200,000 to \$299,999	867	11.5%	609,321	19.5%
\$300,000 to \$499,999	321	4.2%	365,040	11.7%
\$500,000 to \$999,999	273	3.6%	106,756	3.4%
\$1,000,000 or more	8	0.1%	18,620	0.6%
<b>Median (dollars)</b>	<b>127,600</b>		<b>157,200</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

**Figure 15: Housing Property Value Distribution, Adams County, 2017<sup>16</sup>**



## 2.8 Rent Distribution

Table 7 presents the rent payment distribution of Adams County and Ohio in 2017. The highest rent range in Adams County has is \$1,500 to \$1,999, which only accounts for 0.7% of the units. This shows that Adams County lacks higher end rental units. Collectively, Tables 5 and 7 show that 22.54% of Adams County’s households live in rent paying units, which is lower than the rest of Ohio at 28.81%. This shows that a decent portion of Adams County’s population does not have a permanent residence.

<sup>16</sup> Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

**Table 7: Units Paying Rent: Adams County and Ohio, 2019**

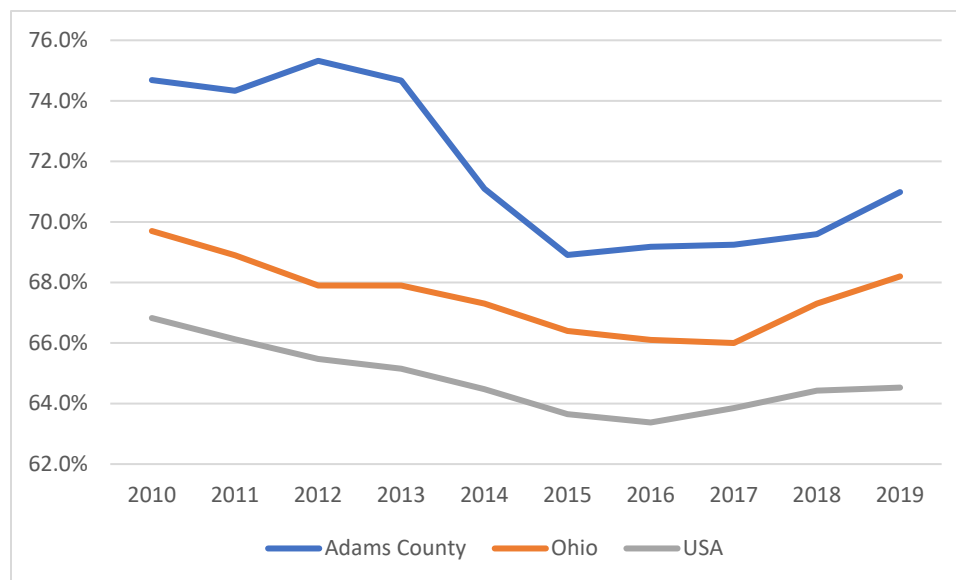
GROSS RENT	Adams County		Ohio	
	Number	Percent	Number	Percent
Less than \$500	1,015	34.8	234,971	15.8
\$500 to \$999	1,673	57.4	908,723	60.9
\$1,000 to \$1,499	206	7.1	279,009	18.7
\$1,500 to \$1,999	20	0.7	45,776	3.1
\$2,000 to \$2,499	0	0.0	12,984	0.9
\$2,500 to \$2,999	0	0.0	4,298	0.3
\$3,000 or more	0	0.0	5,383	0.4
<b>Total Units</b>	<b>2,914</b>		<b>1,491,144</b>	
<b>Median (dollars)</b>	<b>\$571</b>		<b>\$764</b>	
<b>No rent paid</b>	<b>510</b>		<b>81,528</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

### Homeownership

Figure 16 shows the homeownership trends for Adams County, Ohio, and the United States from 2010 to 2020. Adams County experienced decreasing homeownership rates similar to the national- and state-level trends following the 2008 housing crisis. By 2020, 71% of Adams County residents owned their house compared to 74.7% in 2010. This is a larger share than at both the national and state-level, with the national rate falling from 66.8% to 64.5% and the state rate falling from 69.7% to 68.2% during this time period.

**Figure 16: Homeownership Rate, 2010-2019<sup>17</sup>**

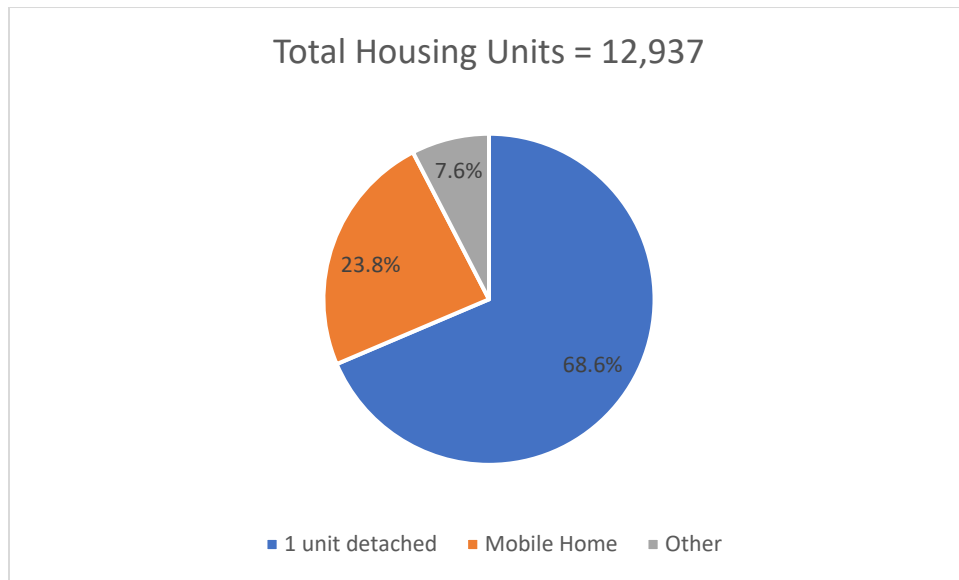


<sup>17</sup> Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

## Housing Units Structure

Figure 17 shows the distribution of type of housing units in Adams County. In 2019, the most common housing unit structure was a one unit detached house, or single-family home, and accounted for over 68.6% of housing units in Adams County. Additionally, 23.8% of Adams County residents live in mobile home. This is much higher than the national average of mobile home occupancy, which was 5.6% in 2019.

**Figure 17: Housing Unit Structure Distribution, Adams County, 2019<sup>18</sup>**



## 2.9 Health Outcomes

Figure 18 depicts the percentages of diagnosed adult asthma, diagnosed diabetes, and obesity prevalence in Adams County and Ohio in 2017. Adams County's proportion of adults with asthma of 15% and with diabetes of 12% were slightly higher than the Ohio averages of 13.7% and 11.3%, respectively. Additionally, Adams County has a higher obesity prevalence of 40% than the Ohio average of 33.8%.

Figure 19 presents heart disease and stroke hospitalization and death rates from 2014-2016 in Adams County and Ohio. Per 1,000 beneficiaries, about 145 were hospitalized for heart disease and 21 were hospitalized for stroke in Adams County, showing that the county's hospitalization rates were slightly lower than those recorded in Ohio. However, death rates in Adams County were higher than those in the state, with about 64 more heart disease patients and 5 more stroke patients dying in Adams County per 100,000 people.

Figure 20 shows the rate of the four most common cancers in Adams County and Ohio in 2016. The most common cancer in Ohio is prostate cancer, followed by breast cancer, lung and

<sup>18</sup> Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

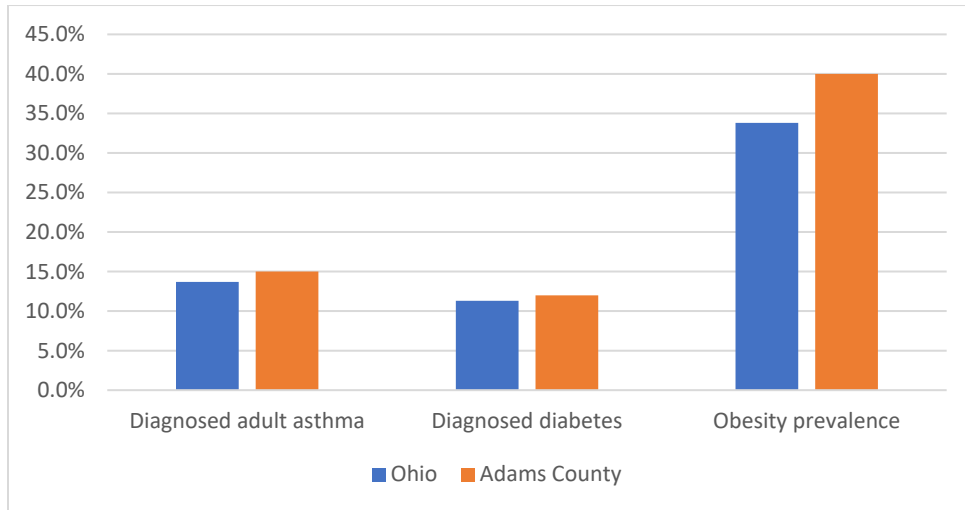
bronchus cancers, and colon and rectum cancers. The most common cancer in Adams County is lung and bronchus cancers, followed by prostate cancer, breast cancer, and colon and rectum cancers. The rates of breast cancer and prostate cancer in Adams County are lower, but comparable to the rates in Ohio. Similarly, the rate of colon and rectum cancers in Adams County is higher, but comparable to the rate in Ohio. However, the rate of lung and bronchus cancers in Adams County is much higher than the rate in Ohio.

Figure 21 shows the leading causes of death in Adams County and Ohio. Heart disease and malignant neoplasms (cancerous tumors) are the leading causes of death in Adams County and Ohio. The death rates for heart disease, malignant neoplasms, and cerebrovascular disease are slightly lower in Adams County than in Ohio. However, the death rates for chronic lower respiratory diseases and accidents are higher in Adams County than in Ohio.

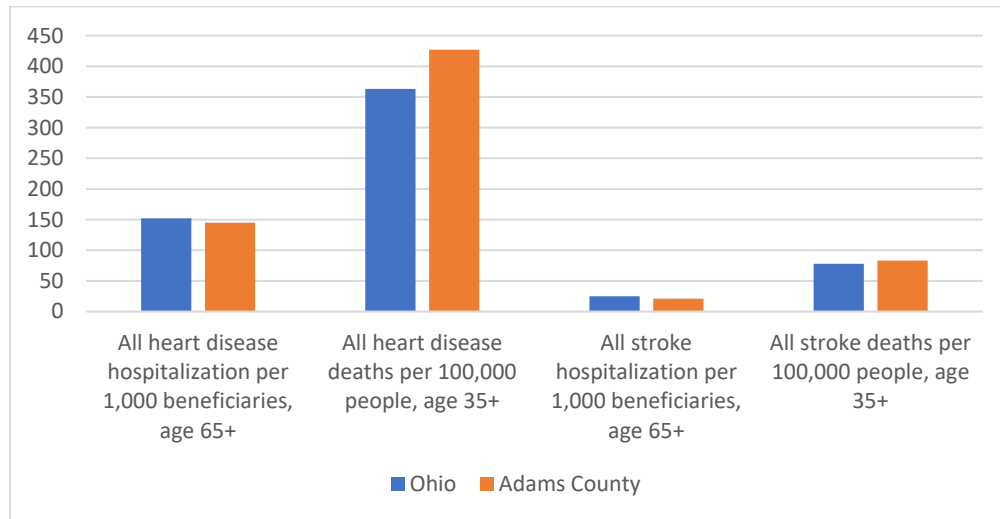
Figure 22 shows the unintentional drug overdose death rate per 100,000 people in Adams County and Ohio from 2007 to 2017. In 2017, the death rate in Adams County was 50.35 per 100,000 people, compared to 41.61 in Ohio. While the Adams County death rate has been consistently higher than the Ohio death rate, they have followed a similar increasing trend during this time period.

Table 8 compares the results of certain measures used to rank health statistics for the United States, Ohio, and Adams County in 2018. The table lists the rankings of health outcomes as well as health factors including health behaviors, clinical care, social and economic factors, and physical environments. Most notably Adams County trails behind national and state ratios comparing the population's health outcomes, access to clinical care providers, and access to exercise opportunities. Additionally, exceeds the national and state ratios comparing the population's teen birth rate and injury death rate.

**Figure 18: Asthma, Diabetes, and Obesity Percentages, 2017<sup>19</sup>**



**Figure 19: Heart Disease and Stroke Hospitalization and Death Rates, 2014-2016 estimate<sup>20</sup>**

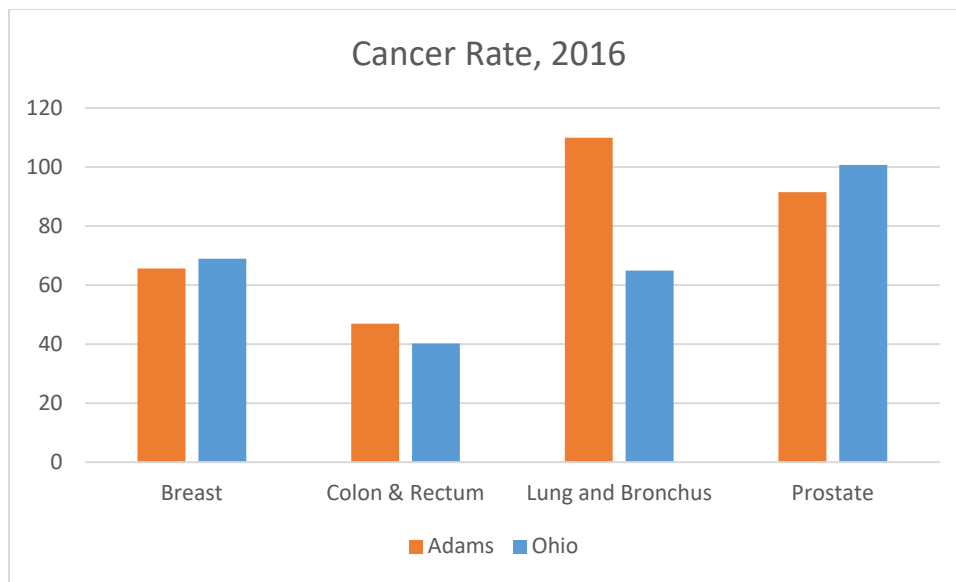


<sup>19</sup> Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2017

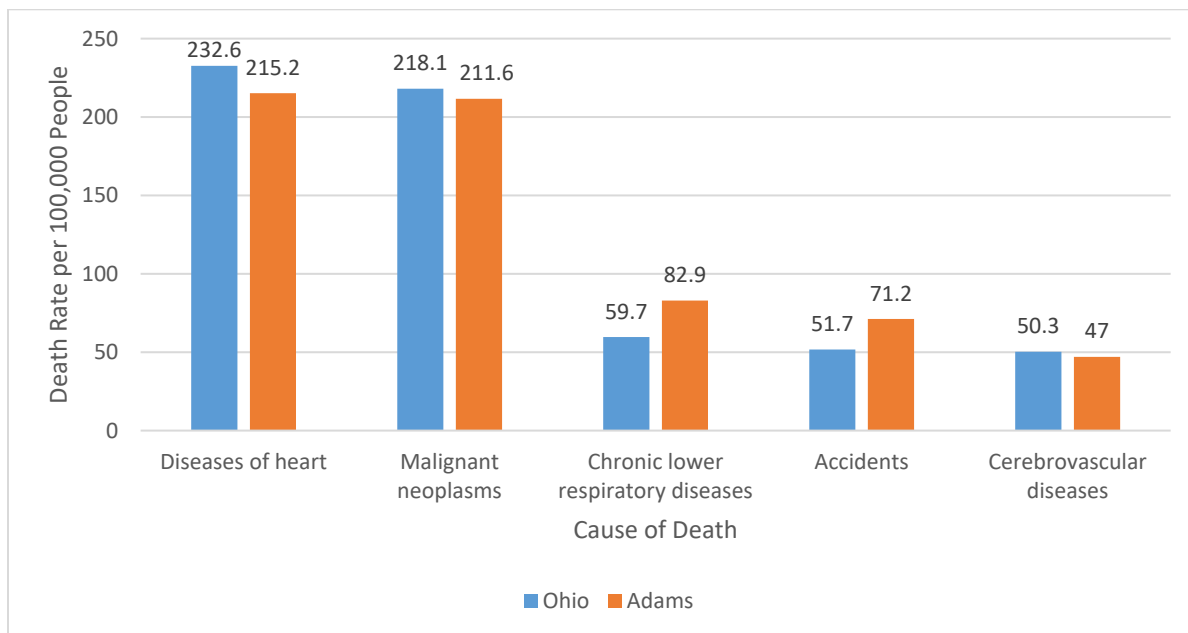
<sup>20</sup> Source: National Center for Chronic Disease Prevention and Health Promotion, Division for Heart Disease and Stroke Prevention, 2014-2016



**Figure 20: Cancer Rate, Adams County and Ohio, 2016<sup>21</sup>**



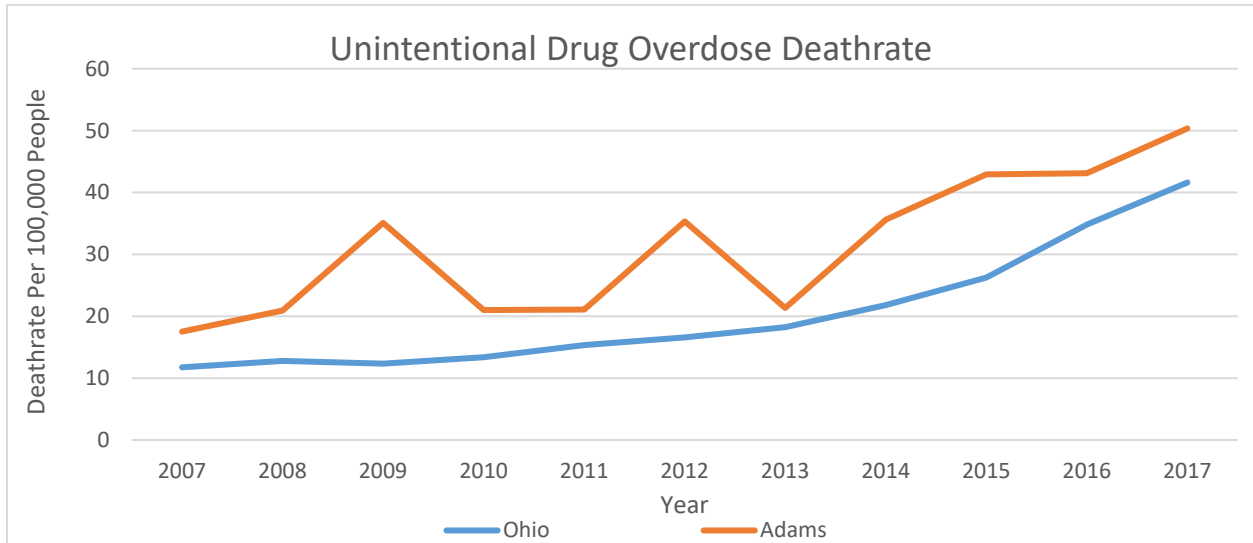
**Figure 21: Leading Cause of Death: Adams County and Ohio, 2007-2019<sup>22</sup>**



<sup>21</sup> Source: Ohio Department of Health, Cancer Incidence Data, 2016

<sup>22</sup> Ohio Department of Health, Mortality Dataset, 2007-2019

**Figure 22: Unintentional Drug Overdose Death Rate, Adams County and Ohio, 2007-2017<sup>23</sup>**



**Table 8: Health Rankings with Measures and Results: United States, Ohio, and Adams County, 2018<sup>24</sup>**

Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>HEALTH OUTCOMES</b>						
<b>Premature Death</b>	Years of potential life lost before age 75 per 100,000 population	6,700	8,500	4,200	14,100	11,200
<b>Poor or fair health</b>	% of adults reporting fair or poor health	16%	18%	12%	25%	25%
<b>Poor physical health days</b>	Average # of physically unhealthy days reported in past 30 days	3.7	4.1	3.1	5.6	5.6
<b>Poor mental health days</b>	Average # of mentally unhealthy days reported in past 30 days	3.8	4.8	4.1	5.8	5.8

<sup>23</sup> Source: Ohio Department of Health, Mortality Dataset, 2007-2017

<sup>24</sup> University of Wisconsin, Population Health Institute, County Health Rankings, 2018

<b>Low birthweight</b>	% of live births with low birthweight (< 2500 grams)	8%	9%	4%	11%	9%
<b>Measure</b>	<b>Description</b>	<b>US</b>	<b>OH</b>	<b>OH Min</b>	<b>OH Max</b>	<b>Adams County</b>
<b>HEALTH FACTORS</b>						
<b>HEALTH BEHAVIORS</b>						
<b>Adult Smoking</b>	% of adults who are current smokers	17%	21%	15%	31%	30%
<b>Adult obesity</b>	% of adults that report a BMI $\geq$ 30	28%	34%	26%	43%	36%
<b>Food environment index</b>	Index of actors that contribute to a healthy food environment, (0-10)	7.7	6.8	5.2	9.1	6.7
<b>Physical inactivity</b>	% of adults aged 20 and over reporting no leisure-time physical activity	23%	26%	17%	40%	38%
<b>Access to exercise opportunities</b>	% of population with adequate access to locations for physical activity	83%	84%	17%	98%	42%
<b>Excessive drinking</b>	% of adults reporting binge or heavy drinking	18%	18%	15%	22%	16%
<b>Alcohol-impaired driving deaths</b>	% of driving deaths with alcohol involvement	29%	32%	4%	63%	46%
<b>Sexually transmitted infections</b>	# of newly diagnosed chlamydia cases per 100,000 population	478.8	542.3	91	883	202
<b>Teen births</b>	# of births per 1,000 female population ages 15-19	27	22	6	49	40

<b>Measure</b>	<b>Description</b>	<b>US</b>	<b>OH</b>	<b>OH Minimum</b>	<b>OH Maximum</b>	<b>Adams County</b>
<b>CLINICAL CARE</b>						
<b>Uninsured</b>	% of population under age 65 without health insurance	11%	8%	5%	24%	10%
<b>Primary care physicians</b>	Ratio of population to primary care physicians	1320:1	1,300:1	14,600:1	690:1	2,310:1
<b>Dentists</b>	Ratio of population to dentists	1480:1	1,560:1	15,040:1	1,560:1	3,080:1
<b>Mental health providers</b>	Ratio of population to mental health providers	470:1	380:1	7,330:1	110:1	640:1
<b>Preventable hospital stays</b>	# of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	49	4,901	1,041	7,940	7,070
<b>Diabetes monitoring</b>	% of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	63%	43%	31%	51%	42%
<b>Mammography screening</b>	% of female Medicare enrollees ages 67-69 that receive mammography screening	83%	90%	57%	96%	80%

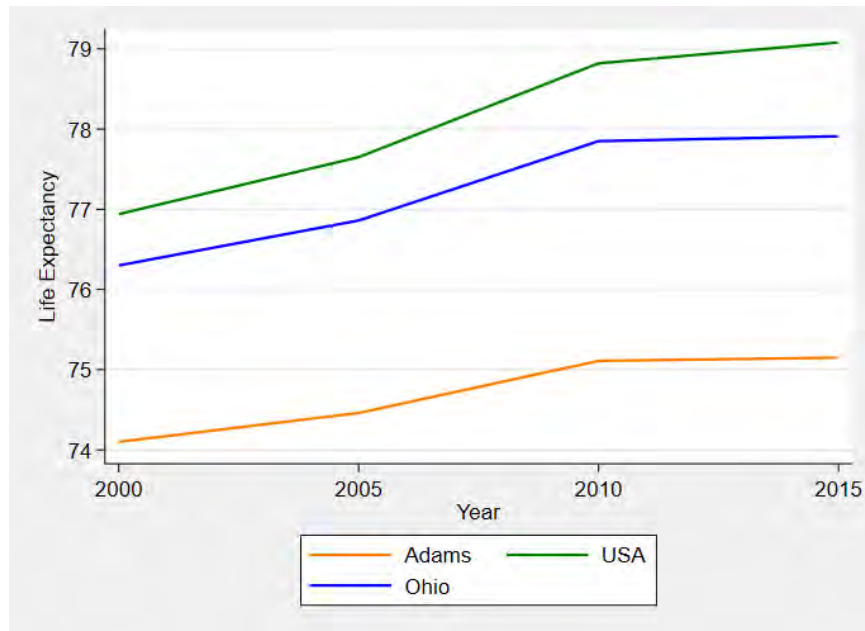
Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>SOCIAL AND ECONOMIC FACTORS</b>						
<b>High school graduation</b>	% of ninth-grade cohort that graduates in four years	65%	66%	19%	85%	43%
<b>Some college</b>	% of adults ages 25-44 with some post-secondary education	4.9%	4.1%	2.6%	8.3%	6.8%
<b>Unemployment</b>	% of population aged 16 and older unemployed but seeking work	20%	5%	18%	30%	30%
<b>Children in poverty</b>	% of children under age 18 in poverty	5	4.7	3.3	6.4	5.2
<b>Income inequality</b>	Ratio of household income at the 80th percentile to income at the 20th percentile	34%	27%	6%	38%	32%
<b>Children in single-parent households</b>	% of children that live in a household headed by a single parent	9.3	11	3.8	19.6	8.3
<b>Social associations</b>	# of membership associations per 10,000 population	380	293	0	824	86
<b>Violent crime</b>	# of reported violent crime offenses per 100,000 population	65	91	38	137	118
<b>Injury deaths</b>	# of deaths due to injury per 100,000 population	9.7	9	6.5	12.2	8.7

Measure	Description	US	OH	OH Minimum	OH Maximum	Adams County
<b>PHYSICAL ENVIRONMENT</b>						
<b>Air pollution - particulate matter</b>	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	9.7	9	6.5	12.2	8.7
<b>Drinking water violations</b>	Indicator of the presence of health related drinking water violations. Yes - indicates the presence of a violation, No - indicates no violation.	No	No	No	No	No
<b>Severe housing problems</b>	% of households with overcrowding, high housing costs, or lack of kitchen or plumbing facilities	19%	14%	7%	21%	16%
<b>Driving alone to work</b>	% of workforce that drives alone to work	76%	83%	52%	90%	80%
<b>Long commute - driving alone</b>	Among workers who commute in their car alone, % commuting > 30 minutes	35%	31%	17%	58%	48%

## Life Expectancy

Figure 23 shows that life expectancy in Adams County has consistently remained below the national and state averages from 2000 to 2015. Specifically, Adams County life expectancy has increased from 74.1 years to 75.15 years, about a 1.42% increase. Ohio life expectancy was 76.3 years in 2000 and increased by 2.11% to 77.91 years in 2015. The average national life expectancy was 76.94 years in 2000 and increased by 2.78% to 79.08 years in 2015. In addition to Adams County experiencing a lower life expectancy by over 4 years with respect to the national average, Adams County's growth rate has only been about half as fast as the national average.

**Figure 23: Life Expectancy, 2000-2015<sup>25</sup>**

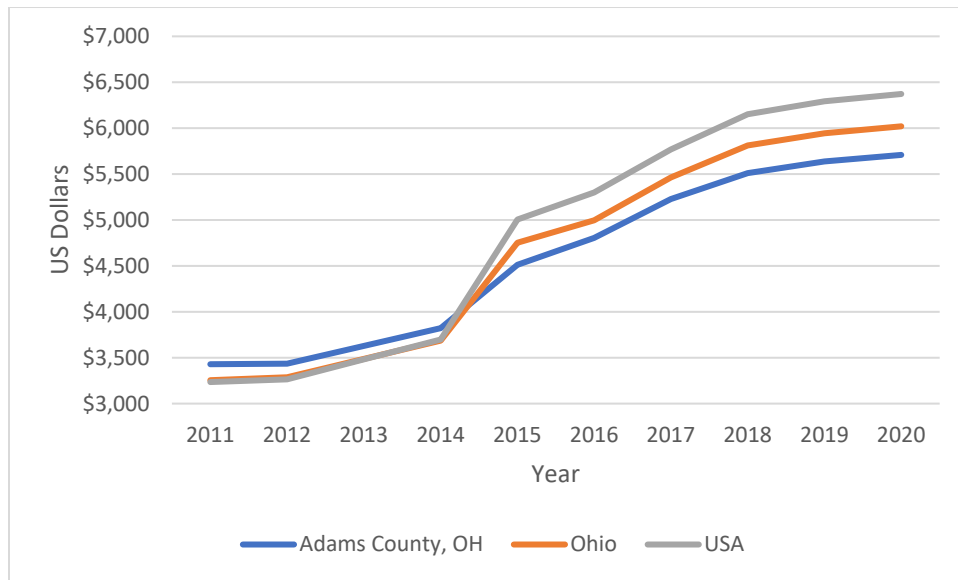


<sup>25</sup> Source: Institute for Health Metrics and Evaluation, Global Health Data Exchange, 2011-2020

## Healthcare Spending

Figure 24 shows that healthcare spending in Adams County has followed a very similar trend to both Ohio and the United States. Median household spending was \$3,429 in 2011 and has grown to \$5,708 in 2020 in Adams County. This spending has been consistently slightly higher than both the state and national medians, which were about \$3,255 and \$3,263 in 2011 and \$6,020 and \$6,372 in 2020, respectively.

**Figure 24: Healthcare Spending, 2011-2020<sup>26</sup>**



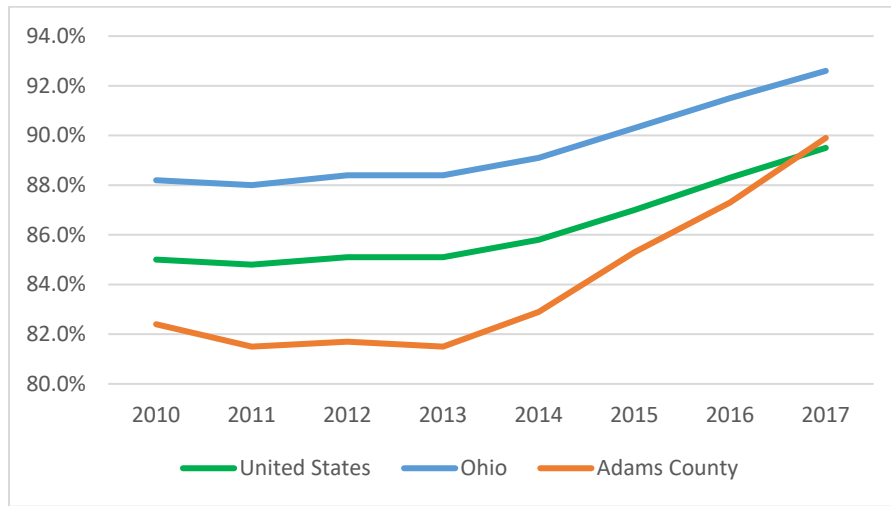
## Health Insurance

Figure 25 shows the percentage the population in Adams County, Ohio, and the United States with health insurance. The graph shows that the percentage with health insurance was relatively stable from 2010 to 2013 and then experienced an increase afterwards at all three levels. This may correlate to the enactment of the Affordable Care Act in 2014. In 2017, 89.9% of the population of Adams County had health insurance, compared to 92.6% and 89.5% of Ohio and the United States respectively. The percentage of the population with health insurance in Adams County has been consistently lower than Ohio from 2010 to 2017. Likewise, the percentage of the population with health insurance in Adams County was lower than the United States from 2010 to 2016. However, the percentage in Adams County was higher than percentage in the United States in 2017.

<sup>26</sup> Source: Easy Analytic Software, Inc <https://simplyanalytics.com/>



**Figure 25: Percent of Population with Health Insurance: Adams County, Ohio, and the United States, 2010-2017<sup>27</sup>**



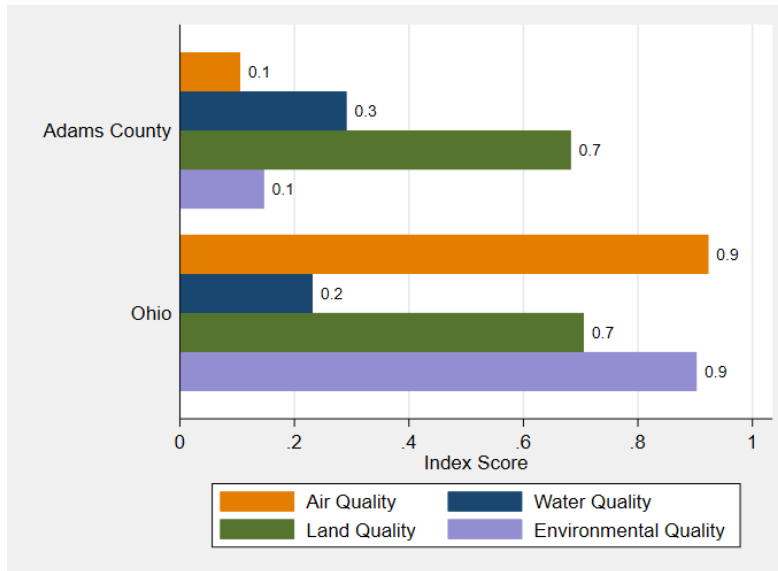
### Environmental Quality

Figure 26 shows the EPA environmental quality rankings for Adams County and Ohio, standardized with respect to the United States. While Adams County boasts higher environmental quality than the national averages, it has generally scored lower compared to the state average. Most notably, air quality in Adams County in 2017 was scored at 0.1 standard deviations higher than the national average, while the Ohio average score was 0.9 standard deviations higher.

**Figure 26: Environment Quality Index, 2017<sup>28</sup>**

<sup>27</sup> Source: U.S. Census Bureau, 2010-2017 American Community Survey 5-Year Estimates

<sup>28</sup> Source: Environmental Protection Agency, Environmental Dataset Gateway, Environmental Quality Index, 2017

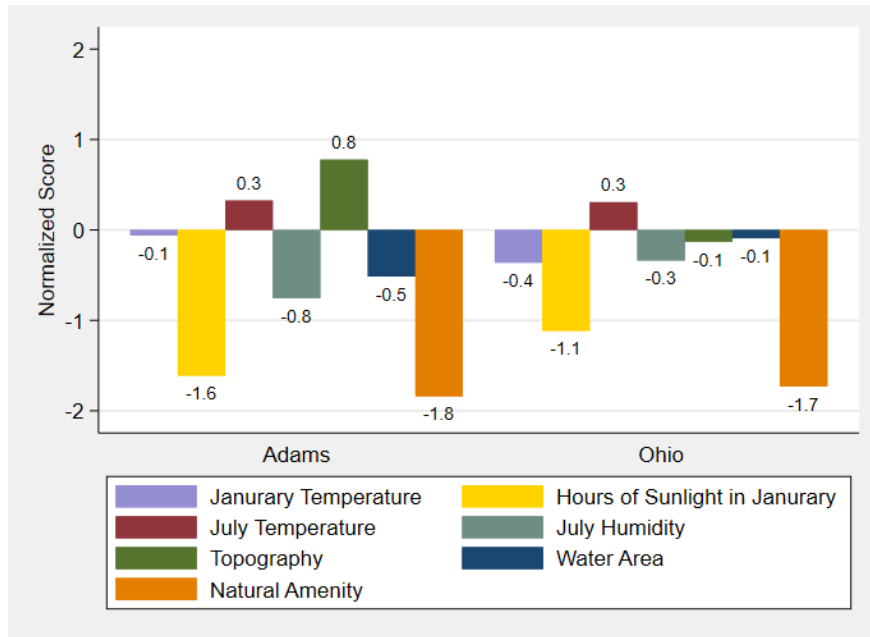


### Amenity Score

Figure 27 shows the amenity score rankings for Adams County and Ohio, standardized with respect to the United States. A positive ranking is associated with a more appealing attribute than the national average. Adams County has positive rankings for Topography and July Temperatures (indicating a milder summer). Additionally, Adams County scored better on Topography and January Temperatures when compared to Ohio. Adams County scored worse than Ohio and the US on Hours of Sunlight in January, July Humidity, Water Area, and Natural Amenity.

**Figure 27: Amenity Score<sup>29</sup>**

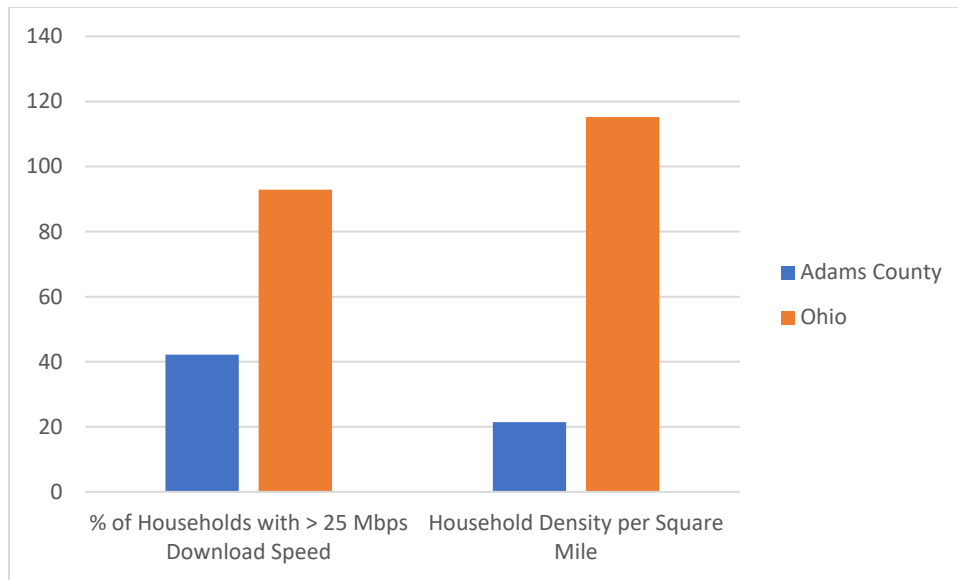
<sup>29</sup> Source: United States Department of Agriculture, Economic Research Service, Natural Amenities Scale, 2019



## Broadband

Figure 28 shows the percentage of households in Adams County and Ohio with internet download speed greater than 25 Mbps in 2019. Additionally, Figure 28 shows the household density per square mile. Only 42.17% of households in Adams County have a download speed greater than 25 Mbps, compared to 92.90% of households in Ohio. However, the household density per square mile in Adams County is 21.44, which is much lower than in Ohio at 115.21. Lower population density may be prohibitive for companies deciding whether or not to invest in broadband infrastructure in rural communities.

**Figure 28: Broadband, Adams County and Ohio, 2017<sup>30</sup>**

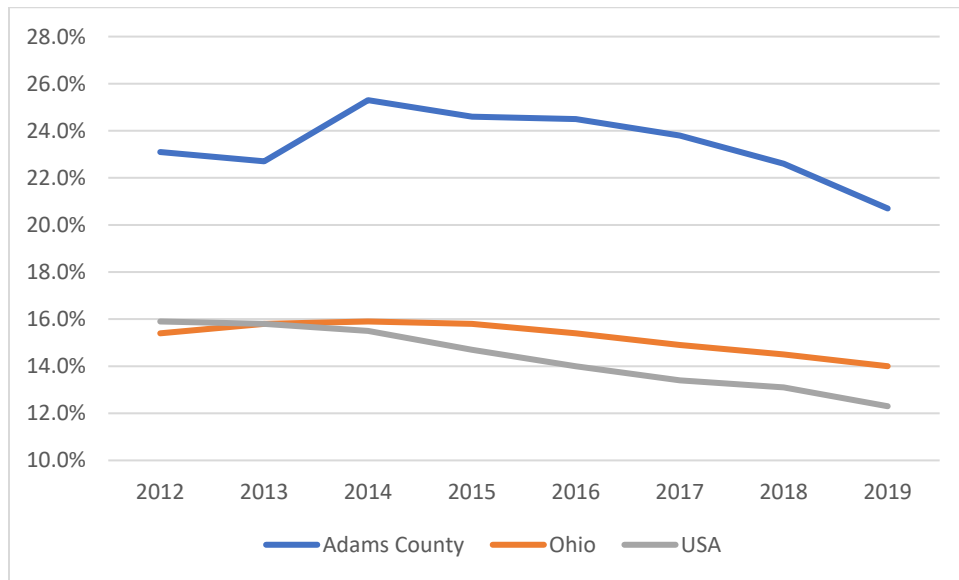


<sup>30</sup> Source: Connected Nation, Estimated Availability of Broadband Service by County Terrestrial Broadband, 2019

## Poverty

Figure 29 shows the poverty rates for Adams County, Ohio, and the United States from 2012 to 2019. Poverty rates in Adams County consistently remained high above state and national averages, fluctuating around 20% from 2010 to 2010. Meanwhile, the state and national poverty rates have both remained around mostly below 16%%.

**Figure 29: Poverty Rate, 2012-2019<sup>31</sup>**

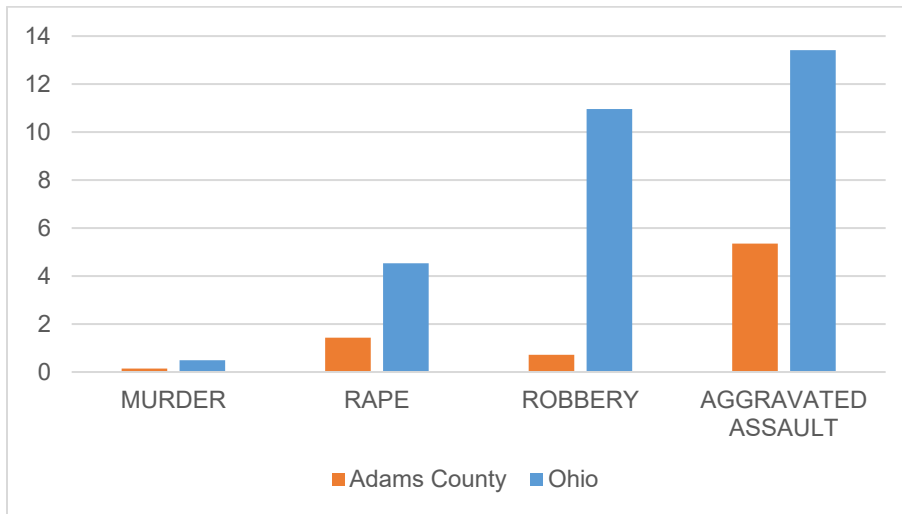


## Crime Rates

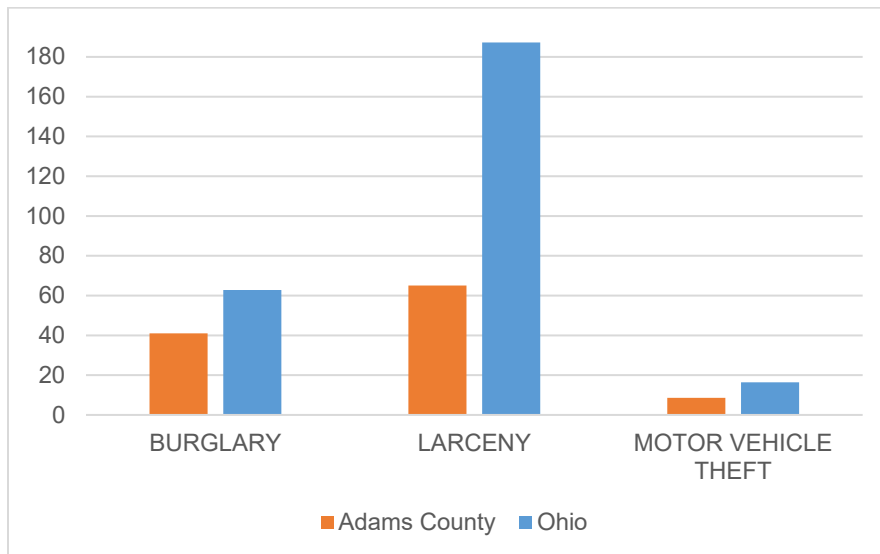
Figure 30 and 31 show the average crime rates in Adams County and Ohio from 2013 to 2017. The crime rates in Adams County are lower than the Ohio averages across all categories in violent and property crimes. Note that the “arson” category within property crimes was left out due to lack of state-level data.

<sup>31</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2011-2017

**Figure 30: Average Violent Crime per 10,000 persons: Adams County and Ohio, 2013-2017<sup>32</sup>**



**Figure 31: Average Property Crime per 10,000 persons: Adams County and Ohio, 2013-2017<sup>33</sup>**



<sup>32</sup> Source: Ohio Department of Public Safety, Office of Criminal Justice Services, Crime Statistics and Crime Reports, 2013-2017

<sup>33</sup> Source: Ohio Department of Public Safety, Office of Criminal Justice Services, Crime Statistics and Crime Reports, 2013-2017

### **3 Economic Scan and Workforce Inventory**

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

#### **3.1 Employment by Industry**

Table 9 breaks down industry-specific employment data for Adams County and Ohio in 2010 and 2019. Education services, retail trade and manufacturing are Adams County's most significantly employed industries at 57.2% of the county's working population. These industries are also the most significant employer for Ohio, employing 51.76% of the population of Ohio.

Adams County had seven industries with employment growth from 2010 to 2019, compared to six industries with employment decline. Of the growth industries, two industries had a growth rate of over 50%, including 84.89% growth in educational services. On the other hand, three of six industries that exhibited decreases experienced employment declines of greater than 25%, including a loss of 40.44% in information.

**Table 9: Employment by Industry: Adams County and Ohio, 2010 and 2019<sup>34</sup>**

Industry	2010		2019		Percent Change
	Estimate	Percent	Estimate	Percent	
<b>Adams County</b>					
Agriculture, forestry, fishing and hunting, and mining:	273	4.20%	269	3.76%	-1.47%
Construction	637	9.80%	748	10.46%	17.43%
					-
Manufacturing	1,461	22.47%	1,278	17.87%	12.53%
					-
Wholesale trade	145	2.23%	99	1.38%	31.72%
Retail trade	642	9.88%	885	12.37%	37.85%
Transportation and warehousing, and utilities:	462	7.11%	700	9.79%	51.52%
					-
Information	136	2.09%	81	1.13%	40.44%
Finance and insurance, and real estate and rental and leasing:	277	4.26%	200	2.80%	27.80%
Professional, scientific, and management, and administrative and waste management services:	234	3.60%	201	2.81%	14.10%
					-
Professional, scientific, and technical services	161	2.48%	100	1.40%	37.89%
Educational services, and health care and social assistance:	1,483	22.81%	1,928	26.96%	30.01%
Educational services	450	6.92%	832	11.63%	84.89%
Arts, entertainment, and recreation, and accommodation and food services:	288	4.43%	359	5.02%	24.65%
Other services, except public administration	208	3.20%	218	3.05%	4.81%
					-
Public administration	255	3.92%	186	2.60%	27.06%
<b>Civilian employed population 16 years and over</b>	<b>6,501</b>		<b>7,152</b>		<b>10.01%</b>



Industry	2010 Estimate	Percent	2019 Estimate	Percent	Percent Change
<b>OHIO</b>					
Agriculture, forestry, fishing and hunting, and mining:	38,659	1.09%	40,959	1.05%	5.95%
Construction	195,340	5.51%	221,881	5.68%	13.59%
Manufacturing	712,606	20.09%	743,811	19.03%	4.38%
Wholesale trade	130,834	3.69%	124,636	3.19%	-4.74%
Retail trade	353,980	9.98%	375,957	9.62%	6.21%
Transportation and warehousing, and utilities:	203,845	5.75%	226,050	5.78%	10.89%
					-
Information	75,286	2.12%	64,323	1.65%	14.56%
Finance and insurance, and real estate and rental and leasing:	278,689	7.86%	298,746	7.64%	7.20%
Professional, scientific, and management, and administrative and waste management services:	321,725	9.07%	384,485	9.84%	19.51%
Professional, scientific, and technical services	202,012	5.70%	245,264	6.27%	21.41%
Educational services, and health care and social assistance:	750,780	21.17%	894,985	22.90%	19.21%
Educational services	245,357	6.92%	294,194	7.53%	19.90%
Arts, entertainment, and recreation, and accommodation and food services:	169,584	4.78%	203,126	5.20%	19.78%
Other services, except public administration	134,474	3.79%	144,155	3.69%	7.20%
Public administration	180,621	5.09%	185,617	4.75%	2.77%
<b>Civilian employed population 16 years and over</b>	<b>3,546,423</b>		<b>3,908,731</b>		<b>10.22%</b>

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, Industry by Occupation for the Civilian Employed Population 2010-2019

### 3.2 Labor Force Overview

Figure 32 reports data for labor force eligibility and employment in Adams County from 2010 to 2019. In 2010, 10,551 individuals were employed in Adams County. This fell to 10,100 in 2012 and has stabilized around this level. On the other hand, the labor force size has been decreasing since 2013 with the rate of the decrease getting more severe over time.

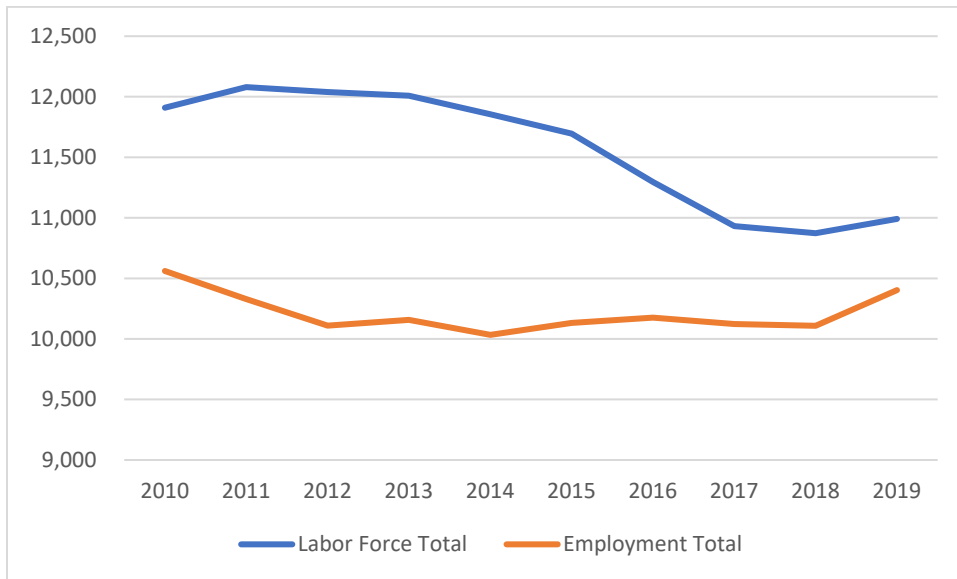
Figure 33 shows how Adams County's unemployment rate compares with Ohio and the United States. Adams County's unemployment rate has been consistently much higher than the state and national averages. Adams County experienced a reduction in unemployment from 2013 to 2016. However, it is important to note that during this time Adams County's labor force size was shrinking, while its employment remained relatively stable. From 2015 to 2017, Adams County's unemployment rate has been about 10%, while Ohio's has been at about 5%.

To further examine how the unemployment rate decreased while the amount of individuals employed remained stable, Figure 34 shows the participation rate of Adams County, Ohio, and the United States. The graph shows that while the state and national participation rates were nearly identical, Adams County's rate was significantly lower. From 2010 to 2015, Adams County's participation rate was about 10% lower than Ohio's rate. By 2017, Adams County's rate was 13.1% lower than Ohio's rate. Additionally, while participation rates decreased for all

three from 2013 to 2019, Adams County’s rate decreased by 4.5%, while the state and national rates decreased by less than 2%.

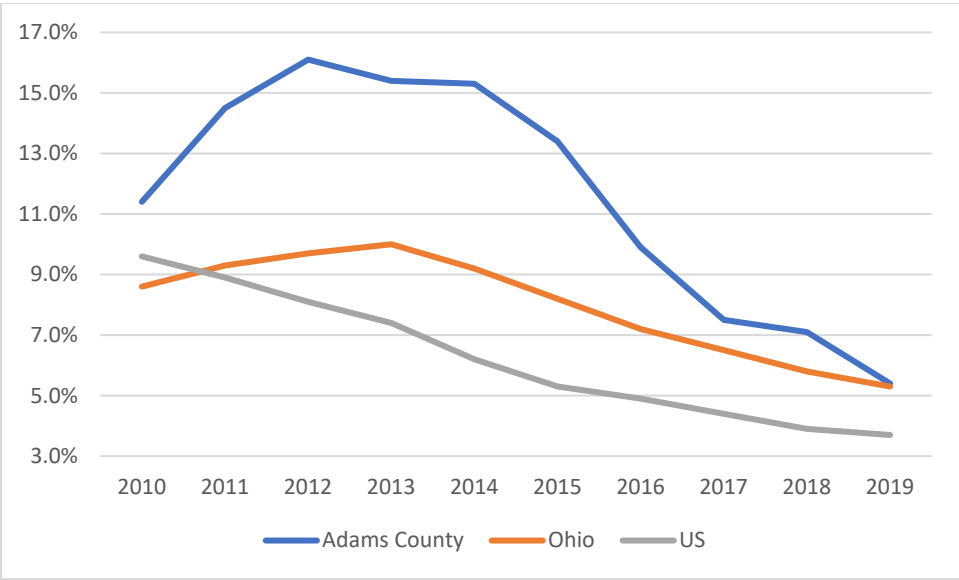
To further explore why Adams County’s rate was significantly lower, Figure 35 separates the county’s participation rate by gender. Women have consistently had a lower participation rate than men in Adams County, with there being nearly an 8% difference between the genders in 2019. Additionally, the graph shows that male labor force participation was stable around 58.6% from 2010 to 2013. From 2013 to 2017, the male participation rate fell 4.4%, then increased a small amount to 68.5%. Likewise, female labor force participation was stable around 50.3% from 2010 to 2014. From 2014 to 2017, the female participation rate fell 4.6% before increasing to about 60%.

**Figure 32: Adams County Labor Force and Employment, 2010-2019<sup>35</sup>**

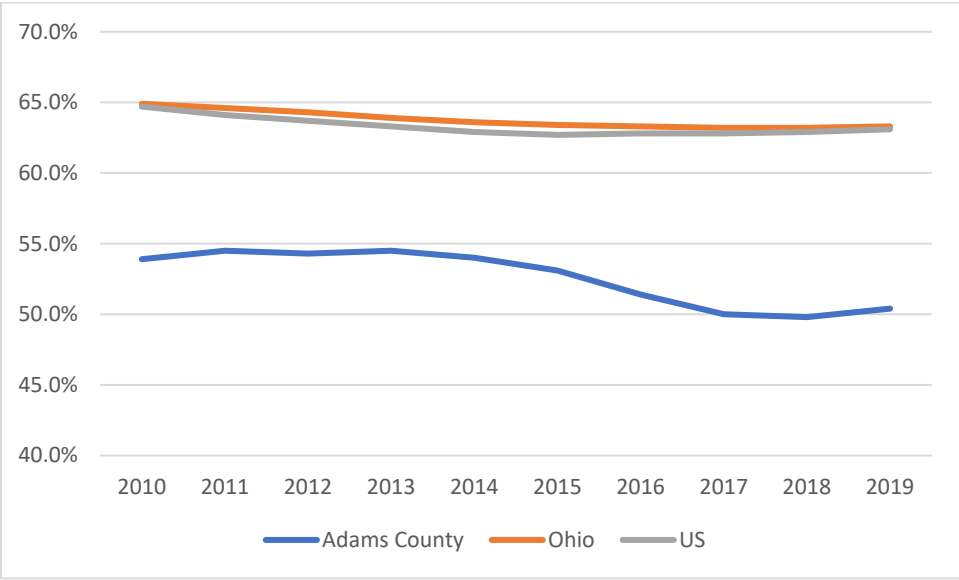


<sup>35</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

**Figure 33: Unemployment Rate: Adams County, Ohio, and the United States, 2011-2019<sup>36</sup>**



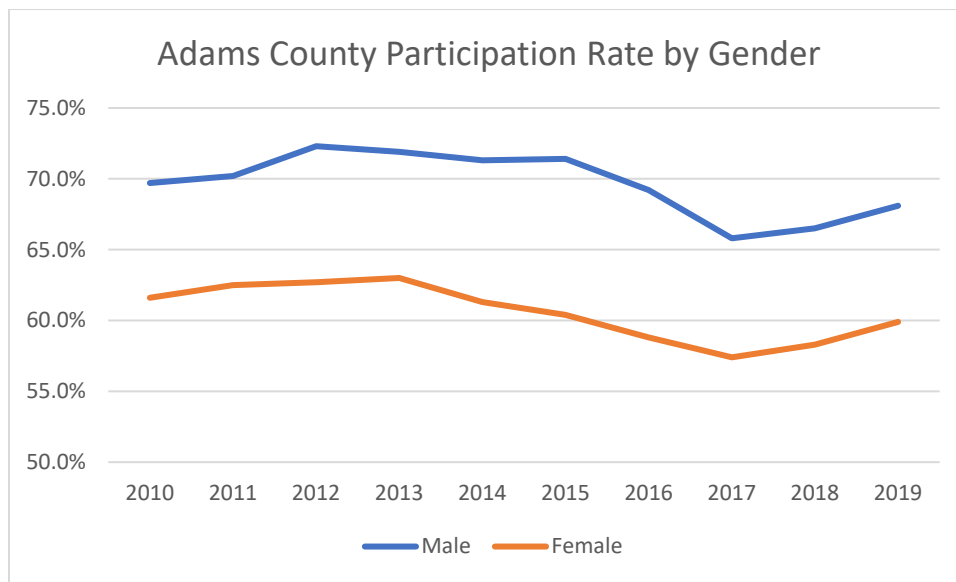
**Figure 34: Participation Rate: Adams County, Ohio, and the United States, 2010-2019<sup>37</sup>**



<sup>36</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

<sup>37</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2019

**Figure 35: Adams County Participation Rate by Gender, 2010-2019<sup>38</sup>**



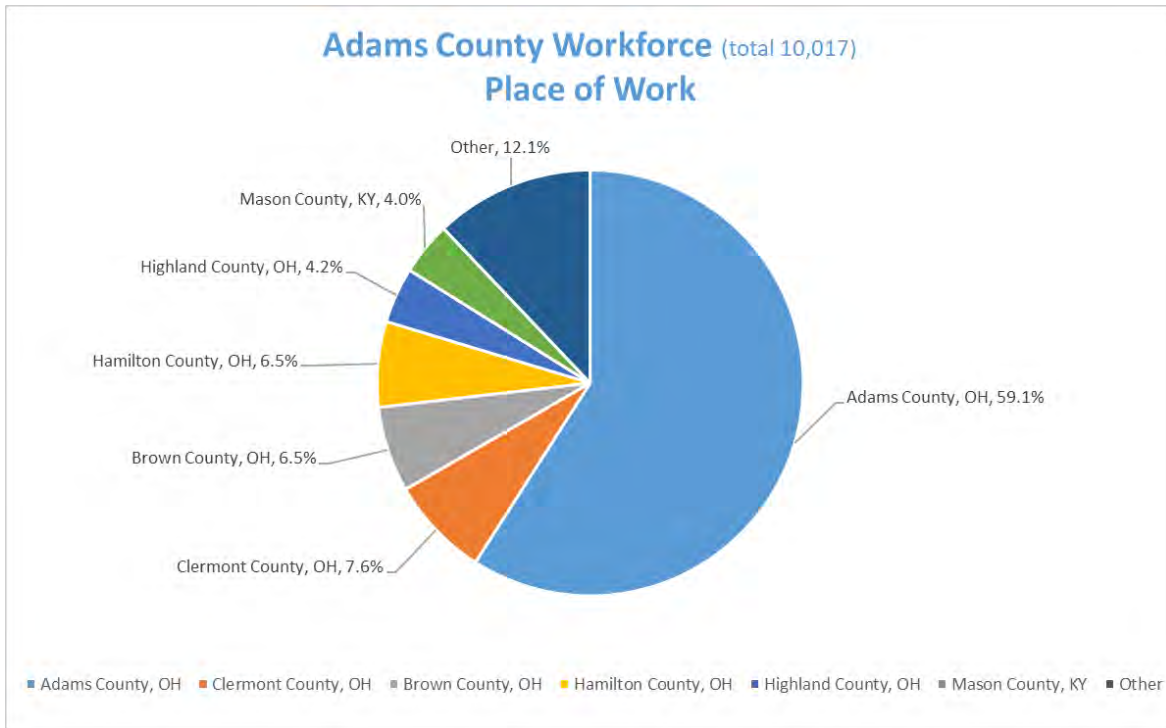
### 3.3 Employed Resident Commute Shed

Figure 36 shows the distribution of Adams County residents' place of work by county. In 2015, there were 10,017 employed residents of Adams County. 59.1% of the employed Adams County residents stayed in-county to work. Of the 40.9% of residents who left the county to work, 7.6% commute to Clermont County. Additionally, 6.2% of residents leave the state of Ohio for work with 4.0% commuting to Mason County, Kentucky.

Figure 37 shows the distribution of the place of residence of those who work in Adams County. In 2015, there were 7,109 individuals employed in Adams County. 83.2% of individuals who work in Adams County also reside in Adams County. Of the 16.8% of individuals who reside in other counties, 4.5% of Adams County workers live in Brown County. Overall, Adams County experienced a net loss of 2,908 individuals to the commuting flow patterns.

<sup>38</sup> Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, 2010-2017

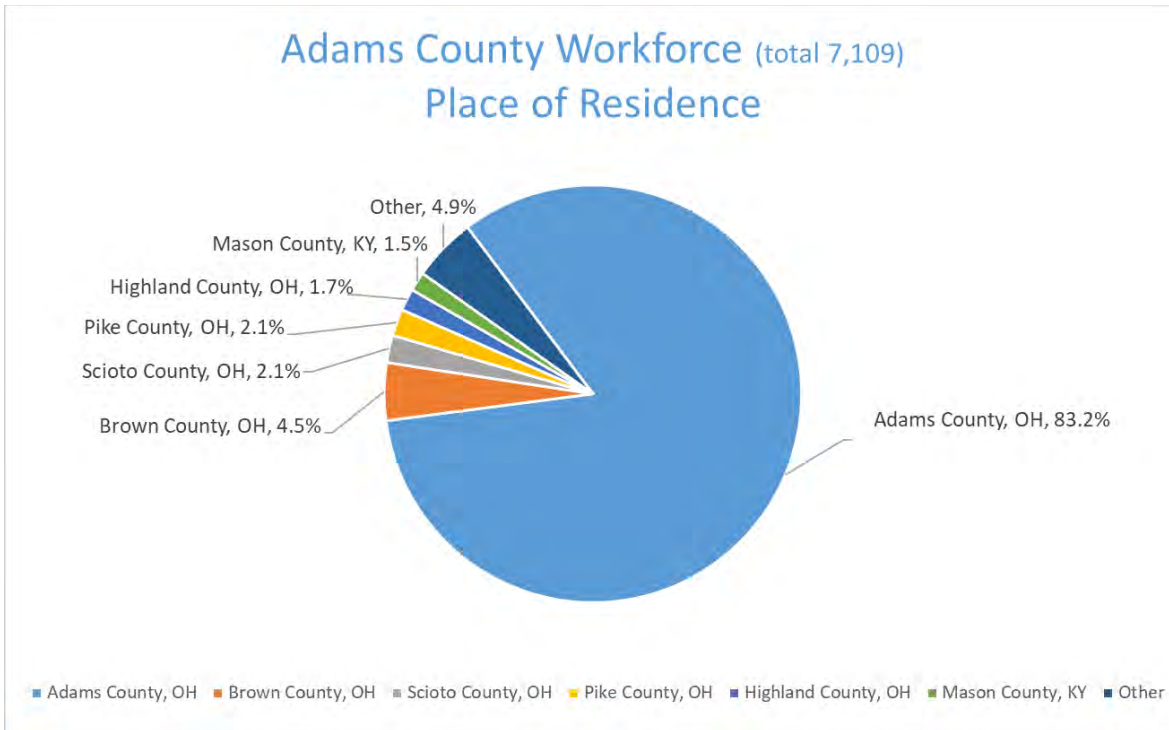
**Figure 36: Adams County Workforce Place of Work, 2011-2015<sup>39</sup>**



**Figure 37: Adams County Workforce Place of Residence, 2011-2015<sup>40</sup>**

<sup>39</sup> Source: U.S. Census Bureau, 2011-2015 5-Year American Community Survey, Commuting Flows

<sup>40</sup> Source: U.S. Census Bureau, 2011-2015 5-Year American Community Survey, Commuting Flows



## 4. Industry Cluster Analysis

### 4.1 Industry Employment by 3 Digit NAICS Code

This section examines the largest industries by employment in Adams County. Firstly, this section shows the change in employment and then compares the relative strength of each industry as compared to Ohio.

Figure 38 depicts the change in employment from 2012 to 2018 for the selected industries. While eight industries experienced growth in employment, thirteen industries experienced a decline in employment. Additionally, of the eleven industries that employed over 100 people in 2012, eight experienced a decline and three experienced growth. Furthermore, the top five industries (Food Services & Drinking Places, Transportation Equipment Manufacturing, Social Services Assistance, General Merchandise Stores, and Hospitals) all experienced a decline in employment accounting for the loss of 229 jobs. The largest declines were seen in Merchant, Wholesalers, and Durable Goods (-64%), Social Services Assistance (-35%), and Amusement, Gambling, and Recreation (-32%). The largest growth was seen in Specialty Trade Contractors (71%), Heavy/Civil Engineering (56%), and Ambulatory Health Care (39%).

Figure 39 shows the industries' Location Quotients, or the relative strength of each of the industries as compared to the industries strength in Ohio. Industries with a higher LQ are stronger or more concentrated in the county than in the state at large. This may indicate how specialized an industry is in Adams County. Industries with an LQ above 1 have a higher proportion of employees in that industry than the proportion in the industry at the state level. Likewise, industries with an LQ below 1 have a lower proportion of employees in that industry than the proportion in the industry at the state level.

Additionally, figure 39 also shows the employment of the industries in 2018 and whether the industry experienced employment loss (light blue) or gain (dark blue) from 2012 to 2018. This may indicate whether the industries are growing and shrinking and may signal the need for investment dependent on the LQ of the industry.

Investments may yield a higher impact if

The given industry is a large source of employment

The given industry has a high LQ, but is experiencing a loss in employment

The given industry is experiencing growth in employment, but still has a low LQ

Investments may yield a lower impact if

The given industry is a small source of employment

The given industry has a high LQ and is experiencing growth in employment

The given industry has a low LQ and is experiencing loss in employment

Table 10 shows how the industries fit into these categories. Bolded industries had at least 50 employees in 2018, while the italicized industries had fewer than 50 employees in 2018. The green categories indicate industries that may benefit more from investment. For category 2, this means using investment to counteract the loss of employment in an industry that is already strong in the county. For category 3, this means using investment to help specialize or strengthen the concentration of a currently growing industry in the county. The blue category indicate industries that may see less return on investment than those in the green categories. For category 5, this means industries that are both growing and strong in the county may continue along that trajectory without need of investment. For category 6, this means a substantial investment may be necessary to change both the loss of employment and to strengthen the industry in the county. This is not to say that investments should not be made in these two categories, but to acknowledge that to achieve the same results of an investment into a green category industry may require a much larger investment in the blue category industry.

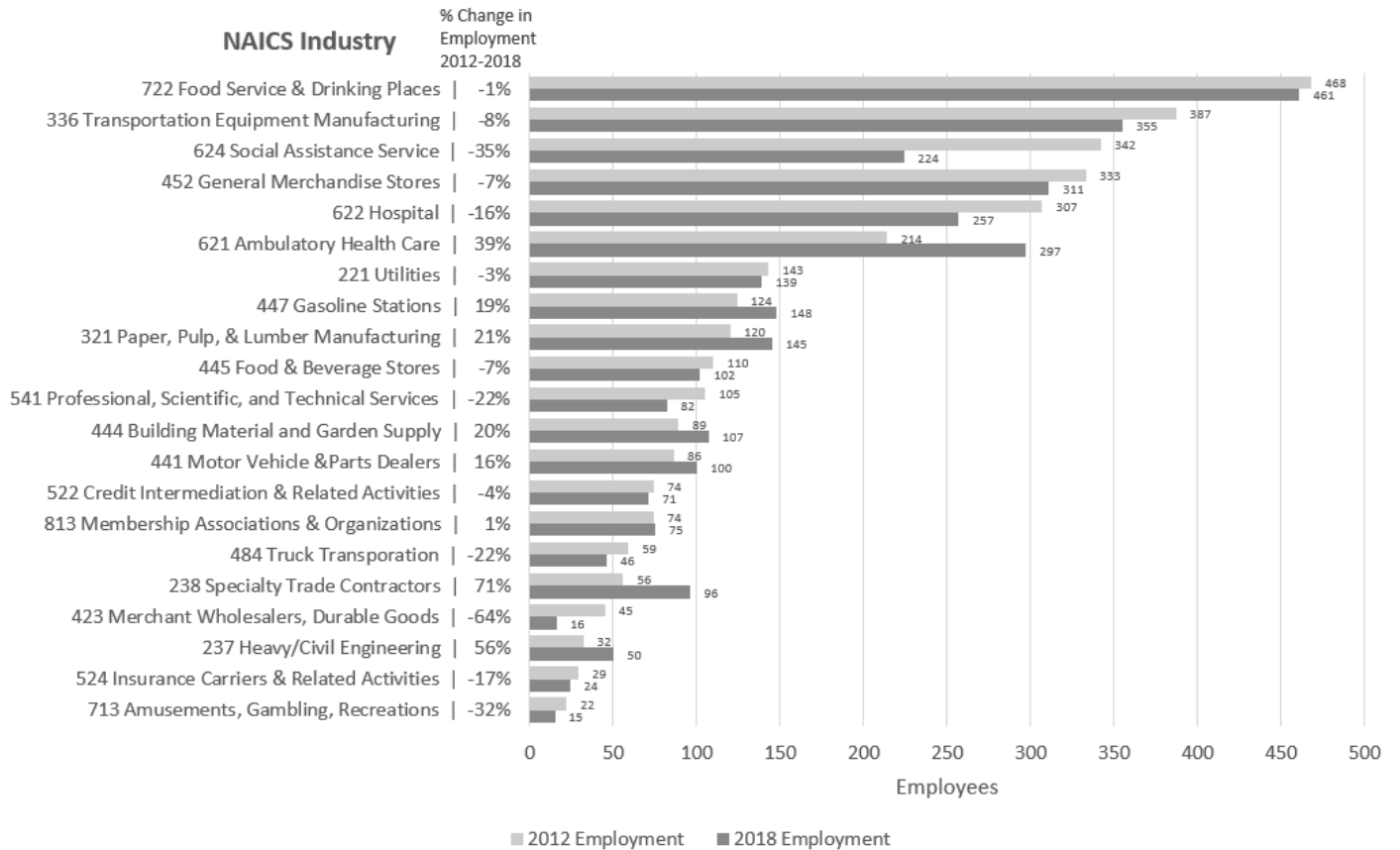
**Figure 38: Adams County Employment by NAICS Code, 2012 & 2018<sup>41</sup>**

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<sup>41</sup> Source: U.S. Census Bureau, County Business Patterns, 2012 & 2018

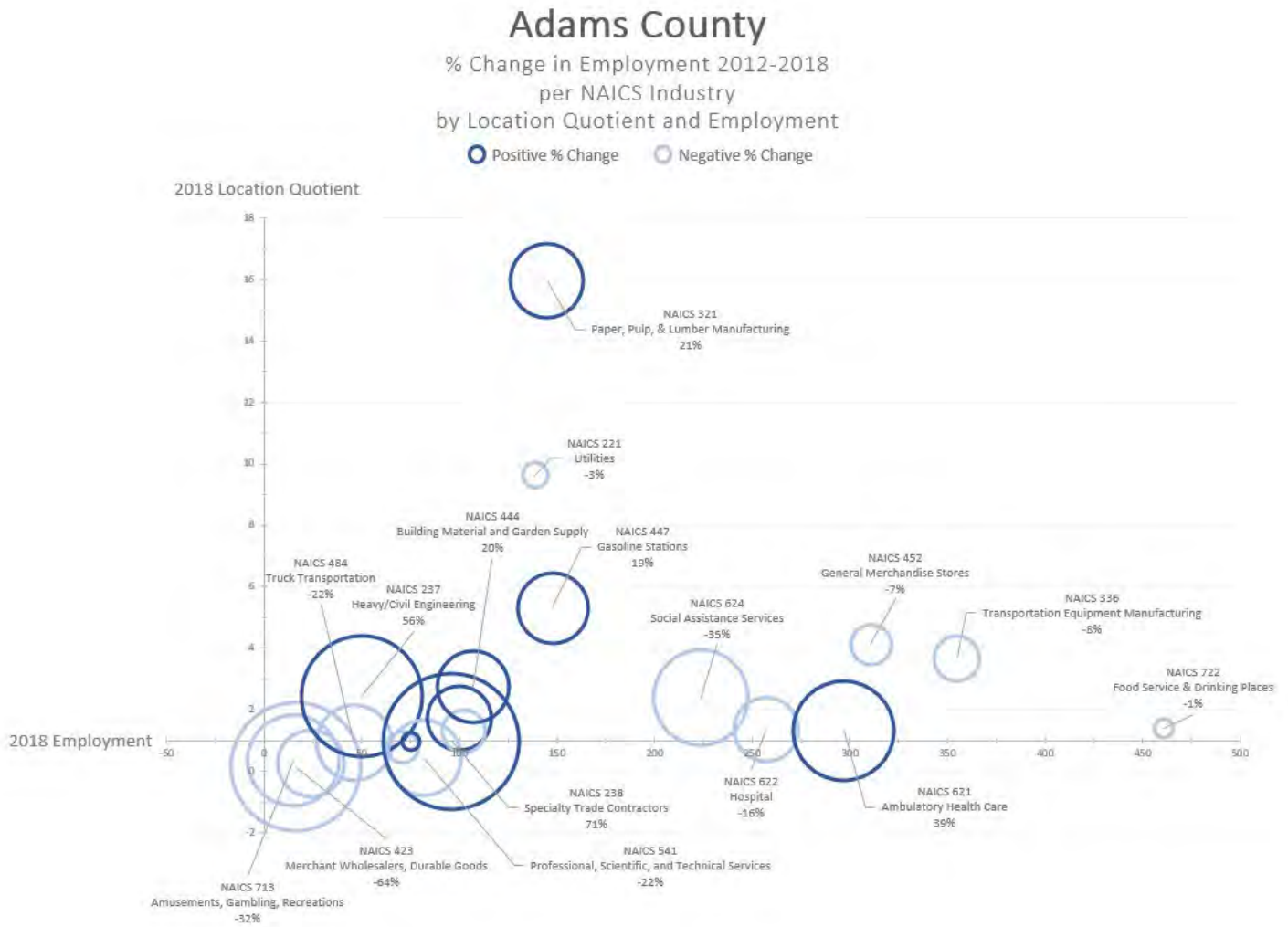
# Adams County

## Employment by NAICS, 2012 and 2018





**Figure 39: Adams County, Change in Employment by Location Quotient and Employment, 2012-2018<sup>42</sup>**



<sup>42</sup> Source: U.S. Census Bureau, County Business Patterns, 2012 & 2018

**Table 10: Adams County Industries by Investment Category**

	High LQ (LQ > 1)	Low LQ (LQ < 1)
Loss in Employment	(2) Social Assistance Services Hospital General Merchandise Stores Utilities Transportation Equip. Manufacturing <i>Truck Transportation</i> Food Services and Drinking Places Food and Beverage Stores	(6) <i>Amusement, Gambling, Recreation</i> <i>Merchant Wholesaler, Durable Goods</i> Professional, Scientific, Technical Serv. Credit Intermediation, Related Activities <i>Insurance Carriers, Related Activities</i>
Growth in Employment	(5) Paper, Pulp, & Lumber Manufacturing Heavy/Civil Engineering Ambulatory Health Care Building Materials & Garden Supply Gas Stations Motor Vehicle and Parts Dealers	(3) Specialty Trade Contractors Membership Associations & Orgs.

**4.2 Industry Clusters Analysis**

Following the examination of the industries in Adams County, clusters of related industries were identified and the analysis was performed at this more detailed level to gain more insights into the potential for Adams County. Additionally, the analysis was further extended to examine industry clusters in the OVRDC region as a whole.

**Methodology:**

For this task, the industry clusters being targeted were identified. Relevant NAICS codes were assigned to each industry.

In the 2015 Adams County Economic Development/Tourism Plan, Adams County identified Healthcare, Retail, Manufacturing, Utilities, and Accommodations as sectors in which they planned to focus.

Adams County	NAICS Code
Healthcare	621, 622, 623
Retail	44-45
Manufacturing	31-33
Utilities	22
Accommodations	721

In the 2011 CEDS Performance Report, the OVRDC identified Agriculture, Healthcare, the Wood industry, and Manufacturing as the prominent clusters in the region. The OVRDC is made up of Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties.

OVRDC	NAICS Code
Agriculture Related Businesses	111, 112, 1151, 1152
Healthcare Related Businesses	621, 622, 623

Wood Industry and Related Businesses	321, 337110, 337121, 337122, 337127, 337211, 337212, 337215, 3379, 4232, 423310
Total Manufacturing Sector	31-33

According to the JobsOhio website, the targeted industries for Ohio are Advanced Manufacturing, Aerospace and Aviation, Automotive, Healthcare, Energy and Chemicals, Financial Services, Food and Agribusiness, Information Technology, and Logistics and Distribution. Further research into these sectors, revealed a document with nine industries and four business functions that JobsOhio focuses on as posted on the Ohio Department of Higher Education website. Additionally, this document listed the associated NAICS codes for each. These NAICS codes were used as a baseline for assigning NAICS codes.

JobsOhio Website	NAICS Code
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Aerospace & Aviation	3345, 3364, 4811, 4812, 5174, 9271
Automotive	3336, 3361, 3362, 3363
Healthcare	621, 622, 623
Energy & Chemicals	2111, 2121, 2131, 2211, 2212, 3241, 2371, 3251, 3252, 3253, 3255, 3256, 3259, 3261, 3262
Financial Services	5221, 5222, 5223, 5231, 5232, 5239, 5241, 5251, 5259
Food & Agribusiness	111, 112, 1151, 1152, 311, 4244, 4245, 445
Information Technology	5112, 5182, 5191, 5415
Logistics & Distribution	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
JobsOhio Document	NAICS Code
Aerospace & Aviation	3345, 3364, 4811, 4812, 5174, 9271
Automotive	3336, 3361, 3362, 3363
Financial Services	5221, 5222, 5223, 5231, 5232, 5239, 5241, 5251, 5259
Biohealth	3254, 334510, 334516, 334517, 3391
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Energy	2111, 2121, 2131, 2211, 2212, 3241, 2371
Food Processing	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Information Technology and Services	5112, 5182, 5191, 5415
Polymers and Chemicals	3251, 3252, 3253, 3255, 3256, 3259, 3261, 3262
Headquarters and Consulting	5416, 5511
Back Office	5611, 5614
Logistics	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
Research & Development	5417

To further explore the OVRDC region, the targeted industries from the three overlapping JobsOhio regions were identified. The majority of the OVRDC counties are located within the APEG region. They are Adams, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties. According to

the APEG website, the targeted industries in the region are Polymers & Plastics, Energy Production, Food Manufacturing, Automotive and Aerospace, Petrochemical, Hardwood Products Manufacturing, Metals Fabrication, Logistics, and Consumer Products. The REDI Cincinnati region contains two OVRDC counties: Brown and Clermont. The REDI Cincinnati website identifies the targeted industries as Aerospace, Advanced Manufacturing, Food and Flavoring, Information Technology, Shared Services, and Biohealth. The Dayton Development Coalition contains one OVRDC county: Fayette. Their website identifies Aerospace and Defense, Agriculture and Food Processing, Automotive, Bioscience, Cyber, and Logistics and Distribution as targeted industries.

APEG	NAICS Code
Polymers & Plastics	3252, 3261, 3262
Energy Production	2111, 2121, 2131, 2211, 2212, 3241, 2371
Food Manufacturing	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Automotive & Aerospace	3336, 3361, 3362, 3363, 3345, 3364, 4811, 4812, 5174, 9271
Petrochemical	325110
Hardwood Products Manufacturing	321, 337110, 337121, 337122, 337127, 337211, 337212, 337215, 3379, 4232, 423310
Metals Fabrication	3321, 3322, 3223, 3324
Logistics	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
Consumer Products	31-33 (businesses within codes that manufacture retail goods)

REDI Cincinnati	NAICS Code
Aerospace	3345, 3364, 4811, 4812, 5174, 9271
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Food and Flavoring	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Information Technology	5112, 5182, 5191, 5415
Shared Services	521, 522, 523, 525, 54
Biohealth	3254, 334510, 334516, 334517, 3391

Dayton Development Coalition	NAICS Code
Aerospace and Defense	3345, 3364, 4811, 4812, 5174, 9271, 9281
Agriculture and Food Processing	111, 112, 1151, 1152, 311, 4244, 445, 3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Automotive	3336, 3361, 3362, 3363
Bioscience	3254, 334510, 334516, 334517, 3391, 541714, 541715
Cyber (IT)	5112, 5182, 5191, 5415
Logistics and Distribution	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931

Next, using the JobsOhio document as a baseline, the different industries focused on by each entity were compared to see where there was overlap. Of the 13 industries focused on in the JobsOhio Document, 10 of the industries overlap with at least two other entities. These industries are Advanced Manufacturing, Aerospace & Aviation, Automotive, Biohealth, Energy, Financial Services, Food Processing, Information Technology & Services, Logistics, and Polymers & Chemicals. Additionally, the Wood Industry also overlapped within three entities, specifically, Adams County, OVRDC, and APEG. Likewise, the Wood Industry had been brought up during interviews with Adams County residents and in conversations with the Adams County Economic and Community Development Director, Holly Johnson. Therefore, the Wood Industry was added to the ten industries previously identified. Five industries were identified as lacking overlap: Back Office, Headquarters & Consulting, Research & Development, Accommodations, and Retail. As such, these five industries will be left out of the cluster analysis.

JobsOhio Document	Adams County	OVRDC	JobsOhio Website	APEG	REDI Cincinnati	Dayton Development Coalition
Advanced Manufacturing	*Manufacturing	*Total Manufacturing Sector	Advanced Manufacturing	Consumer Products; Metals Fabrication	Advanced Manufacturing	
Aerospace & Aviation	*Manufacturing	*Total Manufacturing Sector	Aerospace & Aviation	*Automotive & Aerospace	Aerospace	Aerospace and Defense
Automotive	*Manufacturing	*Total Manufacturing Sector	Automotive	*Automotive & Aerospace		Automotive
Back Office						
Biohealth	Healthcare	Healthcare Related Businesses	Healthcare		Biohealth	Bioscience
Energy	Utilities		*Energy & Chemicals	Energy Production		
Financial Services			Financial Services		*Shared Services	
Food Processing		Agriculture Related Businesses	Food & Agribusiness	Food Manufacturing	Food and Flavoring	Agriculture and Food Processing
Headquarters & Consulting					*Shared Services	
Information Technology and Services			Information Technology		Information Technology	Cyber
Logistics			Logistics & Distribution	Logistics		Logistics and Distribution
Polymers and Chemicals	*Manufacturing	*Total Manufacturing Sector	*Energy & Chemicals	Petrochemical; Polymers & Plastics		
Research & Development						
	Accommodations					
	Retail					
	*Manufacturing	Wood Industry and Related Businesses		Hardwood Products Manufacturing		

\* Industry is repeated within column as it matches more than one category in "JobsOhio Document"

After narrowing down the industry clusters, data was retrieved for each from the County Business Patterns on number of establishments, paid employees, and annual wages. Data was retrieved for the United States, Ohio, Adams County, and the OVRDC region. The number of establishments was included in the data at every level. However, the number of paid employees and annual wages were often suppressed at the county level, due to a small number of establishments in the county. In these cases, the suppressed values were substituted for a reported value in a different year, conditional on the reported value year occurring within a 5-year window of the suppressed value year. For data that was still missing, estimates were created based on average employment by number of establishments, taking into consideration the industry cluster and the urban/rural status of counties. In the few cases, where there was not enough data for either of the previous methods to work, the median value of the range given by the County Business Patterns was used to estimate the suppressed number of paid employees.

After estimating the employment data, the location quotient for each industry cluster was calculated. A location quotient of 1 signifies that the selected region is equally as strong in the industry as the comparison region. A location quotient above 1 signifies the industry is stronger and below 1 signifies the industry is weaker.

### **Results for Adams County:**

The following graphs show the relationship between the growth in the industry (percent change in employment since 2010) and the relative strength or concentration of the industry cluster (the location quotient). This relationship can be divided into four categories: Mature, Star, Transforming, and Emerging. Mature industries have a strong concentration but need investment to reverse downward growth trends. Star industries have strong growth and concentration. Star industries are the strength of the community. Transforming industries have low concentration and negative growth. Only a large investment could help change these trends and might be better invested into an industry in another category. Emerging industries have a low concentration, but high growth. These industries are poised for future growth and can use investment for support and strengthen the concentration of the industry. The graphs also show the relative number employed in the industry cluster by the size of the bubble.

Figures 1, 2, and 3 show the comparison of Adams County to the OVRDC region, Ohio, and the United States from 2010 to 2016, respectively. In all three cases, Aerospace is Adams County's highest concentrated industry. The Aerospace industry is almost 30 times stronger in Adams County than in the OVRDC region as a whole. Likewise, the Aerospace industry is over 14 times stronger compared to Ohio and over 9 times stronger compared to the United States. Because of the suppressed data and because the number of establishments have not changed from 2010 to 2016, the Aerospace industry is the one industry where the direction of growth could not be determined. However, investments in this industry could help spur growth whether the industry is considered mature or star.

Likewise, figure 1 shows that Advanced Manufacturing, Energy, Information Technology, and Logistics are considered star industries for Adams County compared to the OVRDC region from 2010 to 2016. However, when compared to Ohio, Advanced Manufacturing was categorized as emerging. This signifies that Advanced Manufacturing in Adams County is stronger than in other parts of the OVRDC and the US, but weaker than some other parts of Ohio. Also important to note is that the percent growth for Advanced Manufacturing is actually infinite as there were no establishments present in 2010. Similarly, Information Technology was classified as emerging when compared to Ohio and to the US.

Figure 1 also shows that the Wood industry and Financial Services are considered mature, while the Polymers industry was considered transforming when compared to the OVRDC region from 2010 to 2016. While the Wood industry was still considered mature when comparing to Ohio and to the US, Financial Services were considered transforming and the Polymers industry was considered mature. As seen in figures 1, 2, and 3, Financial Services and the Polymers industry are positioned closer to x-axis or a location quotient of 1.

Additionally, it is important to note that three of the eleven industry clusters do not show up on figures 1, 2, or 3. The Automotive industry and Food Processing industry do not show up because no establishments were found in 2010 or 2016. The Biohealth industry does not show because there were no establishments in 2016 even though there were establishments in 2010 indicating that all biohealth establishments had closed. It is also important to note that the data used was from before the two Dayton Power and Light plant closings in Adams County in 2018. Therefore, it is predicted that the size of the Energy industry bubble will shrink dramatically and that the Energy industry will be reclassified as mature or transforming depending on the remaining strength or concentration of other energy sector jobs in the county.

Figure 1:

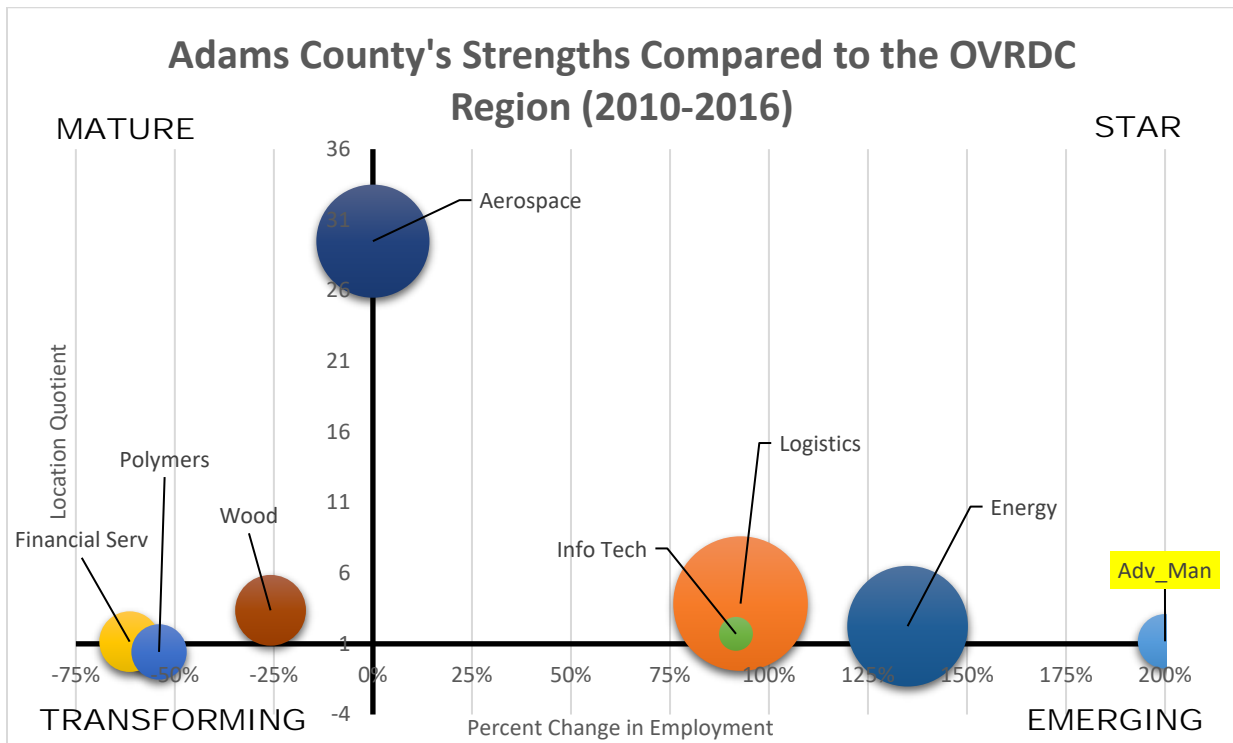


Figure 2:



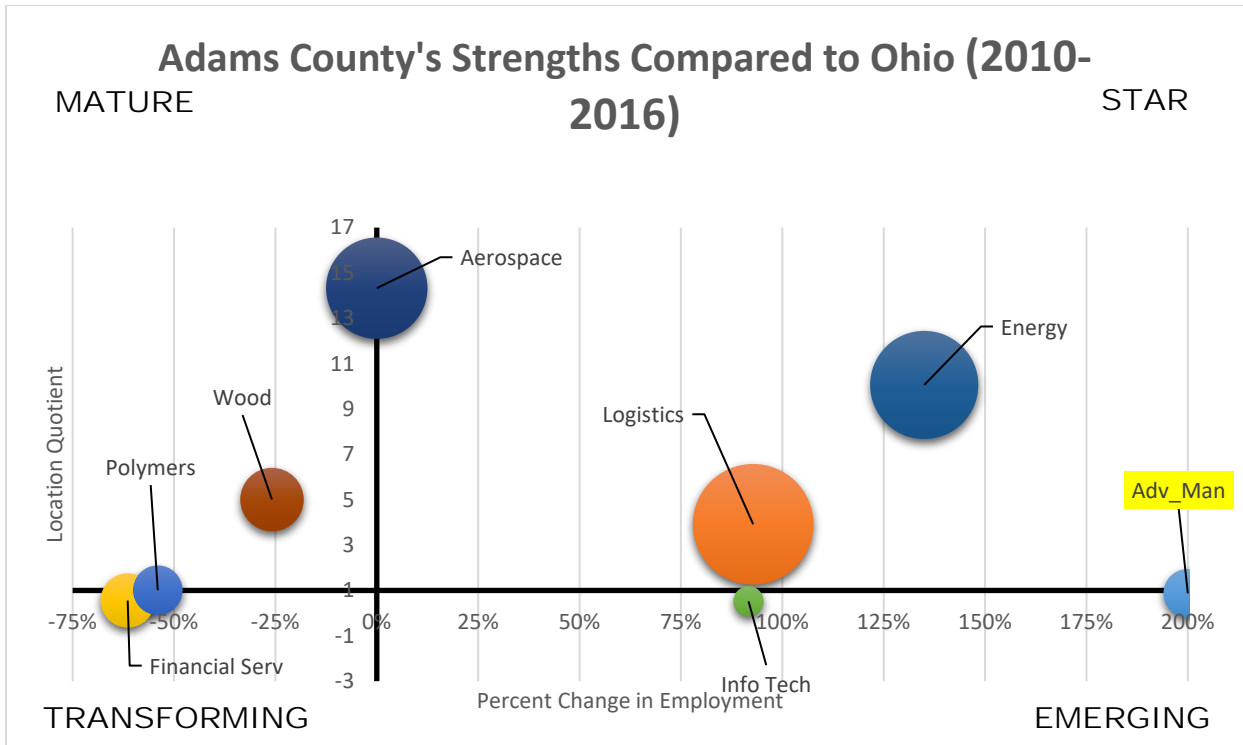
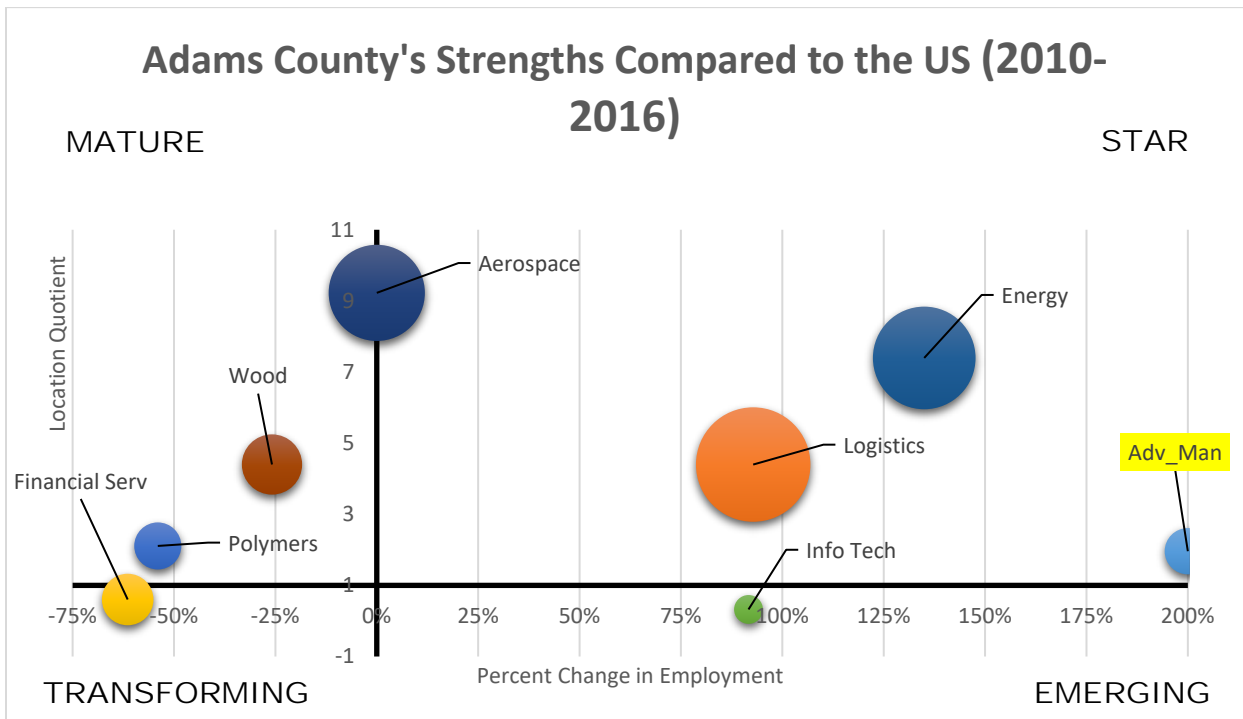


Figure 3:



### **Recommendations for Adams County:**

Aerospace has a strong concentration in Adams County and is a major employer for the county. Investment should be made wisely to ensure future growth in current operations and in growing and supporting supply chain businesses.

Logistics is another major employer and investment could be made to increase strength of industry. Advance Manufacturing is on the border of being considered a star industry by all three comparisons, but employs less than the previous two industries. Investments could be made to grow existing businesses and increase employment in the industry.

The Wood industry is relatively strong in Adams County, but needs investment to reverse the downward trend in growth. It would be beneficial to reverse the downward trend before there is a loss of concentration of the industry in Adams County.

Information Technology is also on the border of being a star industry, but employs even less people. Investment in this industry may also require broadband or fiber and other infrastructure to support the industry. Investment may be more cost effective in the previous four industries.

Depending on the remaining concentration in the Energy industry, investment in the industry could be beneficial. However, if the concentration is low, the size of the investment may outweigh benefits to the community.

## 5. Existing Industry Needs/Opportunities Assessment

The Center for Economic Development and Community Resilience conducted a survey among the Adams County businesses to understand how the closure of the DPL Power Plant and COVID-19 has impacted their business. Of the businesses surveyed 40% said they had been impacted by the decline in the coal economy. DPL's two coal powered plants closed in 2018. The General Merchandise and Retail business sectors saw a loss of retail sales in a community that is already struggling. With the power plant closures the struggling former employees' loss of income directly impacts spending habits in the county leading to loss of retail sale while other businesses in the social sector have assisted the former DPL employees training and job searches. A business in the education sector stated they had lost over \$200,000 of yearly income after the power plants shut down. Only 10% indicated they made changes to address the impact or required more assistance to offset any losses.

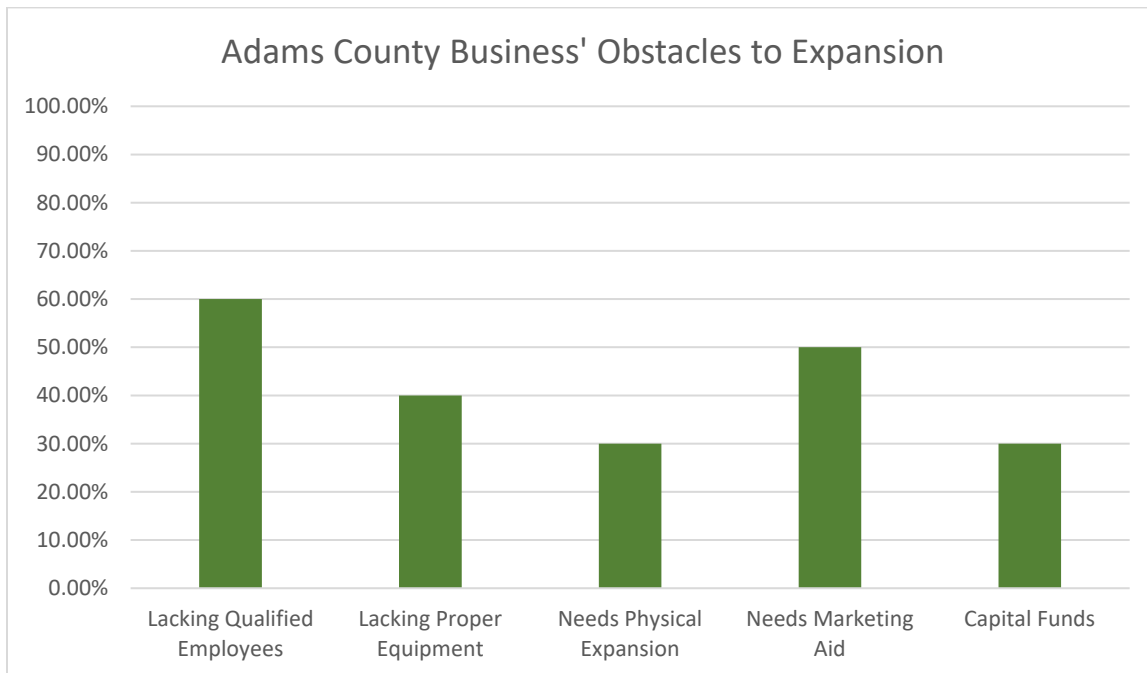
COVID-19 was declared a pandemic on March 11, 2020 the following week Governor DeWine prohibited mass gatherings, closed schools, and limited food service places to carry-out or delivery only. A few days later a state-wide Stay at Home order was issued mandating all non-essential businesses close their doors to the public. This directly impacted companies' abilities to maintain sales causing a swift decline in income. From the survey 90% of respondents commented that COVID-19 had a direct impact on their company. 20% of businesses stated they were required to let go of employees, reduce hours, or stop overtime. From the responses the General Merchandise Retail and Restaurant Sectors saw a decrease in sales overall post COVID-19. The supply chain for merchandise stores has been notably clogged with increase demand for products and not enough trucks and containers to fill them. The banking sector faced a coin shortage due to the treasury closing from the pandemic and, like many other businesses in Adams County, saw an adjustment with work. Employees either worked from home or worked in shifts while increasing cleaning and sanitizing efforts.

Adams County businesses had to adjust to the changes through reducing staff, hours, and following Ohio Department of health (ODH) orders. The ODH allowed non-essential businesses to reopen provided that they followed certain conditions including social distancing, face masks, and constant sanitizing and cleaning. To address COVID-19s impact Adams County food service businesses were required to get creative and do carryout or delivery to keep their businesses operating. Most businesses surveyed indicated they applied for or received the Paycheck Protection Program to ease the strain of paying their employees during a time of loss of income. The businesses stated the PPP was necessary in order to better respond to the impact of COVID-19. 10% of respondents said their business was able to aid the community by procuring and selling PPE.

Businesses in Adams County have similar expansion issues. Over the last year many have sought expansion in Adams County but were hindered by certain difficulties. These issues include finding skilled labor, infrastructure, capital funding, lack of equipment, marketing etc. There is a shortage of skilled labor in Adams County with 60% of the businesses reporting issues

with staffing. 30% need bigger space for their business and are searching for new locations. Without enough space or aid to businesses requiring expansion this will drive business out of Adams County.

30% of businesses in the restaurant sector reported that the issues preventing them from expanding their business was lack of capital funding, qualified staff, and marketing. These are key areas that affect development in Adams County. Most businesses surveyed cited that they lacked capital to pursue expansion and sought assistance from outside sources to receive grants or loans to meet their needs.

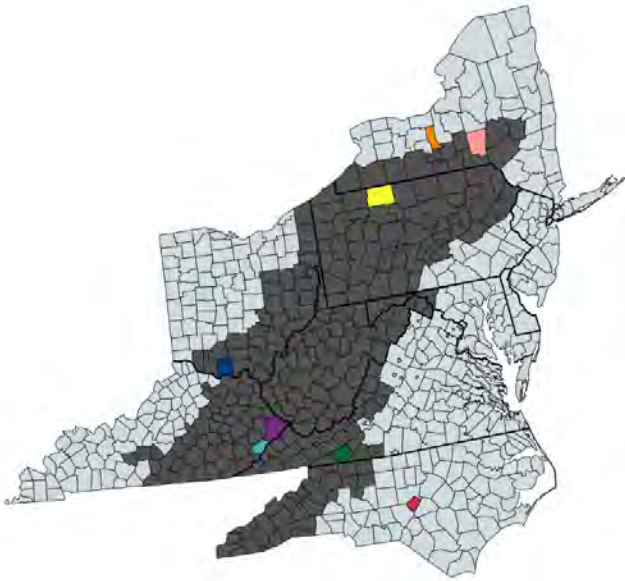


## 6. Comparable Communities Assessment

The closure of two coal-fired power plants in Adams County represents a unique regional challenge. However, there are communities elsewhere in the United States from which economic and community development insights may be drawn when guiding Adams County and regional efforts. A series of short case studies were developed to identify current best practices and facilitate learning from other communities. These case studies explore approaches used by other communities/counties with similar populations to Adams County challenged with closures and declines in industry. We mainly investigated communities with different strategic approaches to add to the richness of lessons learned. The findings of the identified case studies provide useful strategies that apply to the Adams County effort, despite not being exact matches.

### ***Strategies Used***

- Attracting new major employer
- Supporting existing businesses
- Diversifying local economy
- Developing workforce development and training programs
- Collaborating with...
  - educational institutions
  - local businesses
  - regional partners
  - the local community
- Enhancement of natural assets
- Blending/mixing of multiple strategies



- Adams County, OH
- Seneca County, NY
- Carroll County, VA
- McKean County, PA
- Lee County, NC
- Chenango County, NY
- Pike County, KY
- Letcher County, KY
- ARC Counties

Created with mapchart.net: <https://mapchart.net/usa-counties.html>

### ***Case Study 1: Industrial Redevelopment-Seneca Army Depot Closure (Seneca County, New York)<sup>43</sup>***

Seneca County (pop. 34,843)<sup>44</sup> is similar in size to Adams County (pop. 27,926), and although Seneca County is not in the Appalachian region, it borders the northern boundary of the region. Like Adams County, Seneca County had struggled with issues of poverty, limited amenities, aging and insufficient infrastructure, lack of broadband access, and inadequate funding from state and other sources. Furthermore, Seneca County has abundant natural resources very similar to those found in Adams County. Seneca County's resources include unique tourism features like the Seneca White Deer herd, a large amount of cheap and available land, and the potential for waterfront development along Seneca Lake and Cayuga Lake, which are two Finger Lakes in the county. Additionally, Seneca County's experience with the closure of the Seneca Army Depot corresponds well to the closure of the DP&L plants in Adams County. The Seneca Army Depot was the largest employer for Seneca County before closing in 2000. In 1992, Seneca County first experienced a shock as the Depot eliminated over 550 civilian jobs and 500 military jobs. Therefore, it was not a surprise when the US Army placed the Depot on the 1995 Base Realignment and Closure list. The Depot further reduced employment from 1200 to 140 over five years. The base retained some staff to oversee the property and to begin site remediation and clean-up.

By 2016, the Seneca County Industrial Development Agency (IDA) had gradually obtained as much as 10,000 acres of the Depot's property throughout the remediation efforts led by the US Army. The IDA was tasked to redevelop the property on behalf of Seneca County. The IDA looked at the current assets that existed on the Depot and leveraged those assets to attract businesses. Those assets included the barracks, cold storage igloos that once housed chemicals and munitions, open land with natural amenities, and much more. The barracks and the native facilities of the location were used to attract programs for troubled youths. In 2000, the KidsPeace Seneca Woods Campus was opened as a residential program for troubled children and became the Hillside's Children Center in 2004.

Similarly, the IDA was able to attract the Five Points Correctional Facility to locate on the property in 2000, creating 600 direct jobs. The establishment of a training center for state and local police and a training tower for volunteer firefighters was an essential project for the IDA as well. The igloos on the property were perfect for data and server storage. The igloos, given their past of nuclear storage, were relocated away from all flooding dangers, are temperature-controlled, and are incredibly secure. The IDA included this knowledge in their marketing strategy and was able to attract the Finger Lakes Tech Group.

Additionally, the IDA sold around 7000 acres, which became the Deer Haven Park. The Deer Haven Park was established to preserve the rare Seneca White Deer herd that lives on the Depot property. The Deer Haven Park offers tours that allow people to see these uncommon deer, provides the military history of the area and features a tour of one of the ammunition bunkers on the property. Additionally, the establishment of a visitor center for the unique feature of the Seneca White Deer has drawn people to the Deer Haven Park and boosted the tourism industry in the county and the region.

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<sup>43</sup> From MacCarald 2014, Roth 2018, Seneca County IDA 2011, Seneca County, NY 2014, and Seneca County Planning and Community Development Department 2014.

<sup>44</sup> All population estimates are based on the 2017 estimates from the U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates.

Like Adams County, Seneca County experienced the loss of a major employer in the county. After the closure, the Seneca County IDA focused on bringing in new large employers. In particular, they matched the existing infrastructure and special features of the Depot to benefit potential businesses. In addition to industrial development, the IDA sold part of the Depot to strengthen the tourism industry in the county. Adams County could look into what businesses could use some of the specialty features of the DP&L sites to attract potential companies that could inhabit or redevelop the site.

Additionally, Adams County could look at more out-of-the-box approaches to use the land along the Ohio River to strengthen tourism. However, one key difference exists: The Army gave the area to Seneca County, but DP&L have not sold their sites to the county or another business. This fact impacts what Adams County can do directly regarding the sites. However, the county may be able to act as an intermediary to bring the type of businesses they would like to see in the area to the attention of DP&L. The county may also be able to offer financial incentives to those businesses that will then allow them to make more competitive offers to get DP&L to sell.

***Case Study 2: Business Retention, Small Business Support, and Economy Diversification-Declining Textile and Furniture Manufacturing Industry (Carroll County, Virginia)<sup>45</sup>***

Carroll County (pop. 29,767) is a small Appalachian county in southwest Virginia, historically known for its textile and furniture manufacturing industries, which experienced long-term declines. In 1998, the Basset-Walker sewing plant in Carroll County closed. This closure resulted in 294 direct job losses. Additionally, Cross Creek Apparel, another textile manufacturer, closed in 2000, resulting in 245 jobs lost. During the early 2000s, Carroll County continued to face reductions and closures in their manufacturing industries. Carroll County's strategy for economic development was to retain their existing businesses while encouraging entrepreneurship and developing new industries to diversify their economy.

Carroll County implemented business retention strategies to keep businesses in the county. For example, in 2009, Mohawk, a carpet backing manufacturing plant and one of the county's largest employers, was having infrastructure problems that could have forced the plant to relocate. However, the Carroll County Board of Supervisors and Industrial Development Authority intervened and helped the company purchase a needed industrial power backup system. Additionally, Carroll County installed a natural gas line to help power the Mohawk plant. This gas line lowered the energy costs not only for Mohawk but for many businesses in the area and helped ensure these businesses would remain long term.

Carroll County also focused on developing entrepreneurship programs to strengthen the economy and to raise the county's resiliency. To support entrepreneurship and small businesses, Carroll County created the Crossroads Small Business Development Center in 2006 in partnership with the Wytheville Community College. This center was created to serve businesses with less than 50 employees and assists potential and existing small business owners with business planning, financing, and navigating laws and regulations for development. Additionally, they formed a joint public-private partnership, the

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<sup>45</sup> From Istrate, Mak, & Nowakowski 2014, Plan Carroll County 2010, Business Facilities 2018, Krouse 1998, and Town of Hillsville, Virginia 2014.



Crossroads Institute, which focuses on many aspects of economic and community development, including workforce training and community education.

Carroll County recognized the need to diversify their economy from the textile and furniture manufacturing industries and to grow the economy from sales outside the county. In 1994, county officials along with representatives from the Southwest Virginia Farmer's Market, Virginia Department of Agriculture and Consumer Services, and Virginia Cooperative Extension Services met with local farmers and representatives from large retail chains located in the Mid-Atlantic region. They discovered that the county would be a prime location to serve as a pumpkin supplier to the region. Since then, pumpkin production has increased to several thousand acres and has added an estimated \$15 million to the local economy through pumpkin sales.

Like Adams County, the main factors driving population trends in Carroll County are the out-migration of young adults and the in-migration of older age groups. While Carroll County has an older median age than Adams County (47 and 42.2 respectively), Carroll County has a higher median household income, higher median property value, lower poverty rate, and larger ratio of the number of employees to the population size (0.44 and 0.36, respectively)<sup>46</sup>. This ratio means that for every 100 people residing in each county, there are 44 people employed in Carroll County and 36 people employed in Adams County. This fact demonstrates Carroll County's ability to thrive, even while facing disadvantageous population trends.

Additionally, like Adams County, Carroll County does not have a college or university. However, Carroll County was able to work with a community college in a neighboring county to help create the Crossroads Small Business Development Center. Southern State Community College operates campuses in two counties adjacent to Adams County: Brown and Highland Counties. Additionally, Shawnee State University operates in Portsmouth in the neighboring Scioto County. Therefore, Adams County could consider partnering with one or more of these local institutions to provide support to small businesses in their community.

While there are still many differences between the two counties, the key strategies utilized by Carroll County provide lessons for Adams County. Like Carroll County, Adams County can strengthen their community by working to provide strategic infrastructure and support to key businesses in the County to ensure that these businesses remain in Adams County. At the same time, Adams County can take steps to support new and small businesses and to diversify the industrial make-up of the community to become a more resilient economy in the future.

### ***Case Study 3: Tourism, Asset Development, and Regional Strategy-Declining Oil and Timber Industries (McKean County, Pennsylvania)***<sup>47</sup>

McKean County (pop. 43,640) is an Appalachian county in Pennsylvania that has experienced declines in the timber and oil industries following the 2008 recession. In response to the decline in industries following the recession, McKean County relied on strengthening its natural assets and tourism industry

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<sup>46</sup>Data from <https://datausa.io/profile/geo/adams-county-oh?compare=carroll-county-va>.

<sup>47</sup> From Boettner et al. 2019, McKean County Planning Commission 2007, and Allegheny National Forest Visitors Bureau (n.d.).

to improve economic resilience. Additionally, McKean County has utilized a regional strategy working with nearby counties to create a more buoyant region and to have greater access to more resources.

To strengthen its tourism industry, McKean County took advantage of the Pennsylvania Wilds program created by the Pennsylvania Department of Conservation and Natural Resources. Pennsylvania Wilds consists of 12.5 counties (Warren, McKean, Potter, Tioga, Lycoming, Clinton, Elk, Cameron, Forest, Clearfield, Clarion, Jefferson and northern Centre). The collaboration with nearby counties has brought more people to the area, helping grow rural businesses in McKean County. Additionally, by joining this regional collaboration, McKean County has gained access to regional marketing efforts, the Pennsylvania Wilds Planning Team, and a Design Guide. These resources give businesses insight into improving their properties and attracting visitors. The Pennsylvania Wilds program helps shape development in the region in a consistent manner.

With the support of their region and the Pennsylvania Wilds program, McKean County was also able to identify and grow their community's particular assets. When a tornado destroyed the Kinzua Bridge and Viaduct in 2003, the state of Pennsylvania abandoned its plans to repair and restore the bridge. McKean County worked with the Kinzua Bridge State Park to turn the Kinzua Bridge into a tourism destination. The county built an observation deck, hiking trails, the Kinzua Sky Walk, and a Visitor Center with a gift shop. Additionally, McKean County recognized the visitor center located in the adjacent Elk County. The visitor center in Elk County had already been drawing in visitors to the region to see and learn about the largest elk herd in the northeastern United States. Elk and McKean Counties designated their visitor centers as sister centers and worked to promote each other's sites to tourists. Together, they pull even more people to the region.

Like Adams County, McKean County has abundant natural resources and beauty that was perfect for strengthening their outdoor tourism. Like the Kinzua Bridge, Adams County also has a unique site in the Great Serpent Mound as well as having sites with cultural and historical significance, such as the Underground Railroad or the Amish population. Adams County could work to enhance their particular assets to create a stronger tourism industry in the county.

While there are many similarities between the two counties, one significant difference is worth mentioning. There is not an existing regional program, like Pennsylvania Wilds, for Adams County to take advantage. However, this does not mean that the lessons learned from this case study are unimportant. Instead, Adams County could strive to create a regional program with neighboring counties or with the OVRDC region as a whole to pool resources and strengthen the region's tourism industry. Additionally, Adams County could work with state-wide programs like TourismOhio to better market the county's assets. Likewise, there are funding opportunities that exist at the state and national levels, such as the Land and Water Conservation Fund or the Clean Ohio Fund programs. These sources can be used to strengthen the natural assets of Adams County, create trails for walking, hiking, and biking, and much more.

***Case Study 4: Workforce Development-Declining Manufacturing Industry (Lee County, North Carolina)<sup>48</sup>***

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<sup>48</sup> From Istrate, Mak, & Nowakowski 2014.

Lee County (pop. 59,805) is a small rural county in central North Carolina. While the county has a larger population and is not in Appalachia, there are still valuable lessons to learn from Lee County. Lee County relied on the manufacturing industry and experienced a significant downturn in its economy as the industry declined following the 2008 recession. Lee County identified a deficit of educated and trained labor in their community, which was contributing to the decline of the manufacturing industry and the inability to attract new businesses. In response, the county developed robust workforce development programming to create a competitive advantage in attracting new businesses.

Lee County collaborated with the Central Carolina Community College (CCCC) to develop their Innovation Center that operated as both an industrial incubator and a workforce training facility, which opened in 2011. The Innovation Center offers businesses and local start-ups the opportunity to launch ideas. Lee County purchased the site, and funds the utility and maintenance costs. The CCCC provides cutting edge training designed to meet the specific needs of the local companies.

One such company is Caterpillar. The county worked with Caterpillar on an expansion project for the Innovation Center and developed an apprenticeship program for high school students. The expansion project helped to teach welding, a skill that was lacking in the local labor force. Other manufacturers in the area also started taking advantage of the training offered. The apprentice program provided at the center is an award-winning collaboration between the county, CCCC, and Caterpillar. Each year, the program offers 15 high school juniors a career pathway at Caterpillar. Students graduate with their high school diplomas, college credits, and their welding certification, and are guaranteed an interview for full-time employment at Caterpillar. In return, Caterpillar receives a steady supply of trained workers that meets their specific needs.

Following the success of the Caterpillar Apprenticeship Program, the Central Carolina Works program was developed to inspire high school students to pursue career development training. This program, also partnered with by CCCC, places a career guidance counselor at local high schools providing advice and mentorship to students. The program aims to build a solid foundation for the county's future workforce by inspiring students to pursue vocational training as part of their education

Like Adams County, Lee County needed a workforce trained in the particular skills required by their major employers. Adams County should identify the skills required by employers in the area and work with nearby community colleges and high schools to offer training in these skills. Additionally, it would be mutually beneficial for Adams County and the major employers to establish an apprenticeship program. An apprenticeship program would allow businesses to tailor training to the skills they need and give them access to a steady supply of skilled workforce. Additionally, the apprenticeship program would encourage high school students to remain in Adams County after graduation by offering an interview for full-time employment.

***Case Study 5: Flexible and Responsive Strategies -2008 Economic Shock (Chenango County, New York)<sup>49</sup>***

Chenango County (pop. 48,763) is an Appalachian county in New York with a rich manufacturing history. Chenango County experienced a shock with the 2008 recession but has used flexible and responsive strategies to recover. In particular, Chenango County focused on workforce and industrial development.

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<sup>49</sup> From Boettner 2019.

Chenango County's economic development organization, Commerce Chenango, recognized the importance of their county's agriculture and manufacturing industries. Commerce Chenango worked with its well-established foundation of small manufacturing businesses to draw more small businesses to Chenango. Additionally, to be more attractive to companies, the county focused on improving the quality of life and the business climate in Chenango. The county was able to use this improved attractiveness to get large employers to relocate to the county. In 2010, Chobani expanded its operations, and the Raymond Corporation relocated to Chenango County.

Furthermore, Chenango County recognized the need for flexible strategies that can respond to changes as they arise in the county. The county specifically avoided "one size fits all" types of strategies in favor of approaches that consider Chenango County's particular strengths and assets. The county identified workforce development as a priority. To maximize the impact for Chenango County, their workforce development program incorporated support services such as daycare, transportation, and counseling to assist residents of the county.

Chenango County was able to respond to changing economic conditions with flexible strategies that consider specific resources, needs, and assets of their community. In that way, Chenango County was able to limit the impact of the 2008 recession and recover much faster than similar communities. Likewise, Adams County should develop strategies that can adjust as economic conditions change. The presence of such strategies would allow Adams County to be responsive to the needs of its citizens and local businesses and industries. Additionally, Adams County should learn from Chenango County's recognition of the importance of economic development strategies that encompass a holistic, rather than piecemeal, approach to economic development. In this way, Adams County could create a similar workforce development training center that also incorporates transportation and daycare programs, which were identified as needed in task three: Community Engagement in Economic Development Priorities.

***Case Study 6: Creative Place-Making and Transitioning from Coal Jobs-Mine Closures and the Declining Coal Industry (Pikeville, Kentucky; Whitesburg, Kentucky)<sup>50</sup>***

In this case study, we are looking at two cities in adjacent counties in eastern Kentucky; Pikeville in Pike County and Whitesburg in Letcher County. Although comparing cities and not counties, there is still valuable information from this case study that could be helpful to Adams County. Pikeville (pop. 7,065) is more similar to the size of Tiffin Township (pop. 5,440), and the Pikeville Census County Division (pop. 15,743) is more similar to Adams County as a whole, while the total population of Pike County is 61,586. Whitesburg (pop. 2,230) and Letcher County (pop. 23,011) are more comparable to West Union (pop. 2,997) and Adams County.

Pikeville and Whitesburg are bright spots in a significantly disadvantaged region of Appalachia: eastern Kentucky. According to the ARC FY2020 County Economic Status designations<sup>51</sup>, eastern Kentucky has the most counties in Appalachia with a Distressed Status, both in percentages and absolute terms with 38 of 54 Kentucky counties ranking as Distressed. In fact, 47.5% of all distressed counties in Appalachia are in Kentucky. It is no wonder that eastern Kentucky became the symbolic representation for

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<sup>50</sup> From Stone 2016, Andrus 2018, City of Pikeville 2013, Semuels 2015, Appalshop (n.d.), Smith 2016, and Economic Empowerment & Global Learning Project 2016.

<sup>51</sup> Data from [https://www.arc.gov/research/MapsofAppalachia.asp?MAP\\_ID=149](https://www.arc.gov/research/MapsofAppalachia.asp?MAP_ID=149)

Appalachian poverty after President Johnson declared “War on Poverty” in 1964. Because of this, eastern Kentucky has had a long, complicated, and contentious history with economic development efforts in the region.

Eastern Kentucky has historically suffered from a lack of essential investment. The region has suffered from chronic underfunding of social services like education and healthcare and is underdeveloped in critical infrastructural systems, such as highways and broadband. Additionally, it has been unfairly stereotyped as backward and ignorant, is situated at the heart of the opioid epidemic, along with Ohio, West Virginia, and Pennsylvania. Eastern Kentucky has also relied heavily on the boom and bust cycling of the coal mining industry. However, it seems that the current condition of the coal industry is not just a temporary bust in the cycle, but a continued decline with no end in sight. Mining operations continue to be shut down in the region, which may be contributed to higher costs associated with environmental regulations, the falling costs for alternative energy sources, such as the Marcellus and Utica Shale Region, and a shifting socio-political climate that does not support the coal industry the way it once did. The region lost over 8,000 coal industry jobs from 2012-2016.

Both Pikeville and Whitesburg have become examples of success in an otherwise depressed area. While their implementation varies, both cities have used creative place-making strategies and have worked to transition from relying on the coal industry. In particular, Pikeville has worked to help transition from the coal industry by encouraging businesses that will repurpose closed mining sites and provide transitional jobs to former coal industry workers. For example, EnerBlue, a battery manufacturing company, is building a facility on the site of an old coal mine. The plant will bring an estimated 800 jobs with an average salary of \$39/hr to Pikeville.

Similarly, in 2015, BitSource, a startup tech company, opened in Pikeville. This company was created as a direct response to the community devastation from the declining coal industry. BitSource hired those who had been laid off from the coal industry and provided them with 22 weeks of training to become coders. These former coal industry employees now develop websites, augmented reality coding, and mobile applications.

Unlike in most of Appalachia, Pikeville’s population is growing. This growth has been contributed to the University of Pikeville. Although the university is small, with only around 2500 students, the university attracts individuals to fill faculty and staff positions. The university also attracts business owners who want to take advantage of research, knowledge creation spillovers, and have access to an educated population. Also, as Pikeville has grown, county officials and economic development professionals have ensured that the city is becoming amenity-dense. Specifically, they have begun revitalization efforts for the downtown area, are increasing and supporting attractions, like the Hatfield and McCoy Cemetery, and encouraging new businesses like bourbon distilleries and restaurants. Having these amenities will help safeguard that the growth is permanent and continues.

Additionally, Pikeville is undergoing efforts to integrate art and culture into the city and the community. The city has supported the Pikeville/Pike County Artisan Alliance, the construction of a new theater with year-round performances, various arts education opportunities, and much more. By recognizing its assets as an education center and developing a unique cultural and amenity-rich experience, Pikeville has separated itself from most of eastern Kentucky by experiencing growth in an otherwise depressed area.

Likewise, Whitesburg has been engaging in creative place-making since the late 1960s. In 1969, Appalshop was founded to train the local community in media skills and bolster economic development efforts by creating new jobs and new markets in the community. Appalshop has been essential in creating a unique identity for Whitesburg and for bringing in economic development projects and grant funding for the community. In fact, Lafayette College partnered with Appalshop to determine how communities can leverage their existing assets to strengthen their community with the goal of applying these lessons to communities around the world.

Another key aspect of economic development and creative place-making in Whitesburg is that it has been a collaborative and grassroots effort. Community revitalization efforts have come forth from the community itself. Many of these efforts focus on building up the cultural and artistic assets in the community by supporting artisan associations and local entrepreneurs that add to Whitesburg's cultural identity. Some of these entrepreneurs have focused on traditional crafts of the region such as woodworking. One artisan group in the area has formed the Route 7 Antique Alley. This collaboration created a listing of entrepreneurs, antique sellers, musicians, and other artists that tourists can use to create a unique shopping experience as they follow the route from business to business. This collaboration not only helps create the identity Whitesburg wants for the community, but actively increases tourism in the region. Like Adams County, Pikeville and Whitesburg have felt the impact of the declining coal industry. Pikeville has worked to bring in businesses and transition workers into new sectors. Both cities have implemented creative place-making strategies branding the towns as somewhere enjoyable for both tourists and residents. These strategies diversify the cities' economies from reliance on the coal industry. Both cities also recognized the importance of collaboration among local officials, economic development professionals, business owners, state and federal representatives, and the community as a whole. Adams County could look to attract businesses that align with the skill set of laid-off workers or that are willing to train employees with new skills. Additionally, Adams County could begin to implement creative placemaking strategies. Adams County could re-brand its own distinct identity in the region by revitalizing the main street areas of the villages, and by supporting unique cultural attractions, festivals, and businesses. Collaboration is even more critical as a county than a city. Adams County should strive to engage representatives at the county, township, and village levels, but also engage with business owners and other community members. This will assist Adams County in creating an identity that is authentic to all involved parties. The county should also follow Whitesburg's model from Appalshop by supporting grassroots efforts to encourage entrepreneurs, artisans, or other organizations to identify their community. By encouraging collaboration and ideas from within the community, Adams County works to become amenity dense, which will help attract tourism and promote sustainable growth.

### ***Findings***

The approaches communities have taken in the wake of major employer closing or an industry declining are varied. Some communities focused on gaining new major employers, while others supported their remaining businesses. Still, others sought to diversify their economies away from the industries that were declining. Several communities looked to workforce development, and training programs for their communities and many communities recognized the importance of collaboration with educational institutions, local businesses, regional partners, and the community itself. Additionally, quite a few communities recognized the importance of developing the natural assets that made their community unique. Although each case study focused only on the key strategies utilized by each community, it is

essential to note that these strategies were taking place among other economic development strategies. Therefore, Adams County does not have to choose just one approach but can mix and match the strategies that they find beneficial.

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## **7 Community Engagement**

The team completed a series of meetings with local business owners, government officials, community members and other key stakeholders in the community in fall of 2019. This list was gathered from an informed source that was knowledgeable about the key economic development related stakeholders in the community, thus the sample was not random. These meetings allowed the team to understand the concerns of the community and the priorities of the residents. The meeting was held October 29, 2019 to present the data from our economic development scan and ask for comprehensive input to economic development priorities for Adams County in a public setting. Overall, these community engagements allowed the team to identify community goals and promote community involvement in decision making.

The interviews specifically contained individuals from local government entities, businesses, and schools. They ranged from 30 minutes to 1 hour in length. Several reoccurring themes emerged from this interview process. A majority of interviewees mentioned a need for business development like an Industrial Park, Workforce Development opportunities, and entertainment.

Our second aspect of the community engagement research for this project involved a formal meeting open to the public. This meeting served as a platform to provide citizens and Adams County leadership with objective information of the area's economy and subsequently seek feedback on determining the community's economic development priorities. We invited local stakeholders, such as county commissioners, other government officials, business owners, and other community stakeholders.

After a formal presentation of the economic scan data (e.g., age, educational attainment, household income, unemployment rates, employment by industry, school enrollments, commuter patterns, etc.) our team shared the results of our interviews with community stakeholders and shared the top priorities mentioned to the team.

### **Resident Interviews:**

The interview process involved conducting nine in-person or phone interviews with community leaders and stakeholders, which ranged from 30 minutes to one hour in length. The research team conducted interviews with representatives from local economic development agencies, the public sector, the private sector, and not-for-profit sectors in an attempt to gather general feelings about the current and future economic state of Adams County. Additionally, the research team held focus groups with students from the Ohio Valley Career and Technical Center, West Union High School, North Adams High School, and Peebles High School, at a duration of 45 minutes to one hour each.

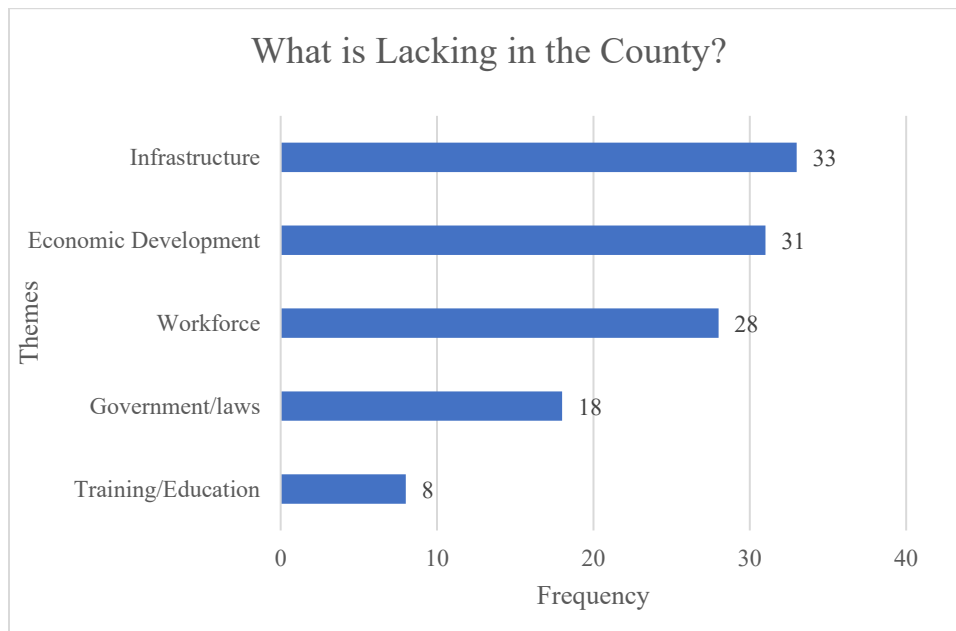
### **Community Leaders and Stakeholders:**

From the interviews with community leaders and stakeholders, the research team was able to categorize responses into three classifications. The categories were 'what is lacking in the

county,’ ‘what the county has to offer,’ and ‘what opportunities the interviewees suggest to explore.’

In the first category, interviewees identified infrastructure, economic development, and workforce needs as the most critical problems facing Adams County. Interviewees identified the lack of public transportation, the lack of daycare, the lack of industrial buildings, the lack of broadband internet access, the lack of adequate housing, the lack of hotels and other amenities for entertainment purposes, the lack of certain healthcare services, and the lack of new families and new residents as problematic for the county. In terms of economic development needs, interviewees identified a lack of consensus and teamwork on efforts, a lack of funding for projects, the lack of support for current industry/businesses, Adams County’s inability to attract and retain new businesses, the lack of adequate social programs, the prevalence of generational poverty and governmental dependence as a problem, the lack of a sense of urgency to economically develop, and the lack of funding and resources for economic development. In the realm of workforce needs in Adams County, interviewees mentioned the need for an increase in the skilled labor force, the need for living-wage employment, the need for more manufacturing jobs, the need for support for current and potential employers, and the need for remediation following the losses of jobs in the county. Figure 7.1.1 shows the frequency with which each theme was mentioned during the interviews.

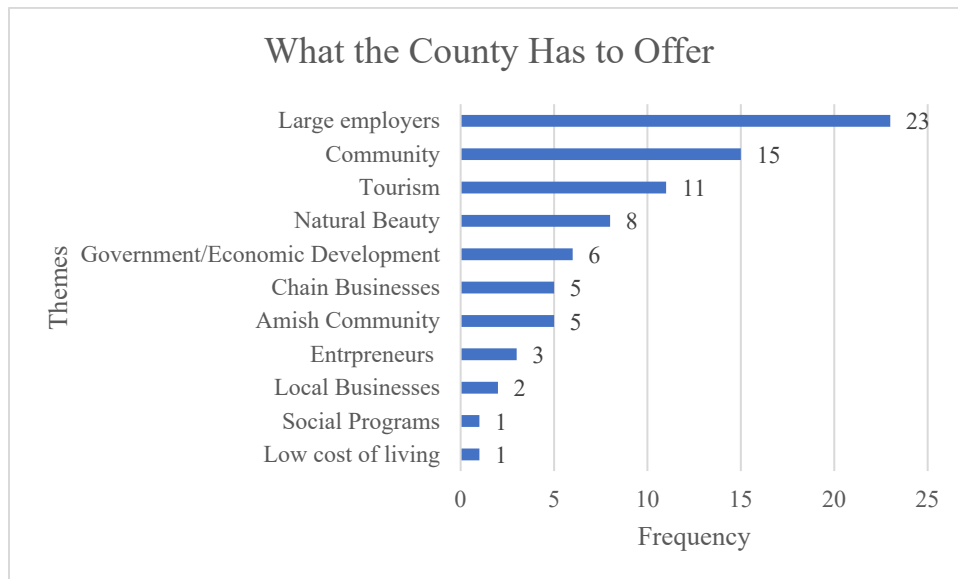
**Figure 7.1.1: Community Leader and Stakeholder Interviews: What is lacking in Adams County?**



Secondly, the interviewees overwhelmingly identified the presence of large employers, the strength of the community, and the tourism industry present in Adams County as the primary assets of Adams County. In terms of large employers as a strength in the county, the interviewees

referred to the GE Peebles Testing Facility, the Adams County Regional Medical Center, Columbus Industries, 1st State Bank, and the Cantrell Refinery as asset firms. Concerning the strength of the community, the interviewees referred to a variety of activities that highlight the depth of the community. They identified the support for development from the community, the government, local organizations, the hard-working ethics of the members of the community, and the religious community as assets to the county. Lastly, the tourism industry is an essential aspect of the economic vitality of Adams County. The Serpent Mound, the Amish Community, the natural beauty of the county, the Ohio River, and the wood industry—in terms of entertainment and timber usage—were all identified as assets to the tourism attractiveness of the county. Figure 7.1.2 shows the frequency with which each theme was mentioned during the interviews.

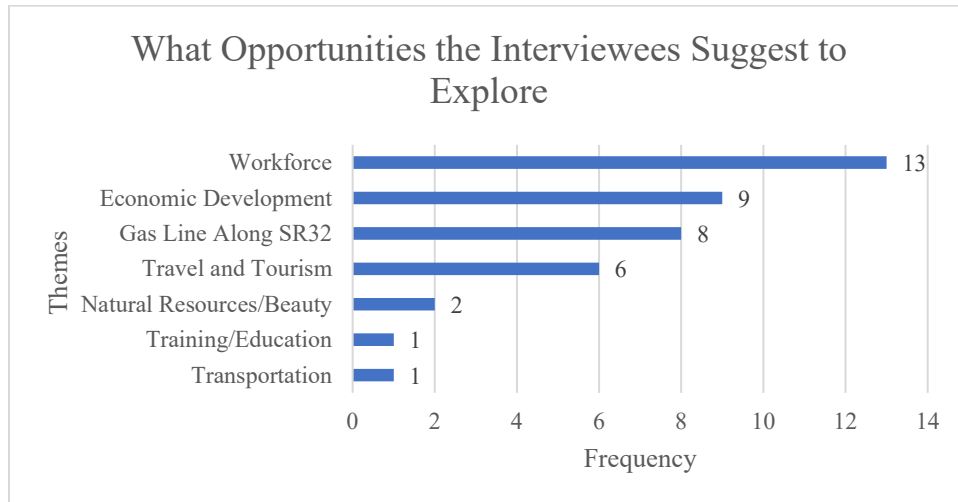
**Figure 7.1.2: Community Leader and Stakeholder Interviews: What Adams County has to offer?**



Lastly, the interviewees identified the need for exploration into workforce opportunities, economic development, and the inclusion of a gas line along State Route 32 as vital needs for Adams County. In terms of workforce opportunities, the interviewees would like to see investment in training programs, soft skills development, support for small businesses, support for current and potential employers, the need for a new large employer, the need to retrain dislocated workers, an increase in small employers, and the want for a second GE testing site in the region. The interviewees also identified the need to explore opportunities in economic development such as bottom-up development, an increase in small businesses, a regional sewer plant, an industrial park located on State Route 32, an increase in small business grants and loans, and the development of a port on the Ohio River—such as a rehabilitation of the DP&L locations. The need for a natural gas line is vital because for the county to develop manufacturing centers and industrial parks and then attract companies to these developments,

natural gas needs to be a possibility. So, the introduction of the gas line will assist the county in building infrastructure, which will then attract essential companies. Figure 7.1.3 shows the frequency with which each theme was mentioned during the interviews.

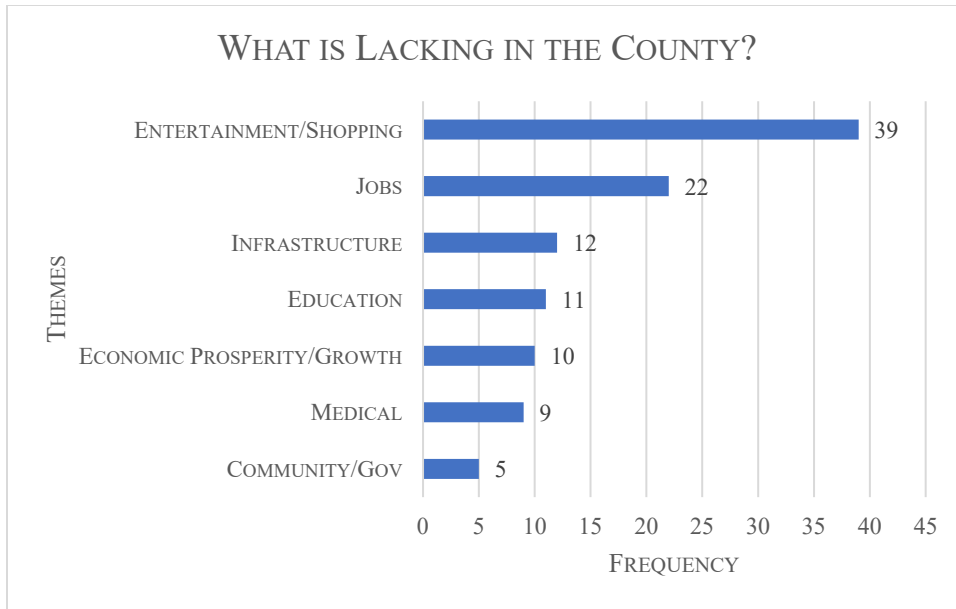
**Figure 7.1.3: Community Leader and Stakeholder Interviews: What opportunities should be explored?**



**Adams County Youth:**

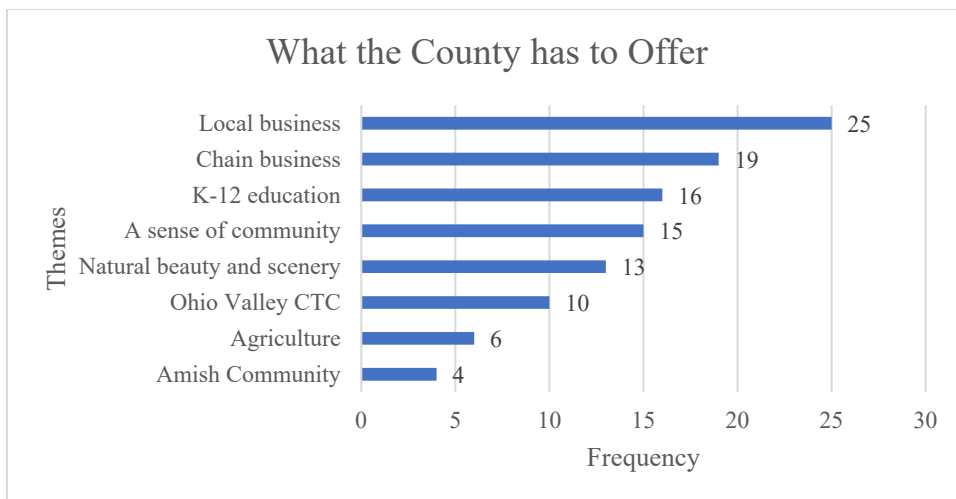
The high school students that the research team interviewed identified a multitude of underpinning problems, county offerings, and existing opportunities for Adams County. The students primarily identified the lack of sufficient entertainment and shopping opportunities, the lack of employment options, and the lack of adequate infrastructure as serious problems facing the economic stability of Adams County. In terms of infrastructure, the students identified the deteriorated state of the roadways in the county, the lack of access to broadband internet services, the lack of access to public transportation, and the lack of sufficient cellular reception as problems with infrastructure present in Adams County. Students expressed the desire for investment in the entertainment industry, as well. This investment includes attracting restaurants to the area, which is hindered by current alcohol laws, which discourage sit-down style restaurants from moving into the region. Likewise, students would like to see movie theaters, YMCAs, bowling alleys, and other entertainment offerings in the county. Furthermore, students expressed an interest in local grocery stores and clothing stores. Figure 7.1.4 shows the frequency with which each theme was mentioned during the interviews.

**Figure 7.1.4: Student Focus Groups: What is lacking in Adams County?**



However, the students also identified the presence of local businesses, chain businesses, and the strength of the relationship of the community as legitimate offerings that Adams County possesses. In times of crisis, the community is fast to react and assist its members, and community members take great pride in supporting a reciprocal relationship with local businesses. Additionally, students recognized their school systems with access to college courses and the certificate programs at the career and technical center as assets. Figure 7.1.5 shows the frequency with which each theme was mentioned during the interviews.

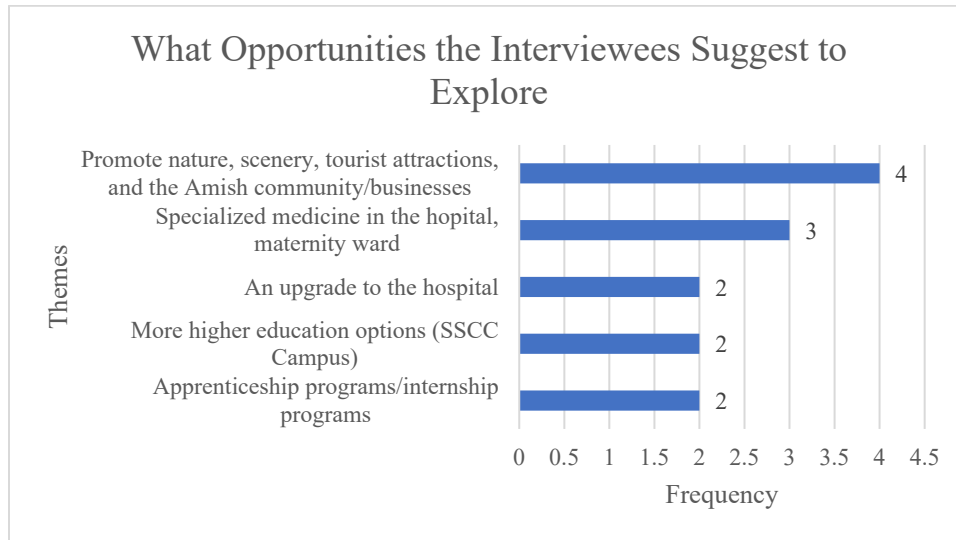
**Figure 7.1.5: Student Focus groups: What Adams County has to offer?**



Lastly, the youth of Adams County believe that local leaders should explore the implementation of a variety of beneficial programming. The introduction of apprenticeship and internship

programs for high school students would allow the youth of the county to explore career options earlier, which would ultimately lead to a variety of desirable outcomes on the labor market of Adams County. High school students in Adams County also expressed the desire to see the inclusion of a Southern State Community College branch campus located in West Union to increase higher education access in the county. Additionally, the students identified upgrades to the Adams County Regional Medical Center, such as a maternity ward and increased offering of medical specialists, and improvements to the tourist attractions and natural beauty of Adams County as viable economic improvement opportunities for the county. Figure 7.1.6 shows the frequency with which each theme was mentioned during the interviews.

**Figure 7.1.6: Student Focus Groups: What opportunities should be explored?**



**Public Meeting:**

In addition to the interviews conducted with the residents of Adams County, our research team held a public meeting on October 29, 2019, with all those that responded to the meeting invitation through direct invitations to community leaders, chamber businesses, local religious institutions, and other stakeholders identified with help from the Adams County Economic and Community Development office, and through local radio advertisements. Over 25 individuals attended the public meeting, all of which originate from diverse backgrounds, signifying a robust public-private partnership for economic development in the county.

Individuals from governmental organizations such as the Adams County Engineer’s Office, the Adams County Board of DD, Manchester Local Schools, the Adams County Commissioner’s Office, the City of Hillsboro, Scott Township, Ohio Means Jobs-Adams and Brown Counties, and the Adams County Regional Water District attended the meeting. Additionally, individuals from nonprofit organizations such as Adams County Economic Development, The People’s Defender, ACRMC Hospital, and Adams Brown Community Action (ABCAP) were in

attendance. Lastly, individuals from the private sector such as Ward Construction, Frontier Fiber, Freestyle Consulting, Levi Hollow Tools LLC, Showboat Majestic/Precinct/KAMT, Ohio Country Properties Real Estate, and retired pharmacists and RNs. These specialized citizens were able to provide personalized and informal input as to the preferred intended direction of Adams County’s development. The meeting itself, provided the leadership and citizens of Adams County with objective information about the area’s economy and to give feedback about the community’s economic development priorities.

Following the formal presentation of the economic scan data (e.g., age, educational attainment, household income, employment by industry, school enrollments, commuter patterns, etc.), the research team asked the members of the meeting three questions: “What opportunities or businesses would you like to see in Adams County?”, “What changes need to occur in Adams County to capitalize on business and job opportunities?”, and “What would you like to maintain or preserve in Adams County?”. The responses to these questions were discussed at the meeting and used to develop a list of potential priorities for Adams County’s economic development efforts. After this list was developed, the team wrote the responses on a series of posters, and then gave each attendee four green and one red sticky dot to place next to each of the categories that they felt should or should not be focused. The team explained that the green dots signified something that the attendee thought should be given priority in Adams County. Likewise, the red dots were explained to mean something that the attendee did not think needed to be a priority for Adams County. The detailed results of this exercise are displayed below in Table 7.2.1.

**Table 7.2.1: What priorities should be focused on in Adams County?**

<b>Subject/Theme</b>	<b>Number of Green</b>	<b>Number of Red</b>
Natural Gas	9	0
Broadband Access	9	0
Development of the Ohio River/A Floodwall	9	0
Access to Healthcare	8	0
Workforce Development/New Adult Trade School	7	0
Tourism/Marketing/Nature Tourism	6	0
Repurposing the DP&L Plants	6	5
Small Businesses/Entrepreneurs	5	0
Ties to Cincinnati MSA	5	1
Support Current Employers	4	0
Apprenticeship/Internship Programs	4	0
Airport	4	0
Attract New Employers	4	0
Agriculture/Soil Preservation	2	0
The Wood Industry	1	2



In general, the interviewees and members of the meeting are hopeful for the future of Adams County and are confident in its current assets. According to the findings of the meeting, the residents of Adams County would like to see the introduction of a natural gas line along State Route 32 to support the establishment of a new industrial park and other new construction. A gas line is vital to the county in that large and small companies prefer to use natural gas as it is a cheap energy alternative. The residents of Adams County would also like to see a substantial investment in the increase of broadband internet and cellular reception access within the county. An increase in access to modern technology will allow county residents and businesses to perform on par with other areas and will make the county more attractive to potential companies. Lastly, members of the meeting identified the desire to develop the Ohio River and to build a floodwall as an essential task to the development of Adams County—in terms of business usage, tourist usage, and recreational usage, which could all positively impact the economy of the county. Per Table 7.2.1 above, the overwhelming majority of themes from the meeting involved the need for improvements to the infrastructure of Adams County and the need to attend to employment needs, tourism needs, and economic development needs.

## 8. Priorities

Utilizing all information gathered from the economic scan, community engagement sessions, and local economic development officials the following are the current priorities in Adams County.

### 8.1 Winchester Industrial Park

The Winchester Industrial Park will provide a commercial infrastructure to aid in economic development potential of over 500 acres along the Appalachian Highway in Winchester and Seaman, Ohio. The development in this area will provide the greatest opportunity to recruit business into a planned 60- acre industrial Park and a 5-mile section along SR 32. Funding opportunities come from a multitude of sources. The Adams County CIC received a 4.2 million grant to for infrastructure to complete the Winchester Industrial Park.

Objective	Resources	Timeline	Budget
<p><b>Land Acquisition</b> Acquired two parcels off Dorsey Road.</p>	<p>Adams County CIC  Adams County Board of Commissioners</p>	<p>Fall 2018 Spring 2019</p>	<p>\$364,085</p>
<p><b>Water</b>  12 in waterline from Seaman to Winchester/Graces Run Road set a master meter and water tower.  Water line from the Industrial site will also connect to the Village of Winchester to provide the Village Water.</p>	<p>Adams County Regional Water District  Adams County CIC  JobsOhio – Granted 4.5 Million dollars to the Winchester Industrial Park</p>	<p>2022</p>	<p>\$4.5 Million</p>
<p><b>Gas Expansion</b>  Will Connect the gas line from Highland County to Seaman then to Winchester.</p>	<p>Adams County CIC-</p>	<p>2022/2023</p>	<p>\$15 Million</p>

<b>Access Road</b> Design, land acquisition, and construction of primary access Dorsey/Edmisten/136 Phase II – Connection from access road to Dorsey Rd	Adams County CIC	2022	\$3 Million
<b>Broadband</b> 6 miles of new line to be installed	Adams County Board of Commissioners  Adams County CIC	2022	\$500,000
<b>Sewer</b> Design Plant in Cherry Fork Design Regional Plant Build a new North Adams Regional Plant Design for local extension (including controls and lifts) Extension along Dorsey Rd from Behm to north boundary site.	Adams County Board of Commissioners  Adams County CIC	2022/2023	\$9.5 Million

**Workforce Development**

<b>Objective</b>	<b>Resources</b>	<b>Timeline</b>	<b>Budget</b>
Adams County Training Center	Adams County Commissioners  GRIT	2022	\$2.9 Million

## BOBCAT Network Partnership

Objective	Resources	Timeline	Budget
BOBCAT Network Partnership	Ohio University Voinovich School	June 2020 to July 2021	
Staff member placed in Adams County office to assist Economic Development Director on Adams County Projects.	Keirsten Hall – Economic Development Program Associate		

### Conclusion

This report represents the effort of faculty and staff to assist Adams County in identifying economic and community development opportunities. The recommendations found in the executive summary are expanded upon in ‘6. Priorities’ provide a framework of both short-term and long-term steps for Adams 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 Adams County’s future.

### References

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Porter, M.E. (1998). Clusters and the new economics of competition. *Harvard Business Review*, 76(6), 77-90.

LAWRENCE AND SCIOTO COUNTIES

1. ECONOMIC DEVELOPMENT SCAN

**Lawrence and Scioto Counties Economic Development Scan**

**Prepared by Center for Economic Development and Community Resilience,  
The Voinovich School of Leadership and Public Service, Ohio University**

**August 2021**

**Prepared by:**

**Clara Bone, Christelle Khalaf, Kate Perani, Jake Evans, Laura Davis, Preston Frick, Kane Murray**

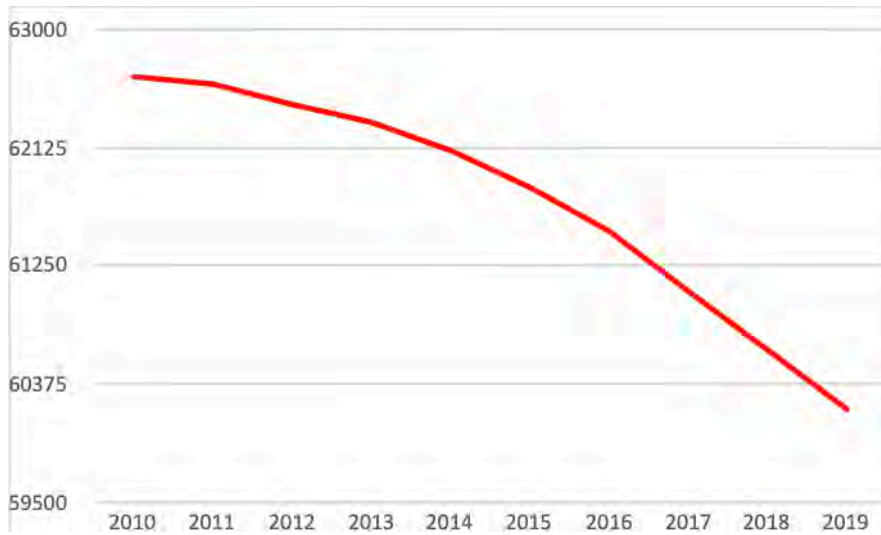
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### Population Growth Trends

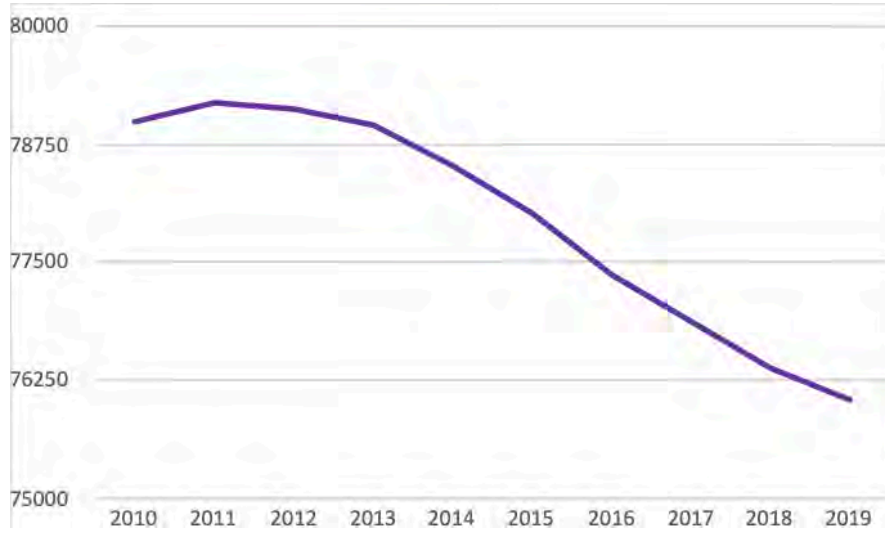
As shown in Figures 1 and 2, the populations of Lawrence and Scioto Counties have decreased from 2010 to 2019. Lawrence County shrank from 62,647 in 2010 to 60,184 in 2019. Scioto County shrank from 78,988 in 2010 to 76,040 in 2019. Figure 3 shows the total percent change in population in Lawrence County, Scioto County, Ohio, and the United States since 2010. From 2010 to 2019, Lawrence County experienced a decrease of -3.93%. Similarly, Scioto experienced a decrease of -3.73%. However, Ohio and the United States experienced an increase of 1.24% and 6.82%, respectively, over the same period. Figure 4 breaks down the total percent change into annual percent change during the 2011-2019 time period. This shows that while Lawrence and Scioto Counties experienced negative growth almost every year, Ohio and the United States experienced positive growth each year.

**Figure 1: Lawrence County Population Growth, 2010-2019**

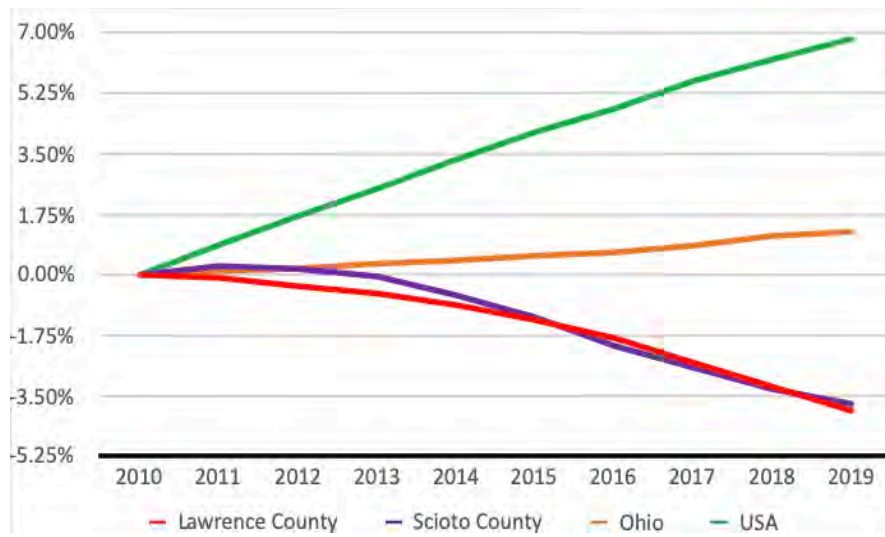




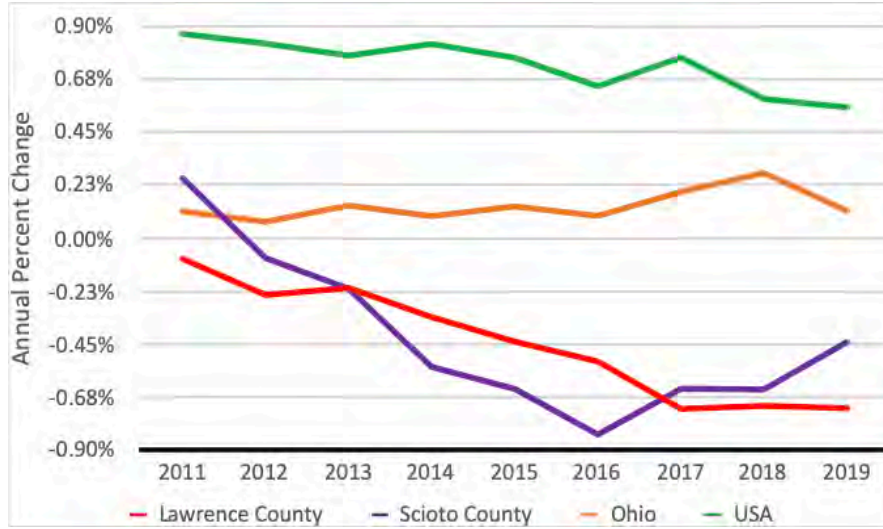
**Figure 2: Scioto County Population Growth, 2010-2019**



**Figure 3: Total Percent Population Change, 2010-2019**



**Figure 4: Annual Population Growth, 2011-2019**



*Migration*

Figures 5 and 6 show the trends in net domestic migration in Lawrence County, Scioto County, and Ohio from 2000 to 2014. Lawrence County, Scioto County, and Ohio all had a negative net migration in 2014. Lawrence County experienced a decrease of 43.66% in net migration from 2000 to 2014. However, Scioto County and Ohio experienced increases of 24.60% and 53.60% in net migration, respectively, over the same time period.

**Figure 5: Net Domestic Migration: Lawrence and Scioto Counties, 2000-2014**

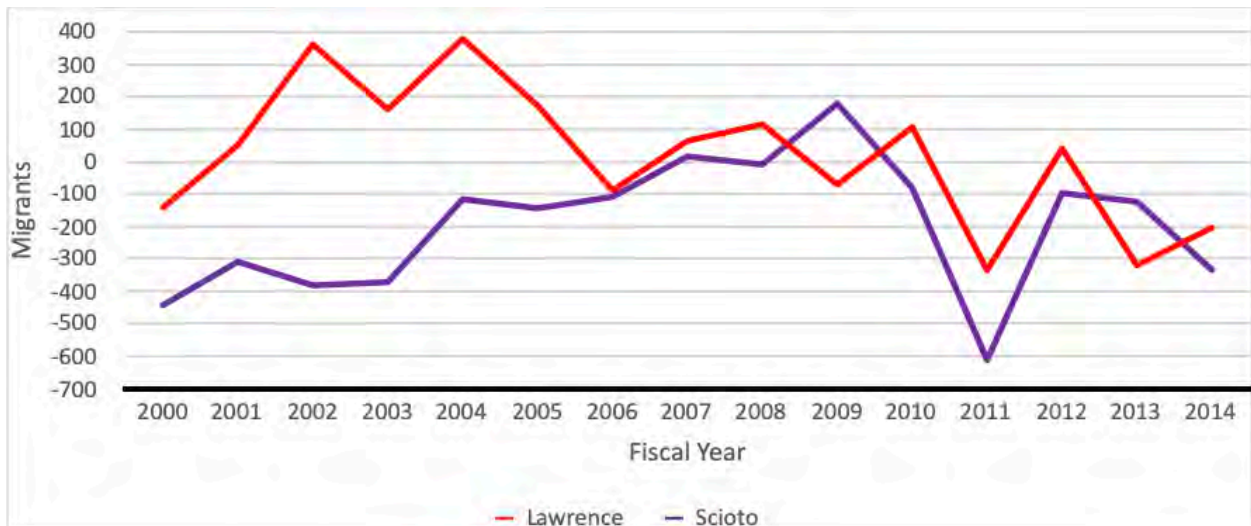
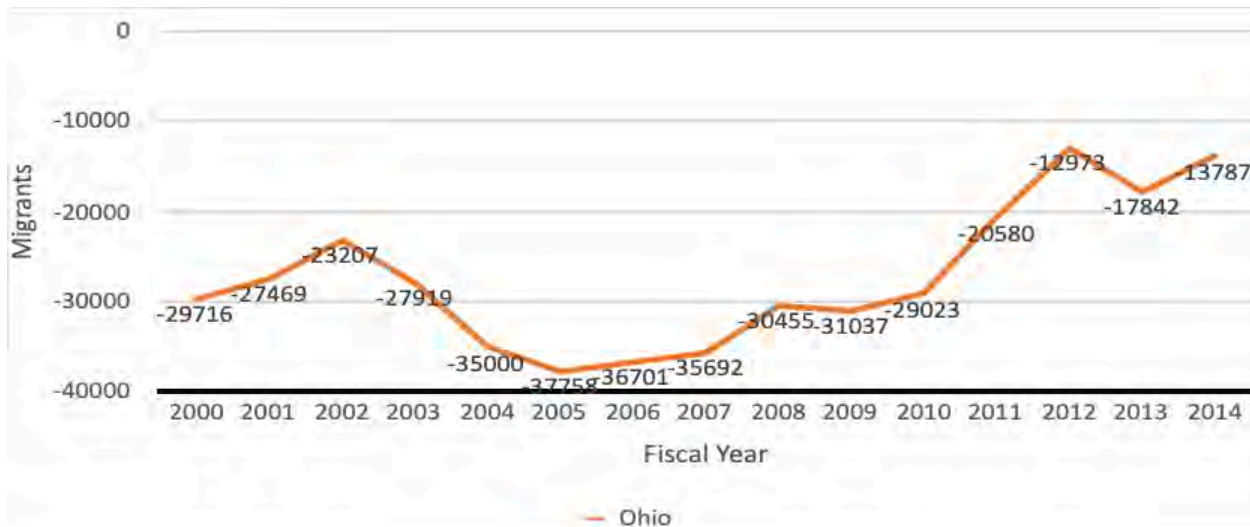


Figure: 6 Net Domestic Migration: Ohio, 2000-2014



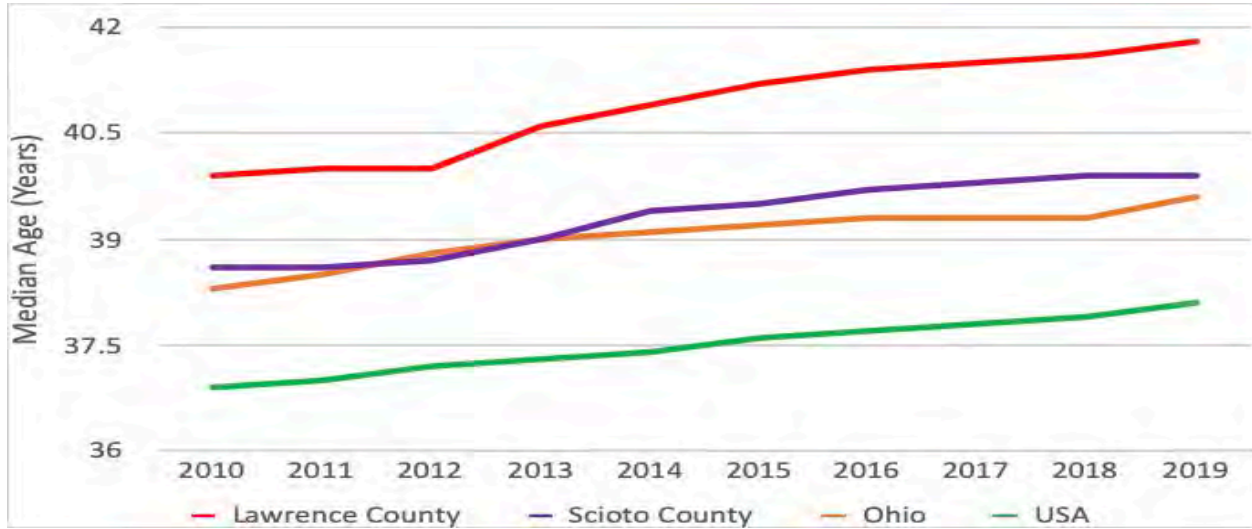
*Age Distribution*

Figure 7 shows the median age in Lawrence County, Scioto County, Ohio, and the United States from 2010 to 2019. The median age in Lawrence County has been consistently higher than in Ohio and the United States. However, although the median age in Scioto County has been consistently higher than the United States, it has fluctuated around the Ohio median age.

Table 1 shows the age distribution in Lawrence County, Scioto County, and Ohio in 2010 and 2019. Lawrence County and Scioto County have a larger proportion of their population aged 65 or older than in Ohio. Specifically, 18.4% of the population of Lawrence County and 17.8% of the population of Scioto County was 65 or older in 2019, compared to 16.7% of Ohio. However, Lawrence and Scioto have a smaller proportion of their population aged under 15 than in Ohio. Specifically, 18.1% of Lawrence County and 17.9% of Scioto County were aged under 15 in 2019, compared to 18.4% of Ohio. Likewise, 12.0% of Lawrence County and 13.0% of Scioto County were aged 25-34 in 2019, compared to 13.1% of Ohio. Additionally, from 2010-2019, Lawrence County and Scioto County experienced an increase in population only in ages 55 and over, while Ohio experienced an increase in ages 25-34 in addition to ages 55 and over. Moreover, the median ages of Lawrence and Scioto Counties were 41.8 and 39.9, respectively, compared to 39.4 in Ohio. Finally, the total working age population (people aged 15-64) of Lawrence County in 2010 was 40,994 and fell to 38,220 in 2019. Likewise, the total working age population in Scioto County in 2010 was 52,090 and fell to 48,907 in 2019. From 2010 to 2019, Lawrence County’s working age population decreased -6.77%, and Scioto County’s working age population decreased -6.11%. During the same period, Ohio only experienced a 1.24% decrease in the working age population. This suggests that not only do Lawrence and Scioto Counties have aging populations, but that they are both losing a key demographic in their workforce as young people move out of the counties.

This is visualized in Figures 8 and 9 which shows the distributions of population in Lawrence and Scioto Counties by age and sex. These population pyramids with wide bases and narrow top sections indicate that both counties have a population with high fertility and death rates. The slight narrowing middle of the pyramid indicates that the adult labor force may be leaving the counties for more attractive job markets and returning after retirement age.

Figure 7: Median Age, 2010-2019



Age Range	2010		2019		Percent
	Number	Percent	Number	Percent	Change
<b>Lawrence County</b>					
Under 15	12,214	19.5	10,888	18.1	-10.86
15-24	7,561	12.1	6,892	11.5	-8.85
25-34	7,533	12.0	7,212	12.0	-4.26
35-44	8,667	13.8	7,323	12.2	-15.51
45-54	9,242	14.8	8,246	13.7	-10.78
55-64	7,991	12.8	8,547	14.2	6.96
65 and over	9,439	15.0	11,076	18.4	17.34
<b>Total Population</b>	<b>62,647</b>		<b>60,184</b>		<b>-3.93</b>
<b>Median Age</b>	<b>39.9</b>		<b>41.8</b>		

<b>Scioto County</b>					
Under 15	14,804	18.8	13,607	17.9	-8.09
15-24	10,892	13.8	9,596	12.6	-11.90
25-34	10,117	12.8	9,900	13.0	-2.14
35-44	10,338	13.1	9,232	12.1	-10.70
45-54	11,188	14.2	9,732	12.8	-13.01
55-64	9,555	12.1	10,447	13.7	9.34
65 and over	12,094	15.4	13,526	17.8	11.84
<b>Total Population</b>	<b>78,988</b>		<b>76,040</b>		<b>-3.73</b>
<b>Median Age</b>	<b>38.6</b>		<b>39.9</b>		
<b>Ohio</b>					
Under 15	2,265,348	19.7	2,147,099	18.4	-5.22
15-24	1,591,089	13.8	1,532,521	13.1	-3.68
25-34	1,414,705	12.4	1,521,875	13.1	7.58
35-44	1,546,960	13.4	1,391,747	11.9	-10.03
45-54	1,745,227	15.2	1,514,333	13.0	-13.23
55-64	1,364,403	11.9	1,606,528	13.8	17.75
65 and over	1,584,699	13.8	1,941,294	16.7	22.50
<b>Total Population</b>	<b>11,512,431</b>		<b>11,655,397</b>		<b>1.24</b>
<b>Median Age</b>	<b>38.3</b>		<b>39.4</b>		
Source: U.S. Census Bureau, American Community Survey, Demographic and Housing Estimates, 2010-2019					

Figure 8: Lawrence County Population Pyramid, 2019

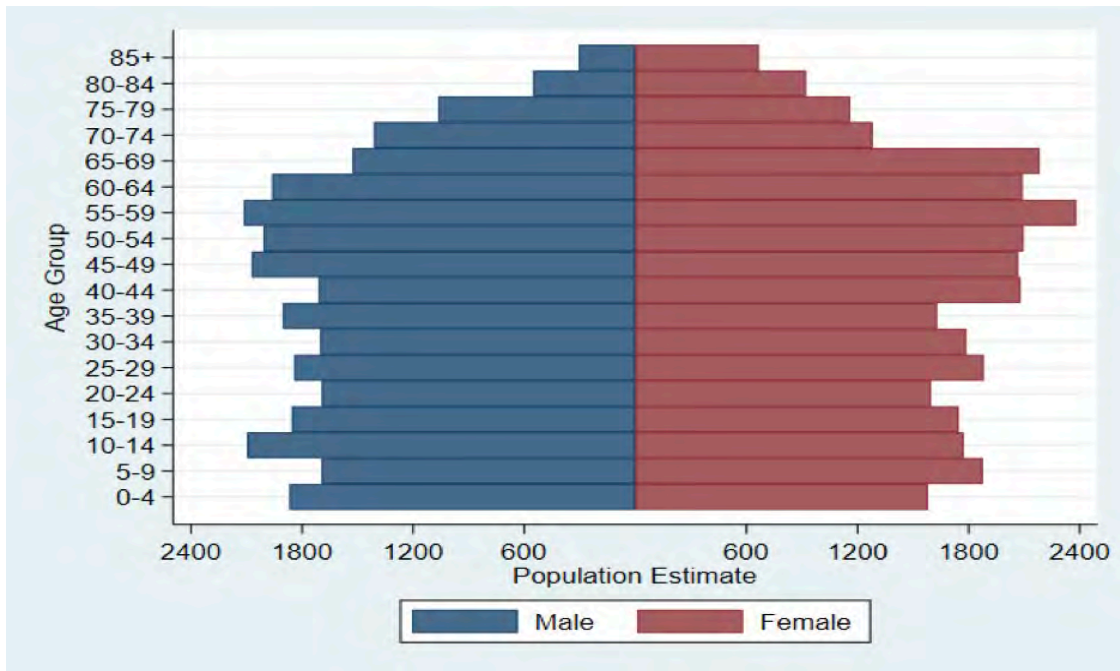
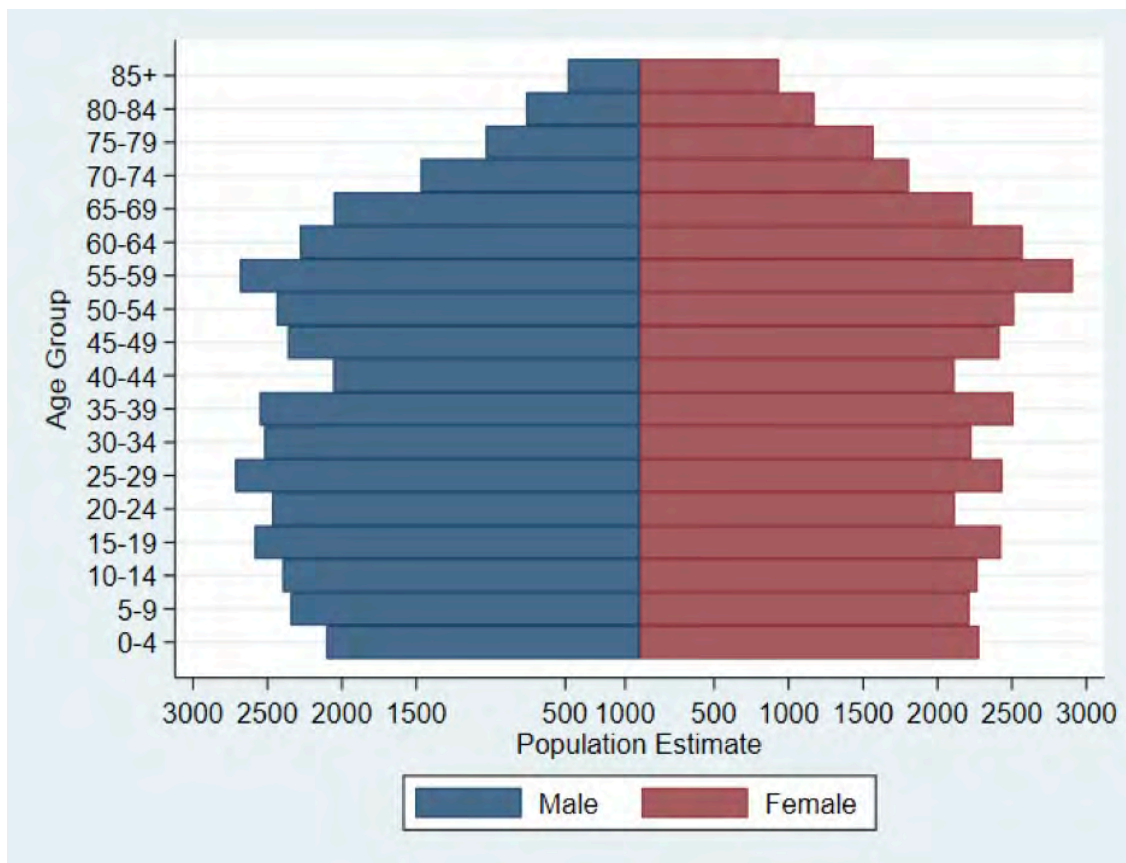


Figure 9: Scioto County Population Pyramid, 2019



### *Educational Attainment*

Table 2 shows estimations of the educational attainment of residents in Lawrence County, Scioto County, and Ohio in 2010 and 2019. In 2019, roughly 43% of the populations of Lawrence and Scioto Counties reported having some amount of college education, compared to roughly 57% of Ohio and 61% of the United States. This shows that Lawrence and Scioto Counties trail in comparison to the state and nationwide estimates. Additionally, 12.7% of the population of Lawrence County and 15.4% of Scioto County do not have a high school diploma, while only 9.6% of the population of Ohio did not have a high school diploma. From 2010 to 2019, the proportion of the population in Lawrence County that reported having at least some college education increased from roughly 39% to 43%. Likewise, the proportion of population of Scioto County having at least some college education increased from roughly 41% to 43%. Furthermore, the proportion of the population of Lawrence County that did not have a high school diploma decreased from 17.9% to 12.7%. The proportion of population of Scioto County decreased from 19.6% to 15.4%. This shows that both the rate of residents attaining at least some higher education and of residents graduating from high school has increased in both counties.

<b>Table 2: Educational Attainment: Lawrence and Scioto Counties, and Ohio, 2010 and 2019</b>					
	<b>2010</b>		<b>2019</b>		<b>Percent</b>
<b>Age Range</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Change</b>
<b>Lawrence County</b>					
Some high school or less	8,553	17.9	5,944	12.7	-30.50
High school diploma	20,502	42.9	20,689	44.1	0.91
Some college, no degree	10,046	21.0	9716	20.7	-3.28
Associate's degree	2,915	6.1	4135	8.8	41.85
Bachelor's degree	3,607	7.6	4285	9.1	18.80
Graduate or professional degree	2,101	4.4	2193	4.7	4.38
<b>Population 25 years and over</b>	<b>47,767</b>		<b>46,962</b>		<b>-1.69</b>

<b>Scioto County</b>					
Some high school or less	11,932	19.6	9,150	15.4	-23.32
High school diploma	23,945	39.3	24,431	41.1	2.03
Some college, no degree	14,244	23.4	13,293	22.4	-6.68
Associate's degree	3,837	6.3	4,028	6.8	4.98
Bachelor's degree	4,263	7.0	4,891	8.2	14.73
Graduate or professional degree	2,665	4.4	3,657	6.2	37.22
<b>Population 25 years and over</b>	<b>60,885</b>		<b>59,450</b>		<b>-2.36</b>
<b>Ohio</b>					
Some high school or less	964,655	12.6	767,378	9.6	-20.45
High school diploma	2,740,846	35.8	2,634,997	33.	-3.86
Some college, no degree	1,538,855	20.1	1,626,965	20.4	5.73
Associate's degree	558,888	7.3	691,111	8.7	23.66
Bachelor's degree	1,171,367	15.3	1,401,609	17.6	19.66
Graduate or professional degree	673,727	8.8	853,717	10.7	26.72
<b>Population 25 years and over</b>	<b>7,655,994</b>		<b>7,975,777</b>		<b>4.18</b>
Source: U.S. Census Bureau, American Community Survey, Educational Attainment, 2010-2019					



*School Enrollment Trends*

Figure 10 visualizes the number of students enrolled in the seven school districts in Lawrence County from 2011 to 2017. As shown by the figure, Ironton City SD, Chesapeake Union SD, and South Point Local SD remained relatively stable in enrollment, comparing 2011 to 2017. However, Dawson-Bryant Local SD, Rock Hill Local SD, and Symmes Valley SD experienced loss in enrollment from 2011 to 2017. On the other hand, Fairland Local SD experienced growth in enrollment from 2011 to 2017.

Likewise, Figure 11 visualizes the number of students enrolled in the ten school districts in Scioto County from 2011 to 2017. New Boston Local SD, Green Local SD, and Wheelersburg Local SD remained relatively stable in enrollment, comparing 2011 to 2017. However, Portsmouth City SD, Bloom-Vernon SD, Clay Local SD, Northwest Local SD, and Valley Local SD all experienced loss in enrollment from 2011 to 2017. On the other hand, Minford Local SD and Washington-Nile Local SD experienced growth in enrollment from 2011 to 2017.

Figure 12 visualizes the overall change in enrollment for Lawrence and Scioto Counties from 2011 to 2017. During this period, enrollment in Lawrence County schools fell from 11,339 students to 9,147, an overall loss of 19.33%. Likewise, enrollment in Scioto County schools fell from 12,016 students to 11,112, an overall loss of 7.52% in enrollment. Figure 12 serves to show how Lawrence and Scioto Counties compare to the state-level trend. This figure shows the change in enrollment in all school districts in Ohio from 1990 to 2017. This shows that enrollment has been consistently decreasing in Ohio since 2005. In 2011, 1,774,538 students were enrolled in Ohio. This fell to 1,724,858 students in 2017, an overall decrease of 2.80% in enrollment. This demonstrates that although the state is decreasing in enrollment overall, Lawrence and Scioto Counties have been more heavily affected.

**Figure 10: Lawrence County School Enrollment, each district, 2011-2017**

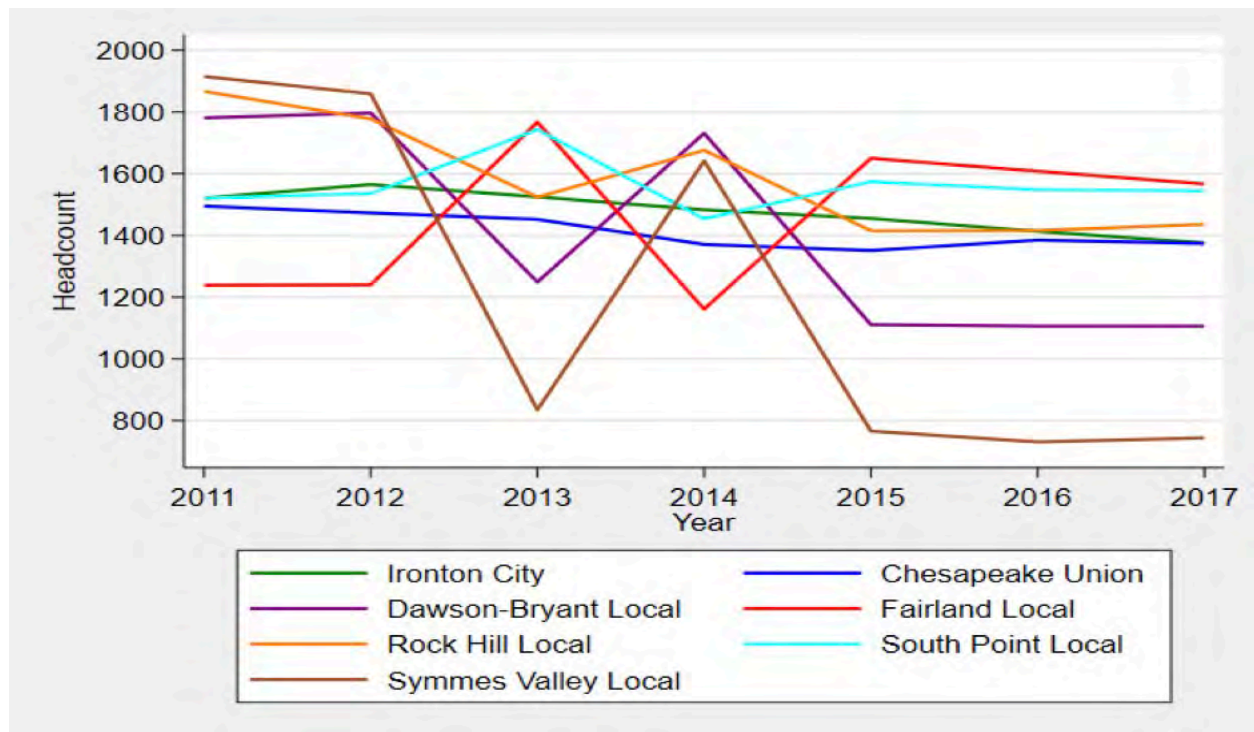


Figure 11: Scioto County School Enrollment, each district, 2011-2017

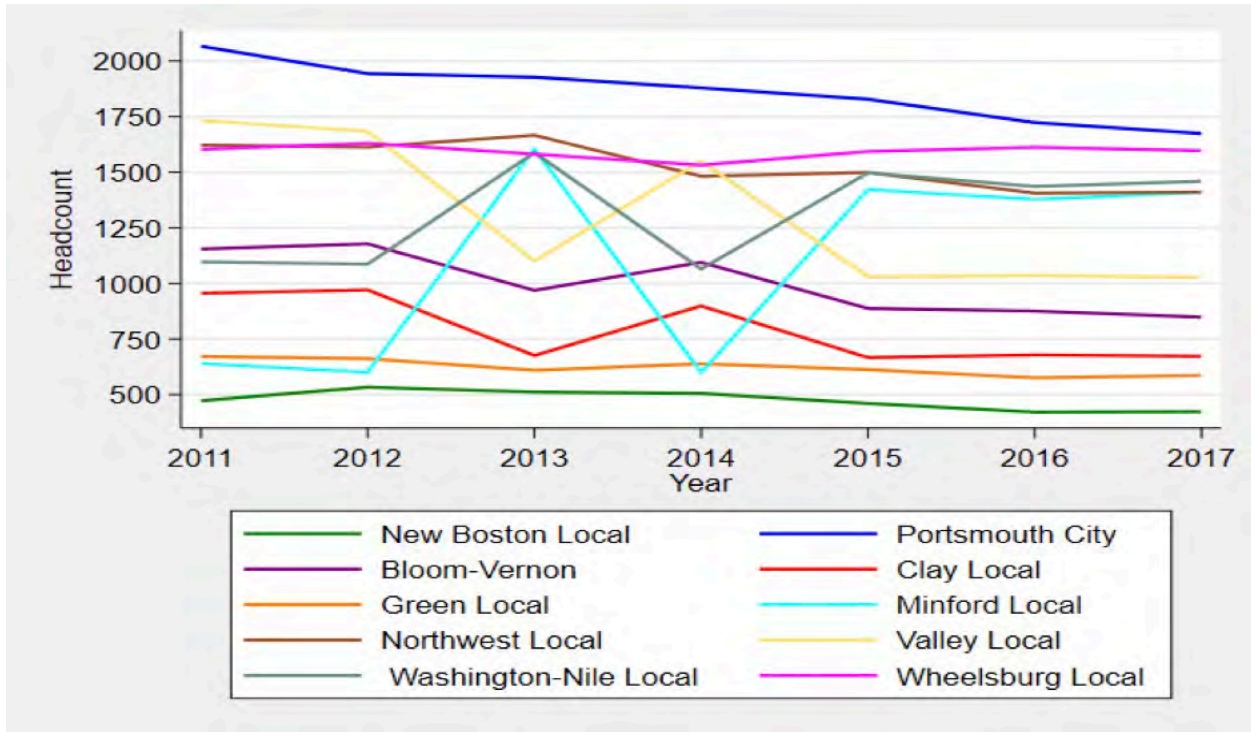
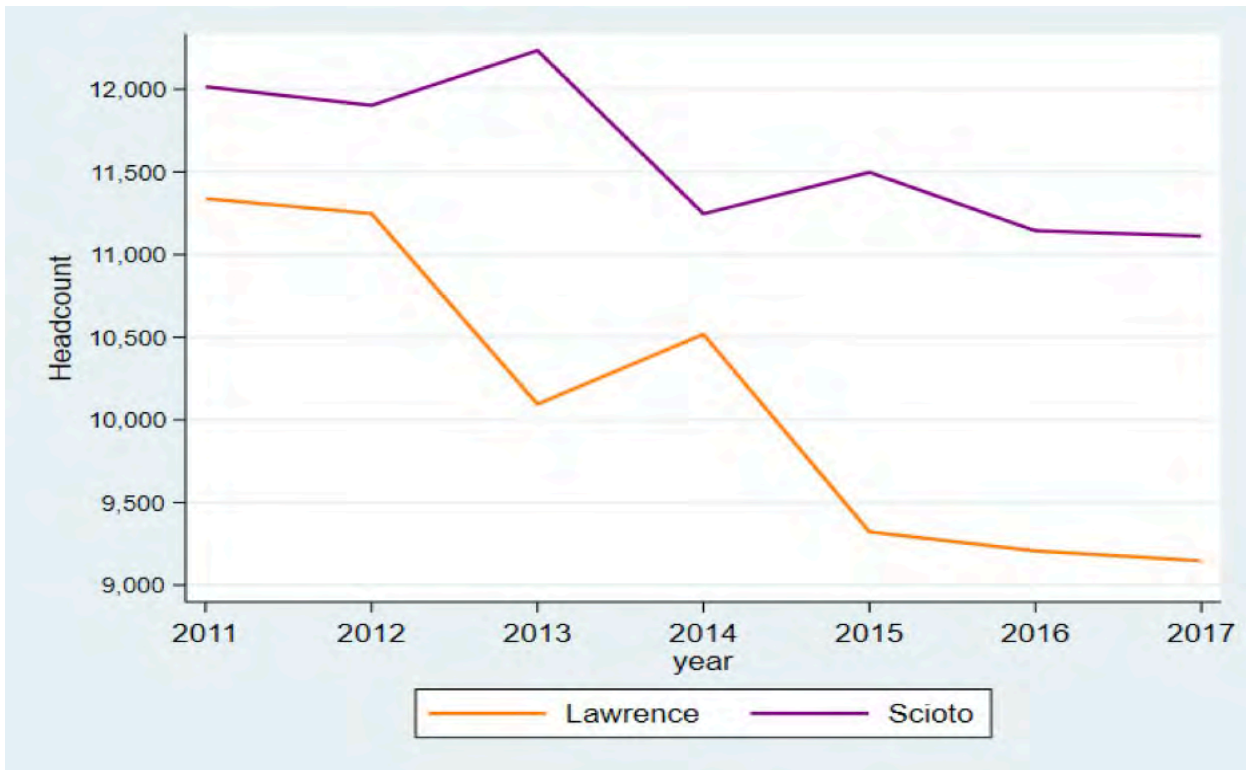


Figure 12: School Enrollment, Lawrence and Scioto Counties, 2011-2017



### Quality of Schools

The Ohio Department of Education grades each school district in the state according to how well they meet certain criteria such as Achievement, Progress, Graduation Rate, Gap Closing, Improving At-risk K-3 Readers, and if students are Prepared for Success. Figures 13 and 14 depict the Overall Quality of each school in Lawrence and Scioto Counties, respectively. In Lawrence County, about 28.5% of schools were rated “A” or “B”, 43% rated “C”, and the remaining 28.5% rated “D”. In Scioto County, about 23% of schools were rated “B”, 30% rated “C” and 43% rated “D” or “F”. Scioto County does not have any “A” rated schools. Comparatively in Ohio, about 38% of schools were rated “A” or “B”, 32% rated “C”, and 30% rated “D” or “F”. This demonstrates that the quality of schools in the region is lacking county wide, although there are some standout schools in each county.

Figure 13: Quality of Schools in Lawrence County

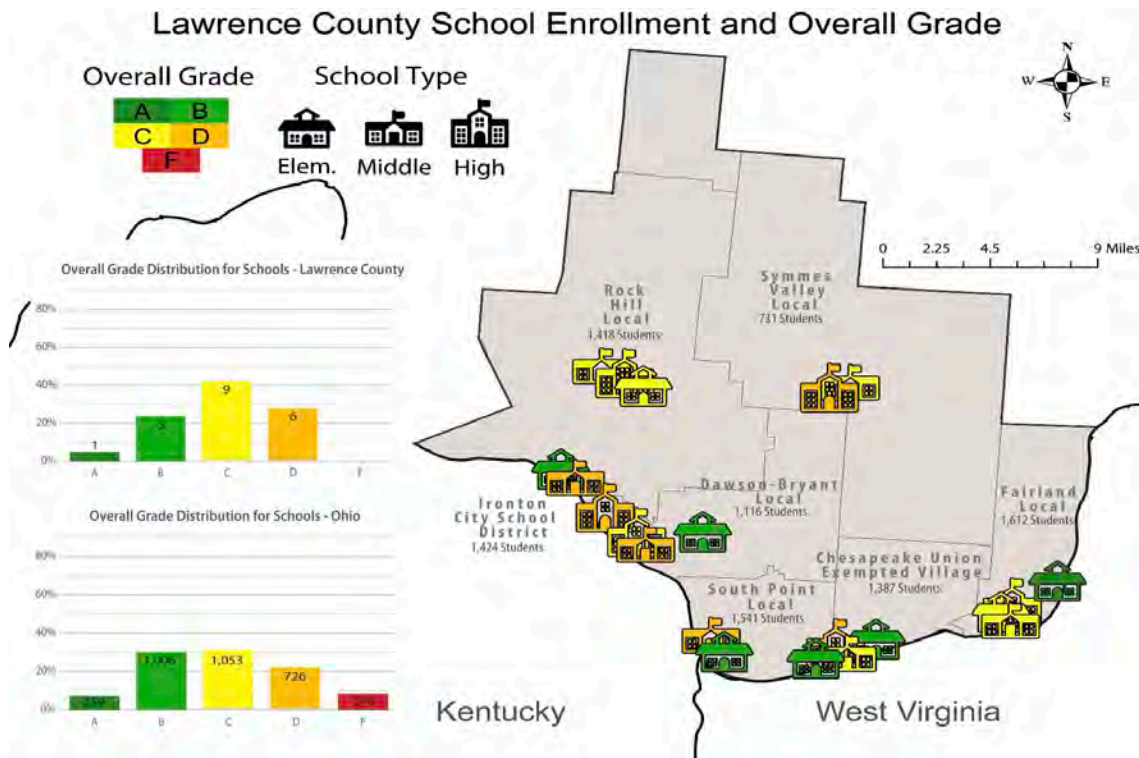
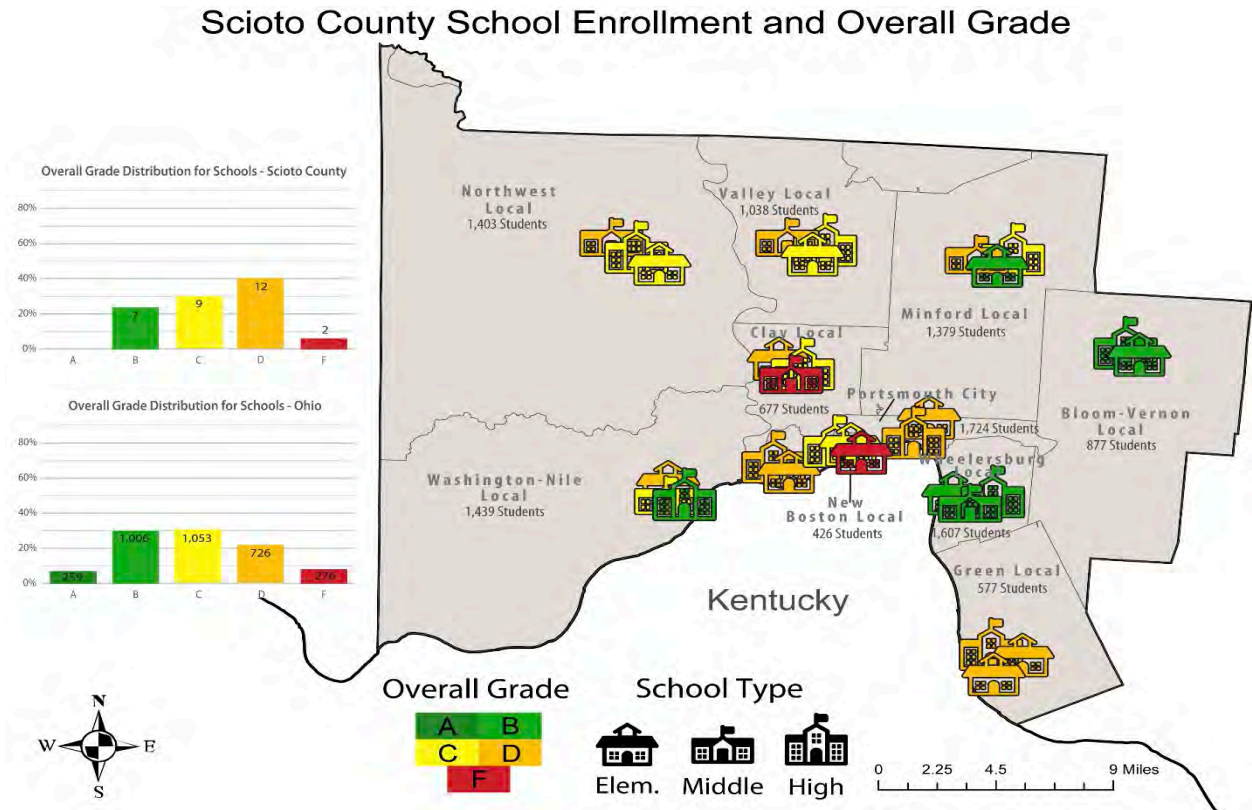


Figure 15: Quality of Schools in Scioto County



#### Household Income Distribution

Table 3 describes the number and annual income distributions of households in Lawrence County, Scioto County, and Ohio for the years of 2010 and 2019. 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 2019, the largest percentage of Lawrence County, Scioto County, and Ohio households fell into the \$50,000-\$74,999 income range. Furthermore, 26.9% of Lawrence County households and 33.7% of Scioto County households earned less than \$25,000 in 2019, compared to 21.3% for Ohio. While Lawrence and Scioto Counties' median income remained significantly lower than Ohio's from 2011 to 2019, Lawrence County's median income increased by 23.74% and Scioto County's median income increased by 25.96%. Over the same time period, Ohio's median income increased only 16.33%.

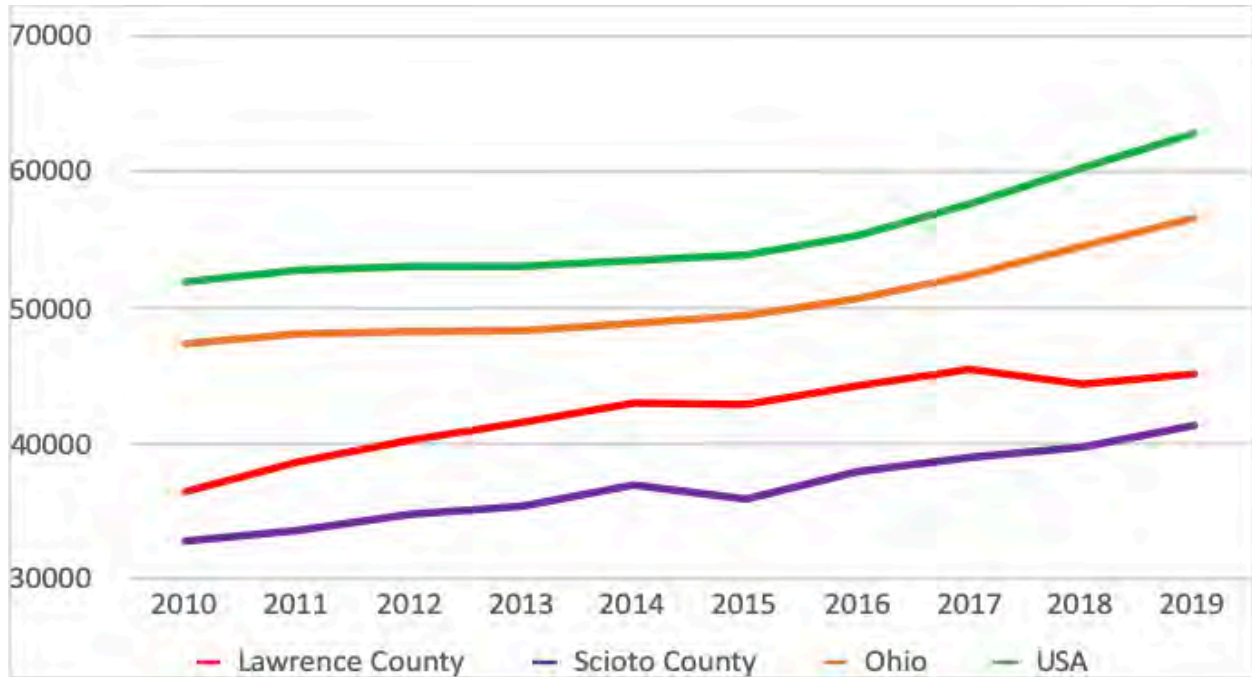
Figure 15 shows the changes in median household income for Lawrence County, Scioto County, Ohio, and the United States from 2011 to 2019. Although Lawrence and Scioto Counties' median household incomes remained below the state and national estimates, both counties experienced increases in real median income from 2011 to 2019. Lawrence County's real median income increased roughly \$8,600 and Scioto County's real median income increased roughly \$8,500, while Ohio and the United States increased \$9,244 and \$10,929, respectively. Additionally, it should be noted that Lawrence and Scioto Counties each experienced one year of negative growth in median income in 2015. Lawrence had a second year of negative growth in 2018.

<b>Table 3: Household Income Distribution: Lawrence and Scioto Counties, and Ohio, 2010 and 2019</b>					
	<b>2010</b>		<b>2019</b>		<b>Percent</b>
<b>Age Range</b>	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>	<b>Change</b>
<b>Lawrence County</b>					
Less than \$10,000	2,340	9.5	2,206	9.5	-5.73
\$10,000 to \$14,999	2,020	8.2	1,277	5.5	-36.78
\$15,000 to \$24,999	3,966	16.1	2,763	11.9	-30.33
\$25,000 to \$34,999	3,448	14.0	3,088	13.3	-10.44
\$35,000 to \$49,999	4,064	16.5	3,181	13.7	-21.73
\$50,000 to \$74,999	4,409	17.9	4,528	19.5	2.70
\$75,000 to \$99,999	2,315	9.4	3,019	13.0	30.41
\$100,000 to \$149,999	1,527	6.2	2,276	9.8	49.05
\$150,000 to \$199,999	271	1.1	511	2.2	88.56
\$200,000 or more	271	1.1	395	1.7	45.76
<b>Total Households</b>	<b>24,631</b>		<b>23,221</b>		<b>-5.72</b>
Median income	\$36,461		\$45,118		23.74
Mean income	\$47,540		\$59,958		26.12

<b>Scioto County</b>					
Less than \$10,000	3,891	12.9	3,702	12.4	-4.86
\$10,000 to \$14,999	2,986	9.9	2,239	7.5	-25.02
\$15,000 to \$24,999	5,127	17.0	4,120	13.8	-19.66
\$25,000 to \$34,999	3,559	11.8	2,986	10.0	-16.10
\$35,000 to \$49,999	4,313	14.3	4,091	13.7	-5.15
\$50,000 to \$74,999	4,796	15.9	4,479	15.0	-6.61
\$75,000 to \$99,999	2,715	9.0	3,434	11.5	26.48
\$100,000 to \$149,999	2,232	7.4	3,165	10.6	41.80
\$150,000 to \$199,999	392	1.3	866	2.9	120.92
\$200,000 or more	151	0.5	806	2.7	433.77
<b>Total Households</b>	<b>30,162</b>		<b>29,858</b>		<b>-1.01</b>
Median income	\$31,812		\$41,330		25.96
Mean income	\$45,016		\$58,968		30.99

<b>Ohio</b>					
Less than \$10,000	372,468	8.2	317,992	6.8	-14.63
\$10,000 to \$14,999	268,211	5.9	215,112	4.6	-19.80
\$15,000 to \$24,999	534,177	11.7	462,959	9.9	-13.33
\$25,000 to \$34,999	520,543	11.4	458,283	9.8	-11.96
\$35,000 to \$49,999	691,867	15.2	626,632	13.4	-9.43
\$50,000 to \$74,999	874,828	19.2	855,774	18.3	-2.18
\$75,000 to \$99,999	546,220	12	607,927	13.0	11.30
\$100,000 to \$149,999	481,959	10.6	659,366	14.1	36.81
\$150,000 to \$199,999	144,656	3.2	247,847	5.3	71.34
\$200,000 or more	117,341	2.6	229,142	4.9	95.28
<b>Total Households</b>	<b>4,552,270</b>		<b>4,676,358</b>		<b>2.73</b>
Median income	\$47,358		\$56,602		19.52
Mean income	\$62,205		\$76,958		23.72
Source: U.S. Census Bureau, American Community Survey, Income in the Past 12 Months Estimates, 2010-2019					

Figure 15: Median Household Income, 2011-2019



*Year Housing Structure Built*

Table 4 shows the distribution of when housing structures were built in Lawrence County, Scioto County, and Ohio. It shows that the most housing units in Lawrence County were built from 1970 to 1979 and from 1990 to 1999. In fact, 28.6% of housing units were built in Lawrence County from 1960 to 1979 and an additional 24.8% were built from 1980 to 1999. In comparison, in Ohio, 26.3% of housing units were built from 1960 to 1979 and 20.9% were built from 1980 to 1999. Additionally, only 13.9% of housing units in Lawrence County were built in 1939 or earlier, compared to 20.1% of Ohio housing units. Furthermore, Lawrence County has seen a bit more construction in recent years with 15.3% of housing units being built between 2000 and 2019, compared to 12.5% in Ohio. This shows that like the rest of Ohio, there is less construction of new housing units in Lawrence County compared to previous decades. However, unlike Ohio, there is a smaller amount of much older housing units in Lawrence County.

The table also shows that most housing units in Scioto County were built before 1940 with 22.2% of housing units having been built in 1939 or earlier. Likewise, the majority of housing units in Ohio were built before 1940, with 20.1% of housing units having been built in 1939 or earlier. Similarly, 68.4% of housing units in Scioto County were built between 1940 and 1999, compared to 67.4% of housing units in Ohio. Additionally, only 9.4% of housing units in Scioto County were built between 2000 and 2019, compared to 12.5% in Ohio. This shows that Scioto County has fewer new housing units being constructed and a larger share of much older housing units than in Ohio.



<b>Table 4: Year Structure Built: Lawrence County, Scioto County, and Ohio, 2019</b>						
	Lawrence County		Scioto County		Ohio	
YEAR BUILT	Number	Percent	Number	Percent	Number	Percent
Built 1939 or earlier	3,837	13.9	7,664	22.2	1,045,218	20.1
Built 1940 to 1949	1,582	5.7	2,621	7.6	318,690	6.1
Built 1950 to 1959	3,207	11.6	4,486	13.0	732,150	14.1
Built 1960 to 1969	3,104	11.3	3,748	10.8	627,554	12.1
Built 1970 to 1979	4,767	17.3	5,347	15.5	741,862	14.3
Built 1980 to 1989	2,544	9.2	3,416	9.9	468,478	9.0
Built 1990 to 1999	4,294	15.6	4,021	11.6	616,264	11.8
Built 2000 to 2009	2,706	9.8	2,321	6.7	496,019	9.5
Built 2010 to 2013	988	3.6	632	1.8	82036	1.6
Built 2014 or later	514	1.9	307	0.9	74,033	1.4
<b>Total Housing Units</b>	<b>27,543</b>		<b>34,563</b>		<b>5,202,304</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

### *Housing Property Values*

Table 5 displays the current property value distribution of housing structures in Lawrence County, Scioto County, and Ohio. This data shows that the property values in Lawrence and Scioto Counties are much lower than the state median. In 2019, there were 16,775 recorded homes in Lawrence County with a median value of \$106,500, which is \$39,200 lower than in Ohio and \$134,000 less than in the United States. This is further supported by the fact that 46.5% of Lawrence County homes were valued at less than \$100,000, compared to 30.1% in Ohio.

Likewise, in 2019, there were 20,188 recorded homes in Scioto County with a median values of \$97,800, which is \$47,900 lower than in Ohio and \$142,700 less than in the United States. This is further supported by the fact that 51.0% of homes in Scioto County were valued at less than \$100,000, compared to 30.1% of Ohio.

Figures 16 and 17 visualize the distribution of housing property values in Lawrence County and Scioto County. The most common housing property range for both counties was \$50,000 to \$99,999, comprising 30.6% of houses in Lawrence County and 31.1% of houses in Scioto County. Likewise, the least common range in both counties was greater than \$300,000, comprising 5.0% of houses in Lawrence County and 6.8% of houses in Scioto County.

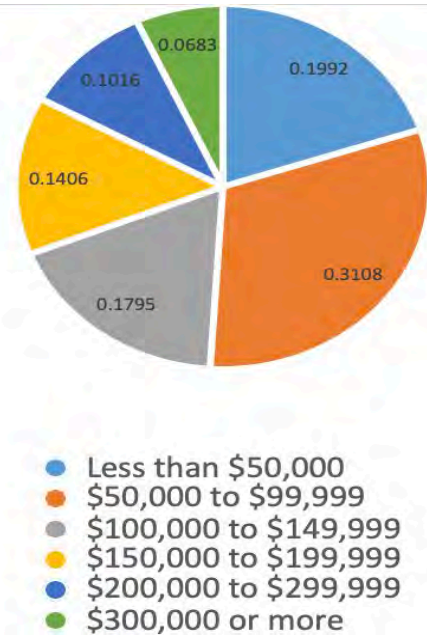
Table 5: Property Values: Lawrence County, Scioto County, and Ohio 2019						
	Lawrence County		Scioto County		Ohio	
VALUE	Number	Percent	Number	Percent	Number	Percent
Less than \$50,000	2,677	16.0	4,021	19.9	263,511	8.5
\$50,000 to \$99,999	5,128	30.6	6,274	31.1	667,512	21.6
\$100,000 to \$149,999	3,679	21.9	3,624	18.0	667,864	21.6
\$150,000 to \$199,999	2,673	15.9	2,839	14.1	544,500	17.6
\$200,000 to \$299,999	1,779	10.6	2,051	10.2	538,100	17.4
\$300,000 to \$499,999	654	3.9	1,023	5.1	302,961	9.8
\$500,000 to \$999,999	154	0.9	283	1.4	87,988	2.8
\$1,00,000 or more	31	0.2	73	0.4	16,610	0.5
<b>Median (dollars)</b>	<b>\$106,500</b>		<b>\$97,800</b>		<b>\$145,700</b>	

Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019

Figure 16: Housing Property Value Distribution, Lawrence County, 2019



Figure 17: Housing Property Value Distribution, Scioto County, 2019



*Rent Distribution*

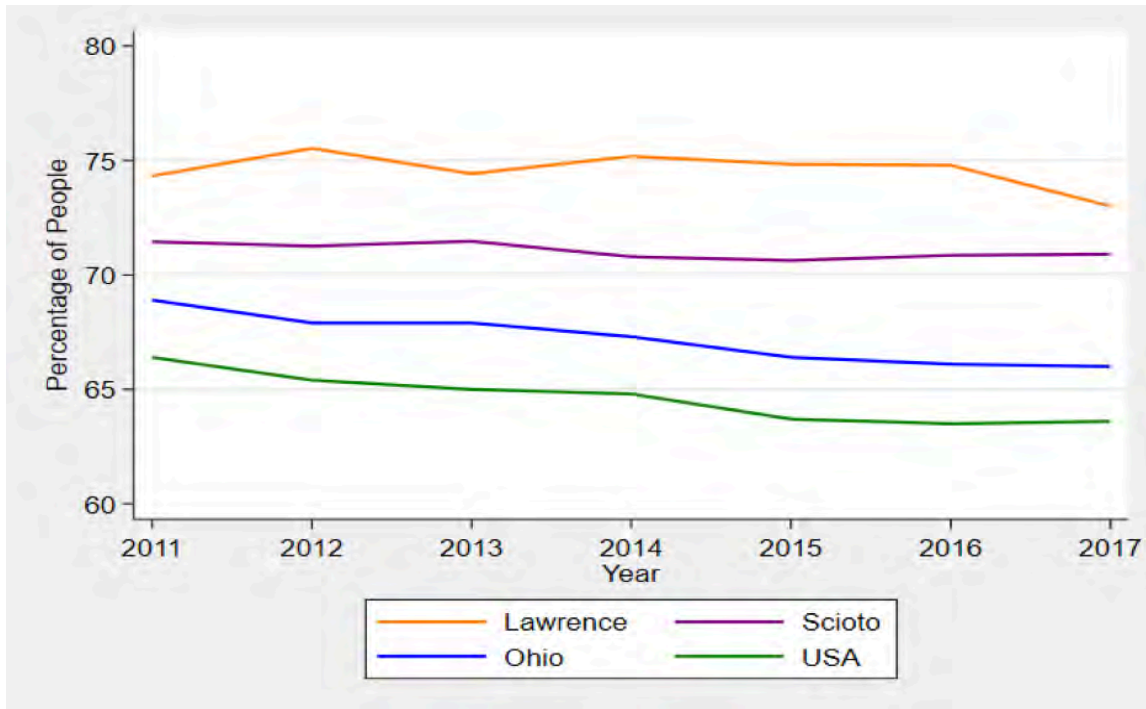
Table 6 presents the rent payment distribution of Lawrence County, Scioto County, and Ohio in 2019. The highest rent range in Lawrence County is \$1,500 to \$1,999, which only accounts for 0.7% of the units. This shows that Lawrence County lacks higher end rental units. Similarly, only 1.06% of rental units in Scioto County fall into the \$1,500 to \$1,999 range and 1.1% of rental units have rent of \$2,000 or more. This shows that while a few higher end rental do exist in Scioto County, the amount is limited.

<b>Table 6: Units Paying Rent: Lawrence County, Scioto County, and Ohio 2019</b>						
	Lawrence County		Scioto County		Ohio	
GROSS RENT	Number	Percent	Number	Percent	Number	Percent
Less than \$500	1,053	19.3	2599	29.6	203,826	13.5
\$500 to \$999	3,586	65.6	5,276	60.1	878,410	58.3
\$1,000 to \$1,499	787	14.4	715	8.1	336,129	22.3
\$1,500 to \$1,999	38	0.7	85	1.0	62,194	4.1
\$2,000 to \$2,499	0	0.0	71	0.8	15,765	1.0
\$2,500 to \$2,999	0	0.0	9	0.1	4,612	0.3
\$3,000 or more	0	0.0	19	0.2	6,168	0.4
<b>Total Units</b>	<b>5,464</b>		<b>8,774</b>		<b>1,507,104</b>	
<b>Median (dollars)</b>	<b>\$733</b>		<b>626</b>		<b>\$808</b>	
<b>No rent paid</b>	<b>982</b>		<b>896</b>		<b>80,208</b>	
Source: U.S. Census Bureau, American Community Survey, Selected Household Characteristics, 2019						

### *Homeownership*

Figure 18 shows the homeownership trends for Lawrence County, Scioto County, Ohio, and the United States from 2011 to 2019. Homeownership rates in Lawrence County and Scioto County have been consistently higher than homeownership rates in Ohio and the United States. The homeownership rate for Lawrence County dropped roughly 1.32 percentage points from 74.32% in 2011 to 73.00% in 2019, and the homeownership rate for Scioto County dropped roughly 0.54 percentage points from 71.44% in 2011 to 70.90% in 2019. The homeownership rates in Ohio and the United States dropped 2.9 and 2.8 percentage points, respectively. This shows that although homeownership rates are declining in Lawrence and Scioto Counties, the rates are decreasing slower than in Ohio and the United States.

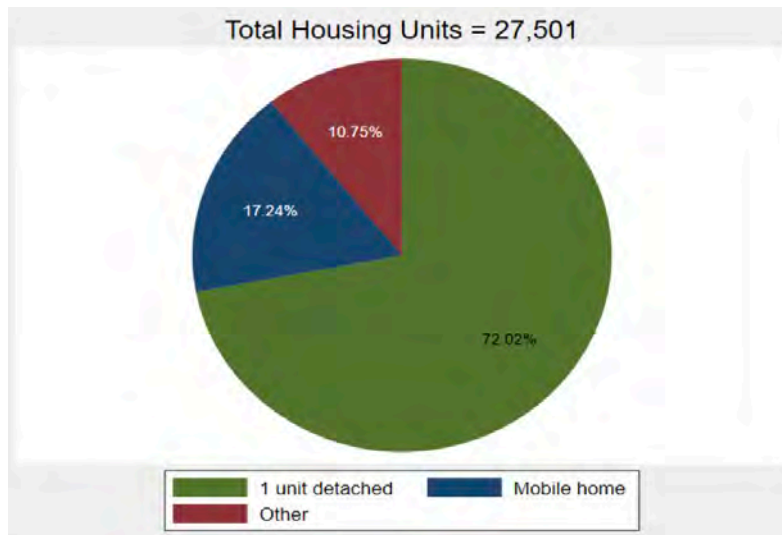
**Figure 18: Homeownership Rate, 2011-2017**



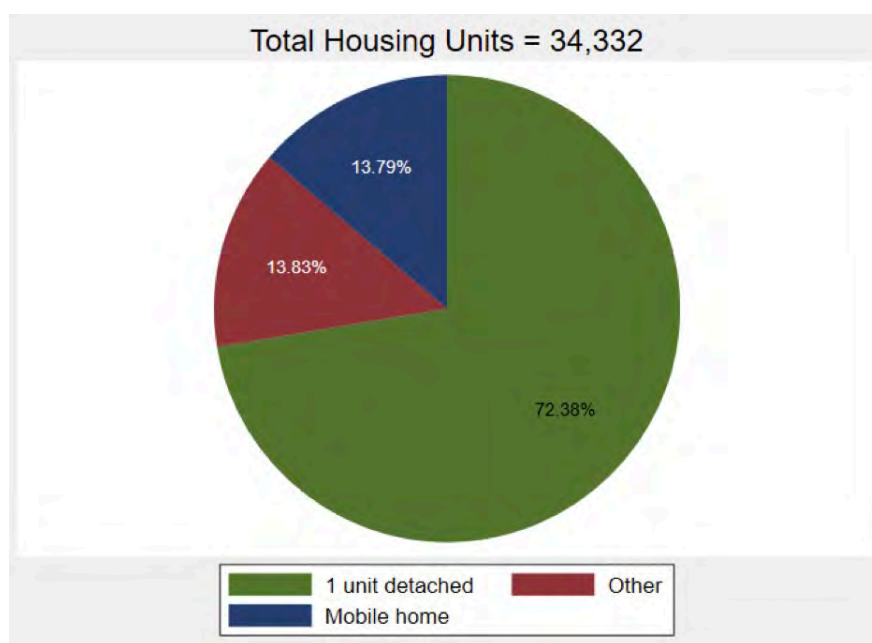
*Housing Unit Structure*

Figures 19 and 20 show the distribution of type of housing units in Lawrence County and Scioto County. In 2019, the most common housing unit structure in both counties was a one unit detached house, or single-family home, and accounted for roughly 72% of each housing units in each county. Additionally, 17.24% of Lawrence County and 13.79% of Scioto County residents live in mobile homes. This is much higher than the national average of mobile home occupancy, which was 5.6% in 2019.

**Figure 19: Housing Unit Structure Distribution, Lawrence County, 2019**



**Figure 20: Housing Unit Structure Distribution, Scioto County, 2019**



### *Health Outcomes*

Figure 21 depicts the percentages of diagnosed diabetes and obesity prevalence in Lawrence County, Scioto County, and Ohio in 2016. Lawrence County and Scioto County have a higher proportion of adults diagnosed with diabetes at 16.3% and 14.2%, respectively, compared to 9.7% in Ohio. Likewise, Lawrence County and Scioto County have a higher obesity prevalence at 39% and 36%, respectively, compared to 31.5% in Ohio.

Figure 22 presents heart disease and stroke hospitalization and death rates from 2014 to 2016 in Lawrence County, Scioto County, and Ohio. Per 1,000 beneficiaries, about 181 were hospitalized for heart disease and 23 were hospitalized for stroke in Lawrence County. Similarly, about 221 were hospitalized for heart disease and 31 were hospitalized for stroke in Scioto County. Comparatively, about 151 were hospitalized for heart disease and 25 were hospitalized for stroke in Ohio. Additionally, in Lawrence County, 395 people died from heart disease and 97 people died from strokes per 100,000 people. In Scioto County, 548 people died from heart disease and 76 people died from strokes per 100,000 people. Comparatively, in Ohio, 363 people died from heart disease and 78 people died from stroke per 100,000.

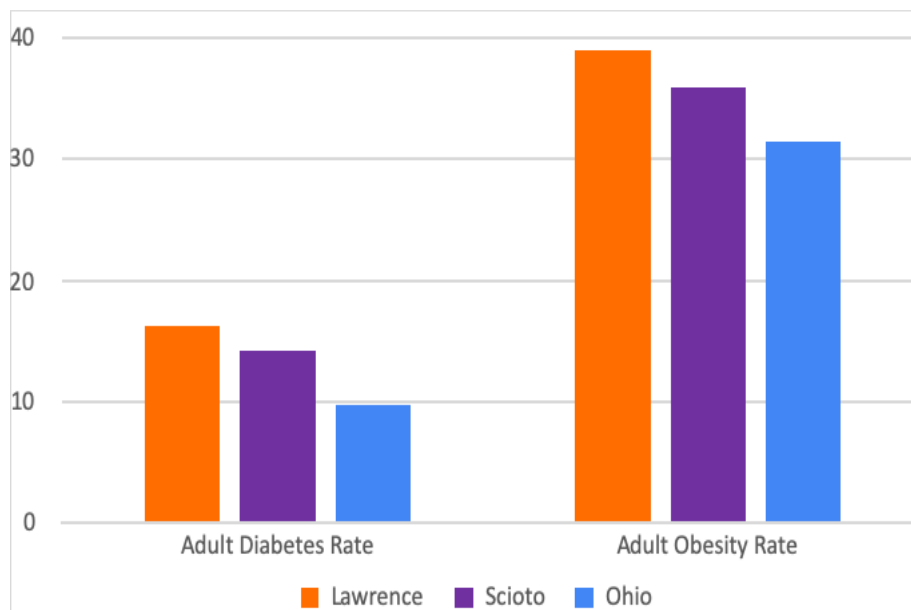
Figure 23 shows the rate of the four most common cancers in Lawrence County, Scioto County, and Ohio in 2016. The most common cancer in Ohio is prostate cancer, followed by breast cancer, lung and bronchus cancers, and colon and rectum cancers. The most common cancer in Lawrence County is prostate cancer, followed by lung and bronchus cancers, breast cancer, and colon and rectum cancers. The most common cancer in Scioto County is lung and bronchus cancers, followed by prostate cancer, breast cancer, and colon and rectum cancers. The rates of breast cancer in Lawrence and Scioto Counties are higher, but comparable to the rate in Ohio. The rates of lung and bronchus cancers in Lawrence and Scioto Counties are much higher than the rate in Ohio. In contrast, the rates of prostate cancer in Lawrence and Scioto Counties are lower than in Ohio. Additionally, the rate of colon and rectum cancers in Lawrence County is much higher than the rate in Ohio, but in Scioto County, the rate of colon and rectum cancer is lower than the rate in Ohio.

Figure 24 shows the leading causes of death in Lawrence County, Scioto County, and Ohio. Heart disease and malignant neoplasms (cancerous tumors) are the leading causes of death in Lawrence County, Scioto County, and Ohio. The death rate for heart disease is lower for Lawrence County than the rate in Ohio. However, the death rate for heart disease is much higher for Scioto County than the rate in Ohio. The death rates for malignant neoplasms and cerebrovascular disease are lower in Lawrence and Scioto Counties than the rate in Ohio. Additionally, the death rates for chronic lower respiratory diseases and accidents are higher in Lawrence and Scioto Counties than the rates in Ohio.

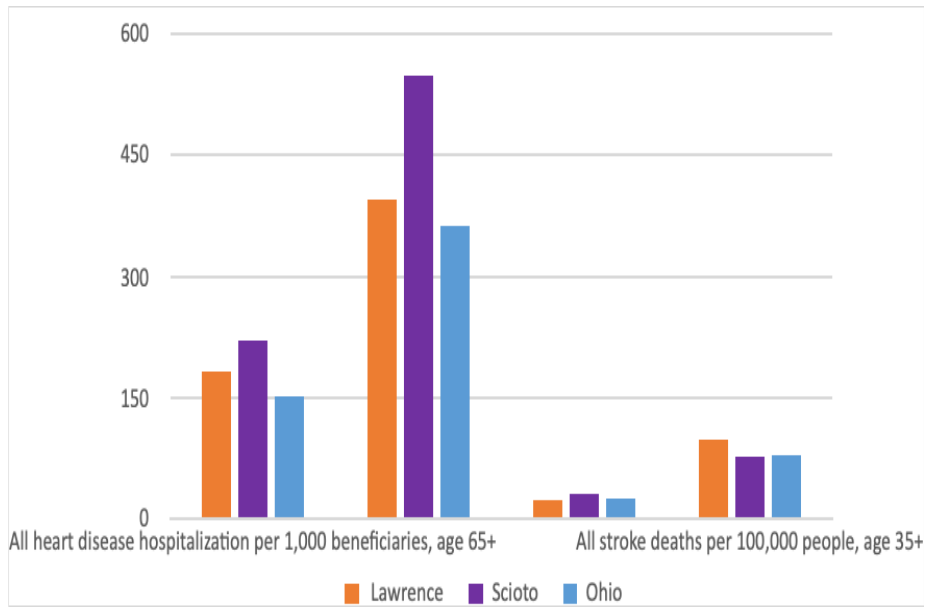
Figure 25 shows the unintentional drug overdose rate per 100,000 people in Lawrence County, Scioto County, and Ohio from 2007 to 2019. In 2019, the death rates in Lawrence County and Scioto County were 53.23 and 67.20 per 100,000 people, respectively, compared to 41.61 in Ohio. While the Scioto County death rate has been consistently higher than the Ohio death rate, they have followed a similar increasing trend during this time period. On the other hand, the death rate in Lawrence County has fluctuated around the Ohio death rate.

Table 7 compares the results of certain measures used to rank health statistics for the United States, Ohio, Lawrence County, and Scioto County in 2018. The table lists the rankings of health outcomes as well as health factors including health behaviors, clinical care, social and economic factors, and physical environments.

**Figure 21: Diabetes and Obesity Percentages, 2016**



**Figure 22: Heart Disease and Stroke Hospitalization and Death Rates, 2014-2016 estimate**



**Figure 23: Cancer Rate, Lawrence County, Scioto County, and Ohio, 2016**

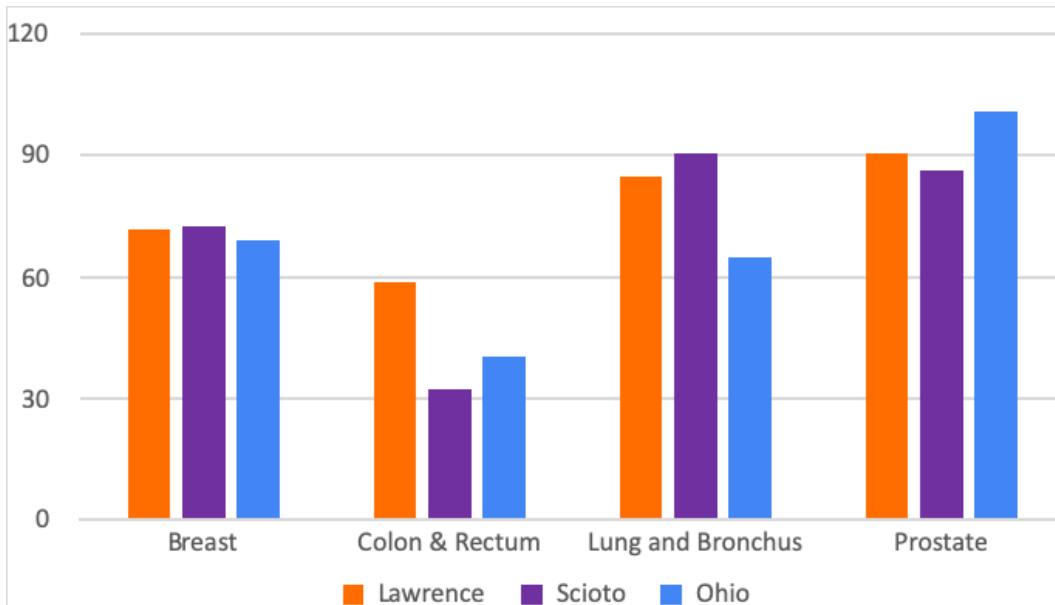




Figure 24: Leading Cause of Death: Lawrence County, Scioto County, and Ohio, 2007-2019

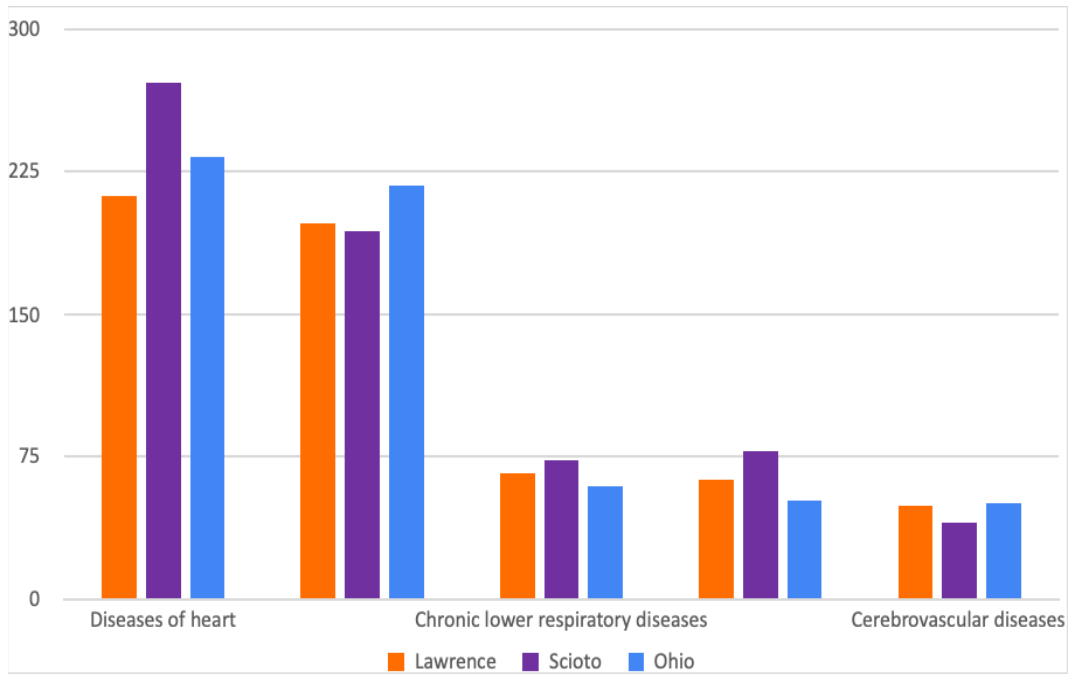


Figure 25: Unintentional Drug Overdose Death Rate, Lawrence County, Scioto County, and Ohio, 2007-2017

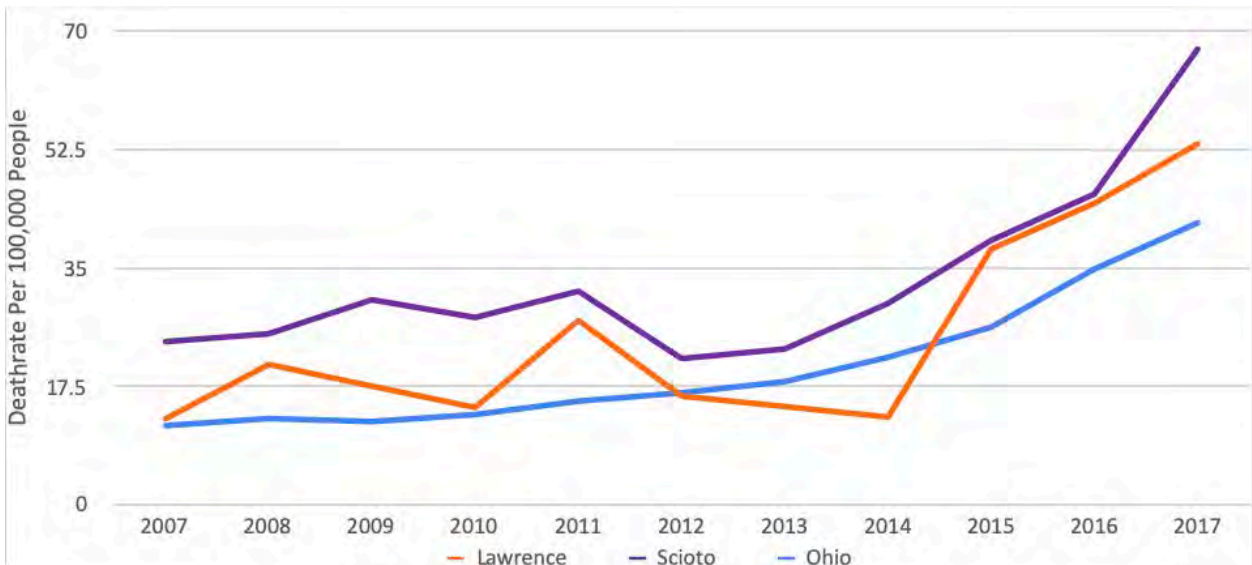


Table 7: Health Rankings with Measures and Results: United States, Ohio, Lawrence County, and Scioto County, 2018

Measure	Description	US	OH	OH Minimum	OH Maximum	Lawrence County	Scioto County
<b>HEALTH OUTCOMES</b>							
Premature Death	Years of potential life lost before age 75 per 100,000 population	6,700	7,700	3,800	11,700	10,400	10,000
Poor or fair health	% of adults reporting fair or poor health	16%	17%	10%	23%	19%	22%
Poor physical health days	Average # of physically unhealthy days reported in past 30 days	3.7	4.0	3.0	4.7	4.1	4.5
Poor mental health days	Average # of mentally unhealthy days reported in past 30 days	3.8	4.3	3.3	4.7	4.5	4.5
Low birthweight	% of live births with low birthweight (< 2500 grams)	8%	9%	5%	11%	9%	8%

Measure	Description	US	OH	OH Minimum	OH Maximum	Lawrence County	Scioto County
<b>HEALTH FACTORS</b>							
<b>HEALTH BEHAVIORS</b>							
Adult Smoking	% of adults who are current smokers	17%	23%	14%	25%	23%	22%
Adult obesity	% of adults that report a BMI $\geq$ 30	28%	32%	27%	40%	38%	40%
Food environment index	Index of actors that contribute to a healthy food environment, (0-10)	7.7	6.6	5.7	8.9	7.6	6.8
Physical inactivity	% of adults aged 20 and over reporting no leisure-time physical activity	23%	26%	19%	36%	36%	34%
Access to exercise opportunities	% of population with adequate access to locations for physical activity	83%	85%	16%	97%	53%	71%
Excessive drinking	% of adults reporting binge or heavy drinking	18%	19%	16%	21%	16%	16%
Alcohol-impaired driving deaths	% of driving deaths with alcohol involvement	29%	34%	16%	60%	30%	22%
Sexually transmitted infections	# of newly diagnosed chlamydia cases per 100,000 population	478.8	489.3	84.3	847.2	233.7	186.4
Teen births	# of births per 1,000 female population ages 15-19	27	28	8	53	44	41

Measure	Description	US	OH	OH Minimum	OH Maximum	Lawrence County	Scioto County
<b>CLINICAL CARE</b>							
Uninsured	% of population under age 65 without health insurance	11%	8%	4%	22%	8%	8%
Primary care physicians	Ratio of population to primary care physicians	1,320:1	1,310:1	14,780:1	750:1	2,180:1	1,670:1
Dentists	Ratio of population to dentists	1,480:1	1,660:1	15,310:1	980:1	2,900:1	2,720:1
Mental health providers	Ratio of population to mental health providers	470:1	560:1	10,980:1	340:1	1,220:1	870:1
Preventable hospital stays	# of hospital stays for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	49	57	33	120	82	90
Diabetes monitoring	% of diabetic Medicare enrollees ages 65-75 that receive HbA1c monitoring	85%	85%	74%	93%	83%	83%
Mammography screening	% of female Medicare enrollees ages 67-69 that receive mammography screening	63%	61%	48%	69%	57%	59%

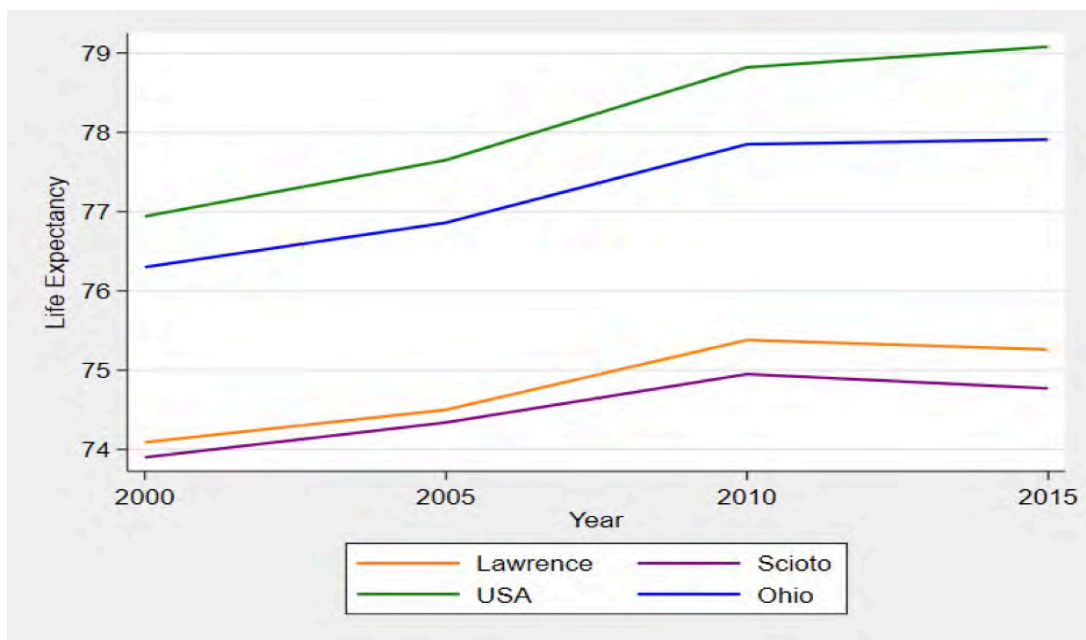
Measure	Description	US	OH	OH Minimum	OH Maximum	Lawrence County	Scioto County
<b>SOCIAL AND ECONOMIC FACTORS</b>							
High school graduation	% of ninth-grade cohort that graduates in four years	83%	81%	33%	98%	95%	89%
Some college	% of adults ages 25-44 with some post-secondary education	65%	65%	19%	83%	54%	48%
Unemployment	% of population aged 16 and older unemployed but seeking work	4.9%	4.9%	3.2%	11.1%	6.4%	7.6%
Children in poverty	% of children under age 18 in poverty	20%	20%	5%	32%	27%	32%
Income inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	5	4.8	3.5	6.9	5.1	5.8
Children in single-parent households	% of children that live in a household headed by a single parent	34%	36%	8%	47%	35%	41%
Social associations	# of membership associations per 10,000 population	9.3	11.3	5.4	22.5	10.5	11.8
Violent crime	# of reported violent crime offenses per 100,000 population	380	290	20	794	155	152
Injury deaths	# of deaths due to injury per 100,000 population	65	75	40	111	85	94

Measure	Description	US	OH	OH Minimum	OH Maximum	Lawrence County	Scioto County
<b>PHYSICAL ENVIRONMENT</b>							
<b>Air pollution - particulate matter</b>	Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5)	8.7	11.3	10.5	13.0	11.0	10.6
<b>Drinking water violations</b>	Indicator of the presence of health related drinking water violations. Yes - indicates the presence of a violation, No - indicates no violation.	NA	NA	No	Yes	No	No
<b>Severe housing problems</b>	% of households with overcrowding, high housing costs, or lack of kitchen or plumbing facilities	19%	15%	8%	24%	13%	15%
<b>Driving alone to work</b>	% of workforce that drives alone to work	76%	83%	53%	89%	87%	89%
<b>Long commute - driving alone</b>	Among workers who commute in their car alone, % commuting > 30 minutes	35%	30%	16%	57%	28%	33%

### Life Expectancy

Figure 26 shows that life expectancy in Lawrence and Scioto Counties has consistently remained below the national and state averages from 2000 to 2015. Specifically, Lawrence County life expectancy was 74.09 years to 75.15 years, about a 1.58% increase. In Scioto County, life expectancy was 73.9 years to 74.77 years, about a 1.18% increase. Ohio life expectancy was 76.3 years in 2000 and increased by 2.11% to 77.91 years in 2015. The average national life expectancy was 76.94 years in 2000 and increased by 2.78% to 79.08 years in 2015. In addition to Lawrence and Scioto Counties experiencing a lower life expectancy than the national average by roughly 3.8 and 4.3 years, respectively, the counties' growth rates have been slower than the national average and even experienced negative growth from 2010 to 2015.

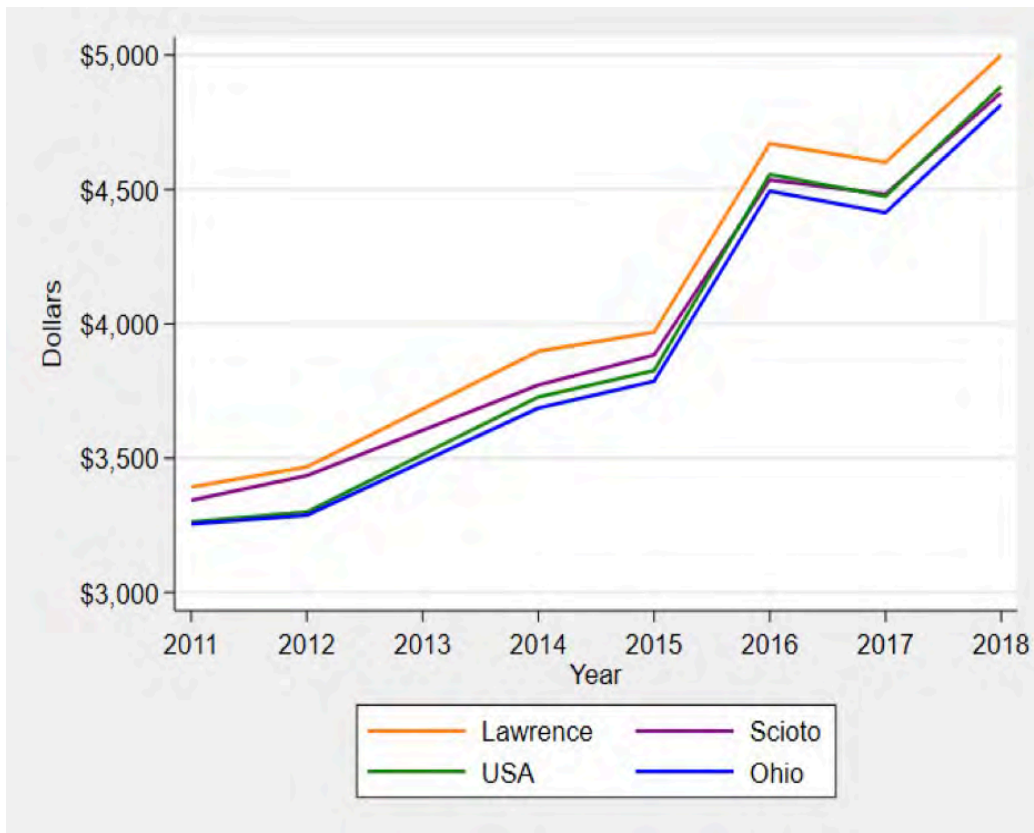
Figure 26: Life Expectancy, 2000-2015



### Healthcare Spending

Figure 27 shows that healthcare spending in Lawrence and Scioto Counties has followed a very similar trend to both Ohio and the United States. In Lawrence County, the median household spending was \$3,392 in 2011 and has grown to \$4,999 in 2018. This spending has been consistently higher than both the state and national medians, which were about \$3,255 and \$3,263 in 2011 and \$4,815 and \$4,884 in 2018, respectively. Additionally, in Scioto County, the median household spending was \$3,343 in 2011 and \$4,860 in 2018. Although healthcare spending in Scioto County was higher than the state and national medians in 2011, healthcare spending in Scioto County was roughly equal to the national median from 2016 to 2018.

Figure 27: Healthcare Spending, 2011-2018

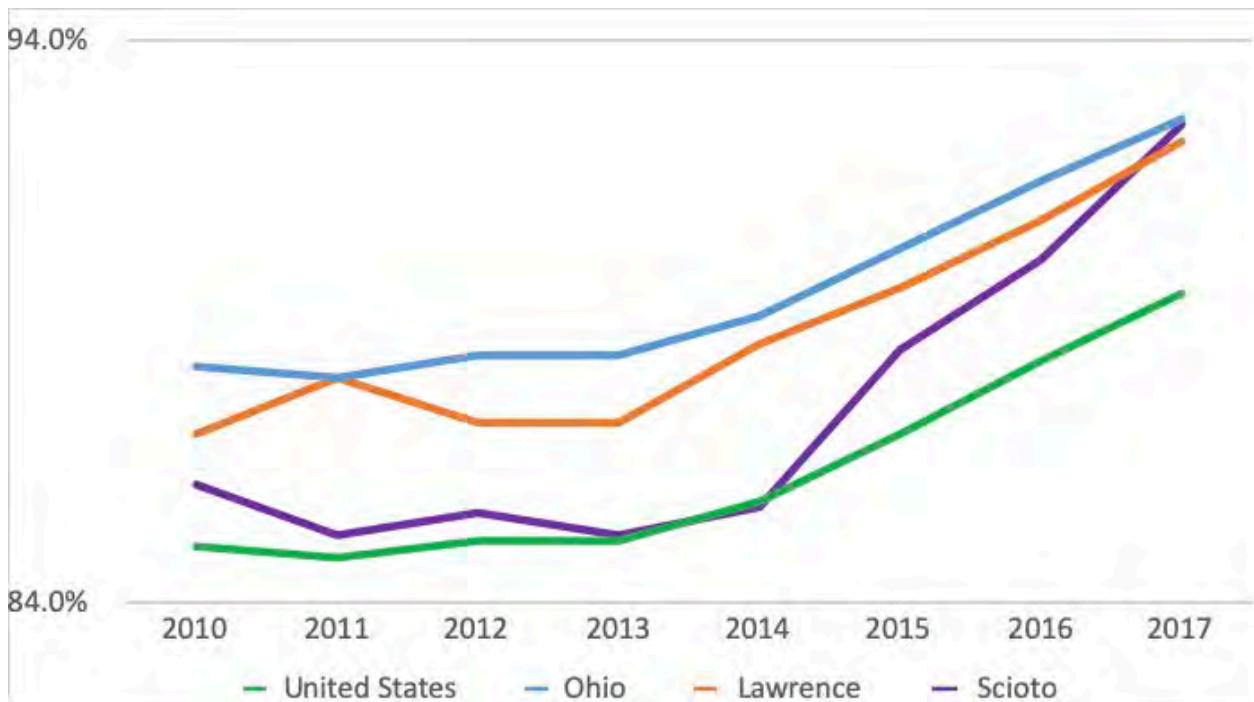




*Health Insurance*

Figure 28 shows the percentage of the population in Lawrence County, Scioto County, Ohio, and the United States with health insurance. The graph shows that the percentage with health insurance was relatively stable from 2010 to 2013 in Lawrence County, Ohio, and the United States and from 2010 to 2014 in Scioto County. Following the period of stability, all saw an increase in health insurance coverage. This may correlate to the enactment of the Affordable Care Act in 2014. In 2019, 92.2% of the population of Lawrence County and 92.5% of the population of Scioto County, compared to 92.6% and 89.5% of Ohio and the United States, respectively.

**Figure 28: Percent of Population with Health Insurance: Lawrence County, Scioto County, Ohio, and the United States, 2010-2017**



## **Economic Scan and Workforce Inventory**

This section supplies a report of the current and historic industry and occupational employment trends for Lawrence and Scioto County, Ohio, and an analysis of regional employed resident commuter behavior.

### *Employment by Industry*

Table 8 breaks down industry-specific employment data from Lawrence, Scioto Counties, and Ohio in 2010 and 2019. Education services and health care and social assistance is Lawrence and Scioto County's most significant employer with 39.61%/31.08 of the county's working population in 2019. This industry is also the most significant employer for Ohio. The second-most significant employer for Lawrence and Scioto County is retail trade, with 13.57% and 13.55% of the working population, respectively.

Lawrence County had eight industries with employment growth from 2010 to 2019, compared to five industries with employment decline. Of the growth industries, two industries had a growth rate of over 40%, including 25.62% growth in wholesale trade. On the other hand, three of five loss industries experienced employment declines of greater than 15%, including a loss of 18.53% in Construction. Scioto county had three industries with employment growth from 2010 to 2019, compared to ten industries with employment decline. Of the growth industries, all three industries had a growth rate of over 10%, including 19.46% growth in Transportation warehousing and utilities. Although, three of the ten loss industries experienced employment declines of greater than 25%, including a loss of 39.31% in Agriculture, forestry, fishing and hunting, and mining.

**Table 8: Employment by Industry: Lawrence County and Ohio, 2010 and 2019<sup>1</sup>**

Industry	2010		2019		Percent Change
	Estimate	Percent	Estimate	Percent	
<b>Lawrence County</b>					
Agriculture, forestry, fishing and hunting, and mining	25	.0027	31	0.032	24.00
Construction	599	6.38	488	4.98	-18.53
Manufacturing	1088	11.58	1060	10.82	-2.573
Wholesale trade	199	2.12	250	2.55	25.62
Retail trade	1599	17.02	1329	13.57	-16.88
Transportation and warehousing, and utilities	515	5.58	646	6.6	25.43
Information	222	2.36	179	1.83	-19.36
Finance and insurance, and real estate and rental and leasing	309	3.29	349	3.56	12.94
Professional, scientific, and management, and administrative and waste management	432	4.6	639	6.52	47.91
Educational services, and health care and social assistance	2763	29.41	3879	39.61	40.39
Arts, entertainment, and recreation, and accommodation and food services	901	9.59	999	10.2	12.40
Other services, except public administration	272	2.89	496	5.06	82.35
Public administration	238	2.53	233	2.38	-2.100
<b>Civilian employed population 16 years and over</b>	<b>9396</b>		<b>9794</b>		<b>4.235</b>

1

Industry	2010 Estimate	Percent	2019 Estimate	Percent	Percent Change
<b>Scioto County</b>					
Agriculture, forestry, fishing and hunting, and mining	529	1.85	321	1.15	-39.31
Construction	2381	8.34	2079	7.42	-12.68
Manufacturing	3188	11.16	2840	10.14	-10.91
Wholesale trade	522	1.83	388	1.39	-25.67
Retail trade	3386	11.86	3796	13.55	12.10
Transportation and warehousing, and utilities	1500	5.25	1792	6.4	19.46
Information	414	1.45	300	1.07	-27.53
Finance and insurance, and real estate and rental and leasing	1046	3.66	1045	3.73	-0.0956
Professional, scientific, and management, and administrative and waste management	1490	5.22	1665	5.94	11.74
Educational services, and health care and social assistance	8768	30.7	8705	31.08	-0.718
Arts, entertainment, and recreation, and accommodation and food services	2417	8.46	2372	8.47	-1.861
Other services, except public administration	1380	4.83	1289	4.6	-6.594
Public administration	1536	5.38	1418		-
				5.06	7.682
<b>Civilian employed population 16 years and over</b>	<b>28,557</b>		<b>28,010</b>		<b>-1.915</b>

Industry	2010 Estimate	Percent	2019 Estimate	Percent	Percent Change
<b>OHIO</b>					
Agriculture, forestry, fishing and hunting, and mining	54,903	1.0	55,424	1.0	0.95
Construction	301,725	5.6	300,741	5.4	-0.33
Manufacturing	859,548	16.0	856,557	15.3	-0.35
Wholesale trade	163,458	3.0	147,060	2.6	-10.03
Retail trade	626,512	11.7	638,630	11.4	1.93
Transportation and warehousing, and utilities	266,567	5.0	289,114	5.2	8.46
Information	105,502	2.0	87,583	1.6	-16.98
Finance and insurance, and real estate and rental and leasing	353,630	6.6	359,661	6.4	1.71
Professional, scientific, and management, and administrative and waste management	478,692	8.9	540,325	9.7	12.88
Educational services, and health care and social assistance	1,254,969	23.4	1,350,405	24.1	7.60
Arts, entertainment, and recreation, and accommodation and food services	454,730	8.5	511,118	9.1	12.40
Other services, except public administration	239,248	4.5	247,660	4.4	3.52
Public administration	210,373	3.9	211,166	3.8	0.38
<b>Civilian employed population 16 years and over</b>	<b>5,369,857</b>		<b>5,595,444</b>		<b>4.20</b>

Source: U.S. Census Bureau, American Community Survey 5-Year Estimates, Industry by Occupation for the Civilian Employed Population 2010-2019

#### *Labor Force Overview*

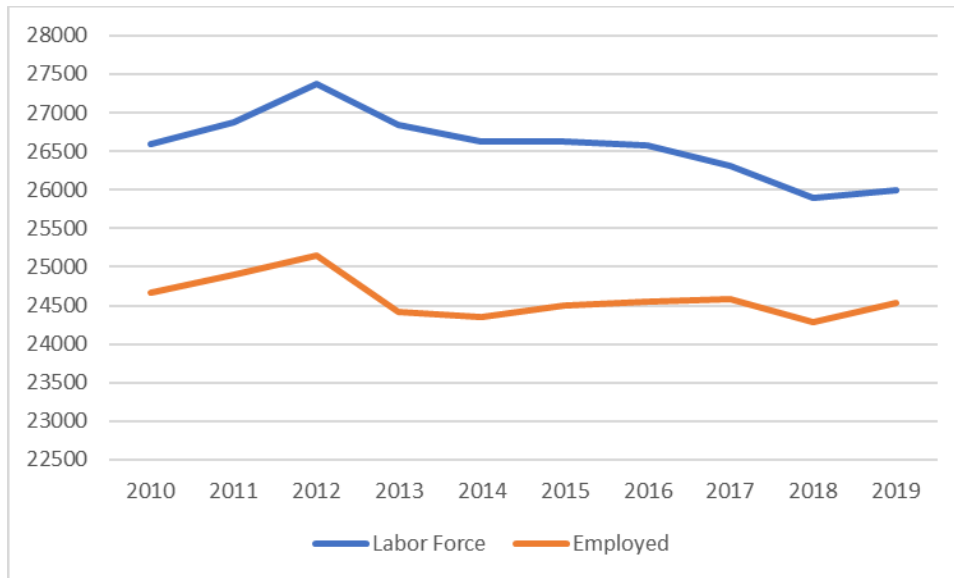
Figures 29 and 30 report labor force eligibility and employment data in Lawrence and Scioto Counties from 2010 to 2019. In 2010, 24,659 individuals were employed in Lawrence County. For Lawrence, that number grew to 25,146 in 2012 and has only decreased incrementally each year to a total of 24,537 in 2019. On the other hand, the labor force size decreased between 2013 and 2017, with the rate of the decrease getting more severe over time. The labor force has since stabilized around 25,995 in 2019. Although, for the most part, these numbers have decreased from the 2010 levels, the gap between the labor force and the employed has shrunk, writing down that a more significant percentage of people who wish to be employed have been able to find employment in 2019 than in 2010. As for Scioto County, 28,542 individuals were employed in 2010. That number has only been under 28,000 from 2014-to 2015, with the lowest number being 27,750 in 2014. In 2019, the number of employed workers was 28,020, respectively.

Figures 31 and 32 show how Lawrence County's and Scioto County's unemployment rate compares with Ohio and the United States. Lawrence County's unemployment rate has been consistent with the state and national averages since 2010, never going over two percent of the national or state averages. Lawrence County experienced a slight reduction in unemployment from 2010 to 2016. In 2019, the unemployment rate for Lawrence County was only 0.3% higher

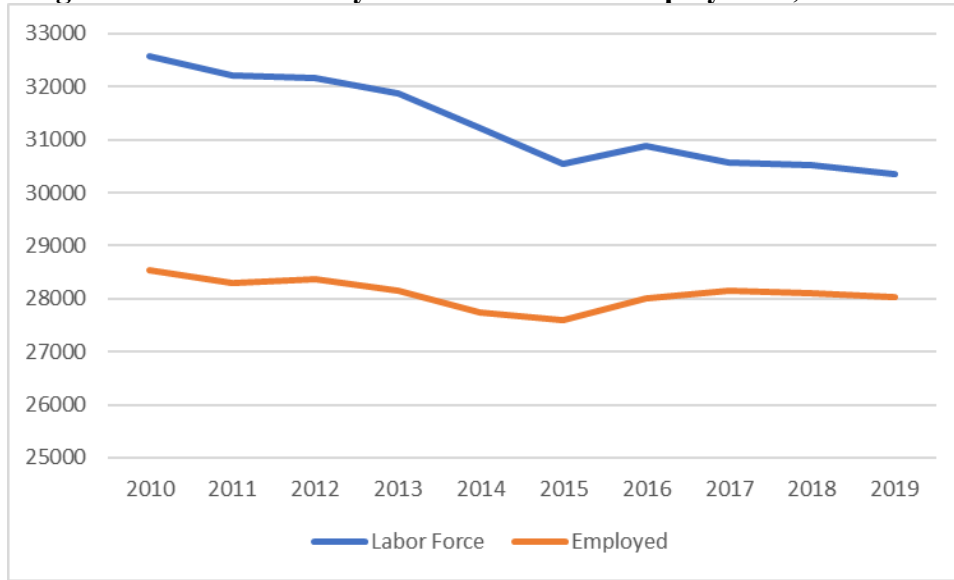
than for Ohio and the United States. In Scioto County, the unemployment rate has been higher than Ohio and United States averages. The unemployment rate stayed over 11% from 2010 to 2015 when it hit 9.60%, peaking in 2010 at 12.20%, higher than averages at the time of 8.6% for Ohio and 7.9% nationwide. In 2019, that number is 7.7%, still higher than both state and national averages but decreasing each year.

Figures 33 and 34 show the participation rate of Lawrence County, Scioto County, Ohio, and the United States. The graph shows that while the state and national participation rates were identical, Lawrence County and Scioto County's rate was significantly lower. For example, from 2010 to 2015, Scioto County's participation rate was about 10% -15% lower, while Lawrence County was 8-10% lower than Ohio's rate. By 2019, Scioto County's rate was about 13% lower, and Lawrence County was about 10% lower than Ohio's rate. To further explore why Scioto County's rate was lower, Figures 35 and 36 separates the county's participation rate by gender. Women have consistently had a lower participation rate than men in Scioto County but not by much, with the rate shrinking to a 2% difference between the genders in 2019. In Lawrence County, women have also had a consistently lower participation rate than men, with the most significant gap being 8% in 2010. In 2019, that rate shrunk to 5% in Lawrence County

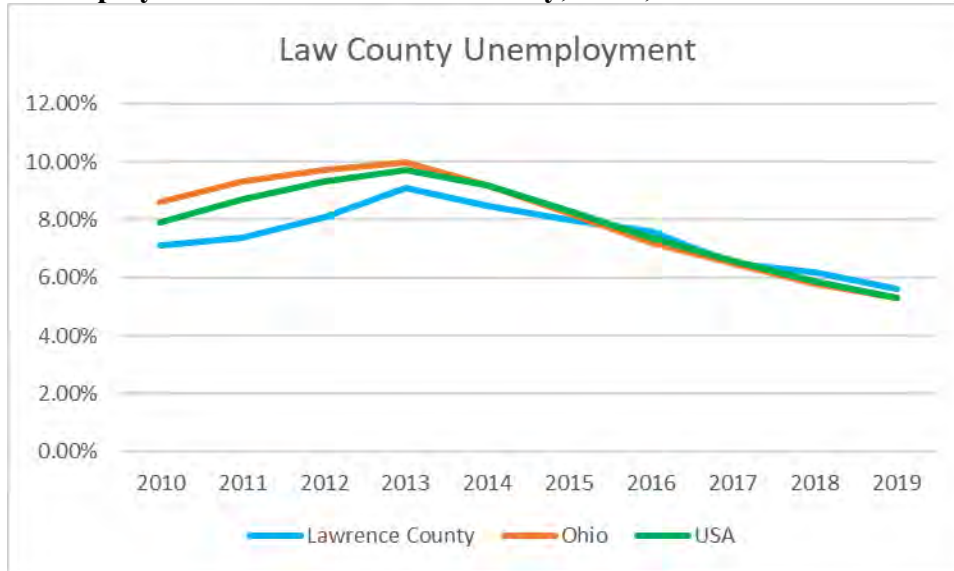
**Figure 29: Lawrence County Labor Force and Employment, 2010-2019**



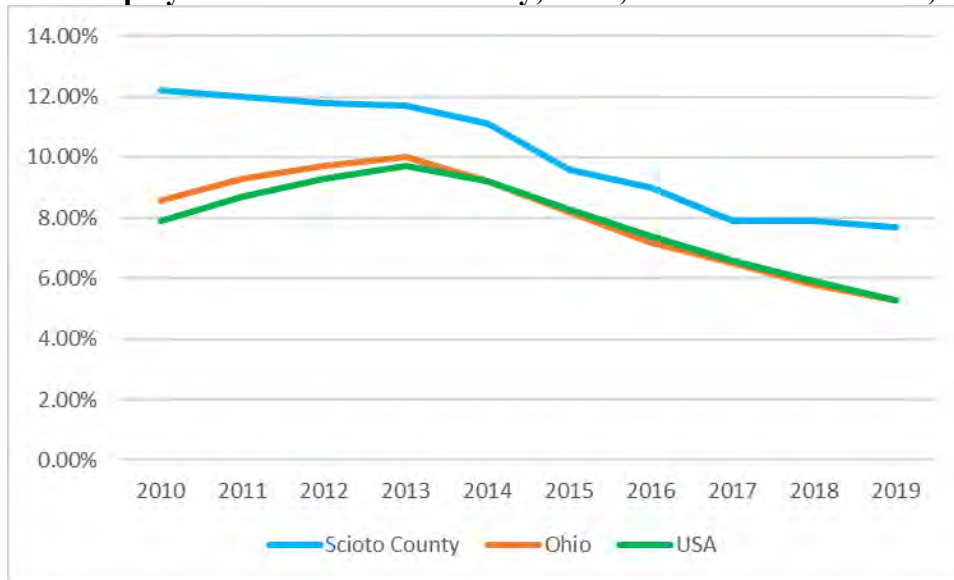
**Figure 30: Scioto County Labor Force and Employment, 2010-2019**



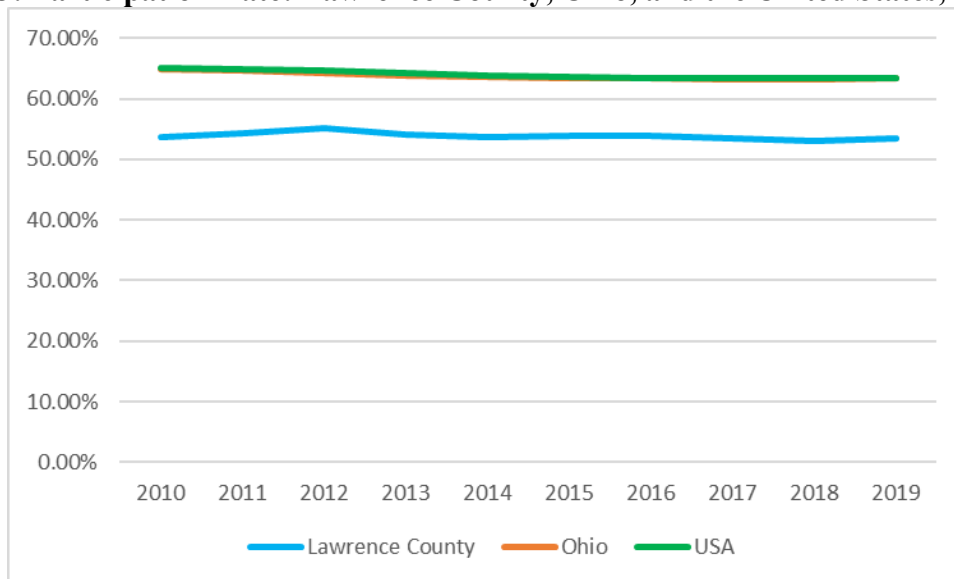
**Figure 31: Unemployment Rate: Lawrence County, Ohio, and the United States, 2010-2019**



**Figure 32: Unemployment Rate: Scioto County, Ohio, and the United States, 2010-2019**

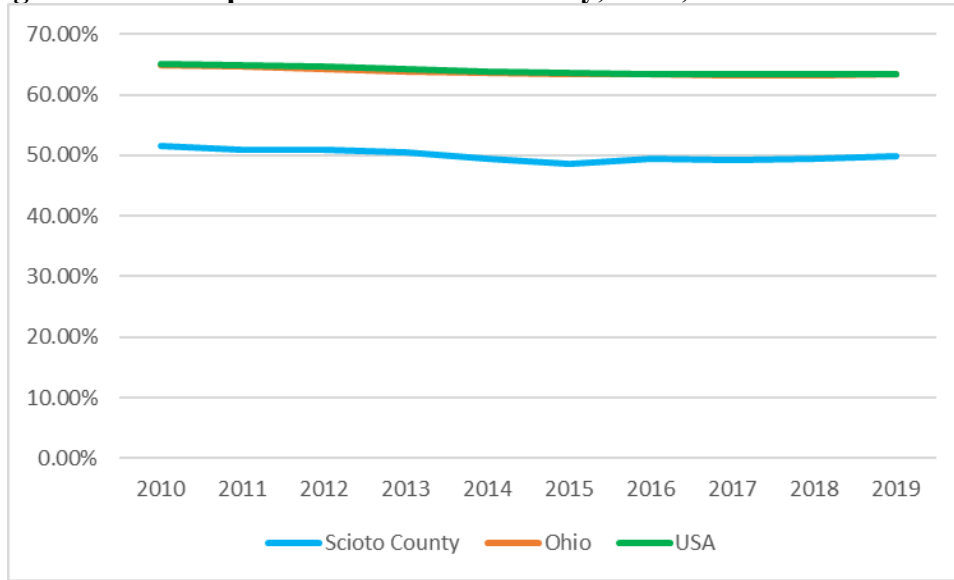


**Figure 33: Participation Rate: Lawrence County, Ohio, and the United States, 2010-2019**

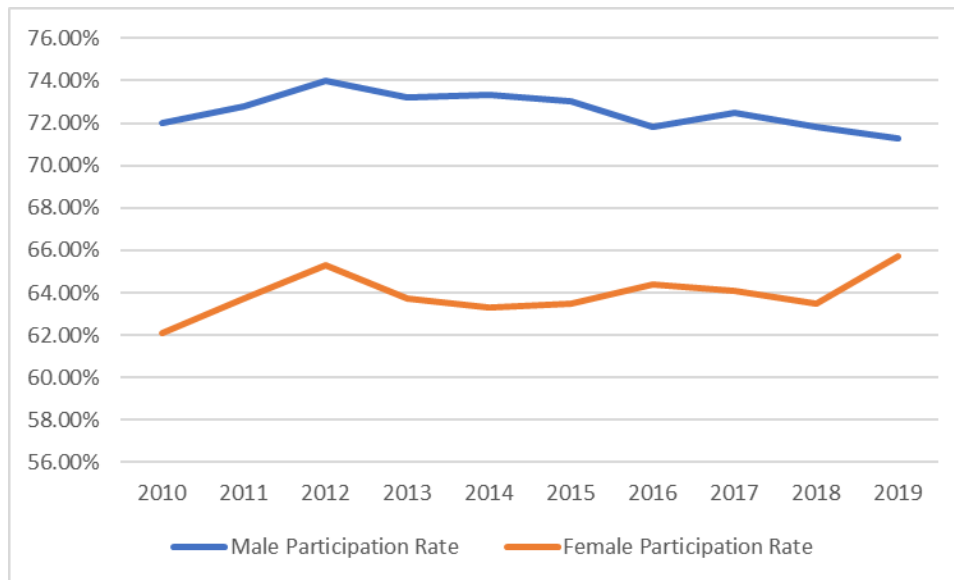




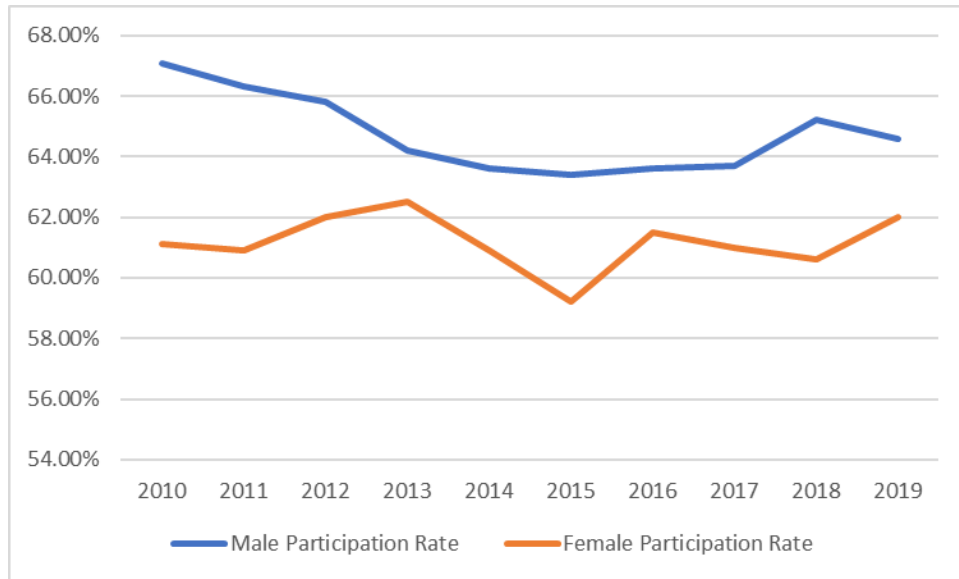
**Figure 34: Participation Rate: Scioto County, Ohio, and the United States**



**Figure 35: Lawrence County Participation Rate by Gender, 2010-2019**



**Figure 36: Scioto County Participation Rate by Gender, 2010-2019**



2. STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT)  
ANALYSIS/ASSET MAPPING

Lawrence and Scioto Counties: Strengths, Weaknesses, Opportunities, and Threats (SWOT)  
Analysis/Asset Mapping

Prepared by Center for Economic Development and Community Resilience, The Voinovich  
School of Leadership and Public Service, Ohio University

November 2021

Clara Bone, Marty Hohenberger, Ty Giffin, and Vic Crawford

## Contents

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## Introduction

The research team held SWOT meetings with stakeholders in Lawrence and Scioto Counties in 2021. Additionally, information concerning the county’s strengths, weaknesses, opportunities, and threats was gathered through further stakeholder interviews and community engagement meetings. The research team used this information together with the data in the economic scan to complete the SWOT analysis which can be seen in figures 2.1 and 2.2.

Furthermore, the research team used the information gathered to identify assets in Adams County. These assets were divided into four sections which can be seen in figures 2.3 and 2.4. This asset map shows the physical and unchangeable assets, the currently available institutions and citizen associations, and the community champions who would support change and economic development projects in the county.

## Adams County SWOT Chart

Figures 2.1 and 2.2 show the SWOT Charts for Lawrence and Scioto Counties. The SWOT analysis identifies the strengths, weaknesses, opportunities and threats facing the counties. Strengths and Opportunities recognize the positive aspects and potential in the counties. Weaknesses and Threats show the negative aspects affecting the counties. While the strengths and weakness show factors internal to the counties, Opportunities and Threats contain external factors. External factors are unlikely to change due to the actions of the counties. For example, the counties relative position to metropolitan areas and to the Ohio River is unlikely to change regardless of actions taken by the county. Likewise, the counties is unlikely to be able to address the opioid crisis that is affecting the country and more coordinated regional efforts would need to be made. However, the internal factors are identified as places where the counties can improve their weaknesses or bolster their strengths. The SWOT analysis was conducted using the data from the demographic and economic scan as background. The SWOT analysis was further refined using the data gathered from meetings, interviews, and focus groups.

**Figure 2.1: Lawrence County SWOT Chart**

Strengths	Weaknesses
<p>Expanding Broadband                      Leadership in the area                      Energy resources                      Logistics                      Tri-State Outer Belt- bypass project around the Tri-State would lead to easier access to Columbus and Cincinnati for businesses                      Manufacturing Jobs                      Downtowns and communities that are attractive to potential businesses                      Tourism                      Healthcare jobs                      The Point Industrial Park                      Home growth in Proctorville                      Quality of Life and Cost of Living                      Strong Economic Development within the county                      Lots of investment and development taking place                      The partnership between government offices within the county                      The Point Industrial Park                      Great School systems</p>	<p>Lack of financial capacity                      Most financial institutions located in Huntington                      Ashland and Huntington pull many companies away from Lawrence County                      Broadband                      Infrastructure                      Terrain                      Higher paying jobs                      Lack of preparedness for higher-paying opportunities                      Ability to attract and retain corporate offices                      Lack of social services                      Lack of amenities                      Hospital infrastructure- no hospital within the county                      Drug epidemic                      Problems for jail systems                      Problem receiving money for this issue as the offenders are usually sent over county lines for jail and rehab purposes.                      Funding from federal and state governments                      Funding “stops at Chillicothe”</p>
Opportunities	Threats
<p>Being a part of the Huntington/Ashland Metro                      Available Resources- Wayne National Forest                      Virtual work                      COVID pushing people to work from home is a great opportunity for Lawrence County                      340,000 people for the potential workforce, strong workforce                      Available Resources- Wayne National Forest,                      Logistics- Ohio River, railroad, road systems.</p>	<p>National Economy                      High taxes and inflation to fight debts                      Political Environment and Uncertainty                      Destruction of the coal industry                      Government regulations                      “Southern Ohio”                      Prevents investment as it tends to stay in the bigger cities and suburbs                      Technology                      Drug usage and epidemic                      COVID                      Youth leaving the area after graduation</p>

**Figure 2.2: Scioto County SWOT Chart**

Strengths	Weaknesses
<p>Logistics                      Heavy Industrial Corridor                      Workforce                      Culture (Rural Community and people, history, natural beauty)                      Healthy Budget                      Industry diversity (OSCO Foundry, Timber Industry)                      Great economic development team                      Atomic Power Plant put many people through college                      Education systems</p>	<p>Division among political entities                      Lack of understanding of economic development                      Downtown Portsmouth Infrastructure                      Drug Rehab centers and drug epidemic (33 in the county)                      Infrastructure                      Lack of zoning enforcement                      Terrain and shovel ready properties                      Lacking riverfront usage                      Lack of tri-state regional thinking                      Lacking a tri-state port                      Transportation systems                      Quality housing</p>
Opportunities	Threats
<p>500 Miles to ¼ of US population                      Airport Park (400 acres)                      Shawnee State University                      Available land (Airpark property and land around Haverhill)                      Diverse Industries                      Heavy Industrial Corridor                      Plastics Industry                      Petrochemical Industry                      Timber Industry                      Medical field                      Advanced Manufacturing                      Logistics                      Infrastructure upgrades                      Highly trained and educated workforce                      Lifestyle city-downtown wife, coffee shops etc.                      Partnership with Kentucky to get a major shipping port in Portsmouth                      Regional thinking</p>	<p>COVID-19                      Loss of coal                      Steel Industry                      Atomic Plant in Pike County                      Opioid Epidemic                      Lack of funding                      Old school mindset                      Closing businesses                      Homelessness/Poverty.</p>

## Lawrence and Scioto Counties Asset Maps

Figures 2.3 and 2.4 show the asset map for Lawrence and Scioto Counties. The asset map breaks down the counties' assets into four categories: Physical Attributes, Local Institutions, Citizens Associations, and Community Champions. The Physical Attributes of The counties include the aspects of the counties that are unlikely to change, such as the location, transportation/roadways, and the current infrastructure systems. Local institutions include businesses, nonprofits, and social and health services found within the counties. Citizen Associations include membership, social, and professional organizations in the counties. Finally, the Community Champions are individuals and a few organizations that were identified by members of the counties' community as the people who are leading the counties forward and would be the individuals most helpful in promoting growth in the counties in the future.sect



## Local Institutions

### Businesses

- Leibert
- McGinnis, Inc
- Sunoco
- Dow Chemical
- Superior Marine, Inc
- McSweeney's Mill and Mine Services, Inc
- Earl Products
- Muth Lumber
- Alpha Welding
- Wilson Supply

### Nonprofits

- Ironton & Lawrence County Area Community Action Organization
- Lawrence County Ohio Humane Society
- Compassion First Food Pantry
- Salvation Army
- Community Mission Outreach, Inc.

### Health Services

- County Health Department
- St. Mary's Ironton
- One Stop Medical Center
- Holzer Clinic
- Family Medical Centers
- Various Drug Dependency Rehab and Recovery Treatment Centers

### Economic Development

- Community Development Block
- Lawrence County Chamber of Commerce
- Lawrence County Economic Development Corporation
- Workforce Development Resource Center
- Lawrence County Land Reutilization Corporation
- Lake Vesuvius Recreation Area

### Educational and Libraries

- Ohio University-Southern
- Chesapeake Union Exempted Village School District. Website
- Dawson-Bryant Local School District
- Fairland Local School District
- Ironton City School District.
- Rock Hill Local School District
- South Point Local School District
- Symmes Valley Local School District
- Lawrence County Public Libraries

### Social Services

- Board of Developmental Disabilities
- Job and Family Services
- County Veterans Services

### Cultural and Recreation

- RO-NA Theater
- Burlington 37 monument
- John Campbell House

## Citizens Associations

### Social and Membership Groups

- American Legion
- Elks Lodge
- Masonic Lodges
- Proctorville Women's Club
- Spring Valley Charter
- VFW Posts

### Events and Festivals

- Spring Victorian Tea/Style Show
- Kid's Fishing Derby
- Gus Macker Basketball Tournament
- Memorial Day Parade
- Community Charity Fair
- Lawrence County Fair
- Appalachian Uprising Music Festival
- Rally on the River
- Ironton Wizard Festival
- Symmes Creek Canoe-a-thon
- Iron City Classic Car Show
- Ironton's Artist's Outdoor Show
- Old Fashion Days
- Old Fashion Sorghum Festival
- Council for the Arts Concert Season

- Halloween Parade
- Christmas Parade
- Christmas Victorian Tea/Style Show
- Lighting of Paul Porter Park

### Cultural Groups

- Lawrence County Museum
- Ro-Na Cultural Center

### Recreation and Youth Groups

- Ironton National Little League
- Symmes Valley Ball Fields
- Lawrence County Juvenile Center

### Charitable and Service Groups

- Low-income housing apartment units
- Mental Health, counseling, and addiction services
- Veteran's services
- Board of MRDD
- Lawrence County Jobs and Family Services
- Various courts
- Multiple senior centers

- Ag extensions and farm services
- Foster care and children's services

### Churches and Religious Groups

- Several

### Occupational and Professional Groups

- Ohio Education Association (OEA)
- Chesapeake Local Teacher's Association
- Dawson-Bryant Education Association
- Fairland Association of Classified Teachers
- Ironton Education Association
- Ironton School Support Association
- South Point Association of Classroom Teachers
- Rock Hill Education Association
- Symmes Valley Education Association

## Physical Attributes

### Transportation

- State Route 52
- Easy access to I-64
- Lawrence County Airpark
- The Ohio River
- Railways

### Location

- Part the Huntington MSA
- Easy access to other metros, Cincinnati, Charleston, Columbus, Lexington

### Sites

- The Point Industrial Park
- Ironton Gateway Site
- The District
- South Ironton Industrial Park

### Natural Resources

- Wayne National Forest

# Lawrence County

## Community Champions

### Commissioners

- Freddie Hayes Jr.
- DeAnna Holliday
- Dr. Colton Copley

### School Superintendents

- Jerry McConnell, Chesapeake Union Exempted Village Schools
- Joe Geletka, Ironton City Schools
- Mark Christian, South Point Local Schools
- Darrell Humphreys, Symmes Valley Local School District
- Roni Hayes, Fairland Local Schools
- Dave Hopper, Rock Hill Local School District
- Steve Easterling, Dawson-Bryant Local School District

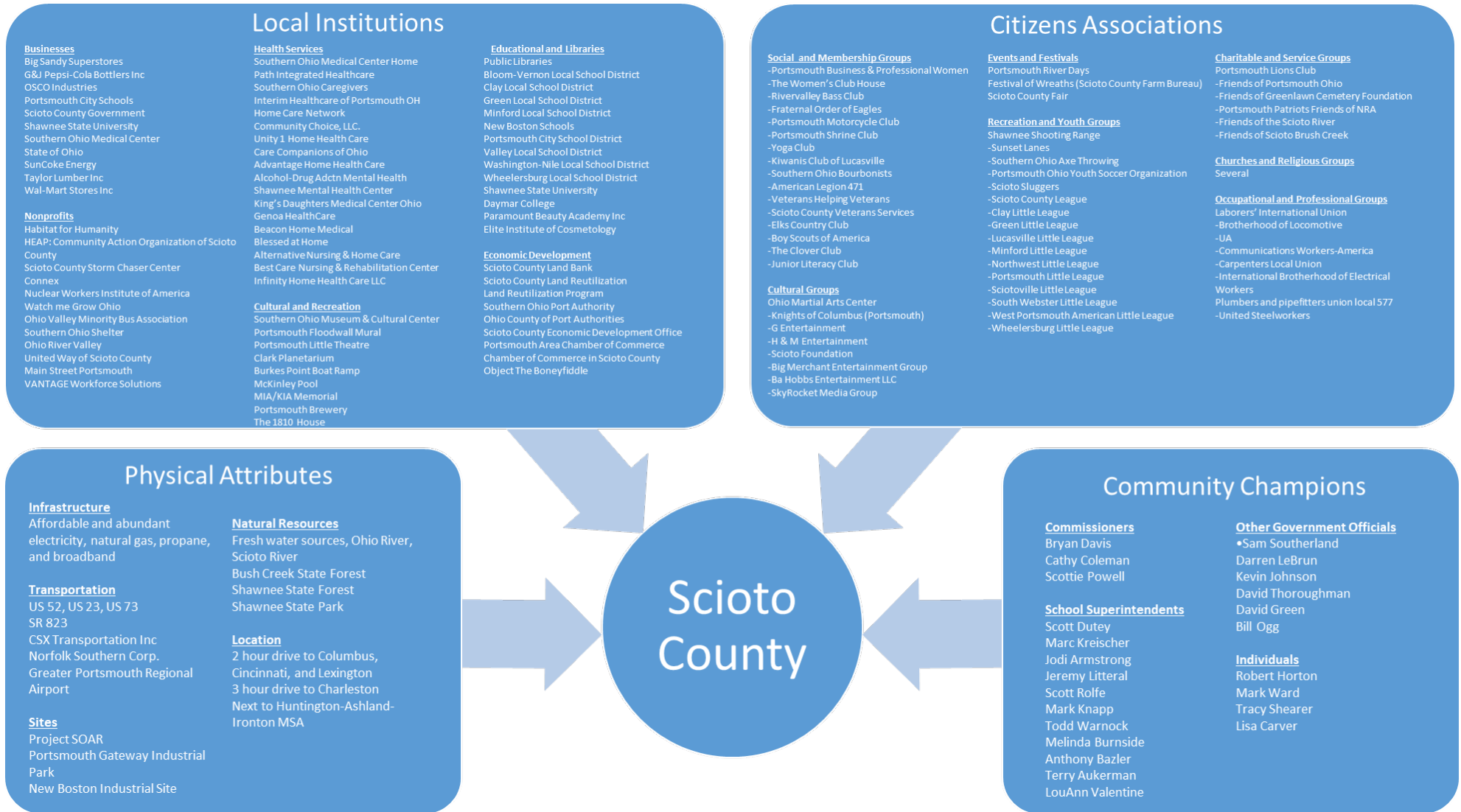
### Organizations

- Greater Lawrence County Area Chamber of Commerce
- Lawrence Economic Development Cooperation
- Lawrence County Convention and Visitor's Bureau
- Southern Ohio Procurement Technical Assistance Center
- Southeast Small Business Development Center

### Individuals

- Colton Copley, Deanna Holliday, Freddie Hayes, Jr.
- Bill Dingus, PhD.

**Figure 2.4: Scioto County Asset Map**





### 3. COMMUNITY ENGAGEMENT IN ECONOMIC DEVELOPMENT PRIORITIES

## Community Engagement in Economic Development Priorities

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Service

May 2021

Clara Bone

Ty Giffin

Maddie Denny

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## Introduction

The Center for Economic Development and Community Resilience research team conducted community meetings and surveys in both Lawrence and Scioto Counties to determine the economic development concerns, priorities, and needs for each individual county. The team held meetings in April 2021 to share the findings of the SWOT analysis and receive feedback from the community. The meeting was used to identify strengths, weaknesses, opportunities, and threats to each county.

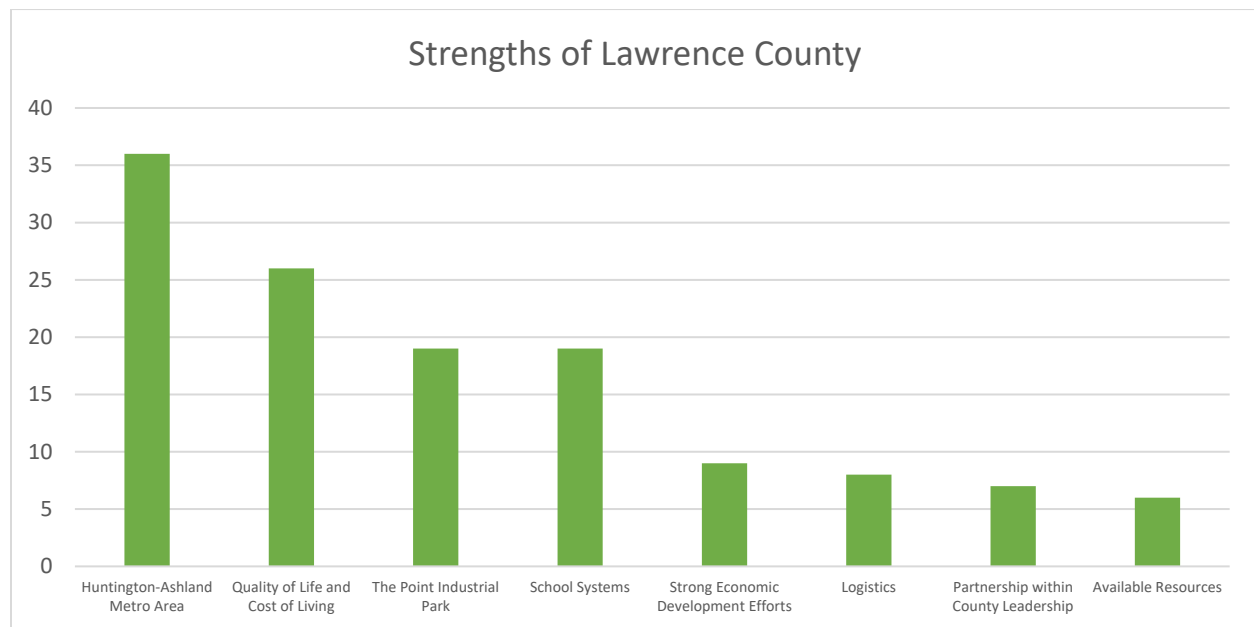
## Community Meetings

Following the completion of the SWOT analysis, community meetings were scheduled for April 19-22, 2021, via Zoom, with two nights for Lawrence and two nights for Scioto. Utilizing a PowerPoint presentation, the economic scan data and the findings of the SWOT analysis were shared with members of each community. The attendees were asked to rank their top three priorities for their county through a Zoom poll at the end of the meeting. It should be noted that attendance was lower than expected at the meetings, likely due to lack of broadband in many communities along with the COVID-19 pandemic in general. To reach more community members from each county, surveys were later conducted in-person at various locations such as the courthouse, city buildings, businesses, police departments, fire departments, and school administration buildings.

## Lawrence County Results

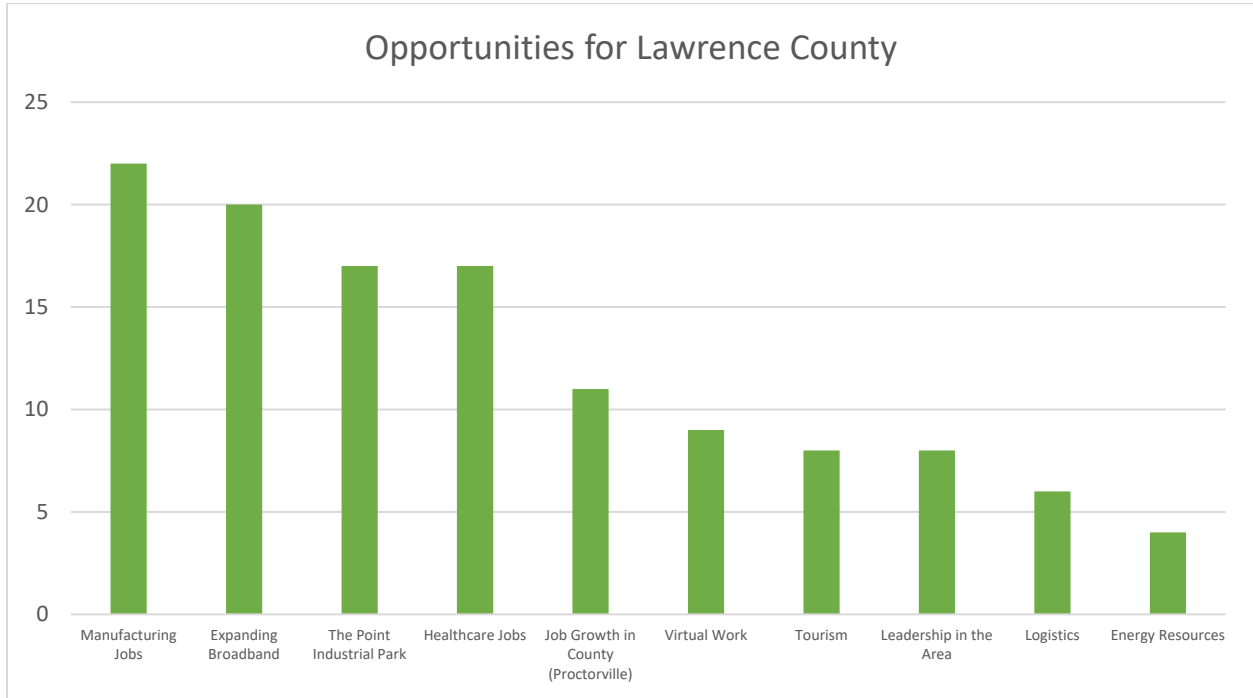
Throughout this process, 49 surveys were completed for Lawrence County. Survey topics included strengths, weaknesses, opportunities, and threats to Lawrence County. The most identified strength of Lawrence County is the Huntington-Ashland Metro Area, with the quality of life and cost of living being the second identified strength.

**Figure 1: Strengths of Lawrence County**



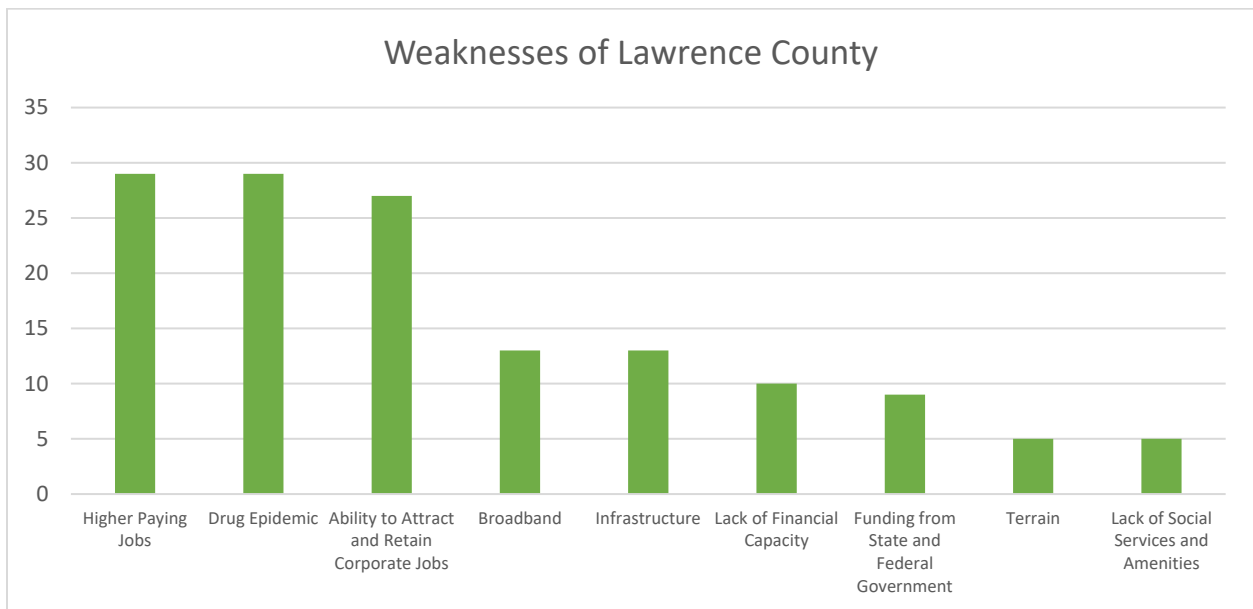
The top priority for the community was to focus on manufacturing jobs. This was followed by the expansion of broadband, further development and use of the Point Industrial Park, and focusing on healthcare jobs.

**Figure 2: Opportunities for Lawrence County**



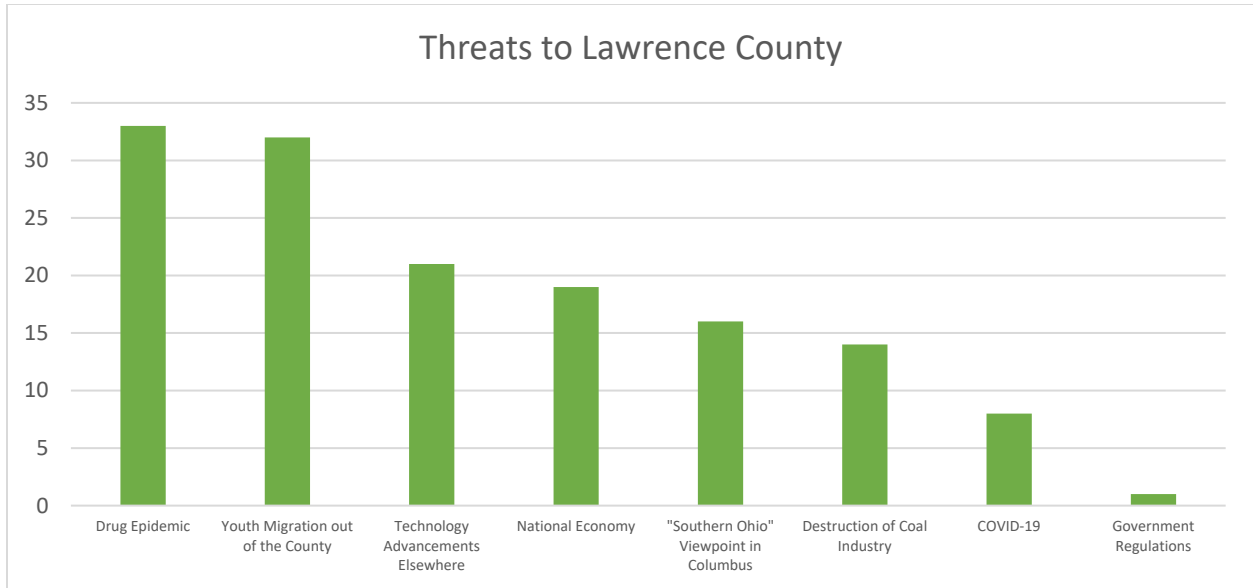
Additionally, the community identified lack of high paying jobs, youth migration out of the county, and the drug epidemic as areas of concern for the county.

**Figure 3: Weaknesses of Lawrence County**





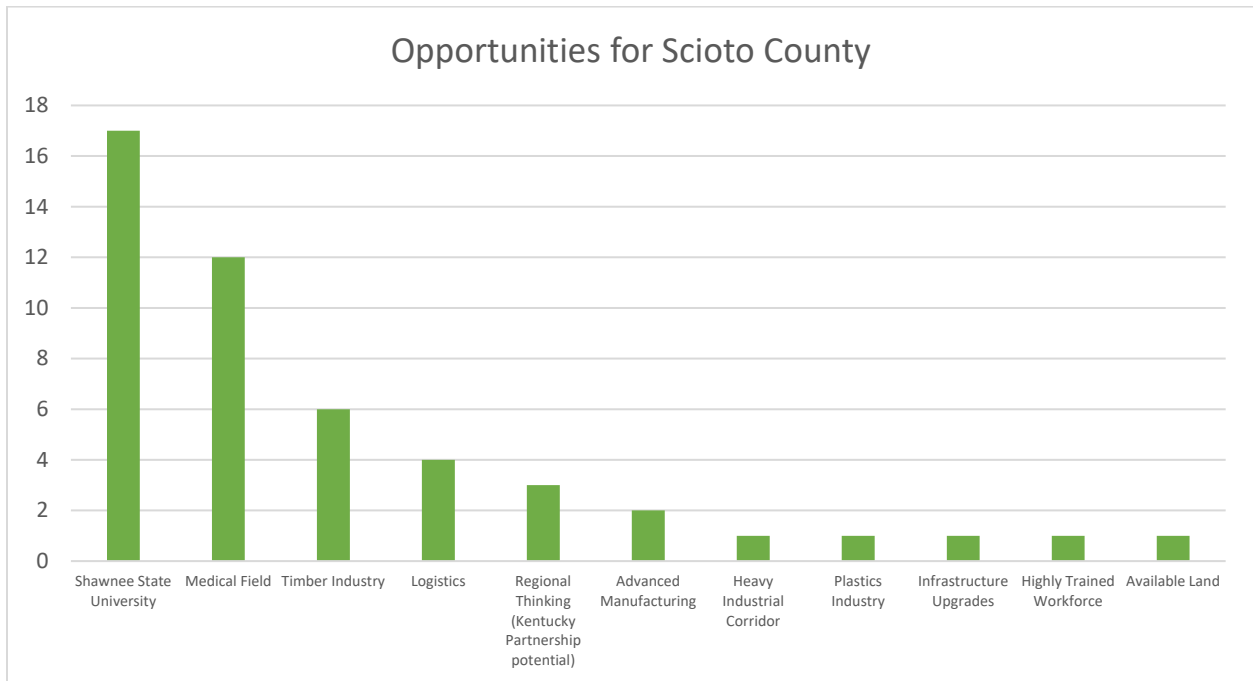
**Figure 4: Threats to Lawrence County**



### Scioto County Results

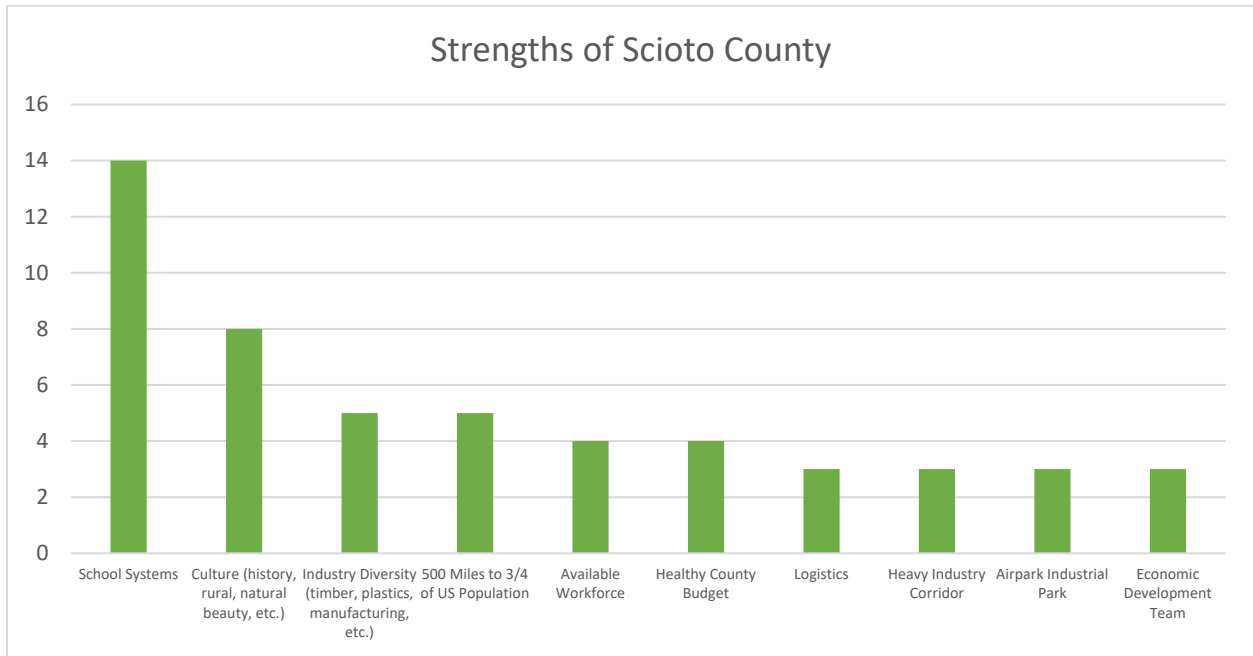
Likewise, Scioto County had 18 responses to the survey. Scioto County community members were given the same survey topics as previously mentioned, including strengths, weaknesses, opportunities, and threats to the county. The top priority for the Scioto County Community was working with Shawnee State University. This was followed by focusing on medical field jobs, and then timber industry jobs.

**Figure 5: Opportunities for Scioto County**



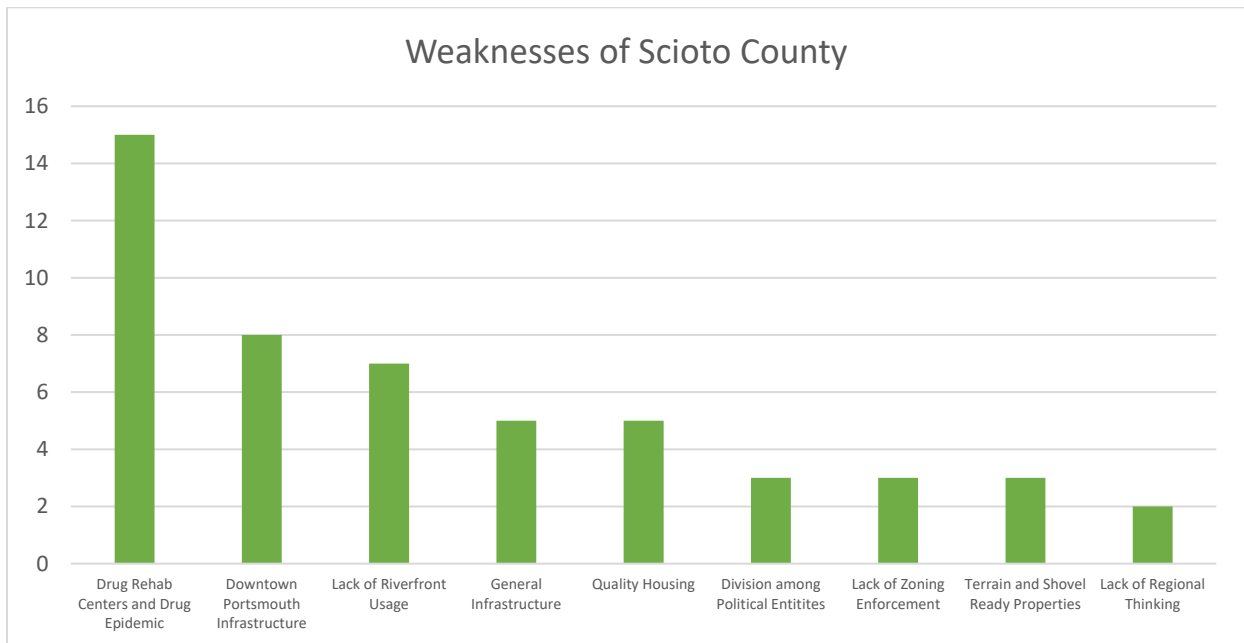
Community identified strengths included primarily the school systems, then culture, then industry diversity within the county.

**Figure 6: Strengths of Scioto County**

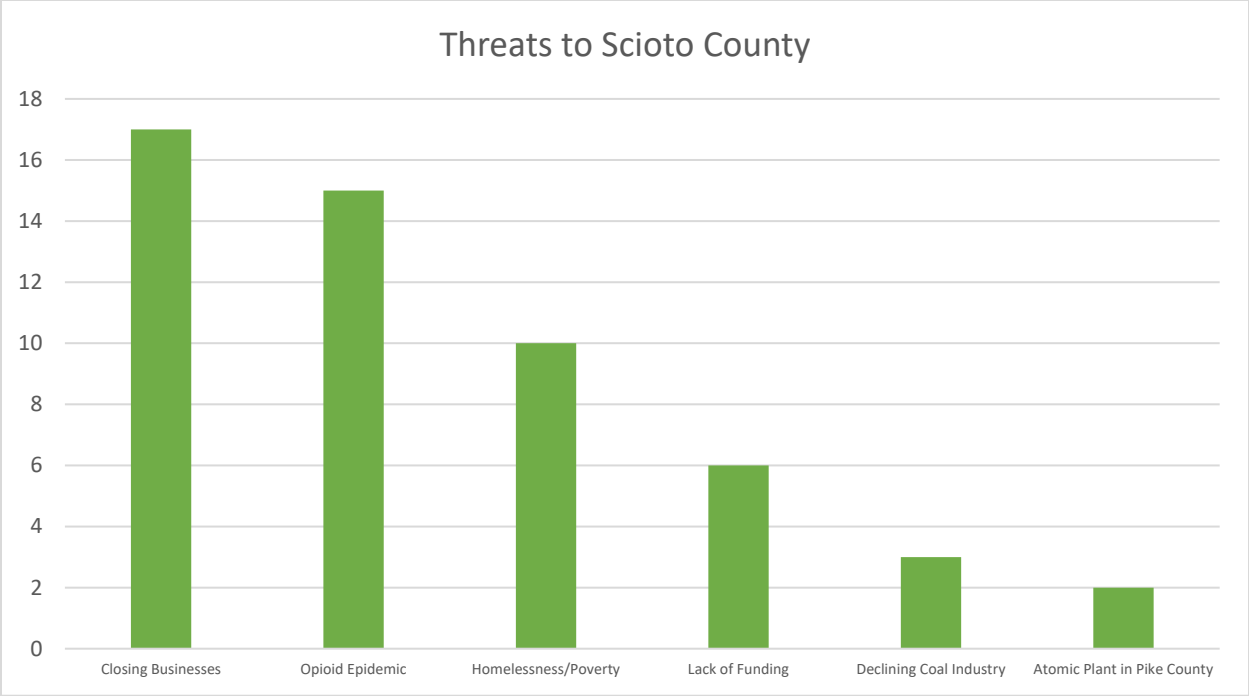


Additionally, the community identified the lack of infrastructure, poverty, and the drug epidemic as areas of concern for the county.

**Figure 7: Weaknesses of Scioto County**



**Figure 8: Threats to Scioto County**



**Summary**

The Center for Economic Development and Community Resilience conducted numerous surveys for community members from both Lawrence and Scioto Counties to determine what each respective community views as strengths, weaknesses, opportunities, and threats. COVID-19 created some challenges for the research team when it came to effectively reaching community members since the meetings had to occur virtually over Zoom. However, in-person surveys were later conducted at various locations in each community; COVID-19 likely still had an impact on the number of survey responses. Despite some difficulties with reaching citizens of each county the results of the community surveys still have provided the economic development team with their valuable thoughts and opinions along with insight to their respective communities.

#### 4. COAL SUPPLY CHAIN IMPACTS

Qualifying and Quantifying Coal Supply Chain Impact for Lawrence and Scioto Counties

Prepared by Center of Economic Development and Community Resilience, the Voinovich School of  
Leadership and Public Service

November 2021

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## Introduction

In 2017, DP&L announced the closure of two coal-fired power plants closed in Adams County, Ohio. In May of 2018, the plants were officially closed. While Adams County faces the brunt of the impacts in terms of direct employment loss and tax revenue, the businesses in nearby counties have also been impacted. This study looks at the impact on these coal supply chain industries in Lawrence and Scioto Counties. The coal supply chain includes businesses in the mining, utilities, manufacturing, wholesale trade, and transportation industries. Additionally, the coal supply chain consists of Table 1 shows the highest related industries in the coal supply chain as according to the Appalachian Regional Commission.<sup>1</sup>

Table 1: Top Industry CIE Scores

Industry	2005 CIE Score	2005 Employment	2015 CIE Score	2015 Employment
Coal mining	1	47,140	1	36,535
Mining and oil and gas field machinery manufacturing	0.37	4,905	0.29	5,404
Primary smelting and refining of copper	0.04	149	0.16	19
Rubber and plastics hoses and belting manufacturing	0.24	2,191	0.13	1,890
Ground or treated mineral and earth manufacturing	0.15	483	0.1	595
Stone mining and quarrying	0.08	14,588	0.07	7,972
Commercial and industrial machinery and equipment rental and leasing	0.17	4,466	0.06	8,539
Oil and gas extraction	0.16	4,984	0.06	10,692
Water transportation	0.07	1,773	0.06	1,353
Construction machinery manufacturing	0.1	6,384	0.05	7,599

## Identifying Coal Supply Chain Businesses in Lawrence and Scioto Counties

For this study, a list of related NAICS Codes for the coal supply chain was identified. Table 2 shows the selected NAICS Codes and Meanings. A full list of identified businesses can be found in Appendix A. While thorough, the list is not comprehensive of every coal supply chain business in the two counties and it is likely some were left off due to data suppression. Rather, this list was used as a reference for identifying businesses to conduct interviews with and/or aid BRE visits conducted in the counties. Below lists all the relevant NAICS codes for the coal supply chain and the number of businesses in the two county area. Additionally, Appendix A separates the businesses by county.

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<sup>1</sup>Source: CIE dependence, impact, and risk scores for Ohio's counties in the Appalachian area. Jackson and Jarosi (2018)

Table 2: Coal Supply Chain NAICS Codes and Businesses in Lawrence and Scioto<sup>2</sup>

NAICS CODE	Description	Number of Businesses
333131	Mining equipment manufacturers	2
333132	Oil and gas field machinery manufacturing	0
332322, 332313	Coal chutes	0
332922	Coal conveyors	0
326220	Rubber and plastics hoses and belting manufacturing	0
213113	Exploration	0
212311, 212312, 212313, 212319	Stone mining and quarrying	0
211130	Natural gas extraction	2
212111, 212112, 212113	Coal mining	0
454310	Fuel wholesalers	9
423520	Coal wholesalers	1
423320, 424690	Coal tar wholesalers	6
424690	Chemical wholesalers	3
324121	Asphalt Paving mixtures & blocks	1
325194	Gum & Wood chemicals	3
331410	Primary smelting and refining of copper	1
324199	Coal products manufacturing	3
325211	Plastics Material and Resin Manufacturing	3
327992	Ground or treated mineral and earth manufacturing	0
221	Utilities	7
484	Transportation	72
4832	Water Transportation	4
486	Pipeline Transportation	0

<sup>2</sup> Data pulled from NexisUni database, 2020.



Working with the local economic developers in the county, we provided this list and aided with interviews during BRE visits. During the visits, specific questions to gauge the reliance on coal and the potential impact of the closure of the DP&L plant were asked. The questions included the following:

- What industries do you serve?
- Do you produce intermediate goods or final goods?
- Where are your primary customers located?
- What percentage of your sales goes to a single purchaser?
- What are the capabilities of your business?
- Where are your critical suppliers located?
- Is their potential value or use of your waste stream(s)?
- What would increase your operational efficiency?

From these questions we were able to gather the following information. The businesses interviewed identified the serving the following industries: steel, rail, heavy machinery, coal mining and the coal industry in general, industrial, automotive, petrochemicals, and maritime transportation. Of the businesses interviewed 50% produced intermediate goods and 33% produced final goods with some businesses falling into both categories. Additionally, another 33% of the businesses identified as providing a service rather than a good. These businesses belonged to the transportation industry. While a few companies noted they had customers around the country and even internationally, the majority of businesses interviewed had more local customers, located in Kentucky, Ohio, and West Virginia. Likewise, while a few businesses had an even split amongst several purchasers, there were also a few that identified one main purchaser or that over 50% went to a single purchaser. Most of the businesses interviewed said they did not have a waste stream. Two of the businesses noted that they had unused scrap metal, but that it had been taken to be recycled. The need for more employees and employees of a high quality, government incentives to buy newer equipment, funding for expansion, and easier permitting process were all identified as ways to that would help increase operational efficiency.

There is ongoing work between the local economic development organizations and GVS staff concerning BRE efforts, and the findings of this report was shared with them to aid in their efforts.

## Impact of the Coal Economy Decline

With the overall decline in the coal economy in the region and in particular the two coal-fired power plants that closed in 2018, this study attempts to quantify and qualify the impact of the coal economy decline. Firstly, a shift-share analysis was done for each of the two counties. Because of issues with data suppression, the shift-share analysis was completed at the 2-digit NAICS code level. Ideally, the analysis would have been done for the specific NAICS codes listed above.

Figure 1 shows the shift-share analysis for Lawrence County. The industrial mixed-effects shows the expected growth or decline of industry in the county based upon the growth rate of the industry at the national level. If the national growth rate is increasing, it can be expected for there to be growth in the region, and if there is not growth in the region, one can attribute it to a force outside the national trend. Table 3 shows the actual change in number of employees from 2018-2019 Lawrence. Combined with the

industrial mixed effects, this shows us that Lawrence County experienced a loss in employees in transportation while this industry was expected to grow according to the national trend. On the other hand, Lawrence County experienced a gain in employees in manufacturing while this industry was expected to decline according to the national trend. Utilities and wholesale trade followed according to the national trend for Lawrence County.

The national growth effect shows the expected number of jobs in each industry in Lawrence County would gain or lose if following along the national trend. For Lawrence County, we can see that for transportation and wholesale, the county is doing much worse than would be expected. For example, in wholesale, Lawrence County actually lost 50 jobs. However, if following the national trend, the loss would have only been 5 jobs. Also, for transportation, it would have been expected to see an increase in jobs, but we can see that Lawrence County experienced a loss. However, for manufacturing, Lawrence County is doing better than expected. Utilities remain consistent with what we would expect to see. From this, we can gather that something has had an impact that has isolated Lawrence County from the full impact of the national trend on at least these three industries.

The expected change takes into account the industrial mixed effects when estimating the change in the number of employees. Like the two indicators above, we see that Transportation was estimated for the county as a gain, while the county actually experienced a loss. This further indicates that there must be a reason for Lawrence County not to follow the national trends.

The competitive effect indicates how strongly the actual change in the number of employees is related to the county rather than the national trends. Additionally, the competitive effect indicates whether the county is under- or outperforming compared to the national trends. The large bars for the transportation, manufacturing, and wholesale trade industries indicates that factors unique to Lawrence County are more responsible to the change in employee numbers than the national trend in the industries. Additionally, the negative bars for transportation and wholesale trade indicate that Lawrence County is underperforming in these industries. Further, manufacturing is performing better than would be expected.

Figure 1: Shift Share Analysis for Lawrence County, 2019<sup>3</sup>

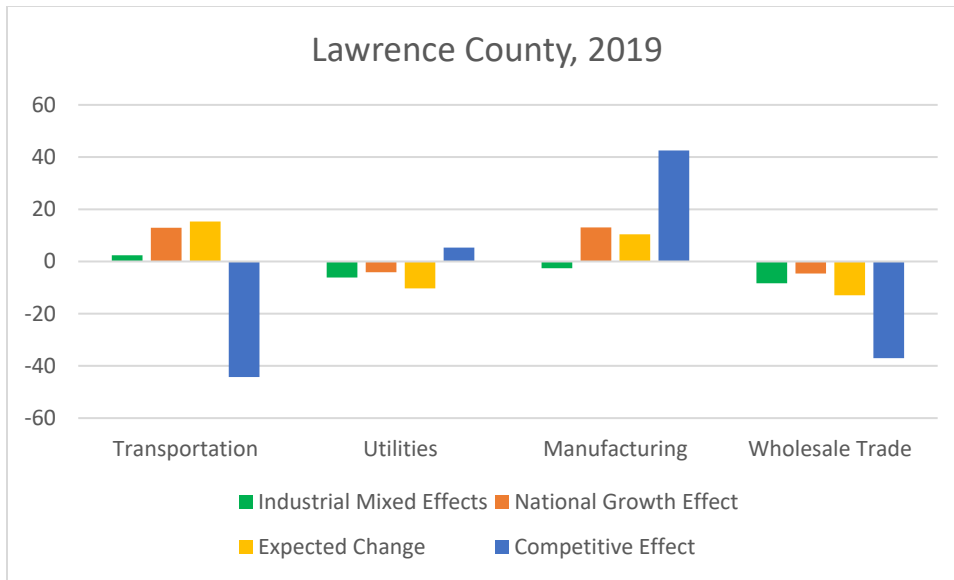


Table 3: Change in Number of Employees, Lawrence County, 2018-2019

	Number of employees		Change
	2018	2019	
Transportation	617	588	-29
Utilities	117	112	-5
Manufacturing	817	870	53
Wholesale Trade	259	209	-50

Figure 2 shows the shift-share analysis for Scioto County. The industrial mixed-effects show the expected growth or decline of industry in the county based upon the growth rate of the industry at the national level. If the national growth rate is increasing, it can be expected for there to be growth in the region, and if there is not growth in the region, one can attribute it to a force outside the national trend. Table 4 shows the actual change in the number of employees from 2018-2019. Combined with the industrial mixed effects, this shows us that Scioto County experienced a gain in employees in utilities while this industry was expected to decline according to the national trend. On the other hand, transportation, mining, manufacturing, and wholesale trade followed according to the national trend for Lawrence County.

The national growth effect shows the expected number of jobs in each industry in Scioto County would gain or lose if following along the national trend. Again, for utilities, it would have been expected to see a decrease in jobs, but we can see that Scioto County experienced a gain. Likewise, it would have been

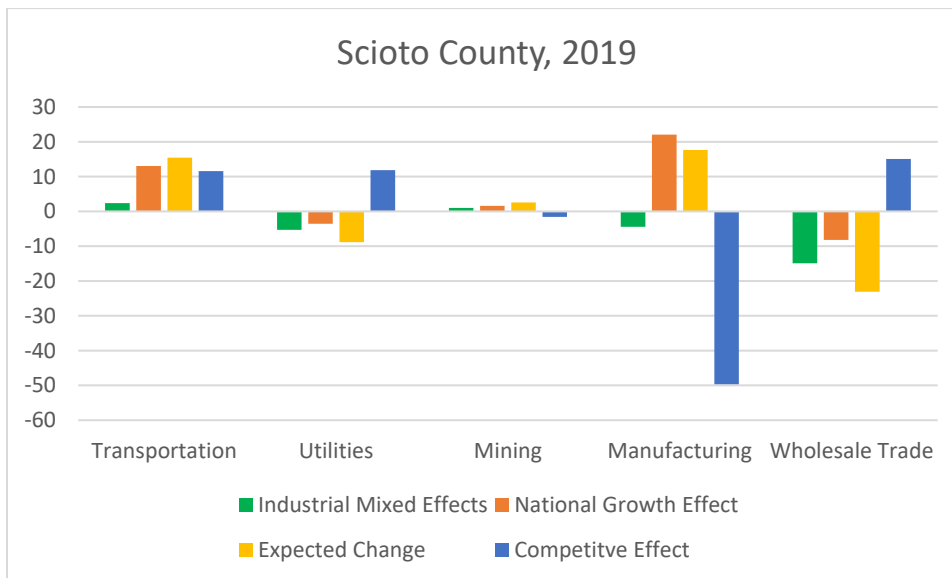
<sup>3</sup> Sources: US Bureau of Labor Statistics: Industry-Occupation Matrix; US Bureau of Labor of Statistics: Quarterly Census of Wages and Employment 2020; US Census: County Business Patterns 2019; Bureau of Economic Analysis: Gross Domestic Product by Industry and Input-Output Statistics 2020.

expected to an increase in jobs for manufacturing, but we can see that Scioto County experienced a loss. For mining, and wholesale trade, Lawrence County experienced either growth or loss as expected. However, the increase in jobs from transportation was about double as expected. From this, we can gather that something has had an impact that has isolated Lawrence County from the full impact of the national trend.

The expected change takes into account the industrial mixed effects when estimating the change in the number of employees. Like the two indicators above, we see that Manufacturing was estimated for the county as a gain, while the county actually experienced a loss. Similarly, we see that Utilities was estimated for the county as a loss, while the county actually experienced a gain. This further indicates that there must be a reason for Scioto County not to follow the national trends. However, the trends for wholesale, transportation, and mining are as expected.

The competitive effect indicates how strongly the actual change in the number of employees is related to the county rather than the national trends. Additionally, the competitive effect indicates whether the county is under- or outperforming compared to the national trends. The large bars for transportation, utilities, manufacturing and wholesale trade indicate that factors unique to Scioto County are more responsible to the change in employee numbers than the national trend in the industries. On the other hand, the relatively small bar for mining indicates that this industry is more influenced by the national trend than by unique factors in Scioto County. Additionally, the negative bars manufacturing indicate that Scioto County is underperforming in this industry. Further, transportation, utilities and wholesale trade are all performing better than would be expected. Even though wholesale trade experienced loss, they are considered outperforming due to the fact that they should have actually experienced more job loss if they were following the national trend.

Figure 2: Shift Share Analysis for Scioto County, 2019<sup>4</sup>



<sup>4</sup> Sources: US Bureau of Labor Statistics: Industry-Occupation Matrix; US Bureau of Labor of Statistics: Quarterly Census of Wages and Employment 2020; US Census: County Business Patterns 2019; Bureau of Economic Analysis: Gross Domestic Product by Industry and Input-Output Statistics 2020.

Table 4: Change in Number of Employees, Scioto County, 2018-2019

	Number of employees		Change
	2018	2019	
Transportation	566	593	27
Utilities	93	96	3
Mining	32	33	1
Manufacturing	1504	1472	-32
Wholesale Trade	380	372	-8

### Shift Share Conclusions

From the shift-share analysis, this study draws two conclusions. Firstly, that the mining industry in Scioto County has kept on trend with the national trend. Secondly, that the four most closely related coal supply chain industry are performing at odds with the national trends. In particular, transportation and wholesale trade in Lawrence County are underperforming as compared to national trends. On the other manufacturing is underperforming in Scioto County. As table 2 denotes, there are at least 76 transportation businesses, 19 coal-related wholesale businesses, and 10 coal-related manufacturing businesses in Lawrence and Scioto Counties. A decline in the coal economy will continue to have impacts for these two counties. Looking at the national level, the mining industry has experienced growth. However, as table 5 points out, the coal mining industry is expected to decrease by over 6% over the 10 years. It can be expected that if Scioto, Lawrence, and nearby counties continue to rely of the coal industry, they will continue to feel impacts in the other coal supply chain industries.

Table 5: Employment Projection for Mining Industry, 2020-2030<sup>5</sup>

	NAICS Code	Employment Percent Change 2020-2030
Mining, quarrying, and oil and gas extraction	21	17.1
Oil and gas extraction	211	-1.2
Mining (except oil and gas)	212	2.9
Coal mining	2121	-6.1
Metal ore mining	2122	8.1
Nonmetallic mineral mining and quarrying	2123	4.5
Support activities for mining	213	36.6

### Reliance of the Coal Supply Chain Industries

Next, this study looks at the reliance of Lawrence and Scioto Counties on the identified coal supply chain industries. Again, due to data suppression at the county level, some data is not available especially at more detailed NAICS Code levels. Tables 6 and 7 show how these four industry rank among the 19 two-

<sup>5</sup> Sources: US Bureau of Labor Statistics: Industry-Occupation Matrix

digit NAICS industries. While these industries are low for the number of establishments, the transportation and manufacturing industries are at the top for total employment. Additionally, these two industries contribute relatively a lot to the total wages earned in the county. Furthermore, utilities and manufacturing rank as having very high average wages. The ranking helps put into perspective how the two counties may rely on the coal supply chain industries. Further decline in the coal economy and other economic shocks only makes the dependence on a handful of industries and businesses more unstable.

Full tables detailing establishment numbers, average employment, and wages can be found in Appendix B and Appendix C for Lawrence and Scioto Counties, respectively.

Table 6: Coal Supply Chain Ranking for Lawrence County, 2020

Industry Sector	Establishment Rank	Employment Rank*	Total Annual Wages Rank*	Average Wage Rank*
Transportation	8 of 19	6 of 16	4 of 16	6 of 16
Utilities	16 of 19	12 of 16	7 of 16	1 of 16
Manufacturing	9 of 19	4 of 16	3 of 16	5 of 16
Wholesale Trade	11 of 19	10 of 16	10 of 16	7 of 16

\*Agriculture, Mining, and Construction industries suppressed for this data

Table 7: Coal Supply Chain Ranking for Scioto County, 2020

Industry Sector	Establishment Rank	Employment Rank*	Total Annual Wages Rank*	Average Wage Rank*
Transportation	12 of 19	5 of 17	7 of 17	8 of 17
Utilities	18 of 19	16 of 17	12 of 17	1 of 17
Manufacturing	9 of 19	4 of 17	3 of 17	3 of 17
Wholesale Trade	11 of 19	10 of 17	9 of 17	10 of 17

\*Agriculture and Mining industries suppressed for this data

### Determining the Impact of Coal Supply Chain Reliance

This study now examines the potential impact reliance on the coal supply chain could have for Lawrence and Scioto Counties. Tables 8 and 9 show the changes in employment and wages, respectively, from 2020-2030 if one were to assume that Lawrence and Scioto Counties followed the National trend estimates. If this were the case, one would expect a small increase in employment in the coal supply chain industries, roughly 104 more employees. Likewise, income earned in the coal supply chain industries increases almost 6.5 million dollars (assuming no inflation).

Table 8: Employment Projection for Coal Supply Chain Industries, 2020-2030<sup>6</sup>

NAICS CODE*	Description	Estimated number of employees 2020	Estimated Percent Change in Industry Employment 2020-2030	Estimated number of employees 2030
221	Utilities	62	-7.2	57.536
484	Truck Transportation	2,203	4.4	2,299.93
4832	Water Transportation	39	9.8	42.822
211 (130)	Natural gas extraction	5	-1.2	4.94
324 (121)	Asphalt Paving mixtures & blocks	23	4	23.92
324 (199)	Coal products manufacturing	129	4	134.16
325 (194)	Gum & Wood chemicals	92	1.6	93.472
325 (211)	Plastics Material and Resin Manufacturing	319	1.6	324.104
3314 (10)	Primary smelting and refining of copper	6	-0.4	5.976
3331 (31)	Mining equipment manufacturers	205	3.2	211.56
423 (320), 424 (690)	Coal tar wholesalers	15	3.4, 2.6	15.45
423 (520)	Coal wholesalers	6	3.4	5.796
424 (690)	Chemical wholesalers	9	2.6	9.234
4543 (10)	Fuel wholesalers	110	-10.5	98.45
<b>Total</b>	<b>All Identified Coal Supply Industries in Lawrence and Scioto Counties</b>	<b>3,223</b>	<b>-</b>	<b>3,327.35</b>

\*where data suppressed at too detailed NAICS code level, earlier NAICS Code was used as indicated by use of ()

<sup>6</sup> Sources: US Bureau of Labor Statistics: Industry-Occupation Matrix

Table 9: Estimated Total Wages from National Average Wage using Employment Projections, 2020-2030<sup>7</sup>

NAICS CODE*	Description	National Average Wage 2020	Total Wages 2020 (using 2020 employment estimate)	Total Wages 2030 (using 2030 employment estimate)	Change in Wages 2020-2030
221	Utilities	117,180	7,265,160	6,742,068	-523,092
484	Truck Transportation	55,903	123,154,309	128,572,987	5,418,678
4832	Water Transportation	83,106	3,241,134	3,558,765	317,631
211 (130)	Natural gas extraction	185,936	929,680	918,524	-11,156
324 (121)	Asphalt Paving mixtures & blocks	122,077	2,807,771	2,920,082	112,311
324 (199)	Coal products manufacturing	122,077	15,747,933	16,377,850	629,917
325 (194)	Gum & Wood chemicals	103,568	9,528,256	9,680,708	152,452
325 (211)	Plastics Material and Resin Manufacturing	103,568	33,038,192	33,566,803	528,611
3314 (10)	Primary smelting and refining of copper	71,455	428,730	427,015	-1,715
3331 (31)	Mining equipment manufacturers	75,576	15,493,080	15,988,859	495,779
423 (320), 424 (690)	Coal tar wholesalers	84,416, 78,201	1,219,628	1,256,216	36,589
423 (520)	Coal wholesalers	84,416	506,496	489,275	-17,221
424 (690)	Chemical wholesalers	78,201	703,809	722,108	18,299
4543 (10)	Fuel wholesalers	59,292	6,522,120	5,837,297	-684,823
<b>Total</b>	<b>All Identified Coal Supply Industries in Lawrence and Scioto Counties</b>	<b>-</b>	<b>220,586,298</b>	<b>227,058,558</b>	<b>6,472,261</b>

\*where data suppressed at too detailed NAICS code level, earlier NAICS Code was used as indicated by use of ()

However, one must remember the shift-share analysis, which indicated that none of the coal supply chain industries in either county follow the national trend. In order to adjust the employment and wage projections, three assumptions had to be held true:

Assumption one: the comparative effect for each county has remained constant from 2020-2030

Assumption two: the number of employees for each industry will remain stable from 2019-2030.

Assumption three: wages for a particular industry will stay constant, without adjustment for inflation from 2019-2030.

<sup>7</sup> Sources: US Bureau of Labor Statistics: Industry-Occupation Matrix



The shift-share analysis demonstrated how the coal supply chain industries do not locally follow the national trend, although the employment and wage projects can be predicted with three assumptions, 1.) the comparative effect for each county has remained constant from 2020-2030, 2.) the number of employees for each industry will remain stable from 2019-2030, 3.) wages for a particular industry will stay constant, without adjustment for inflation from 2019-2030.

Holding these three assumptions true, has significant impacts on the analysis. Assumption one impacts the analysis by not allowing for internal policy changes or other direct actions sought to actively diversify or change the business atmosphere in the county, nor allowing for external economic shocks at the national level, such as recession or new federal policies. It is unlikely that the comparative effect would remain constant for a period of ten years. However, in order to conduct the analysis, these potential variables had to be controlled. Assumption two impacts the analysis by not allowing in change in the ‘actual employment’ term in the analysis. This will likely make the estimates smaller than they should be. This should be noted when looking at the estimates. The final assumption impacts the analysis by keeping all dollar amounts in 2020 dollars. This will make for easier comparisons. However, it should be noted that inflation is likely to continue to rise over the next ten years and the wages will likely increase as a result.

Table 10 and 11 shows the estimated employment and total wages for each industry adjusted with the comparative effect for Lawrence and Scioto Counties, respectively. This indicates a loss of over 156 employees and over 7.8 million dollars in income earned in coal supply chain industries in Lawrence County in the ten-year period. For Scioto County, this indicates an even greater loss of over 190 employees and over 9.3 million dollars in income earned in coal supply chain industries in the ten-year period.

Table 10: Estimated Employment and Wages, adjusted by the Comparative Effect, for Lawrence County, 2020-2030

Industry Sector	Estimated ‘actual employment’ 2020	Estimated ‘actual employment’ 2030	Estimated change in employment, 2020-2030	Average Wage 2020	Total Wages 2020	Estimated Total Wages 2030	Change in Total Wages, 2020-2030
Transportation	588	511.372	-76.628	47,953	28,196,364	24,521,822	-3,674,542
Utilities	112	107.12	-4.888	102,369	11,465,328	10,965,767	-499,561
Manufacturing	870	847.31	-22.69	48,493	42,188,910	41,088,604	-1,100,306
Wholesale Trade	209	156.701	-52.299	47,918	10,014,862	7,508,799	-2,506,063
<b>Total</b>	<b>1,779</b>	<b>1,622.503</b>	<b>-156.497</b>	<b>_</b>	<b>91,865,464</b>	<b>84,084,991</b>	<b>-7,780,473</b>

Table 11: Estimated Employment and Wages, adjusted by the Comparative Effect, for Scioto County, 2020-2030

Industry Sector	Estimated 'actual employment' 2020	Estimated 'actual employment' 2030	Estimated change in employment, 2020-2030	Average Wage 2020	Total Wages 2020	Estimated Total Wages 2030	Change in Total Wages, 2020-2030
Transportation	593	571.967	-21.033	42,898	25,438,514	24,536,240	-902,274
Utilities	96	99.096	3.096	89,985	8,638,560	8,917,154	278,594
Manufacturing	1472	1311.936	-160.064	51,271	75,470,912	67,264,271	-8,206,641
Wholesale Trade	372	359.908	-12.092	40,436	15,042,192	14,553,240	-488,952
<b>Total</b>	<b>2533</b>	<b>2342.907</b>	<b>-190.093</b>	<b>_</b>	<b>124,590,178</b>	<b>115,270,904</b>	<b>-9,319,274</b>

### Summary

The coal supply chain includes industries that directly and indirectly provide goods and services to the coal industry and their suppliers including but limited to; mining, utilities, manufacturing, wholesale trade, and the transportation industries. The national growth effect demonstrated trends with Lawrence County having contrary outcomes based upon an isolating impact within transportation, wholesale, and manufacturing. The competitive effect demonstrated how Lawrence County is underperforming in wholesale trade and transportation. The coal supply chain reliance portrays the disruptions with the decline in the coal economy as well as other economic shocks that create a dependence on other industries and businesses which ultimately lead to more instability. The shift-share analysis demonstrated how the coal supply chain industries do not locally follow the national trend, although the employment and wage projects can be predicted with three assumptions, 1.) the comparative effect for each county has remained constant from 2020-2030, 2.) the number of employees for each industry will remain stable from 2019-2030, 3.) wages for a particular industry will stay constant, without adjustment for inflation from 2019-2030.

### Conclusion

Even though, the data is suppressed at the county level at more detailed NAICS codes, this analysis paints a very different picture than using the national trends and average to estimate in Lawrence and Scioto County. Without a federal policy change regarding the coal economy, it is likely that the coal economy will continue to decline. Likewise, counties like Lawrence and Scioto will be impacted as their coal supply chain-related industries and businesses are also impacted by the declining coal economy. Over the next ten years, it is estimated that Lawrence and Scioto Counties will lose 7.8 million and 9.3 million dollars, respectively, regarding the impacts of the coal economy on the supply chain businesses if no action is taken by the counties. However, work is underway to help transition workers and businesses away from coal economy jobs as well as to further diversify the economy in the counties.

Appendix A<sup>8</sup>: List of Coal Supply Chain and Transportation Businesses in Lawrence and Scioto Counties

NAICS Code	Coal Supply Chain Industry	Company Name	County	Number of Employees	Date of Establishment	Financial
333131	Mining equipment manufacturers	Engines Inc. of Ohio	Lawrence	65	2005	Income: \$12,895,328
333131	Mining equipment manufacturers	Jennmar McSweeney, LLC	Lawrence	140	2013	Income: \$42,217,504
333132	Oil and gas field machinery manufacturing	lexisnexis didn't list any in Lawrence + Scioto				
332322, 332313	Coal chutes	lexisnexis didn't list any in Lawrence + Scioto				
332922	Coal conveyors	lexisnexis didn't list any in Lawrence + Scioto				
326220	Rubber and plastics hoses and belting manufacturing	lexisnexis didn't list any in Lawrence + Scioto				
213113	Exploration	lexisnexis didn't list any in Lawrence + Scioto				
212311, 212312, 212313, 212319	Stone mining and quarrying	lexisnexis didn't list any in Lawrence + Scioto				
211130	Natural gas extraction	Motorcarbon Elements LLC	Lawrence	4	2018	
211130	Natural gas extraction	Altivia Chemicals LLC	Scioto	1	Not found	No sales listed on income statement
212111, 212112, 212113	Coal mining	lexisnexis didn't list any in Lawrence + Scioto				
454310, 423520	Fuel wholesalers	Lester and Sons Inc	Lawrence	1	2010	Annual sales: \$54,425
454310, 423520	Fuel wholesalers	Kezee Jr, Paul	Lawrence	4	1994	Annual sales: \$400,000
454310, 423520	Fuel wholesalers	Perry Holliday Inc	Lawrence	3	1960	Annual sales: \$375,363
454310, 423520	Fuel wholesalers	Arrick's Bottled Gas Service	Lawrence	13	Not found	No sales listed on income statement
454310, 423520	Fuel wholesalers	Arrick's Propane	Lawrence	3	2001	Annual sales: \$438,422

<sup>8</sup> Pulled from NexisUni Database

454310, 423520	Fuel wholesalers	M G Propane Resources	Lawrence	3	2015	Annual sales: \$193,664
454310, 423520	Fuel wholesalers	Weavers LLC	Scioto	4	2015	Annual sales: \$374,095
454310, 423520	Fuel wholesalers	Cox Bottled Gas Co	Scioto	25	1954 (in business 66 years)	Annual sales: \$11,541,000
454310, 423528	Fuel wholesalers	Arrick's Bottled Gas Service	Scioto	54	1952	\$1,000,000 in sales
423520	Coal wholesalers	Coal Network, Inc.	LAWRENCE	6	Not found	\$50,000,000 - \$74,999,999
423320, 424690	Coal tar wholesalers	Bce Materials Inc	Scioto	3	1984	\$529,296 in sales
423320, 424690	Coal tar wholesalers	Rocla Concrete Tie Inc	Scioto	2	2015	\$75,338 in sales
423320, 424690	Coal tar wholesalers	Lucasville Sand & Gravel	Scioto	Not found	Not found	\$1,595,000 in sales
423320, 424690	Coal tar wholesalers	Adkins Construction & Trucking Co	Scioto	4	1978	\$540,000 in sales
423320, 424690	Coal tar wholesalers	Appalachian Asphalt	Scioto	2	2014	\$197,683 in sales
423320, 424690	Coal tar wholesalers	Lewis Materials LLC	Scioto	4	2005	\$273,910 in sales
424690	Chemical wholesalers	Drug Detox and Alcohol Rehab	LAWRENCE	2	2016	\$74,023 in sales
424690	Chemical wholesalers	Airtite Mine Products, LLC	Lawrence	Not found	Not found	No sales listed on income statement
424690	Chemical wholesalers	The Wright Care Home Medical Supplies Inc	Scioto	7	1988	\$1,000,000 in sales
324121	Asphalt Paving mixtures & blocks	Mae Materials, LLC	Scioto	23	2012	\$5,000,000 in sales
325194	Gum & Wood chemichals	Americas Styrenics LLC	Lawrence	92	Not found	No sales listed on income statement
325194	Gum & Wood chemichals	Appalachian Mortuary Services LLC	Lawrence	1	2017	\$150,000 in annual sales
325194	Gum & Wood chemichals	Altivia Petrochemicals, LLC	Scioto	Not found	Not found	No sales listed on income statement
331410	Primary smelting and refining of copper	Swift Manufacturing Co Inc	Lawrence	6	2007 (13 years in business)	\$111,000 in sales
324199	Coal products manufacturing	Haverhill North Coke Company	Scioto	125	Not found	\$50,000,000 - \$74,999,999
324199	Coal products manufacturing	Falcon Fab and Finishes, LLC	Scioto	3	2005	\$80,000 in annual sales
324199	Coal products manufacturing	Dollarhide Supply Company, LLC	Scioto	1	2016	\$65,191 in annual sales

325211	Plastics Material and Resin Manufacturing	Minova USA Inc.	Lawrence	52	Not found	No sales listed on income statement
325211	Plastics Material and Resin Manufacturing	Americas Styrenics LLC	Lawrence	92	Not found	No sales listed on income statement
325211	Plastics Material and Resin Manufacturing	The Dow Chemical Company	Lawrence	175	Not found	No sales listed on income statement
327992	Ground or treated mineral and earth manufacturing	lexisnexis didn't list any in Lawrence + Scioto				
221	Utilities	American Electric Power Company, Inc.	Scioto	1	Not found	No sales listed on income statement
221	Utilities	Energy Control of Ohio & KY	Scioto	2	2012	Annual sales \$35,491
221	Utilities	AEP Power Marketing, Inc.	Scioto	6	Not found	No sales listed on income statement
221	Utilities	Village of South Point	Lawrence	16	Not found	\$446,386
221	Utilities	Vistra Energy Corp.	Lawrence	27	Not found	No sales listed on income statement
221	Utilities	Dynergy Hanging Rock II, LLC	Lawrence	Not found	Not found	No sales listed on income statement
221	Utilities	Duke Energy Corporation	Lawrence	10	Not found	No sales listed on income statement
484	Transportation	Adam J Wilds	Lawrence	1	2011	\$113,933 annual sales
484	Transportation	Bacorns Hauling & Snow Plow	Lawrence	1	2000	\$97,321 annual sales
484	Transportation	Baileys Trucking LLC	Lawrence	1	2018	
484	Transportation	Bryant Trucking LLC	Lawrence	2	2015	\$105,305 annual sales
484	Transportation	BWC Trucking Company Inc	Lawrence	10	Not found	\$2,000,000 revenue
484	Transportation	C & P Trucking Inc	Lawrence	1	2013	\$85,927 annual sales
484	Transportation	Dave Otworth Trucking	Lawrence	2	2010	\$78,386 annual sales
484	Transportation	Eugene Ferguson	Lawrence	1	2012	\$88,286 annual sales
484	Transportation	Ferguson KS Trucking LLC	Lawrence	1	2010	\$86,491 annual sales
484	Transportation	George R Harper	LAWRENCE	2	2012	\$137,796 annual sales
484	Transportation	H & W Holdings, LLC	Lawrence	50	HQ Founded 2001	No financial information found
484	Transportation	H & W Trucking Company Inc	Lawrence	2	2008	\$209,815 annual sales

484	Transportation	Hanshaws Trucking & Leasing LLC	Lawrence	2	2012	\$174,354 annual sales
484	Transportation	James Matney Trucking	Lawrence	2	2008	\$125,168 annual sales
484	Transportation	Johnson, Phillip/P & T Express	Lawrence	1	1996	\$80,000 annual sales
484	Transportation	Kb's Hauling LLC	Lawrence	2	2016	\$69,957 annual sales
484	Transportation	Klrs Trucking LLC	Lawrence	1	2018	\$57,815 annual sales
484	Transportation	Lally-Ries, LLC	LAWRENCE	4	2006	\$262,703 annual sales
484	Transportation	Lloyd W Damron	Lawrence	8	1992	\$515,342 annual sales
484	Transportation	Lockhart, Joyce Ann and William Lawrence II	Lawrence	3	2001	\$194,395 annual sales
484	Transportation	Lowell Moon Trucking	Lawrence	1	2001	\$87,538 annual sales
484	Transportation	Paul Lockard Trucking Inc	Lawrence	3	2005	\$181,218 annual sales
484	Transportation	Prestige Delivery Systems, LLC	Lawrence	8	Not found	
484	Transportation	Rowe J Rowe	Lawrence	1	2000	\$81,768 annual sales
484	Transportation	Rt White Trucking Co Inc	Lawrence	2	2011	\$95,2484 annual sales
484	Transportation	Sj Myers Trucking Inc	Lawrence	2	2009	\$132,926 annual sales
484	Transportation	Swain Truck & Accessories, Inc	Lawrence	1	2017	\$57,815 annual sales
484	Transportation	The Macgyvers	Lawrence	1	2014	\$68,310 annual sales
484	Transportation	Tkt Trucking LLC	Lawrence	4	2009	\$320,000 annual sales
484	Transportation	Waller Trucking	Lawrence	1	2000	\$115,250 annual sales
484	Transportation	Benjamin W Phipps	Scioto	2	2010	\$121,544 annual sales
484	Transportation	Bsf Trucking LLC	Scioto	1	2008	\$128,4842 annual sales
484	Transportation	Burnside Trucking Inc	Scioto	2	2011	\$103,864 annual sales
484	Transportation	C + K Trucking Wheelersburg Ohio	Scioto	4	2010	\$177,853 annual sales
484	Transportation	Carver Trucking LLC	Scioto	1	2016	\$76,953 annual sales

484	Transportation	CDK Trucking LLC	Scioto	1	2014	\$80,906 annual sales
484	Transportation	Charles E Smith	SCIOTO	1	2012	\$73,185 annual sales
484	Transportation	Cronin Trucking	Scioto	1	2003	\$145,070 annual sales
484	Transportation	Dubinsky Trucking LLC	Scioto	1	2014	\$68,952 annual sales
484	Transportation	Gckt Trucking Inc	Scioto	2	2013	\$117,034 annual sales
484	Transportation	GLC Trucking Ltd	Scioto	10	1980 - 40 years in business	\$1,263,000 in sales
484	Transportation	Hagen Trucking LLC	Scioto	1	2018	\$57,815 annual sales
484	Transportation	Helton Trucking LLC	Scioto	1	2012	\$120,250 annual sales
484	Transportation	Howard & Son's Trucking LLC	Scioto	2	2012	\$136,5484 annual sales
484	Transportation	Howard Whitt Jr	Scioto	1984	4	\$327,370 annual sales
484	Transportation	Jason Conley Truck and Trailer Sales Inc	Scioto	1	2019	\$57,815 annual sales
484	Transportation	Jay Fuller Tracking	Scioto	3	2008	\$163,539 annual sales
484	Transportation	John Dunn Truck'n LLC	Scioto	1	2015	\$52,196 annual sales
484	Transportation	John Thomas Trucking LLC	Scioto	1	2008	\$91,615 annual sales
484	Transportation	Jtp Trucking LLC	Scioto	1	2016	\$63,597 annual sales
484	Transportation	Jule 's' Enterprises, Inc.	Scioto	4	2015	\$135,098 annual sales
484	Transportation	K and R Trucking	Scioto	1	2012	\$84,584 annual sales
484	Transportation	Kmh Trucking LLC	Scioto	1	2013	\$74,703 annual sales
484	Transportation	L and L Sawmill, LLC	Scioto	1	2014	\$98,281 annual sales
484	Transportation	Luther Transfer Inc	Scioto	21	1957	\$4,200,000 revenue
484	Transportation	M and T Trucking Expediting LLC	Scioto	2	2018	\$67,732 annual sales
484	Transportation	M Lute Charles	Scioto	2	2012	\$90,569 annual sales
484	Transportation	Nk Hauling	Scioto	1	2017	\$59,961 annual sales

484	Transportation	Paul A Osborne	Scioto	2	2012	\$107,222 annual sales
484	Transportation	Pendleton Truck Sales LLC	Scioto	2	2013	\$130,860 annual sales
484	Transportation	Pirate Trucking Inc	Scioto	1	2012	\$89,765 annual sales
484	Transportation	R Scott Furniture Moving	Scioto	4	1997	\$253,672 annual sales
484	Transportation	Redoutey Custom Hauling	Scioto	2	2010	\$124,178 annual sales
484	Transportation	Robert Nichols	Scioto	2	2011	\$123,170 annual sales
484	Transportation	Ryan D Shope	Scioto	1	2016	\$57,815 annual sales
484	Transportation	Sandra Rowley Trucking Inc	Scioto	5	1999 - 21 years in business	\$92,000 in sales
484	Transportation	Shope Trucking Inc	Scioto	2	1997	\$161,564 annual sales
484	Transportation	Shultz Transport Inc	Scioto	Could not find in database		
484	Transportation	Smith Family Trucking LLC	Scioto	1	2018	\$57,815 annual sales
484	Transportation	Thomas Euton	Scioto	2	2007	\$131,144 annual sales
484	Transportation	Toft Trucks	Scioto	2	2009	\$142,536 annual sales
484	Transportation	Wade A Rosenburg	Scioto	2	2010	\$141,995 annual sales
4832	Water Transportation	Ingram Barge Company LLC	Lawrence	4	Not found	No financial information found
4832	Water Transportation	FORTE Industrial Equipment Systems, Inc.	LAWRENCE	32	2015	\$24,185,963 annual sales
4832	Water Transportation	Carande Marine Survey	Lawrence	1	2000	\$97,200 annual sales
4832	Water Transportation	General Helicopters International, Inc.	Lawrence	2	1991	
486	Pipeline transportation	lexisnexis didn't list any in Lawrence + Scioto				



Appendix B<sup>9</sup>: Wages and Employment by Industry Sector, Lawrence County, 2020

NAICS Sector	Annual Establishments	Annual Average Employment	Total Annual Wages	Annual Average Weekly Wage	Annual Wages per Employee
NAICS 22 Utilities	7	133	\$13,606,553	\$1,969	\$102,369
NAICS 51 Information	6	64	3,957,263	1,194	62,075
NAICS 55 Management of companies and enterprises	8	87	5,153,331	1,137	59,120
NAICS 54 Professional and technical services	54	231	11,807,425	982	51,041
NAICS 31-33 Manufacturing	38	918	44,504,700	933	484,493
NAICS 48-49 Transportation and warehousing	39	733	35,141,859	922	47,953
NAICS 42 Wholesale trade	34	212	10,142,600	921	47,918
NAICS 53 Real estate and rental and leasing	28	152	6,526,693	827	42,986
NAICS 56 Administrative and waste services	35	780	33,226,031	820	42,625
NAICS 52 Finance and insurance	51	233	8,990,259	741	38,516
NAICS 81 Other services, except public administration	91	277	10,355,086	720	37,417
NAICS 62 Health care and social assistance	157	2,952	102,767,067	670	34,819
NAICS 44-45 Retail trade	143	1,782	46,766,244	505	26,249
NAICS 71 Arts, entertainment, and recreation	13	29	558,158	372	19,358
NAICS 72 Accommodation and food services	69	1,173	19,127,010	314	16,308
NAICS 61 Educational services	9	87	1,220,211	269	13,999

<sup>9</sup> US Bureau of Labor of Statistics: Quarterly Census of Wages and Employment 2020;

Appendix C: Wages and Employment by Industry Sector, Scioto County, 2020<sup>10</sup>

NAICS Sector	Annual Establishments	Annual Average Employment	Total Annual Wages	Annual Average Weekly Wage	Annual Wages per Employee
NAICS 22 Utilities	5	93	\$8,376,110	\$1,730	\$89,985
NAICS 55 Management of companies and enterprises	8	94	5,262,423	1,077	55,983
NAICS 31-33 Manufacturing	50	1,4484	78,987,352	1,049	54,543
NAICS 54 Professional and technical services	85	493	25,677,790	1,001	52,067
NAICS 23 Construction	115	524	26,874,566	986	51,271
NAICS 62 Health care and social assistance	244	7,244	346,312,866	919	47,809
NAICS 52 Finance and insurance	70	371	16,559,504	858	44,605
NAICS 48-49 Transportation and warehousing	38	525	22,510,907	825	42,898
NAICS 51 Information	16	114	4,622,085	779	40,4845
NAICS 42 Wholesale trade	39	403	16,312,590	778	40,436
NAICS 53 Real estate and rental and leasing	46	224	7,473,224	641	33,325
NAICS 81 Other services, except public administration	117	473	14,321,428	582	30,278
NAICS 44-45 Retail trade	233	2,844	85,720,053	580	30,139
NAICS 56 Administrative and waste services	64	463	13,700,840	569	29,607
NAICS 61 Educational services	7	143	3,628,768	4847	25,346
NAICS 71 Arts, entertainment, and recreation	12	44	859,147	375	19,4849
NAICS 72 Accommodation and food services	129	2,254	36,447,459	311	16,169

<sup>10</sup> US Bureau of Labor of Statistics: Quarterly Census of Wages and Employment 2020;

Lawrence County and Scioto County's Power Industry Ecosystem and Coal Industry Ecosystem Report

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of Leadership

and Public Service

December 2021

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## Lawrence County’s and Scioto County’s PIE dependence, Impact, and Risk

The closures of the coal fired power plants has had impacts on industries and regions in the Power Industry Ecosystem (PIE). However, the impacts differ from region to region and from industry to industry, depending on the nature of the region’s economy and where an industry is in the supply chain. Since two coal-fired power plants were closed in Adams County in 2018, the demand for coal and its’ supply chain is expected to decline. Jackson and Jarosi (2021) developed and implemented three measures – PIE Dependence, PIE Impact, and PIE Risk – to form a typology, which they later applied to identify if counties in the Appalachian Mountain Area are depressed, vulnerable, or currently in a hardship.

PIE dependence score measures how dependent a county’s economy is on the power industry and its supply chain. Counties with smaller PIE dependence scores have a more diverse economy, meaning they have a better ability to adapt to change in power industry. These counties with lower PIE dependence scores are more resilient to the closures of coal-fired power plants in the region. The economy in counties with higher dependence score is tied strongly to the power industry, therefore, those counties are at greater risk when there is a coal-fired power plant closure in the region.

PIE Impact score measures the change in employment in power-oriented industries in a region between 2005 and 2018. A positive PIE impact score represents a gain in employment, a negative PIE impact score represents job loss. A county with larger negative value of PIE impact score means that county suffers greater negative impact. According to Jackson and Jarosi (2021), the changes in employment in the Appalachian counties are insubstantial (less than 15 change in PIE related employment). In addition, Jackson and Jarosi (2021) also found that 36.6% of all Appalachian counties experienced gains in power industry ecosystem related employment. This indicates that the change in PIE related employment is not uniformly negative.

PIE risk measures the degree to which a county’s economy is at risk of further negative impacts when the fossil fueled power industries continue to decline. When there is a power plant closure in a county, both the county and surrounding counties face the risk of job loss. While the county where there is a closure (host county) suffers direct risk of declining power industry, the neighboring counties also suffer the spillover risk if they are near the host county. PIE risk score is the combination of the regionwide dependence score, county’s own dependence score, county’s own risk measure, and county’s spillover risk (Jackson and Jarosi, 2021).

After calculating dependence score, impact score, and risk score for each county, Jackson and Jarosi (2021) then combine the information for each county and classify them into eight classes as follow:

Class	Dependence	Impact	Risk
1	High	High	High
2	High	High	Low
3	High	Low	High
4	Low	High	High
5	High	Low	Low
6	Low	High	Low
7	Low	Low	High
8	Low	Low	Low

Table 1: PIE score combination and classification

Among 8 classes, counties in classes 1, 3, and 6 are counties that need more attention. Class 1 counties are **depressed** counties, they are highly dependent in fossil – fueled power industries, they experienced high negative impact from the decline in power industry and are expected to suffer further negative impact in the future. Class 3 counties are **vulnerable** counties, they are highly dependent in fossil – fueled power industries, they have not yet experience high negative impact in employment but are at risk of suffering high negative impact if the power industry continues to decline. Class 6 counties are **hardship** counties, they used to be dependent in fossil – fueled power industries but experienced high negative impact in employment and lost most of their PIE related jobs,

therefore, they are no longer PIE dependent. Class 6 counties are not expected to suffer further impact of the decline in power industry.

Among 420 counties in the Appalachian Mountain Area, Lawrence County is ranked 146<sup>th</sup> in term of PIE dependence, 249<sup>th</sup> in term of PIE impact, 85<sup>th</sup> in term of PIE risk, and is classified as a “Class 3” county – *vulnerable* county. Lawrence County is more dependent on PIE industries compared to an average county in the Appalachian area. On average, Lawrence County has not experienced a large negative impact from the decline in coal-fired power industry, but the county is at high risk for future job loss since its’ economy is still highly dependent in PIE industries.

Scioto County is ranked 329<sup>th</sup> in PIE independence among 420 Appalachian counties, 230<sup>th</sup> in PIE impact, 160<sup>th</sup> in PIE risk, and is classified as a “Class 7” county. Scioto’s degree of dependence to PIE industries is low and the county has not experienced large negative impact in PIE related employment, but its’ economy is facing a high risk of a larger negative impact in the future.

Figure 1 shows the topology map of Ohio’s Appalachian counties. The map shows that Lawrence County and Scioto County are surrounded by PIE *depressed* (Class 1) counties and PIE *vulnerable* (Class 3) counties.

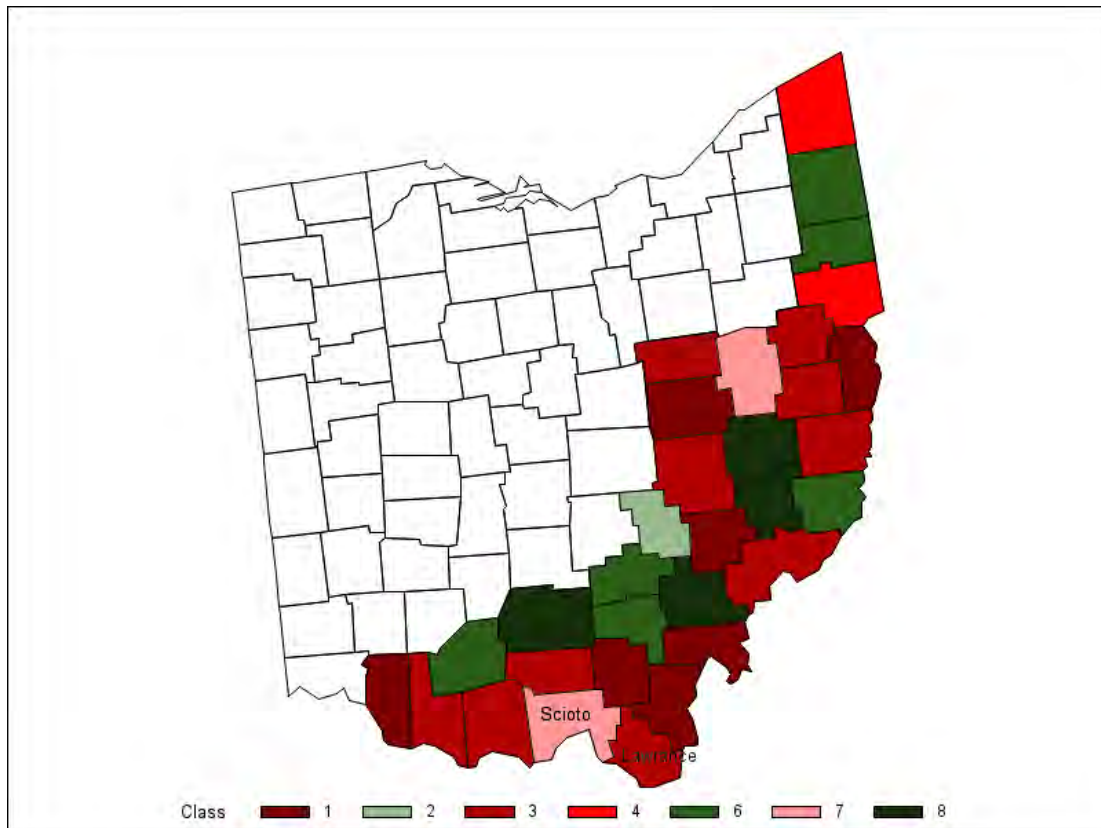


Figure 1: Map of PIE topology for Ohio’s Appalachian counties

Source: Based on Jackson and Jarosi (2021)’s PIE topology classification

### Lawrence’s industry PIE scores

According to NexisUni database, in 2020, there are 56 companies in 11 coal supply chain industries including: mining equipment manufacturer, natural gas extraction, fuel wholesaler, coal wholesaler, chemical wholesaler, gum & wood chemicals, primary smelting and refining of copper, plastics material and resin manufacturing, utility, transportation, and water transportation. Of these 11 industries, the top 4 industries in term of annual revenue are

coal wholesaler (\$50-\$75 million), mining equipment manufacturer (\$55.1 million), water transportation (\$24.2 million), and trucking transportation (\$6.4 million).

Of the 11 coal supply chain industries, the industries with highest PIE score are utility (100.00), natural gas extraction (14.20), and water transportation (4.95). These industries are highly PIE oriented, hence, are expected to be highly affected when there are coal-fired power plant closures in Adam County.

NAICS Code	Coal Supply Chain Industry	Annual Revenue	PIE score 2005	PIE score 2018
<a href="#">333131</a>	Mining equipment manufacturers	\$55,112,832	1.75	0.74
211130	Natural gas extraction	NA	61.8	14.21
454310, 423520	Fuel wholesalers	\$1,461,874	1.39	1.03
423520	Coal wholesalers	\$75,000,000	1.39	1.03
424690	Chemical wholesalers	\$74,023	1.39	1.03
325194	Gum & Wood chemicals	\$150,000	0.96	1.32
<a href="#">331410</a>	Primary smelting and refining of copper	\$111,000	NA	NA
<a href="#">325211</a>	Plastics Material and Resin Manufacturing	NA	0.35	0.32
221	Utilities	\$446,386	100	100
484	Transportation	\$6,480,303	0.69	1.53
4832	Water Transportation	\$24,283,163	2.9	4.95

Table 2: Lawrence County’s coal supply chain industries’ PIE scores

Among the industries with highest revenue in Lawrence County, coal wholesalers have not had a high PIE score, the industry was more dependent on PIE in 2005 and became slightly less PIE dependent in 2018 (see table 2). The mining equipment manufacturers industry used to be more dependent on PIE in 2005 and became less dependent on PIE in 2018 (see table 2). Hence, we do not expect to see a high impact on coal wholesalers and mining equipment manufacturers as coal fired power plants closed in Adam County in 2018.

Water transportation has always been on of the top industries with highest PIE score, this industry has always been highly PIE oriented. In 2018, water transportation industry became even more independent on PIE compared to 2005 (see table 2). Truck transportation became much more dependent on PIE in 2018 compared to 2005 (see table 2). Which means truck transportation industry and water transportation industry are now at much greater risk of negative impacts when there are power plant closures in Adam County.

### Scioto’s industry PIE scores

In 2020, there were 61 businesses in 9 coal supply chain industries including: natural gas extraction, fuel wholesaler, coal tar wholesaler, chemical wholesaler, asphalt paving mixtures & blocks, gum & wood chemicals, coal product manufacturing, utilities, and truck transportation. Of these 9 industries, the top 4 industries in term of annual revenue are coal product manufacturing (\$75 million), fuel wholesaler (\$12.9 million), truck transportation (\$12.2 million), and asphalt paving mixtures & blocks (\$5 million)

NAICS Code	Coal Supply Chain Industry	Annual Revenue	PIE Score 2005	PIE Score 2018
211130	Natural gas extraction	NA	61.8	14.21
454310, 423520	Fuel wholesalers	\$12,915,095	1.39	1.03
423320, 424690	Coal tar wholesalers	\$3,211,227	1.39	1.03
424690	Chemical wholesalers	\$1,000,000	1.39	1.03
324121	Asphalt Paving mixtures & blocks	\$5,000,000	NA	NA

<a href="#">325194</a>	Gum & Wood chemicals	NA	0.96	1.32
324199	Coal products manufacturing	\$75,000,000	7.16	5.31
221	Utilities	\$35491	100	100
484	Transportation	\$12,237,548	0.69	1.53

Table 3: Scioto County’s coal supply chain industries’ PIE scores

Coal product manufacturing, the top revenue industry, has always been highly PIE dependent, the industry had PIE score of 7.16 in 2005 and 5.31 in 2018. Although the coal product’s manufacturing industry became less dependent on PIE in 2018, it still faces a great risk of negative impact when PIE declines.

Fuel wholesaler became slightly less dependent on PIE in 2018 compared to 2005. Truck transportation became more independent on PIE compared to 2005. However, these two industries still have a relatively small PIE score, hence, we do not expect a great risk to these businesses when there are power plants closed in neighboring counties.

**Lawrence County’s and Scioto County’s CIE dependence, Impact, and Risk**

Similar to the PIE dependence and risk analysis, Jackson and Jarosi (2018) also developed a county level coal industry ecosystem (CIE) analysis to examine the impact of the decline in coal production on supply chain industry for all counties in the Appalachian area. In this analysis, Jackson and Jarosi (2018) also develop topology analysis to classify counties into groups with high risk and low risk using three primary dimensions: Dependence, Impact, and Risk. They found that not all counties in the Appalachian area are negatively affected by the decline on coal production.

CIE dependence score measures the degree of concentration of CIE related industries in an industry or in a county. An industry with higher CIE score is highly CIE oriented. A county with a larger value of CIE dependence score means that county is heavily dependent in CIE related industry. CIE dependent score lies between 0 and 1. An industry with a CIE dependence score of 1 is 100% coal dependent. Similarly, a county with CIE dependence score of 1 is 100% coal dependent. A county with a smaller CIE dependence score means that the county’s economy is more diverse, hence, more resilient to the change in coal production.

According to Jackson and Jarosi (2018), the top 10 industries with highest CIE dependence score in 2015 are coal mining (1.00), mining and oil and gas field machinery (0.29), primary smelting and refining copper (0.16), rubber and plastics hoses and belting manufacture (0.13), ground or treated mineral and earth manufacturing (0.1), stone mining and quarrying (0.07), commercial and industrial machinery and equipment rental and leasing (0.06), oil and gas extraction (0.06), water transportation (0.06), and construction machinery manufacturing (0.05).

Jackson and Jarosi (2018) also report that the maximum county’s CIE dependence score used is 0.422, which means 42.2% of the entire economy in that county are dependent on coal. However, in 2015, the maximum county’s CIE dependence score dropped to 0.224, which implies that the Appalachian area is recently less dependent on coal than it used to be. However, the distribution of county’s CIE dependence scores is heavily skewed with less than 17% of all 420 counties have a dependence larger than 0.1.

Lawrence county used to be low coal dependent in 2005 (below Appalachian median). However, the county switched to high coal dependent in 2015 (above Appalachian median). Scioto county, on the other hand, stayed low coal dependent in both years, 2005 and 2015.

After developing the CIE dependence score to measure the concentration level of CIE-related industries in all counties, Jackson and Jarosi (2018) then developed the second measure: CIE impact measures, which measures the impact of the decline in coal production on Appalachian counties’ economies. This measure is to understand the level of job-loss in coal-oriented industries in each county when the decline in coal production occurred. A negative impact score means a county suffered job loss from 2005 to 2015. The larger the negative score means the bigger number of job losses in a county. Surprisingly, the impact of coal decline is not uniformly negative. In fact, Jackson and Jarosi (2018) found that 40% of all counties in the Appalachian area actually experienced a gain in employment.



Lawrence county has an impact score of 0.11 (Table 6). This means the county experienced a positive impact and a gain in employment in coal-oriented industries from 2005 to 2015 when there was a decline in coal production. Which makes Lawrence one of the counties with a positive impact, or “low impact” category. Scioto on the other hand has an impact score of -0.06, which means the county suffered job loss in coal-oriented industry and is classified as county with high impact (above Appalachian median).

CIE risk is the third measure Jackson and Jarosi (2018) developed to quantify the degree to which counties in the Appalachian area are at risk of facing further negative impact from the decline in coal production. Counties with low productivity coal mines and counties with most of their employment centered in CIE employment face the higher direct risk and risk through supply chain linkages, respectively. Lawrence County has the CIE risk score of 0.32, which is higher than the average CIE risk score for all Appalachian counties, hence why the county is classified as a county with high risk. We expect to see further negative impact on the county’s economy in the future. Scioto County, on the other hand, has a CIE risk score of 0.17, which is lower than the Appalachian average. Scioto is classified as a “low risk” county; therefore, we do not expect to see further damage to its economy when coal production continues to decline.

After developing three measures to quantify the degrees of CIE dependence, impact, and risk, Jackson and Jarosi (2018) then combined the three measures to develop an eight-way classification scheme as follows:

Class	Dependence	Impact	Risk
1	High	High	High
2	High	High	Low
3	High	Low	High
4	Low	High	High
5	High	Low	Low
6	Low	High	Low
7	Low	Low	High
8	Low	Low	Low

Table 4: CIE score combination and classification

Counties in classes 1, 3, 6, 8 are highly populated counties. “Class 1” counties are *depressed* counties, these counties are highly dependent on coal, experienced large negative impact as coal production declined, and are facing higher risk as coal production continues to decline. “Class 3” counties are *vulnerable* counties, their economy is still highly coal dependent, they have not experienced a large negative change in CIE related employment, but their economy is at high risk if coal production keeps declining. “Class 6” counties are *hardship* counties, their economy used to be dependent on coal in the past, but they are now no longer coal-dependent since they lost most of their CIE related jobs. Therefore, we don’t expect to see further damage to their economy as coal production continues to decline. “Class 8” counties are counties with low CIE dependence, low CIE impact, and low CIE risk. These counties are the least affected counties when there is a change in coal production.

Lawrence County– as mentioned– used to be low coal dependent in 2005, but the county experienced a gain in CIE related employment in the period from 2005 to 2015. Hence, in 2015 the county switched to highly coal-dependent (higher than Appalachian average). This switch puts Lawrence County’s economy at high risk of having a negative impact in the future as coal production continues to decline. The combination of high CIE dependence, low CIE impact, and high CIE risk makes Lawrence County one of the “Class 3” counties – *vulnerable* counties.

Scioto County has a low CIE Dependence score, a high CIE Impact score, and a low CIE Risk score; hence, the county is classified as a *hardship* county – “Class 6” county. Scioto experienced a high negative impact in CIE related employment as coal production declined, which caused the county to lose most of its CIE related jobs. Therefore, the county is no longer highly coal-dependent, and we do not expect to see further negative impact to its economy in the future if coal production continues to decline.

Figure 2 shows the topology map of Ohio’s Appalachian counties. According to the topology map, most of Ohio’s Appalachian counties are CIE *depressed*, or CIE *vulnerable*, or CIE *hardship*. There are only 4 counties in the Ohioan Appalachian region are classified as “CIE low affected”, which are Clermont County, Pike County, Ross County, and Hocking County. The map shows that Lawrence County is surrounded by PIE *depressed* (Class 1) counties and PIE *hardship* (Class 7) counties, while Scioto is neighbored by one CIE *depressed* county, one CIE *vulnerable* county, one CIE *hardship* county, and 1 CIE *low affected* “Class 8” county.

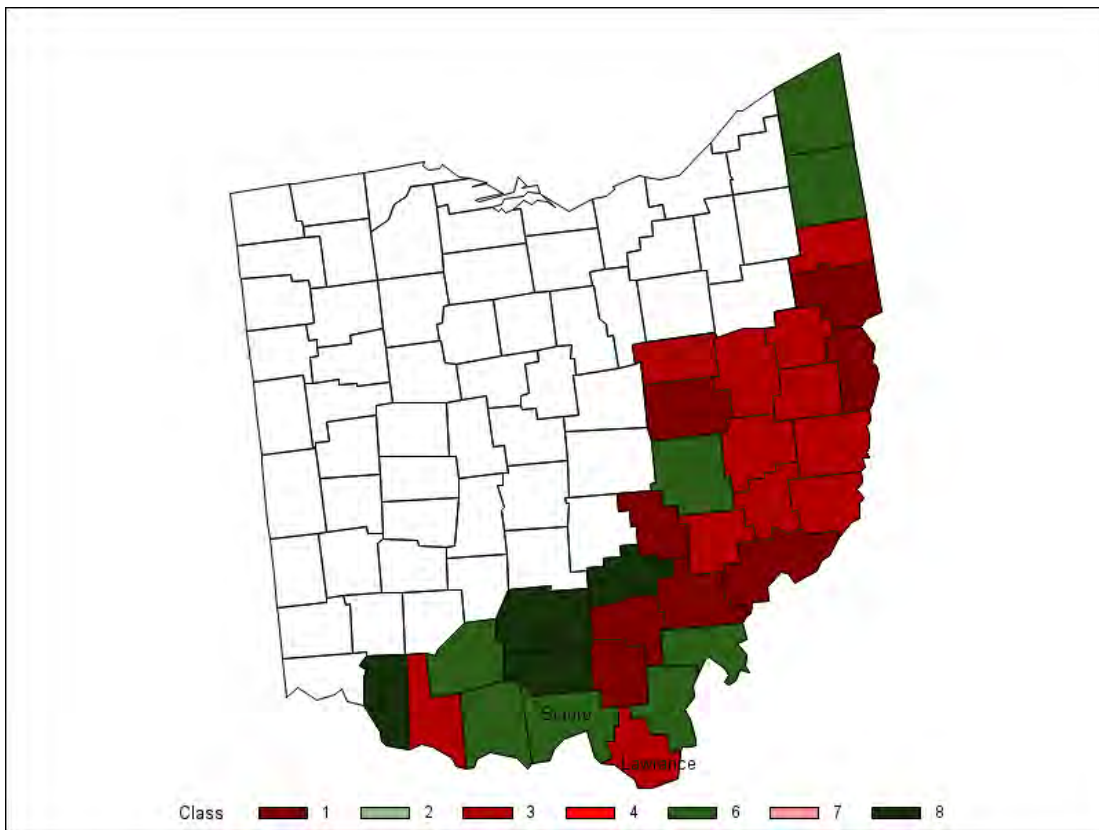


Figure 2: Map of CIE topology for Ohio’s Appalachian counties  
 Source: Based on Jackson and Jarosi (2018)’s CIE topology classification

FIPS	County	Class	PIE Dependence Rank	PIE Impact Rank	Total PIE Risk Rank	Region Dependence	Local PIE Dependence	PIE Impact Score	County PIE Risk	Total Risk
39001	Adams	3	33	312	20	2.8	2.2	0.1	75.9	5.8
39007	Ashtabula	4	279	130	127	0.9	0.2	-0.2	44.4	1.8
39009	Athens	8	229	313	275	1	0	0.1	0	1.1
39013	Belmont	3	138	369	147	1.3	0	0.3	0	1.6
39015	Brown	3	16	417	19	3.8	0	3	0	5.9
39019	Carroll	3	127	400	49	1.3	0.3	0.7	51.3	3
39025	Clermont	1	82	116	70	1.6	0.4	-0.3	56.6	2.5
39029	Columbiana	4	302	73	209	0.8	0	-0.5	0	1.4
39031	Coshocton	1	24	20	14	3	2.4	-1.6	83.5	7.8
39053	Gallia	1	9	10	5	5.2	2.9	-2	58.3	10.5
39059	Guernsey	8	300	237	244	0.8	0	0	0	1.2
39067	Harrison	3	73	317	76	1.6	0	0.1	0	2.4
39071	Highland	6	237	102	223	1	0	-0.3	0	1.3
39073	Hocking	6	404	192	405	0.6	0	-0.1	0	0.6
39075	Holmes	3	169	358	81	1.2	0	0.2	0	2.4
39079	Jackson	1	202	140	171	1.1	0	-0.2	0	1.5
39081	Jefferson	1	13	71	11	4.2	4.1	-0.5	76.2	8.3
39087	<b>Lawrence</b>	<b>3</b>	<b>146</b>	<b>249</b>	<b>85</b>	<b>1.3</b>	<b>0.3</b>	<b>0</b>	<b>52.1</b>	<b>2.3</b>
39099	Mahoning	6	239	189	229	1	0	-0.1	0	1.3
39105	Meigs	1	105	158	125	1.4	0	-0.2	0	1.8
39111	Monroe	6	295	57	282	0.9	0	-0.7	0	1.1
39115	Morgan	1	63	70	99	1.7	0	-0.5	0	2.1
39119	Muskingum	3	157	331	101	1.2	0.4	0.2	44.2	2.1
39121	Noble	8	312	238	314	0.8	0	0	0	1
39127	Perry	2	208	156	240	1.1	0	-0.2	0	1.2
39131	Pike	3	180	236	149	1.2	0	0	0	1.6
39141	Ross	8	256	243	250	0.9	0.1	0	25.6	1.2
39145	<b>Scioto</b>	<b>7</b>	<b>329</b>	<b>230</b>	<b>160</b>	<b>0.8</b>	<b>0.3</b>	<b>-0.1</b>	<b>61.3</b>	<b>1.6</b>
39155	Trumbull	6	254	127	286	0.9	0	-0.2	0	1.1
39157	Tuscarawas	7	219	362	62	1	0.3	0.3	85.1	2.6
39163	Vinton	6	339	11	338	0.8	0	-2	0	0.9
39167	Washington	3	128	328	88	1.3	0.5	0.1	49.9	2.2

Table 5: PIE dependence, impact, and risk scores for Ohio's counties in the Appalachian area.

Source: Jackson and Jarosi (2021)

FIPS	County	Class	Global Dependence	Local Dependence	CIE Impact Score	Mine-productivity Risk	Total CIE Risk
39001	Adams	6	0.22	0	-0.08	0	0.22
39007	Ashtabula	6	0.28	0	-0.04	0	0.28
39009	Athens	1	0.33	0.05	-0.07	30.88	0.43
39013	Belmont	3	3.38	0.35	0.14	13.78	3.86
39015	Brown	3	0.59	0.1	0.37	50	0.89
39019	Carroll	3	1.9	0.47	1.83	68.88	3.23
39025	Clermont	8	0.3	0	0.05	0	0.3
39029	Columbiana	1	0.36	0.02	-0.21	6.51	0.39
39031	Coshocton	1	0.57	0	-0.88	36.15	0.77
39053	Gallia	6	0.17	0	-0.28	0	0.17
39059	Guernsey	3	0.68	0.07	0.37	29.18	0.88
39067	Harrison	3	8.86	1.71	0.03	30.17	11.73
39071	Highland	6	0.24	0	-0.12	0	0.24
39073	Hocking	8	0.28	0	0.06	0	0.28
39075	Holmes	3	0.36	0	0.02	1.69	0.36
39079	Jackson	1	0.6	0.13	-1.09	55.81	0.94
39081	Jefferson	1	0.48	0.08	-0.34	79.02	0.86
<b>39087</b>	<b>Lawrence</b>	<b>3</b>	<b>0.32</b>	<b>0</b>	<b>0.11</b>	<b>0</b>	<b>0.32</b>
39099	Mahoning	3	0.35	0	-0.02	0.38	0.35
39105	Meigs	6	0.24	0	-0.5	6.98	0.25
39111	Monroe	3	0.55	0	0.05	0	0.55
39115	Morgan	3	0.3	0	0.04	0	0.3
39119	Muskingum	6	0.29	0	-0.06	0	0.29
39121	Noble	3	1.87	0	0.1	0	1.87
39127	Perry	1	1.42	0.34	-0.04	80.14	2.56
39131	Pike	8	0.3	0	0.08	0	0.3
39141	Ross	8	0.17	0	-0.02	0	0.17
<b>39145</b>	<b>Scioto</b>	<b>6</b>	<b>0.17</b>	<b>0</b>	<b>-0.06</b>	<b>0</b>	<b>0.17</b>
39155	Trumbull	6	0.29	0	-0.12	0	0.29
39157	Tuscarawas	3	0.94	0.16	0.27	51.28	1.43
39163	Vinton	1	1.14	0.13	-4.27	89.74	2.17
39167	Washington	1	0.41	0	-0.11	0	0.41

Table 6: CIE dependence, impact, and risk scores for Ohio's counties in the Appalachian area.  
Source: Jackson and Jarosi (2021)

## 5. CORE COMPETENCIES ASSESSMENT OF COAL SUPPLY CHAIN

Lawrence County and Scioto County's Core Competencies of the Coal Supply Chain Report

Prepared by Center for Economic Development and Community Resilience, the Voinovich

School of Leadership and Public Service

December 2021

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### Lawrence County’s and Scioto County’s core competencies of industries and providers in the coal supply chain

NAICS Code	Coal Supply Chain Industry	Annual Revenue
<b>333131</b>	<b>Mining equipment manufacturers</b>	<b>\$55,112,832</b>
211130	Natural gas extraction	NA
454310, 423520	Fuel wholesalers	\$1,461,874
<b>423520</b>	<b>Coal wholesalers</b>	<b>\$75,000,000</b>
424690	Chemical wholesalers	\$74,023
325194	Gum & Wood chemicals	\$150,000
331410	Primary smelting and refining of copper	\$111,000
325211	Plastics Material and Resin Manufacturing	NA
221	Utilities	\$446,386
<b>484</b>	<b>Transportation</b>	<b>\$18,717,851</b>
<b>4832</b>	<b>Water Transportation</b>	<b>\$24,283,163</b>
423320, 424690	Coal tar wholesalers	\$3,211,227
324121	Asphalt Paving mixtures & blocks	\$5,000,000
<b>324199</b>	<b>Coal products manufacturing</b>	<b>\$75,000,000</b>

Table 1: Lawrence County’s and Scioto County’s coal supply chain industries’ CEI dependence scores

According to NexisUni database, the five industries in the coal supply chain that bring the biggest revenue to Lawrence and Scioto in 2020 were coal wholesalers, coal product manufacturing, mining equipment manufacturing, transportation, and water transportation (Table 1). Businesses in these five high-revenue industries bring hundreds of millions of dollars to the counties but are at risk of declining due to the decline in coal.

### Coal wholesalers

The biggest coal wholesaler in Lawrence and Scioto is Coal Network Inc.; this business brings **\$50 million to \$75 million** in annual revenue (Table 1). Since Coal Network Inc. supplies coal to the coal thermal market, the coal-fired power plant closures in Adams County in 2018 is expected to have an impact on Coal Network Inc.'s sales and revenue.

### Transportation

According to US Cluster Mapping (<https://www.clustermapping.us>), the transportation industry in Ohio is ranked 8<sup>th</sup> in the country. The industry employs over 59,000 people in Ohio (Figure 1). Within the transportation industry, ground transportation and support services, specialty air transportation, and trucking created positive net jobs for Ohio while bus and air transportation created negative net jobs in the state (Figure 2).

From 1998 to 2018, there were 28 jobs lost in transportation in Scioto County and 10 jobs lost in Lawrence County (US Cluster Mapping). In 2020, there are 72 businesses registered in trucking transportation in Scioto and Lawrence Counties. These trucking businesses employ 223 workers and brought over **\$18 million** in annual revenue to the counties in 2020 (Table 1).



# Cluster Linkages

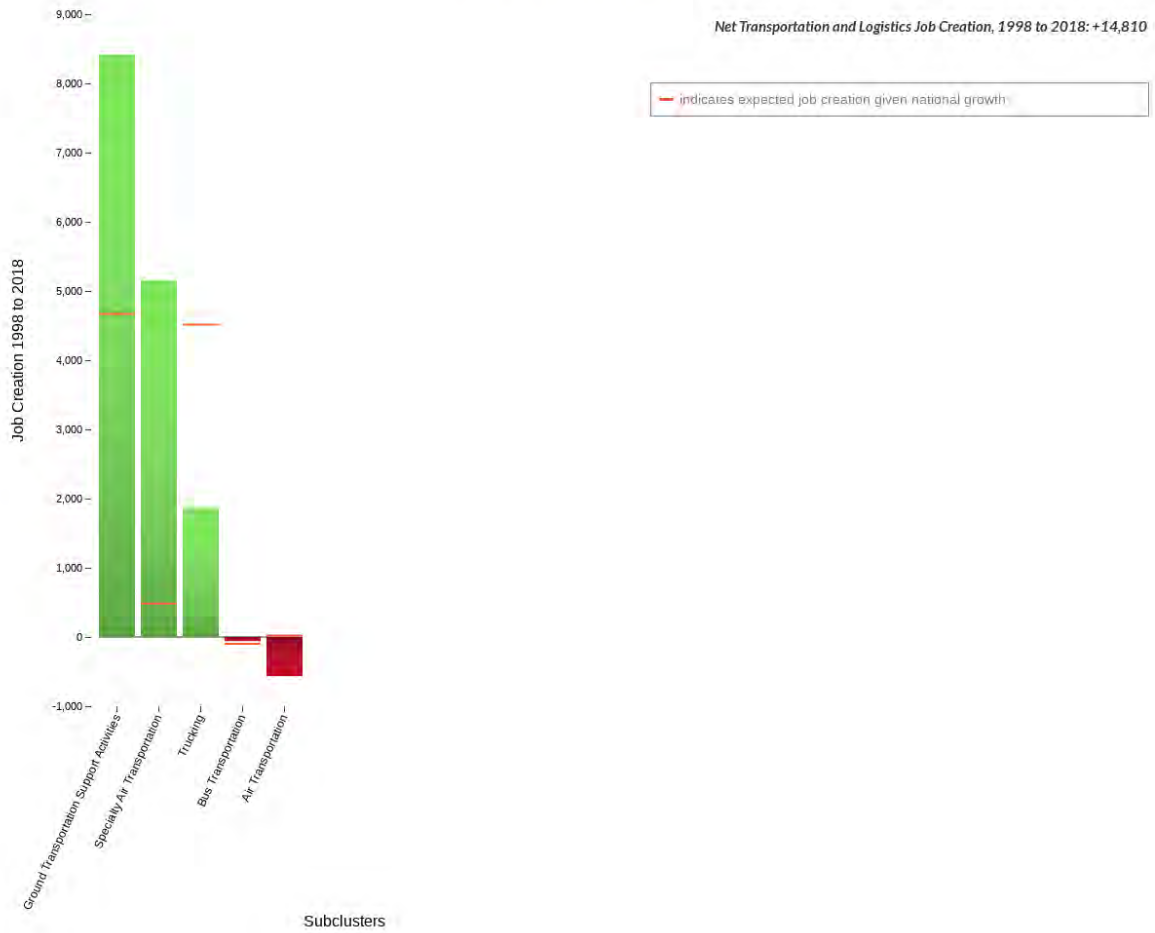
*Transportation and Logistics, Ohio, 2018*



Figure 1: Ohio transportation industry's ranking and employment

Source: <https://www.clustermapping.us/region-cluster>

Ohio  
 Transportation and Logistics Cluster  
 Job Creation by Subcluster, 1998-2018



Source: [U.S. Cluster Mapping Project](https://www.clustermapping.us/), Institute for Strategy and Competitiveness, Harvard Business School. [Data Sources](#)

Figure 2: Ohio transportation industry’s job creation by subcluster 1998-2018

Source: <https://www.clustermapping.us/region-cluster>

## Water transportation

According to US Cluster Mapping (<https://www.clustermapping.us>), the transportation industry in Ohio is ranked 30<sup>th</sup> in the country. The industry employs 1,487 workers in Ohio (Figure 3). On average, employment in water transportation in Ohio has been declining since 1998 with the highest number of job losses in marine transportation services (Figure 4).

From 2015 to 2018, there were 42 jobs lost in water transportation in Lawrence County (US Cluster Mapping). In 2020, there are four businesses specializing in water transportation in Lawrence County, which employ 39 people and brought **over \$24 million** revenue to the county (Table 1).

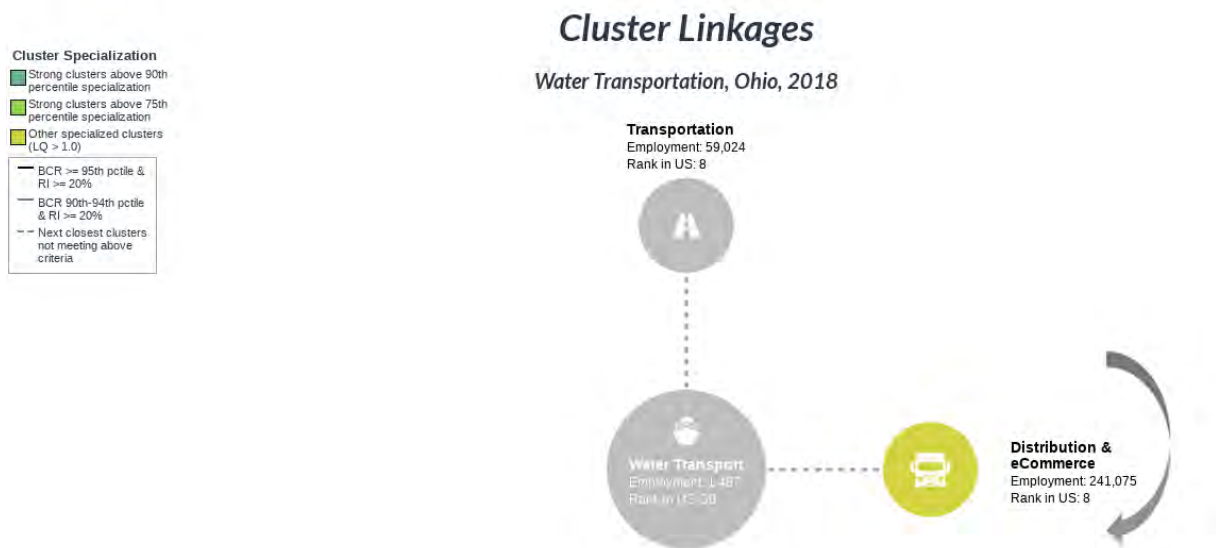
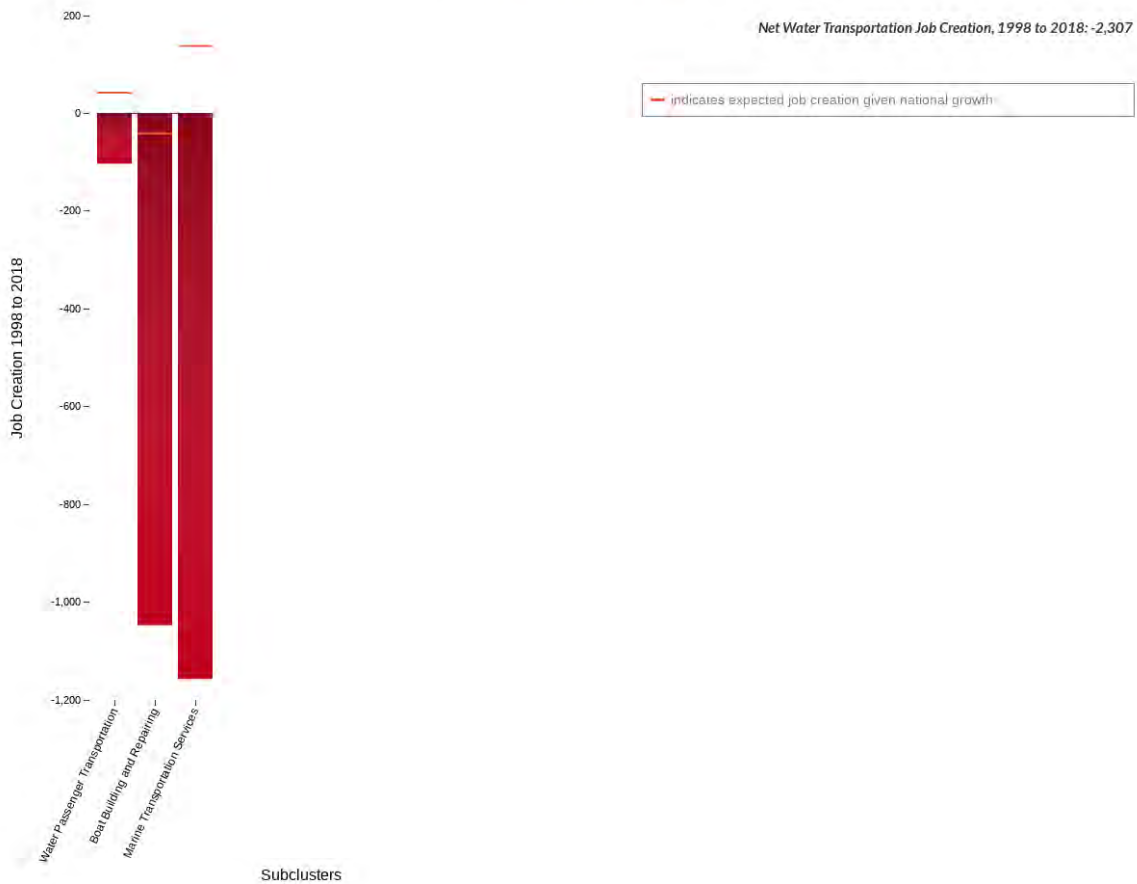


Figure 3: Ohio water transportation industry's ranking and employment

Source: <https://www.clustermapping.us/region-cluster>

Ohio  
Water Transportation Cluster  
Job Creation by Subcluster, 1998-2018



Source: [U.S. Cluster Mapping Project](https://www.clustermapping.us/), Institute for Strategy and Competitiveness, Harvard Business School. [Data Sources](#)

Figure 4: Ohio water transportation industry's job creation by subcluster 1998-2018

Source: <https://www.clustermapping.us/region-cluster>

## Coal product manufacturing

There are 3 businesses specializing in coal product manufacturing in Scioto. Two of the three businesses operate in wire products, steel, and iron, which bring \$145,000 in annual revenue. One of the three businesses is Haverhill North Coke LLC., a coke-making plant owned by SunCoke Energy INC. SunCoke INC. accounts for 34% of total US coke production capacity ([www.suncoke.com](http://www.suncoke.com)). Haverhill North Coke LLC., one of the five coke making plants owned by SunCoke, brings in annual revenue of \$50 million to \$75 million a year.

## Mapping Lawrence County's and Scioto County's core competencies to existing and emergent non-coal industry opportunities

The loss of the two coal power plants in Adams County and the decline in coal are expected to have a significant and negative impact on the revenues of several key business entities in Ohio. There are, however, other existing economic capabilities and strengths in Ohio that could provide alternative opportunities for coal-driven business activity that could 1) supplant the loss of the coal powered electric plants, 2) create new manufacturing jobs, 3) support the infrastructure initiative funded by new federal funding, and 4) use coal with a net reduction in national and possibly, international CO<sub>2</sub> emissions. This strategy would make use of Ohio's capabilities in coal wholesales, coke production – an essential component required for steel production – and transportation.

One potential strategy would be to coalesce existing Scioto and Lawrence County competencies toward Ohio's existing core competence in steel production. In 2018, the state of Ohio ranked 3<sup>rd</sup> in steel production (US Cluster Mapping). From 1998 to 2018, Ohio lost 15,000 jobs in steel production (Figure 6). However, the steel production industry in Ohio is still competitive nationwide and employs over 36,000 workers in 2018 (Figure 5). By boosting steel production in Ohio, we can help divert coal to coke production from thermal electric power generation. In other words, we will be able to support the coal wholesaler industry in Lawrence in the absence of coal-based electric, boost coke production in Scioto, and create more jobs in Ohio's steel production industry. It is also important to point out that CO<sub>2</sub> emissions from Coke are significantly less than for coal-based electric power generation. According to Wu et al (2018), 46% of global CO<sub>2</sub> emission is from the direct use of low rank coal and one third of global CO<sub>2</sub>

emission is from coal-fired power plants. Furthermore, the majority of steel mills in Ohio are located in the Cincinnati, Akron, and Cleveland areas, and boosting steel production would increase the demand for transporting coke from Scioto to steel mills, thus, enhancing trucking and water transportation industries.

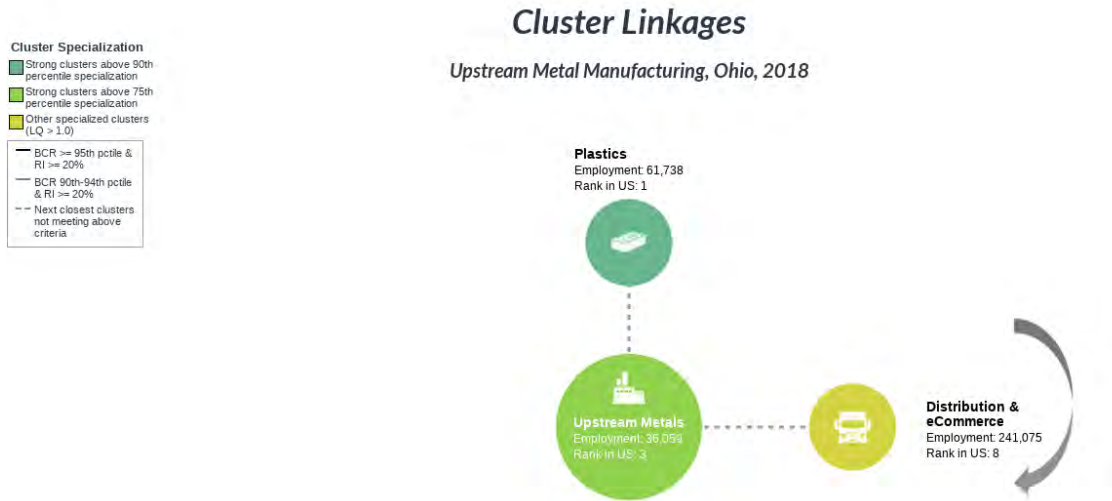
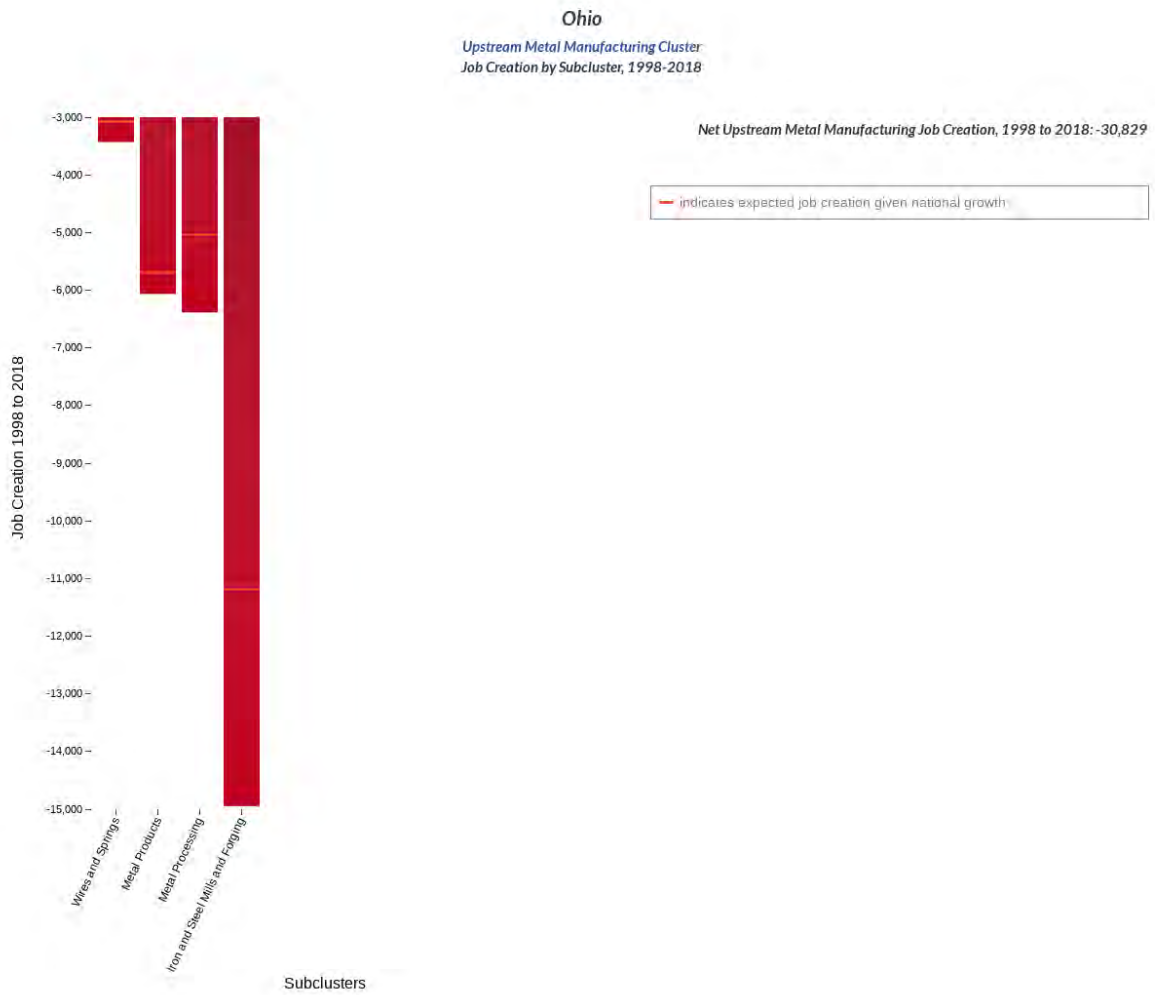


Figure 5: Ohio upstream metal industry’s ranking and employment

Source: <https://www.clustermapping.us/region-cluster>



Source: [U.S. Cluster Mapping Project](https://www.clustermapping.us/), Institute for Strategy and Competitiveness, Harvard Business School. [Data Sources](#)

Figure 6: Ohio upstream metal industry's job creation by subcluster 1998-2018

Source: <https://www.clustermapping.us/region-cluster>

According to the World Steel association, in 2020 the total world's crude steel production was 1.88 billion tons. China steel production now dominates the international market, with over 1.06 billion tons; or 56.7% of total world production, followed by India, with 100.25 million tons of crude steel. US steel production ranks number 4 globally with 72.7 million tons of crude steel production. However, steel production from China and India is the most polluting, with CO2 emissions intensity per ton of steel almost double the levels from other industrial nations, including the US, Korea, Mexico, and Brazil (Kim and Worrell, 2002). Thus, an increase in US steel production and sales away from China and India provides for a global net decrease in steel production's CO2 emissions and subsequent climate impact.

The steel production industry in Ohio is still competitive nationwide despite the decline in employment. Steel production in the state of Ohio is still ranked 3<sup>rd</sup> in the nation. In 2021, steel production from Ohio account for 14.5 million tons, or 20% of total US made steel (Ohio Steel Council, 2021). Boosting steel production in Ohio would not only protect Lawrence County and Scioto County from loss of coal-based electric power generation but would also 1) expand US manufacturing capabilities to meet the infrastructure growth funded by Federal funds, 2) restore Ohio jobs in steel production, 3) support other key Ohio based competencies in coke production and all the transportation services needed to bolster a return to competitive coke and steel production in Ohio.

In 2021 President Joe Biden signed House Resolution 3684 (H.R.3684) - Infrastructure Investment and Jobs Act, that will provide more than \$300 billion over a 5-year time frame for the construction and improvement of a variety of infrastructure projects, including highways, roads, and bridges (H.R.3684, Title 1). Of note are the provisions for rural bridge repair and construction. Beside the provision concerning highways, roads, and bridges, the Infrastructure Investment and Job Act also provides significant funds for railroad reform, long distant trains, and transit. The total investment in highways, roads, bridges, rails, and other transit could add up to \$550 billion. This massive investment in US Infrastructure will require an unprecedented acquisition of steel, estimated by the Steel Manufacturers Association and the American Iron and Steel Institute (AISI) to be over 27.5 million metric tons at a time when US blast furnaces are already working at capacity. In addition, by Executive Order on January 25, 2021, President Biden mandated that federally funded projects use US made products and services wherever



possible, an order that was further strengthened in July 2021 with a proposed rules change to the Buy American Act. These political realities and federal resources provide opportunities for Ohio industries to modernize and expand its steel production, redirect coal wholesales, coke production and transportation capabilities to providing the US with high quality, US-made steel, that is produced with lower net CO<sub>2</sub> production than imported steel, particularly that of China and India. This strategy, in addition to supporting coal-based industry in an ecologically responsible manner, also increases US manufacturing jobs in the US heartland.

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## 6. SKILLSHED ANALYSIS AND WORKFORCE TRAINING CENTER FEASIBILITY

# Lawrence County Skillshed Analysis

Prepared by Center for Economic Development and Community Resilience, the Voinovich

School of Leadership and Public Service

September 2021

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Skillshed analysis was a concept first introduced by the Institute for Decision Making at the University of Northern Iowa in 1998 (Scott and Kotlyar, 2014). The goal of the analysis was to provide economic development groups with a better understanding of an area's labor force characteristics. The first step in this type of analysis is to geographically define a skillshed. Studies vary in how they establish skillshed boundaries. However, some common factors include population density, physical geography (e.g., rivers), and transportation infrastructure (e.g., roads and highways). Once a skillshed is defined, data are needed on a region's labor supply and demand.

Reports aiming to examine the skills gap can be classified into two categories depending on their data source: survey-based data or publicly available data. The majority of skillshed analyses use data from a workforce survey and an employer survey. While survey data provides access to information at the skillshed level, which is otherwise not available in publicly available data, information collected from surveys are based on individual perception of the labor market. Sometimes in employer surveys, the individual filling out the survey may not have direct knowledge of the skillset needed on the job. The advantage of using publicly available data is in avoiding the significant costs of large-scale survey data collection and administration (Scott and Kotlyar, 2014). Regardless of data source, the goal of a skillshed analysis is to identify the top occupations that will drive regional economic growth and to determine into which of these emerging occupations the workforce can transition into with ease.

A typical skillshed analysis: (1) identifies occupations in which a region has a comparative advantage, (2) determines if these occupations are exhibiting increasing or declining employment projections, (3) and contrasts the current skillset of declining occupations with the skillset needed for emerging occupations. A shortage of skills can create challenges for local governments in the

form of structural unemployment and slower regional growth. Economic development officials can benefit from skillshed analyses to develop initiatives and policies that ensure the workforce is prepared to fill emerging occupations.

For this task, the researchers mapped occupations into skills to determine which skills overlap between struggling and emerging occupations, and which skills are lacking or need improving. The knowledge required to perform a job as well as work activities, work context, and job zones were derived from the Occupational Information Network (O\*NET). O\*NET is a joint effort between the U.S. Department of Labor and the North Carolina Employment Security Commission. It provides a database of standardized and occupation-specific descriptions based on the Standard Occupational Classification (SOC) codes that help determine which factors are critical in the performance of an occupation.

Job zone refers to one variable that represents aggregated information on level of education, experience, and training needed to perform a job. O\*NET classifies occupation in one of five job zones. Job Zone 1 includes occupations that require little preparation. Job Zone 2 occupations usually require at a minimum a high school diploma, plus some vocational training or job-related coursework. The level of preparation required to perform a job increases by zone, up to Job Zone 5, where occupations require the most specialized knowledge. All O\*NET job zones are included in this analysis. Previous skillshed analyses focus on job zones 3, 4, and 5. These occupations require more education and are higher paying so they can drive innovation. However, focusing only on these jobs excludes a significant portion of the available occupations in the Appalachian Ohio region.

Work activities refer to 41 variables representing activities that are common across occupations. Examples of work activities are assisting and caring for others, handling and moving objects, and

interpreting the meaning of information for others. Work context refers to 57 variables representing physical and social factors that influence the nature of work. Examples of context include public speaking, exposure to contaminants, and time spent standing. Knowledge refers to 33 variables. Examples of knowledge variables are computer and electronics, mathematics, as well as production and processing. The value assigned to an occupation for each variable indicates the degree, along a continuum, to which a particular descriptor or variable is required to perform the occupation.

In this skillshed analysis, O\*NET data were used to calculate a dissimilarity measure. The dissimilarity measure used in this study is the squared Euclidean distance or 2 squared. Using 132 variables describing occupations' work activities, required capacities, knowledge levels, and job zone, the authors compared emerging occupations to struggling occupations. This effectively calculates the distance from different multidimensional points of emerging occupations to multidimensional points of struggling occupations, and then ranking emerging occupations from closest to furthest for each struggling occupation.

Once a dissimilarity measure was calculated, Ward's agglomerative method (Ward Jr, 1963) was used to cluster emerging and coal supply chain occupations into homogeneous groupings.

Emerging occupations were chosen by examining industry location quotients and employment projections. Coal supply chain occupations were chosen by examining the occupations nested in the coal supply chain industries identified in task 4. This is possible through the usage of industry-occupation matrices for coal supply chain industries.

Growing occupations are the ones identified in the In-Demand Occupations report for Southeast Ohio.<sup>1</sup> These jobs have a sustainable wage and are expected to grow based on the projected number of openings. The following criteria was used to define an “in-demand job” in Ohio: 80% of state median wage, \$14.10 per hour, or more; annual growth in the number of jobs higher than the statewide average of 36; or annual job openings greater than 584. In addition to these state labor statistics and projections, electronic job posting trend data and business responses to Ohio’s In-Demand Jobs Survey are components in defining in-demand jobs. Our analysis includes 49 growing occupations as shown in table 1 below.

**Table 1: Growing Occupations in Southeastern Ohio**

<b>Occupation Title</b>	<b>Median Wage (in thousand USD)</b>	<b>Annual Openings</b>
Accountants and Auditors	\$58	145
Automotive Service Technicians and Mechanics	\$35	192
Bus & Truck Mechanics & Diesel Engine Spec.	\$43	103
Bus Drivers, School	\$30	125
Business Operations Specialists, All Other	\$68	86
Cabinetmakers and Bench Carpenters	\$33	85
Carpenters	\$43	304
Construction Laborers	\$39	454
Construction Managers	\$95	67
Cost Estimators	\$54	56
Dental Assistants	\$38	85
Electricians	\$61	119
Emergency Medical Technicians and Paramedics	\$26	126
Energy Auditors	\$68	86
Child, Family, and School Social Workers	\$40	72
Financial Managers	\$99	66
First-Line Supervisors of Mechanics, Installers, and Repairers	\$65	95
First-Line Supervisors of Construction Trades and Extraction Workers	\$68	144

<sup>1</sup> Ohio Means Jobs. (2019). *In-Demand Occupations Report*. Retrieved from [http://omj.ohio.gov/OMJResources/MasterList\\_WorkforceProfessionals.stm](http://omj.ohio.gov/OMJResources/MasterList_WorkforceProfessionals.stm)

Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$43	129
Heavy and Tractor-Trailer Truck Drivers	\$44	678
Industrial Machinery Mechanics	\$50	132
Industrial Truck and Tractor Operators	\$37	104
Laborers and Freight, Stock, and Material Movers, Hand	\$28	716
Licensed Practical and Licensed Vocational Nurses	\$39	271
Light Truck or Delivery Services Drivers	\$33	321
Machinists	\$39	85
Maintenance and Repair Workers, General	\$38	365
Medical and Health Services Managers	\$91	105
Mental Health and Substance Abuse Social Workers	\$39	73
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$43	54
Nursing Assistants	\$26	682
Operating Engineers and Other Construction Equipment Operators	\$47	266
Packaging and Filling Machine Operators and Tenders	\$30	109
Pharmacy Technicians	\$27	143
Physical Therapist Assistants	\$58	86
Plumbers, Pipefitters, and Steamfitters	\$50	127
Preschool Teachers, Except Special Education	\$28	87
Refuse and Recyclable Material Collectors	\$36	100
Registered Nurses	\$62	534
Security Guards	\$27	113
Welders, Cutters, Solderers, and Brazers	\$39	129

Note. Data available from Ohio Labor Market Information (OLMI).<sup>2</sup>

Our analysis includes coal supply chain declining occupations as shown in table 2 below.<sup>3</sup>

Workers within occupations not listed would be able to find another position similar to their current occupation while workers in the listed occupations would need to transition into a different occupation.

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<sup>2</sup> Ohio Means Jobs. (2019). *In-demand occupations report*. Retrieved from [http://omj.ohio.gov/OMJResources/MasterList\\_WorkforceProfessionals.stm](http://omj.ohio.gov/OMJResources/MasterList_WorkforceProfessionals.stm).

<sup>3</sup> [https://www.bls.gov/oes/2018/may/oes\\_3900004.htm](https://www.bls.gov/oes/2018/may/oes_3900004.htm)



Table 2: Coal Supply Chain Declining Occupations

<b>Occupation Title</b>	<b>Median Wage (in thousand USD)</b>	<b>Change in Employment</b>
Bill and Account Collectors	\$35	-3.70%
Bookkeeping, Accounting, and Auditing Clerks	\$33	-2.70%
Chemical Equipment Operators and Tenders	\$42	-3.70%
Crane and Tower Operators	\$30	-4.00%
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$27	-6.80%
Data Entry Keyers	\$29	-21.20%
Dispatchers, Except Police, Fire, and Ambulance	\$34	-1.40%
Driver/Sales Workers	\$19	-7.70%
Electrical Power-Line Installers and Repairers	\$71	-5.10%
Executive Secretaries and Executive Administrative Assistants	\$53	-17.40%
Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	\$39	-16.00%
File Clerks	\$40	-11.80%
First-Line Supervisors of Production and Operating Workers	\$62	-1.10%
Grinding, Lapping, Polishing, and Buffing Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$34	-10.60%
Helpers--Production Workers	\$30	-3.20%
Human Resources Assistants, Except Payroll and Timekeeping	\$36	0.50%
Inspectors, Testers, Sorters, Samplers, and Weighers	\$35	-13.10%
Mail Clerks and Mail Machine Operators, Except Postal Service	\$35	-17.90%
Merchandise Displayers and Window Trimmers	\$33	-4.40%
Mixing and Blending Machine Setters, Operators, and Tenders	\$38	-4.40%
Molders, Shapers, and Casters, Except Metal and Plastic	\$28	-4.50%
Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	\$33	-16.20%
Office Clerks, General	\$29	-0.90%
Order Clerks	\$29	0.20%
Paper Goods Machine Setters, Operators, and Tenders	\$44	-19.10%
Payroll and Timekeeping Clerks	\$41	-2.70%
Power Plant Operators	\$69	-9.80%

Printing Press Operators	\$34	-11.90%
Procurement Clerks	\$36	-2.80%
Production Workers, All Other	\$28	-4.60%
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$32	-7.40%
Shipping, Receiving, and Traffic Clerks	\$33	-1.10%
Telecommunications Equipment Installers and Repairers, Except Line Installers	\$30	-2.80%
Tire Repairers and Changers	\$20	-4.20%
Title Examiners, Abstractors, and Searchers	\$33	-4.90%
Tool and Die Makers	\$41	-6.80%
Water and Wastewater Treatment Plant and System Operators	\$40	-6.60%

Clustering is a tool that detects patterns in data and groups observations with similar characteristics. Occupations were grouped into 4 clusters. Comparing the knowledge, capacities, work activities, and work context of the coal supply chain workforce to those needed by growing occupations, we calculated an occupation dissimilarity measure. Employees impacted by coal related closures, and the economic development practitioners helping them, can use the measure as a guide into which new career to transition, thus effectively decreasing their search costs. In this paper, color-coded indicators (based on the dissimilarity measure) were provided, illustrating the level of difficulty associated with a transition as well as wage differentials to better inform displaced worker's decisions.

In the mapping tables, coal supply chain occupations are broken into four groups: white-collar occupations, electrical and mechanical blue collar occupations as well as challenging transitions occupations. Each figure has a row of coal supply chain occupations and a column of emerging occupations. Each figure presents a different cluster of occupations.

The median yearly wage for the coal supply chain occupation is noted for each occupation along with the yearly hourly wage rate for the transitioning occupation. The matrix contains the difference in yearly wage between each occupation, while the color denotes the ease of

transition. A green to light green color indicates an easier transition, while an orange to red color indicates substantial retraining is required.

By providing a color-coded indicator for the level of difficulty associated with an occupational transition and wage differentials, the occupational mapping guides the coal supply chain workforce into emerging occupations. On average, displaced workers can either transition into occupations that require no skill improvements or new skills but endure a pay cut. The alternative is to spend significant resources on improving skills and obtaining new ones to guarantee similar compensation to the coal supply chain occupations.

Table 3: White Collar Occupations

		Title Examiners, Abstractors, and Searchers	Merchandise Displayers and Window Trimmers	Bill and Account Collectors	Bookkeeping, Accounting, and Auditing Clerks	Payroll and Timekeeping Clerks	Procurement Clerks	File Clerks	Order Clerks	Human Resources Assistants, Except Payroll and Timekeeping	Dispatchers, Except Police, Fire, and Ambulance	Executive Secretaries and Executive Administrative Assistants	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	Data Entry Keyers	Office Clerks, General
		\$34	\$36	\$34	\$34	\$57	\$36	\$38	\$35	\$34	\$28	\$42	\$40	\$35	\$44
Preschool Teachers, Except Special Education	\$39	\$ 5	\$ 3	\$ 5	\$ 5	\$18	\$ 3	\$ 1	\$ 4	\$ 5	\$11	-\$3	-\$1	\$ 4	-\$5
Pharmacy Technicians	\$29	-\$5	-\$7	\$ 5	\$ 5	\$28	\$ 7	-\$9	-\$6	-\$5	\$ 1	-\$13	-\$11	-\$6	-\$15
Nursing Assistants	\$31	-\$3	-\$5	\$ 3	\$ 3	-\$26	\$ 5	-\$7	-\$4	-\$3	\$ 3	-\$11	-\$9	-\$4	-\$13
Physical Therapist Assistants	\$67	\$33	\$31	\$33	\$33	\$10	\$31	\$29	\$32	\$33	\$39	\$25	\$27	\$32	\$23
Dental Assistants	\$31	-\$3	\$ 5	\$ 3	-\$3	-\$26	-\$5	-\$7	-\$4	-\$3	\$ 3	-\$11	-\$9	-\$4	\$13
Security Guards	\$37	\$ 3	\$ 1	\$ 3	\$ 3	-\$20	\$ 1	-\$1	\$ 2	\$ 3	\$ 9	-\$5	-\$3	\$ 2	-\$7

Table 4: Electrical Blue Collar Occupations

		Telecommunications Equipment Installers and Repairers, Except Line Installers	Electrical Power-Line Installers and Repairers	First-Line Supervisors of Production and Operating Workers	Water and Wastewater Treatment Plant and System Operators	Chemical Equipment Operators and Tenders
		\$38	\$68	\$64	\$50	\$42
First-Line Supervisors of Construction Trades and Extraction Workers	\$32	\$6	-\$36	-\$32	-\$18	-\$10
Carpenters	\$43	\$5	-\$25	-\$21	-\$7	\$1
Electricians	\$48	\$10	-\$20	-\$16	-\$2	\$6
Plumbers, Pipefitters, and Steamfitters	\$53	\$15	-\$15	-\$11	\$3	\$11
First-Line Supervisors of Mechanics, Installers, and Repairers	\$72	\$34	\$4	\$8	\$22	\$30
Automotive Service Technicians and Mechanics	\$75	\$37	\$7	\$11	\$25	\$33
Bus & Truck Mechanics & Diesel Engine Spec.	\$45	\$7	-\$23	-\$19	-\$5	\$3
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$67	\$29	-\$1	\$3	\$17	\$25

Table 5: Mechanical Blue Collar Occupations

		Shipping, Receiving, and Traffic Clerks	Mail Clerks and Mail Machine Operators, Except Postal	Tire Repairers and Changers	Extruding and Drawing Machine Setters, Operators,	Cutting, Punching, and Press Machine Setters, Operators,	Grinding, Lapping, Polishing, and Buffing Machine Tool	Molding, Coremaking, and Casting Machine Setters,	Tool and Die Makers	Printing Press Operators	Power Plant Operators	Mixing and Blending Machine Setters, Operators, and Tenders	Inspectors, Testers, Sorters, Samplers, and Weighers	Molders, Shapers, and Casters, Except Metal and Plastic	Paper Goods Machine Setters, Operators, and Tenders	Helpers--Production Workers	Production Workers, All Other	Driver/Sales Workers	Crane and Tower Operators
		\$30	\$31	\$25	\$36	\$33	\$32	\$39	\$39	\$35	\$29	\$33	\$37	\$80	\$42	\$35	\$30	\$30	\$48
Construction Laborers	\$48	\$18	\$17	\$23	\$12	\$15	\$16	\$9	\$9	\$13	\$19	\$15	\$11	-\$32	\$6	\$13	\$18	\$18	\$0
Operating Engineers and Other Construction Equipment Operators	\$33	\$3	\$2	\$8	\$3	\$0	\$1	-\$6	-\$6	-\$2	\$4	\$0	\$4	-\$47	-\$9	-\$2	\$3	\$3	-\$15
Industrial Machinery Mechanics	\$44	\$14	\$13	\$19	\$8	\$11	\$12	\$5	\$5	\$9	\$15	\$11	\$7	-\$36	\$2	\$9	\$14	\$14	-\$4
Maintenance and Repair Workers, General	\$38	\$8	\$7	\$13	\$2	\$5	\$6	-\$1	-\$1	\$3	\$9	\$5	\$1	-\$42	-\$4	\$3	\$8	\$8	-\$10
Machinists	\$57	\$27	\$26	\$32	\$21	\$24	\$25	\$18	\$18	\$22	\$28	\$24	\$20	-\$23	\$15	\$22	\$27	\$27	\$9
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$40	\$10	\$9	\$15	\$4	\$7	\$8	\$1	\$1	\$5	\$11	\$7	\$3	-\$40	-\$2	\$5	\$10	\$10	-\$8
Welders, Cutters, Solderers, and Brazers	\$32	\$2	\$1	\$7	\$4	-\$1	\$0	-\$7	-\$7	-\$3	\$3	-\$1	\$5	-\$48	-\$10	-\$3	\$2	\$2	-\$16
Cabinetmakers and Bench Carpenters	\$48	\$18	\$17	\$23	\$12	\$15	\$16	\$9	\$9	\$13	\$19	\$15	\$11	-\$32	\$6	\$13	\$18	\$18	\$0
Packaging and Filling Machine Operators and Tenders	\$34	\$4	\$3	\$9	\$2	\$1	\$2	-\$5	-\$5	-\$1	\$5	\$1	\$3	-\$46	-\$8	-\$1	\$4	\$4	-\$14
Bus Drivers, School	\$40	\$10	\$9	\$15	\$4	\$7	\$8	\$1	\$1	\$5	\$11	\$7	\$3	-\$40	-\$2	\$5	\$10	\$10	-\$8
Heavy and Tractor-Trailer Truck Drivers	\$37	\$7	\$6	\$12	\$1	\$4	\$5	-\$2	-\$2	\$2	\$8	\$4	\$0	-\$43	-\$5	\$2	\$7	\$7	-\$11
Light Truck or Delivery Services Drivers	\$55	\$25	\$24	\$30	\$19	\$22	\$23	\$16	\$16	\$20	\$26	\$22	\$18	-\$25	\$13	\$20	\$25	\$25	\$7
Industrial Truck and Tractor Operators	\$34	\$4	\$3	\$9	-\$2	\$1	\$2	-\$5	-\$5	-\$1	\$5	\$1	-\$3	-\$46	-\$8	-\$1	\$4	\$4	-\$14
Laborers and Freight, Stock, and Material Movers, Hand	\$37	\$7	\$6	\$12	\$1	\$4	\$5	-\$2	-\$2	\$2	\$8	\$4	\$0	-\$43	-\$5	\$2	\$7	\$7	-\$11



Finally, we include tables similar to tables 3 through 6 but for nearby Appalachian regions outside of southeastern Ohio. These include the Eastern Kentucky nonmetropolitan area (tables 7 through 10) and the Northwestern West Virginia nonmetropolitan area (tables 11 through 14). Rows in each table show growing occupations in the Southeastern Ohio nonmetropolitan area, while columns show declining occupations in West Virginia and Kentucky. Because the 132 occupation-specific variables pull from national survey data, color codes for each table are the same.

Table 7: White Collar Occupations, Kentucky to Ohio

		Title Examiners, Abstractors, and Searchers	Merchandise Displayers and Window Trimmers	Bill and Account Collectors	Bookkeeping, Accounting, and Auditing Clerks	Payroll and Timekeeping Clerks	Procurement Clerks	File Clerks	Order Clerks	Human Resources Assistants, Except Payroll and Timekeeping	Dispatchers, Except Police, Fire, and Ambulance	Executive Secretaries and Executive Administrative Assistants	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	Data Entry Keyers	Office Clerks, General
		\$38	\$33	\$34	\$37	\$45	\$26	\$32	\$36	\$28	\$29	\$41	\$40	\$30	\$44
Preschool Teachers, Except Special Education	\$39	\$1	\$6	\$5	\$2	-\$6	\$13	\$7	\$3	\$11	\$10	-\$2	-\$1	\$9	-\$5
Pharmacy Technicians	\$29	-\$9	-\$4	-\$5	-\$8	-\$16	\$3	-\$3	-\$7	\$1	\$0	-\$12	-\$11	-\$1	-\$15
Nursing Assistants	\$31	-\$7	-\$2	-\$3	-\$6	-\$14	\$5	-\$1	-\$5	\$3	\$2	-\$10	-\$9	\$1	-\$13
Physical Therapist Assistants	\$67	\$29	\$34	\$33	\$30	\$22	\$41	\$35	\$31	\$39	\$38	\$26	\$27	\$37	\$23
Dental Assistants	\$31	-\$7	-\$2	-\$3	-\$6	-\$14	\$5	-\$1	-\$5	\$3	\$2	-\$10	-\$9	\$1	-\$13
Security Guards	\$37	-\$1	\$4	\$3	\$0	-\$8	\$11	\$5	\$1	\$9	\$8	-\$4	-\$3	\$7	-\$7

Table 8: Electrical Blue Collar Occupations, Kentucky to Ohio

		Telecommunications Equipment Installers and Repairers, Except Line Installers	Electrical Power-Line Installers and Repairers	First-Line Supervisors of Production and Operating Workers	Water and Wastewater Treatment Plant and System Operators	Chemical Equipment Operators and Tenders
		\$38	\$59	\$48	\$30	\$39
First-Line Supervisors of Construction Trades and Extraction Workers	\$32	-\$6	-\$27	-\$16	\$2	-\$7
Carpenters	\$43	\$5	-\$16	-\$5	\$13	\$4
Electricians	\$48	\$10	-\$11	\$0	\$18	\$9
Plumbers, Pipefitters, and Steamfitters	\$53	\$15	-\$6	\$5	\$23	\$14
First-Line Supervisors of Mechanics, Installers, and Repairers	\$72	\$34	\$13	\$24	\$42	\$33
Automotive Service Technicians and Mechanics	\$75	\$37	\$16	\$27	\$45	\$36
Bus & Truck Mechanics & Diesel Engine Spec.	\$45	\$7	-\$14	-\$3	\$15	\$6
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$67	\$29	\$8	\$19	\$37	\$28



Table 9: Mechanical Blue Collar Occupations, Kentucky to Ohio

		Shipping, Receiving, and Traffic Clerks	Mail Clerks and Mail Machine Operators, Except Postal	Tire Repairers and Changers	Extruding and Drawing Machine Setters, Operators,	Cutting, Punching, and Press Machine Setters, Operators,	Grinding, Lapping, Polishing, and Buffing Machine Tool	Molding, Coremaking, and Casting Machine Setters,	Tool and Die Makers	Printing Press Operators	Power Plant Operators	Mixing and Blending Machine Setters, Operators, and Tenders	Inspectors, Testers, Sorters, Samplers, and Weighers	Molders, Shapers, and Casters, Except Metal and Plastic	Paper Goods Machine Setters, Operators, and Tenders	Helpers--Production Workers	Production Workers, All Other	Driver/Sales Workers	Crane and Tower Operators
		\$61	\$31	\$25	\$36	\$33	\$32	\$39	\$39	\$35	\$29	\$33	\$37	\$80	\$42	\$35	\$30	\$48	
Construction Laborers	\$48	-\$13	\$17	\$23	\$12	\$15	\$16	\$9	\$9	\$13	\$19	\$15	\$11	-\$32	\$6	\$13	\$18	\$0	\$48
Operating Engineers and Other Construction Equipment Operators	\$33	-\$28	\$2	\$8	-\$3	\$0	\$1	-\$6	-\$6	-\$2	\$4	\$0	-\$4	-\$47	-\$9	-\$2	\$3	-\$15	\$33
Industrial Machinery Mechanics	\$44	-\$17	\$13	\$19	\$8	\$11	\$12	\$5	\$5	\$9	\$15	\$11	\$7	-\$36	\$2	\$9	\$14	-\$4	\$44
Maintenance and Repair Workers, General	\$38	-\$23	\$7	\$13	\$2	\$5	\$6	-\$1	-\$1	\$3	\$9	\$5	\$1	-\$42	-\$4	\$3	\$8	-\$10	\$38
Machinists	\$57	-\$4	\$26	\$32	\$21	\$24	\$25	\$18	\$18	\$22	\$28	\$24	\$20	-\$23	\$15	\$22	\$27	\$9	\$57
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$40	-\$21	\$9	\$15	\$4	\$7	\$8	\$1	\$1	\$5	\$11	\$7	\$3	-\$40	-\$2	\$5	\$10	-\$8	\$40
Welders, Cutters, Solderers, and Brazers	\$32	-\$29	\$1	\$7	-\$4	-\$1	\$0	-\$7	-\$7	-\$3	\$3	-\$1	-\$5	-\$48	-\$10	-\$3	\$2	-\$16	\$32
Cabinetmakers and Bench Carpenters	\$48	-\$13	\$17	\$23	\$12	\$15	\$16	\$9	\$9	\$13	\$19	\$15	\$11	-\$32	\$6	\$13	\$18	\$0	\$48
Packaging and Filling Machine Operators and Tenders	\$34	-\$27	\$3	\$9	-\$2	\$1	\$2	-\$5	-\$5	-\$1	\$5	\$1	-\$3	-\$46	-\$8	-\$1	\$4	-\$14	\$34
Bus Drivers, School	\$40	-\$21	\$9	\$15	\$4	\$7	\$8	\$1	\$1	\$5	\$11	\$7	\$3	-\$40	-\$2	\$5	\$10	-\$8	\$40
Heavy and Tractor-Trailer Truck Drivers	\$37	-\$24	\$6	\$12	\$1	\$4	\$5	-\$2	-\$2	\$2	\$8	\$4	\$0	-\$43	-\$5	\$2	\$7	-\$11	\$37
Light Truck or Delivery Services Drivers	\$55	-\$6	\$24	\$30	\$19	\$22	\$23	\$16	\$16	\$20	\$26	\$22	\$18	-\$25	\$13	\$20	\$25	\$7	\$55
Industrial Truck and Tractor Operators	\$34	-\$27	\$3	\$9	-\$2	\$1	\$2	-\$5	-\$5	-\$1	\$5	\$1	-\$3	-\$46	-\$8	-\$1	\$4	-\$14	\$34
Laborers and Freight, Stock, and Material Movers, Hand	\$37	-\$24	\$6	\$12	\$1	\$4	\$5	-\$2	-\$2	\$2	\$8	\$4	\$0	-\$43	-\$5	\$2	\$7	-\$11	\$37



Table 11: While Collar Occupations, West Virginia to Ohio

		Title Examiners, Abstractors, and Searchers	Merchandise Displayers and Window Trimmers	Bill and Account Collectors	Bookkeeping, Accounting, and Auditing Clerks	Payroll and Timekeeping Clerks	Procurement Clerks	File Clerks	Order Clerks	Human Resources Assistants, Except Payroll and Timekeeping	Dispatchers, Except Police, Fire, and Ambulance	Executive Secretaries and Executive Administrative Assistants	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	Data Entry Keyers	Office Clerks, General
		\$42	\$35	\$38	\$38	\$55	\$26	\$32	\$31	\$33	\$36	\$34	\$40	\$36	\$32
Preschool Teachers, Except Special Education	\$39	-\$3	\$4	\$1	\$1	-\$16	\$13	\$7	\$8	\$6	\$3	\$5	-\$1	\$3	\$7
Pharmacy Technicians	\$29	-\$13	-\$6	-\$9	-\$9	-\$26	\$3	-\$3	-\$2	-\$4	-\$7	-\$5	-\$11	-\$7	-\$3
Nursing Assistants	\$31	-\$11	-\$4	-\$7	-\$7	-\$24	\$5	-\$1	\$0	-\$2	-\$5	-\$3	-\$9	-\$5	-\$1
Physical Therapist Assistants	\$67	\$25	\$32	\$29	\$29	\$12	\$41	\$35	\$36	\$34	\$31	\$33	\$27	\$31	\$35
Dental Assistants	\$31	-\$11	-\$4	-\$7	-\$7	-\$24	\$5	-\$1	\$0	-\$2	-\$5	-\$3	-\$9	-\$5	-\$1
Security Guards	\$37	-\$5	\$2	-\$1	-\$1	-\$18	\$11	\$5	\$6	\$4	\$1	\$3	-\$3	\$1	\$5

Table 12: Electrical Blue Collar Occupations, West Virginia to Ohio

		Telecommunications Equipment Installers and Repairers, Except Line Installers	Electrical Power-Line Installers and Repairers	First-Line Supervisors of Production and Operating Workers	Water and Wastewater Treatment Plant and System Operators	Chemical Equipment Operators and Tenders
		\$38	\$60	\$72	\$58	\$42
First-Line Supervisors of Construction Trades and Extraction Workers	\$32	-\$6	-\$28	-\$40	-\$26	-\$10
Carpenters	\$43	\$5	-\$17	-\$29	-\$15	\$1
Electricians	\$48	\$10	-\$12	-\$24	-\$10	\$6
Plumbers, Pipefitters, and Steamfitters	\$53	\$15	-\$7	-\$19	-\$5	\$11
First-Line Supervisors of Mechanics, Installers, and Repairers	\$72	\$34	\$12	\$0	\$14	\$30
Automotive Service Technicians and Mechanics	\$75	\$37	\$15	\$3	\$17	\$33
Bus & Truck Mechanics & Diesel Engine Spec.	\$45	\$7	-\$15	-\$27	-\$13	\$3
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$67	\$29	\$7	-\$5	\$9	\$25

Table 13: Mechanical Blue Collar Occupations, West Virginia to Ohio

		Shipping, Receiving, and Traffic Clerks	Mail Clerks and Mail Machine Operators, Except Postal	Tire Repairers and Changers	Extruding and Drawing Machine Setters, Operators,	Cutting, Punching, and Press Machine Setters, Operators,	Grinding, Lapping, Polishing, and Buffing Machine Tool	Molding, Coremaking, and Casting Machine Setters,	Tool and Die Makers	Printing Press Operators	Power Plant Operators	Mixing and Blending Machine Setters, Operators, and Tenders	Inspectors, Testers, Sorters, Samplers, and Weighers	Molders, Shapers, and Casters, Except Metal and Plastic	Paper Goods Machine Setters, Operators, and Tenders	Helpers-- Production Workers	Production Workers, All Other	Driver/Sales Workers	Crane and Tower Operators
		\$61	\$39	\$23	\$33	\$33	\$35	\$40	\$39	\$51	\$29	\$33	\$48	\$80	\$42	\$31	\$30	\$34	
Construction Laborers	\$48	-\$13	\$9	\$25	\$15	\$15	\$13	\$8	\$9	-\$3	\$19	\$15	\$0	-\$32	\$6	\$17	\$18	\$14	\$48
Operating Engineers and Other Construction Equipment Operators	\$33	-\$28	-\$6	\$10	\$0	\$0	-\$2	-\$7	-\$6	-\$18	\$4	\$0	-\$15	-\$47	-\$9	\$2	\$3	-\$1	\$33
Industrial Machinery Mechanics	\$44	-\$17	\$5	\$21	\$11	\$11	\$9	\$4	\$5	-\$7	\$15	\$11	-\$4	-\$36	\$2	\$13	\$14	\$10	\$44
Maintenance and Repair Workers, General	\$38	-\$23	-\$1	\$15	\$5	\$5	\$3	-\$2	-\$1	-\$13	\$9	\$5	-\$10	-\$42	-\$4	\$7	\$8	\$4	\$38
Machinists	\$57	-\$4	\$18	\$34	\$24	\$24	\$22	\$17	\$18	\$6	\$28	\$24	\$9	-\$23	\$15	\$26	\$27	\$23	\$57
Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$40	-\$21	\$1	\$17	\$7	\$7	\$5	\$0	\$1	-\$11	\$11	\$7	-\$8	-\$40	-\$2	\$9	\$10	\$6	\$40
Welders, Cutters, Solderers, and Brazers	\$32	-\$29	-\$7	\$9	-\$1	-\$1	-\$3	-\$8	-\$7	-\$19	\$3	-\$1	-\$16	-\$48	-\$10	\$1	\$2	-\$2	\$32
Cabinetmakers and Bench Carpenters	\$48	-\$13	\$9	\$25	\$15	\$15	\$13	\$8	\$9	-\$3	\$19	\$15	\$0	-\$32	\$6	\$17	\$18	\$14	\$48
Packaging and Filling Machine Operators and Tenders	\$34	-\$27	-\$5	\$11	\$1	\$1	-\$1	-\$6	-\$5	-\$17	\$5	\$1	-\$14	-\$46	-\$8	\$3	\$4	\$0	\$34
Bus Drivers, School	\$40	-\$21	\$1	\$17	\$7	\$7	\$5	\$0	\$1	-\$11	\$11	\$7	-\$8	-\$40	-\$2	\$9	\$10	\$6	\$40
Heavy and Tractor-Trailer Truck Drivers	\$37	-\$24	-\$2	\$14	\$4	\$4	\$2	-\$3	-\$2	-\$14	\$8	\$4	-\$11	-\$43	-\$5	\$6	\$7	\$3	\$37
Light Truck or Delivery Services Drivers	\$55	-\$6	\$16	\$32	\$22	\$22	\$20	\$15	\$16	\$4	\$26	\$22	\$7	-\$25	\$13	\$24	\$25	\$21	\$55
Industrial Truck and Tractor Operators	\$34	-\$27	-\$5	\$11	\$1	\$1	-\$1	-\$6	-\$5	-\$17	\$5	\$1	-\$14	-\$46	-\$8	\$3	\$4	\$0	\$34
Laborers and Freight, Stock, and Material Movers, Hand	\$37	-\$24	-\$2	\$14	\$4	\$4	\$2	-\$3	-\$2	-\$14	\$8	\$4	-\$11	-\$43	-\$5	\$6	\$7	\$3	\$37



## Appendix

**Table A.1.**

	<b>NAICS code</b>	<b>SIC code</b>
Mining equipment manufacturers	333131 – Mining Machinery and Equipment Manufacturing	3532—Mining Machinery and Equipment, Except Oil and Gas Field Machinery and Equipment
oil and gas field machinery manufacturing	333132 - Oil and Gas Field Machinery and Equipment Manufacturing	3533—Oil and Gas Field Machinery and Equipment
Construction machinery manufacturing	333120 - Construction Machinery Manufacturing	3531—Construction Machinery and Equipment
Coal chutes	332322 - Sheet Metal Work Manufacturing	3444—Sheet Metal Work
Coal conveyors	333922 - Conveyor and Conveying Equipment Manufacturing	3535—Conveyors and Conveying Equipment
Rubber and plastics hoses and belting manufacturing	326220 - Rubber and Plastics Hoses and Belting Manufacturing	3052—Rubber and Plastics Hose and Belting
Exploration	213113 - Support Activities for Coal Mining	1241—Coal Mining Services
Stone mining and quarrying	212319 - Other Crushed and Broken Stone Mining and Quarrying 212311 - Dimension Stone Mining and Quarrying 212313 - Crushed and Broken Granite Mining and Quarrying 212312 - Crushed and Broken Limestone Mining and Quarrying	1429—Crushed and Broken Stone, Not Elsewhere Classified 1499—Miscellaneous Nonmetallic Minerals, Except Fuels 1411—Dimension Stone 1423—Crushed and Broken Granite 1422—Crushed and Broken Limestone
Natural gas extraction	211130 - Natural Gas Extraction	1321—Natural Gas Liquids 2819—Industrial Inorganic Chemicals, Not Elsewhere Classified
Coal mining	2121 - Coal Mining	1221—Bituminous Coal and Lignite Surface Mining 1222—Bituminous Coal Underground Mining 1231—Anthracite Mining

wholesalers	454310 - Fuel Dealers	5171—Petroleum Bulk stations and Terminals 5983—Fuel Oil Dealers 5984—Liquefied Petroleum Gas (Bottled Gas) Dealers 5989—Fuel Dealers, Not Elsewhere Classified
Coal wholesalers	423520 - Coal and Other Mineral and Ore Merchant Wholesalers	5052—Coal and Other Minerals and Ores
Coal tar wholesalers	423320 - Brick, Stone, and Related Construction Material Merchant Wholesalers	5032—Brick, Stone, and Related Construction Materials
wholesalers	424690 - Other Chemical and Allied Products Merchant Wholesalers	5169—Chemicals and Allied Products, Not Elsewhere Classified
Transportation	484220 - Specialized Freight (except Used Goods) Trucking, Local	4212—Local Trucking Without Storage
Water transportation	483211 - Inland Water Freight Transportation	4449—Water Transportation of Freight, Not Elsewhere Classified 4499—Water Transportation Services, Not Elsewhere Classified
Pipeline transportation	486990 - All Other Pipeline Transportation	4619—Pipelines, Not Elsewhere Classified
refineries	324121 - Asphalt Paving Mixture and Block Manufacturing	2951—Asphalt Paving Mixtures and Blocks
refineries	325194 - Cyclic Crude, Intermediate, and Gum and Wood Chemical Manufacturing	2861—Gum and Wood Chemicals 2865—Cyclic Organic Crudes and Intermediates, and Organic Dyes and Pigments 2869—Industrial Organic Chemicals, Not Elsewhere Classified
Primary smelting and refining of copper	331410 - Nonferrous Metal (except Aluminum) Smelting and Refining	3331—Primary Smelting and Refining of Copper 3339—Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum

Manufacturing	324199 - All Other Petroleum and Coal Products Manufacturing	2999—Products of Petroleum and Coal, Not Elsewhere Classified 3312—Steel Works, Blast Furnaces (Including Coke Ovens), and Rolling Mills
Manufacturing	325211 - Plastics Material and Resin Manufacturing	2821—Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers
Ground or treated mineral and earth manufacturing	327992 - Ground or Treated Mineral and Earth Manufacturing	3295—Minerals and Earths, Ground or Otherwise Treated
utilities	221112 - Fossil Fuel Electric Power Generation	4911—Electric Services 4931—Electric and Other Services Combined 4939—Combination Utilities, Not Elsewhere Classified



Lawrence County Workforce Feasibility Study

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of Leadership and  
Public Service

December 2021

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Preston Frick

## **Lawrence County**

### **Workforce Training Center Feasibility Study**

#### **Executive Summary**

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##### ***Introduction***

This study advances information collected through qualitative survey responses obtained from various stakeholders and businesses in Lawrence County to gain a better understanding of the workforce training needs throughout the county. The study is corroborated by a skilled analysis that profiles labor force characteristics in Lawrence and Scioto Counties, thus identifying occupations that are likely to support economic growth.

##### ***Background***

The Voinovich School, in partnership with Ohio University Southern, and the Lawrence County Economic Development Corporation collected data to gain insight about the needs of Lawrence County's workforce and the potential to build a workforce training center that would be used to retrain coal economy and other displaced workers. The feasibility study is positioned to explore industry demand and potential needs for emerging occupations that would be supported through the workforce training center.

##### ***Feasibility Study Summary***

The Workforce Training and Facility Needs Survey provided twenty one responses from various businesses participating in multiple industries throughout Lawrence County. These survey responses were recorded to better understand quickly changing workforce training needs in Lawrence County. This qualitative approach assists with identifying workforce training needs to best suit the needs of Lawrence County's workforce. Survey responses were then used to create strategic recommendations for the application of these responses. Survey results are explained throughout the methodology of this report with charts and examples of responses; where, a copy of the provided survey with full participant answers for questions eight, thirteen, and fourteen can be found in the appendix.

##### ***Strategic Recommendations***

The survey responses provided suggest the implementation of a workforce training facility in Lawrence County. This facility will assist these rural communities to advance past the once heavily relied on coal supply chain. These survey responses also suggest area of education to provide for these beneficiaries, as participating businesses provided areas of education they provide their employees. Multiple industries are identified from survey responses which should be used to design these programs.

##### **Research Methodology**

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To gain a better understanding of the workforce training needs in Lawrence County, a survey (see Attachment 1) was sent to various stakeholders and businesses in the county. The goal of this survey was to learn what the businesses were experiencing firsthand and to use this information to help determine the best programs and best uses for a potential workforce training center in Lawrence County. This survey project was completed with help from Dr. Bill Dingus and his staff at the Lawrence Economic Development Corporation (LEDC). Sarah Diamond Burroway was the main contributor from the LEDC staff.

The project team also conducted a skillshed analysis for both Lawrence and Scioto Counties to corroborate. The skillshed analysis enables economic development groups to better understand an area's labor force characteristics and further supports the overall feasibility study by documenting the declining occupations in the coal economy supply chain. (see Skillshed Analysis in section X).

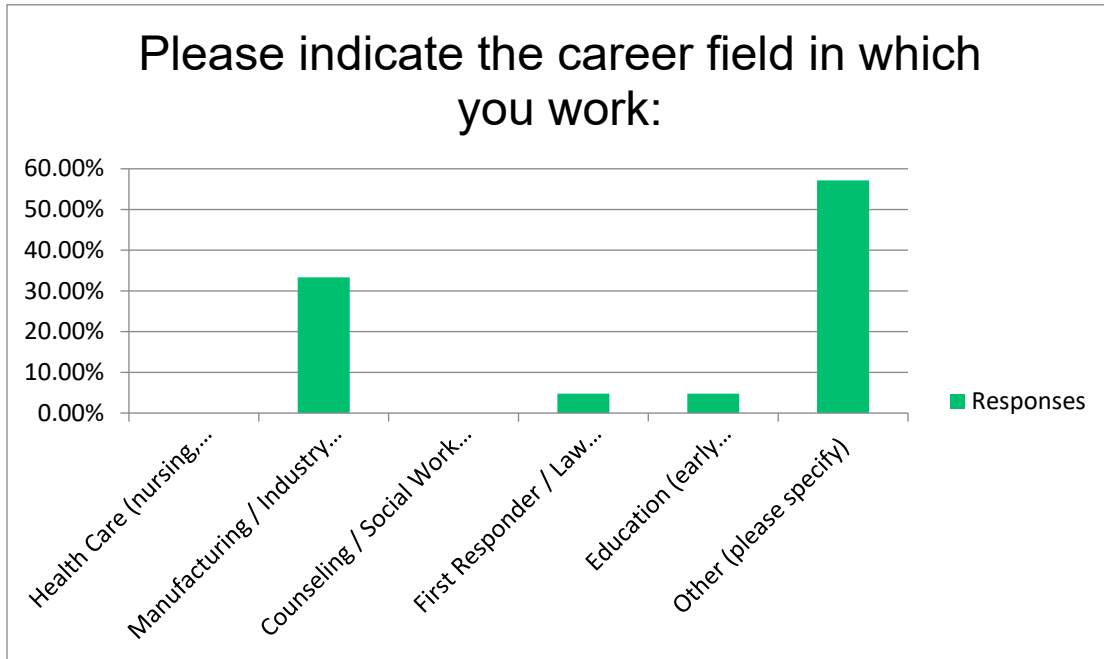
### **Participants Responses**

The survey was sent to members of the Lawrence County Business Advisory Council, Chamber of Commerce, and local businesses in Lawrence County. It was also sent out via email and phone calls with responses being tracked by surveymonkey.com. Overall, twenty-one responses were gathered from the survey requests. (n=21)

### **Survey Responses**

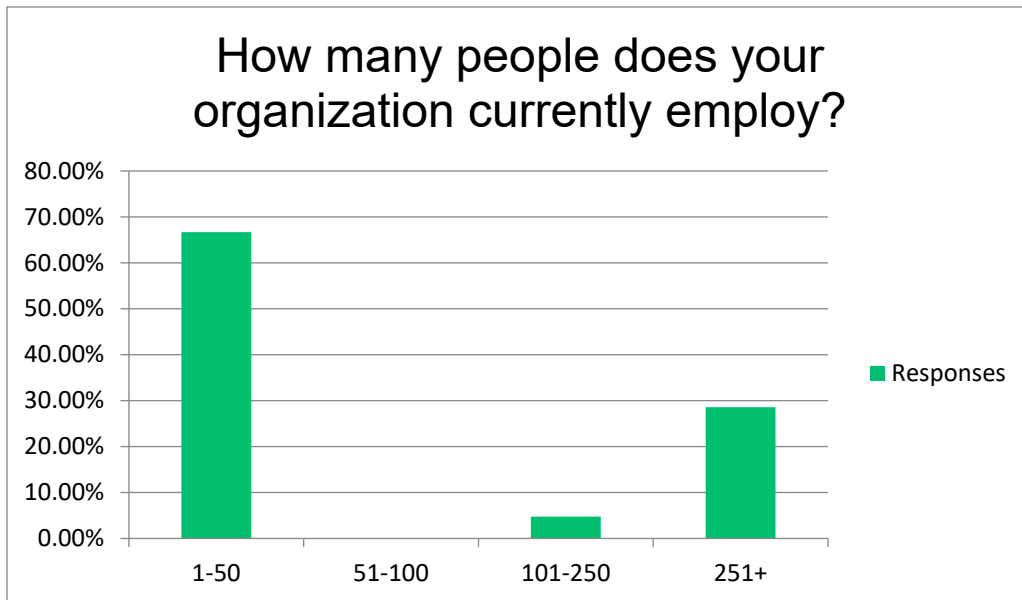
Question one of the surveys recorded the respondents' names and contact information. Of the twenty-one respondents, three did not provide either professional title. The remaining 18 respondents had the following titles: Engineer, QA Manager, HR Manager, Vice President of Innovation, General Manager, Retired Public Health Officer, Service Center Manager, Senior Partner, General Manager of Eastern Division, Director, Technical Consultant, Assistant Executive Director, Director, Deputy Auditor, Owner, and Senior Human Resources Consultant.

**Question 2.** Please Indicate the career field in which you currently work: (21 responses)



Other included: media/publishing/marketing, public health, financial, job training, grant opportunities consultant, rental sector, family-owned businesses, retail, and hospitality.

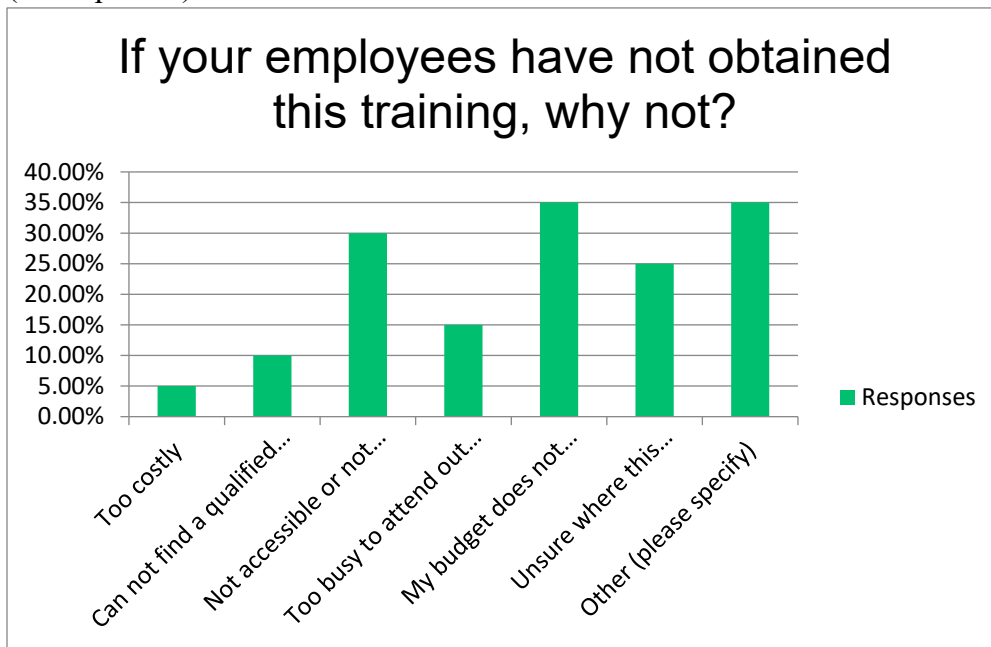
**Question 3.** How many people does your organization currently employ? (21 responses)



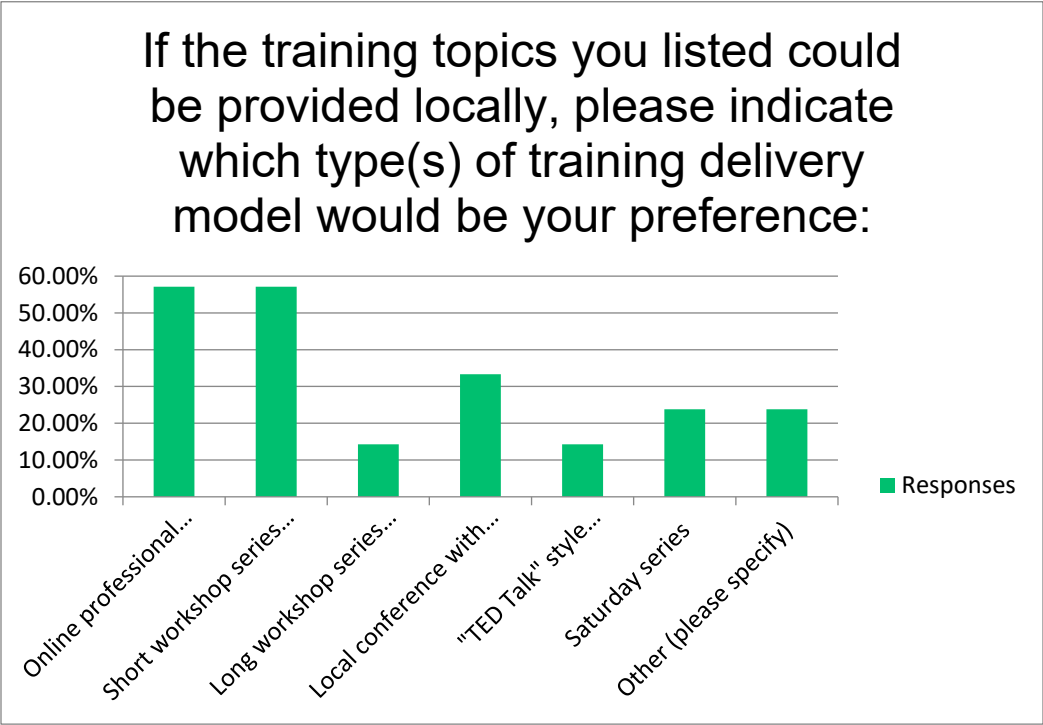
**Question 4.** What are the top three-five training topics for which your employees need specialized training? (21 responses)



**Question 5.** If your employees have not obtained this training, why not? (Circle all that apply)  
(20 responses)



**Question 6.** If the training topics you listed could be provided locally, please indicate which type(s) of training mode would be your preference: (21 responses)



**Question 7.** Has limited access or a lack of access to training impacted your ability to effectively meet the demands of your customers/clients? Yes/No (21 responses)



**Question 8.** Please provide any additional information about training needs that would assist LEDC in planning professional development to help your employees and other professionals improve their skills and capacity to retain or grow in their work.

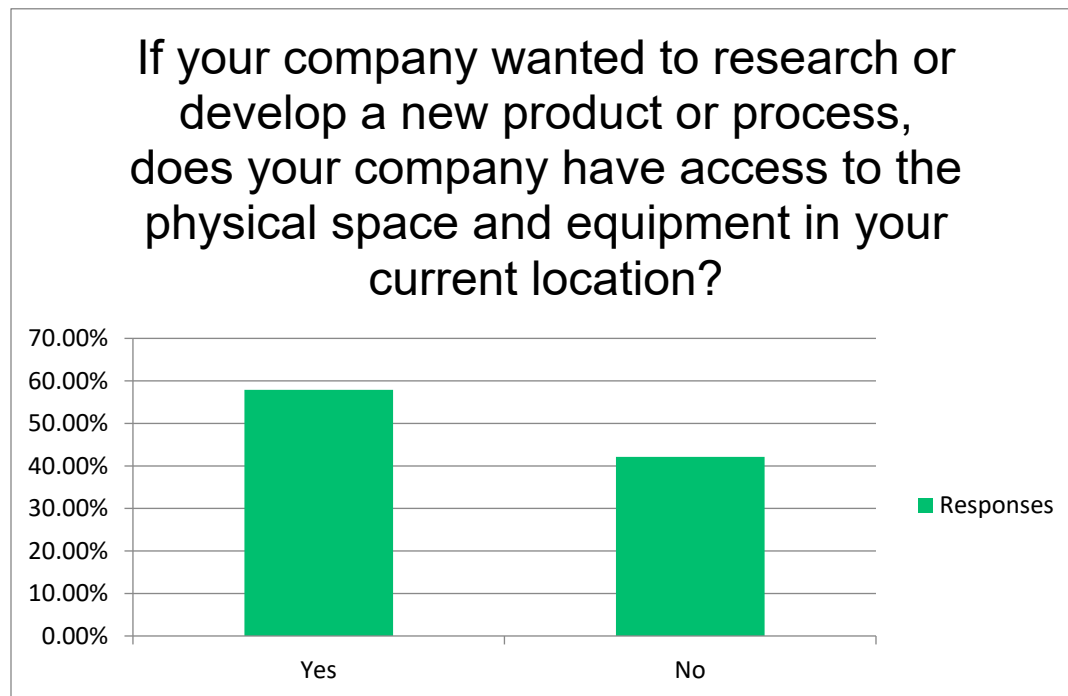
The following question provided the respondents with an opportunity to elaborate on their responses to the previous questions. There was a total of 16 responses but three of the responses were “n/a”. All the responses are included in Attachment 2. Two common answers were the need for employees to have better professional skills like career readiness and time management as well as the time of the training. Businesses were concerned with balancing the positive impact of increased training opportunities with the impact of having workers away from work. Many respondents recommended online training or shorter training for this reason.

**Question 9.** If you are qualified to offer trainings to others working in your industry, please list the topics here:

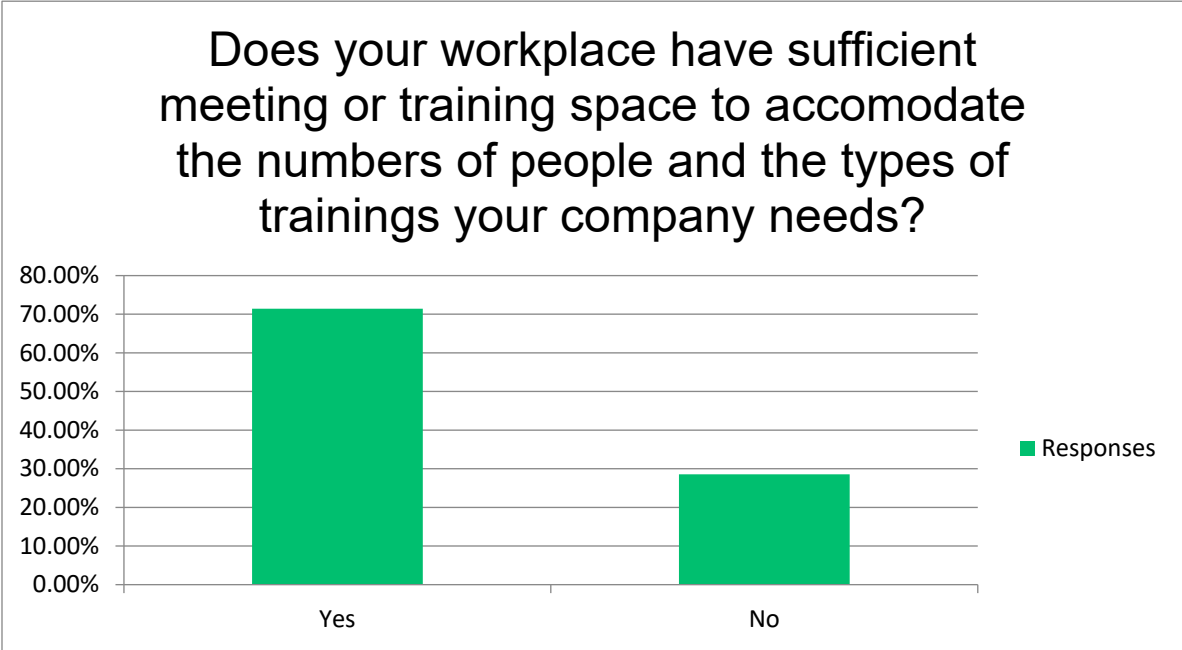
This question was geared toward finding local employers with knowledge in different areas of training needs and seeing if they would be willing to offer their time to train others in the community. This question received 12 responses with five saying they would be able to train. The training potential from these five includes design, machining, public health management, program management, fieldwork, grant-writing, grant review, and emergency services training.

**Question 10.** If your company wanted to research or develop a new product or process, would your company have the physical space and equipment in your current location to do so? Yes/No

(19 responses)

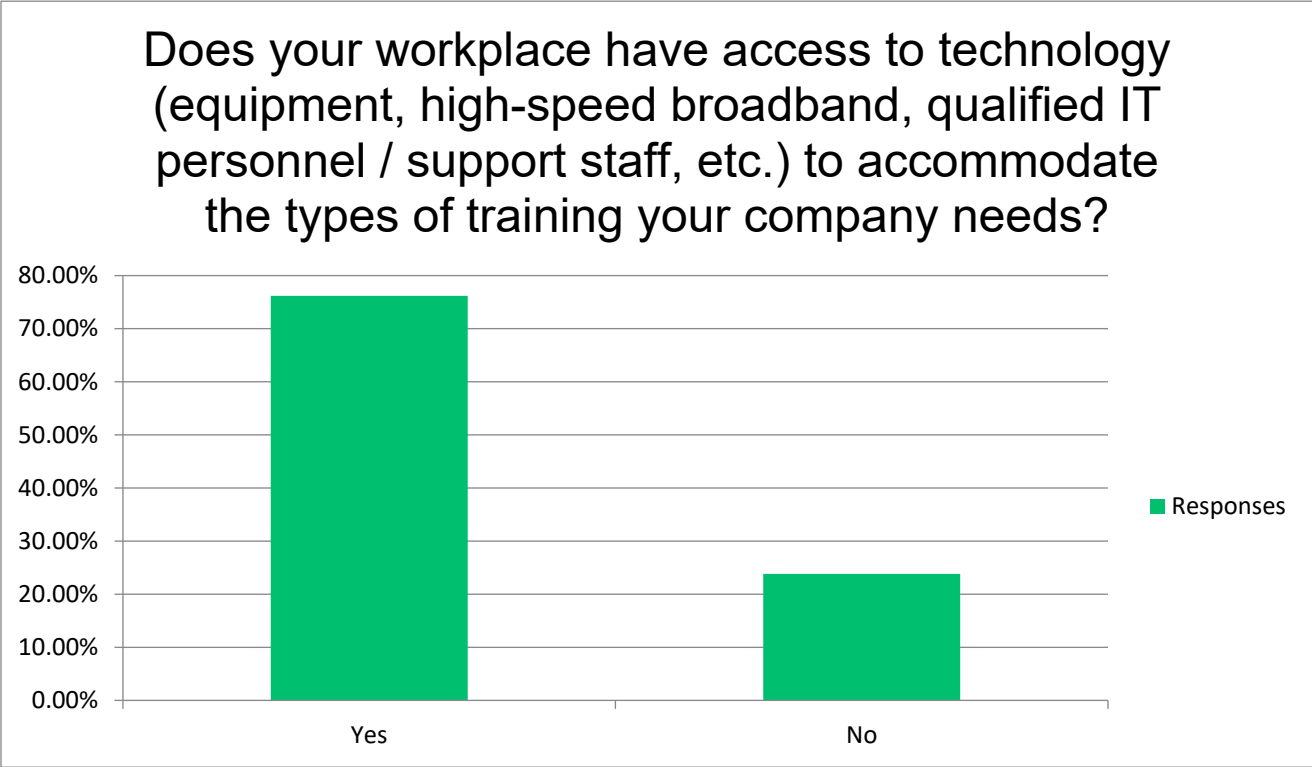


**Question 11.** Does your workplace have sufficient meeting or training space to accommodate the number of people and the types of training your company needs? Yes/No (21 responses)



**Question 12.** Does your workplace have access to the technology (equipment, high-speed broadband, qualified IT personnel/support staff, etc.) to accommodate the types of trainings your company needs? (21 responses)





**Question 13.** How would having access to a local training facility impact your company’s ability to attract and retain qualified employees, and provide ongoing education/training?

The following question was intended to gather the level of importance and usefulness to the community that this potential workforce training center would provide. The question received 17 responses with all the responses included in Attachment x. The responses revealed that a training center in Lawrence County would be highly beneficial according to the working community.

**Question 14.** Please provide any other comments relevant to workforce training, availability of training facilities, and space for research:

Question 14 received 12 responses with four of those responses being “n/a”. The responses to this question are varied, however, it does reveal that adequate training space is a challenge and would be beneficial for employers in the county. (See Attachment x)

**Survey Insights & Opportunity**

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***Capacity for Training***

The survey illustrates that nearly 75% of the organizations do have an adequate technology infrastructure to support employee training needs. Along with a favorable response (70%) for

those having actual space to support employee training. However, no specifics were mentioned to imply that training in specific in-demand areas were currently in place in their organization. This of course could be connected to timing, budgeting, or training access restraints. Further insight from survey participants revealed that in-house training for new hires tends to slow down production and leads to quality issues. While others noted the challenges associated with finding specialized roles such as machinists or individuals with mastery digital marketing skills. It must also be noted that more than 65% of the respondents were from business with 1-50 employees. Giving small businesses an external means to reinforce their employees knowledge base with minimal distraction would be of a great benefit, while also strengthening the areas labor force.

### ***Training Access for Emerging Occupations***

Training is essential for an organizations labor force and enables employees to improve skills that are aligned to work tasks, as well as broaden knowledge for future standards and processes. More than 50% of the respondents in this study noted that limited access to training has impacted their organization's ability to meet customer/client demands. While the participants did demonstrate a willingness to train their employees, they remained mindful of barriers such as minimal to no access to nearby programs, as well as budget constraints. Nonetheless, a local workforce training facility in the county would be beneficial for upskilling the regions labor supply, while affording businesses an opportunity to grow and retain their current employee base. It was also noted that local facility access could provide an efficient means for reducing lost work hours, or even enable a potential higher pay for new job-ready hires whom have received prior training.

Further, as the coal supply chain jobs continue to decline, alternative occupations such as accounting, construction laborers, operations specialists, and emergency medical technician opportunities are among the many growing careers in the Southeastern Ohio region (see Table 1 of Skillshed Analysis). Along with these growing occupations, executive respondents have communicated a need for more specialized training in soft-skills, media-marketing, finance, and industrial areas to name a few. Being able to obtain this training locally, by means of workshops or conference continuing education (CEU) credits would not only close the skills gaps of existing workers but could support organizational efforts to meet future labor force demands.

### **Strategic Recommendations**

The survey responses gathered support the implementation of a workforce training facility in areas involving multiple industries. This will provide education to people in an around the Lawrence County area, and assist with advancing from the former reliance on the coal industry. This workforce education will also assist local businesses as they will not have to spend time and money training new employees. This workforce training facility should include workforce education in the areas of accounting, construction, operations specialists, technical medical, soft-skills, media-marketing, finance, and industrial areas.

## **Closing Comments**

Survey responses support the implementation of a workforce training facility in Lawrence County. These responses should be used as evidence to encourage investment in new emerging industries. This investment will provide a new spectrum of workforce feasibility throughout southern and southeastern Ohio, and assist these rural communities to advance past the coal supply chain that heavily dictated the economy of this region. The varied educational opportunities that would be provided in this workforce training facility will provide new and diverse industry clusters that will help sustain this area of Ohio.

Attachment 1: Full Survey



WORKFORCE TRAINING AND FACILITY NEEDS SURVEY

1. Name  
Title  
Company  
Email Address  
Street/City  
Telephone
  
2. Please indicate the career field in which you currently work:
  - Health Care (nursing, allied fields, medical, dental, vision, etc.)
  - Manufacturing / Industry / Utilities (production, automation, transportation, construction, etc.)
  - Counseling/Social Work/Social Services (addiction recovery, foster care, elder care, etc.)
  - First Responders (police, fire, first responder, emergency services, public safety, etc.)
  - Education (primary, secondary, postsecondary, other, etc.)
  - Other \_\_\_\_\_
  
3. How many people does your organization currently employ?  
\_\_\_\_\_ 1-50                      \_\_\_\_\_ 51-100                      \_\_\_\_\_ 101-250                      \_\_\_\_\_ 251+
  
4. What are the top three - five training topics for which you or people in your field need specialized training?
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.
  
5. If you have not obtained the training, why not? (Circle all that apply)
  - Too Costly
  - Can not find qualified workshop on this topic
  - Not accessible / not offered in my local area
  - My budget does not include enough funding to support employee training
  - Too busy to attend out of town conference or training
  - Unsure where this training is offered near me
  - Other \_\_\_\_\_

6. If the training topics you listed could be provided locally, please indicate which type(s) of training mode would be your preference:
- Short Workshop Series (ex: face to face, once per month)
  - Long Workshop Series (ex. one week, M-F, or, in Summer, etc.)
  - Local conference with CEU's or other credentials offered
  - Saturday series (face to face)
  - Online professional development
  - Other \_\_\_\_\_
7. Has limited access or a lack of access to training impacted your capacity as an employee OR the capacity of your employer to effectively meet demands of your customer/client? Yes / No  
If yes, please describe:
8. Please provide any additional information about training needs that would assist LEDC in planning professional development to help frontline employees and professionals improve their skills and capacity to retain or grow in their work.
9. If you are qualified to offer trainings to others working in your field, please list the topics here;
10. If you or your company wanted to research or develop a new product or process, would you have the physical space and equipment in your current location to do so? Yes / No  
If yes, please describe:
11. Does your workplace have sufficient meeting or training space to accommodate the numbers of people and the types of trainings you need? Yes / No
12. Does your workplace have access to the technology (equipment, high-speed broadband, qualified IT personnel/support staff, etc.) to accommodate the types of trainings you need?

13. How would having access to a local training facility impact your company's ability to attract and retain qualified employees, and provide on-going education/training?

14. Please provide any other comments relevant to workforce training, availability of training facilities, and space for research:

#### **Attachment 2: Question 8 Responses**

Response 1: "Machinists are tough to find because they use an older form of machining, usual manual lathes. Finding people trained in this older method is difficult."

Response 2: "n/a"

Response 3: "they provide 6 to 12 months of in-house training for all new hires and that slows down production and leads to potentially broken products etc."

Response 4: "Basics of being a good employee - on time, few call-offs, good attitude, work ethic, etc..."

Response 5: "Job/Career readiness is one that we believe is vastly lacking in training, as new associates enter the workforce, in addition to existing associates who will benefit from the same."

Response 6: "Interactive online training would be most helpful."

Response 7: "n/a"

Response 8: "I think it would be helpful to offer training at various times of the day and week so that folks with different work situations could attend."

Response 9: "Mine is a time factor"

Response 10: "Because it is frontline and professional staff, the training needs to be short and timely."

Response 11: "I would encourage outreach to the local regional education providers to be a part of the discussion with the businesses to listen and learn of the current needs."

Response 12: "Best if talk to those program director directly"

Response 13: "n/a"

Response 14: "This is not only helping the employer tremendously; I feel that employees would be very happy to attend this training and they would also feel privileged that I am dedicating time and money to them."

Response 15: "I would like to connect to other businesses with similar issues. Covid has us feeling isolated and I know we are not alone"

Response 16: "I could attract more customers if I had mastery of online and digital marketing"

### **Attachment 3: Question 13 Responses**

Response 1: “A local training facility would definitely help our business and we would certainly enroll our employees in programs at a local center.”

Response 2: “Currently utilize Robert C. Byrd Center but having a local place would be greatly beneficial to this company.”

Response 3: “It would be a tremendous help. New hires start out at a higher rate of pay if they have the training beforehand. Also, would save the company the 6-12 months of training.”

Response 4: “Unknown. It certainly couldn't hurt.”

Response 5: “Having a flexible and contemporary training and research facility at reach will definitely help retain current and future associates”

Response 6: “Keeping training local or online would reduce lost work time.”

Response 7: “It would lead to career advancement.”

Response 8: “Having a local training area would draw in potential employees. It would also help retain and grow current employees.”

Response 9: “Access to these kinds of services would be a game-changer for my organization. They would help immensely and allow us to offer trainings for free or for a low fee.”

Response 10: “I’m the only employee.”

Response 11: “We provide training for job seekers and get them job ready.”

Response 12: “N/A due to my current position”

Response 13: “Probably not in our case”

Response 14: “It would allow for a more efficient and effective ways to provide the current services we offer.”

Response 15: “I think that would be a gigantic plus!”

Response 16: “We could possibly expand our business & need more employees, new jobs”

Response 17: “I do not know where I could have trainings”

### **Attachment 4: Question 14 Responses**

Response 1: “n/a”

Response 2: “n/a”

Response 3: “Would love to see CAD training brought back to the area. Many local vocational schools have dropped the class, and respondent is unsure why.”

Response 4: “Training and research facilities are always a challenge for public agencies.”

Response 5: “n/a”

Response 6: “Thank you for designing this survey and supporting our community!”

Response 7: “When Scott Howard was living, he and I discussed on several occasions the need to a training grounds for commercial industrial training and rescue (I.e., confined space, rope rescue, high angle rescue, etc.)”

Response 8: “If our entire organization wanted to do training, we do not have adequate space for equipment for training.”

Response 9: “I have had conversations on the lack of availability of training facilities, cost and access to current research (lack of awareness to our higher education research availability)”

Response 10: “Probably need to focus on smaller employer needs”

Response 11: “n/a”

Response 12: “This would be a good thing for Lawrence County to have a workforce training center focused on helping business get and keep qualified workers”



OVRDC REGION

1. COMPREHENSIVE WORKFORCE INVENTORY

## Comprehensive Workforce Inventory of the OVRDC Region

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of Leadership and  
Public Service

October 2021

Clara Bone

Preston Frick

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## Inventory of the OVRDC Resident Labor Resources

Table 1 list the various labor resources for OVRDC residents by County. The table include vocational schools and college programs where residents can learn a trade or skill to better position themselves when searching for employment. Likewise, the list includes public and private resources available in the region that help with the job search process as well as job training, unemployment, and income-based services such as Medicaid and Food Assistance. Of the 51 identified resources, 16 were private employment services, 22 were public employment services, and 13 were education-based training services.

Likewise Figure 1 shows the distribution of these resources through out the region. The resources tend to be cluster in the largest one or two cities or villages in each county. From this map, we can see a lack of services to the more rural areas of each county. This may suggest room for more labor resources throughout the region.

**Table 1: List of Resident Labor Resources in the OVRDC Region<sup>1</sup>**

Organization	Address	County	Type	Hours	Services Provided
<b>Ohio Means Jobs</b>	19211 SR 136	Adams	Public	M-F, 8am-5:30pm	Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>Ohio Valley Career and Tech Center</b>	175 Lloyd Road West Union, OH 45121	Adams	School	M-F, 8am-3pm	
<b>Adams County Job and Family Services</b>	482 Rice Drive West Union, OH 45693	Adams	Public	M-Th 7-4pm, Fri 7-11am	Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid
<b>Comprehensive Center</b>	19221 State Route 136 Winchester, OH 45697	Adams	Public	7:30am-5:30pm, M-F	
<b>Adams Brown Community Action Partnership</b>	406 W Plum St, Georgetown, OH 45121	Adams	Public	M-F, 8am-4:30pm	
<b>Bullis Rehab Employment</b>	2272 Logans Ln, West Union, OH 45693	Adams	Employment		

<sup>1</sup> Data pulled from NexisUni database, 2021

<b>Brown County Agency: Ohio Job and Family Services</b>	406 W. Plum St Georgetown, Ohio	Brown	Public	M, W, Th, F; 8am-4pm	Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid
<b>Chatfield College</b>	20918 SR 215 St. Martin, OH 45118	Brown	School		
<b>Southern State Community College, South Campus</b>	351 Brooks- Malott Rd. Mt. Orab, OH 45154	Brown	School		
<b>Brown County Agency</b>	775 Mt. Orab Pike Georgetown, OH 45121	Brown	Public	M-F, 7am-5pm	
<b>Health-University of Cincinnati-Area Health Education Center</b>	114. E State Street Georgetown, OH 45121	Brown	School		
<b>Southern Hills Career and Technical Center</b>	9193 Hamer Rd, Georgetown, OH 45121	Brown	School	M-F, 7:30am-3:30pm	
<b>Workforce Connection</b>	406 W Plum St, Georgetown, OH 45121	Brown	Employment		
<b>Brown &amp; Clermont Adult Career Campuses</b>	718 W Plane St Bethel, Ohio OH 45106	Brown	Public		Occupational education
<b>BelFlex Staffing Network</b>	201 Rivers Edge Dr. Milford, OH 45150	Clermont	Employment	M-F, 8am-5pm	
<b>Ohio Means Jobs Clermont County</b>	Parkway, Williamsburg, OH	Clermont	Public	M-F, 8am-4:30pm	Job postings, hiring events, business seminars, trainings, partnership with small business development center

<b>Ohio Means Jobs Clermont County</b>	2400 Clermont Center Drive Batavia, Ohio 45103	Clermont	Public	M-F, 8am-4pm	BCW Workforce, Career Enhancement Solutions, tuition assistance, degree/credential programs, GED, Workforce Innovation & opportunity act, skill upgrading
<b>Brown &amp; Clermont Adult Career Campuses, Eastwood Campus</b>	718 W Plane St Bethel, Ohio 45106	Clermont	School		Welding Classes, Health career classes, CDL, Public Safety classes,
<b>Eastwood Campus</b>	151 32 Parkway Williamsburg, OH 45176	Clermont	School	M-F, 7:30am-3:30pm	
<b>Ohio Means Jobs, Fayette County</b>	107 E East Street Washington Court House, OH	Fayette	Public	M-F, 8am-4pm	Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>Fayette County Department of Job &amp; Family Services</b>	133 S. Main Street Washington Court House, 4160	Fayette	Public	M-F, 8am-4pm	Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid
<b>Accel Staffing Services LLC</b>	216 W Court St, Washington Courthouse, OH 43160	Fayette	Employment	M-F, 8:30am-4:30pm	
<b>Randstad</b>	115 N Main St, Washington Court House, OH 43160	Fayette	Employment	M-F, 8am-5pm	
<b>Southern State Community College, Fayette Campus</b>	1270 US-62, Washington Court House, OH 43160	Fayette	School	M-Th, 8am-5pm	
<b>SURGE Staffing</b>	19B Fayette Center, Washington	Fayette	Employment	M-F, 8am-5pm	

	Court House, OH 43160				
<b>ACT-1 Staffing</b>	105 S Main St, Washington Court House, OH 43160	Fayette	Employment		
<b>Spherion</b>	115 N Main St, Washington Court House, OH 43160	Fayette	Employment		
<b>RSS Staffing</b>	201 S Main St, Washington Court House, OH 43160	Fayette	Employment	M-F, 8:30am-5pm	
<b>The Center For Economic Opportunity</b>	101 East St, Washington Court House, OH 43610	Fayette	Public	M-F, 8am-5pm	
<b>Ohio Means Jobs</b>	848 Third Ave. Gallipolis, OH	Gallia	Public		Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>Career Connections</b>	334 2nd Ave #1d Gallipolis, Ohio	Gallia	Employment	M-F, 8am-5pm	
<b>University of Rio Grande &amp; Rio Grande Community College</b>	218 N College Ave, Rio Grande, Ohio 45674	Gallia	School		
<b>Buckeye Hills Career Center</b>	351 Buckeye Hills Rd, Rio Grande, OH	Gallia	School		
<b>Southern State Community College- Central Campus (Adult Opportunity Center)</b>	100 Hobart Drive Hillsboro, OH 45133	Highland	School	M-W, 9am- 12pm/5:30pm-9pm	GED preparation, reading, preparation for college courses

<b>Ohio Means Jobs</b>	1575 N High St #31a, Hillsboro, OH 45133	Highland	Public	M-F, 8am-4:30pm	Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>WorkForce Development</b>	1575 N High St # 100, Hillsboro, OH 45133	Highland	Employment		
<b>The Reserves Network</b>	938 W Main St, Hillsboro, OH 45133	Highland	Employment	M-F, 8am-5pm	Temporary Staffing Services, Temp-to-Hire Services, Direct Hire Staffing
<b>Ohio Means Jobs</b>	25 E South St, Jackson, OH 45640	Jackson	Public		Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>Jackson County Economic Development Partnership</b>	920 Veterans Dr Unit A, Jackson, OH 45640	Jackson	Public		
<b>Ohio University Southern</b>	1804 Liberty Ave Ironton, OH 45638	Lawrence	School		Workforce Training, Bachelor's degrees, Associate degrees
<b>Ohio Means Jobs</b>	120 N 3rd St, Ironton, OH 45638	Lawrence	Public		Assists job seekers, assists youth with career planning, assists employers, employee recruitment, job training
<b>Proctorville Center</b>	111 Private Drive 516 Proctorville, OH 45669	Lawrence	School	M-Th, 8am-5pm	
<b>Workforce Development Resource Center</b>	120 N Third Street Ironton, Ohio 45638	Lawrence	Employment	M-F, 8am-4:30pm	Workforce innovation and opportunity act adult program, Ohio Means Jobs, Community Investment, Health occupation training, Pathway home program, Youth Program, Job Openings, Resume services
<b>Reliable Staffing Services</b>	611 W 2nd St, Waverly, OH 45690	Pike	Employment	M-F, 9am-5pm	
<b>Ohio Means Jobs / Workforce &amp; Business</b>	941 Market St Piketon, OH 45661	Pike	Public	M-F 8am-4:30pm	Job search, career planning, community resource information, college catalogs, financial aid, grant applications, labor market information



<b>Development Program</b>					
<b>Reliable Staffing Services</b>	33 N Plaza Blvd, Chillicothe, OH 45601	Ross	Employment	M-F, 9am-5pm	
<b>Ross County Job And Family Services</b>	475 Western Ave B, Chillicothe, OH 45601	Ross	Public	M-F, 8am-4pm	Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid
<b>South Central Ohio Job Bank</b>	45 E Main St, Chillicothe, OH 45601	Ross	Public		
<b>Workforce Solutions</b>	433 3rd St, Portsmouth, OH 45662	Scioto	Employment	M-F, 8am-5pm	
<b>Ohio Department of Jobs and Family Services</b>	710 Court St, Portsmouth, OH 45662	Scioto	Public	M-F, 8am-4:30pm	Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid
<b>Ohio Department of Job and Family Services</b>	30975 Industrial Park Rd, McArthur, OH 45651	Vinton	Public		Income-based for Food Assistance, Emergency Food Assistance, Cash Assistance, and Medicaid

## Inventory of the OVRDC Current Workforce

### The PUMA regions:

The following seven PUMAs were selected as the ORVDC Region+. These PUMAS cover Meigs, Athens, Hocking, and Clinton in addition to the 12 OVRDC Counties.

1. Ross & Fayette Counties PUMA, Ohio
2. Jackson, Hocking, Pike & Vinton Counties PUMA; Ohio
3. Athens, Gallia & Meigs Counties PUMA; Ohio
4. Scioto & Lawrence Counties PUMA, Ohio
5. Highland, Clinton & Adams Counties PUMA; Ohio
6. Clermont County (West) PUMA, Ohio
7. Clermont (East) & Brown Counties PUMA, Ohio

### Labor Force Participation<sup>2</sup>

The American Community Survey shows data regarding age, race, sex, poverty status, disability status, and educational attainment. This data is then refined by labor force participation rates and unemployment rates.

Key takeaways include that the regional participation rate (57%) is lower than the state-wide participation rate (63%). If participation rates were as high as the state rate, the OVRDC Region could expect around another 38,123 workers in the region.

Additionally, the labor force participation rate is lowest for ages 16 to 19, and for those over 60 years old which is to be expected. The data also shows that labor force participation starts declining in the 45-54 age group.

Labor Force Participation rates are lower for Black or African American and American Indian than for White workers.

The average unemployment rate 5.65%. Unemployment rates are higher for those 34 or under.

Unemployment rates are higher for Black or African American, American Indian, and those of Hispanic or Latino origin than for White workers.

Male labor force participation rate is higher than for females. However, unemployment rates are actually lower for females than males indicating that more men seek employment in the region than women.

Those living below the poverty line have a much lower labor force participation rate (40.0% compared to 71.3%) Likewise, the unemployment rate for those below the poverty line is 24.3 % compared to 5.2%.

Furthermore, those with a disability have a lower labor force participation rate of 35.6% and higher unemployment rate of 10.7%.

The labor force participation rate increases and the unemployment rate decreases with higher educational attainment.

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<sup>2</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

### Class of Worker<sup>3</sup>

This shows the breakdown of occupations by class of worker. There are five classes of workers: Private Companies, Self-employed (incorporated business), Not-For-Profits, Government, and Self-employed (not an incorporated business).

Private Companies make up the largest percentage of all occupations. Approximately, 69.5% of workers from the region work in private companies.

Approximately, 2.4% of workers from the region are self-employed (incorporated business).

Approximately, 8.3% of workers from the region work for not-for-profits. The majority of these workers are in management, business, science, and arts occupations.

Approximately, 14.2% of workers from the region work in government positions. The majority of these workers are in management, business, science, and arts occupations.

Approximately, 5.6% of workers from the region are self-employed (not incorporated business). The majority of these workers are in natural resources, construction, and maintenance occupations

### Commute<sup>456</sup>

Approximately, 91.6% of workers in the region work in Ohio. Likewise, 54.7% of workers work in their residential county.

Approximately, 41.0% of workers have a commute time of 19 minutes or less. Likewise, 40.2% of workers have commute time between 20 and 44 minutes and 18.8% of workers have commutes 45 minutes or longer. On average, the commute time is 27.5 minutes in the region.

For example, the commute time for Adams, Lawrence, and Scioto Counties was mapped to show the distance traveled in 16 minutes or less as shown in figures 1, 2, 3, and 4. These figures show that in about half the time as the average commute for the region, workers in these counties are able to commute to locations outside their residential county and, for some, outside Ohio entirely. This indicates that commuting patterns in the region are leading to an out commuting of potential workers to other counties and states.

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<sup>3</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

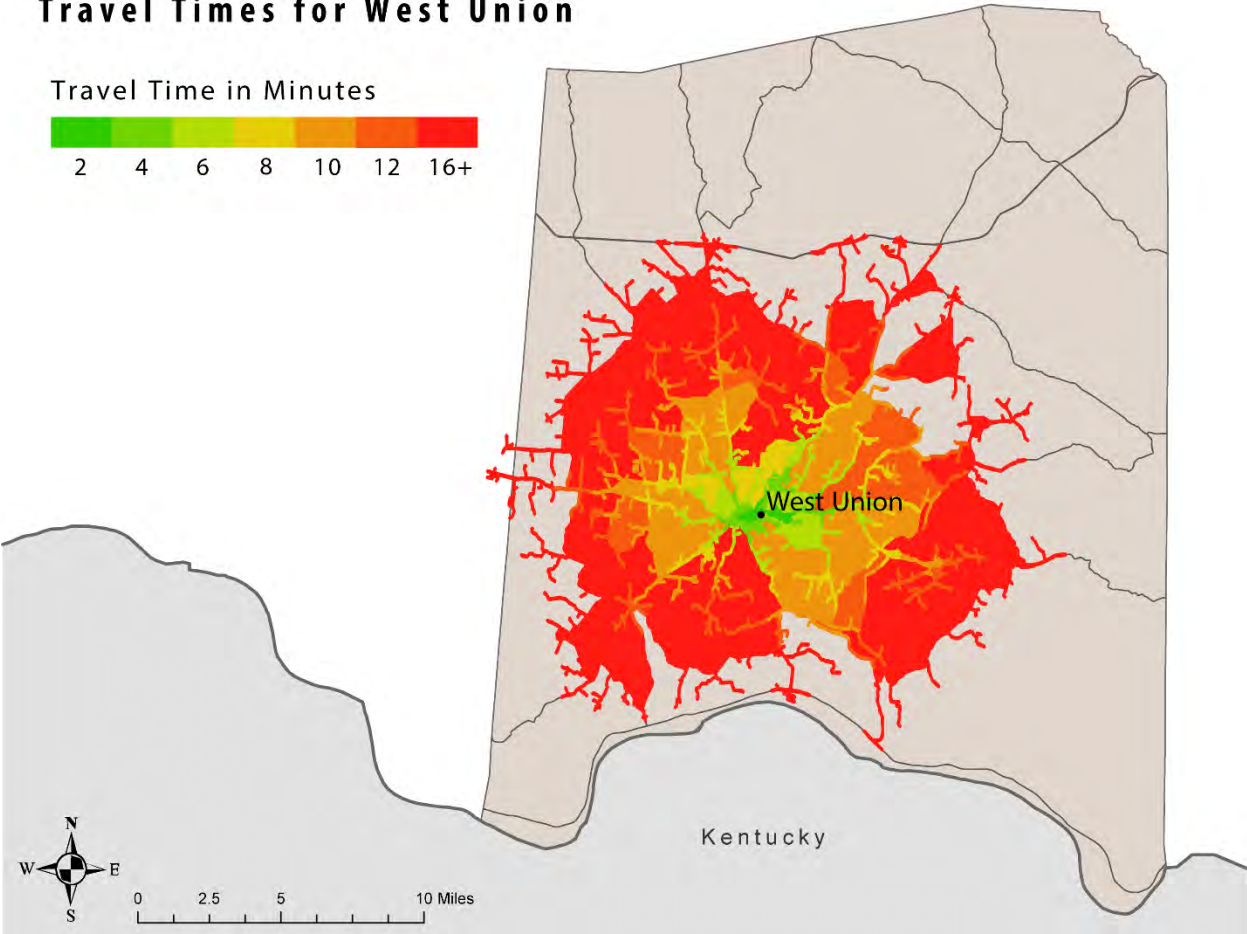
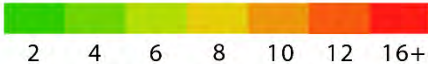
<sup>4</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

<sup>5</sup> Source: U.S. Census Bureau, 2011-2015 American Community Survey Commuting Flows

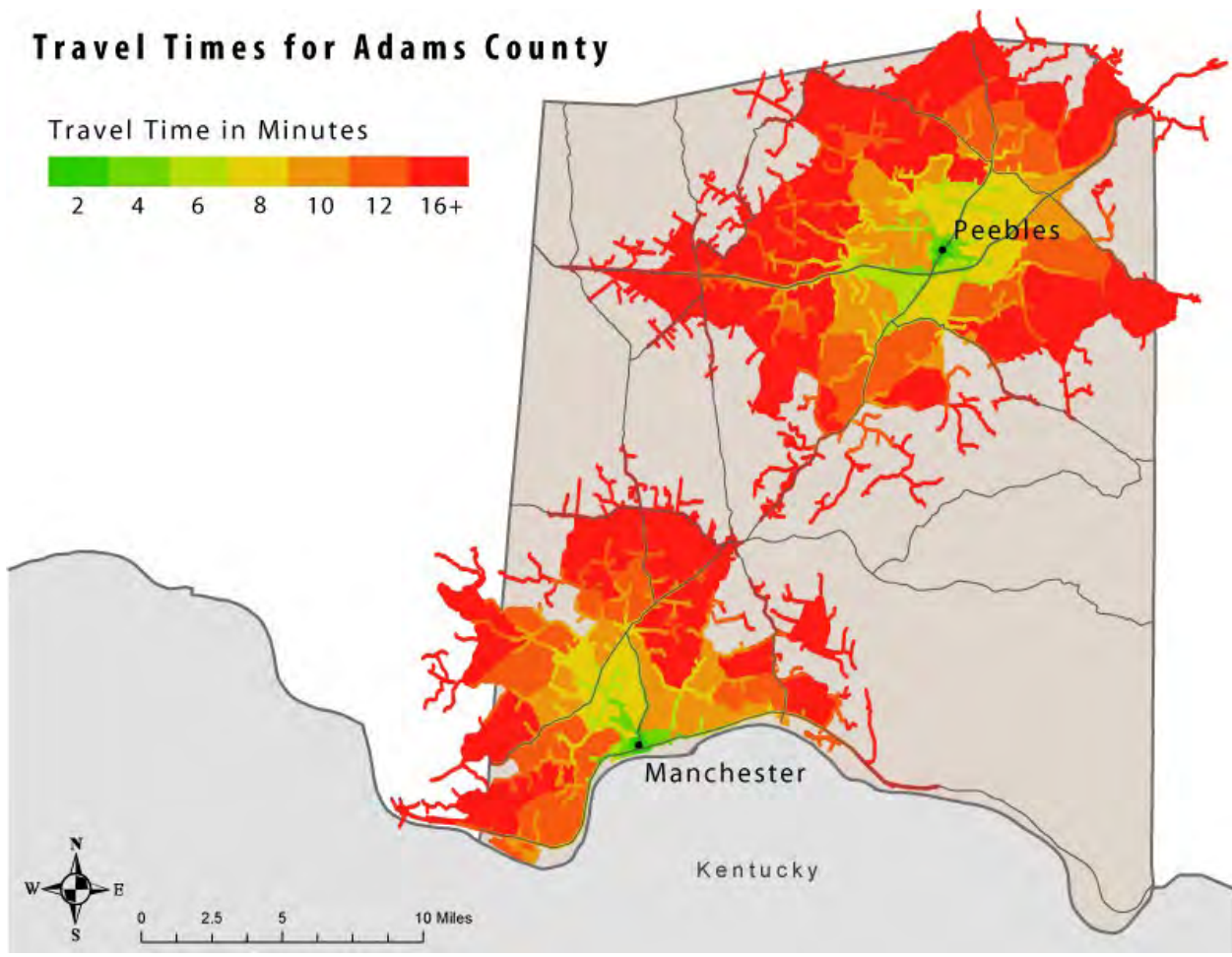
<sup>6</sup> The most recently released commuting flow data by the ACS was the 2011-2015 data

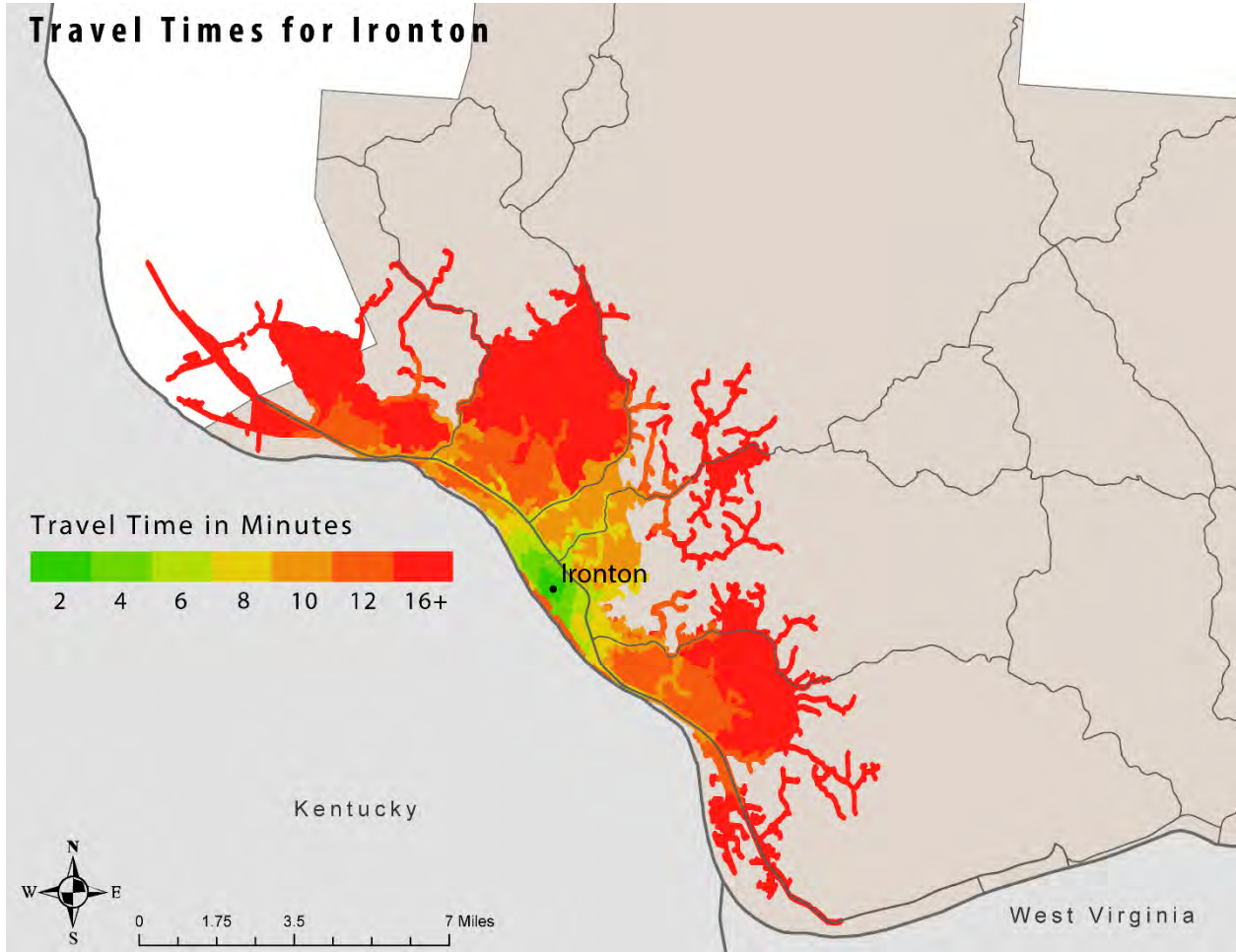
# Travel Times for West Union

Travel Time in Minutes



# Travel Times for Adams County





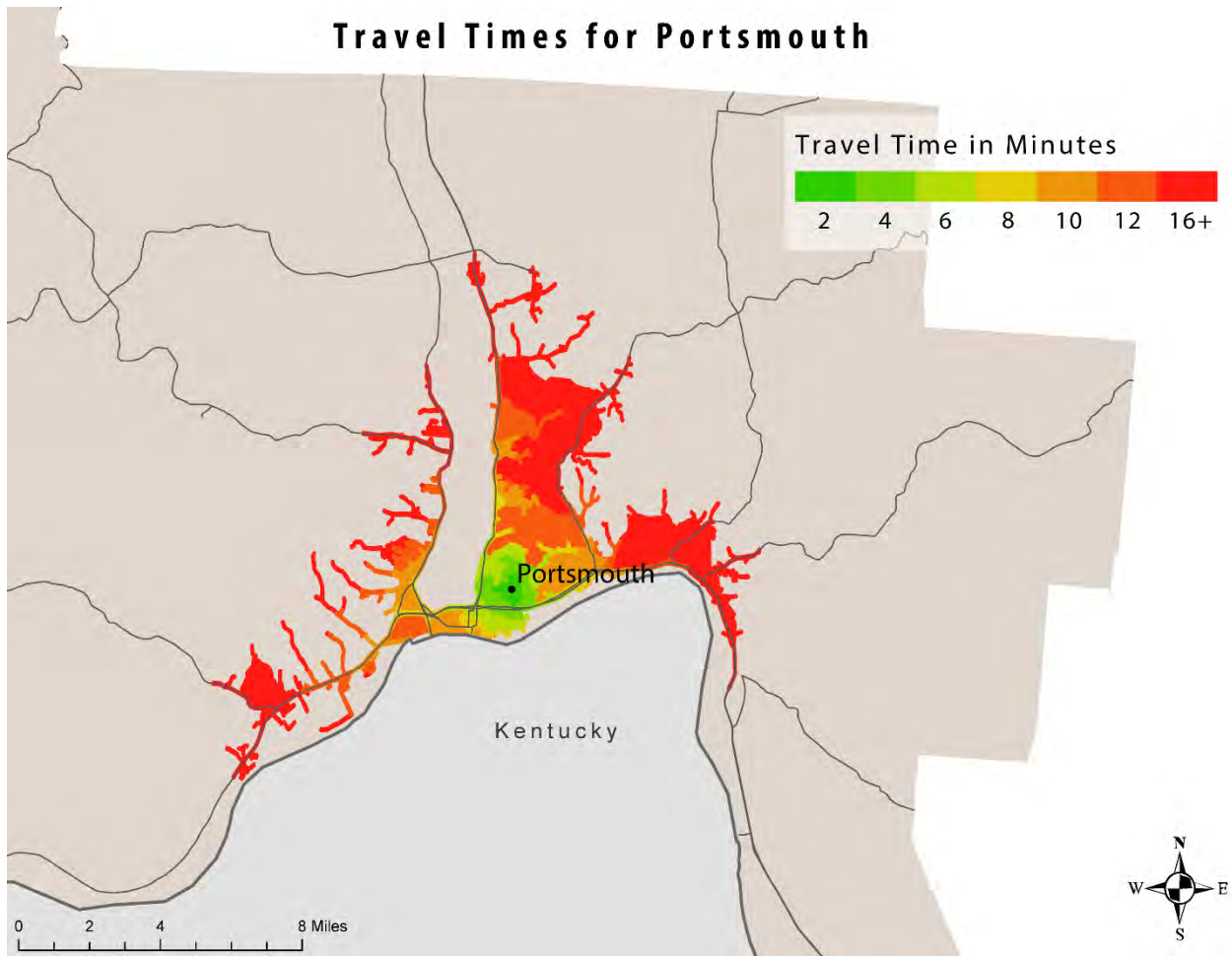
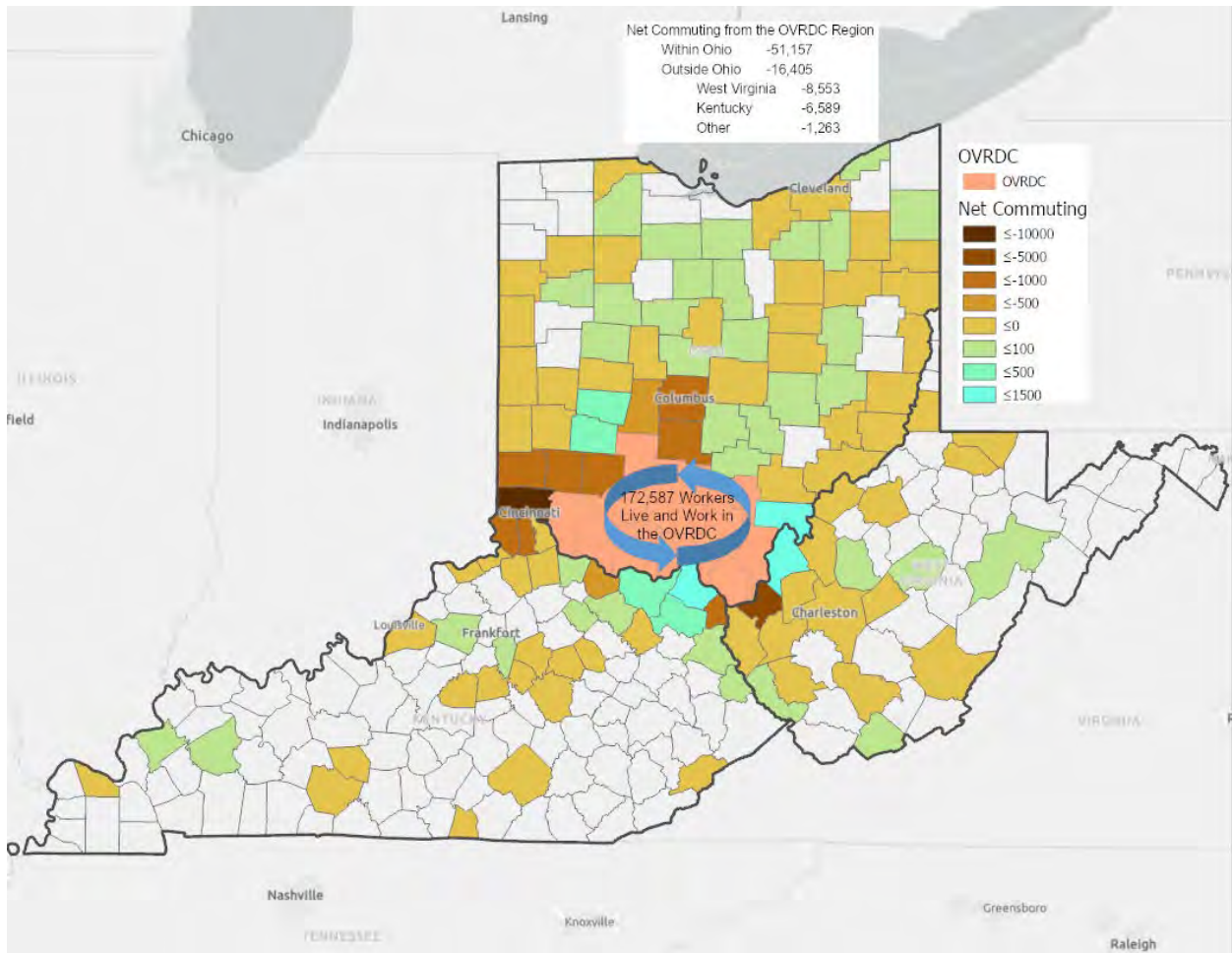


Table 2 details the net commuting patterns for the entire OVRDC region in 2015. This figure shows that of the 272,046 OVRDC workers in 2015, only 172,587 remained in the region for work. Additionally, of the 99,459 OVRDC residents leaving the region for work, 72,493 remain in Ohio and 26,966 work in another state. West Virginia and Kentucky are the most common other states for OVRDC residents to work in. However, the table also shows that there are also workers residing outside of the OVRDC region that come to the region to work. A total of 31,897 workers in the OVRDC region live outside the region. Of this number, 21,336 reside elsewhere in Ohio, 6,961 live in Kentucky, and 2,791 live in West Virginia. In total, the region experiences a net loss of 67,562. This indicates that if new facility or larger employer was to locate to the region, they could attract workers from outside the county as well as allow current residents to remain in the region for work.

Figure 5 shows the net commuting patterns for OVRDC in the Ohio/West Virginia/Kentucky Tri-State Area in 2015. Metropolitan areas such as Columbus, Cincinnati, and Huntington, WV are the largest sources of out commuting for the region. The figure also shows that although there is an overall negative net commute, there are many counties in the Tri-State area that have a positive commuting flow into the region.

Table 2: Net Commuting Patterns, ORVDC 2015

	Live in OVRDC Region	Work in OVRDC Region	Net Commuting to OVRDC Region
<b>Work in OVRDC Region</b>	172,587	<b>Live in OVRDC Region</b>	172,587
<b>Work in Ohio (outside of OVRDC Region)</b>	72,493	<b>Live in Ohio (outside of OVRDC Region)</b>	-51,157
<b>Work in Kentucky</b>	13,550	<b>Live in Kentucky</b>	-6,589
<b>Work in West Virginia</b>	11,344	<b>Live in West Virginia</b>	-8,553
<b>Work in Other State</b>	2,072	<b>Live in Other State</b>	-1,263
<b>Total</b>	272,046		-67,562





## Industries<sup>7</sup>

Table 3 shows the percentage of the population employed in each industry. The top 4 industries are manufacturing, retail trade, educational services, and health care and social services. Roughly 53% of the region is employed in these four industries. The top 4 industries are highlighted in the table below.

**TABLE 3: Percent of Population by Industry, 2019**

INDUSTRY	Number Employed	Percentage of Population Employed
Agriculture, forestry, fishing and hunting	3,892	1.09%
Mining, quarrying, and oil and gas extraction	1,057	0.30%
Construction	25,839	7.22%
<b>Manufacturing</b>	<b>52,717</b>	<b>14.73%</b>
Wholesale trade	6,929	1.94%
<b>Retail trade</b>	<b>45,192</b>	<b>12.63%</b>
Transportation and warehousing	16,947	4.73%
Utilities	3,926	1.10%
Information	4,239	1.18%
Finance and insurance	12,766	3.57%
Real estate and rental and leasing	4,740	1.32%
Professional, scientific, and technical services	14,696	4.11%
Management of companies and enterprises	334	0.09%
Administrative and support and waste management services	12,667	3.54%
<b>Educational services</b>	<b>34,361</b>	<b>9.60%</b>
<b>Health care and social assistance</b>	<b>57,523</b>	<b>16.07%</b>
Arts, entertainment, and recreation	3,911	1.09%
Accommodation and food services	26,810	7.49%
Other services, except public administration	15,477	4.32%
Public administration	13,905	3.88%
TOTAL POP Civilian employed population 16 years and over	357,928	

<sup>7</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

### Occupations<sup>8</sup>

Table 4 shows the percentage of the population employed in each occupation type. The top 4 occupation types are management, sales and related, office and administrative support, and production. Approximately, 38.2% of the region are employed in these 4 occupation types. The top 4 occupations are highlighted in the table below.

**TABLE 4: Percent of Population by Occupation, 2019**

OCCUPATION	Number Employed	Percentage of Population Employed
<b>Management occupations</b>	<b>30,388</b>	<b>8.49%</b>
Business and financial operations occupations	12,227	3.42%
Computer and mathematical occupations	6,942	1.94%
Architecture and engineering occupations	5,520	1.54%
Life, physical, and social science occupations	2,042	0.57%
Community and social service occupations	6,738	1.88%
Legal occupations	1,720	0.48%
Educational instruction, and library occupations	22,115	6.18%
Arts, design, entertainment, sports, and media occupations	3,566	1.00%
Health diagnosing and treating practitioners and other technical occupations	14,925	4.17%
Health technologists and technicians	10,258	2.87%
Healthcare support occupations	14,578	4.07%
Firefighting and prevention, and other protective service workers including supervisors	3,154	0.88%
Law enforcement workers including supervisors	3,777	1.06%
Food preparation and serving related occupations	22,622	6.32%
Building and grounds cleaning and maintenance occupations	13,616	3.80%
Personal care and service occupations	8,221	2.30%
<b>Sales and related occupations</b>	<b>34,924</b>	<b>9.76%</b>
<b>Office and administrative support occupations</b>	<b>38,640</b>	<b>10.80%</b>
Farming, fishing, and forestry occupations	1,640	0.46%
Construction and extraction occupations	20,144	5.63%
Installation, maintenance, and repair occupations	13,374	3.74%
<b>Production occupations</b>	<b>32,905</b>	<b>9.19%</b>
Transportation occupations	16,778	4.69%
Material moving occupations	17,114	4.78%
<b>TOTAL POP: Civilian employed population 16 years and over</b>	<b>357,928</b>	

<sup>8</sup> Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

## Commuting and Associated Wage Rates<sup>9</sup>

Table 5 details the length of commute by occupation for the OVRDC region+<sup>10</sup>. Additionally, the table is color coded to indicate the associated wages with each occupation for the region. Red is associated with low wages (under \$37,000), yellow is associated with mid-range wages (\$37,000-\$65,000), and green is associated with high wages (over \$65,000). The table shows that occupations with shorter commutes are more associated with lower wages and occupations with longer commutes are more associated with higher wages.

Table 6 details the wages by occupation for the OVRDC region+. The table is color coded to indicate the associated commute lengths with each occupation for the region. Red is associated with long commutes (over 30 minutes), yellow is associated with mid-range commutes (25-30 minutes), and green is associated with short commutes (under 25 minutes). The table shows that occupations with lower wages are more associated with shorter commutes and occupations with higher wages are more associated with longer commutes.

Table 7 details the length of commute by occupation for the OVRDC region+. Additionally, the table is color coded to indicate the percentage employed in each occupation for the region. Red is associated with low percentage employed (under 2%), yellow is associated with mid-range percentage employed (2-6%), and green is associated with high percentage employed (over 6%). The table shows that occupations with shorter commutes are more likely to employ a larger percentage of workers in the region. A notable exception is production occupations; workers in production are likely to have a long commute and make up the third largest occupation group in the region. This indicates that if production jobs were closer, more workers in the region would choose the shorter commute and would work at a facility in the region if possible.

Table 8 details the wages by occupation for the OVRDC region+. Additionally, the table is color coded to indicate the percentage employed in each occupation for the region. Red is associated with low percentage employed (under 2%), yellow is associated with mid-range percentage employed (2-6%), and green is associated with high percentage employed (over 6%). The table shows that occupations with lower wages are more likely to employ a larger percentage of workers in the region. This indicates that workers may be choosing lower paying jobs because of the length of commute, a lack of skilled knowledge, and an overall lack of available higher paying positions in the region.

In the appendix, Table A and Table B describe the particulars of the commute length and wages for each occupation.

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<sup>9</sup> Source: U.S. Census Bureau, 2019 American Community Survey Public Use Microdata Sample

<sup>10</sup> The data included all 12 OVRDC regions as well as Meigs, Athens, Hocking, and Clinton Counties in the PUMAs

Table 5: Commute Length by Occupation for the OVRDC Region+, coded by Wages

Under 25 minutes	25-30 minutes	Over 30 min
Community and Social Service	Arts, Design, Entertainment, Sports, and Media	Architecture and Engineering
Educational Instruction and Library	Building and Grounds Cleaning and Maintenance	Business and Financial Operations
Food Preparation and Serving Related	Farming, Fishing, and Forestry	Computer and Mathematical
Personal Care and Service	Healthcare Practitioners and Technical	Construction and Extraction
Sales and Related	Healthcare Support	Life, Physical, and Social Science
	Installation, Maintenance, and Repair	Production
	Legal	Protective Service
	Management	Transportation and Material Moving
	Office and Administrative Support	

Average Wage

- Under \$37,000
- \$37,000-\$65,000
- Over \$65,000

Table 6: Wages by Occupation for the OVRDC Region+, coded by Commute Length

Under \$37,000	\$37,000-\$65,000	Over \$65,000
Building and Grounds Cleaning and Maintenance	Arts, Design, Entertainment, Sports, and Media	Architecture and Engineering
Farming, Fishing, and Forestry	Community and Social Service	Business and Financial Operations
Food Preparation and Serving Related	Construction and Extraction	Computer and Mathematical
Healthcare Support	Educational Instruction and Library	Legal
Personal Care and Service	Installation, Maintenance, and Repair	Management
Office and Administrative Support	Life, Physical, and Social Science	
Transportation and Material Moving	Production	
Sales and Related	Protective Service	
	Healthcare Practitioners and Technical	

Commute Length

- Under 25 minutes
- 25-30 minutes
- Over 30 minutes

Table 7: Commute Length by Occupation for the OVRDC+ Region, coded by % employed

Under 25 minutes	25-30 minutes	Over 30 min
Community and Social Service	Arts, Design, Entertainment, Sports, and Media	Architecture and Engineering
Educational Instruction and Library	Building and Grounds Cleaning and Maintenance	Business and Financial Operations
Food Preparation and Serving Related	Farming, Fishing, and Forestry	Computer and Mathematical
Personal Care and Service	Healthcare Practitioners and Technical	Construction and Extraction
Sales and Related	Healthcare Support	Life, Physical, and Social Science
	Installation, Maintenance, and Repair	Production
	Legal	Protective Service
	Management	Transportation and Material Moving
	Office and Administrative Support	

Percent of Employed

- Over 6%
- 2%-6%
- Under 2%

Table 8: Wages by Percent Employed by Occupation for the OVRDC+ Region, coded by % employed

Under \$37,000	\$37,000-\$65,000	Over \$65,000
Building and Grounds Cleaning and Maintenance	Arts, Design, Entertainment, Sports, and Media	Architecture and Engineering
Farming, Fishing, and Forestry	Community and Social Service	Business and Financial Operations
Food Preparation and Serving Related	Construction and Extraction	Computer and Mathematical
Healthcare Support	Educational Instruction and Library	Legal
Personal Care and Service	Installation, Maintenance, and Repair	Management
Office and Administrative Support	Life, Physical, and Social Science	
Transportation and Material Moving	Production	
Sales and Related	Protective Service	
	Healthcare Practitioners and Technical	

Percent of Employed

- Over 6%
- 2%-6%
- Under 2%

## Conclusion

There is opportunity surrounding the OVRDC region in terms of labor force. There is a large portion of the region that out commutes for work. A new large employer, or an expansion of an existing facility, could help retain these out commuters as well as attract workers from outside the region.

However, although existing in some cities and villages, the region as a whole could benefit from more workforce training opportunities and employment services. Likewise, issues such as poverty and disabilities are higher in the region contributing to a lower participation. Women in the region also have a much lower participation rate. There could be potential in programming that focuses on bring women into the workforce as a way to increase the overall labor pool.

Finally, not just any jobs will keep workers from out commuting. Higher paying jobs will likely help retain workers. Additionally, jobs that match the current occupational and industrial make-up of the region would be easier for workers to transition to. In particular, current employees are working in management, sales, production, and office occupations. All four of these occupations could benefit by bringing in a manufacturer or expanding a facility in the region.

APPENDIX

Table A: Commute Length by Occupations in the OVRDC Region+

<b>Occupation</b>	<b>Commute (in Minutes)</b>
<b>Educational Instruction and Library</b>	19.5
<b>Food Preparation and Serving Related</b>	20.7
<b>Community and Social Service</b>	21.8
<b>Personal Care and Service</b>	23.7
<b>Sales and Related</b>	24.2
<b>Healthcare Support</b>	25.0
<b>Building and Grounds Cleaning and Maintenance</b>	25.7
<b>Arts, Design, Entertainment, Sports, and Media</b>	25.9
<b>Office and Administrative Support</b>	26.7
<b>Legal</b>	27.7
<b>Management</b>	28.6
<b>Farming, Fishing, and Forestry</b>	28.7
<b>Healthcare Practitioners and Technical</b>	29.2
<b>Transportation and Material Moving</b>	30.1
<b>Business and Financial Operations</b>	30.2
<b>Production</b>	31.6
<b>Computer and Mathematical</b>	32.0
<b>Architecture and Engineering</b>	32.3
<b>Protective Service</b>	33.2
<b>Life, Physical, and Social Science</b>	34.4
<b>Installation, Maintenance, and Repair</b>	35.7
<b>Construction and Extraction</b>	44.4

Table B: Wages by Occupation in the OVRDC Region+

<b>Occupation</b>	<b>Average Wages</b>
<b>Food Preparation and Serving Related</b>	\$13,674
<b>Personal Care and Service</b>	\$19,513
<b>Healthcare Support</b>	\$22,779
<b>Farming, Fishing, and Forestry</b>	\$26,510
<b>Building and Grounds Cleaning and Maintenance</b>	\$26,827
<b>Office and Administrative Support</b>	\$31,918
<b>Transportation and Material Moving</b>	\$32,813
<b>Sales and Related</b>	\$35,982
<b>Community and Social Service</b>	\$39,371
<b>Educational Instruction and Library</b>	\$40,605

<b>Production</b>	\$40,958
<b>Arts, Design, Entertainment, Sports, and Media</b>	\$42,123
<b>Construction and Extraction</b>	\$43,630
<b>Protective Service</b>	\$44,154
<b>Installation, Maintenance, and Repair</b>	\$49,034
<b>Life, Physical, and Social Science</b>	\$59,883
<b>Healthcare Practitioners and Technical</b>	\$60,390
<b>Computer and Mathematical</b>	\$66,405
<b>Business and Financial Operations</b>	\$66,482
<b>Legal</b>	\$68,225
<b>Management</b>	\$72,188
<b>Architecture and Engineering</b>	\$74,669



## 2. INDUSTRY CLUSTER ENHANCEMENT



**OHIO**  
UNIVERSITY

Voinovich School of  
Leadership and Public Service

## **OVRDC Region Task 2**

Industry Cluster Enhancement

**December 2021**

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The authors would like to thank Kendra Mckitrick and Cameron Cappone, Voinovich School Scholars for their contribution to this task.

OVRDC Task 2. Industry Cluster Enhancement

Final Report – December 23, 2021

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## Summary

This report presents the final report for the OVRDC Region Industry Cluster Enhancement Assessment. It includes the results of the data analysis as well as details on introducing targeted industry clusters within the region. While the full description of the report with a focus on the task is presented below, there are a few observations that we highlight here:

- Advanced Manufacturing, Aerospace & Aviation, Automotive, Biohealth, Energy, Financial Services, Food Processing, Hardwood Products and Manufacturing, Information Technology and Services, Logistics, and Polymers and Chemicals industry clusters are the most influential clusters within the OVRDC region.
- Logistics cluster with 883 firms and 11,567 employments is the largest economy within the region followed by Advanced Manufacturing with 95 firms and 11,107 employments and Financial Services with 711 firms and 9,025 employments.
- Soft Drink, Wineries, Breweries industry with 20 firms and 658 employments is the largest economy within the Food Processing cluster in region followed by Breakfast Cereal, Flour Milling, and Rice Milling industry with 5 firms and 399 employments, and Cookie and Cracker, Retail Bakeries, Commercial Bakeries industry with 32 firms and 201 employments.
- Compared to the U.S., Advanced Manufacturing followed by Automotive, and Polymers and Chemicals, and Logistics clusters are stronger clusters with a Location Quotient above 1.
- Compared to the U.S., Breakfast Cereal, Flour Milling, and Rice Milling industries along with Soft Drink, Wineries, Breweries, and Dog, Cat, and Other Animal Food operations have stronger economy.
- Food processing and energy clusters have the highest employment multipliers, at 8.76 and 3.64, respectively. Although the multiplier for food processing as a cluster may be inflated due to limitations of input-output modeling in IMPLAN, other sub-clusters such as pet food, ice cream and frozen dairy products, and cookie and cracker manufacturing have employment multipliers above 2.5.
- Hardwood products manufacturing has the highest output multiplier at 2.09.
- Investment strategies for the OVRDC region to achieve sustainable growth should target investments towards declining clusters with high employment, such as logistics, or industries with high multipliers, such as food processing, energy, and hardwood manufacturing.

## Project Description

The Center for Economic Development and Community Resilience of the Ohio University Voinovich School of Leadership and Public Service engages with existing OVRDC firms in the region's industry clusters to determine their industry needs. Additionally, this activity provides opportunities to identify and immediately serve expanding cluster businesses in the OVRDC region seeking to relocate or expand.

## Project Implementation

For this task, the team identified existing primary industry clusters within counties represented by the Ohio Valley Regional Development Commission (henceforth, OVRDC) to assess industry and firm-level needs. The OVRDC represents Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties. The primary purpose of this section is to identify and serve expanding clusters in the OVRDC region seeking to relocate or expand. The team identified 11 clusters composed of a total of 2,397 industries based on the Nexis Uni dataset.

## Project Methodology

This study assesses the industry cluster enhancement of the OVRDC region through an examination of current economic activities to identify positive regional industrial sectors and associated potential business opportunities. The study includes:

- Definition of targeted industry clusters within the region
- A Location Quotient analysis of regional employment sectoral distribution and concentrations
- Scan and map of existing firms in each targeted cluster
- A characterization of relevant business demographics such as number of firms, employment, revenue, and ownership structures
- An Economic Impact Analysis of targeted industry clusters to identify top ten industries within the supply chain most impacted and supported by each cluster

This report presents the outcome of each assessment and analyzes the findings.

## Task 2.1: Identify and Map the Existing Industry Clusters in the OVRDC, CEDS and JobsOhio Regional Focus Areas

In this section, we explore JobsOhio, OVRDC, and the OVRDC related subregions' clustering algorithm. This exploration enables us to discuss the procedure on how each region defines targeted clusters of industries. It is worth mentioning that we analyze the OVRDC region as a whole, not at the county level. The analysis demonstrates the overall strength or weakness of the OVRDC region industries. The goal is to gain more insight into examining and identifying opportunities for economic growth and gaps that could be filled, as well as providing opportunities for sustainable growth in the OVRDC region.

### Targeted Industry Clusters (OVRDC Reports)

First, we explore the OVRDC region related resources to understand how targeted industries are defined by the OVRDC entity. There are two comprehensive reports available on the OVRDC website: 1.

Comprehensive Economic Development Strategy, 2011 Performance Report,<sup>1</sup> and 2. 2017 CED Comprehensive Full Report.<sup>2</sup> Below is the definition of targeted clusters in 2011 and 2017 reports, respectively:

OVRDC, CEDS 2011 report identifies five clusters in the OVRDC region:

- Agriculture Related Businesses with 24 businesses and 649 employees in the region
- Freight and Transportation Related Businesses with 72 businesses and 3,178 employees in the region
- Healthcare Related Businesses with 344 businesses and 25,986 employees in the region
- Total Manufacturing Sector with 272 businesses and 26,509 employees in the region
- Wood Industry and Related Businesses with 56 businesses and 7,329 employees in the region

The reasons referred to in the report for identifying these clusters are mostly land resource prominence, export-orientation, the need for support, the opportunity for facilitation, employment concentration factor, and the economic prosperity factor.<sup>3</sup>

OVRDC CED 2017 report identifies five clusters in the OVRDC region:

According to CED 2017 report, five clusters were selected due to their prominence, employment concentration factor, economic prosperity factor, focus on becoming export-oriented, need of support, and opportunity for facilitation:

- Manufacturing with 41,524 employees (ACS 2015 estimated data)
- Retail with 36,744 employees (ACS 2015 estimated data)
- Food Accommodation and Production with 19,025 employees (ACS 2015 estimated data)
- Healthcare with 44,656 employees (ACS 2015 estimated data)
- Public Sector with 11,394 employees (ACS 2015 estimated data)

### Targeted Industry Clusters (JobsOhio Website)<sup>4</sup>

According to the JobsOhio website, there are 10 industries in Ohio listed as targeted clusters in 2020:

- Advanced Manufacturing with 3,527 jobs created
- Aerospace and Aviation with 210 jobs created
- Automotive with 3,293 jobs created

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<sup>1</sup> Available at

<https://www.ovrdc.org/CEDS/2011%20CEDS/OVRDC%20CEDS%202011%20Performance%20Report.pdf>

<sup>2</sup> Available at <https://www.ovrdc.org/media/2017-Full-Approved-CEDS.pdf>

<sup>3</sup> Business data list purchased by OVRDC from March 2008 from InfoUSA.

<sup>4</sup> Available at <https://www.jobsohio.com/annual-report-2020/>

- Financial Services with 962 jobs created
- Food Science and Agriculture with 1,554 jobs created
- Healthcare with 2,406 jobs created
- Information Services and Software with 1,593 jobs created
- Logistics and Distribution with 3,287 jobs created
- Military and Federal with 300 jobs created
- Shale Energy and Petrochemicals with 959 jobs created

JobsOhio lists the top characteristics that are benefits of doing business in Ohio as friendly approaches, decisive interventions, a job-friendly regulatory environment, access to top level talented workforce, dependable infrastructure, Ohio's attractive location for minimizing supply chain disruptions, supportive system for research and innovation, loan and grant opportunities and incentives, small state corporate income or profits taxes, no tax on products sold outside of Ohio, no state tax on machinery and equipment investments, no state tax on R&D investments, and having only one state business tax – the Commercial Activity Tax (0.26 percent).

### Targeted Industry Clusters (JobsOhio Document)<sup>5</sup>

According to the JobsOhio document, there are nine targeted clusters and four targeted business functions in Ohio. These industries are identified by JobsOhio according to their strength and contribution to the overall state economy:

#### Clusters

- Aerospace and Aviation
- Advanced Manufacturing
- Automotive
- BioHealth
- Energy
- Financial Services
- Food Processing
- Information Technology and Services
- Polymers and Chemicals

#### Business Functions

- Headquarters and Consulting

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<sup>5</sup> Available at <https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/rfp/JobsOhio-NAICS-codes.pdf>

- Back Office
- Logistics
- Research & Development

To further study the clustering algorithm, in addition to the OVRDC and JobsOhio, we explore three other entities that include and overlap some of the OVRDC region counties: APEG/ OhioSE, REDI Cincinnati, and Dayton Development Coalition.

## APEG/ OhioSE<sup>6</sup>

According to the OhioSE website, the APEG region includes Adams, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton Counties, which are nine out of 12 OVRDC counties. APEG defines the targeted industries in the whole APEG region as:

- Energy and Chemical
- Wood and Paper Product
- Metal Fabrication
- Food Manufacturing
- Logistics and Distribution
- Automotive and Aerospace

According to OhioSE website, in terms of the energy and chemical industry's intensity in the APEG region, the region is located on top of a large portion of the Utica and Marcellus shale formations. These resources have accounted for 85 percent of U.S. shale gas production growth since 2012.

According to the OhioSE website, wood-related industries in the OhioSE region have access to over 30 billion board feet of standing timber (trees grown for commercial use) and over 400 million board feet of hardwood harvested each year. The hardwood and paper products supply chain is well developed with logging, sawmills, kilns, stave mills and specialized trucking operations across the region, which provides opportunities for growth.

The metal fabrication industry has a long history of utilizing local ore and energy resources benefiting from the Ohio River for transport. The metal fabrication industry in the region includes 300 businesses and relies on a skilled workforce, abundant low-cost energy, and the powerful Ohio River (footnote 6).

Food manufacturing has a long and successful history with a concentration of food processing workforce 81 percent above the national average. In addition to well-known food manufactures, smaller, specialized food manufactures also support the region and are major employers (footnote 6).

Logistics and distribution are named as one of the state's strengths. Based on OhioSE website, the region is within a 10-hour drive of eight of the largest metro areas in the US: New York, Chicago, Washington DC, Philadelphia, Atlanta, Detroit, St. Louis, and Charlotte. In addition, the region benefits from an easy drive to other metro areas within and neighboring the State of Ohio, such as Columbus, Pittsburgh, Cleveland, Cincinnati, Indianapolis, and Louisville (footnote 6).

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<sup>6</sup> Available at <https://ohiose.com/>



When it comes to the Automotive and Aerospace industry, access to major assembly plants in Ohio, Michigan, Indiana, Pennsylvania, Kentucky, and Tennessee is named an important factor for comparative advantages and growth within the region (footnote 6).

In general, the labor surplus, favorable tax climate, low operating costs and abundant and affordable energy are opportunities that make the OhioSE region an ideal location to grow a business.

## REDI Cincinnati

REDI Cincinnati region contains two OVRDC counties: Brown and Clermont. There are four targeted clusters listed on the REDI Cincinnati website.

- Advance Manufacturing
- Biohealth
- Business and Professional Services
- Technology

According to their website, the regional growth in manufacturing in REDI Cincinnati has more than doubled during the last five years. A fast-growing economy, access to one of the busiest inland ports, skilled talent and strong market access are listed as some of the advantages of the REDI Cincinnati region for advanced manufacturing. According to EMSI, 2021.4 REDI Cincinnati has 2,694 business locations, 115,877 industry workers, 0.4% Job growth (2015-2020), and \$26.59 billion in Gross Regional Product (GRP) from advanced manufacturing industries. There are 913 business locations, 14,388 industry workers, 7.2% growth in jobs (2015-2020), and \$3.89billion in Gross Regional Products (GRP) in the region's Biohealth cluster. The comparative advantages of business and professional services are strength in providing financial services, back-office support services, and consumer insights. Extracted from EMSI, 2021.4, REDI Cincinnati contains 131,995 business administrators, 62,054 business managers, 48,603 finance professionals, 32,195 information technology professionals, 9,741 print and digital media professionals, and 111,632 sales professionals and marketers.<sup>7</sup>

## Dayton Development Coalition

The Dayton Development Coalition contains one OVRDC county: Fayette. They identify seven targeted clusters within the Dayton Development Coalition region listed below:

- Advanced Manufacturing
- Aerospace and Defense
- Agricultural and Food Processing
- Automotive
- Bioscience
- Cyber
- Logistics and Distribution

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<sup>7</sup> Available at <https://redicincinnati.com/>

Dayton Development Coalition website identifies region-specific talents as a “can do” work ethic, connections to community partners, local incentives, infrastructure to move products where they need to go, resources to support research, development, production and logistics, access to leading research institutions, and Wright-Patterson Air Force Base as important factors in the region’s comparative advantages in advanced manufacturing. The Dayton Development Coalition hosts many agricultural businesses along its vast supply chain that brings fresh food to restaurants, grocery stores, and residential tables each day, which is the region’s advantage in agricultural and food processing industries. Automotive has been a robust industry in the region with involvement in parts manufacturing, assembly, research and development, and much more. Having access to different universities and training centers add competitive value to the bioscience industry in the region. In addition to other targeted clusters, according to the Dayton Development Coalition website, the region is home to nearly 600 IT and services firms that support 13,000 skilled employees. The region is also strong in logistics and distribution businesses too. There are more than 730 logistics and distribution businesses with more than 20,000 employees in the region focused on logistics.<sup>8</sup>

### Targeted Industry Clusters (This Study)

To create the targeted clusters for the OVRDC region, we use the JobsOhio document as a baseline and then observe industries with more overlapping with other resources. These industries are Advanced Manufacturing, Aerospace & Aviation, Automotive, Biohealth, Energy, Financial Services, Food Processing, Information Technology & Services, Logistics, and Polymers & Chemicals. In addition, the Wood Industry also overlapped within two entities, specifically OVRDC and APEG/OhioSE. Table 1 presents a summary of all the entities we investigate.

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<sup>8</sup> Available at <https://www.daytonregion.com/dayton-region-economy/industries>

**Table 1: Targeted Clusters Defined by this Project, OVRDC, JobsOhio, APEG/OhioSE, REDI Cincinnati, and Dayton Development Coalition**

Cluster	This Study	OVRDC 2011, 2017	JobsOhio Website	JobsOhio Document	APEG/ OhioSE	REDI Cincinnati	Dayton Development Coalition
Advanced Manufacturing	*	*	*	*	*	*	*
Aerospace & Aviation	*	*	*	*	*		*
Agriculture Related Businesses		*					*
Automotive	*	*	*	*	*		*
Back Office				*		*	
Biohealth	*	*	*	*		*	*
Consumer Insights						*	
Energy	*		*	*	*		
Financial Services	*		*	*		*	
Food Processing	*		*	*	*		
Hardwood Products Manufacturing	*	*			*		
Headquarters & Consulting				*			
Information Technology and Services	*		*	*		*	*
Logistics	*	*	*	*	*		*
Military and Federal			*				
Polymers and Chemicals	*	*		*	*		
Research & Development				*			
Retail		*					

Note: Industries in OVRDC 2011 and 2017 reports are repeated within the column as it matches more than one category in "JobsOhio Document".

Source: OVRDC Website, JobsOhio Website, APEG/ OhioSE Website, REDI Cincinnati Website, Dayton Development Coalition Website

Table 2 lists our 11 targeted clusters in OVRDC with more detail on their corresponding NAICS codes.

**Table 2: Targeted Industry Clusters in OVRDC Region**

Cluster	NAICS Code
Advanced Manufacturing	3272, 3279, 3311, 3312, 3314, 3324, 3329, 3332, 3339, 3351, 3352, 3353
Aerospace & Aviation	3345, 3364, 4811, 4812, 5174, 9271
Automotive	3336, 3361, 3362, 3363
Biohealth	3254, 334510, 334516, 334517, 3391
Energy	2111, 2121, 2131, 2211, 2212, 3241, 2371
Financial Services	5221, 5222, 5223, 5231, 5232, 5239, 5241, 5251, 5259
Food Processing	3111, 3112, 3113, 3114, 3115, 3116, 3117, 3118, 3119, 3121
Hardwood Products Manufacturing	321, 337110, 337121, 337122, 337127, 337211, 337212, 337215, 3379, 4232, 423310
Information Technology and Services	5112, 5182, 5191, 5415
Logistics	4841, 4842, 4881, 4882, 4883, 4884, 4885, 4889, 4921, 4922, 4931
Polymers and Chemicals	3251, 3252, 3253, 3255, 3256, 3259, 3261, 3262

Source: JobsOhio Document

## Scan and Map Targeted Industry Clusters Within the Region

When examining OVRDC targeted clusters, it is important to recognize the variance between the different types of clusters. Table 3 presents the number of firms in each cluster, their share from total firms in 11 clusters, number of employees in each cluster, their share from total employees in 11 clusters, the number of headquarters in each cluster, their share from total headquarters in 11 clusters, sales/revenues in each cluster, and their share from total sales/revenue in 11 clusters.

Through our examination, we find that a vast number of firms in targeted clusters in the area are found in the NAICS clusters of logistics and financial services, with one of the largest employers in the area being insurance companies. Logistics includes more than 1,200 firms within the OVRDC region. However, the logistics cluster is mostly comprised of small operations, as they account for around 37% of the firms in the area but only employ around 24% of the working population within 11 targeted clusters. Rather, a much greater concentration of employment lies in the field of advanced manufacturing, where 4% of the firms comprise almost 23% of employees within 11 targeted clusters in the region. Figure 1 shows the number of firms in each targeted cluster in the OVRDC region. Figure 2 shows the number of employees in each targeted cluster in the OVRDC region. Figure 3 presents the map of the firms in the region.

**Table 3: Number of Firms, Employees, Headquarters, and Sales/Revenue in Each Targeted Cluster in OVRDC Region**

Industry Cluster	Number of Firms	Firms from Total (%)	Number of Employees	Employees from Total (%)	Number of HQs	HQs from Total (%)	Sales/ Revenue (\$)	Sales/ Revenue from Total (%)
Advanced Manufacturing	95	4.0	11,107	22.8	12	13.3	\$830,626,998	22.1
Aerospace & Aviation	23	1.0	602	1.2	1	1.1	\$0	0.0
Automotive	26	1.1	4,196	8.6	5	5.6	\$87,041,078	2.3
Biohealth	17	0.7	365	0.8	0	0.0	\$0	0.0
Energy	89	3.7	2,386	4.9	7	7.8	\$771,849,560	20.6
Financial Services	711	29.7	9,025	18.5	22	24.4	\$1,920,483,000	51.2
Food Processing	86	3.6	1,695	3.5	5	5.6	\$26,424,000	0.7
Hardwood Products and Manufacturing	159	6.6	1,280	2.6	9	10.0	\$34,587,878	0.9
Information Technology and Services	225	9.4	2,031	4.2	15	16.7	\$43,264,000	1.2
Logistics	883	36.8	11,567	23.8	6	6.7	\$4,230,000	0.1
Polymers and Chemicals	83	3.5	4,409	9.1	8	8.9	\$34,524,252	0.9
<b>TOTAL</b>	<b>2,397</b>	<b>100</b>	<b>48,663</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>\$3,753,030,766</b>	<b>100</b>

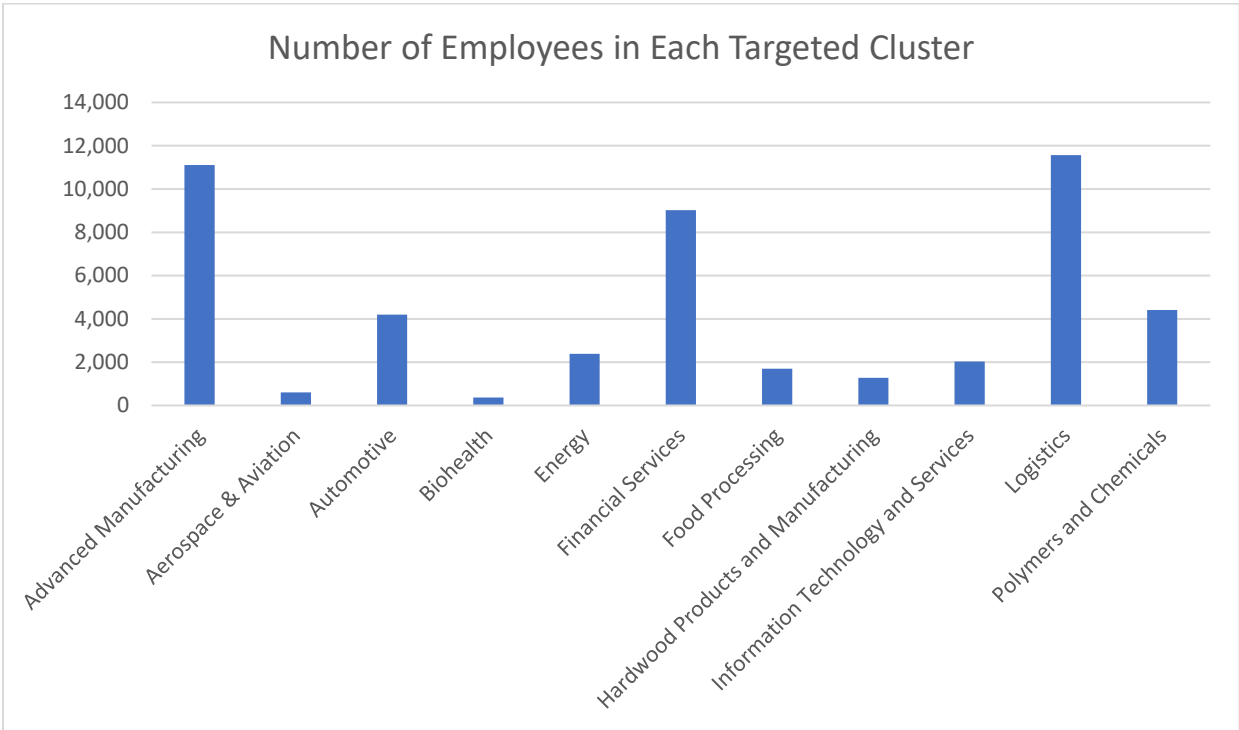
Source: Nexis Uni Database

**Figure 1: Number of Firms in Each Targeted Cluster in OVRDC Region**



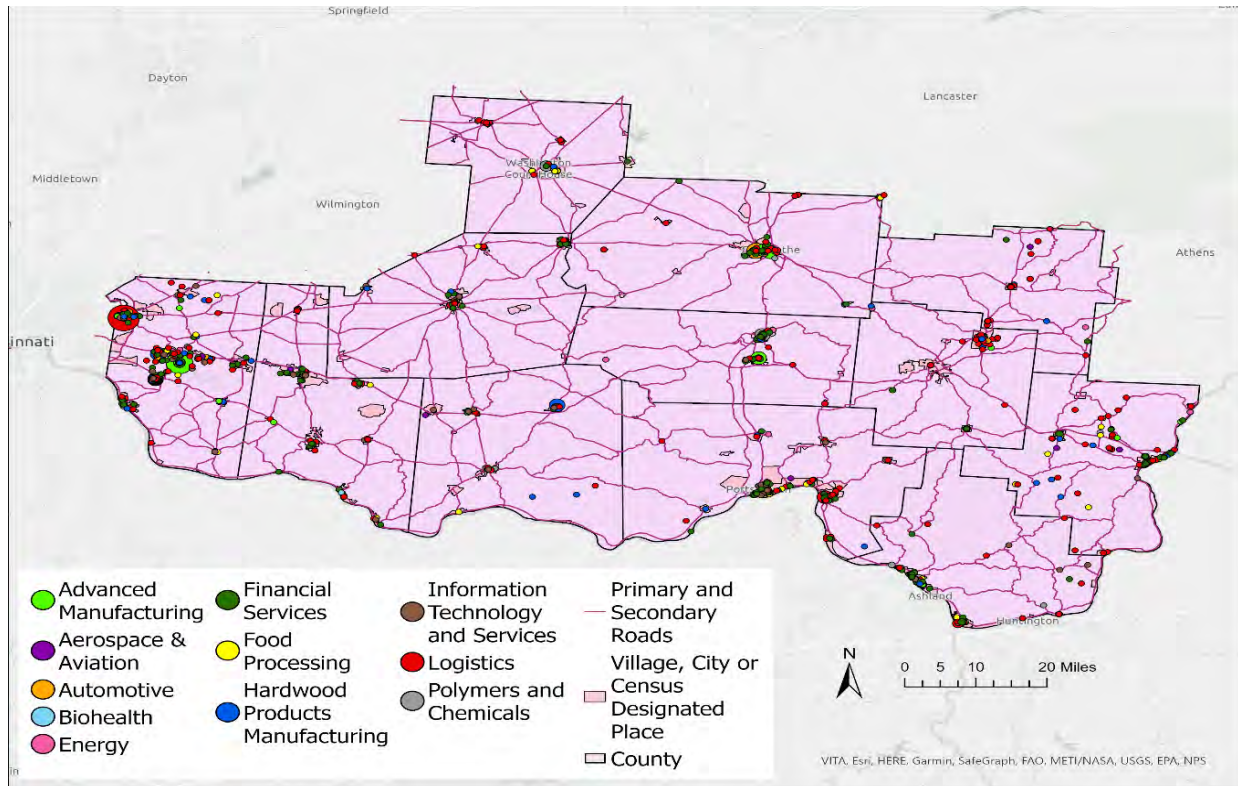
Source: Nexis Uni Database

**Figure 2: Number of Employees in Each Targeted Cluster in OVRDC Region**



Source: Nexis Uni Database

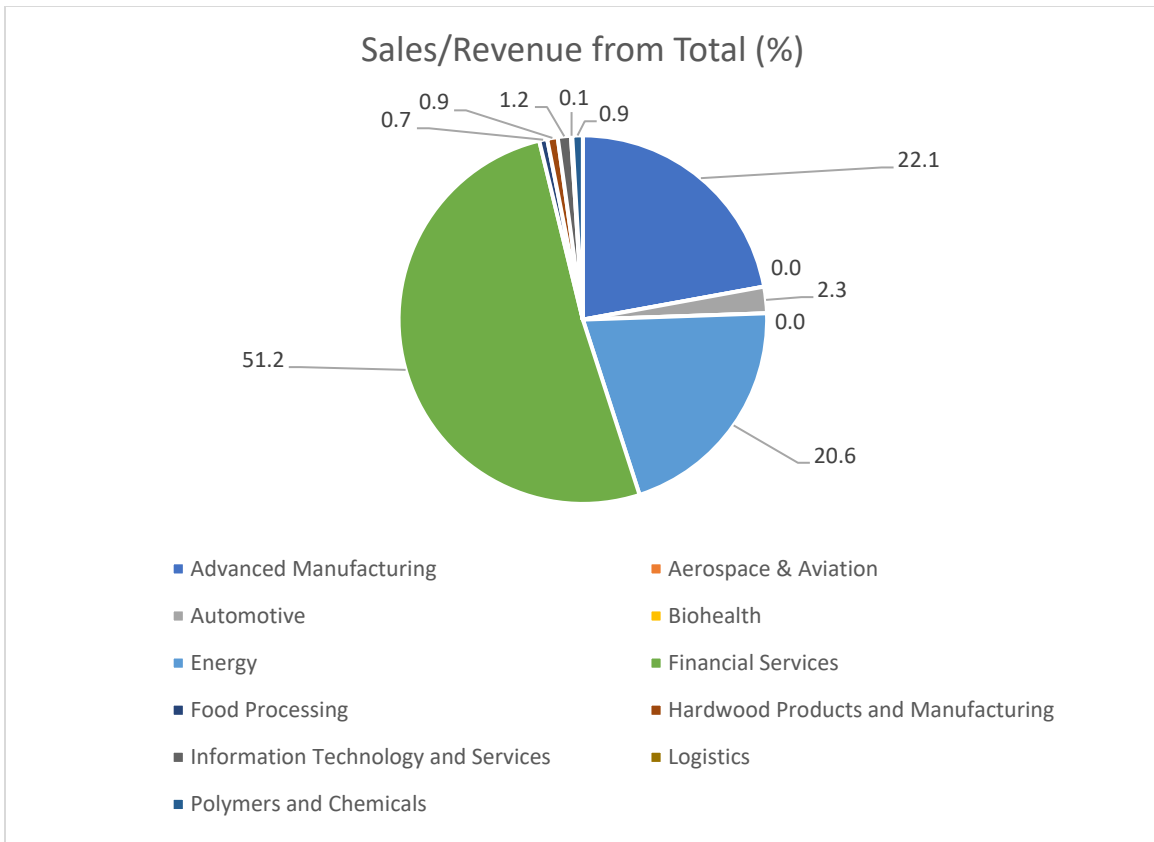
**Figure 3: Map of the Targeted Clusters in the OVRDC Region**



Source: Nexis Uni Database

The Financial services cluster holds as one of the most prominent out of targeted clusters within the region, being the highest revenue producer, one of the highest in firm count and the largest employer by far. Second as the highest revenue in the area is the advanced manufacturing corporations, with a strong history of manufacturing in the region. The energy industry in OVRDC also is important to make note of as it has historically contributed strongly to the OVRDC economy. Figure 4 shows the percentage of sales/revenue from total for each cluster. From our analysis, these percentages **rely on reported sales/revenue from firms in the region.**

**Figure 4: Sales/Revenue in Each Targeted Cluster in OVRDC Region**



Source: Nexis Uni Database

When we investigate the Nexis Uni dataset, we realize not all the firms report their sales/revenue. To find out the distribution of firms which have not responded to the sales/revenue information, we analyze firm ownership status. Table 4 shows the statistics of the firms that reported their sales/revenue and how that seems to relate to the firms being publicly or privately owned. Out of the 2,397 companies examined, 2,393 of the total firms were found to be privately owned and only 8 firms are public corporations, which all reported their revenue. Upon examining private corporations, it becomes more difficult to gain an accurate picture of the total revenue of firms in the area. Out of the 2,393 private firms, it was found that only 28 reported their revenue, which is around 1.3% of the total companies' reporting revenue.

Within the discussion of clusters and reporting sales/revenue, we analyze the Nexis Uni database to see the frequency of reporting sales/revenue in each cluster within the OVRDC region. Sales/revenue reported most often are the advanced manufacturing cluster at around 13% of the 175 firms in the cluster reporting their revenue. A thorough analysis of the region becomes more difficult because many firms in the region do not report their revenues, likely because 98.7% are privately owned.

Much of the revenue of targeted clusters in OVRDC seems to come from Financial Services. This could be because there are 36 Financial Service firms headquartered in the area, with one of the most profitable being the American Modern Insurance Firm, a part of MunichRe one of the top 100 most profitable companies in the world, netting around \$1 billion in reported revenue for the area. The advanced



manufacturing cluster reported the second highest revenue for all reported clusters. This segment of the economy also is responsible for 19 percent of the total employed residents in 11 targeted clusters within the area. This combination provides a mutually beneficial relationship as the companies prove to be successful and a source of reliable employment in the region. Along with this, the Financial Service cluster has the largest number of headquartered firms in the area with 36 firms being based in the OVRDC region, followed by the Advanced Manufacturing cluster with 33 headquartered firms. Out of the 3,931 total targeted clusters' companies with facilities in the region, 197 are headquartered in the OVRDC region.

Within the clusters and firms, we analyzed there were two distinct classifications we were able to use along with what has been discussed so far, which are the distinctions between private and publicly owned companies. To distinguish between the two, it is important to make the distinction that public companies are traded on the New York Stock Exchange, while the privately owned companies are not and therefore do not have a shareholder structure. Most companies in the region are privately owned, sitting at 99.7% of all companies being listed as privately owned. 99.7% of companies in the region are listed as privately owned. As seen in Table 4, the most publicly owned companies lie in the financial services cluster. Following financial services, advanced manufacturing, and information technology and services are the only clusters that have several publicly owned firms. The rest of the targeted clusters are fully owned by private sectors.

**Table 4: OVRDC Companies Reporting Revenue**

Clusters	Number of Firms	Number of Private Firms	Private Firms out of Total Cluster (%)	Number of Firms that Reported No Revenue	Number of Firms that Reported Revenue	Percentage of Total Companies Reporting Revenue by Cluster (%)
Advanced Manufacturing	95	94	98.9	89	6	6.3
Aerospace & Aviation	23	23	100	23	0	0
Automotive	26	26	100	24	2	7.7
Biohealth	17	17	100	17	0	0
Energy	89	89	100	86	3	3.4
Financial Services	711	709	99.7	708	3	0.4
Food Processing	86	86	100	83	3	3.5
Hardwood Products and Manufacturing	159	159	100	157	2	1.3
Information Technology and Services	225	224	99.6	222	3	1.3
Logistics	883	883	100	882	1	0.11
Polymers and Chemicals	83	83	100	74	9	10.9
TOTAL	2,397	2,393	99.8	2,365	32	1.3

Source: Nexis Uni Database

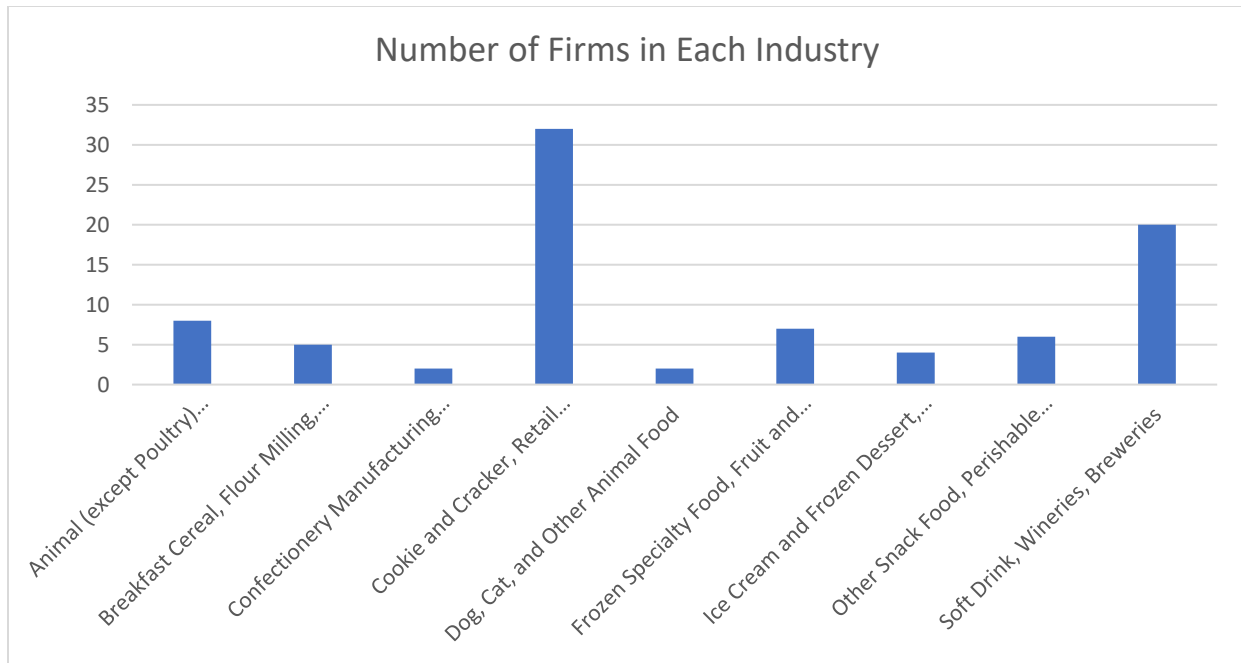
Because of the importance of the Food Processing cluster, we focus on this and analyze it in more detail. The food processing cluster includes 86 targeted firms supporting 1,695 jobs within the region. Table 5 presents the number of firms in each cluster, their share from total firms in 11 clusters, number of employees in each cluster, their share from total employees in 11 clusters, number of headquarters in each cluster, their share from total headquarters in 11 clusters, sales/revenues in each cluster, and their share from total sales/revenue in 9 industries with the food processing cluster. Cookie and cracker, retail Bakeries, and commercial bakeries contain 32 firms within the OVRDC region and support 201 direct jobs. Following cookie and cracker establishments, retail bakeries, and commercial bakeries, there are 20 soft drink firms, wineries, and breweries located in OVRDC. These firms support a total of total, 685 jobs. While there are only 5 breakfast cereals, flour milling, and rice milling establishment in the OVRDC region, this industry supports 399 direct jobs. Figure 6 shows the number of firms in each targeted food processing industry in the OVRDC region. Figure 7 shows the number of employees in each targeted food processing industry in the OVRDC region. Figure 8 presents the map of the food processing firms in the region.

**Table 5: Number of Firms, Employees, and Headquarters in Each Industry within Food Processing Cluster in OVRDC Region**

Industry Cluster	Number of Firms	Number of Employees	Number of HQs
Dog, Cat, and Other Animal Food	2	138	0
Breakfast Cereal, Flour Milling, and Rice Milling	5	399	0
Confectionery Manufacturing from Purchased Chocolate, and Nonchocolate Confectionery	2	27	0
Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty Canning	7	130	0
Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, Fluid Milk	4	22	0
Animal (except Poultry) Slaughtering, and Meat Processed from Carcasses	8	50	1
Cookie and Cracker, Retail Bakeries, Commercial Bakeries	32	201	2
Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food Manufacturing	6	70	1
Soft Drink, Wineries, Breweries,	20	658	1
<b>TOTAL</b>	<b>86</b>	<b>1,695</b>	<b>5</b>

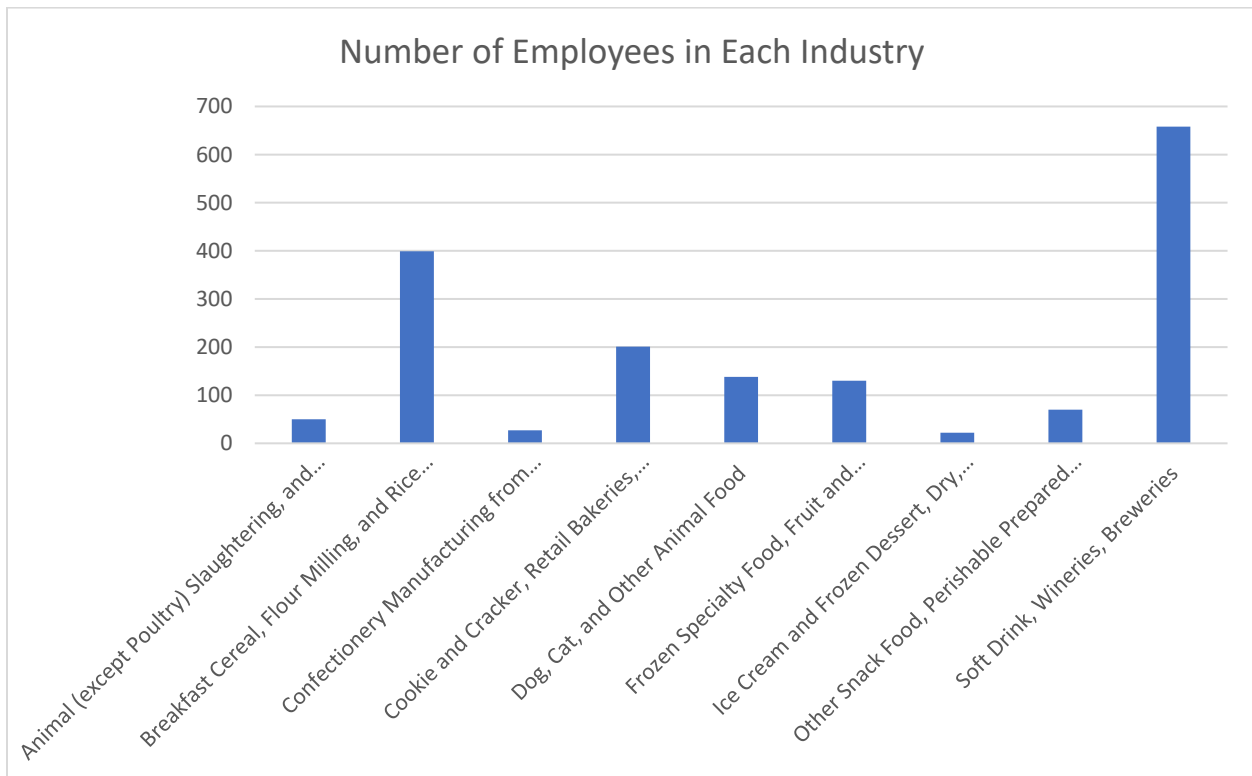
Source: Nexis Uni Database

**Figure 6: Number of Firms in Each Targeted Food Processing Industry in OVRDC Region**



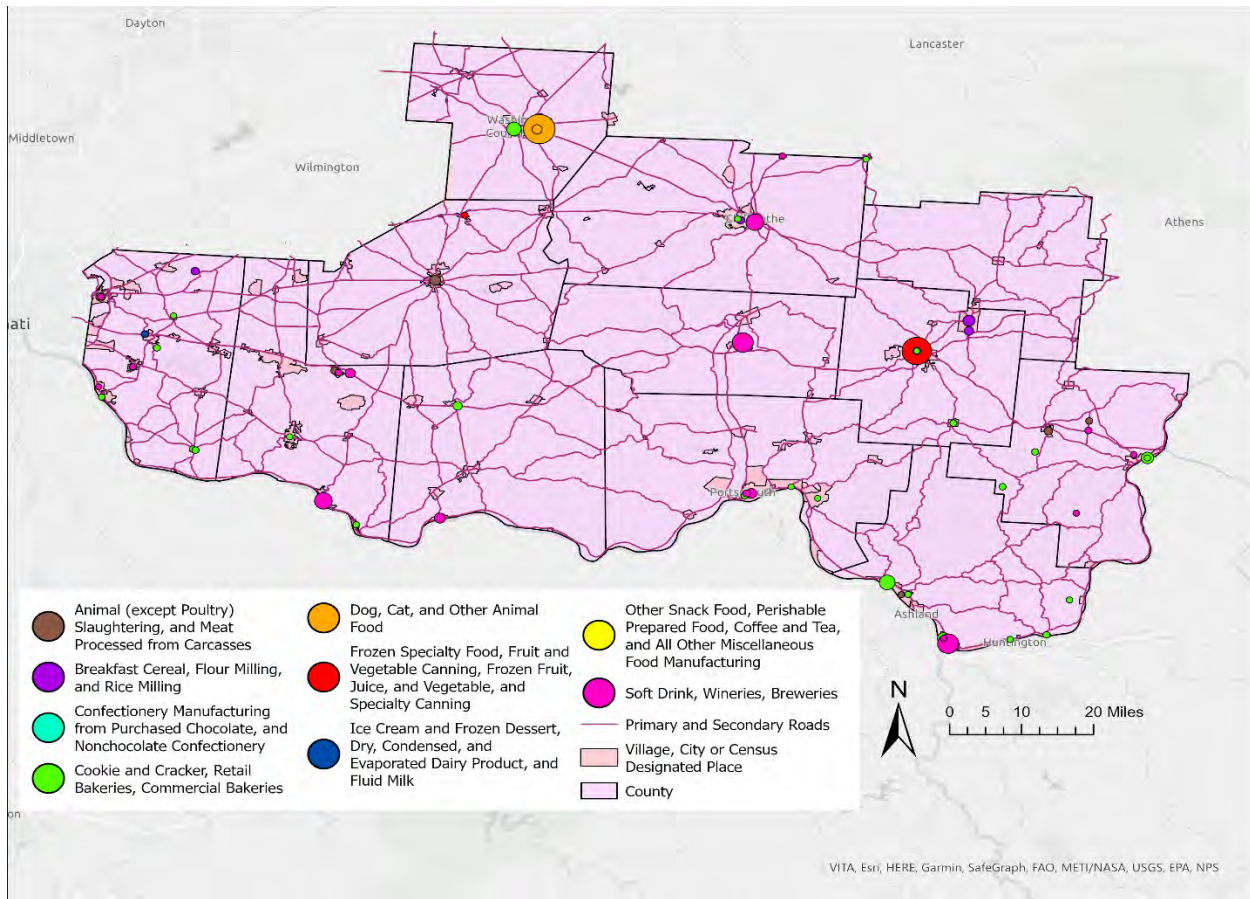
Source: Nexis Uni Database

**Figure 7: Number of Employees in Each Targeted Food Processing Industry in OVRDC Region**



Source: Nexis Uni Database

**Figure 8: Map of the Targeted Industries within Food Processing Cluster in the OVRDC Region**



Source: Nexis Uni Database

## Task 2.2: Complete firm level interviews with company executives and/or managers to assess firm and cluster level needs with goal of identifying needs for sustainability, growth, expansion and assistance with capital access plans

This subtask is focused specifically on identifying needs for sustainability, growth, and expansion at the firm and cluster level. While clusters can continually evolve and prosper, they can and do lose their competitive edge over time. Factors that can determine the success for growth (or lack thereof) for an industry cluster include employee skills, market information, technological advancements, and supply chain advantages (Derlukiewicz et al., 2020). Technological advancements are particularly critical success factors for clusters wishing to facilitate sustainable growth.

Sustainable growth for a firm, establishment, or business is defined as the realistically attainable growth that a business can maintain without compromising the future growth of the company. When a business grows too rapidly, it can run into issues with funding its expansion. This may lead to the firm relying on financing this growth with additional equity or debt. On the other hand, when a firm grows too slowly, it

can stagnate. To prevent stagnation while also encouraging optimal growth, businesses and firms must find the rate at which the business can grow without over-leveraging the establishment.

To achieve sustainable growth, a firm, establishment, or business must calculate its sustainable growth rate. A sustainable growth rate is a maximum rate at which an establishment can sustain itself without needing to increase its financial leverage through loans or other forms of debt. To determine a business’s sustainable growth rate, they must consider several outside factors including consumer and industry trends, political and economic factors, and industry. Additionally, the business must determine its growth capacity within its company. This involves the resources the company has access to in order to meet growth.

As stated previously, we introduced 11 targeted clusters in the OVRDC region exploring several resources. We apply a cluster analysis and generate location quotient measures to analyze OVRDC targeted industries characteristics, uniqueness, and opportunities for growth and expansion compared to the rest of the state as well as to the U.S.

In addition to identifying needs for sustainable growth, this report also aims to identify OVRDC cluster needs for capital access plans, or financial needs that can help facilitate sustainable growth. For example, OCAP (the Ohio Capital Access Program) assists for-profit or nonprofit small businesses in Ohio that struggle receiving loans through conventional means.

One of the approaches to be able to identify needs for sustainable growth is conducting a Location Quotient analysis (LQ). A location quotient of 1 signifies that the selected region is equally as strong in the industry as the comparison region. A location quotient above 1 signifies the industry is stronger and below 1 signifies the industry is weaker. Table 6 shows the LQs for 11 targeted industry clusters within the OVRDC region. Compared to the U.S., among 11 clusters advanced manufacturing followed by automotive, polymers and chemicals, and logistics are the clusters with an LQ above 1.

**Table 6: Location Quotient for 11 Targeted Industry Clusters in OVRDC**

Cluster	Location Quotient
Advanced Manufacturing	4.094
Aerospace & Aviation	0.202
Automotive	1.882
Biohealth	0.238
Energy	0.685
Financial Services	0.923
Food Processing	0.437
Hardwood Products and Manufacturing	0.722
Information Technology and Services	0.300
Logistics	1.312
Polymers and Chemicals	1.703

Source: Nexis Uni Database and Ohio University Calculations

Within the food processing cluster, we calculate LQs for nine different presented industries in OVRDC. Table 7 presents the LQs for food processing industries in the OVRDC region. Compared to the U.S., breakfast cereal, flour milling, and rice milling industries along with soft drink, wineries, breweries, and dog, cat, and other animal food operations are stronger.

**Table 7: Location Quotient for nine Targeted Industries within Food Processing Cluster in OVRDC**

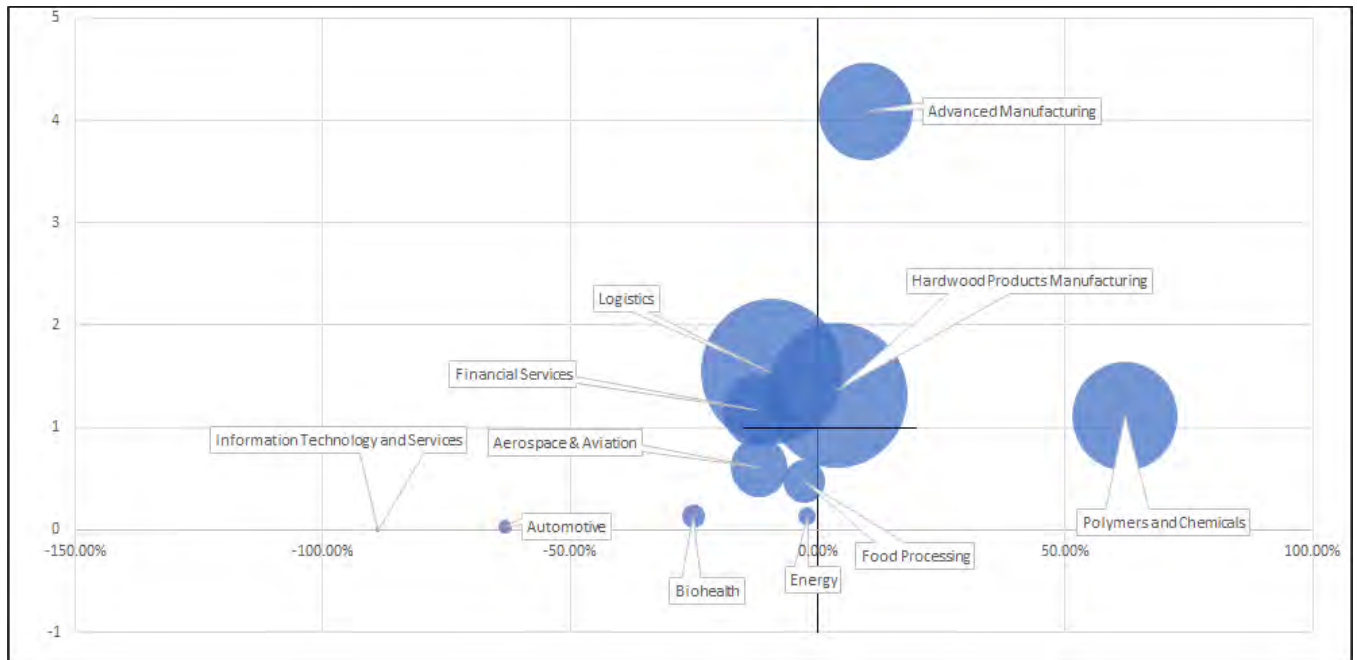
Cluster	Location Quotient
Animal (except Poultry) Slaughtering, and Meat Processed from Carcasses	0.046
Breakfast Cereal, Flour Milling, and Rice Milling	3.191
Confectionery Manufacturing from Purchased Chocolate, and Nonchocolate Confectionery	0.173
Cookie and Cracker, Retail Bakeries, Commercial Bakeries	0.315
Dog, Cat, and Other Animal Food	1.067
Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty Canning	0.370
Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, Fluid Milk	0.071
Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food Manufacturing	0.151
Soft Drink, Wineries, Breweries	1.171

Source: Nexis Uni Database and Ohio University Calculations

We include a cluster chart for the aggregate industries in the OVRDC region (Figure 9). Due to problems of suppressed data, we were not able to include a similar chart for the food-processing sub-clusters. The X-axis details the growth rate of these firms from 2014 to 2019, and the y-axis details the location quotients of these firms. The size of the bubbles showcases the raw size of each industry in total employment.

Bubbles on the right side of the y-axis represent growing clusters, while those on the left represent declining clusters. Further, clusters above a value of 1 represent clusters with location quotients above 1, meaning that the clusters are strong compared to the national average. Therefore, the Advanced Manufacturing Cluster is the strongest cluster in the OVRDC region compared to the United States average, while the polymers & chemicals industry is the fastest growing cluster. Logistics and Hardwood Manufacturing are the largest industries in the region in raw employment numbers. However, logistics as a cluster has declined over the observed five-year period.

**Figure 9: Bubble Chart for Targeted Industry Clusters, 2014-2019**



Source: Nexis Uni Database and Ohio University Calculations

### Task 2.3: Conduct value chain and supply chain profiles, with an eye to expansion opportunities of these firms

This section will create a supply and value chain profile for the industry clusters within the region. Supply chain refers to the sequences of processes involved in the production and distribution of a commodity. Value Chain refers to the flow of revenue from the end customer of any product or service, which produces revenue for each stage of the supply chain (Cox, 1999). In other words, a value chain analysis will track how a firm or industry adds value to raw materials through production and manufacturing processes, and a supply chain analysis will observe the steps required to get the product or service to the final customer. These steps include supplier, procurement, manufacturer, product, inventory, distribution, logistic, retail, and consumer. Figure 10 shows the supply chain template.

It's recommended to do the supply chain analysis at a business level, where business leaders start by mapping out their supply chain. Analysis of the market is as important as mapping the supply chain. Analyzing the market provides the ability to follow the price, transportation, labor, and overhead costs. By following the market closely, leaders will become more efficient in predicting future fluctuations. The first two steps to do the supply chain at a business level help leaders recognize inefficiencies along the chain. These steps are crucial to improving productivity and lowering costs. The next step is adaptation. Adaptation and adjustment to a new approach and procedure play an important role in the supply chain. The final step is regularly checking the supply chain. To be able to remain successful in the business and industry, business leaders need to regularly check and conduct supply chain.

Figure 10: Supply Chain Template



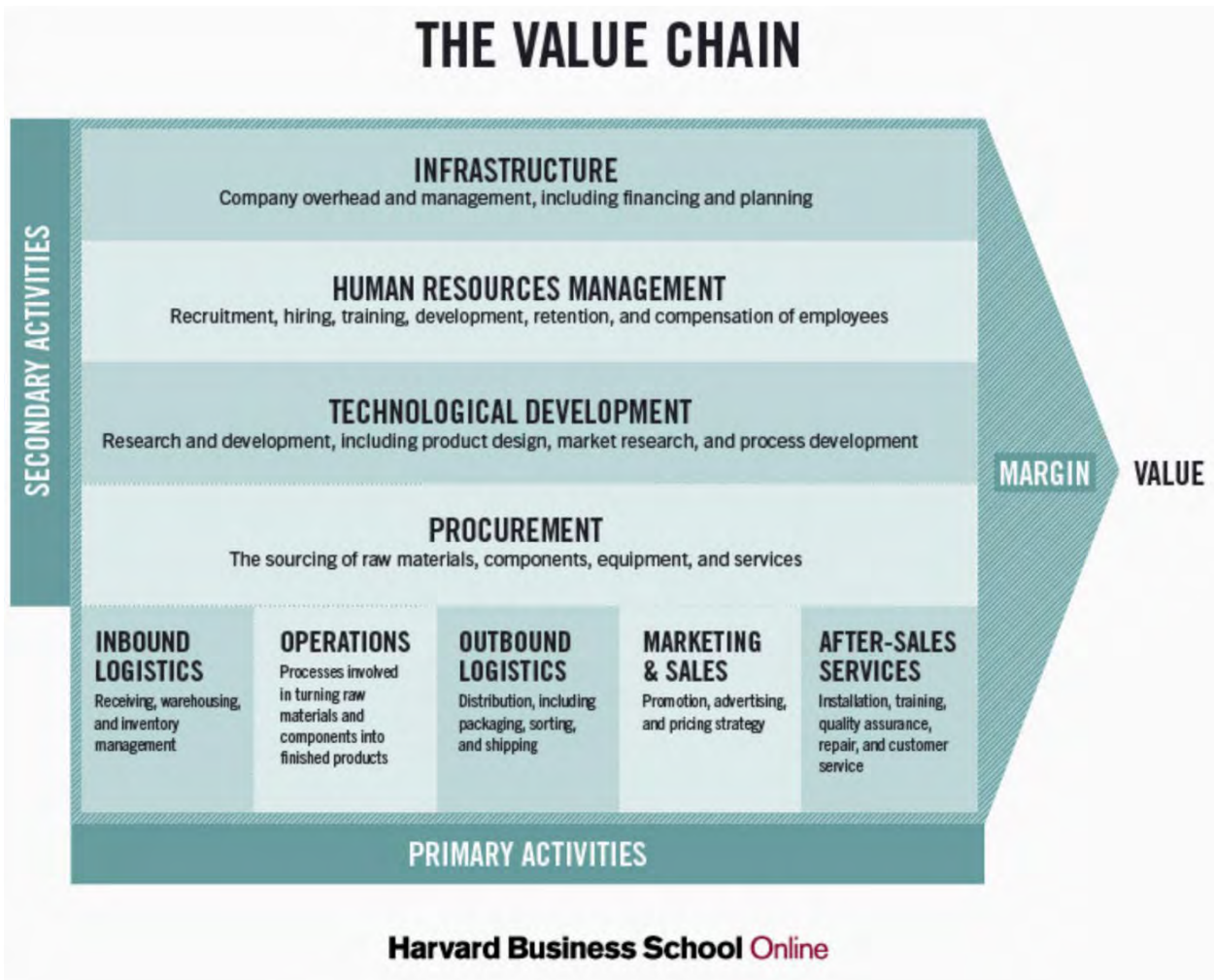
Source: Nexterus<sup>9</sup>

The value chain analysis portion of this section is organized based on Michael Porter’s value chain theory (1950). According to Porter, any corporate level activity is organized based on two activities; Primary activities, or activities related to the ongoing production, marketing, delivery and servicing of a product; secondary activities, or activities providing purchased inputs, technology, human resources and infrastructure and activities supporting the value system of the industry, mostly relating to suppliers and distributors (Porter, 2008). Figure 11 organizes these streams and activities into a visual representation. Figure 12 presents the main differences between the supply chain and the value chain.

<sup>9</sup> Available at <https://www.nexterus.com/franchising/2020/08/12/supply-chain-analysis/>



Figure 11: Porter's Value Chain Template



Source: Harvard Business School

**Figure 12: Supply Chain vs Value Chain**

SUPPLY CHAIN	VS	VALUE CHAIN
<b>Meaning</b>		
Collection of processes and activities pertaining to procurement, logistics, product development and delivery		The processes through which value is added to products
<b>Origin</b>		
Operations management		Business management
<b>Focus</b>		
Transfer of materials		Offering value for the product
<b>Main objective</b>		
Attaining customer satisfaction		Obtaining <u>competitive advantage</u>
<b>Order of activities</b>		
Starts with product request and ends with supply of product to customers		Starts with customer requests and ends with the product

Source: Terms Compared.com<sup>10</sup>

<sup>10</sup> Available at <https://www.termscompared.com/supply-chain-vs-value-chain/>

As a supplement to the supply and value chain analyses, this study applied an economic impact analysis to identify the employment, labor income, value added, output, tax revenue in different levels, and top impacted industries by each targeted industry cluster within the region. We leverage IMPLAN to construct input-output models for each industry cluster. This software uses an input-output methodology to track the ripple effects of each job in the OVRDC region. For example, one job in the OVRDC automotive industry will generate salaried pay for that employee. They will spend their salary within the region to support local firms, who in turn will use that money toward business-to-business transactions and hiring more employees. Reported multipliers summarize this effect; for instance, an employment multiplier of 1.5 means that, for every two jobs within an industry, an additional job is generated within the region.

Note that for some industries in the food-processing industry, IMPLAN can sometimes report inflated multiplier effects. This is due to issues of double counting in industries with significant support from government aid (Swenson, 2006). We have included an asterisk next to these industries, and results for these industries should be taken with a grain of salt. However, it is still reasonable to make conclusions on which industries are the most influenced by the existing firms in the industries of choice.

Each summary table reports direct, indirect, induced, and total effects, as well as multipliers for employment, labor income, value added and output. Direct effects report the initial employment in the cluster of interest and their effect on the regional economy. When salaried workers spend their income on local businesses, these transactions are reported in indirect effects. Induced effects refer to the business-to-business transactions generated by this activity, and total effects sum up all effects. Multipliers are simply the ratio of direct effects to total effects.

Furthermore, each industry reports tax effects at the local, state, and federal levels. Note that sub county special district tax refers to school and fire department taxes, while sub county general tax refers to town and city taxes. Additionally, we include top ten industries impacted by each industry to dissect the effect that each cluster has on other industries in the area.

The results for economic impact analysis in advanced manufacturing cluster imply that, while 11,107 yearly employment is supporting advanced manufacturing cluster operations in the OVRDC region, a total of 16,168 employment is being generated for the OVRDC ending in \$3,027,203,195 in economic activity. Additionally, an employment multiplier effect of 1.46 implies that for every 2 jobs supported through advanced manufacturing operations, an additional job will be supported within the OVRDC region. Table 8 shows the employment, labor income, value added, and output generated by advanced manufacturing operations.

**Table 8: Advanced Manufacturing Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	11,107.00	\$555,588,538	\$614,663,130	\$2,224,324,499
Indirect Effect	2,744.26	\$136,287,860	\$227,878,722	\$478,010,100
Induced Effect	2,317.27	\$93,556,492	\$183,418,645	\$324,868,596
Total Effect	16,168.53	\$785,432,891	\$1,025,960,496	\$3,027,203,195
Multiplier	1.46	1.41	1.67	1.36

Source: Ohio University Calculations

Table 9 estimates taxes paid by advanced manufacturing operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Advanced manufacturing cluster in the OVRDC region generates \$138,912,884 total direct tax revenue and \$233,112,777 total tax revenue annually.

**Table 9: Advanced Manufacturing Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$2,220,789	\$4,384,471	\$2,287,845	\$20,387,214	109,632,565	138,912,884
Indirect Effect	\$1,766,182	\$4,599,463	\$2,497,352	13,771,382	\$28,989,342	\$51,623,722
Induced Effect	\$1,670,451	\$4,502,609	\$2,454,997	\$12,778,764	\$21,169,351	\$42,576,171
Total Effect	\$5,657,422	13,486,543	\$7,240,193	\$46,937,360	159,791,258	233,112,777

Source: Ohio University Calculations

One of the advantages of economic impact analysis is its strength in investigating industries that are impacted the most by the operation of specific industries like advanced manufacturing. This analysis helps us to recognize opportunities for growth within each industry's supply and value chain. Among all other industries, real estate, full-service restaurants, limited-service restaurants, wholesale - other durable goods merchant wholesalers, management of companies and enterprises, employment services, hospitals, marketing research and all other miscellaneous professional, scientific, and technical services, and wholesale - other nondurable goods merchant wholesalers are industries that are impacted more by advanced manufacturing operations. In addition to supporting 11,111 direct jobs in all other miscellaneous manufacturing, advanced manufacturing operations help support 234-117 jobs in mentioned industries within the OVRDC region. Table 10 shows the top ten industries impacted by advanced manufacturing operations.

**Table 10: Top Ten Industries Impacted by Advanced Manufacturing Cluster**

Description	Employment	Labor Income	Value Added	Output
All other miscellaneous manufacturing	11,111.84	\$421,189,475	\$614,663,130	\$2,225,294,003
Other real estates	234.62	\$12,119,376	\$966,129	\$49,700,085
Full-service restaurants	225.3	\$12,106,122	\$805,013	\$48,096,506
Limited-service restaurants	218.64	\$8,960,431	\$771,274	\$44,817,318
Wholesale - Other durable goods merchant wholesalers	209.72	\$8,935,666	\$655,776	\$37,188,739
Management of companies and enterprises	175.04	\$6,441,483	\$580,392	\$36,285,634
Employment services	172.55	\$5,993,741	\$466,081	\$30,596,191
Hospitals	129.69	\$5,229,029	\$355,819	\$22,586,376
Marketing research and all other miscellaneous professional, scientific, and technical services	124.31	\$4,351,327	\$352,777	\$22,184,671
Wholesale - Other nondurable goods merchant wholesalers	117.1	\$4,350,267	\$337,096	\$20,672,899

Source: Ohio University Calculations

The results for aerospace and aviation cluster economic impact analysis imply that, while 602 yearly employment is supporting aerospace and aviation cluster operations in the OVRDC region, a total of 1,004 employment is being generated for the OVRDC ending in \$600,716,256 in economic activity. Additionally, an employment multiplier effect of 1.67 implies that for every 3 jobs supported through aerospace and aviation operations, two additional jobs will be supported within the OVRDC region. Table 11 shows the employment, labor income, value added, and output generated by aerospace and aviation operations.

**Table 11: Aerospace & Aviation Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	602.00	\$40,578,719	\$124,732,377	\$535,520,149
Indirect Effect	227.27	\$14,105,435	\$21,150,173	\$40,668,805
Induced Effect	174.89	\$7,065,861	\$13,850,448	\$24,527,302
Total Effect	1,004.16	\$61,750,015	\$159,732,999	\$600,716,256
Multiplier	1.67	1.52	1.28	1.12

Source: Ohio University Calculations

Table 12 estimates taxes paid by aerospace and aviation operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Aerospace and aviation cluster in the OVRDC region generates \$16,116,856 total direct tax revenue and \$24,014,300 total tax revenue annually.

**Table 12: Aerospace & Aviation Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$449,366	\$1,103,672	\$598,354	\$3,421,325	\$10,544,139	\$16,116,856
Indirect Effect	\$142,862	\$357,272	\$192,973	\$1,133,734	\$2,852,824	\$4,679,665
Induced Effect	\$126,321	\$340,541	\$185,679	\$966,308	\$1,598,930	\$3,217,780
Total Effect	\$718,549	\$1,801,486	\$977,006	\$5,521,367	\$14,995,893	\$24,014,300

Source: Ohio University Calculations

While the direct employment supported by aerospace and aviation cluster belongs to aircraft manufacturing, custom computer programming services, wholesale - machinery, equipment, and supplies, employment services, limited-service restaurants, full-service restaurants, computer systems design services, truck transportation, other real estate, and management of companies and enterprises are industries most impacted by aerospace and aviation operations (34-10 supported jobs). The top ten industries impacted by aerospace and aviation operations are listed in Table 13.

**Table 13: Top Ten Industries Impacted by Aerospace & Aviation Cluster**

Description	Employment	Labor Income	Value Added	Output
Aircraft manufacturing	602.01	\$40,579,412	\$124,734,506	\$535,529,289
Custom computer programming services	34.06	\$1,941,584	\$3,795,946	\$6,839,928
Wholesale - Machinery, equipment, and supplies	25.41	\$1,471,723	\$2,939,835	\$3,731,991
Employment services	21.46	\$714,234	\$2,617,158	\$3,617,511
Limited-service restaurants	13.76	\$672,922	\$2,023,791	\$3,370,008
Full-service restaurants	13.57	\$574,751	\$1,234,962	\$3,159,842
Computer systems design services	13.08	\$541,038	\$1,181,667	\$1,933,321
Truck transportation	12.69	\$507,534	\$1,075,753	\$1,862,337
Other real estates	10.7	\$478,161	\$862,386	\$1,803,131
Management of companies and enterprises	10.32	\$468,759	\$844,192	\$1,722,186

Source: Ohio University Calculations

The results for automotive cluster economic impact analysis imply that, while 4,196 yearly employment is supporting automotive cluster operations in the OVRDC region, a total of 9,415 employment is being generated for the OVRDC ending in \$5,996,792,209 in economic activity. Additionally, an employment multiplier effect of 2.24 implies that for every 1 job supported through automotive operations, an additional 1.25 jobs will be supported within the OVRDC region. Table 14 shows the employment, labor income, value added, and output generated by automotive operations.

**Table 14: Automotive Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	4,196.00	\$456,583,222	\$751,724,605	\$4,965,802,576
Indirect Effect	2,920.61	\$195,664,942	\$320,566,800	\$708,783,740
Induced Effect	2,298.82	\$92,768,346	\$181,893,339	\$322,205,892
Total Effect	9,415.43	\$745,016,511	\$1,254,184,744	\$5,996,792,209
Multiplier	2.24	1.63	1.67	1.21

Source: Ohio University Calculations

Table 15 estimates taxes paid by automotive operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Automotive cluster in the OVRDC region generates \$146,997,361 total direct tax revenue and \$261,556,168 total tax revenue annually.

**Table 15: Automotive Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$3,458,718	\$8,157,830	\$4,382,590	\$28,343,035	\$102,655,188	\$146,997,361
Indirect Effect	\$2,470,230	\$6,393,154	\$3,468,187	\$19,270,995	\$40,758,193	\$72,360,759
Induced Effect	\$1,654,969	\$4,460,442	\$2,431,983	\$12,660,635	\$20,990,020	\$42,198,048
Total Effect	\$7,583,918	\$19,011,425	\$10,282,760	\$60,274,664	\$164,403,401	\$261,556,168

Source: Ohio University Calculations

In addition to 4,196 direct employments in automotive manufacturing, the automotive cluster contributes to regional employment. Wholesale - motor vehicle and motor vehicle parts and supplies with 792, truck transportation with 215, wholesale - machinery, equipment, and supplies with 200, full-service restaurants with 172, limited-service restaurants with 170, employment services with 161, Other real estates with 143, retail - hospitals with 129, and wholesale - other durable goods merchant wholesalers with 129 are the most impacted industries in automotive cluster supply chain. The top ten industries impacted by automotive operations are listed in Table 16.

**Table 16: Top Ten Industries Impacted by Automotive Cluster**

Description	Employment	Labor Income	Value Added	Output
Automobile manufacturing	4,196.28	\$282,054,330	\$751,774,246	\$4,966,130,495
Wholesale - Motor vehicle and motor vehicle parts and supplies	792.03	\$42,651,772	\$97,813,197	\$259,209,691
Truck transportation	215.92	\$15,254,537	\$44,534,625	\$61,557,056
Wholesale - Machinery, equipment, and supplies	199.67	\$9,780,205	\$38,970,627	\$53,739,588
Full-service restaurants	171.66	\$8,918,503	\$29,823,793	\$49,471,499
Limited-service restaurants	169.96	\$8,856,595	\$15,687,635	\$29,535,518
Employment services	161.12	\$7,434,232	\$13,676,920	\$24,558,845
Other real estate	143.5	\$5,184,765	\$10,754,512	\$22,744,867
Hospitals	129.09	\$4,914,399	\$10,468,098	\$22,480,688
Wholesale - Other durable goods merchant wholesalers	128.79	\$4,062,163	\$9,908,552	\$22,359,079

Source: Ohio University Calculations

The results for Biohealth cluster economic impact analysis imply that, while 365 yearly employment is supporting Biohealth cluster operations in the OVRDC region, a total of 490 employment is being generated for the OVRDC ending in \$57,019,158 in economic activity. Additionally, an employment multiplier effect of 1.34 implies that for every 3 jobs supported through Biohealth operations, one additional job will be supported within the OVRDC region. Table 17 shows the employment, labor income, value added, and output generated by Biohealth operations.

**Table 17: Biohealth Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	365.00	\$19,708,954	\$22,641,065	\$38,597,729
Indirect Effect	53.62	\$2,358,744	\$3,901,949	\$8,410,383
Induced Effect	71.39	\$2,883,559	\$5,652,739	\$10,011,046
Total Effect	490.02	\$24,951,258	\$32,195,752	\$57,019,158
Multiplier	1.34	1.27	1.42	1.48

Source: Ohio University Calculations



Table 18 estimates taxes paid by Biohealth operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Biohealth cluster in the OVRDC region generates \$4,490,610 total direct tax revenue and \$6,627,759 total tax revenue annually.

**Table 18: Biohealth Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$49,790	\$69,622	\$33,954	\$505,023	\$3,832,221	\$4,490,610
Indirect Effect	\$26,296	\$66,673	\$36,089	\$206,460	\$488,861	\$824,380
Induced Effect	\$51,522	\$138,887	\$75,727	\$394,133	\$652,499	\$1,312,769
Total Effect	\$127,609	\$275,183	\$145,770	\$1,105,616	\$4,973,581	\$6,627,759

Source: Ohio University Calculations

The top ten industries impacted by Biohealth operations are listed in Table 19. In addition to 365 direct jobs supported by other ambulatory health care services, other real estates, employment services, full-service restaurants, limited-service restaurants, hospitals, legal services, automotive repair and maintenance, except car washes, retail - general merchandise stores, and nursing and community care facilities are the most impacted industries in Biohealth operations (12-2 employees).

**Table 19: Top Ten Industries Impacted by Biohealth Cluster**

Description	Employment	Labor Income	Value Added	Output
Other ambulatory health care services	365.34	\$17,227,737	\$22,662,187	\$38,633,737
Other real estate	12.51	\$275,306	\$1,202,808	\$1,983,129
Employment services	7.55	\$190,326	\$563,630	\$1,526,912
Full-service restaurants	5.66	\$161,172	\$481,113	\$882,357
Limited-service restaurants	5.32	\$149,402	\$393,383	\$845,952
Hospitals	3.98	\$131,321	\$378,427	\$693,957
Legal services	3.07	\$118,004	\$331,981	\$605,829
Automotive repair and maintenance, except car washes	2.67	\$109,254	\$191,788	\$471,510
Retail - General merchandise stores	2.64	\$109,222	\$187,245	\$405,872
Nursing and community care facilities	2.45	\$106,282	\$183,019	\$392,756

Source: Ohio University Calculations

The results for energy cluster economic impact analysis imply that, while 2,386 yearly employment is supporting energy cluster operations in the OVRDC region, a total of 8,693 employment is being generated for the OVRDC ending in \$5,833,325,481 in economic activity. Additionally, an employment multiplier effect of 3.64 implies that for every 1 job supported through energy operations, 3.64 additional jobs will be supported within the OVRDC region. Table 20 shows the employment, labor income, value added, and output generated by energy operations.

**Table 20: Energy Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	2,386.00	\$381,498,817	\$1,759,274,041	\$3,862,684,450
Indirect Effect	3,827.66	\$372,561,452	\$784,893,137	\$1,622,972,636
Induced Effect	2,479.81	\$100,125,778	\$196,294,701	\$347,668,395
Total Effect	8,693.48	\$854,186,048	\$2,740,461,879	\$5,833,325,481
Multiplier	3.64	2.24	1.56	1.51

Source: Ohio University Calculations

Table 21 estimates taxes paid by energy operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Energy cluster in the OVRDC region generates \$587,469,234 total direct tax revenue and \$832,411,406 total tax revenue annually.

**Table 21: Energy Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$34,805,866	\$100,961,200	\$55,472,496	\$256,579,373	\$139,650,298	\$587,469,234
Indirect Effect	\$9,162,509	\$25,222,031	\$13,778,354	\$69,019,683	\$82,190,792	\$199,373,369
Induced Effect	\$1,787,966	\$4,819,433	\$2,627,746	\$13,677,696	\$22,655,962	\$45,568,803
Total Effect	\$45,756,341	\$131,002,664	\$71,878,596	\$339,276,752	\$244,497,052	\$832,411,406

Source: Ohio University Calculations

The top ten industries impacted by energy operations are listed in Table 22. Electric power generation - All other supports 2,383 direct jobs however, employment services, full-service restaurants, electric power transmission and distribution, hospitals, other real estates, limited-service restaurants, scenic and sightseeing transportation and support activities for transportation, offices of physicians, and truck transportation are listed among most impacted industries in energy cluster supply chain (810-134 jobs).

**Table 22: Top Ten Industries Impacted by Energy Cluster**

Description	Employment	Labor Income	Value Added	Output
Electric power generation - All other	2,383.96	\$405,941,096	\$1,875,739,562	\$4,118,397,629
Employment services	809.64	\$60,072,656	\$261,622,226	\$608,207,011
Full-service restaurants	444.98	\$20,412,540	\$113,560,443	\$120,961,079
Electric power transmission and distribution	295.55	\$20,294,627	\$41,876,297	\$117,923,798
Hospitals	283.23	\$9,584,352	\$40,586,546	\$71,041,504
Other real estate	188.25	\$9,097,788	\$35,471,843	\$64,975,498
Limited-service restaurants	168.27	\$6,850,059	\$32,718,377	\$53,160,119
Scenic and sightseeing transportation and support activities for transportation	158.11	\$6,273,868	\$26,007,232	\$51,220,312
Offices of physicians	138.73	\$5,707,972	\$19,053,839	\$36,397,105
Truck transportation	133.76	\$5,693,554	\$17,551,466	\$26,670,764

Source: Ohio University Calculations

The results for financial services cluster economic impact analysis imply that, while 35,458 yearly employment is supporting financial services cluster operations in the OVRDC region, a total of 40,754 employment is being generated for the OVRDC ending in \$2,085,624,643 in economic activity. Additionally, an employment multiplier effect of 2.53 implies that for every 1 job supported through financial services operations, an additional 1.53 job will be supported within the OVRDC region. Table 23 shows the employment, labor income, value added, and output generated by financial services operations.

**Table 23: Financial Services Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	9,025.00	\$754,218,658	\$10,616,712,459	\$12,872,720,033
Indirect Effect	9,802.81	\$427,675,762	\$797,304,904	\$1,597,382,244
Induced Effect	4,030.23	\$162,645,891	\$318,900,846	\$564,894,681
Total Effect	22,858.04	\$1,344,540,310	\$11,732,918,209	\$15,034,996,957
Multiplier	2.53	1.78	1.11	1.17

Source: Ohio University Calculations

Table 24 estimates taxes paid by financial services operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Financial services cluster in the OVRDC region generates \$697,365,657 total direct tax revenue and \$914,001,687 total tax revenue annually.

**Table 24: Financial Services Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$20,765,206	\$49,607,320	\$27,129,568	\$136,044,738	\$463,818,825	\$697,365,657
Indirect Effect	\$4,005,083	\$9,748,927	\$5,257,687	\$31,631,350	\$92,006,185	\$142,649,233
Induced Effect	\$2,901,800	\$7,820,949	\$4,264,249	\$22,198,934	\$36,800,866	\$73,986,798
Total Effect	\$27,672,090	\$67,177,196	\$36,651,503	\$189,875,022	\$592,625,876	\$914,001,687

Source: Ohio University Calculations

In addition to 9,033 jobs directly supported by financial services cluster, other real estates, securities and commodity contracts intermediation and brokerage, employment services, full-service restaurants, management consulting services, monetary authorities and depository credit intermediation, couriers and messengers, insurance agencies, brokerages, and related activities and management of companies and enterprises are industries most impacted by financial services in the OVRDC region (2,141-313 jobs). The top ten industries impacted by financial services operations are listed in Table 25.

**Table 25: Top Ten Industries Impacted by Financial Services Cluster**

Description	Employment	Labor Income	Value Added	Output
Other financial investment activities	9,033.62	\$451,979,737	\$10,626,856,934	\$12,885,020,167
Other real estate	2,140.58	\$70,511,256	\$336,787,432	\$527,237,561
Securities and commodity contracts intermediation and brokerage	1,161.42	\$57,595,111	\$68,300,784	\$142,512,445
Employment services	899.11	\$22,900,895	\$66,818,304	\$132,929,041
Full-service restaurants	742.47	\$18,719,022	\$37,219,300	\$128,201,730
Management consulting services	631.23	\$15,630,881	\$34,573,943	\$86,704,844
Monetary authorities and depository credit intermediation	488.15	\$12,792,768	\$22,371,278	\$59,584,833
Couriers and messengers	389.83	\$11,853,405	\$21,859,074	\$48,108,427
Insurance agencies, brokerages, and related activities	338.84	\$9,427,844	\$19,087,143	\$48,054,356
Management of companies and enterprises	313.03	\$9,090,213	\$18,848,735	\$39,400,444

Source: Ohio University Calculations

The results for food processing cluster economic impact analysis imply that, while 1,695 yearly employment is supporting food processing cluster operations in the OVRDC region, a total of 14,843 employment is being generated for the OVRDC ending in \$1,451,937,951 in economic activity. Additionally, an employment multiplier effect of 8.76 implies that for every job supported through food processing operations, an additional 7.79 jobs will be supported within the OVRDC region. Table 26 shows the employment, labor income, value added, and output generated by food processing operations.

**Table 26: Food Processing Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,695.00	\$114,072,624	\$235,882,778	\$1,052,177,858
Indirect Effect	12,424.28	\$107,239,273	\$156,705,625	\$298,226,096
Induced Effect	724.08	\$29,246,048	\$57,331,624	\$101,533,998
Total Effect	14,843.36	\$250,557,945	\$449,920,026	\$1,451,937,951
Multiplier	8.76*	2.20	1.91	1.38

Source: Ohio University Calculations

\*Note: As mentioned above, the multiplier for this industry is inflated due to issues of double counting in IMPLAN. Conclusions from this value should be taken with a grain of salt.

Table 27 estimates taxes paid by food processing operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Food processing cluster in the OVRDC region generates \$46,561,153 total direct tax revenue and \$88,881,182 total tax revenue annually.

**Table 27: Food Processing Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$1,552,220	\$4,063,117	\$2,210,241	\$12,022,722	\$26,712,854	\$46,561,153
Indirect Effect	\$629,303	\$1,361,543	\$721,793	\$5,250,114	\$21,042,339	\$29,005,091
Induced Effect	\$522,586	\$1,408,726	\$768,098	\$3,997,641	\$6,617,886	\$13,314,937
Total Effect	\$2,704,109	\$6,833,386	\$3,700,132	\$21,270,477	\$54,373,079	\$88,881,182

Source: Ohio University Calculations

The top ten industries impacted by food processing operations are listed in Table 28. Direct employment in the food processing cluster belongs to all other crop farming industries (11,267 jobs). Spice and extract manufacturing, and truck transportation are most impacted by food processing operations followed by support activities for agriculture and forestry, other real estates, wholesale - grocery and related product wholesalers, management of companies and enterprises, full-service and limited-service restaurants, and employment services (1,848-148 jobs).

**Table 28: Top Ten Industries Impacted by Food Processing Cluster**

Description	Employment	Labor Income	Value Added	Output
All other crop farming	11,266.58	\$114,261,961	\$235,945,670	\$1,052,458,393
Spice and extract manufacturing	1,695.45	\$29,171,829	\$43,230,316	\$84,104,926
Truck transportation	145.9	\$6,608,946	\$30,094,148	\$41,597,008
Support activities for agriculture and forestry	85.08	\$4,482,194	\$12,196,324	\$15,893,820
Other real estate	74.04	\$4,452,059	\$8,699,973	\$15,482,697
Wholesale - Grocery and related product wholesalers	70.35	\$3,913,997	\$7,417,465	\$13,317,952
Management of companies and enterprises	64.3	\$3,738,473	\$7,309,003	\$13,170,116
Full-service restaurants	63.86	\$2,791,578	\$6,527,732	\$11,734,906
Limited-service restaurants	62.31	\$1,634,671	\$5,262,135	\$11,611,972
Employment services	51.62	\$1,618,697	\$3,366,267	\$11,239,528

Source: Ohio University Calculations

The results for hardwood products manufacturing cluster economic impact analysis imply that, while 1,280 yearly employment is supporting hardwood products manufacturing cluster operations in the OVRDC region, a total of 3,460.57 employment is being generated for the OVRDC ending in \$1,432,625,181 in economic activity. Additionally, an employment multiplier effect of 2.70 implies that for every 1 job supported through hardwood products manufacturing operations, 1.7 additional jobs will be supported within the OVRDC region. Table 29 shows the employment, labor income, value added, and output generated by hardwood products manufacturing operations.

**Table 29: Hardwood Products Manufacturing Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	1,280.00	\$86,342,621	\$97,571,956	\$341,468,862
Indirect Effect	1,147.90	\$85,939,890	\$116,469,130	\$208,040,843
Induced Effect	1,032.67	\$51,414,011	\$94,309,639	\$163,711,284
Total Effect	3,460.57	\$223,696,523	\$308,350,725	\$713,220,989
Multiplier	2.70	2.59	3.16	2.09

Source: Ohio University Calculations

Table 30 estimates taxes paid by hardwood products manufacturing operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Hardwood products manufacturing cluster in the OVRDC region generates \$23,293,139 total direct tax revenue and \$68,649,336 total tax revenue annually.

**Table 30: Hardwood Products Manufacturing Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$1,040,943	\$1,142,609	\$447,405	\$3,567,788	\$17,094,393	\$23,293,139
Indirect Effect	\$1,200,012	\$1,713,181	\$683,105	\$4,473,722	\$16,902,272	\$24,972,291
Induced Effect	\$1,056,944	\$2,385,854	\$971,157	\$4,943,701	\$11,026,250	\$20,383,907
Total Effect	\$3,297,899	\$5,241,644	\$2,101,667	\$12,985,212	\$45,022,915	\$68,649,336

Source: Ohio University Calculations

In addition to 1,282 direct jobs supported by sawmill, woodworking, and paper machinery, custom computer programming services, employment services, management of companies and enterprises, truck transportation, full-service restaurants, hospitals, other real estates, limited-service restaurants, and wholesale - machinery, equipment, and supplies are the most impacted industries by hardwood product manufacturing operation through its supply chain (277-54 jobs). The top ten industries impacted by hardwood products manufacturing operations are listed in Table 31.

**Table 31: Top Ten Industries Impacted by Hardwood Products Manufacturing Cluster**

Description	Employment	Labor Income	Value Added	Output
Sawmill, woodworking, and paper machinery	1,282.55	\$83,328,684	\$97,766,505	\$342,149,716
Custom computer programming services	277.03	\$19,738,569	\$25,264,185	\$36,214,268
Employment services	106.32	\$13,335,825	\$15,383,510	\$24,596,921
Management of companies and enterprises	99.11	\$5,281,532	\$12,322,026	\$15,642,271
Truck transportation	77.42	\$4,566,488	\$8,787,392	\$15,267,158
Full-service restaurants	71.4	\$3,929,056	\$7,771,887	\$12,580,321
Hospitals	68.75	\$3,557,414	\$6,420,722	\$12,524,241
Other real estate	60.04	\$3,338,629	\$6,335,024	\$11,527,832
Limited-service restaurants	56.66	\$3,174,018	\$5,693,650	\$11,051,135
Wholesale - Machinery, equipment, and supplies	54.1	\$2,710,122	\$4,803,070	\$9,337,217

Source: Ohio University Calculations

The results for information technology cluster economic impact analysis imply that, while 4,159 yearly employment is supporting information technology cluster operations in the OVRDC region, a total of 6,167 employment is being generated for the OVRDC ending in \$752,205,439 in economic activity.

Additionally, an employment multiplier effect of 1.67 implies that for every 1 job supported through information technology operations, an additional 0.67 job will be supported within the OVRDC region. Table 32 shows the employment, labor income, value added, and output generated by information technology operations.

**Table 32: Information Technology and Services Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	2,031.00	\$72,933,166	\$127,006,482	\$362,460,694
Indirect Effect	986.52	\$41,253,803	\$62,690,006	\$130,097,583
Induced Effect	381.74	\$15,410,812	\$30,213,803	\$53,515,681
Total Effect	3,399.27	\$129,597,781	\$219,910,291	\$546,073,957
Multiplier	1.67	1.78	1.73	1.51

Source: Ohio University Calculations

Table 33 estimates taxes paid by information technology operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Information technology cluster in the OVRDC region generates \$20,882,229 total direct tax revenue and \$40,922,054 total tax revenue annually.

**Table 33: Information Technology and Services Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$403,058	\$867,104	\$460,923	\$3,387,613	\$15,763,531	\$20,882,229
Indirect Effect	\$370,985	\$905,970	\$488,021	\$2,966,571	\$8,295,749	\$13,027,296
Induced Effect	\$275,109	\$741,526	\$404,308	\$2,104,565	\$3,487,022	\$7,012,529
Total Effect	\$1,049,152	\$2,514,600	\$1,353,252	\$8,458,749	\$27,546,302	\$40,922,054

Source: Ohio University Calculations

The information technology cluster in the OVRDC region through marketing research and all other miscellaneous professional, scientific, and technical services, employment services, other real estates, full-service restaurants, office administrative services, all other food and drinking places, accounting, tax preparation, bookkeeping, and payroll services, management consulting services, limited-service restaurants, and management of companies and enterprises the most (2,052-30 jobs). The top ten industries impacted by information technology operations are listed in Table 34.



**Table 34: Top Ten Industries Impacted by Information Technology and Services Cluster**

Description	Employment	Labor Income	Value Added	Output
Marketing research and all other miscellaneous professional, scientific, and technical services	2,052.47	\$55,287,736	\$128,349,287	\$366,292,891
Employment services	293.94	\$7,410,692	\$14,734,786	\$23,589,100
Other real estate	94.5	\$2,116,887	\$6,454,393	\$14,979,259
Full-service restaurants	50.45	\$1,751,273	\$5,863,883	\$9,179,853
Office administrative services	48.27	\$1,477,193	\$3,634,013	\$8,193,569
All other food and drinking places	44.64	\$1,391,497	\$2,502,065	\$7,828,684
Accounting, tax preparation, bookkeeping, and payroll services	42.63	\$1,242,608	\$1,961,799	\$5,344,225
Management consulting services	38.44	\$1,227,688	\$1,851,082	\$4,123,539
Limited-service restaurants	33.98	\$1,023,368	\$1,839,460	\$3,790,868
Management of companies and enterprises	30.57	\$974,323	\$1,806,833	\$3,723,530

Source: Ohio University Calculations

The results for logistics cluster economic impact analysis imply that, while 11,567 yearly employment is supporting logistics cluster operations in the OVRDC region, a total of 16,983 employment is being generated for the OVRDC ending in \$1,967,392,471 in economic activity. Additionally, an employment multiplier effect of 1.47 implies that for every 2 jobs supported through logistics operations, an additional job will be supported within the OVRDC region. Table 35 shows the employment, labor income, value added, and output generated by logistics operations.

**Table 35: Logistics Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	11,567.00	\$565,044,888	\$590,297,416	\$1,240,756,542
Indirect Effect	3,102.62	\$131,351,313	\$206,982,382	\$402,330,129
Induced Effect	2,313.39	\$93,389,239	\$183,095,565	\$324,305,800
Total Effect	16,983.01	\$789,785,440	\$980,375,363	\$1,967,392,471
Multiplier	1.47	1.40	1.66	1.59

Source: Ohio University Calculations

Table 36 estimates taxes paid by logistics operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Logistics cluster in the OVRDC region generates \$130,155,953 total direct tax revenue and \$213,240,363 total tax revenue annually.

**Table 36: Logistics Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$1,650,620	\$2,717,665	\$1,370,620	\$16,258,328	\$108,158,720	\$130,155,953
Indirect Effect	\$1,097,688	\$2,629,846	\$1,413,778	\$8,813,107	\$26,634,656	\$40,589,074
Induced Effect	\$1,667,122	\$4,493,531	\$2,450,042	\$12,753,376	\$21,131,265	\$42,495,336
Total Effect	\$4,415,430	\$9,841,043	\$5,234,440	\$37,824,810	\$155,924,640	\$213,240,363

Source: Ohio University Calculations

In addition to the management consulting services industry that supports the highest number of employments in the logistics cluster within the OVRDC region (11,707 jobs), employment services, full-service restaurants, other real estates, limited-service restaurants, all other food and drinking places, accounting, tax preparation, bookkeeping, and payroll services, transit, ground passenger transportation, monetary authorities and depository credit intermediation, and hospitals are the most impacted industries in logistics supply chain operations (640-129 jobs). The top ten industries impacted by logistics operations are listed in Table 37.

**Table 37: Top Ten Industries Impacted by Logistics Cluster**

Description	Employment	Labor Income	Value Added	Output
Management consulting services	11,707.13	\$423,768,133	\$597,448,468	\$12,885,020,167
Employment services	640.46	\$16,147,167	\$45,465,942	\$527,237,561
Full-service restaurants	307.91	\$9,518,944	\$39,117,053	\$142,512,445
Other real estate	266	\$8,952,557	\$32,105,644	\$132,929,041
Limited-service restaurants	214.21	\$6,338,040	\$10,795,577	\$128,201,730
All other food and drinking places	193.64	\$6,263,710	\$10,228,538	\$86,704,844
Accounting, tax preparation, bookkeeping, and payroll services	187.88	\$5,946,838	\$10,195,022	\$59,584,833
Transit and ground passenger transportation	179.91	\$5,389,685	\$8,106,322	\$48,108,427
Monetary authorities and depository credit intermediation	156.79	\$5,219,630	\$7,836,955	\$48,054,356
Hospitals	129.58	\$4,509,883	\$7,491,279	\$39,400,444

Source: Ohio University Calculations

The results for polymers and chemical cluster economic impact analysis imply that, while 4,409 yearly employment is supporting polymers and chemical cluster operations in the OVRDC region, a total of 10,757 employment is being generated for the OVRDC ending in \$7,876,592,315 in economic activity. Additionally, an employment multiplier effect of 2.44 implies that for every 1 job supported through

polymers and chemical operations, an additional 1.44 jobs will be supported within the OVRDC region. Table 38 shows the employment, labor income, value added, and output generated by polymers and chemical operations.

**Table 38: Polymers and Chemicals Cluster Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	4,409.00	\$389,158,352	\$1,092,816,711	\$4,073,432,771
Indirect Effect	4,144.23	\$293,773,039	\$565,208,027	\$1,128,153,309
Induced Effect	2,203.76	\$89,012,786	\$174,492,808	\$309,024,322
Total Effect	10,757.00	\$771,944,177	\$1,832,517,546	\$5,510,610,403
Multiplier	2.44	1.98	1.68	1.35

Source: Ohio University Calculations

Table 39 estimates taxes paid by polymers and chemical operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Polymers and chemical cluster in the OVRDC region generates \$166,876,548 total direct tax revenue and \$355,410,311 total tax revenue annually.

**Table 39: Polymers and Chemicals Cluster Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$5,446,289	\$14,081,334	\$7,663,087	\$41,433,332	\$98,252,506	\$166,876,548
Indirect Effect	\$6,480,441	\$17,771,203	\$9,703,498	\$49,163,119	\$64,889,628	\$148,007,889
Induced Effect	\$1,590,589	\$4,287,739	\$2,337,862	\$12,167,559	\$20,142,125	\$40,525,874
Total Effect	\$13,517,320	\$36,140,275	\$19,704,447	\$102,764,010	\$183,284,259	\$355,410,311

Source: Ohio University Calculations

While the direct employment supported by polymers and chemicals cluster through other basic inorganic chemical manufacturing supports 4,418 jobs, this cluster helps support other industries. The most impacted industries by polymers and chemicals operations within the OVRDC regions are electric power transmission and distribution, wholesale - other nondurable goods merchant wholesalers, rail transportation, truck transportation, waste management and remediation services, electric power generation - fossil fuel, management of companies and enterprises, hospitals, and commercial and industrial machinery and equipment repair and maintenance (388-167 jobs). The top ten industries impacted by polymers and chemical operations are listed in Table 40.

**Table 40: Top Ten Industries Impacted by Polymers and Chemicals Cluster**

Description	Employment	Labor Income	Value Added	Output
Other basic inorganic chemical manufacturing	4,418.73	\$390,016,777	\$1,095,227,299	\$4,082,418,147
Electric power transmission and distribution	387.67	\$21,856,633	\$95,187,749	\$221,287,990
Wholesale - Other nondurable goods merchant wholesalers	240.5	\$16,243,967	\$49,604,845	\$93,031,447
Rail transportation	227.67	\$13,922,533	\$42,371,519	\$68,565,262
Truck transportation	212.88	\$10,893,671	\$37,114,737	\$65,962,923
Waste management and remediation services	212.21	\$10,794,704	\$36,106,840	\$48,735,938
Electric power generation - Fossil fuel	209.2	\$9,169,898	\$26,228,119	\$47,115,527
Management of companies and enterprises	199.86	\$9,145,789	\$24,334,417	\$41,059,874
Hospitals	192.67	\$8,495,104	\$22,800,522	\$31,484,616
Commercial and industrial machinery and equipment repair and maintenance	166.57	\$7,744,093	\$19,758,450	\$30,799,646

Source: Ohio University Calculations

Next, we look closely to the food processing cluster to explore industries and their impact on the supply chain. Starting from dog, cat, and other animals' food industry, this industry supports 138 direct jobs as well as 216 jobs in other related industries within the supply chain. The total of 354 employment generates \$178,794,512 in total economic activities in the OVRDC region. Table 41 shows the employment, labor income, value added, and output generated by dog, cat, and other animals' food industry.

**Table 41: Dog, Cat, and Other Animal Food Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	138.00	\$11,508,680	\$44,622,672	\$146,189,573
Indirect Effect	158.34	\$6,654,499	\$9,662,598	\$24,436,042
Induced Effect	58.25	\$2,353,032	\$4,612,653	\$8,168,897
Total Effect	354.60	\$20,516,211	\$58,897,923	\$178,794,512
Multiplier	2.57	1.78	1.32	1.22

Source: Ohio University Calculations

Table 42 estimates taxes paid by dog, cat, and other animal food operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Dog, cat, and other animal food industry in the OVRDC region generates \$10,030,256 total direct tax revenue and \$11,749,152 total tax revenue annually.

**Table 42: Dog, Cat, and Other Animal Food Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$509,793	\$1,444,830	\$792,550	\$3,771,614	\$3,511,467	\$10,030,256
Indirect Effect	(\$43,314)	(\$161,532)	(\$90,634)	(\$283,048)	\$1,226,108	\$647,581
Induced Effect	\$42,049	\$113,351	\$61,804	\$321,659	\$532,454	\$1,071,316
Total Effect	\$508,528	\$1,396,649	\$763,720	\$3,810,226	\$5,270,029	\$11,749,152

Source: Ohio University Calculations

In addition to the dog and cat food manufacturing industry which supports the highest number of employments in the dog, cat, and other animal food industry within the OVRDC region (138 jobs), grain farming, truck transportation, support activities for agriculture and forestry, other real estates, wholesale - other nondurable goods merchant wholesalers, employment services, wholesale - grocery and related product wholesalers, full-service restaurants, and limited-service restaurants are the most impacted industries in dog, cat, and other animal food supply chain operations (61-5 jobs). The top ten industries impacted by dog, cat, and other animal food operations are listed in Table 43.

**Table 43. Top Ten Industries Impacted by Dog, Cat, and Other Animal Food Industry**

Description	Employment	Labor Income	Value Added	Output
Dog and cat food manufacturing	138	\$11,515,642	\$44,623,034	\$146,190,758
Grain farming	61.15	\$471,853	\$2,006,320	\$5,550,626
Truck transportation	9.73	\$440,606	\$980,938	\$2,773,194
Support activities for agriculture and forestry	8.32	\$416,153	\$925,018	\$1,689,898
Other real estate	7.28	\$330,068	\$587,422	\$1,245,258
Wholesale - Other nondurable goods merchant wholesalers	5.45	\$304,188	\$480,701	\$1,153,965
Employment services	5.36	\$241,396	\$472,962	\$1,007,590
Wholesale - Grocery and related product wholesalers	5.18	\$224,525	\$421,923	\$980,732
Full-service restaurants	5.08	\$195,207	\$359,536	\$919,603
Limited-service restaurants	4.92	\$135,103	\$359,127	\$845,010

Source: Ohio University Calculations

The breakfast cereal, flour milling, and rice milling industry support 399 direct jobs as well as 4,464 jobs in other related industries within the supply chain. The total of 4,864 employment generates \$2,469,026,847 in total economic activities in the OVRDC region. Table 44 shows the employment, labor income, value added, and output generated by breakfast cereal, flour milling, and rice milling industry.

**Table 44: Breakfast Cereal, Flour Milling, and Rice Milling Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	399.00	\$23,318,899	\$170,784,580	\$1,843,916,829
Indirect Effect	3,982.14	\$116,893,289	\$304,274,622	\$557,448,028
Induced Effect	482.80	\$19,478,760	\$38,194,598	\$67,661,990
Total Effect	4,863.94	\$159,690,948	\$513,253,800	\$2,469,026,847
Multiplier	12.19*	6.85	3.01	1.34

Source: Ohio University Calculations

\*Note: As mentioned above, the multiplier for this industry is inflated due to issues of double counting in IMPLAN. Conclusions from this value should be taken with a grain of salt.

Table 45 estimates taxes paid by breakfast cereal, flour milling, and rice milling operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Breakfast cereal, flour milling, and rice milling industry in the OVRDC region generates \$37,032,703 total direct tax revenue and \$89,411,776 total tax revenue annually.

**Table 45: Breakfast Cereal, Flour Milling, and Rice Milling Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$2,103,087	\$6,045,778	\$3,321,860	\$15,362,964	\$10,199,015	\$37,032,703
Indirect Effect	\$1,378,057	\$3,382,343	\$1,828,587	\$10,464,679	\$26,467,032	\$43,520,699
Induced Effect	\$347,350	\$936,125	\$510,404	\$2,657,282	\$4,407,213	\$8,858,374
Total Effect	\$3,828,493	\$10,364,245	\$5,660,852	\$28,484,925	\$41,073,261	\$89,411,776

Source: Ohio University Calculations

In addition to the breakfast cereal manufacturing, which supports the highest number of employments in the breakfast cereal, flour milling, and rice milling operations within the OVRDC region (1,622 jobs), wholesale groceries and related product wholesale, grain farming, truck transportation, management of companies and enterprises, other real estate, hospitals, full-service restaurants, employment services and paperboard container manufacturing (1,026-40 jobs). The top ten industries impacted by breakfast cereal, flour milling, and rice milling operations are listed in Table 46.

**Table 46: Top Ten Industries Impacted by Breakfast Cereal, Flour Milling, and Rice Milling Industry**

Description	Employment	Labor Income	Value Added	Output
Breakfast cereal manufacturing	1,622.43	\$23,669,435	\$172,748,106	\$1,865,116,504
Wholesale – grocery and related product wholesale	1,026.01	\$14,825,488	\$146,365,937	\$273,680,370
Grain farming	399.54	\$7,296,941	\$67,508,559	\$93,312,298
Truck transportation	327.3	\$6,584,886	\$12,753,915	\$25,543,001
Management of companies and enterprises	198.33	\$2,859,112	\$9,590,029	\$19,565,685
Other real estate	122.98	\$2,785,295	\$8,280,614	\$19,492,454
Hospitals	103.36	\$2,656,574	\$6,355,190	\$12,352,287
Full-service restaurants	56.85	\$2,405,863	\$5,313,377	\$11,610,179
Employment services	48.99	\$1,894,959	\$5,023,512	\$10,511,876
Paperboard container manufacturing	40.36	\$1,407,812	\$4,728,927	\$7,864,260

Source: Ohio University Calculations

Confectionery manufacturing from purchased chocolate, and nonchocolate confectionery industry support 27 direct jobs as well as 88 jobs in other related industries within the supply chain. The total of 116 employment generates \$32,911,971 in total economic activities in the OVRDC region. Table 47 shows the employment, labor income, value added, and output generated by confectionery manufacturing from purchased chocolate, and nonchocolate confectionery industry.

**Table 47: Confectionery Manufacturing from Purchased Chocolate, and Nonchocolate Confectionery Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	27.00	\$4,183,245	\$7,080,537	\$19,178,346
Indirect Effect	46.39	\$2,437,493	\$3,808,355	\$7,623,358
Induced Effect	38.53	\$1,918,572	\$3,520,075	\$6,110,267
Total Effect	115.92	\$8,539,310	\$14,408,967	\$32,911,971
Multiplier	4.29	2.04	2.04	1.72

Source: Ohio University Calculations

Table 48 estimates taxes paid by confectionery manufacturing from purchased chocolate, and nonchocolate confectionery operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Confectionery manufacturing from purchased chocolate, and nonchocolate confectionery industry in the OVRDC region generates \$1,278,074 total direct tax revenue and \$2,848,924 total tax revenue annually.

**Table 48: Confectionery Manufacturing from Purchased Chocolate, and Nonchocolate Confectionery Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special District	County	State	Federal	Total
1 - Direct	\$58,752	\$87,786	\$35,125	\$223,855	\$872,556	\$1,278,074
2 - Indirect	\$40,221	\$73,934	\$29,854	\$168,918	\$497,063	\$809,990
3 - Induced	\$39,454	\$89,084	\$36,262	\$184,569	\$411,490	\$760,860
Total	\$138,427	\$250,804	\$101,241	\$577,342	\$1,781,109	\$2,848,924

Source: Ohio University Calculations

In addition to chocolate and confectionery manufacturing from cacao beans operations which supports the highest number of employments in the confectionery manufacturing from purchased chocolate, and nonchocolate confectionery operations within the OVRDC region (27 jobs), all other crop farming, wholesale groceries and related product wholesalers, full-service restaurants, management of companies and enterprises, hospitals, truck transportation, other real estates, employment services and limited-service restaurants are the most impacted industries in confectionery manufacturing from purchased chocolate, and nonchocolate confectionery operations (13-2 jobs). The top ten industries impacted by confectionery manufacturing from purchased chocolate, and nonchocolate confectionery operations are listed in Table 49.

**Table 49: Top Ten Industries Impacted by Confectionery Manufacturing from Purchased Chocolate, and Nonchocolate Confectionery Industry**

Description	Employment	Labor Income	Value Added	Output
Chocolate and confectionery manufacturing from cacao beans	27.49	\$4,198,329	\$7,085,052	\$19,190,574
All other crop farming	13.33	\$375,311	\$531,232	\$1,041,239
Wholesale - Grocery and related product wholesalers	5.28	\$347,894	\$459,551	\$641,665
Full-service restaurants	2.6	\$196,897	\$401,313	\$583,379
Management of companies and enterprises	2.59	\$132,800	\$381,626	\$542,648
Hospitals	2.56	\$125,881	\$242,920	\$468,998
Truck transportation	2.48	\$119,550	\$236,171	\$456,735
Other real estate	2.2	\$111,895	\$230,755	\$432,155
Employment services	2.09	\$84,880	\$205,711	\$422,963
Limited-service restaurants	2.08	\$80,503	\$159,490	\$401,259

Source: Ohio University Calculations

Frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations support 130 direct jobs as well as 120 jobs in other related industries within the supply chain. The total of 250 employment generates \$60,989,208 in total economic activities in the OVRDC region. Table 50 shows the employment, labor income, value added, and output generated by



frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning industry.

**Table 50: Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty Canning Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	130.00	\$6,380,855	\$10,355,253	\$45,240,584
Indirect Effect	91.34	\$2,804,070	\$3,893,712	\$11,609,471
Induced Effect	29.52	\$1,192,363	\$2,337,308	\$4,139,152
Total Effect	250.86	\$10,377,288	\$16,586,273	\$60,989,208
Multiplier	1.93	1.63	1.60	1.35

Source: Ohio University Calculations

Table 51 estimates taxes paid by frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations in the OVRDC region generates \$2,051,132 total direct tax revenue and \$2,198,437 total tax revenue annually.

**Table 51: Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty Canning Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$53,406	\$130,744	\$70,531	\$431,930	\$1,364,520	\$2,051,132
Indirect Effect	(\$67,026)	(\$213,056)	(\$117,962)	(\$478,610)	\$481,006	(\$395,649)
Induced Effect	\$21,313	\$57,457	\$31,328	\$163,040	\$269,817	\$542,955
Total Effect	\$7,694	(\$24,855)	(\$16,103)	\$116,360	\$2,115,342	\$2,198,437

Source: Ohio University Calculations

While the direct employment supported by frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations through frozen specialties manufacturing supports 131 jobs, frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations help support other industries. The most impacted industries, by frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations after frozen specialties manufacturing within the OVRDC regions are support activities for agriculture and forestry, other real estates, wholesale - grocery and related product wholesalers, truck transportation, limited-service restaurants, full-service restaurants, management of companies and enterprises, and wholesale - wholesale electronic markets and agents and brokers (50-2 jobs). The top ten industries impacted by frozen specialty food, fruit and vegetable canning, frozen fruit, juice, and vegetable, and specialty canning operations are listed in Table 52.

**Table 52: Top Ten Industries Impacted by Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty Canning Industry**

Description	Employment	Labor Income	Value Added	Output
Frozen specialties manufacturing	131.3	\$6,440,573	\$10,458,628	\$45,692,214
Grain farming	50.13	\$386,812	\$684,370	\$4,550,250
Support activities for agriculture and forestry	6.84	\$251,699	\$496,444	\$945,956
Other real estate	4.7	\$150,294	\$387,721	\$747,873
Wholesale - Grocery and related product wholesalers	3.95	\$149,293	\$366,567	\$745,557
Truck transportation	3.32	\$142,911	\$246,154	\$630,214
Limited-service restaurants	2.25	\$113,633	\$200,644	\$466,449
Full-service restaurants	2.23	\$96,016	\$180,874	\$385,352
Management of companies and enterprises	2.06	\$78,296	\$174,034	\$360,789
Wholesale - Wholesale electronic markets and agents and brokers	1.65	\$77,681	\$168,914	\$317,940

Source: Ohio University Calculations

Ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations support 22 direct jobs as well as 36 jobs in other related industries within the supply chain. The total of 58 employment generates \$16,947,956 in total economic activities in the OVRDC region. Table 53 shows the employment, labor income, value added, and output generated by ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk industry.

**Table 53: Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, and Fluid Milk Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	22.00	\$1,494,855	\$2,434,068	\$9,059,024
Indirect Effect	19.41	\$1,347,557	\$2,181,288	\$5,250,163
Induced Effect	16.64	\$828,588	\$1,520,161	\$2,638,769
Total Effect	58.06	\$3,671,000	\$6,135,517	\$16,947,956
Multiplier	2.64	2.46	2.52	1.87

Source: Ohio University Calculations

Table 54 estimates taxes paid by ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations in the OVRDC region generates \$523,634 total direct tax revenue and \$1,311,410 total tax revenue annually.

**Table 54: Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, and Fluid Milk Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$25,565	\$50,780	\$20,569	\$112,633	\$314,086	\$523,634
Indirect Effect	\$22,895	\$43,460	\$17,574	\$97,701	\$277,569	\$459,199
Induced Effect	\$17,038	\$38,468	\$15,659	\$79,702	\$177,710	\$328,577
Total Effect	\$65,498	\$132,709	\$53,802	\$290,036	\$769,365	\$1,311,410

Source: Ohio University Calculations

While the direct employment supported by ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations through ice cream and frozen dessert manufacturing supports 22 jobs, ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations help support other industries. The most impacted industries, by ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations after ice cream and frozen dessert manufacturing within the OVRDC regions are wholesale - grocery and related product wholesalers, management of companies and enterprises, truck transportation, other real estates, hospitals, dairy cattle and milk production, full-service restaurants, employment services, and limited-service restaurants (2-1 jobs). The top ten industries impacted by ice cream and frozen dessert, dry, condensed, and evaporated dairy product, and fluid milk operations are listed in Table 55.

**Table 55: Top Ten Industries Impacted by Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, and Fluid Milk Industry**

Description	Employment	Labor Income	Value Added	Output
Ice cream and frozen dessert manufacturing	22.49	\$1,533,957	\$2,487,750	\$9,258,819
Wholesale - Grocery and related product wholesalers	2.48	\$260,527	\$300,530	\$487,686
Management of companies and enterprises	1.94	\$175,785	\$248,813	\$480,522
Truck transportation	1.55	\$85,054	\$198,496	\$344,893
Other real estate	1.18	\$78,602	\$130,825	\$327,387
Hospitals	1.11	\$57,348	\$128,449	\$268,825
Dairy cattle and milk production	1.05	\$53,550	\$116,256	\$251,981
Full-service restaurants	1.04	\$38,373	\$102,020	\$250,552
Employment services	0.87	\$33,924	\$99,654	\$249,035
Limited-service restaurants	0.87	\$33,765	\$84,601	\$225,767

Source: Ohio University Calculations

Animal (except poultry) slaughtering, and meat processed from carcasses operations support 50 direct jobs as well as 371 jobs in other related industries within the supply chain. The total of 421 employment generates \$67,554,474 in total economic activities in the OVRDC region. Table 56 shows the

employment, labor income, value added, and output generated by animal (except poultry) slaughtering, and meat processed from carcasses industry.

**Table 56: Animal (except Poultry) Slaughtering, and Meat Processed from Carcasses Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	50.00	\$2,493,626	\$3,770,438	\$31,599,515
Indirect Effect	315.94	\$6,984,744	\$12,385,936	\$27,095,541
Induced Effect	55.94	\$2,784,744	\$5,102,933	\$8,859,418
Total Effect	421.88	\$12,263,114	\$21,259,307	\$67,554,474
Multiplier	8.44*	4.92	5.64	2.14

Source: Ohio University Calculations

\*Note: As mentioned above, the multiplier for this industry is inflated due to issues of double counting in IMPLAN. Conclusions from this value should be taken with a grain of salt.

Table 57 estimates taxes paid by animal (except poultry) slaughtering, and meat processed from carcasses operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Animal (except poultry) slaughtering, and meat processed from carcasses operations in the OVRDC region generates \$1,134,499 total direct tax revenue and \$4,646,452 total tax revenue annually.

**Table 57: Animal (except Poultry) Slaughtering, and Meat Processed from Carcasses Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$60,797	\$163,965	\$67,067	\$319,921	\$522,750	\$1,134,499
Indirect Effect	\$128,741	\$249,758	\$101,128	\$544,655	\$1,384,971	\$2,409,253
Induced Effect	\$57,162	\$128,881	\$52,459	\$267,192	\$597,006	\$1,102,699
Total Effect	\$246,699	\$542,604	\$220,654	\$1,131,767	\$2,504,727	\$4,646,452

Source: Ohio University Calculations

While the direct employment supported by animal (except poultry) slaughtering, and meat processed from carcasses operations through beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming supports 150 jobs, animal (except poultry) slaughtering, and meat processed from carcasses operations help support other industries. The most impacted industries, by animal (except poultry) slaughtering, and meat processed from carcasses operations after beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming within the OVRDC regions are animal production, except cattle and poultry and eggs, animal, except poultry, slaughtering, truck transportation, other real estates, support activities for agriculture and forestry, wholesale - other nondurable goods merchant wholesalers, full-service restaurants, employment services, and hospitals (89-4 jobs). The top ten industries impacted by animal (except poultry) slaughtering and meat processed from carcasses operations are listed in Table 58.

**Table 58: Top Ten Industries Impacted by Animal (except Poultry) Slaughtering and Meat Processed from Carcasses Industry**

Description	Employment	Labor Income	Value Added	Output
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	150.88	\$2,477,295	\$3,777,195	\$31,656,147
Animal production, except cattle and poultry and eggs	89.39	\$1,215,930	\$3,124,047	\$8,246,654
Animal, except poultry, slaughtering	50.09	\$647,236	\$2,328,895	\$4,503,130
Truck transportation	23.96	\$432,806	\$1,987,030	\$3,875,894
Other real estate	6.12	\$316,220	\$939,607	\$1,671,559
Support activities for agriculture and forestry	5.9	\$287,284	\$669,086	\$1,175,098
Wholesale - Other nondurable goods merchant wholesalers	5.22	\$192,357	\$440,343	\$1,001,610
Full-service restaurants	3.88	\$191,636	\$427,964	\$849,375
Employment services	3.83	\$159,783	\$364,775	\$684,296
Hospitals	3.74	\$126,282	\$344,588	\$608,537

Source: Ohio University Calculations

Cookie and cracker, retail bakeries, commercial bakeries support 201 direct jobs as well as 316 jobs in other related industries within the supply chain. The total of 517 employment generates \$137,328,495 in total economic activities in the OVRDC region. Table 59 shows the employment, labor income, value added, and output generated by cookie and cracker, retail bakeries, commercial bakeries industry.

**Table 59: Cookie and Cracker, Retail Bakeries, Commercial Bakeries Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	201.00	\$11,987,360	\$21,199,863	\$72,776,212
Indirect Effect	174.17	\$12,215,978	\$18,376,983	\$41,938,901
Induced Effect	142.62	\$7,100,966	\$13,027,213	\$22,613,382
Total Effect	517.80	\$31,304,304	\$52,604,059	\$137,328,495
Multiplier	2.58	2.61	2.48	1.89

Source: Ohio University Calculations

Table 60 estimates taxes paid by cookie and cracker, retail bakeries, commercial bakeries operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Cookie and cracker, retail bakeries, commercial bakeries operations in the OVRDC region generates \$4,204,784 total direct tax revenue and \$10,696,093 total tax revenue annually.

**Table 60: Cookie and Cracker, Retail Bakeries, Commercial Bakeries Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$202,393	\$383,724	\$155,200	\$866,629	\$2,596,837	\$4,204,784
Indirect Effect	\$176,799	\$267,842	\$107,187	\$674,778	\$2,448,942	\$3,675,549
Induced Effect	\$146,008	\$329,637	\$134,179	\$682,990	\$1,522,946	\$2,815,760
Total Effect	\$525,200	\$981,203	\$396,567	\$2,224,398	\$6,568,725	\$10,696,093

Source: Ohio University Calculations

While the direct employment supported by cookie and cracker, retail bakeries, commercial bakeries operations through cookie and cracker manufacturing supports 202 jobs, cookie and cracker, retail bakeries, commercial bakeries operations help support other industries. The most impacted industries, by cookie and cracker, retail bakeries, commercial bakeries operations after cookie and cracker manufacturing within the OVRDC regions are management of companies and enterprises, wholesale - grocery and related product wholesalers, truck transportation, other real estates, full-service restaurants, hospitals, employment services, limited-service restaurants, and grain farming (20-9 jobs). The top ten industries impacted by cookie and cracker, retail bakeries, commercial bakeries operations are listed in Table 61.

**Table 61: Top Ten Industries Impacted by Cookie and Cracker, Retail Bakeries, Commercial Bakeries Industry**

Description	Employment	Labor Income	Value Added	Output
Cookie and cracker manufacturing	202.39	\$12,122,662	\$21,346,896	\$73,280,958
Management of companies and enterprises	19.73	\$2,654,771	\$3,062,405	\$4,896,524
Wholesale - Grocery and related product wholesalers	18.71	\$1,328,516	\$1,880,438	\$3,685,748
Truck transportation	12.55	\$729,030	\$1,701,263	\$2,447,527
Other real estate	10.49	\$636,975	\$1,258,018	\$2,159,679
Full-service restaurants	10.18	\$559,029	\$1,040,922	\$2,030,420
Hospitals	9.49	\$491,442	\$874,447	\$2,014,749
Employment services	8.57	\$374,730	\$813,527	\$1,815,791
Limited-service restaurants	8.17	\$334,442	\$754,984	\$1,788,823
Grain farming	8.09	\$270,409	\$671,638	\$1,736,509

Source: Ohio University Calculations

Other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing industry support 70 direct jobs as well as 192 jobs in other related industries within the supply chain. The total of 262 employment generates \$64,005,272 in total economic activities in the OVRDC region. Table 62 shows the employment, labor income, value added, and output generated by other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing industry.

**Table 62: Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food Manufacturing Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	70.00	\$4,035,732	\$10,983,838	\$37,216,595
Indirect Effect	137.62	\$5,304,189	\$8,203,580	\$18,073,430
Induced Effect	54.97	\$2,736,841	\$5,020,682	\$8,715,248
Total Effect	262.59	\$12,076,762	\$24,208,101	\$64,005,272
Multiplier	3.75	2.99	2.20	1.72

Source: Ohio University Calculations

Table 63 estimates taxes paid by other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations in the OVRDC region generates \$1,895,695 total direct tax revenue and \$4,519,865 total tax revenue annually.

**Table 63: Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food Manufacturing Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$95,976	\$232,509	\$94,948	\$464,293	\$1,007,969	\$1,895,695
Indirect Effect	\$72,677	\$97,941	\$38,956	\$262,298	\$1,067,116	\$1,538,988
Induced Effect	\$56,270	\$127,032	\$51,708	\$263,210	\$586,961	\$1,085,182
Total Effect	\$224,923	\$457,483	\$185,613	\$989,800	\$2,662,047	\$4,519,865

Source: Ohio University Calculations

While the direct employment supported by other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations through other snack food manufacturing supports 202 jobs, other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations help support other industries. The most impacted industries, by other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations after other snack food manufacturing within the OVRDC regions are all other crop farming, wholesale - grocery and related product wholesalers, grain farming, management of companies and enterprises, other real estates, wholesale - other nondurable goods merchant wholesalers, full-service restaurants, hospitals, and wholesale - machinery, equipment, and supplies (62-4 jobs). The top ten industries impacted by other snack food, perishable prepared food, coffee and tea, and all other miscellaneous food manufacturing operations are listed in Table 64.

**Table 64: Top Ten Industries Impacted by Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food Manufacturing Industry**

Description	Employment	Labor Income	Value Added	Output
Other snack food manufacturing	70.02	\$4,051,804	\$10,987,680	\$37,229,609
All other crop farming	62.05	\$697,859	\$966,129	\$1,893,659
Wholesale - Grocery and related product wholesalers	9.61	\$682,563	\$805,013	\$1,372,096
Grain farming	6.68	\$355,268	\$771,274	\$1,287,147
Management of companies and enterprises	5.19	\$301,609	\$655,776	\$1,008,369
Other real estate	4.95	\$281,038	\$580,392	\$949,538
Wholesale - Other nondurable goods merchant wholesalers	4.28	\$261,876	\$466,081	\$836,487
Full-service restaurants	3.68	\$239,158	\$355,819	\$832,479
Hospitals	3.66	\$189,395	\$352,777	\$763,350
Wholesale - Machinery, equipment, and supplies	3.57	\$124,388	\$337,096	\$703,129

Source: Ohio University Calculations

Soft drink, wineries, and breweries support 658 direct jobs as well as 610 jobs in other related industries within the supply chain. The total of 1,298 employment in soft drink, wineries, and breweries generates \$511,657,529 in total economic activities in the OVRDC region. Table 65 shows the employment, labor income, value added, and output generated by soft drink, wineries, and breweries industry.

**Table 65: Soft Drink, Wineries, Breweries Industry Impacts**

Impact Type	Employment	Labor Income	Total Value Added	Output
Direct Effect	658.00	\$51,162,295	\$94,139,910	\$404,200,203
Indirect Effect	362.39	\$22,309,366	\$37,336,741	\$72,683,512
Induced Effect	248.06	\$10,013,522	\$19,632,312	\$34,773,814
Total Effect	1268.45	\$83,485,183	\$151,108,963	\$511,657,529
Multiplier	1.93	1.63	1.61	1.27

Source: Ohio University Calculations

Table 66 estimates taxes paid by soft drink, wineries, and breweries operations, by type, at the sub county general, sub county special district, county, state, and federal levels. Soft drink, wineries, and breweries operations industry in the OVRDC region generates \$22,575,537 total direct tax revenue and \$36,138,318 total tax revenue annually.



**Table 66: Soft Drink, Wineries, Breweries Industry Tax Revenue Impacts**

Tax	Sub County General	Sub County Special Districts	County	State	Federal	Total
Direct Effect	\$841,138	\$2,264,995	\$1,234,874	\$6,490,018	\$11,744,511	\$22,575,537
Indirect Effect	\$335,733	\$889,555	\$483,831	\$2,594,475	\$4,702,848	\$9,006,442
Induced Effect	\$178,743	\$481,777	\$262,683	\$1,367,376	\$2,265,760	\$4,556,339
Total Effect	\$1,355,614	\$3,636,327	\$1,981,388	\$10,451,869	\$18,713,120	\$36,138,318

Source: Ohio University Calculations

While the direct employment supported by soft drink, wineries, and breweries operations through bottled and canned soft drinks and water supports 658 jobs, soft drink, wineries, and breweries operations help support other industries. The most impacted industries, by soft drink, wineries, and breweries operations after bottled and canned soft drinks and water within the OVRDC regions are retail - building material and garden equipment and supplies stores, wholesale - machinery, equipment, and supplies, truck transportation, limited-service restaurants, full-service restaurants, wholesale - grocery and related product wholesalers, other real estates, wholesale - other durable goods merchant wholesalers, and retail - general merchandise stores (41-17 jobs). The top ten industries impacted by soft drink, wineries, and breweries operations are listed in Table 67.

**Table 67: Top Ten Industries Impacted by Soft Drink, Wineries, Breweries Industry**

Description	Employment	Labor Income	Value Added	Output
Bottled and canned soft drinks & water	658.39	\$37,310,623	\$94,196,151	\$404,441,678
Retail - Building material and garden equipment and supplies stores	41.28	\$2,364,927	\$4,623,613	\$8,331,304
Wholesale - Machinery, equipment, and supplies	30.96	\$1,481,211	\$4,549,914	\$6,289,023
Truck transportation	22.06	\$1,300,182	\$4,195,498	\$5,326,000
Limited-service restaurants	20.89	\$1,037,039	\$3,078,136	\$4,667,863
Full-service restaurants	20.67	\$999,202	\$2,244,788	\$4,373,339
Wholesale - Grocery and related product wholesalers	20.41	\$960,200	\$1,907,864	\$4,120,062
Other real estate	18.74	\$807,190	\$1,893,546	\$3,863,233
Wholesale - Other durable goods merchant wholesalers	17.97	\$602,644	\$1,644,888	\$3,823,958
Retail - General merchandise stores	16.79	\$559,665	\$1,477,467	\$3,514,195

Source: Ohio University Calculations

## Task 2.4: Identify Strategies for Growth/Expansion for these Firms

Using our previous analysis of I/O models and location quotients, we will use this section to make suggestions on which industries the OVRDC region should focus on for further investments. By focusing smart investments on certain industries, the region can help facilitate sustainable growth. We suggest such investments go towards clusters with large employment or output multipliers to ensure the largest dividends be paid on investment. Furthermore, investments towards declining industries with large employment location quotients should be prioritized.

Table 68 summarizes multiplier effects for each observed industry. Even though some multipliers for the food processing industry have potential for inflated multiplier effects, many others, such as pet food, confectionery, ice cream, cookie and cracker and other snack food manufacturing have large employment multiplier effects, each above 2.5. If local governments in the OVRDC region wish to expand the job market, investments in the food processing industry would pay dividends for other industries in the region. Furthermore, Hardwood Manufacturing has the highest output multiplier effect at 2.09. Investments in this industry would have the largest effect on the OVRDC region's aggregate economic activity.

**Table 68: Targeted Industry Clusters Impact Summary**

Cluster/Industry	Employment	Labor Income	Value Added	Output
Advanced Manufacturing	1.46	1.41	1.67	1.36
Aerospace & Aviation	1.67	1.52	1.28	1.12
Automotive	2.24	1.63	1.67	1.21
Biohealth	1.34	1.27	1.42	1.48
Energy	3.64	2.24	1.56	1.51
Financial Services	2.53	1.78	1.11	1.17
Food Processing	8.76*	2.20	1.91	1.38
Hardwood Products Manufacturing	2.70	2.59	3.16	2.09
Information Technology and Services	1.67	1.78	1.73	1.51
Logistics	1.47	1.40	1.66	1.59
Polymers & Chemicals	2.44	1.98	1.68	1.35
<b>Food Processing Sub-Clusters</b>				
Dog, Cat & Other Pet Foods	2.57	1.78	1.32	1.22
Breakfast Cereal, Rice Milling and Flour Milling	12.19*	6.85	3.01	1.34
Confectionary Manufacturing Purchased from Chocolate, and Non-chocolate Confectionary	3.74	2.04	2.04	1.72
Frozen Specialty Food, Fruit and Vegetable Canning, Frozen Fruit, Juice, and Vegetable, and Specialty	1.93	1.63	1.60	1.35
Ice Cream and Frozen Dessert, Dry, Condensed, and Evaporated Dairy Product, and Fluid Milk	2.64	2.46	2.52	1.87
Animal (except Poultry) Slaughtering, and Meat Processed from Carcasses	8.44*	4.92	5.64	2.14
Cookie and Cracker, Retail Bakeries, Commercial Bakeries	2.58	2.61	2.48	1.89
Other Snack Food, Perishable Prepared Food, Coffee and Tea, and All Other Miscellaneous Food	3.75	2.99	2.20	1.72
Soft Drinks, Wineries and Breweries	1.93	1.63	1.61	1.27

\*Note: As mentioned above, the multiplier for this industry is inflated due to issues of double counting in IMPLAN. Conclusions from this value should be taken with a grain of salt.

## Recommendations for the OVRDC Region

- Food Processing industries have large employment multipliers. To expand the job market in the area, investments should be made in this industry to have the largest aggregate effect within its supply chain.
- Similarly, hardwood manufacturing showcases the largest output multiplier. Investments in this industry cluster would have the largest impact on economic activity for the region.
- Advanced Manufacturing is the strongest existing cluster compared to national averages.
- The Polymers and Chemicals cluster is the fastest growing in the region and has the potential to continue growing with further support.
- Logistics employs a large portion of the region but has declined over the past five years. Investments to reverse this downward growth would be beneficial.
- Investing in targeted industries not only creates jobs, opportunities for sustainable growth and security within each cluster, but it will also support their supply chain through indirect economic impacts.

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**The Economic Impact Analysis of the Construction of a New Nestlé Purina Petcare Factory  
to the Regional Economy**

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Prepared For:  
Clermont County Economic Development

June 23<sup>rd</sup>, 2021

NOTE: This economic impact analysis was conducted to assist Clermont County Economic Development with determining the economic impact of construction and operation of the new Nestlé Purina facility. Confidential employment and investment data was provided by the company to generate the economic output. This confidential data has been redacted in the public report.

## Executive Summary

This report estimates the economic impact of the construction of a new Nestlé Purina Petcare manufacturing plant in Clermont County, Ohio on the regional economy using the Impact Analysis for Planning (IMPLAN) economic modeling software program. Data on the employees, sales, and the North American Industrial Classification System Codes were provided by Nestlé Purina Petcare.

The estimated construction cost for the new facility is \$ [REDACTED], which includes \$ [REDACTED] towards new buildings and \$ [REDACTED] towards new equipment. The new facility will be responsible for supporting an estimated [REDACTED] jobs and \$ [REDACTED] in labor income<sup>1</sup>. The estimated impact of the labor income generated from the new plant will generate an estimated economic impact of \$407 million in economic output to Clermont County, and \$600 million to the State of Ohio. Furthermore, construction of the plant will generate \$513 million in economic impact to Clermont County, and \$706 million to the State of Ohio. These activities will also generate an estimated \$1.8 million in tax revenue for Clermont County, \$8 million in state tax revenue for Ohio, and \$24 million in federal tax revenue.

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<sup>1</sup> \$ [REDACTED] is estimated from Purina's commitment to [REDACTED] full time employees at \$ [REDACTED] an hour ([REDACTED]). If jobs are increased, then labor effects and impacts would be increased accordingly.

**Introduction**

This report estimates the economic impact of the construction of the new Nestlé Purina Petfood plant on the economy of Clermont County (Ohio) and the State of Ohio. IMPLAN 3.1, an input-output economic modeling software, was used in this study

All businesses have “direct,” “indirect,” and “induced” effect on the economy. Direct effects refer to the actual jobs and income created in the local economy from businesses. Indirect effects refer to second round expenditures made by these businesses within the local economy (e.g., supply chain impacts). Induced effects refer to the increased sales of goods and services in the local economy due to employees of these businesses living and working in the region (e.g., household spending of workers).

This study estimates the direct, indirect, and induced employment and labor income related to Purina employment and the construction of the new plant on businesses in the surrounding region’s economy. This study also estimates state and local tax revenues generated because of these effects. Both impacts are measured for Clermont County and the State of Ohio.

**Construction Impact**

First, we measure the impact of the construction of the new plant on the surrounding region. This impact is measured separately from the plant’s operations because these represent temporary effects. Construction of the new plant will cost of a total of \$ [REDACTED], which includes \$ [REDACTED] towards the building and \$ [REDACTED] towards new equipment. By assuming that equipment is purchased outside of the state of Ohio, we simplify construction expenses to only be the cost of the building. The economic impacts are measured for Clermont County and the State of Ohio, which are shown in tables 1 and 2, respectively.

**Table 1: Summary of Impact Results for Plant Construction on Clermont County**

<b>Effect Type</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Value Added</b>	<b>Output</b>
Direct Effect	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Indirect Effect	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Induced Effect	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total Effect	3894	\$230,778,770.72	\$274,349,757.30	\$512,873,470.00
<b>Multiplier</b>	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

**Table 2: Summary of Impact Results for Plant Construction on the State of Ohio**

<b>Effect Type</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Value Added</b>	<b>Output</b>
Direct Effect				
Indirect Effect				
Induced Effect				
Total Effect	4767	\$298,242,945.24	\$384,932,518.89	\$705,583,316.26
<b>Multiplier</b>				

*Employee Compensation includes wage and salary, all benefits and employer paid payroll taxes (e.g., employer side of social security, unemployment taxes, etc.).*

*Proprietor Income consists of payments received by self-employed individuals and unincorporated business owners.*

*Other Property Income represents the amount of corporate profit realized from a business's own operations, payments for rents, dividends, interest income, etc.*

*Value Added refers to the difference between an Industry's or establishment's total Output and the cost of its Intermediate Inputs; it is a measure of the contribution to GDP.*

*Output is the value of production by industry in a calendar year.*

It is worth noting that the direct effect of employment is larger in Clermont County than the State of Ohio. The reason for this is that IMPLAN auto-populates employment data based on the average salary of workers in an industry. Because the average salary for construction workers in Clermont County is below the state average, the same sum of money can fund more workers. Table 3 and 4 show the top ten industries impacts by the construction of the new plant in Clermont County and the State of Ohio, respectively.



**Table 3: Top Ten Industries Impacted by Construction in Clermont County**

<b>Sector ID</b>	<b>Description</b>	<b>Total Employment</b>	<b>Total Labor Income</b>	<b>Total Value Added</b>	<b>Total Output</b>
51	Construction of new manufacturing structures				
447	Other real estate				
472	Employment services				
509	Full-service restaurants				
510	Limited-service restaurants				
395	Wholesale - Machinery, equipment, and supplies				
396	Wholesale - Other durable goods merchant wholesalers				
477	Landscape and horticultural services				
521	Religious organizations				
457	Architectural, engineering, and related services				

**Table 4: Top Ten Industries Impacted by Construction in Ohio**

<b>Sector ID</b>	<b>Description</b>	<b>Total Employment</b>	<b>Total Labor Income</b>	<b>Total Value Added</b>	<b>Total Output</b>
51	Construction of new manufacturing structures				
490	Hospitals				
509	Full-service restaurants				
447	Other real estate				
472	Employment services				
510	Limited-service restaurants				
417	Truck transportation				
483	Offices of physicians				
396	Wholesale - Other durable goods merchant wholesalers				
411	Retail - General merchandise stores				

Tables 5, 6 and 7 show estimates for the tax impact that construction of the new plant will have at the county, state and federal level.

**Table 5: County Tax Revenue Generated by Construction**

<b>Type Description Paying</b>	<b>Employee Compensation</b>	<b>Taxes on Production and Imports</b>	<b>Households</b>	<b>Enterprises (Corporations)</b>
Social Insurance Tax- Employee Contribution				
Social Insurance Tax- Employer Contribution				
TOPI: Sales Tax				
TOPI: Property Tax				
TOPI: Motor Vehicle License				
TOPI: Severance Tax				
TOPI: Other Taxes				
TOPI: Special Assessments				
Corporate Profits Tax				
Personal Tax: Income Tax				
Personal Tax: Motor Vehicle License				
Personal Tax: Other Tax (Fish/Hunt)				
<b>Total County Tax Impact</b>				

**Table 6: State Tax Revenue Generated by Construction**

<b>Type Description Paying</b>	<b>Employee Compensation</b>	<b>Taxes on Production and Imports</b>	<b>Households</b>	<b>Enterprises (Corporations)</b>
Social Insurance Tax- Employee Contribution				
Social Insurance Tax- Employer Contribution				
TOPI: Sales Tax				
TOPI: Property Tax				
TOPI: Motor Vehicle License				
TOPI: Severance Tax				
TOPI: Other Taxes				
TOPI: Special Assessments				
Corporate Profits Tax				
Personal Tax: Income Tax				
Personal Tax: Motor Vehicle License				
Personal Tax: Other Tax (Fish/Hunt)				
<b>Total State Tax Impact</b>				

**Table 7: Federal Tax Revenue Generated by Construction**

Description	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Enterprises (Corporations)
Social Insurance Tax- Employee Contribution					
Social Insurance Tax- Employer Contribution					
TOPI: Excise Taxes					
TOPI: Custom Duty					
Corporate Profits Tax					
Personal Tax: Income Tax					
Personal Tax: Estate and Gift Tax					
<b>Total Federal Tax Impact</b>					

- Activity generated from the construction of the new plant will be responsible for supporting 3894 jobs in Clermont County and 4767 jobs in Ohio. Further, this construction will generate \$231 million in labor income for Clermont County and \$298 million in labor income for the State of Ohio. It should be noted that these effects are temporary and will not be repeated year to year, as the operational impacts are estimated to be.
- An employment multiplier of roughly [REDACTED] indicates that for every job created through construction of the new plant, an additional [REDACTED] jobs are supported in the regional economy (e.g., 1 job at Purina + [REDACTED] jobs supported in regional economy = [REDACTED] total jobs).
- The construction process is estimated to directly support [REDACTED] jobs.
- An estimated [REDACTED] jobs will be indirectly supported in Clermont County and by businesses that supplied goods and services required for the construction. [REDACTED] jobs are indirectly supported in the State of Ohio in the same way.
- An estimated [REDACTED] additional jobs in Clermont County, as well as an estimated [REDACTED] in the State of Ohio, are supported due to the induced effects of construction of the new plant.
- Income for workers completing the construction of the new plant will generate an aggregate of \$[REDACTED] million in total economic output to Clermont County and \$[REDACTED]\* million in total economic output towards the State of Ohio.
- The top ten most impacted industries in Clermont County from the construction of the new plant will include dog and cat food manufacturing, grain farming, support activities for agriculture and forestry, other real estate, nondurable goods merchant wholesalers, employment services, full-service restaurants, management of companies and enterprises, and truck transportation.
- The total impact of construction of the plant on these ten industries will be about [REDACTED] jobs and \$[REDACTED] million in economic activity for Clermont County.
- The top ten most impacted industries in Ohio from the construction of the new plant will include dog and cat food manufacturing, meat processors, grain farming, metal cans manufacturing, nondurable goods merchant wholesalers, truck transportation, management of companies and enterprises, other real estate, and grocery and related product wholesalers.
- The total impact of construction of the plant on these ten industries will be about [REDACTED] jobs and \$[REDACTED] million in economic activity for the state of Ohio.
- County, state, and federal tax revenues generated due to construction of the new plant will total \$[REDACTED], \$[REDACTED], and \$[REDACTED] respectively.

## Operational Impact

Next, we measure the impact that operations of the new plant will have on the surrounding region. This is measured by entering the planned number of plant employees [REDACTED], and having IMPLAN populate the rest of the fields, which it estimates using regional averages for salaries in the industry. IMPLAN data for the dog and cat food manufacturing industry is unavailable for Clermont County. However, by following accepted best practices recommended by IMPLAN, it is acceptable and accurate to use national per-worker salary and output averages to estimate a new county-level industry.

**Table 8: Summary of Impact Results for Labor Income on Clermont County**

Effect Type	Employment	Labor Income	Value Added	Output
Direct Effect				
Indirect Effect				
Induced Effect				
Total Effect	926	\$54,866,413.19	\$124,255,364.18	\$407,311,810.75
<b>Multiplier</b>				

**Table 9: Summary of Impact Results for Labor Income on the State of Ohio**

Effect Type	Employment	Labor Income	Value Added	Output
Direct Effect				
Indirect Effect				
Induced Effect				
Total Effect	1529	\$90,847,991.75	\$212,292,500.76	\$600,298,784.12
<b>Multiplier</b>				

Tables 10 and 11 show the top ten industries that will be impacted by the new plant’s operations at the county and state levels, respectively.

**Table 10: Top Ten Industries Impacted by Operations of the New Plant in Clermont County**

<b>Sector ID</b>	<b>Description</b>	<b>Total Employment</b>	<b>Total Labor Income</b>	<b>Total Value Added</b>	<b>Total Output</b>
63	Dog and cat food manufacturing				
2	Grain farming				
19	Support activities for agriculture and forestry				
447	Other real estate				
400	Wholesale - Other nondurable goods merchant wholesalers				
472	Employment services				
509	Full-service restaurants				
469	Management of companies and enterprises				
417	Truck transportation				
396	Wholesale - Other durable goods merchant wholesalers				
398	Wholesale - Grocery and related product wholesalers				



**Table 11: Top Ten Industries Impacted by Operations of the New Plant in Ohio**

<b>Sector ID</b>	<b>Description</b>	<b>Total Employment</b>	<b>Total Labor Income</b>	<b>Total Value Added</b>	<b>Total Output</b>
63	Dog and cat food manufacturing				
2	Grain farming				
417	Truck transportation				
90	Meat processed from carcasses				
11	Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming				
447	Other real estate				
19	Support activities for agriculture and forestry				
398	Wholesale - Grocery and related product wholesalers				
469	Management of companies and enterprises				
400	Wholesale - Other nondurable goods merchant wholesalers				

Finally, tables 12, 13 and 14 show tax revenue impacts generated by plant operations at the county, state and federal levels.

**Table 12: County Tax Revenue Generated by Operations of the New Plant**

<b>Type Description Paying</b>	<b>Employee Compensation</b>	<b>Taxes on Production and Imports</b>	<b>Households</b>	<b>Enterprises (Corporations)</b>
Social Insurance Tax- Employee Contribution				
Social Insurance Tax- Employer Contribution				
TOPI: Sales Tax				
TOPI: Property Tax				
TOPI: Motor Vehicle License				
TOPI: Severance Tax				
TOPI: Other Taxes				
TOPI: Special Assessments				
Corporate Profits Tax				
Personal Tax: Income Tax				
Personal Tax: Motor Vehicle License				
Personal Tax: Other Tax (Fish/Hunt)				
<b>Total County Tax Impact</b>				

**Table 13: State Tax Revenue Generated by Operations of the New Plant**

<b>Type Description Paying</b>	<b>Employee Compensation</b>	<b>Taxes on Production and Imports</b>	<b>Households</b>	<b>Enterprises (Corporations)</b>
Social Insurance Tax- Employee Contribution				
Social Insurance Tax- Employer Contribution				
TOPI: Sales Tax				
TOPI: Property Tax				
TOPI: Motor Vehicle License				
TOPI: Severance Tax				
TOPI: Other Taxes				
TOPI: Special Assessments				
Corporate Profits Tax				
Personal Tax: Income Tax				
Personal Tax: Motor Vehicle License				
Personal Tax: Other Tax (Fish/Hunt)				
<b>Total State Tax Impact</b>				

**Table 14: Federal Tax Revenue Generated by Operations of the New Plant**

Description	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Enterprises (Corporations)
Social Insurance Tax- Employee Contribution					
Social Insurance Tax- Employer Contribution					
TOPI: Excise Taxes					
TOPI: Custom Duty					
Corporate Profits Tax					
Personal Tax: Income Tax					
Personal Tax: Estate and Gift Tax					
<b>Total Federal Tax Impact</b>					

- Salaries paid for workers at the new plant will be responsible for supporting 926 jobs in Clermont County and 1529 jobs in Ohio. Further, these salaries will generate \$55 million in labor income for Clermont County and \$92 million in labor income for the State of Ohio. It should be noted that these effects will be repeated for each year in which these jobs exist.
- The new plant will be responsible for [REDACTED] direct jobs.
- An estimated [REDACTED] jobs will be indirectly supported in Clermont County and by businesses that supplied goods and services to the Nestlé Purina Petfood plant. [REDACTED] jobs are indirectly support in the State of Ohio in the same way.
- An estimated [REDACTED] additional job in Clermont County, as well as an estimated [REDACTED] in the State of Ohio, will be supported due to the induced effects of employees of the new plant and its suppliers spending part of their wages at businesses in the surrounding region.
- Income for workers at the new plant will generate an aggregate of \$ [REDACTED] million in total economic output to Clermont County and \$ [REDACTED] billion in total economic output towards the State of Ohio.
- The top ten most impacted industries in Clermont County from the operations of the new plant will include dog and cat food manufacturing, grain farming, support activities for agriculture and foresting, other real estate, nondurable goods merchant wholesalers, employment services, full-service restaurants, management of companies and enterprises, and truck transportation.
- The impact of plant operations on these ten industries will be about [REDACTED] new jobs and \$ [REDACTED] million in economic activity.
- The top ten most impacted industries in Ohio from the operations of the new plant will include dog and cat food manufacturing, meat processors, grain farming, metal cans manufacturing, nondurable goods merchant wholesalers, truck transportation, management of companies and enterprises, other real estate, and grocery and related product wholesalers.
- The impact of plant operations on these ten industries will be about [REDACTED] new jobs and \$ [REDACTED] million in economic activity.
- County, state, and federal tax revenues generated due to operations at the new plant will total \$ [REDACTED], \$ [REDACTED], and \$ [REDACTED] respectively.
-

## **Project Methodology**

This study employs the Impact Analysis for Planning (IMPLAN) economic modeling software and 2020 datasets created by IMPLAN Group, LLC. Nestlé Purina Petfood provided estimates on the committed number of employees, total annual wages, North American Industrial Classification System codes and construction expenses.

The total effect on the local economy by each industrial sector can be calculated through an economic model known as a “multiplier.” The multiplier expresses the number of additional jobs or amount of additional income created by each new job or each extra dollar earned. For example, if a new business bringing ten new jobs to the county created an additional seven jobs in the local economy through indirect and induced effects, the multiplier would be 1.7. For each new job brought to the county, an additional 0.7 jobs ( $1 + 0.7 = 1.7$ ) would be created in existing industries in the local economy.

The IMPLAN model generates the multipliers that are used to calculate indirect and induced effects for each industrial sector. A multiplier known as the Type Social Accounting Matrix (SAM) multiplier was used in this study. The Type SAM multiplier estimates the indirect and induced effects on each industrial sector in the local economy as well as business, household and government transactions. In this study, the NAICS code for each business was cross walked to one of 536 corresponding IMPLAN sectors. The employment level and/or wages were inputted for each sector. The model then calculated the direct, indirect, and induced impacts based on the Type SAM multipliers for Clermont County and the State of Ohio. Results of the model were aggregated within IMPLAN to avoid aggregation bias for sector-level results. State and federal tax revenue estimates were generated using IMPLAN.

## Trade Area Analysis

Prepared by Center of Economic Development and Community Resilience, the Voinovich School of  
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March 2020

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## Introduction

The research completed in this report studies Pull Factor and Surplus/Leakage for every county in Ohio. Counties located in the Ohio Valley Regional Development Commission (OVRDC) are focused on to understand Trade Analysis in this area. To obtain analysis for Pull Factor and Surplus/Leakage, sales retention and Trade Area Capture is studied as well. The results of this enable analysis of what Ohio counties have a sustainable Trade Analysis and can be compared to Ohio counties with less successful Trade Analysis. Causations for these results are considered and further study counties located within the OVRDC.

## Methodology

Sales retention is a measurement of locally available goods within a community (assuming people buy locally if possible). Actual sales are easy to measure from various sources, but measuring potential sales is a bit more difficult. When measuring local sales we assume tastes, preferences, and the local trade area is demographically similar to the state at-large. The local sales potential can be estimated by taking the statewide average sales per capita adjusted by the ratio of local to state per capita income,

$$(1) \quad PS_c^i = P_c * PCS_{state}^i * \frac{PCI_c}{PCI_{state}}$$

where  $PS_c^i$  is potential sales in community  $c$  for sector  $i$ ,  $P$  is population,  $PCS$  is per capita sales, and  $PCI$  is per capita income. When analyzing these estimates, a few things must be taken into consideration. This estimate ignores all of the shopping area and consumer characteristics within the immediate and nearby shopping areas. It is assumed there is no differences in local consumptions patterns except for each county's respective local incomes.

The second estimate is a Trade Area Capture. This is an estimate of the number of customers a community's retailers sell to. While most trade area models consider market area as a function of population and distance, Trade Area Capture uses income and expenditure factors coupled with the assumption local tastes and preferences are similar to the state tastes and preferences. Since a Trade Area Capture is aspatial, there are similar limitations between this estimate and the Potential Sales estimate,

$$(2) \quad TAC_c^i = \frac{AS_c^i}{PCS_{state}^i * \frac{PCI_c}{PCI_{state}}}$$

where the notation is the same as the previous estimate with the addition of TAC is Trade Area Capture and AS is actual sales. The TAC calculates the number of people purchased for, not the number of people sold to or the number of customers within a certain industry. For example, if a person buys food that will be shared with their spouse, two people will be counted. If the TAC is higher than the population within the trade area, that community is capturing trade from outside the community or local residents have spending patterns that exceed the state average. On the other hand, if the TAC is lower than the population within the trade area, that community is losing

potential trade or the community's spending patterns are lower than the state average. Comparing the TAC estimate for a specific industry to the total allows for insight into which local trade sectors are either strengths or weaknesses for a community. Take note that the TAC is for only one year. Calculating TACs over several years is important to identify industry trends.

The third estimate is the Pull Factor. While the TAC allows us to measure purchases made by both residents and nonresidents of a particular community, the Pull Factor makes clear the proportion of residential consumers to nonresidential consumers. In other words, this estimate measures the size of the primary market within a community (residential consumers) compared to the size of the secondary market made up of consumers who live outside the community and tourists.

$$(3) \quad PF_c^i = \frac{TAC_c^i}{P_c}$$

As a ratio of TAC to community population (in this case county population), a Pull Factor greater than one implies that local community is pulling in consumers from outside the primary market, while a Pull Factor less than one implies the community is losing consumers from within its primary market to other communities. Caution must be taken when making conclusions based on Pull Factors. For example, tourism can often inflate the overall value of a community's Pull Factor, while drowning out other industries that are losing consumers.

The four and final estimate is a Surplus or Leakage estimate. This is calculated by taking the difference between Actual Sales and Potential Sales.

$$(4) \quad S/L_c^i = AS_c^i - PS_c^i$$

This can be seen as another way to measure sales retention. If Actual Sales is larger than Potential Sales, it will result in a positive estimate, or a Surplus, and that local market is performing better than one would expect. If Actual Sales is smaller than Potential Sales, the estimate will be negative, meaning there is a leakage, and that local market is performing below expectations. A Surplus can be viewed as the dollar amount of a greater than one Pull Factor, while a leakage is the dollar amount of Pull Factor less than one.

## Trade Area Analysis Results

### **Implementation**

Before interpreting the results of the Trade Area Analysis, it is important to note two reasons certain counties will not have estimates for certain industries. The first reason is that the county simply does not have any businesses that operate within that particular industry. The second reason is that for data to be collected for an individual industry, there must be at least ten entities within that industry. If an industry does not meet the reporting threshold of ten

entities, their collections are reported in the “Unclassified” category. This is done to prevent the disclosure of an entity’s revenue. In more rural counties, there may be only one entity within a certain industry, making it easy to not only identify that entity, but identify their revenue as well from the Sales and Use Tax data. To prevent this, that entity is shifted out of its respect industry classification and into the “Unclassified” category. While there is a great deal of data created from the different estimates, the results will focus on the last two estimates, the Pull Factors and the Surplus/Leakage estimate, since they incorporate elements of the first two estimates.

### **Statewide Pull Factor Analysis**

Of the 88 Ohio counties, over half of them (47 to be exact) have a Pull Factor of one or greater. The three counties with the highest Pull Factors are Monroe (2.78), Holmes (1.81), and Fayette (1.78), with Surpluses of \$3,571,431.32, \$4,703,090.91, and \$3,375,241.39, respectively. The drivers for these high Pull Factors differ for each county. For Monroe County, the largest industry by Pull Factor is Mining with a Pull Factor of 104.93. This is most likely driven by high levels of natural gas production in the county, which are factored into the Mining classification. In Holmes County, the industry with the largest Pull Factor was Agriculture, Forestry, and Fishing at 7.57, most likely driven by the world’s largest Amish Community and their reliance on farming. For Fayette County, Clothing and Clothing Accessories Stores is the industry with the highest Pull Factor at 4.88. This could mostly be attributed to the presence of the Tanger Outlet Mall in Jeffersonville.

### **OVRDC Pull Factor Analysis**

Adams County and Scioto County also have Pull Factors greater than one, coming in at 1.07 and 1.04 with Surpluses of \$240,393.35 and \$377,112.28, respectively. For Adams County, their largest Pull Factor industry is technically the Unclassified category at 4.16. This is probably due to the fact the county has one of the smaller populations in the state, leaving few entities per industry sector and forcing their tax information to be collected under the Unclassified category. The next largest industry in Adams County is Utilities at 2.92, probably from the recently closed Killen Station Power Plant and the J.M. Stuart Station Coal Plant. Seeing that this industry is more than likely going to see a significant drop in its Pull Factor, the third highest Pull Factor should be considered. With a Pull Factor of 1.81, Agriculture, Forestry, and Fishing is the industry with the third highest Pull Factor. This industry is probably driven by several State protected areas that are open to outdoor recreation and the Ohio River serving as the county’s southern border. In Scioto County, the industry with the highest Pull Factor is Education, Health Care, and Social Assistance at 2.01. The two largest contributors to this Pull Factor are the hospital Southern Ohio Medical Center, which is the largest employer in the county, and the newest state college in Ohio, Shawnee State University.

The OVRDC counties of Jackson and Ross also draw interest as these counties have the two highest Pull Factors in the OVRDC, of 1.22 and 1.18 respectfully. The OVRDC counties that encompass Jackson and Pike also obtained a pull factor greater than one; however, Vinton does not follow this trend. Vinton county has the second lowest pull factor (0.77) in the OVRDC which could be the result of multiple causes. Vinton County is Ohio’s least populated county; where, this population’s average age ranks among the highest in Ohio counties. These demographics create a lack of employment in the county which results in some of the Vinton County population to work in adjacent counties. The only other OVRDC county to have a lower Pull

Factor than Vinton County is Clermont County (0.68). This low Pull Factor can be understood as a result of Clermont County's close proximity to Cincinnati.

### **Statewide Surplus/Leakage Analysis**

Looking at the Surplus/Leakage estimates, the three counties with the highest Surplus are Franklin (\$43,973,489.85), Hamilton (\$31,402,344.59), and Lucas (\$26,769,098.28). It should come as no surprise that these counties, home to three of the four largest cities in Ohio (1<sup>st</sup>: Columbus-Franklin, 3<sup>rd</sup>: Cincinnati-Hamilton; 4<sup>th</sup>: Toledo-Lucas), have the highest Surplus in Ohio. This reflects the relatively large size of the overall markets in these three counties.

The remaining 41 counties have Pull Factors of less than one. The three counties with the lowest Pull Factors are Summit (0.43), Stark (0.46), and Carroll (0.59), with Leakages of \$59,590,682.63, \$34,337,171.39, and \$1,877,943.94, respectively. The large difference in Leakage value between Summit County and Stark County compared to Carroll County is due to the relatively small population of Carroll County. The counties with the highest leakage value are Summit (-\$59,590,682.63), Stark (-\$34,337,171.39), and Butler (-\$28,105,786.10). The high leakage values can be attributed to these counties' close proximity to large cities out of their respective counties. Stark County and Summit County, in addition to competing with each other, lose actual sales to Youngstown (Mahoning County) and Cleveland (Cuyahoga County), while Butler County must compete with Dayton (Montgomery County) and Cincinnati (Hamilton County).

### **OVRDC Surplus/Leakage Analysis**

Lawrence County has a pull factor of 0.96, which translates to a Leakage value of \$337,601.43. The county's highest Pull Factor comes from the Unclassified category at 5.48. The next largest industry is General Merchandise Stores at 1.89. This industry is probably driven by the sale of manufactured goods from companies like Vertiv, JENNMAR McSweeney, and McGinnis.

Ross and Jackson County hold the highest Surplus, of \$4,079,595.57 and \$954,475.81 respectively. This is expected as these counties also have the highest Pull Factor. The high surplus in these counties is a result of the diverse set of industries located in these counties. When investigating OVRDC counties with leakage, two counties can be found with over one million dollars in leakages. Clermont and Brown County have a leakage of \$13,048,245.62 and \$1,457,678.93 respectively. This leakage could be a result of how close Clermont and Brown County are to the Cincinnati area.

## **Conclusion**

The results of this study provide a state wide Trade Area Analysis for Ohio, and specifically the OVRDC. Clermont and Brown County were identified as counties within the OVRDC that have the highest Leakage and lowest Pull Factor. The causation for this Trade Area Analysis is manipulated by these counties' close geographic location to Cincinnati. Vinton County was also identified as an OVRDC county with Leakage and a low Pull Factor, this is a result of the demographics located within this county. Ross and Jackson County can be understood as the counties with the highest Surplus and Pull Factor in the OVRDC. This is a causation of the plethora of industries present in this area. Application of these results can be used to identify what OVRDC counties need assistance with their respected Trade Area Analysis.

## Figures, Tables, and Maps

**Table 1: Ohio County Index of Income**

County	Population	Per Capita Income	Index of Income	County	Population	Per Capita Income	Index of Income
Adams	27,724	\$20,248	0.70	Licking	175,769	\$29,093	1.00
Allen	102,663	\$24,551	0.85	Logan	45,358	\$26,525	0.91
Ashland	53,745	\$24,612	0.85	Lorain	309,461	\$28,555	0.98
Ashtabula	97,493	\$21,936	0.76	Lucas	429,899	\$27,111	0.93
Athens	65,818	\$20,062	0.69	Madison	44,413	\$27,798	0.96
Auglaize	45,804	\$28,340	0.98	Mahoning	229,642	\$25,901	0.89
Belmont	67,505	\$25,326	0.87	Marion	65,256	\$22,579	0.78
Brown	43,602	\$24,525	0.85	Medina	179,146	\$34,174	1.18
Butler	382,378	\$29,745	1.03	Meigs	23,106	\$22,396	0.77
Carroll	27,081	\$26,908	0.93	Mercer	40,959	\$27,540	0.95
Champaign	38,754	\$25,528	0.88	Miami	106,222	\$28,051	0.97
Clark	134,585	\$25,270	0.87	Monroe	13,790	\$23,154	0.80
Clermont	205,466	\$31,812	1.10	Montgomery	532,331	\$27,602	0.95
Clinton	42,057	\$25,238	0.87	Morgan	14,604	\$22,122	0.76
Columbiana	102,665	\$24,758	0.85	Morrow	35,112	\$24,864	0.86
Coshocton	36,629	\$21,520	0.74	Muskingum	86,183	\$22,877	0.79
Crawford	41,550	\$24,386	0.84	Noble	14,354	\$23,119	0.80
Cuyahoga	1,243,857	\$30,441	1.05	Ottawa	40,769	\$31,574	1.09
Darke	51,323	\$24,768	0.85	Paulding	18,760	\$24,319	0.84
Defiance	38,165	\$26,941	0.93	Perry	36,033	\$21,557	0.74
Delaware	204,826	\$45,116	1.56	Pickaway	58,086	\$25,460	0.88
Erie	74,615	\$30,223	1.04	Pike	28,067	\$21,983	0.76
Fairfield	155,782	\$29,582	1.02	Portage	162,927	\$27,985	0.96
Fayette	28,666	\$24,013	0.83	Preble	40,997	\$25,374	0.87
Franklin	1,310,300	\$31,199	1.08	Putnam	33,780	\$28,568	0.98
Fulton	42,276	\$27,922	0.96	Richland	121,099	\$23,439	0.81
Gallia	29,979	\$22,293	0.77	Ross	76,931	\$22,714	0.78
Geauga	94,031	\$39,513	1.36	Sandusky	58,799	\$25,219	0.87
Greene	167,995	\$33,138	1.14	Scioto	75,502	\$22,586	0.78
Guernsey	39,022	\$22,864	0.79	Seneca	55,207	\$25,004	0.86
Hamilton	816,684	\$32,638	1.13	Shelby	48,627	\$28,410	0.98
Hancock	75,930	\$29,608	1.02	Stark	371,574	\$27,401	0.94
Hardin	31,480	\$21,099	0.73	Summit	541,918	\$30,803	1.06
Harrison	15,174	\$22,965	0.79	Trumbull	198,627	\$25,542	0.88
Henry	27,086	\$27,325	0.94	Tuscarawas	92,176	\$25,054	0.86
Highland	43,058	\$22,079	0.76	Union	57,835	\$33,066	1.14
Hocking	28,385	\$23,192	0.80	Van Wert	28,281	\$26,130	0.90
Holmes	43,892	\$21,143	0.73	Vinton	13,139	\$19,876	0.69
Huron	58,504	\$24,193	0.83	Warren	232,173	\$37,479	1.29
Jackson	32,384	\$21,730	0.75	Washington	60,155	\$26,608	0.92
Jefferson	65,767	\$24,028	0.83	Wayne	115,967	\$25,762	0.89
Knox	61,893	\$24,523	0.85	Williams	36,804	\$24,160	0.83

Lake	230,514	\$32,125	1.11	Wood	130,696	\$30,042	1.04
Lawrence	59,866	\$22,844	0.79	Wyandot	21,935	\$25,431	0.88
				<b>Ohio</b>	<b>11,536,504</b>	<b>\$29,011</b>	<b>1.00</b>

**Table 2: Ohio County Pull Factor and Surplus/Leakage**

County	Pull Factor	Surplus/Leakage	County	Pull Factor	Surplus/Leakage
Adams	1.07	\$240,393.35	Licking	1.17	\$5,575,720.45
Allen	1.08	\$1,191,981.07	Logan	1.43	\$3,274,093.44
Ashland	1.00	\$10,071.12	Lorain	0.71	-\$15,839,247.47
Ashtabula	0.78	-\$2,892,598.22	Lucas	1.37	\$26,769,098.28
Athens	0.97	-\$286,030.73	Madison	0.92	-\$582,514.31
Auglaize	1.18	\$1,438,499.72	Mahoning	1.12	\$4,401,599.50
Belmont	1.71	\$7,660,952.15	Marion	1.31	\$2,885,597.32
Brown	0.78	-\$1,457,678.93	Medina	0.71	-\$11,262,641.32
Butler	0.61	-\$28,105,786.10	Meigs	0.76	-\$778,142.64
Carroll	0.59	-\$1,877,942.94	Mercer	1.24	\$1,697,924.22
Champaign	0.84	-\$978,399.67	Miami	0.97	-\$558,044.96
Clark	1.10	\$2,153,069.77	Monroe	2.78	\$3,572,431.32
Clermont	0.68	-\$13,048,245.62	Montgomery	0.87	-\$12,086,648.70
Clinton	0.90	-\$641,199.24	Morgan	0.76	-\$494,247.15
Columbiana	0.99	-\$94,341.04	Morrow	0.69	-\$1,692,930.11
Coshocton	1.11	\$561,894.70	Muskingum	1.62	\$7,646,341.05
Crawford	0.90	-\$616,602.70	Noble	0.79	-\$427,159.03
Cuyahoga	1.10	\$22,902,210.64	Ottawa	1.06	\$476,373.84
Darke	1.10	\$804,509.03	Paulding	0.71	-\$817,611.92
Defiance	0.93	-\$453,956.49	Perry	0.82	-\$896,298.90
Delaware	1.06	\$3,745,242.03	Pickaway	0.95	-\$480,090.30
Erie	1.14	\$1,971,014.47	Pike	1.18	\$683,857.19
Fairfield	0.74	-\$7,368,242.83	Portage	0.93	-\$1,954,910.78
Fayette	1.78	\$3,375,241.39	Preble	0.87	-\$837,874.69
Franklin	1.17	\$43,973,489.85	Putnam	0.84	-\$956,718.00
Fulton	1.06	\$468,108.19	Richland	1.23	\$4,055,944.46
Gallia	1.16	\$690,142.26	Ross	1.37	\$4,079,595.57
Geauga	0.66	-\$7,885,533.69	Sandusky	1.27	\$2,516,054.43
Greene	0.78	-\$7,642,406.43	Scioto	1.04	\$377,112.28
Guernsey	1.54	\$3,025,980.01	Seneca	0.99	-\$44,374.57
Hamilton	1.19	\$31,402,344.59	Shelby	1.14	\$1,230,295.43
Hancock	1.10	\$1,427,684.75	Stark	0.46	-\$34,337,171.39
Hardin	1.04	\$181,700.38	Summit	0.43	-\$59,590,682.63
Harrison	1.49	\$1,080,448.87	Trumbull	0.80	-\$6,318,341.31
Henry	0.93	-\$334,917.62	Tuscarawas	0.97	-\$395,984.55
Highland	1.07	\$441,913.81	Union	1.23	\$2,807,499.26
Hocking	1.20	\$834,127.58	Van Wert	0.99	-\$28,602.96
Holmes	1.81	\$4,703,090.91	Vinton	0.77	-\$370,336.99
Huron	1.12	\$1,059,092.98	Warren	0.93	-\$3,944,055.03
Jackson	1.22	\$952,475.81	Washington	1.31	\$3,080,406.52
Jefferson	1.27	\$2,666,007.77	Wayne	0.62	-\$7,189,802.21

Knox	1.08	\$775,223.11	Williams	1.08	\$448,037.11
Lake	0.80	-\$9,287,850.23	Wood	0.91	-\$2,314,543.82
Lawrence	0.96	-\$337,601.43	Wyandot	1.23	\$819,910.40

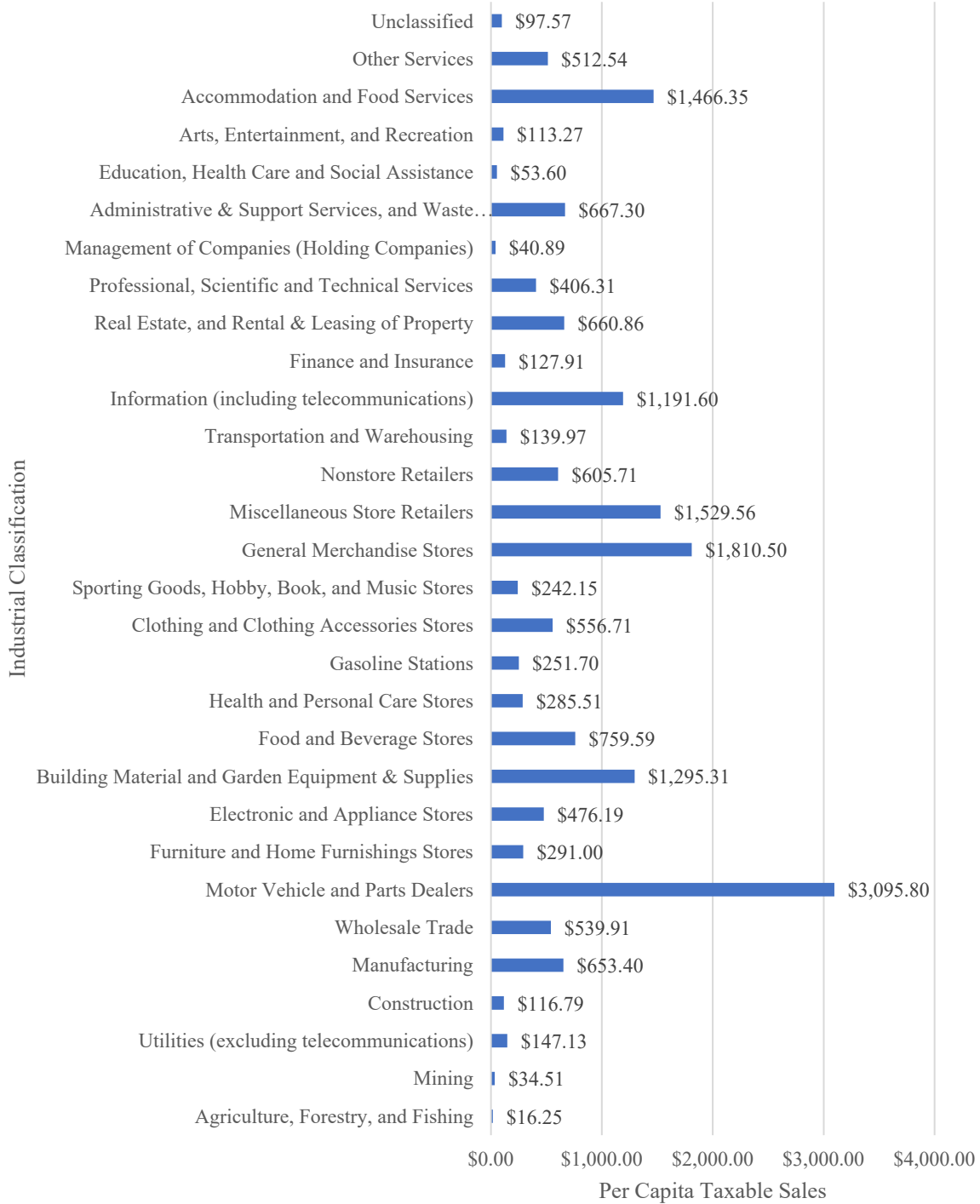
**Table 3: Ohio Per Capita Taxable Sales**

<b>Industrial Classification</b>	<b>Per Capita Taxable Sales</b>
Agriculture, Forestry, and Fishing	\$16.25
Mining	\$34.51
Utilities (excluding telecommunications)	\$147.13
Construction	\$116.79
Manufacturing	\$653.40
Wholesale Trade	\$539.91
<u>Retail</u>	
Motor Vehicle and Parts Dealers	\$3,095.80
Furniture and Home Furnishings Stores	\$291.00
Electronics and Appliance Stores	\$476.19
Building Material and Garden Equipment & Supplies	\$1,295.31
Food and Beverage Stores	\$759.59
Health and Personal Care Stores	\$285.51
Gasoline Stations	\$251.70
Clothing and Clothing Accessories Stores	\$556.71
Sporting Goods, Hobby, Book, and Music Stores	\$242.15
General Merchandise Stores	\$1,810.50
Miscellaneous Store Retailers	\$1,529.56
Non-Store Retailers	\$605.71
<b>All Taxable Retail</b>	<b>\$11,199.74</b>
<u>Services</u>	
Transportation and Warehousing	\$139.97
Information (including telecommunications)	\$1,191.60
Finance and Insurance	\$127.91
Real Estate, and Rental & Leasing of Property	\$660.86
Professional, Scientific and Technical Services	\$406.31
Management of Companies (Holding Companies)	\$40.89
Administrative & Support Services, and Waste Management & Remediation Services	\$667.30
Education, Health Care and Social Assistance	\$53.60
Arts, Entertainment, and Recreation	\$113.27
Accommodation and Food Services	\$1,466.35
Other Services	\$512.54
<b>All Taxable Services</b>	<b>\$5,380.59</b>
Unclassified	\$97.57
<b>All Taxable Sales</b>	<b>\$18,185.89</b>

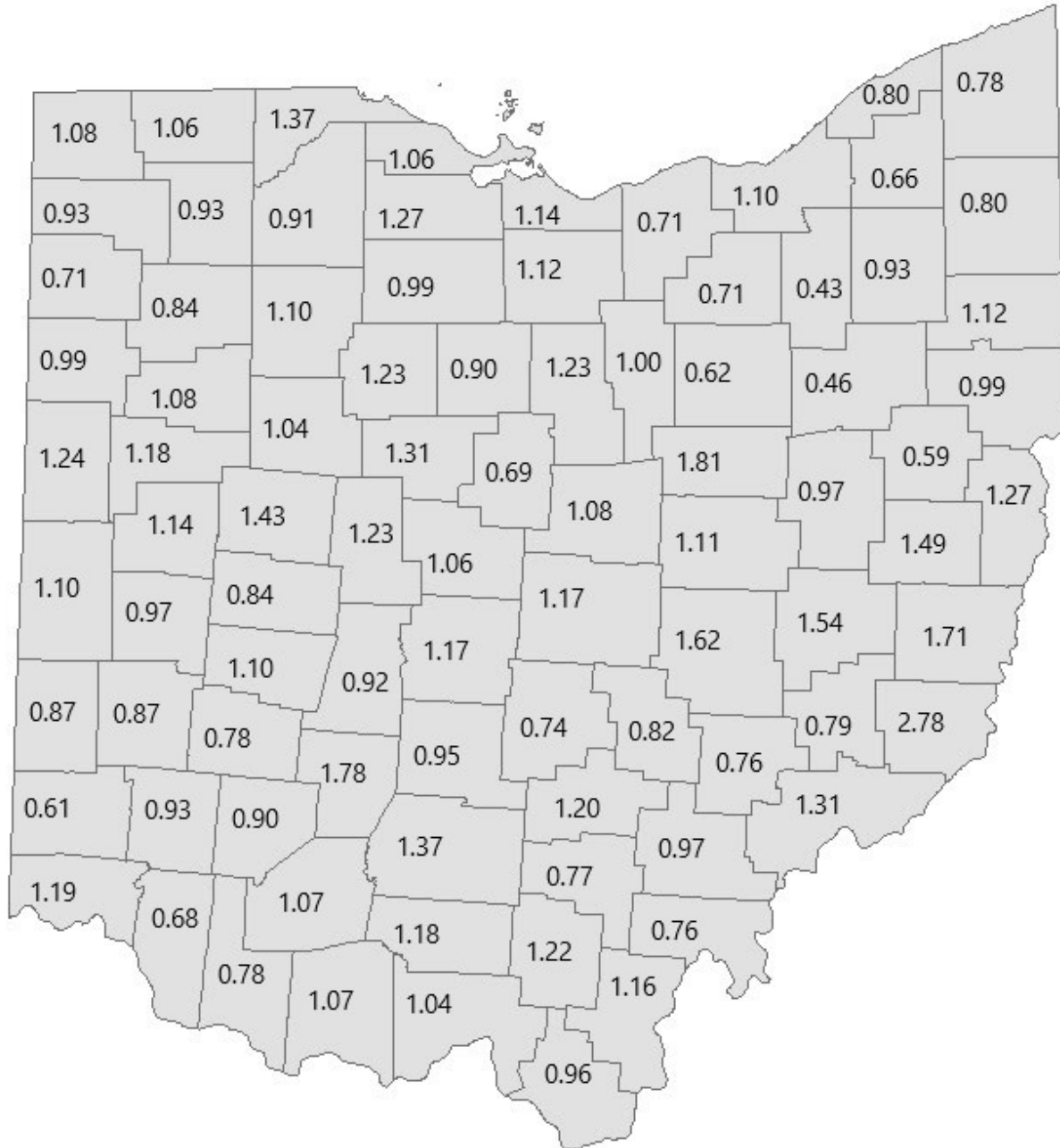




## Ohio Per Capita Taxable Sales



### County Pull Factor



### 3. ENTREPRENEURIAL ECONOMY ASSESSMENT AND ENHANCEMENT



Voinovich School of Leadership and Public Service

**APPALACHIAN OVRDC HIGH GROWTH COMPANY STUDY**

FINAL REPORT

December 2021

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**Acknowledgements**

*This research and report benefitted greatly from collaboration with numerous Ohio University Voinovich School of Leadership and Public Service faculty, staff, and students. These individuals were generous and constructive in their support of the research and report. Particular thanks go to Eric Belleville, Clara Bone, Preston Frick, Kane Murray, Anna Minton, and Associate Dean for Public Strategy and Innovation at the Voinovich School, Dr. Jason Jolley.*

## **SUMMARY**

This study was undertaken to identify a population of high growth companies (HGCs) in the eleven counties of the Appalachian Ohio Valley Regional Development Commission (A-OVRDC) region and understand their role in the region's economy. The study found that the region is home to 555 such companies and that, while they occur at a lower rate than do similar businesses elsewhere in the U.S., they nonetheless make a disproportionately large positive economic effect in the region. Moreover, the study concluded that for these important companies to continue to prosper they will need access to forms and amounts of growth capital that will likely be a challenge to obtain.

### **HGCs are a Small but Potent Population**

Only 555 companies in the A-OVRDC region qualified as HGCs. But while the 555 HGCs represented only 2.3% of all A-OVRDC businesses, they accounted for 39,874 jobs – more than 15% - of the region's total employment. Distinctive characteristics of the AVORDC's HGC population magnify their role in the region's economy. They have high levels of productivity and are engaged in extra regional trade that imports revenues that expand the A-OVRDC economy. And their local ownership status means that more of that money remains in the region, circulating among neighboring businesses and residents. Additionally, their geographic distribution means that the economic contributions of HGCs accrue throughout the region, with each of the A-OVRDC counties being home to several of the 555 companies.

### **HGCs Differ From Entrepreneurial Assumptions**

The region's HGCs are locally owned, successful businesses that differ from popular perceptions of entrepreneurs as startups in new technologies. HGCs are more often mature companies that grew slowly for years before entering a period of rapid growth. Rather than being concentrated in a narrow range of technology industry sectors, the region's HGCs are instead engaged across a variety of industry sectors in the region. Comparisons to national benchmarks revealed the region's has comparative advantages in Wholesale Trade, Manufacturing and Retail Trade, suggesting promising sectors for the development of future HGCs.

### **HGCs Face Growth Capital Challenge**

An assessment of the availability of capital to support current and future growth companies in the A-OVRDC region found that state and local policy efforts addressing entrepreneurs' access to capital overlook a reasonable concern for the adequacy of appropriate capital for its HGCs. The study estimated the region's expanding HGCs would constitute an aggregate growth capital demand of \$954 million in more than 50 investments over the next ten years. Despite active U.S. private equity investment in this segment, a scarcity of Ohio firms serving the A-OVRDC market may make it difficult for HGCs to compete for the necessary growth capital. These findings suggest that the Ohio economic development policy emphasis on increasing capital access should be expanded beyond venture capital and small business lending to address the availability of private equity growth capital for HGCs as well.

## **1. INTRODUCTION**

In 2021, staff of the Ohio University Voinovich School of Leadership and Public Service undertook a study examining the population of high growth companies (HGCs) in the Appalachian Ohio region. HGCs are independently owned businesses, as opposed to subsidiaries of other companies, that have grown to be among the largest businesses in their industry sectors. National research has found that HGCs have disproportionately large positive effects on their regional economies. The successes of such firms can also be viewed as significant market indicators of regional economic advantages for future growth.

Economic development efforts that enable HGCs can therefore exert considerable leverage on increased regional employment and economic activity. But such efforts need to recognize that HGCs typically deviate from popular perceptions of startup, technology-based entrepreneurial activity in that they are predominantly more established firms active across a variety of industry sectors. This research, by identifying and characterizing the population of HGCs in the A-OVRDC region, may reveal new and more effective opportunities for economic development support of higher impact local business growth.

### **1.1 Research Project Structure**

This research identified and analyzed HGCs in the eleven Appalachian counties of the Ohio Valley Region Development Commission (A-OVRDC) region. The study involved two phases. Phase One identified and characterized the population of A-OVRDC HGCs across a spectrum of attributes, including number, scale, industry, and geographic distribution. Phase Two described the capital structure and financing requirements of HGCs in general and assessed the availability of private capital for current and future HGCs in the A-OVRDC region.

The research was directed by Brent Lane, Senior Executive in Residence with the Voinovich School of Leadership and Public Service, with the support of other Ohio University scholars, staff, and students. The project was initiated in November 2020 and completed in December 2021.

### **1.2 The Appalachian OVRDC Study Area**

The study area for this research was the eleven Appalachian counties of the Ohio Valley Region Development Commission (OVRDC) region. The OVRDC region itself encompasses twelve counties in Southern Ohio. (Figure 1) The region is dispersedly populated by approximately 670,000 residents and spans 6,022 square miles containing 171 townships, 70 villages, 9 cities, and 14 census-designated places (CDP's). Established in 1967, OVRDC serves as a Local Development District for the Appalachian Regional Commission, an Economic Development District for the US Department of Commerce, Economic Development Administration, and a Regional Transportation Planning Organization for the Ohio Department of Transportation.



All but one of the 12 OVRDC counties, Fayette, are also within the Appalachian Regional Commission (ARC) jurisdiction. As this research was designed to address ARC-designated counties, the geographic area included in this project included only the eleven OVRDC counties that are also designated as ARC counties. The Appalachian OVRDC – termed A-OVRDC - study area (Table 1) therefore consisted of the following counties:

Table 1: A-OVRDC Counties

Study Area A-OVRDC Counties	
<b>Adams County</b>	<b>Lawrence County</b>
<b>Brown County</b>	<b>Pike County</b>
<b>Clermont County</b>	<b>Ross County</b>
<b>Gallia County</b>	<b>Scioto County</b>
<b>Highland County</b>	<b>Vinton County</b>
<b>Jackson County</b>	

FIGURE 1: MAP OF A-OVRDC COUNTIES



### **1.3 Methodology**

The project's Scope of Work methodology involved several tasks in its two phases. The study's Phase One research tasks included:

- Establishing definitional parameters for high growth company identification;
- Queries of proprietary commercial databases of privately-held businesses to identify qualifying companies in the A-OVRDC research study area; and
- Analysis and characterization of the identified HGCs along factors (i.e., number, scale, industry, and geographic distribution) pertinent to an understanding of their economic significance in the A-OVRDC region.

The research's Phase Two research tasks included:

- An investigation of private market capital research to describe the capital structure and financing requirements of HGCs in general;
- A comparative analysis of the characteristics of the OVRDC region's population firm population characteristics with the investment preferences of potential sources of growth capital; and
- An assessment of the availability of corresponding relevant private capital for current and future HGCs in the A-OVRDC region.

## **2. HIGH GROWTH COMPANIES**

The high profile successes of publicly-traded companies, especially firms such as Facebook, Google, and Amazon, have created a public perception of high growth companies as being predominantly entrepreneurial startups originating in technology centers such as Silicon Valley. But this perception contrasts sharply with recent U.S. economic research which has consistently found, using ever more sophisticated and comprehensive data sources and analytical tools, that those companies achieving the greatest levels of growth – as opposed to rates of growth – are more mature companies across a broad range of industries and geographies.

Definitions of high growth companies vary widely depending on the priorities of the identifying entity. For investors in public companies, such as those traded on stock markets around the world, a "growth company" is a publicly-traded company whose business generates significant positive cash flows or earnings, which increase at significantly faster rates than the overall stock market. For venture capital investors that invest in privately-owned businesses, their targeted "growth company" is typically a young, or even new startup, entrepreneurial business in which the investors can effectively take control through majority ownership positions. Often these businesses will be active in a technology-driven industry sector in which the investors intend to drive the company to achieve rapid initial revenue growth enabling a profitable investment exit through an initial public offering to public stock market investors.

Unlike financial markets, which prioritize company growth as a driver of shareholder value regardless of company scale factors, economic researchers – especially those involved in economic development policy design – are most interested in the company growth as a source

of economic outcomes such as income and employment. From that perspective, high growth companies are best defined in terms of their increased, sustained economic impacts.

## 2.1 Definition of High Growth Companies

It was from that orientation that, beginning in the 1980s, economic researchers began identifying a set of high growth companies – colorfully termed “gazelles” by researcher David Birch – that, while constituting a small percentage of all firms, contributed a majority share of net new employment. These earlier findings have been much refined as increasingly more precise sources of data on business activity have become available to researchers. The result has been an emerging consensus that while startup entrepreneurial firms exhibit the highest growth rates, whether in revenues or jobs, their volatility mediates their sustained net economic impacts as business failures offset many of that segment’s economic effects.

Instead, it has been established that the most impactful high growth firms are those that achieve significant growth after first becoming more firmly established. A 2011 U.S. Small Business Administration report, “Accelerating Job Creation in America: The Promise of High-impact Companies”, found that the firms with the greatest economic impacts, rather than being startups, instead had an overall average age of 19 years, with a median age of around 12 years. Such findings have been confirmed by numerous subsequent studies, which have further revealed that high growth companies consistently occur across both industry sectors and geographies at a fairly consistent rate of 2 to 3% of the total U.S. business population. This research has also found that the “growth trajectories” of high growth companies can vary from a short span of dramatic expansion to a “slow but steady” incremental pace of growth.

These observations appears to apply to high growth companies in Ohio as well. In their 2021 report, “Not All High-Growth Firms Are Alike: Capturing and Tagging Ohio’s Gazelles”, researchers Merissa C. Piazza and Edward (Ned) Hill found that among the 1.2% of all Ohio’s firms they classified as high growth., the “larger herd of gazelles grows consistently, while the other, much smaller pack experiences short, intense growth spurts.”

## 2.2 Study High Growth Company Definition Parameters

Despite the highly variable nature of definitions of high growth companies, the end result, regardless of their individual growth trajectories, is that such companies eventually become among the largest businesses in their industries. Moreover, they retain their status as independently owned rather than being a subsidiary of a larger, parent company. This provided three primary parameters for defining the A-OVRDC region’s high growth company population:

1. **Location:** Within the eleven A-OVRDC counties
2. **Ownership:** Independent location or Headquarters
3. **Size:** Annual revenues >\$5 million

These parameters were used to build a study population (Table 2) of qualifying HGCs through queries of proprietary commercial business information databases. The primary source employed in this study was the Data-Axle Reference Solutions collection of databases that provides information on more than 64 million U.S. businesses.

Table 2: Parameters of High Growth Companies in the A-OVRDC Region

Parameter	Description	A-OVRDC # of Companies
<b>Location</b>	Based in the eleven counties constituting the Appalachian OVRDC study area	A total of <b>24,198</b> businesses of all types are located in the study region
<b>Ownership</b>	Independently owned and classified as either a sole location or a headquarters company	Of the total 24,198 businesses in the study area, <b>20,206</b> are classified as locally owned
<b>Revenue Size</b>	Annual revenues at a level placing the company in the top 5% of US firms	Of the 20,206 locally owned businesses in the A-OVRDC study region, only <b>555</b> are among the top 5% of US firms in annual revenues

### 2.3 A-OVRDC Comparative Business Population

The existence of high growth companies in any regional economy is inherently a function, to some extent, of the size and nature of the region’s total business population. In the case of the A-OVRDC region, its business population is comparatively small even in resident population-adjusted terms.

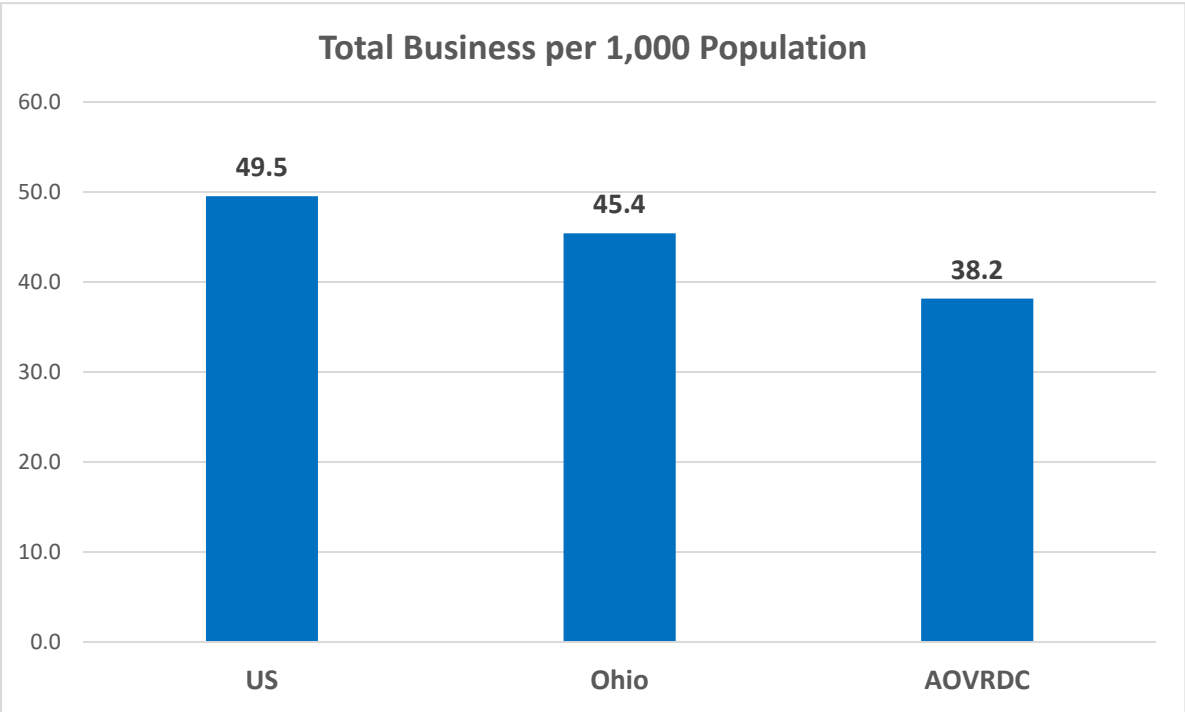
#### 2.3.1 Location

For example, of the more than 535,000 businesses identified in Ohio, a total of 24,198 are located in the A-OVRDC region. While this is a sizable number of businesses, it is not particularly large given the region’s population of 634,000. When adjusted for population, as shown in Table 3, the region’s number of all businesses per 1,000 population (38.2) lags significantly behind those figures for the State of Ohio (45.4) and the United States (49.5). (Figure 2)

Table 3: Number of Businesses per 1000 population for US, Ohio, and A-OVRDC region

	US	Ohio	A-OVRDC
<b>2020 Population</b>	331,449,281	11,799,448	634,173
<b>Total Number of Businesses</b>	16,421,602	535,873	24,198
<b>Total Firms/1,000 pop</b>	49.5	45.4	38.2

FIGURE 2: NUMBER OF BUSINESSES PER 1000 POPULATION



**2.3.2 Locally Owned Businesses**

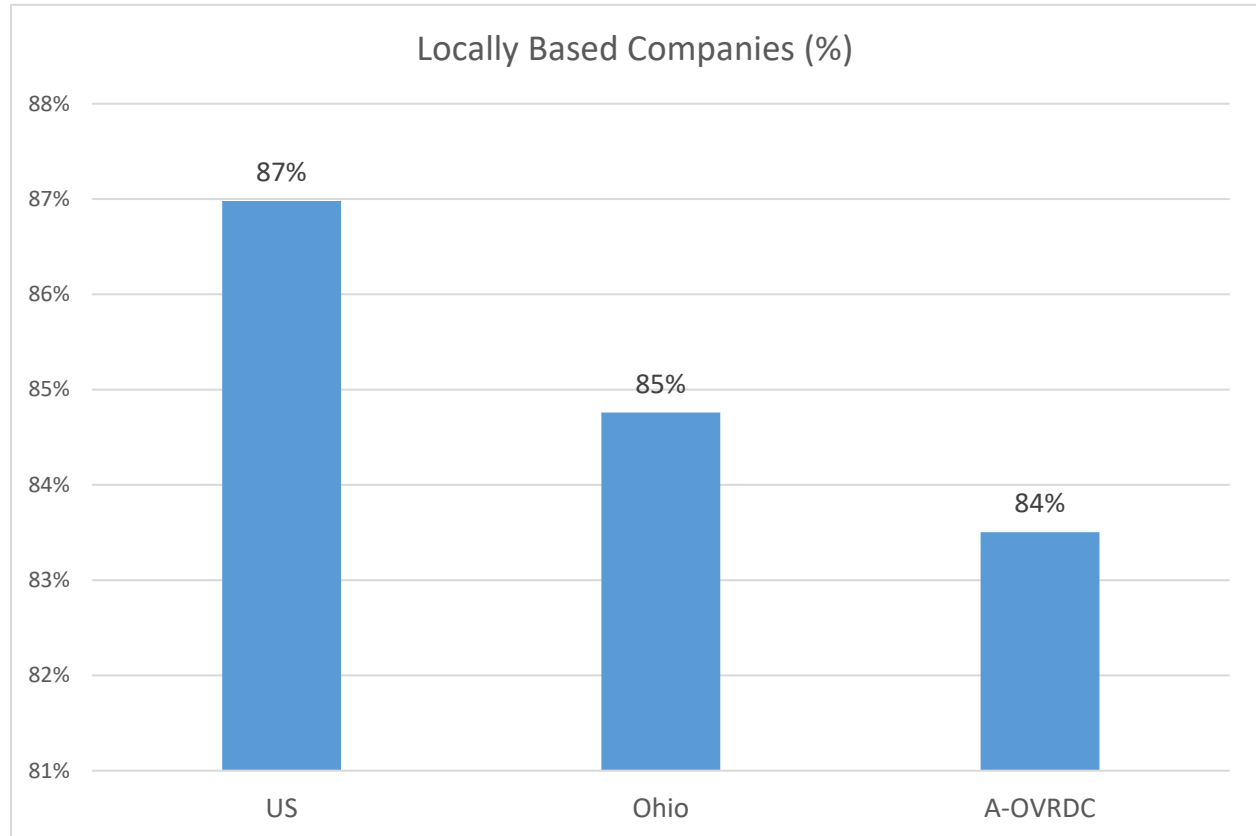
A similar scarcity is reflected in the both the share and number of locally owned businesses in the A-OVRDC region. Of the region’s total of 24,198 businesses, 20,206 were identified as being locally owned in the form of either a sole location or a headquarters. Sole locations are independently companies with only a single facility, as opposed to having subsidiary firms with additional facilities elsewhere. Conversely, headquarters have central administrative functions located in the study area while also having subsidiary operations that may or may not be located in the A-OVRDC region.

As shown in Table 4, the share of businesses in the region that are locally owned is only slightly less (84%) than for both Ohio (85%) and the US (87%). However, even this slight difference, when compounded by the comparatively fewer number of total A-OVRDC businesses, results in a remarkable disparity in the region’s number of locally owned businesses given its population. When adjusted for population, the region’s number of locally owned businesses per 1,000 population (31.9) lags even farther behind figures for the State of Ohio (38.5) and the United States (43.1). (Figure 3)

Table 4: Locally Based Businesses in US, Ohio, and A-OVRDC region

	US	Ohio	A-OVRDC
<b>2020 Population</b>	331,449,281	11,799,448	634,173
<b>Locally Based Businesses</b>	14,283,309	454,198	20,206
<b>% of Locally Based Businesses</b>	87%	85%	84%
<b>Local Businesses/1,000 Pop.</b>	43.1	38.5	31.9

FIGURE 3: PERCENT OF LOCALLY BASED BUSINESSES



### 2.3.3 Revenue Size

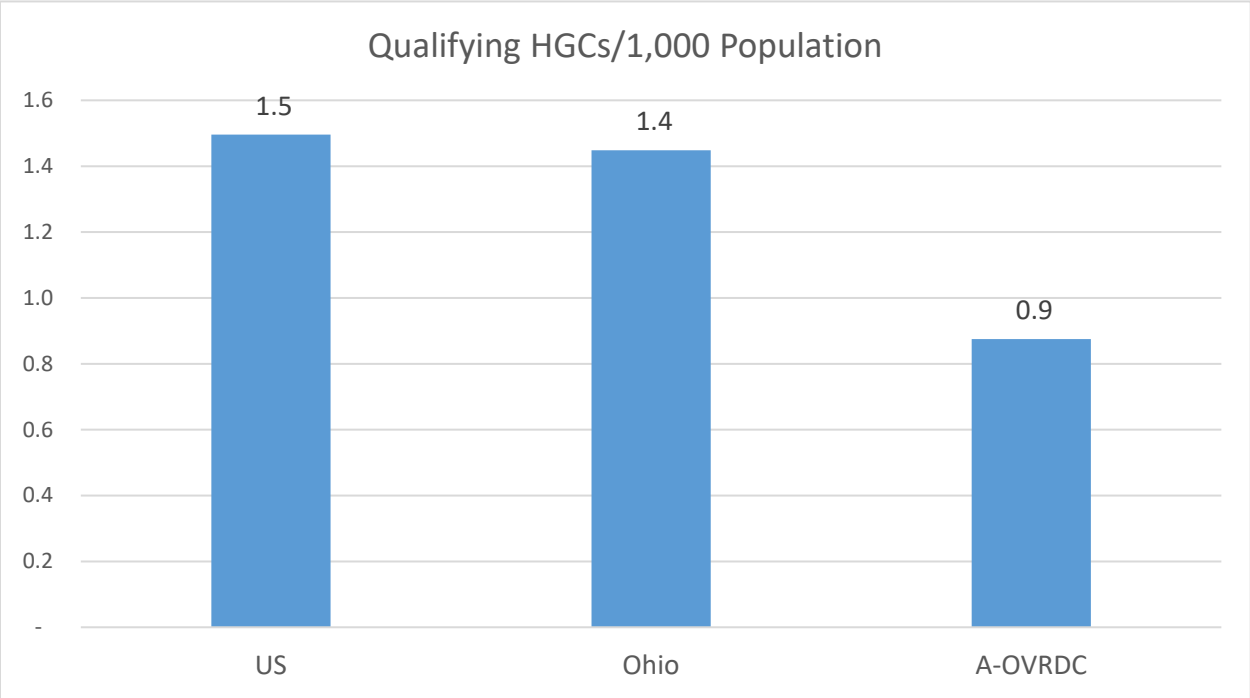
Given the A-OVRDC region’s smaller populations of both total businesses and locally owned businesses, it is expected the region would also have a proportionately smaller number of firms with annual revenues exceeding \$5 million that would qualify them as High Growth Companies (HGCs). However, that is not inevitable result, as it is possible for a region to provide economic, financial or resource advantages that are especially supportive of company growth. From that perspective, the more economically significant statistic to examine is the share of locally owned firms that have achieved the qualifying \$5 million annual revenue size. Unfortunately, as shown in Table 5, that does not appear to be the case in the A-OVRDC region. Instead, only 2.7% of the region’s locally based companies have annual revenues exceeding \$5 million. This compared unfavorably to the rates of both Ohio (3.8%) and the United States (3.5%).

As a result, only 555 companies in the A-OVRDC region qualify as High Growth Companies (HGCs). Adjusted for population, the region’s number of HGCs per 1,000 population (0.9) lags significantly behind those figures for the State of Ohio (1.4) and the United States (1.5). (Figure 4) While limited, because of the disproportionately large economic contributions research has found HGCs to make nationally, the characteristics of the AVORDC’s HGC population may be such that they nonetheless have a significant role in the region’s industries, economies, and employment. These characteristics are examined in the next section.

Table 5: Qualifying HGCs in the US, Ohio and A-OVRDC region

	US	Ohio	A-OVRDC
<b>2020 Population</b>	331,449,281	11,799,448	634,173
<b>Number of Qualifying HGCs</b>	495,889	17,092	555
<b>% of Qualifying HGCs</b>	3.5%	3.8%	2.7%
<b>Qualifying HGCs/1,000 Pop.</b>	1.5	1.4	0.9

FIGURE 4: QUALIFYING HGCs PER 1000 POPULATION



### 3. A-OVRDC HIGH GROWTH COMPANIES POPULATION CHARACTERISTICS

The 555 companies identified as HGCs in the A-OVRDC region are only 2.3% of the region’s total business population of 24,198 businesses. These percentage is well behind the comparable figures for both Ohio (3.2%) and the United States (4.2%). (Table 6) Nonetheless, these A-OVRDC HGCs were found to play a large and important role in the region’s economy due to characteristics that magnify their contributions.

Table 6: Percentage of HGCS of Total Businesses in the US, Ohio, and A-OVRDC

	Total Businesses	HGCs	%HGCs
<b>US</b>	11,799,448	497,442	4.2%
<b>Ohio</b>	535,873	17092	3.2%
<b>A-OVRDC</b>	24,198	555	2.3%

Research on high growth companies has consistently found that the economic impacts of HGCs are primarily a result of their nature, rather than their number. Not only do HGCs exhibit a greater likelihood of continued expansion in conventional economic outcomes such as revenues and employment, their nature as locally owned, but typically non-local (i.e., national, or even global) in their markets, means that they make a greater economic contribution than other businesses of comparable scales. The greater extent to which they add value to the goods and services they produce further amplifies their economic impacts. In this section we report on this study’s analysis of the characteristics of the A-OVRDC region’s population of HGCs in that regard.

#### 3.1 Geography

One such characteristic research has demonstrated that increases the economic contribution of HGCs is their tendency to be geographically widely distributed. Much more so than many other drivers of regional economies, in the United States HGCs have been found to be located across a diversity of geographies – from urban to rural, and from east to west, north to south – and in fairly equal proportions. This geographically “ubiquitous” characteristic has made them a uniquely potent economic opportunity for diverse communities throughout the country.

##### 3.1.1 A-OVRDC Distribution

The population of A-OVRDC HGCs largely shares this nature. As demonstrated by the map (Figure 5) of the location of the A-OVRDC HGCs, each of the A-OVRDC counties are home to several of the 555 identified companies. The number of HGCs in a given county varies greatly from a high of 180 companies in Clermont County to a low of 11 companies in Vinton. (Figure 6) But this large range is expected given the differential population distribution of the region.



FIGURE 5: MAP OF HGCs IN A-OVRDC BY 2-DIGIT NAICS CODE

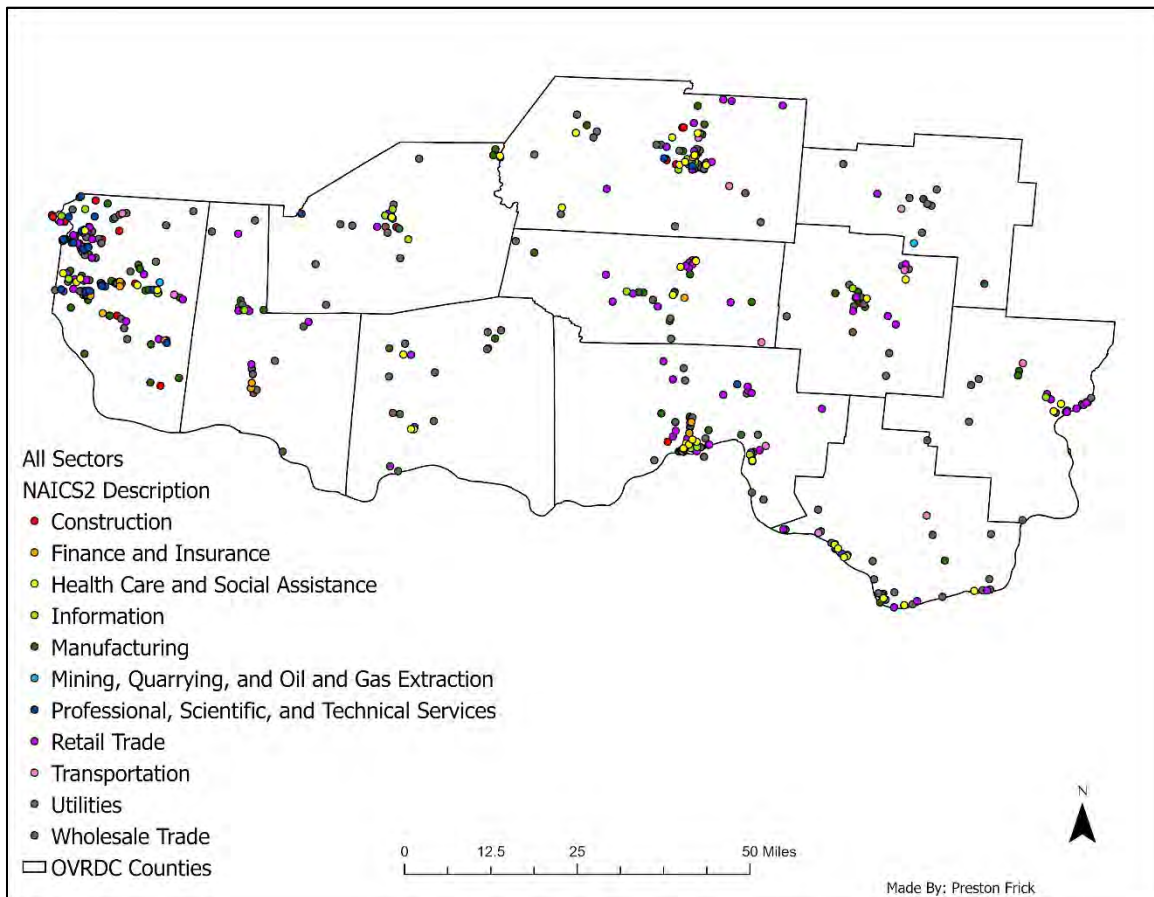
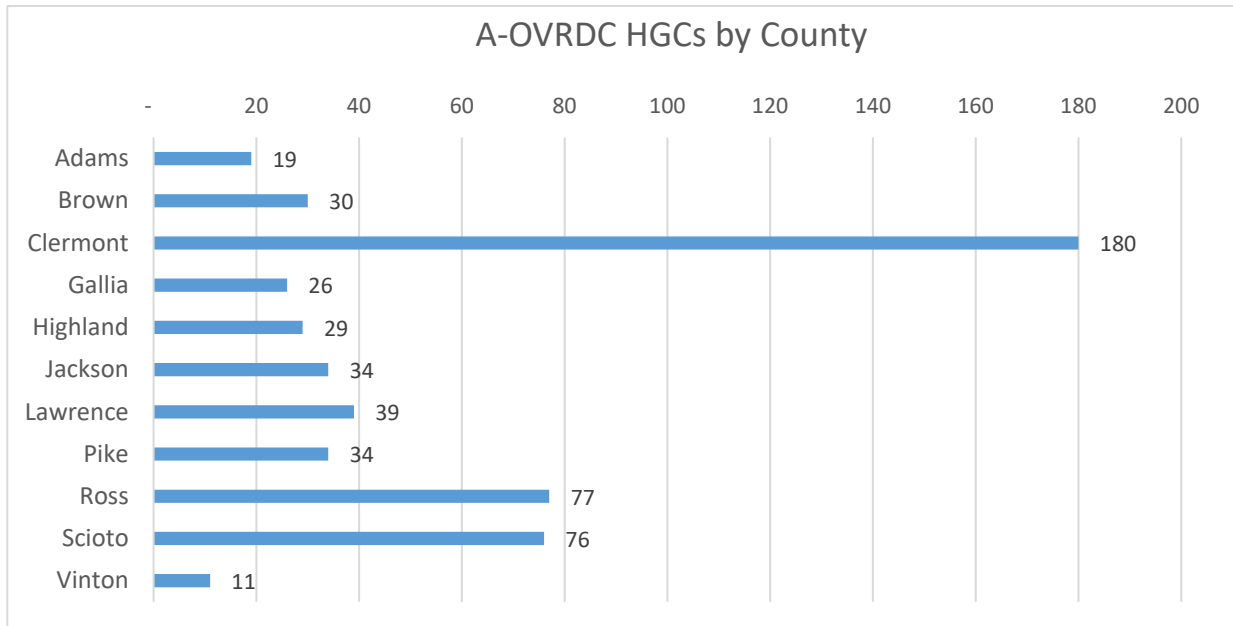


FIGURE 6: DISTRIBUTION OF HGCs AMONG A-OVRDC COUNTIES



It is noteworthy that, when adjusted for the number of HGCs for a percentage of the total number of firms (Table 7), some A-OVRDC counties are shown to host a disproportionately larger number of HGCs. As previously discussed, the A-OVRDC region has a HGC share of 2.3%, well behind the comparable figures for both Ohio (3.2%) and the United States (4.2%). But within the region, the concentration of HGCs per county ranges from a high of 3.1% in Vinton County to a low of 1.8% in Lawrence. At 2.5%, Clermont County, with by far the largest number of HGCs (180), is only slight above the regional figure (2.3%). While that may not be a significant difference, it is meaningful that several smaller A-OVRDC counties host a larger share of HGCs, thus demonstrating the economic relevance of HGCs across the region.

Table 7: HGCs by A-OVRDC Counties

County	#HGCs	Firm Population	#HGCs/All Firms
Adams	19	926	2.1%
Brown	30	1,314	2.3%
Clermont	180	7,206	2.5%
Gallia	26	1,364	1.9%
Highland	29	1,515	1.9%
Jackson	34	1,327	2.6%
Lawrence	39	2,117	1.8%
Pike	34	1,225	2.8%
Ross	77	3,422	2.3%
Scioto	76	3,425	2.2%
Vinton	11	357	3.1%
<b>Total</b>	555	24,198	2.3%

In particular, Ross (1.00), Scioto (1.03), Jackson (1.04), and Pike (1.26) counties exceed one HGCs for every 1,000 people. These higher concentrations may reflect local competitive advantages, or they may simply be only chance outcomes. Regardless, it is important that every county in the A-OVRDC region have a demonstrated history of supporting the origination and/or growth of locally owned companies to become substantial in scale, with consequential benefits to their economies and citizens.

### 3.2 Scale

As previously discussed in the study's defining high growth companies, high rates of company growth - whether in revenues or employment - is less significant than the scale eventually yielded by such growth. This seemingly obvious fact is often overlooked in discussions of the importance of entrepreneurship which overly emphasize the inevitably higher growth rates of startups. Young businesses with single digit numbers of employees can have exceedingly high percentage growth rates without producing the larger scale economic outcomes of more established - but nonetheless still entrepreneurial - HGCs growing at less gaudy rates.

### 3.2.1 Revenues

While the A-OVRDC region has produced HGCs at a lesser rate than the U.S. and Ohio, it is nonetheless producing them at scales comparable to national benchmarks in terms of both revenues and employment. An analysis of the total population of 555 HGCs by annual revenue level segments found that while the majority (309 or 56%) of the companies (Figure 7) fell within the smallest revenue category (\$5-10 Million), the average A-OVRDC HGC had annual revenues of \$23 million and 72 fulltime employees, this far exceeding the definitional parameter of \$5 million in annual revenues. (Table 8)

FIGURE 7: ANNUAL REVENUES OF A-OVRDC HGCs

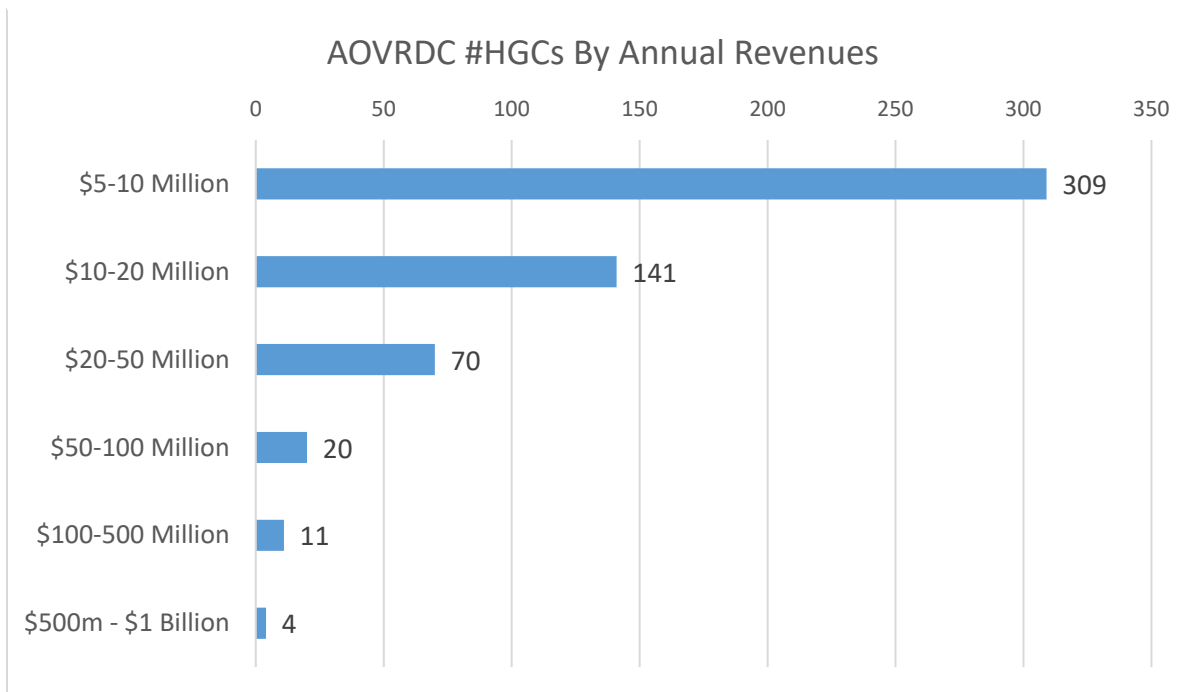
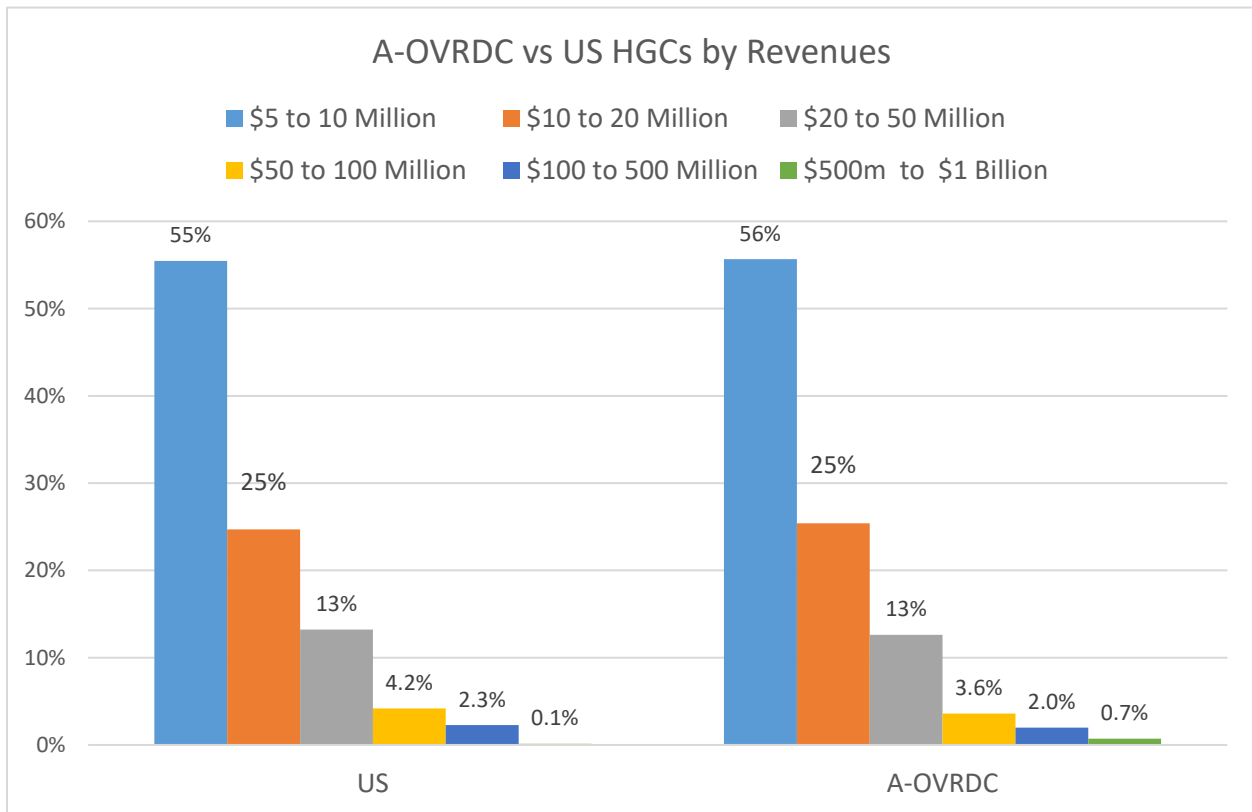


Table 8: Revenue and Employment of HGCs in the A-OVRDC Region

Annual Revenues	#HGC	%HGCs	Revenues	Employees	Avg Rev	Avg Emp
\$5-10 Million	309	56%	\$2,118,126,000	8,004	\$6,854,777	26
\$10-20 Million	141	25%	\$1,927,941,000	6,216	\$13,673,340	44
\$20-50 Million	70	13%	\$2,173,000,000	5,710	\$31,042,857	82
\$50-100 Million	20	4%	\$1,335,906,000	1,354	\$66,795,300	68
\$100-500 Million	11	2%	\$2,201,377,000	7,090	\$200,125,182	645
\$500M - \$1 Billion	4	1%	\$3,223,770,000	11,500	\$805,942,500	2,875
<b>All A-OVRDC HGCs</b>	<b>555</b>	<b>100%</b>	<b>\$12,980,120,000</b>	<b>39,874</b>	<b>\$23,387,604</b>	<b>72</b>

The capability of the A-OVRDC region to support the growth of its resident HGCs is evidenced by the comparability of the share distribution of companies by revenue level between the region and the US benchmark. (Figure 8) The share of HGCs by revenue category are nearly identical for the US and the A-OVRDC region for companies with annual revenues between \$5 million and \$50 million. The region has a slightly smaller share of companies with annual revenues of \$50 to \$500 million, but – owing to the presence of large regional healthcare companies – actually has a larger share companies in the highest revenue category of \$500 million to \$1 billion.

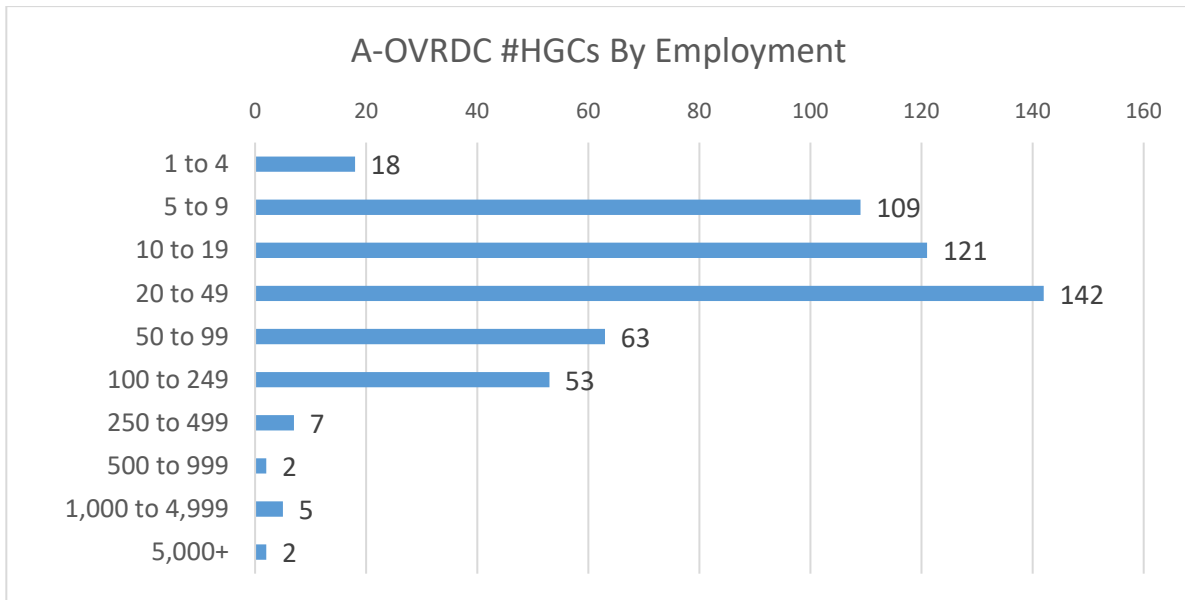
FIGURE 8: COMPARISON OF REVENUES OF HGCs IN A-OVRDC TO THE US



### 3.2.2 Employment

Although the defining scale parameter of HGCs used in the study was based on companies' annual revenues, it is their employment that is of primary economic development interest. Therefore, the study population was analyzed to determine the association of employment with annual revenues.

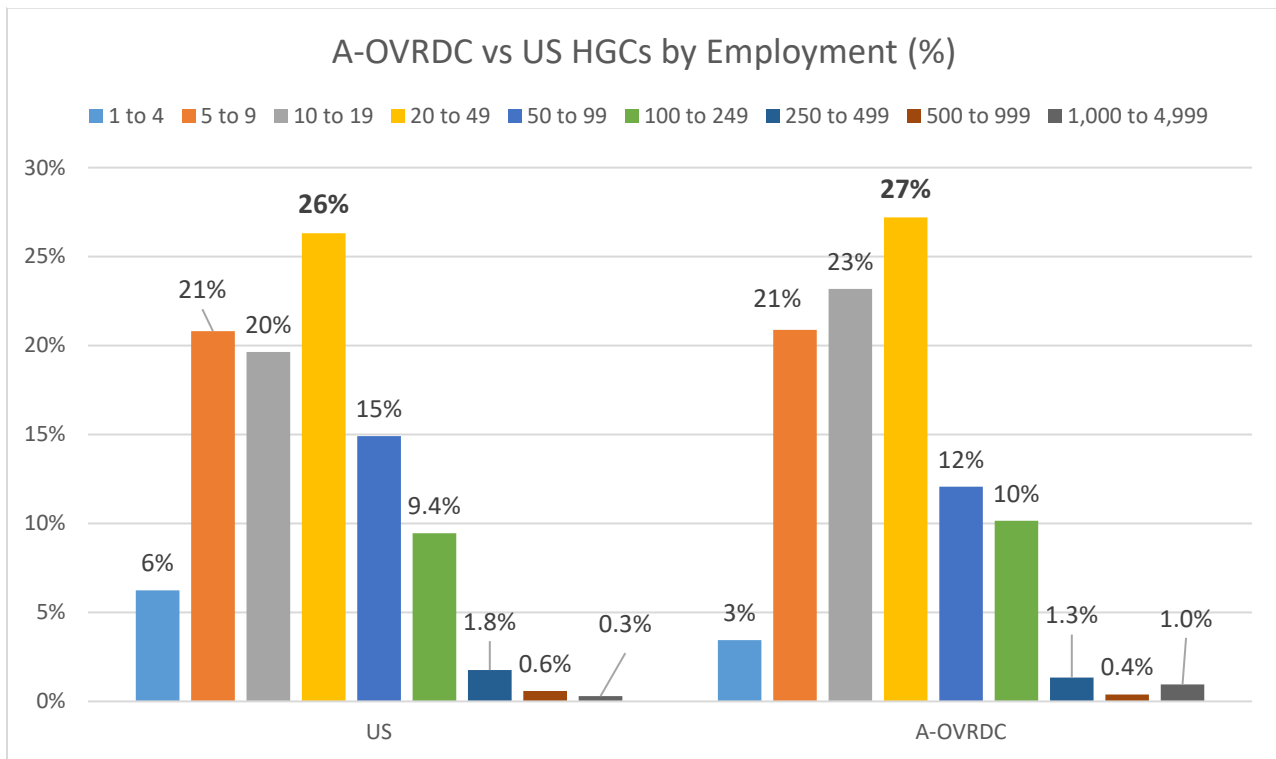
FIGURE 9: EMPLOYMENT IN HGCs IN THE A-OVRDC REGION



The largest number of A-OVRDC HGCs (142) were those with between 20 to 49 employees, followed closely by those with 10 to 19 employees (121), and 5 to 9 employees (109). (Figure 9) As with the annual revenues categories previously described, there is again a remarkable similarity in the distribution of HGCs over categories of employment between the A-OVRDC population and that of the US. (Figure 10)

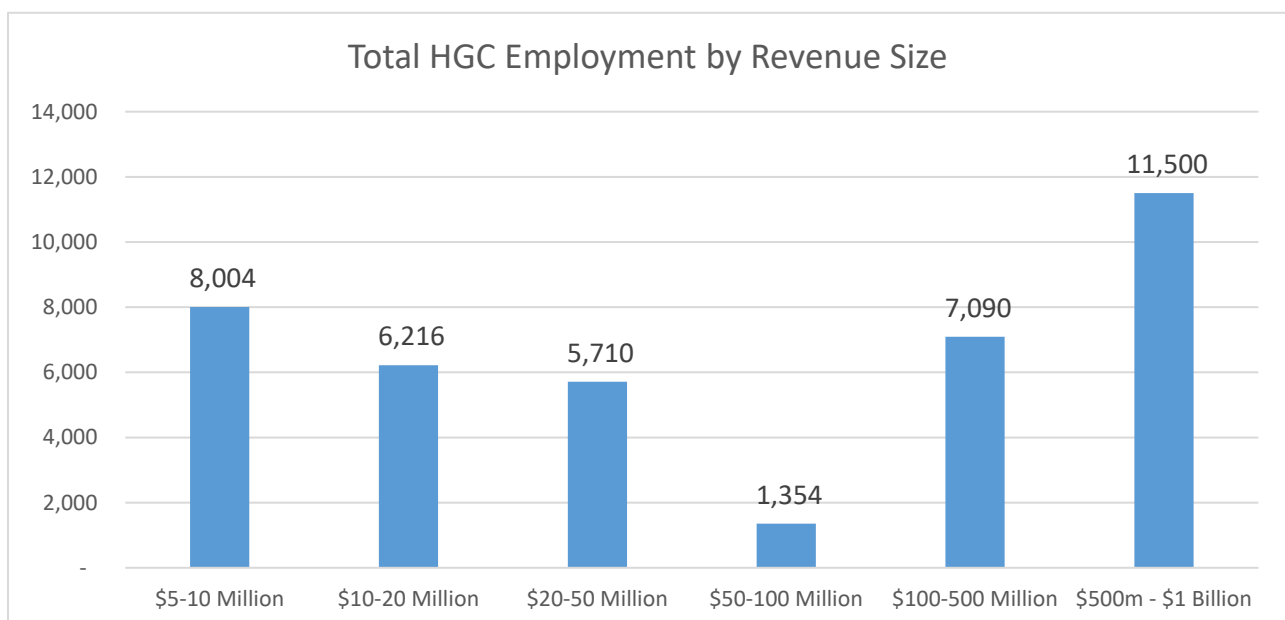
The largest share of A-OVRDC HGCs (27%) are in the 20 to 49 employees categories, which closely parallels the share in that category for the United States (26%). A-OVRDC has a slightest larger share (23%) of companies in the 10 to 19 employees category than the US share (20%), and a slightly smaller share (12% vs 15%) in the 50 to 99 category. The region essentially mirror the US distributions in the other categories.

**FIGURE 10: COMPARISON OF EMPLOYMENT OF HGCs IN A-OVRDC TO THE US**



As shown in Figure 11, it is noteworthy that while they were few in number (4), the largest revenue HGCs –\$500 million to \$1 billion - had the largest aggregate employment effect (11,500). However, such “unicorn” HGCs are exceedingly unusual. It is more significant to recognize that the vastly more numerous and widely dispersed HGCs in the \$5 million to \$20 million categories accounted for more than 14,000 jobs across the A-OVRDC region.

**FIGURE 11: TOTAL HGC EMPLOYMENT BY REVENUE SIZE IN THE A-OVRDC REGION.**



### **3.3 HGCs Industry Distribution**

Research on high growth companies has found that perhaps their most unusual and unexpected nature is their consistent presence across industry sectors. Rather than being more common in certain high technology or innovation-based sectors as has often been presumed, it had been repeatedly shown that high growth companies are as likely to occur in “traditional industry” sectors as in technology sectors; just as frequently in service industries as in information or manufacturing ones. This ubiquitous nature provides for an analytical opportunity to compare the concentrations of HGCs in a region’s industry sectors to a super-regional or national benchmark concentrations as a means of identifying potential regional economic advantages.

The population of A-OVRDC HGCs was first analyzed to determine its distribution by industry. This was done using the North American Industry Classification System (NAICS), the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy. NAICS organizes establishments into industries according to the similarity in the processes used to produce goods or services. NAICS codes array the economy into 20 sectors, which are separated into 99 3-digit subsectors, which are divided into 311 4-digit industry groups, which are further subdivided into 709 5-digit industries, and finally disaggregated into 1057 6-digit U.S. industries.

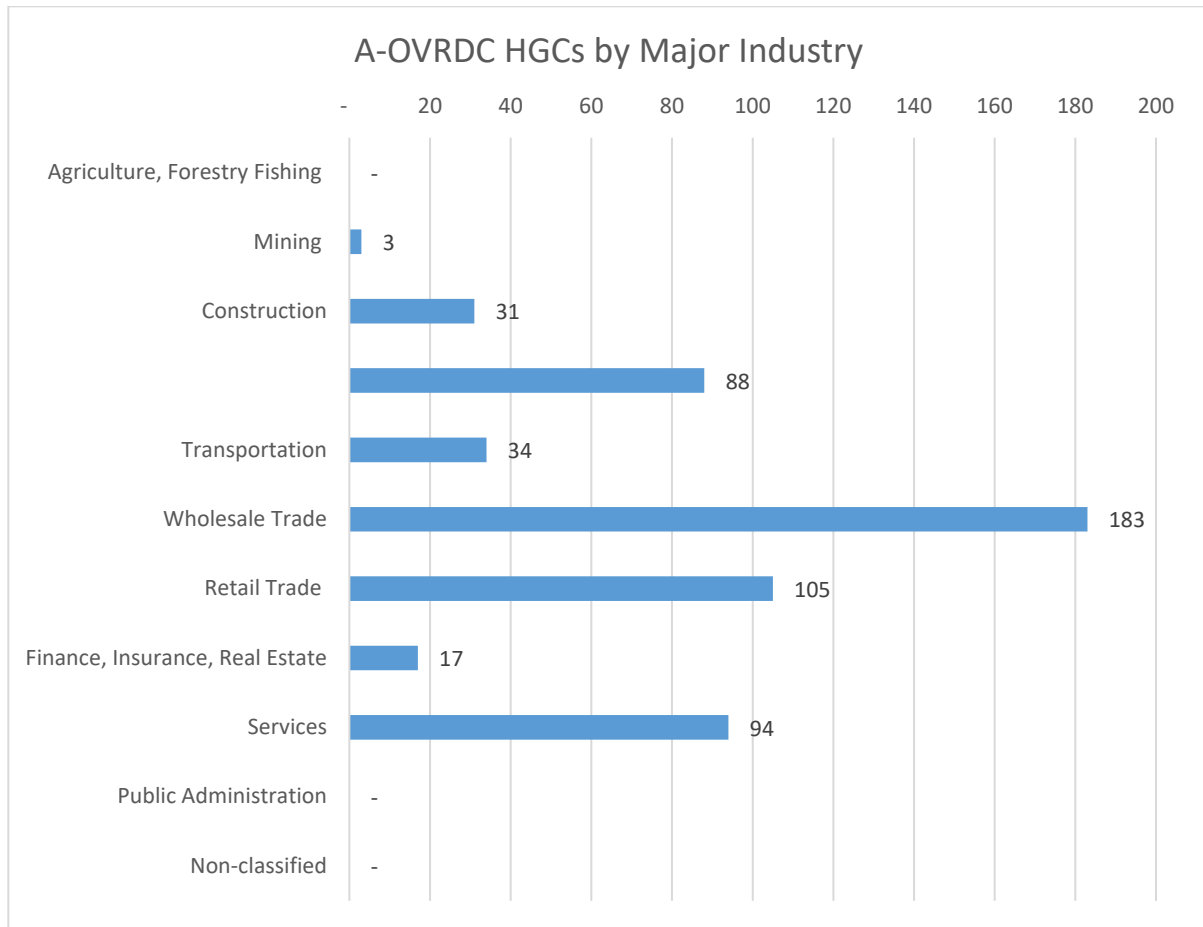
#### **3.3.1 A-OVRDC HGCs Industry Distribution**

The NAICS classification for each A-OVRDC HGC was identified down to the 6-digit, 4-digit, and 2-digit levels. The 6-digit level enabled the most precise examination of the type of business activities of the HGCs, while the 4- and 2-digit classifications were useful for assessing industry sector and subsector concentrations, especially for comparison to national or regional benchmarks.

Examining the A-OVRDC HGC population at the 2-digit SIC, or major industry sector level (Figure 12) determined that the largest number of HGCs occurred in the Wholesale Trade (183), Retail Trade (105), Services (94), and Manufacturing (88) sectors. These four major sectors accounted for 470 HGCs (85%) of the total of 555 companies. Most of the remaining 85 HGCs were in the Transportation (34), Construction (31), and Finance, Insurance, Real Estate (17) sectors.



**FIGURE 12: INDUSTRY DISTRIBUTION OF HGCs IN THE A-OVRDC REGION**



Disaggregating these major industry sector population into subsectors provides more granular insights into the nature of the HGCs in the A-OVRDC region. The region’s HGC populations was therefore further analyzed at the 3-digit NAICS classification levels to identify more precisely the types of business activities in which they are engaged. (Table 9)

Table 9: Industry Sector Distribution of HGCS in the A-OVRDC Region

INDUSTRY SECTOR		#HGCS
<b>Mining, Quarrying, and Oil and Gas Extraction</b>		<b>3</b>
211	Oil and Gas Extraction	1
212	Mining (except Oil and Gas)	2
<b>Utilities</b>		<b>17</b>
221	Utilities	17
<b>Construction</b>		<b>31</b>
236	Construction of Buildings	23
237	Heavy and Civil Engineering Construction	4
238	Specialty Trade Contractors	4
<b>Manufacturing</b>		<b>88</b>
311	Food Manufacturing	7
312	Beverage and Tobacco Product Manufacturing	9
313	Textile Mills	1
321	Wood Product Manufacturing	14
322	Paper Manufacturing	4
323	Printing and Related Support Activities	2
324	Petroleum and Coal Products Manufacturing	5
325	Chemical Manufacturing	4
326	Plastics and Rubber Products Manufacturing	1
327	Nonmetallic Mineral Product Manufacturing	2
331	Primary Metal Manufacturing	4
332	Fabricated Metal Product Manufacturing	13
333	Machinery Manufacturing	10
336	Transportation Equipment Manufacturing	4
337	Furniture and Related Product Manufacturing	1
339	Miscellaneous Manufacturing	7
<b>Wholesale Trade</b>		<b>183</b>
423	Merchant Wholesalers, Durable Goods	120
424	Merchant Wholesalers, Nondurable Goods	58
425	Wholesale Electronic Markets and Agents and Brokers	5
<b>Retail Trade</b>		<b>105</b>
441	Motor Vehicle and Parts Dealers	36
442	Furniture and Home Furnishings Stores	2
443	Electronics and Appliance Stores	1
444	Building Material and Garden Equipment and Supplies Dealers	23

445	Food and Beverage Stores	6
446	Health and Personal Care Stores	4
447	Gasoline Stations	27
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	1
453	Miscellaneous Store Retailers	3
454	Non-store Retailers	2
<b>Transportation</b>		<b>13</b>
484	Truck Transportation	8
485	Transit and Ground Passenger Transportation	2
486	Pipeline Transportation	2
488	Support Activities for Transportation	1
<b>Information</b>		<b>25</b>
511	Publishing Industries (except Internet)	20
515	Broadcasting (except Internet)	3
518	Data Processing, Hosting, and Related Services	1
519	Other Information Services	1
<b>Finance and Insurance</b>		<b>16</b>
522	Credit Intermediation and Related Activities	9
524	Insurance Carriers and Related Activities	7
<b>Real Estate and Rental and Leasing</b>		<b>1</b>
532	Rental and Leasing Services	1
<b>Professional, Scientific, and Technical Services</b>		<b>19</b>
541	Professional, Scientific, and Technical Services	19
<b>Administrative and Support, Waste Management and Remediation</b>		<b>4</b>
561	Administrative and Support Services	3
562	Waste Management and Remediation Services	1
<b>Health Care and Social Assistance</b>		<b>46</b>
621	Ambulatory Health Care Services	21
622	Hospitals	3
623	Nursing and Residential Care Facilities	17
624	Social Assistance	5
<b>Arts, Entertainment, and Recreation</b>		<b>2</b>
713	Amusement, Gambling, and Recreation Industries	2
<b>Accommodation and Food Services</b>		<b>1</b>
721	Accommodation	1
<b>Other Services (except Public Administration)</b>		<b>1</b>
811	Repair and Maintenance	1

Table 10 describes the top 50 4-digit NAICS subsectors in order of the number of HGCs in those classifications.

*Table 10: Top 50 4-Digit NAICS Subsectors for HGCs in the A-OVRDC region*

<b>4-Digit</b>	<b>NAICS Description</b>	<b>#HGCs</b>
<b>4238</b>	Machinery, Equipment, and Supplies Wholesalers	38
<b>4411</b>	Automobile Dealers	31
<b>4471</b>	Gasoline Stations	27
<b>4247</b>	Petroleum and Petroleum Products Wholesalers	22
<b>4441</b>	Building Material and Supplies Dealers	21
<b>4249</b>	Miscellaneous Nondurable Goods Wholesalers	19
<b>5112</b>	Software Publishers	19
<b>2361</b>	Residential Building Construction	18
<b>4233</b>	Lumber and Other Construction Materials Wholesalers	15
<b>4234</b>	Professional/Commercial Equipment and Supplies Wholesalers	15
<b>4236</b>	Household Appliances and Electronic Goods Wholesalers	15
<b>4239</b>	Miscellaneous Durable Goods Wholesalers	14
<b>6231</b>	Nursing Care Facilities (Skilled Nursing Facilities)	13
<b>2211</b>	Electric Power Generation, Transmission and Distribution	11
<b>3211</b>	Sawmills and Wood Preservation	11
<b>4231</b>	Motor Vehicle and Motor Vehicle Parts and Supplies Wholesalers	11
<b>3121</b>	Beverage Manufacturing	9
<b>6211</b>	Offices of Physicians	8
<b>4235</b>	Metal and Mineral (except Petroleum) Wholesalers	7
<b>5418</b>	Advertising, Public Relations, and Related Services	7
<b>4244</b>	Grocery and Related Product Wholesalers	6
<b>4246</b>	Chemical and Allied Products Wholesalers	6
<b>4451</b>	Grocery Stores	6
<b>4842</b>	Specialized Freight Trucking	6
<b>5222</b>	Non-depository Credit Intermediation	6
<b>5241</b>	Insurance Carriers	6
<b>5413</b>	Architectural, Engineering, and Related Services	6
<b>6214</b>	Outpatient Care Centers	6
<b>2362</b>	Nonresidential Building Construction	5
<b>3119</b>	Other Food Manufacturing	5
<b>3241</b>	Petroleum and Coal Products Manufacturing	5
<b>3329</b>	Other Fabricated Metal Product Manufacturing	5
<b>3399</b>	Other Miscellaneous Manufacturing	5
<b>4237</b>	Hardware, Plumbing and Heating Equipment/Supplies Wholesalers	5
<b>4251</b>	Wholesale Electronic Markets and Agents and Brokers	5
<b>6219</b>	Other Ambulatory Health Care Services	5

### 3.3.2 A-OVRDC's Comparatively Strongest Sectors

As previously discussed, the A-OVRDC region produces a comparatively smaller share of HGCs (1.9%) from its total business population when benchmarked against the same rate for the United States (2.5%). These ratios were analyzed for HGC populations for major industry sectors to identify those sectors in which the A-OVRDC region demonstrated stronger HGC production, thus perhaps revealing regional advantages as economic development opportunities.

Of the eleven major industry sectors (Table 11), there were two sectors – Manufacturing and Retail Trade - identified in which the A-OVRDC region had a larger share of HGCs than the United States benchmark figures, and a third sector– Wholesale Trade – in which the A-OVRDC region lagged the United States, but which still generated the largest number of HGCs in the region. These sectors may represent the A-OVRDC region's strongest industry sectors for the development of future HGCs.

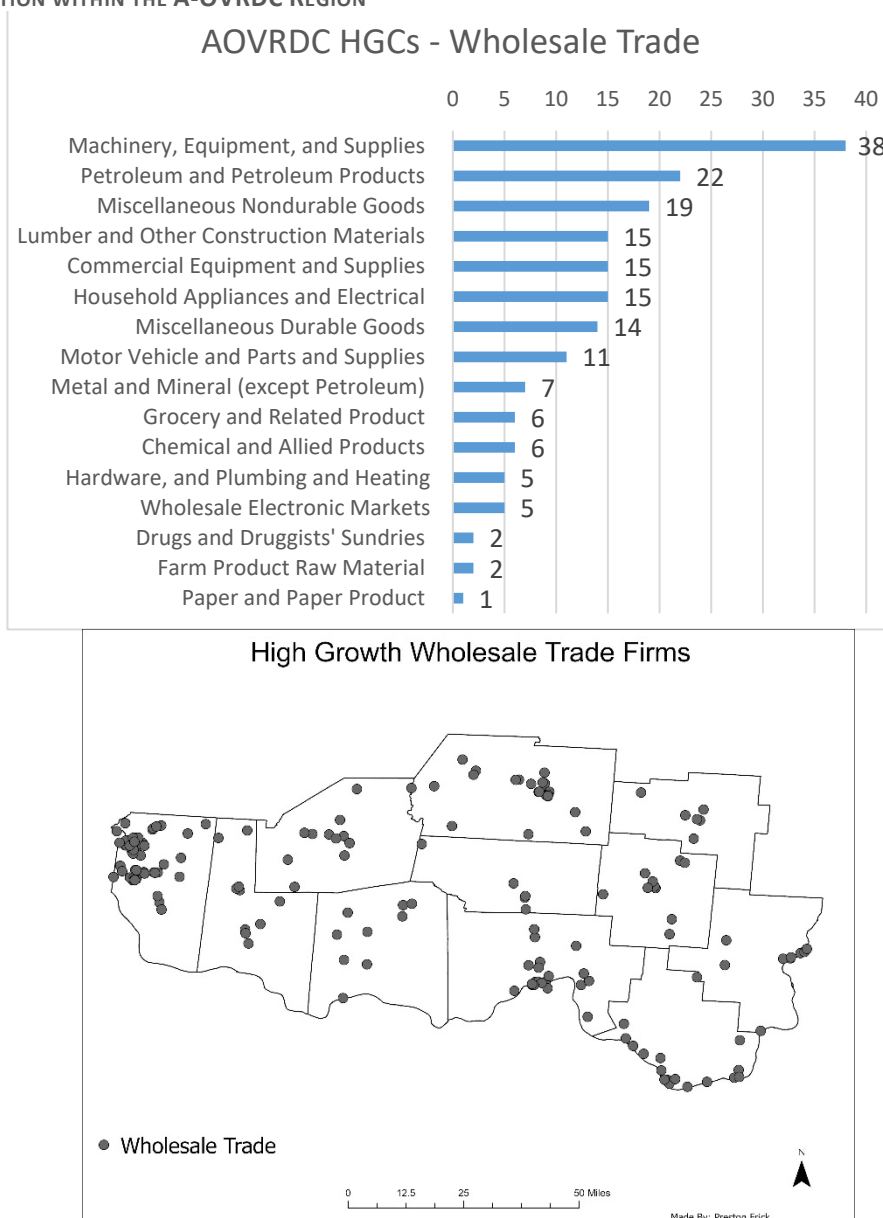
*Table 11: Comparison of the Industry Distribution of HGCs in A-OVRDC region to the US*

Major Industry Sector	HGCs		All Firms		HGC Share	
	US	A-OVRDC	US	A-OVRDC	US%	A-OVRDC%
<b>Agriculture, Forestry</b>	2,809	-	352,077	609	0.8%	0.0%
<b>Mining</b>	3,629	3	47,771	67	7.6%	4.5%
<b>Construction</b>	32,471	31	1,113,230	1,747	2.9%	1.8%
<b>Manufacturing</b>	<b>55,290</b>	<b>88</b>	<b>618,980</b>	<b>945</b>	<b>8.9%</b>	<b>9.3%</b>
<b>Transportation</b>	26,044	34	691,209	1,074	3.8%	3.2%
<b>Wholesale Trade</b>	<b>184,456</b>	<b>183</b>	<b>922,503</b>	<b>1,328</b>	<b>20.0%</b>	<b>13.8%</b>
<b>Retail Trade</b>	<b>56,488</b>	<b>105</b>	<b>3,360,090</b>	<b>5,042</b>	<b>1.7%</b>	<b>2.1%</b>
<b>Finance, Insurance, Real Estate</b>	34,407	17	1,789,960	2,617	1.9%	0.6%
<b>Services</b>	99,667	94	8,722,489	12,912	1.1%	0.7%
<b>Public Administration</b>	438	-	457,859	1,327	0.1%	0.0%
<b>Non-classified</b>	29	-	1,776,820	1,774	0.0%	0.0%
<b>TOTAL</b>	<b>495,728</b>	<b>555</b>	<b>19,852,988</b>	<b>29,442</b>	<b>2.5%</b>	<b>1.9%</b>

### 3.3.3.1 Wholesale Trade

Wholesale Trade was found to be the most prolific industry sector for HGCs in the A-OVRDC region, with 183 companies located across all eleven of the region’s counties. (Figure 13) The rate of Wholesale HGCs development in the region (13.8%) was significantly less than that of the U.S. rate (20.0%). But the prominent number of the Wholesale Trade sector HGCs, and especially their ubiquity through the region, suggest that the sector is both a promising one for economic development outcomes. Most Wholesale Trade businesses in the A-OVRDC are likely serving with markets beyond the region’s borders and are therefore engaged in Traded activities – to be discussed in a subsequent section – that effectively “import” additional revenues that expand the A-OVRDC economy.

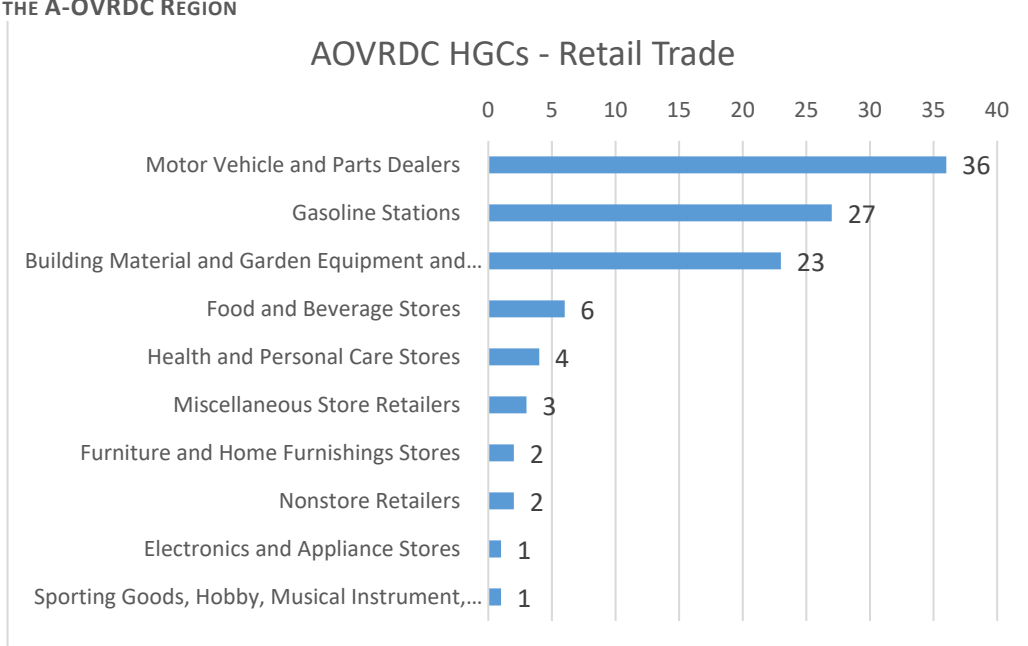
**FIGURE 13: 4-DIGIT NAICS CODE DISTRIBUTION OF WHOLESAL TRADE HGCs AND THEIR LOCATION WITHIN THE A-OVRDC REGION**



### 3.3.3.2 Retail Trade

Retail Trade is one of only two sectors identified in which the A-OVRDC region produced HGCs at a higher rate (2.15) share than the United States benchmark figure (1.7%). With 108 HGCs, Retail Trade was the second most prolific industry sector for the A-OVRDC region and also had location throughout all eleven counties. Unlike Wholesale Trade, companies in the Retail Trade sector generally engage in intraregional Non-Traded business activity, although there are likely prominent exceptions, especially in border counties. Rather than increasing its size, Non-Traded activity primarily circulates money within a regional economy. Nonetheless, they may make a significant economic contribution by reducing “retail leakage” – expenditures made outside of

**FIGURE 14: 4-DIGIT NAICS CODE DISTRIBUTION OF RETAIL TRADE HGCs AND THEIR LOCATION WITHIN THE A-OVRDC REGION**

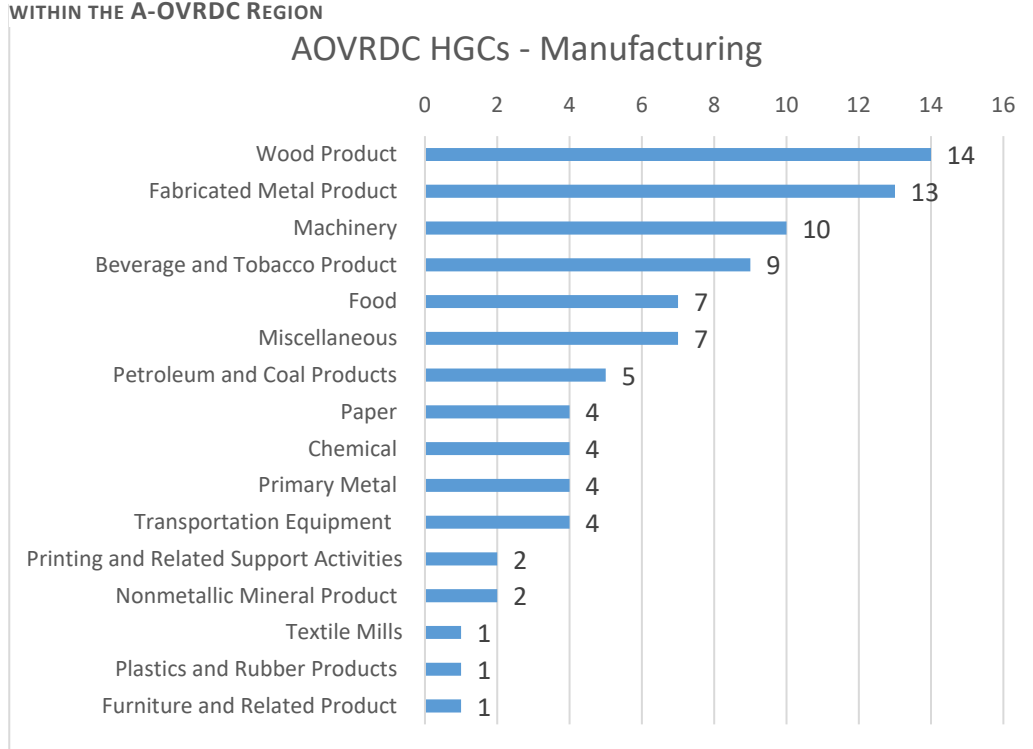


the regional economy – thereby helping to preserve the size and vitality of the A-OVRDC economy. (Figure 14)

### 3.3.3.3 Manufacturing

Manufacturing was the second of the A-OVRDC region’s two sectors that produced HGCs at a higher (9.3%) share than the United States benchmark figure (8.9%). With 88 HGCs, Manufacturing was the region’s third most prolific sector. (Figure 15) And like the Wholesale and Retail sectors, it also had companies located throughout all eleven A-OVRDC counties.

FIGURE 15: 4-DIGIT NAICS CODE DISTRIBUTION OF MANUFACTURING HGCs AND THEIR LOCATION WITHIN THE A-OVRDC REGION





Furthermore, as a Traded sector, Manufacturing companies expand the A-OVRDC regional economy through the external generation and importation of additional revenue.

#### **4. ECONOMIC SIGNIFICANCE**

All businesses contribute to their local economies by employing people and generating revenues through sales of goods and services. But businesses of a similar scale can have very different economic impacts depending on other characteristics. Research finding that high growth companies have a disproportionately large economic impact on their regional economies generally attribute their enhanced contributions to several factors:

- Their rate and level of their growth means their scale of employment and revenues is upwardly dynamic rather than static

- Their broad distribution by industry and geography disseminates economic benefits throughout their regional economies

- Their generally higher levels of productivity, through superior efficiencies and/or higher value goods and services production, increases economic activity relative to their scale

- Their predominant activity in Traded economic sectors imports revenues from external markets leads to increased local economic expansion

- Their local ownership status results in enhanced revenue retention and wealth creation

This study examined HGCs of the A-OVRDC region to see the extent to which they exhibited these characteristics, as well as the resulting economic impacts.

#### 4.1 A-OVRDC Aggregate HGC Employment

This examination found that like other US HGCs, the HGCs of the A-OVRDC region contributed a disproportionately large number of jobs in the region. (Table 11) The region’s 555 identified HGCs, which represented only 2.3% of all A-OVRDC businesses, accounted for 39,874 – more than 15% - of the region’s total employment of 271,400 jobs.

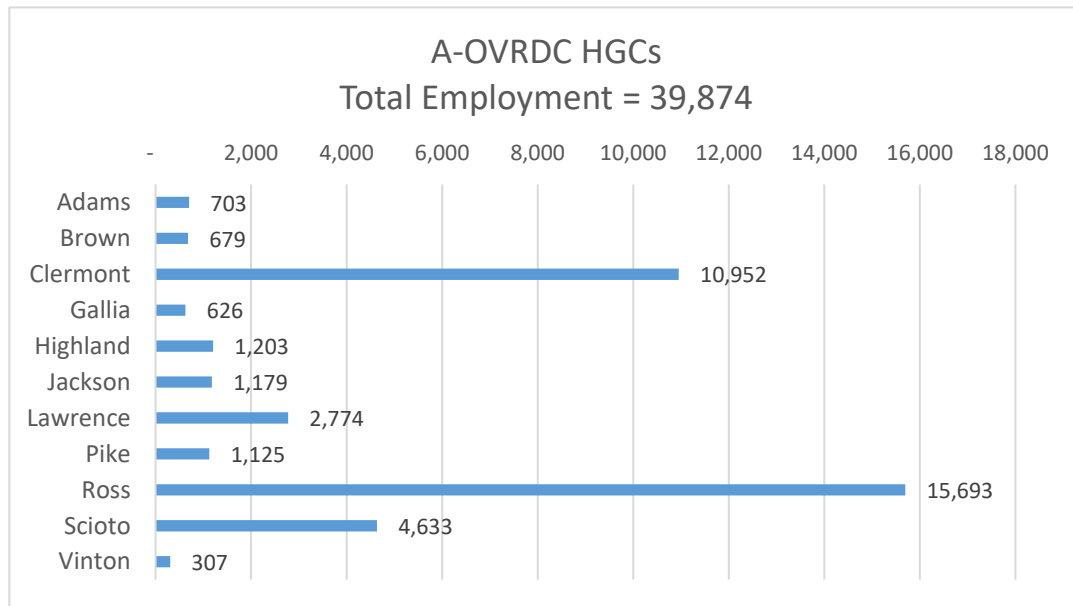
Table 11: HGC employment by A-OVRDC County

County	#All			HGC Employees	County Employment	%HGC Employment
	#HGCs	Firms	%HGCs			
Adams	19	926	2.1%	703	10,800	7%
Brown	30	1,314	2.3%	679	18,700	4%
Clermont	180	7,206	2.5%	10,952	103,500	11%
Gallia	26	1,364	1.9%	626	11,500	5%
Highland	29	1,515	1.9%	1,203	16,700	7%
Jackson	34	1,327	2.6%	1,179	11,700	10%
Lawrence	39	2,117	1.8%	2,774	22,300	12%
Pike	34	1,225	2.8%	1,125	10,000	11%
Ross	77	3,422	2.3%	15,693	33,700	47%
Scioto	76	3,425	2.2%	4,633	27,300	17%
Vinton	11	357	3.1%	307	5,200	6%
<b>Total</b>	<b>555</b>	<b>24,198</b>	<b>2.3%</b>	<b>39,874</b>	<b>271,400</b>	<b>15%</b>

### 4.1.1 A-OVRDC County-level HGC Employment

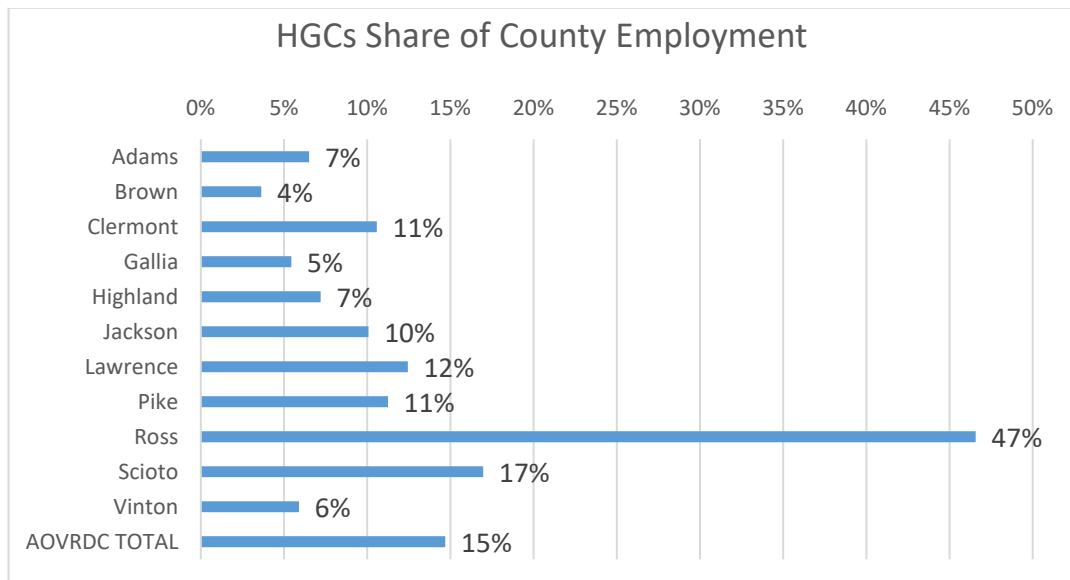
This disproportionately large regional employment effect was also reflected in the region’s constituent counties. The number of jobs employed by HGCs varied dramatically by county, from a high of over 15,000 in Ross and nearly 11,000 in Clermont to as few as 307, 626, and 679 in Vinton, Gallia, and Brown. (Figure 16)

FIGURE 16: DISTRIBUTION OF HGC EMPLOYMENT BY A-OVRDC COUNTY



Still, in each county HGCs jobs accounted for disproportionately large of total employment. Primarily thanks to the effect of large healthcare facilities in the county, HGCs account for an exceptional 47% of jobs in Ross County. More typically, HGCs provide double-digit percentages in Clermont (11%), Jackson (10%), Lawrence (12%), Pike (11%) and Scioto (17%). (Figure 17)

FIGURE 17: HGC SHARE OF TOTAL EMPLOYMENT BY A-OVRDC COUNTY



## 4.2 A-OVRDC Economic Expansion

In addition to employment, HGCs grew the size of the AORDC economy by adding economic activity through revenue generation and retention to a greater extent than non-HGCs. In the aggregate, the region’s 555 identified HGCs generated \$13 billion in annual revenues. As with employment, the largest share (25%) of generated revenues arose from the few very large HGCs. But as with employment, the more numerous and widely dispersed HGCs in the \$5 million to \$20 million categories accounted for any even greater share (31%). (Table 12)

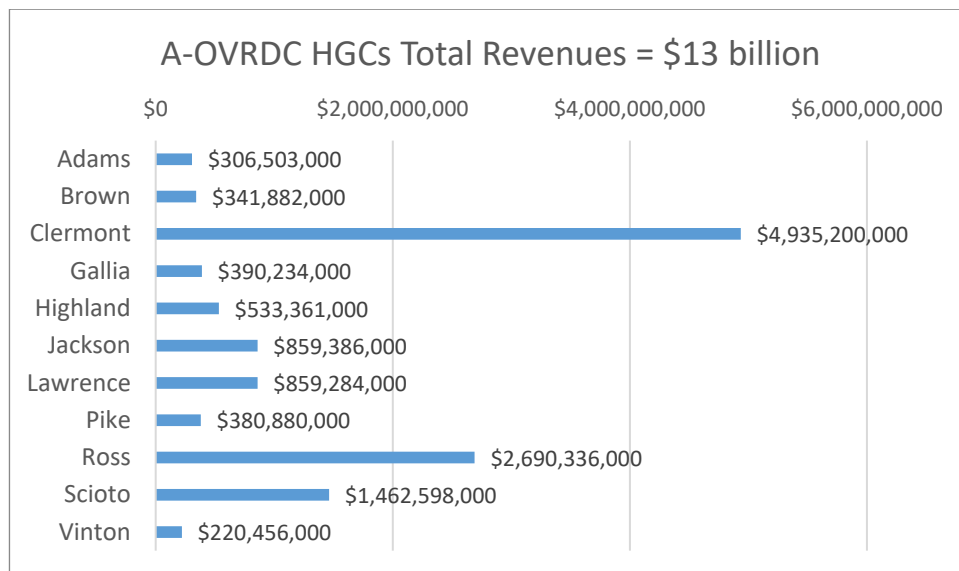
Table 12: Revenue of HGCs in the A-OVRDC Region

Annual Revenues	#HGCs	%HGCs	Revenues	% Revenues
\$5-10 Million	309	56%	\$2,118,126,000	16%
\$10-20 Million	141	25%	\$1,927,941,000	15%
\$20-50 Million	70	13%	\$2,173,000,000	17%
\$50-100 Million	20	4%	\$1,335,906,000	10%
\$100-500 Million	11	2%	\$2,201,377,000	17%
\$500m - \$1 Billion	4	1%	\$3,223,770,000	25%
All A-OVRDC HGCs	555	100%	\$12,980,120,000	100%

### 4.2.1 A-OVRDC County-level HGC Revenues

The total of \$13 billion in HGCs annual revenues was accrued throughout the A-OVRDC region in amounts roughly proportional to the counties’ share of the region’s HGCs. Ross County, with its concentration of healthcare industry, was once again the exception with some \$2.7 billion in HGC revenues. Clermont, with the largest number of HGCs, accrued a correspondingly large \$5 billion in HGC revenues. But the economies of even the region’s smaller counties - Adams, Brown, Pike, and Vinton – benefited significantly with aggregate HGC revenues of between \$220 to \$380 million. (Figure 18)

FIGURE 18: HGC REVENUE BY A-OVRDC COUNTY



### 4.3 HGC Productivity Increases Impact

The competitiveness of high growth companies is commonly attributable to their higher levels of productivity achieved through enhanced operational efficiencies, high levels of value-added goods or services, or a combination of both. A common measure of productivity is revenue per employee - calculated as a company's total revenue divided by its current number of employees. Revenue per employee is a meaningful analytical tool because it measures how efficiently a particular firm utilizes its employees. Ideally, a company wants the highest ratio of revenue per employee possible because a higher ratio indicates greater productivity. Revenue per employee also suggests that a company is using its resources—in this case, its investment in human capital—wisely by employing highly productive workers.

HGCs typically have higher ratios of revenues to employees than their industry peers, providing a competitive advantage that increases as the companies grow due to magnification through economies of scale capture. However, this factor can vary considerably by industry sector depending on the labor intensiveness of the sector. Across the United States business population, smaller businesses generates about \$100,000 in revenue per employee while for larger companies, that figure is usually closer to \$200,000. The nation’s largest corporations, such as Fortune 500 companies, average \$300,000 per employee. Measured against those benchmarks, the A-OVRDC HGCs demonstrate the significantly higher levels of productivity expected of high growth companies. (Table 13) Revenue per employee figures for the region’s HGCs range from \$264,633 for the \$5-10 million annual revenues cohort to a high of nearly \$1 million per employee for HCGs with annual revenues of \$50 – 100 million. (Table 13)

*Table 13: Revenue by Employment for HGCs in the A-OVRDC Region*

Annual Revenues	#HGC	Total HGC Revenues	Total HGC Employees	Average Revenues	Average Employees	HGC Rev/Emp
<b>\$5-10 Million</b>	309	\$2,118,126,000	8,004	\$6,854,777	26	\$264,633
<b>\$10-20 Million</b>	141	\$1,927,941,000	6,216	\$13,673,340	44	\$310,158
<b>\$20-50 Million</b>	70	\$2,173,000,000	5,710	\$31,042,857	82	\$380,560
<b>\$50-100 Million</b>	20	\$1,335,906,000	1,354	\$66,795,300	68	\$986,637
<b>\$100-500 Million</b>	11	\$2,201,377,000	7,090	\$200,125,182	645	\$310,490
<b>\$500m - \$1 Billion</b>	4	\$3,223,770,000	11,500	\$805,942,500	2,875	\$280,328
<b>All</b>	<b>555</b>	<b>\$12,980,120,000</b>	<b>39,874</b>	<b>\$23,387,604</b>	<b>72</b>	<b>\$325,528</b>

### 4.3 HGCs in Traded vs Non-traded Industries

Another factor contributing to the greater economic impact of HGCs is the predominance of their activity in traded vs non-traded market sectors. Non-Traded sectors consist of goods and services transactions contained within the regional economy. Companies active in non-traded sectors can grow by increasing their market share within that region, but their growth potential is effectively limited by the size and value of the regional market. In contrast, companies active in Traded sectors serve customer beyond their resident region, with their market prospects – and therefore their growth potential – expanded beyond the size of the local economy.

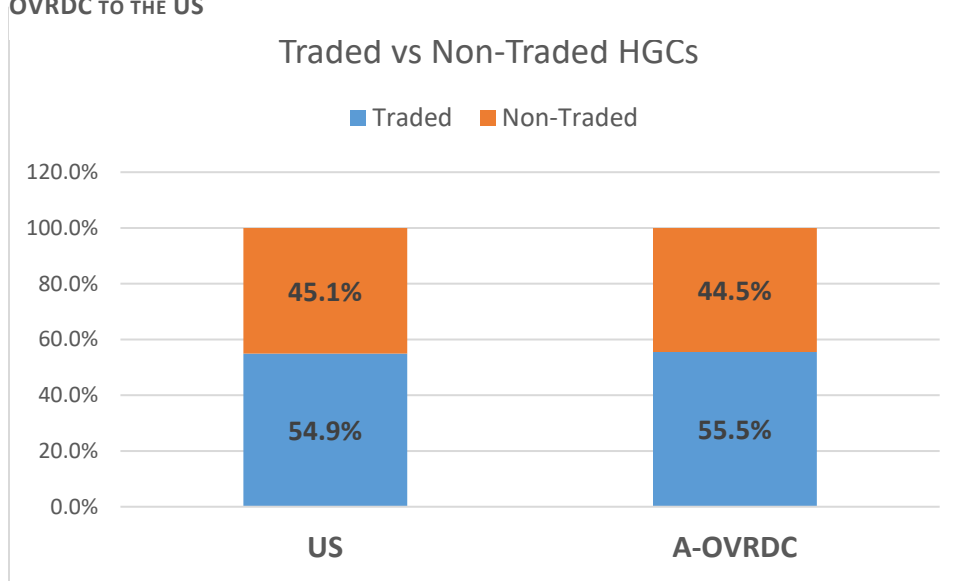
Most HGCs achieve their growth by serving Traded sectors where the potential for market expansion is much greater. Correspondingly, the extent to which a region’s population of companies serve Traded sectors typically determines the growth of that region’s economy as the revenues generated from external markets are imported into the region. This effect is accentuated by the higher productivity, and consequently higher revenues per employee, that characterize most HGCs.

Analysis of the A-OVRDC HGC population found that, (Table 14) based on their industry classifications, a majority of those companies (54.9%) were engaged in Traded market sectors. Not only is this a much higher percentage than that of the total population of businesses in the region (13.7%), but it was a significantly higher share than that of the US population of HGCs (45.1%). Thus, while the A-OVRDC region lags behind the United States in terms of the share of HGCs in its economy, its resident HGCs are nonetheless likely more impactful due their higher levels of Traded sector activity. (Figure 19)

Table 14: Comparison of the Market Status of Businesses in the A-OVRDC Region to the US

Market Status	HGCs		All Businesses	
	US	A-OVRDC	US	A-OVRDC
Traded	54.9%	55.5%	13.3%	13.7%
Non-Traded	45.1%	44.5%	86.7%	86.3%

**FIGURE 19: COMPARISON OF THE PROPORTION OF TRADED TO NON-TRADED HGCs IN THE A-OVRDC TO THE US**



#### **4.4 Economic Diversification**

The presence and expansion of HGCs serve to diversify local economies both in terms of industry, scale, and locations. Their distinctive combination of geographic and industrial distribution provides mechanism for HGCs economic benefit to broadly shared across the A-OVRDC region. The breadth of industrial sectors represented provides the opportunities to capitalize on a diversity of local economic resources. Each county in the A-OVRDC offers a distinct set of location and growth factors suited to different industries and business models.

Moreover, because the local ownership nature of HGCs means that siting and growth decisions reflect not just business inputs but the desires of the owners as well. Those owners are as likely to choose a community in which to start and growth their companies based on individual and family preferences provided basic business prerequisites are satisfied. For such reasons, HGCs locations are influenced by quality of life considerations that are highly selective and may favor AORDC locations that other types of businesses and industry might not consider.

## 5. HGCS AND CAPITAL FOR GROWTH

The study assessed the existing availability of private capital for current and future growth companies in the A-OVRDC region. It is very common that discussions of regional growth companies' capital needs begin with concerns over the disparity of venture capital distribution across the U.S. While it is true that historically just five U.S. metropolitan areas account for more than 80 percent of total U.S. venture capital investment, this perspective, by over-emphasizing the importance of only one form of growth capital, fails to address the availability of far more relevant other forms of growth capital. The study's assessment of the A-OVRDC region's HGC population characteristics found that the characteristics of most of these companies were best aligned with "growth capital" investors active in stages well beyond those of the venture capital market.

### 5.1 HGCs Capital Structure and Growth Capital Needs

The type and amount of growth capital required to support the further development and expansion of HGCs is highly individualistic. Often growth-positioned companies face the need to optimize their capital structure prior to undertaking expansion strategies. Capital structure is the particular combination of debt and equity used by a company to finance its overall operations and growth. Capital structure therefore can be a mixture of a company's long-term debt, short-term debt, common stock, and preferred stock. (Table 15)

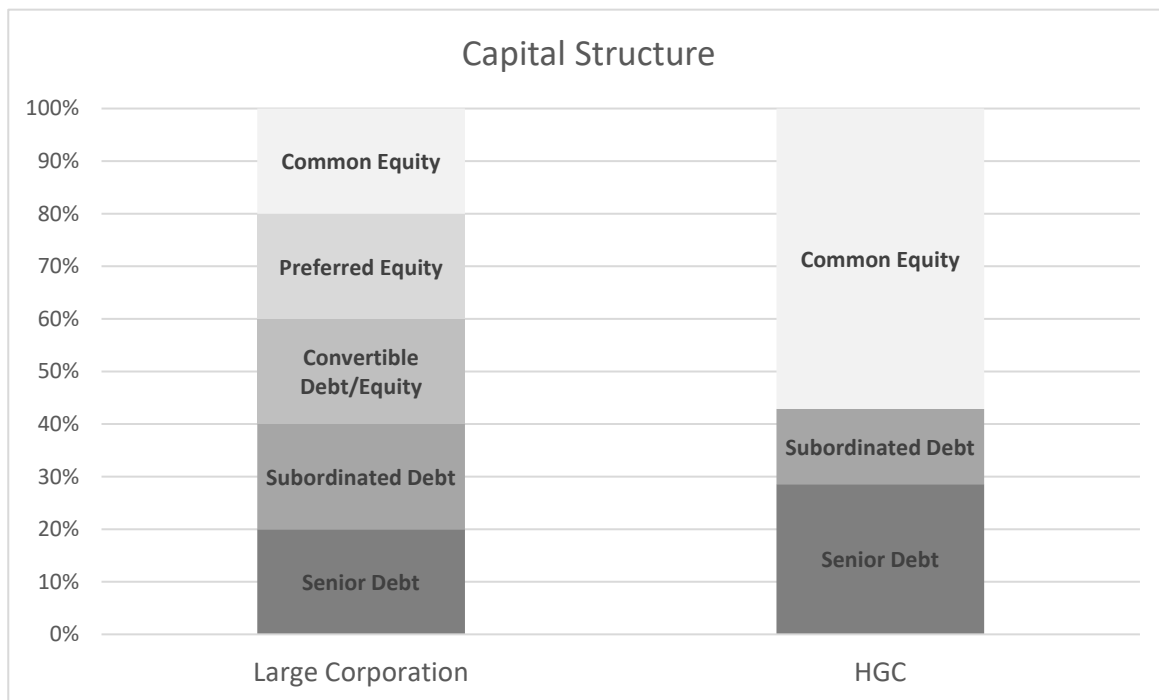
Table 15: Capital Structure Elements

Capital Structure Elements	
<b>Senior Debt</b>	Collateralized, lower risk loans with priority on the repayment list if a company goes bankrupt. Commonly from commercial lenders, banks, etc.
<b>Subordinated Debt</b>	A class of loans that ranks below senior debt with regard to claims on assets. For this reason, this block of the capital structure is more risky than senior borrowings with commensurately higher interest rate payments.
<b>Mezzanine Debt/Equity</b>	Subordinated debt that blends equity and debt features lent at higher interest rates than traditional debt providers, and usually reserve the right to trade some of their debt for equity.
<b>Preferred Equity</b>	Preferred equity has both debt and equity characteristics in the form of fixed dividends (debt) and future earnings potential (equity).
<b>Common Equity</b>	Common equity is the junior-most block of the capital structure and therefore represents ownership in an business after all other obligations have been paid off. For this reason, it comes with the highest risk and the highest potential returns of any tier in the capital structure.



For a large corporation, such as a publicly traded company, its capital structure typically consists of an often complex, combination of senior debt, subordinated debt, hybrid securities, preferred equity, and common equity. In contrast, the capital structure of HGCs, especially the smaller or younger ones, are typically much simpler. (Figure 20) HGCs are, with very few exceptions, closely held privately owned companies. These are companies which do not offer or trade company stock to the general public on the stock market exchanges, but rather the company's stock is offered, owned, and traded or exchanged privately, if at all. The great majority of HGCs would have a relatively small number of shareholders or company members with a limited introduction of outside investors since their founding.

**FIGURE 20: COMPARISON OF THE CAPITAL STRUCTURE OF A LARGE CORPORATION TO AN HGC**



The relative simplicity of HGC capital structure is a result of its development history and of necessity, rather than of strategic preference. A consequence is that the capital structure a HGC used in its earlier stages of development may be inappropriate for both its current, larger level of activity and/or its targeted future activity. Often this is a consequence of an inability to access a border range of capital sources in the company's earlier, more uncertain stages of development. But as the company matures and succeeds, as in the case of HGCs, it comes to be viewed by investors as more viable and more secure – and therefore a lower risk - making previously unavailable capital sources attainable. A-OVRDC HGCs require numerous sources of financing to support their growth objectives and working capital needs. Understanding the financial environment they face requires recognition of the relevant capital sources.

## 5.2 HGCs as Growth Capital Candidates

For example, although both venture capital and growth capital investors assume the risk involved while investing, these investment strategies vary greatly in factors such as risk profiles, cash flow perspectives, and growth targets. Venture capital investors generally target businesses at initial stages with less historical financials. Their portfolio companies therefore present higher risks - market, funding, technology - compared to more mature growth capital investment candidates typical among HGCs. Venture capital backed companies have low revenue and usually negative cash flow in contrast with growth capital investment prospects where there are typically sustained revenues and positive cash flows.

As documented in the 2011 report “Accelerating Job Creation in America: The Promise of High-impact Companies”, the largest cohort of U.S. high growth companies had an average age of 19 years after four years of growth, meaning that the typical age of firms poised for growth – and therefore in need of capital to support expansion, is 15 years. By this point they have survived the high risks inherent in entrepreneurial startups targeted by venture capitalists, therefore the risk involved in HGCs investment is minimized, while the potential for the return on investment remains relatively high.

This scenario closely matches the strategic trajectories undertaken by many high growth companies. They are relatively mature and larger businesses positioned to pursue large future growth prospects or for business operation expansion or for acquisition or entering a new market. Given the lower risk involved, the existing owners of such firms are unwilling to relinquish control to outside investors.

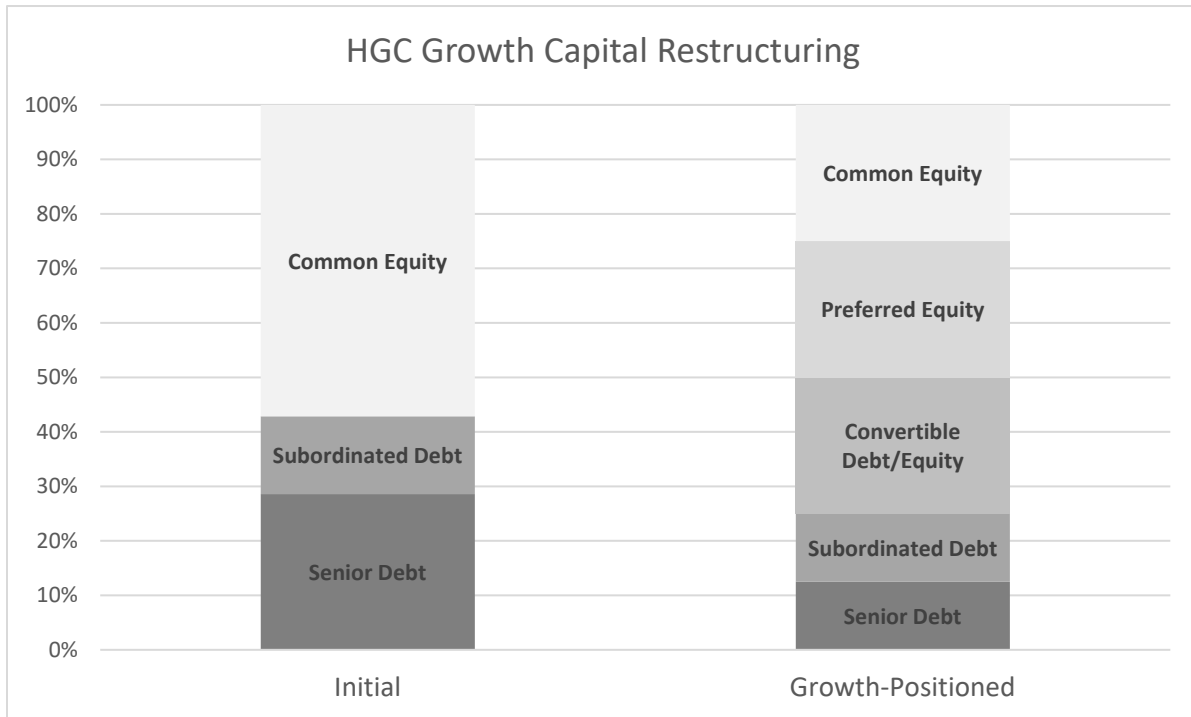
As an asset class, Growth Capital is a type of investment – and usually a minority investment rather than the majority ownership position usually taken by venture capitalists - in relatively mature companies that are looking for capital to expand or restructure operations, enter new markets, or finance a significant acquisition, but are unwilling to sacrifice a controlling interest in the business in return for the investment. Such companies nonetheless require growth capital because, while as established businesses they are able to generate revenues and profits, they are unable to generate sufficient cash internally to fund their growth strategies.

Growth Capital is a segment of a private equity asset class that is very distinct and separate from venture capital or leveraged buyouts. It works to provide ventures like providing high returns with minimum risk. The risk of the capital loss is moderate as compared to other investment firms. The holding period is three to seven years, where the target for the internal rate of return is around 30-40 percent. The capital invested can be targeted to multiple 3 to 7 times. The investors keep evaluating the risk-adjusted return profile of various investment alternatives. The companies involved in investment are already operating in an established market with proven products. The risk involved is only of the execution and management risk.

### 5.2.1 HGC Growth Capital Restructuring

Investment in a HGC which is intended to position the company for further growth typically involves a restructuring of its previous capital structure. Such restructuring seeks to both support the cost of expansion and enhance the company’s financial robustness to undertake the additional risks entailed. This often involves Growth Capital in the form of equity and/o hybrid equity investment with the effect of reducing the company’s debt to equity ratio. (Figure 21)

**FIGURE 21: COMPARISON OF INITIAL CAPITAL STRUCTURING TO GROWTH-POSITIONED CAPITAL STRUCTURING FOR HGCs**



In such situations, growth capital is provided in the form of equity, or various hybrid securities that include interest payments, yielding a minority ownership position in the company. This form of investment is not available from commercial banks. Instead, such growth capital is provided by a variety of sources spanning a variety of both equity and debt sources, including private equity and late-stage venture capital funds, hedge funds, Business Development Companies (BDC), and mezzanine funds.

### 5.2.2 Estimated A-OVRDC Growth Capital Demand

An estimate of the demand for growth capital by A-OVRDC HGCs was constructed by composing investment scenarios for representative company profiles drawn from region’s two strongest sectors – Wholesale Trade and Manufacturing. (Table 16) Company profiles were based on the average scale HGC scale characteristics and expansion strategy modalities for their respective industry sectors.

Table 16: A-OVRDC Growth Capital Candidate Profiles

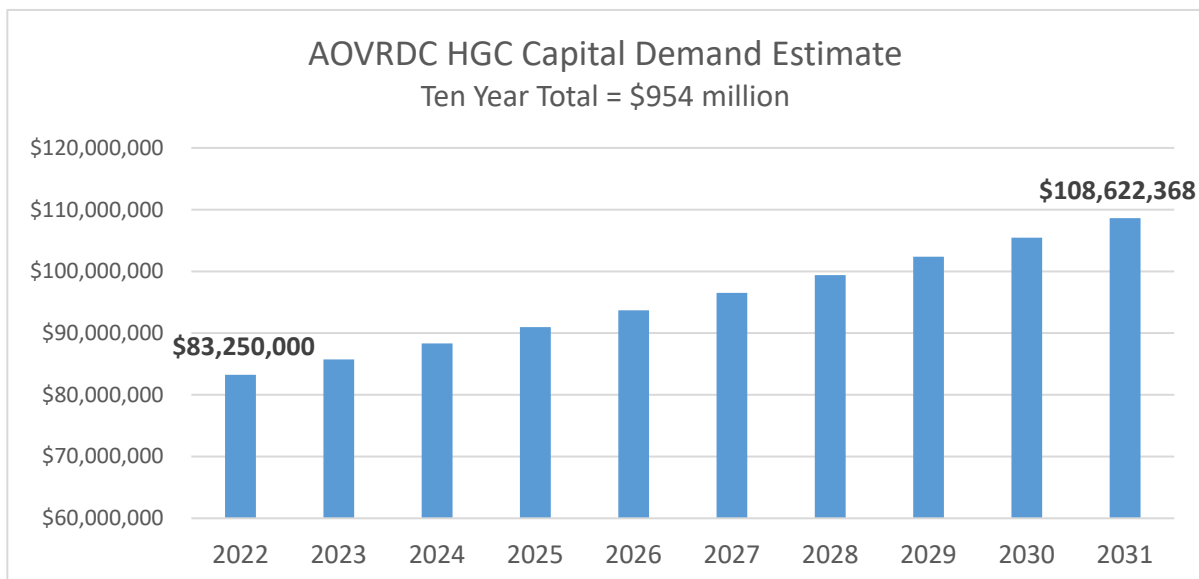
A-OVRDC Growth Capital Candidate Profiles		
Industry Sector	Wholesale Trade	Manufacturing
Annual Revenues	\$26 million	\$23 million
Employment	18	68
Growth Strategy	Facility expansion and distribution channel node acquisition	Production automation update and new product acquisition
Capital Sought	\$15 million	\$15 million

These profiles were used to develop a model estimating annual and aggregate decadal potential A-OVRDC HGC growth capital demand. The model used the following assumptions:

- Average per company expansion capital requirement = \$15 million
- 1% HGCs expanding annually = 555 HGCs x 1% = 5.5 annual average
- Annual inflationary index of 1.03
- Period of 10 years

This model produced a total annual growth capital demand of \$83 million in 2022 and increasing on a inflation-adjusted basis to an annual amount of \$109 million by 2031. The aggregate growth capital demand for the ten year period was \$954 million. (Figure 22)

FIGURE 22: MODEL OF THE HGC CAPITAL DEMAND IN THE A-OVRDC REGION FROM 2022 TO 2031



### 5.3 HGCs and the Growth Capital “Middle Market”

What are the likely sources to supply the nearly \$1 billion in A-OVRDC HGC growth capital demand estimated over the next ten years? In parlance of business finance the annual revenues of most HGCs would barely qualify them as “middle market” firms. The National Center for the Middle Market at The Ohio State University Fisher College of Business, a leading center for research and education, defines the U.S. middle market as companies with annual revenues between \$10 million and \$1 billion. Companies with slightly lower annual revenues - \$5 million to \$50 million - are often described as “Lower Middle Market” companies. This definition closely mirrors this study’s HGC definitional parameters of HGCs. Following this financial market typology, the great majority (94%) of the A-OVRDC region’s HGCs could be designated as lower middle market investment candidates.

The similarity between HGCs and the “middle market” designation extends to their economic significance as well. As the National Center for the Middle Market describes them, at the national, state, and local levels, in every corner of the country, it is middle market companies that are creating new jobs and driving economic growth in their regions and communities. Middle market companies also play important roles in every industry. This diverse segment reaches across all industries and encompasses publicly and privately held companies, family-owned businesses, partnerships, and sole proprietorships. While the middle market represents just 3% of all U.S. companies, it accounts for a third of U.S. private sector gross domestic product (GDP) and jobs. This is approximately the same significance researchers have ascribed to the economic role of high growth companies such as those identified in the A-OVRDC region.

#### 5.3.1 U.S. Middle Market Capital Sources

The National Center for the Middle Market estimates that the nearly 200,000 U.S. middle market businesses represent one-third of U.S. private sector GDP and employ approximately 44.5 million people. Like HGCs, these middle market businesses are diverse in form and function. They range from private and public, family owned, and sole proprietorships, are geographically diverse, and span almost all industries. The Center reported that these businesses outperformed through the financial crisis (2007–2010 period) by adding 2.2 million jobs across major industry sectors and U.S. geographies, demonstrating their importance to the overall health of the U.S. economy.

Such a large, fecund, and dynamic population of companies have attracted a proportionately large and responsive financial capital market response. A significant portion of the U.S. private equity industry - institutional lenders, non-traditional debt capital sources, debt/equity fund managers, private equity funds, private debt funds - has evolved to serve the growth capital requirements of middle market companies through a diverse and creative portfolio of financial vehicles.

For example, PitchBook Data, Inc., a financial research company covering private capital markets, reported that just the first 6 months of 2021, private equity investors had completed 1,721 investments in the U.S. middle market with a combined value of \$264.6 billion. This positioned 2021 to be the most active year on record in that market. (Figure 23)

However, it should be noted that most of that middle market investment took the form of company acquisitions as opposed to growth capital investment. Moreover, the average investment size was over \$150 million, indicating that capital in middle market investment flows primarily to companies much larger than the typical AOVRC HGC. This calls into question the level of investment interest A-OVRDC HGCs given their much smaller scale of current operations, growth plans, and requisite investment need.

FIGURE 23: PE MIDDLE-MARKET DEAL ACTIVITY



Nonetheless, the Lower Middle Market, comprising companies with annual revenues between \$5 million and \$50 million - encompassing most A-OVRDC HGCs- continues to attract the attention of a number of private equity firms and boutique investment banks proficient in the segment. The challenge for A-OVRDC HGCs seeking growth capital from these entities will be distinguishing themselves sufficiently to garner the attention of non-regional investors.

Investment in closely-held, private-owned companies often entails that investors have significant participation in their portfolio to provide both guidance and oversight. Accordingly, lower middle market investors tend to favor companies located in their region to enable efficient interactions. To achieve geographic diversification, investments may be “syndicated” through co-investment with a local fund charged with the majority of portfolio company engagement. A paucity of private equity firms with a presence, or even investment activity, in the A-OVRDC region may hinder the competitiveness of its HGCs in securing growth capital.

### 5.3.2 Economic Development Growth Capital Sources

Recognition of the economic importance of entrepreneurship and small businesses has led to numerous public policy responses intended to increase access to capital. But, with a few exceptions, nearly all such programs emphasize alternative lending strategies for individual and small businesses unable to qualify for conventional sources of credit. The examples below illustrate such programs:

#### **OVRDC Revolving Loan Fund**

The Ohio Valley Regional Development Commission (OVRDC) aids businesses looking to expand or start up in the region through its GAP funding program. Available to potential entrepreneurs or private-for-profit business in Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, or Vinton County, the GAP program augments banks and private lenders through a revolving loan fund providing fixed asset and working capital loans. The maximum available loan size is \$300,000.

#### **Appalachian Growth Capital (AGC)**

Another potential source of economic development motivated growth capital could be Ohio's Community Development Financial Institutions (CDFIs). CDFIs are U.S. Department of Treasury certified organizations with the explicit mission to lend capital at affordable rates and terms in under-served markets. CDFIs primarily provide access to credit and specialized loan products for people that may not qualify for a typical bank loan, but they also finance affordable housing, small businesses, nonprofit organizations, and commercial real estate.

Ohio has a network of eleven CDFIs serving statewide or regional markets. One such fund, the Appalachian Growth Capital fund, specifically serves a geographic market that includes the A-OVRDC region. Appalachian Growth Capital (AGC) is a Community Development Financial Institution (CDFI) that partners with local and regional banks as well as secondary lenders to support businesses in the 32 county Appalachian Ohio region. Like the OVRDC GAP revolving loan fund, AGC provides flexibly-termed debt to help businesses that have a hard time qualifying for conventional lending.

#### **InvestOhio**

In contrast with the above described alternative lending programs, InvestOhio is intended explicitly to encourage equity investments in qualifying companies. Launched by the State of Ohio in 2011, InvestOhio provides a non-refundable personal income tax credit to equity investors in Ohio small businesses. To qualify for the credit, eligible small businesses in which the investments are made must be Ohio-based and have a maximum of \$10 million in annual sales. This makes the InvestOhio program relevant for many A-OVRDC HGCS as 309 of the total 555 had annual revenues between \$5 and \$10 million.

#### **Opportunity Zone Funds**

Another potential source of growth capital is investment incented through the national Opportunity Zone program. Only recently implemented, the Opportunity Zone program provides tax incentives for investors in Qualified Opportunity Zone (QOZ) Funds that then invest in a variety of private sector activities located in economically distressed communities designated as “Qualified Opportunity Zones” (QOZ).

Opportunitydb.doc, a website that tracks Qualified Opportunity Zone (QOZ) Funds nationally, reports that in 2021 there were 12 QOZ Funds with an investment objective that specifically identify Ohio as a target market. (Table 17) Consistent with the experience of most Opportunity Zone investment nationally, the primary targets of these funds are real estate rather than the growth capital required by A-OVRDC HGCs.

*Table 17: QOZ Funds identifying Ohio as a Target Market*

<b>Fund Name</b>	<b>Investment Target</b>	<b>Fund Size</b>
<b>CBUS Opportunity Zone Fund</b>	Real Estate	\$50M
<b>Cleveland Opportunity Zone Fund Premium Listing</b>	Real Estate	\$50M
<b>Nest Opportunity Fund Premium Listing</b>	Real Estate	\$50M
<b>Accredited Capital</b>	Real Estate	\$25M
<b>Alpha Opportunity Zone Fund I</b>	Real Estate	\$250M
<b>CLE OZ Fund</b>	Real Estate	\$20M
<b>Community Outcome Fund</b>	Business, Real Estate	\$500M
<b>Decennial Opportunity Zone Fund I LLC</b>	Real Estate	\$500M
<b>Kunst QOZF</b>	Real Estate	\$10M
<b>LNWA OZ Fund I, LLC</b>	Real Estate	TBD
<b>Milhaus QOZ Fund II</b>	Real Estate	\$78M
<b>Woodforest CEI-Boulos Opportunity Fund</b>	Real Estate	\$22M

### 5.3.3 A-OVRDC HGC Growth Capital Findings

An assessment of the current availability and activity of both private equity middle market investment and the various economic development-oriented sources of growth capital raises concerns about their relevance and sufficiency to meet the estimated \$954 million in A-OVRDC HGC growth capital demand from 2022 to 2031. While the middle market investment industry is growing in both the amount of capital deployed and the number of deals closed, such investment appears to increasingly favor companies in the larger end of the middle market spectrum as evidenced by the record high median deal investment amounts of recent years. So, although there remains much interest by smaller private equity firms in the lower middle market segment that would include most A-OVRDC HGCs, the scarcity of private equity firms serving the A-OVRDC market may make it difficult for HGCs from the region to successfully compete for the attention needed to initiate and consummate investments.

To date, economic development policy driven initiatives that seek to enhance capital access for small businesses largely do not address either the types or amount of growth capital required



by A-OVRDC HGCs. There are numerous national, state, and local alternative lending programs that offer variations on revolving loan funds. But these do not offer the forms of equity and near-equity growth capital sought by HGCs as they realign their capital structures for expansion. In Ohio there are efforts to increase the availability of equity capital, but these have focused on the seed venture capital needs of startup and earlier stage technology businesses and are therefore inappropriate or inadequate to HGCs growth capital requirements. The Opportunity Zone programs at the state and national levels hold some promise as they are theoretically capable of providing appropriate forms of capital in sufficient amounts. But the investment emphasis of nearly all existing Qualified Opportunity Zone funds are in the real estate sector rather than the business finance sector of HGCs. It remains to be seen where this trend will hold.

The Ohio Capital Fund (OCF) perhaps offers a model by increasing the supply of growth capital for HGCs in the A-OVRDC and elsewhere in Ohio. That fund was established to increase the amount of private investment capital available for seed- and early-stage Ohio-based business enterprises by serving as a “fund of funds” investing state-directed capital into a portfolio of venture capital funds that have targeted Ohio early stage companies as part of their investment strategy. As of June 2021, the OCF – along with its partner funds - had invested nearly \$1.4 billion in less than 15 years. During 2021 there have been discussions on expanding the OCF to similarly include smaller private equity funds targeting Growth Capital investment in Ohio. Such an initiative could bring welcome attention and growth capital to the likely under-recognized opportunities offered by A-OVRDC HGCs.

## **6. CONCLUSION**

This study was undertaken to identify a population of high growth companies (HGCs) in the eleven counties of the Appalachian Ohio Valley Regional Development Commission region and understand their role in the region's economy. The study found that the region is home to 555 such companies and that, while they occur at a lower rate than do similar businesses elsewhere in the U.S., they nonetheless have a disproportionately large positive economic effect in the region. However, for this population of companies to continue to prosper they will need to access to forms and amounts of growth capital that will likely be a challenge to obtain.

### **HGCs are a Small but Potent Population**

Only 555 companies in the A-OVRDC region qualified as HGCs, and they occurred at a smaller rate on a per capita basis, and as a share of the business population, when compared to similar companies in Ohio and the U.S. While the A-OVRDC region generates HGCs at a lesser rate than the U.S. and Ohio, it is nonetheless producing them at scales comparable to national benchmarks in terms of both revenues and employment. So, while the 555 HGCs represented only 2.3% of all A-OVRDC businesses, they accounted for 39,874 – more than 15% - of the region's total employment.

The characteristics of the AVORDC's HGC population are such that they have an especially significant role in the region's economy. They have high levels of productivity and are engaged in extra regional trade that imports revenues that expand the A-OVRDC economy. And their local ownership status means that more of that money remains in the region, circulating among neighboring businesses and residents.

Additionally, their geographic distribution means that the economic contributions of HGCs accrue throughout the region, with each of the A-OVRDC counties being home to several of the 555 companies. Within the region, the concentration of HGCs per all businesses in a county ranges from a high of 3.1% in Vinton County to a low of 1.8% in Lawrence. At 2.5%, Clermont County, with by far the largest number of HGCs (180), is only slight above the regional figure (2.3%). But that is not a significant difference. What may be more meaningful is that several smaller A-OVRDC counties host a larger share of HGCs, demonstrating the economic relevance of HGCs across the region.

### **HGCs Differ From Entrepreneurial Assumptions**

The region's HGCs are locally owned, successful entrepreneurial businesses that differ from popular perceptions of technology- based startups promulgated by the high profile successes of firms such as Facebook, Google, and Amazon. Instead, they are more mature companies that grew slowly for years before entering a period of rapid growth. And rather than being concentrated in a narrow range of technology industry sectors, A-OVRDC HGCs are engaged across a variety of industry sectors in the region.

In particular, the study found that for A-OVRDC's HGCs, high rates of company growth – whether in revenues or employment – is less significant than the scale yielded by such growth.

Startup businesses with single digit numbers of employees can have exceedingly high percentage growth rates without producing the larger scale economic outcomes of more established – but nonetheless still entrepreneurial – HGCs growing at less gaudy rates. The result is that the average A-OVRDC HGC had annual revenues of \$23 million and 72 fulltime employees, far exceeding the averages of all businesses in the region.

Perhaps their most unusual and unexpected nature is their consistent presence across industry sectors. Rather than being more common in certain high technology or innovation-based sectors, A-OVRDC HGCs were as likely occur in “traditional industry” sectors as in technology sectors, just as frequently in service industries as in information or manufacturing ones. Comparing their occurrence to national benchmarks revealed that the region’s comparative advantages were in Wholesale Trade, Manufacturing and Retail Trade, suggesting that these sectors may represent the A-OVRDC region’s most promising sectors for the development of future HGCs.

### **HGCs Face Growth Capital Challenge**

An assessment of the availability of capital to support current and future growth companies in the A-OVRDC region found that policy efforts addressing access to capital overlook a reasonable concern for the adequacy of appropriate capital for its HGCs. Growth-positioned HGCs need to optimize their capital structure prior to undertaking expansion strategies. But rather than venture capital or conventional debt, HGCs will require forms of middle market private equity - mezzanine financing, convertible debt/equity, hybrid securities etc. – that is neither resident in the region nor currently supported through economic development intervention programs.

The study found that, based on the average capital requirements of A-OVRDC HGCs and expected business expansion scenarios, the region’s HGCs would constitute an aggregate growth capital demand of \$954 million in more than 50 investments over the next ten years. The most abundant source of such financing would be private equity firms focused on the “Lower Middle Market” of companies with annual revenues between \$5 million and \$50 million. But despite much interest by smaller private equity firms in this segment that, a scarcity of resident firms serving the A-OVRDC market may make it difficult for HGCs from the region to successfully compete for the attention needed to initiate and consummate investments.

These findings suggest that the Ohio economic development policy emphasis on increasing capital access should be expanded beyond venture capital and small business lending to address the availability of private equity growth capital for HGCs as well. The Opportunity Zone programs at the state and national levels, and the precedent of the Ohio Capital Fund (OCF) may provide models for the discussion and design of such an initiative.

**END**

**CLERMONT COUNTY  
ENTREPRENEURIAL OPPORTUNITY ASSESSMENT**

December 2021

Brent Lane, Executive in Residence for Economic Strategies  
Center for Economic Development and Community Resilience  
Voinovich School of Leadership and Public Affairs, Ohio University

**Clermont County Entrepreneurial Opportunity Assessment  
Final Report – December 2021**

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## Summary

This document constitutes a final report for the Clermont County Entrepreneurial Opportunity Assessment. It includes the results of the data analysis described in the May 2021 proposal. Production of the final report will follow our collective review of this report to identify areas of client focus for further analysis. Nonetheless, there are a few observations that can be made from the assessment to date:

Clermont County has a dynamic economy with significant existing entrepreneurial activity that suggests a positive environment for targeted entrepreneurial development element(s) that address priority, focused public policy objectives

Specific initiatives (co-working space, business incubator, etc.) have favorable environment that could be capitalized upon but would still require more specific market-demand data to assess their individual feasibility

Clermont County lags in the per capita rate of new business formation but the population-weighted trend has shown significant increase recently. This suggests the possibility of high economic leverage from well-placed intervention(s) that accurately address remaining entrepreneurial impediments

Data also suggest that Clermont lags in the elevation of current smaller entrepreneurial stage businesses into high growth capable enterprises. The reasons for this - that might warrant economic policy intervention - are not yet clear and await the specification of priority policy options that would quickly define further information needs

Prior to the COVID pandemic, positive trends in Clermont County economy would have accommodated a spectrum of possible entrepreneurial development options ranging from ideation scale initiatives (co-working) to implementation (business incubator) to expansion (growth firm attraction)

Targeted entrepreneurial strategies, when successful, can proactively address different community development priorities: downtown revitalization, demographic inclusion, economic diversification, industry cluster enhancement, etc. Thoughtful, consensual goal identification, in combination with the relative healthiness of the Clermont County economy described in this assessment, provide a promising basis for a successful, limited, entrepreneurial development program

## **1. Project Description**

The Center for Economic Development and Community Resilience of the Ohio University Voinovich School of Leadership and Public Affairs is undertaking work on behalf of the Clermont County (Ohio) Office of Economic Development in performing an Entrepreneurial Opportunity Assessment of the county's recent and current entrepreneurial activity to describe patterns of new business formation and growth that delineate early-stage economic development opportunities.

The economy of Clermont County, like that of all economies, is always changing in response to numerous local, national, and global forces. Such economic realignments are inevitable and are neither inherently good nor bad. But their effects on current employers and employees are always significant and their examination can reveal future economic development opportunities. This assessment is examining recent and current economic changes and responsive entrepreneurial activity in Clermont County. These findings be compiled and analyzed to describe the opportunities revealed at the intersection of these trends.

The assessment will yield information on both the level and types of entrepreneurial activity in the project area and potential economic strategies to enhance entrepreneurial activity. Entrepreneurial activity provides insights on emerging strategies to capitalize on regional advantage. Economic shifts in a region can be more volatile than the changes in that region's fundamental economic advantages. As one set of competitive business models declines others can emerge that capitalize on regional advantages in new ways. The earliest examples of novel business models are typically manifested among a region's new businesses, as the intimate perspective of numerous entrepreneurs enables them to espy nascent opportunities yet statistically unperceived. The success – or near-success – of these “early movers” often pioneers business pathways for others to follow and expand upon. In this regard, entrepreneurs are both early indicators and agents of regional economic development opportunities.

### **1.1. Project Implementation**

The assessment is being performed by the Center for Economic Development and Community Resilience under the direction of Brent Lane, Executive in Residence for Economic Strategies at the Voinovich School of Leadership and Public Affairs of Ohio University. The project is using personnel and resources of the Voinovich School with the cooperation of, but at no direct cost to, the Clermont County Community and Economic Development Department. The assessment began in early May 2021 with a planned project term of ten weeks.

### **1.2. Project Methodology**

This study is assessing the entrepreneurial economy of Clermont County through an examination of recent economic trends to identify positive regional industrial sectors and associated new business formation patterns. The study comprises:

- a regional economic scan of industries, employment, and income

- a Location Quotient analysis of regional employment sectoral distribution and concentrations
- a shift-share analysis to identify temporal changes in economic composition.
- an analysis of new business formation rates; and
- a characterization of relevant business demographics such as industry sector, revenue and employment, ownership structures and facility scale

This report describes the outcomes of this assessment and the analysis of its research findings.

## 2. Clermont County Local Economic Context

Several key 2019 statistics (Table 1) show that over the past two decades, Clermont County has economically outperformed the State of Ohio and has kept pace with the US economy. The region is leading the State of Ohio and the US in several basic measures of economic well-being:

Growth in private, non-farm employment in Clermont County from 2021 to 2019 greatly exceeded that of the State of Ohio (27% to 8%) and grew as a slightly faster rate than the US (26.7%).

As a result, the unemployment rate in county (3.40%) was significantly better than that for the State of Ohio (4.2%), and (again) slightly better than the US rate (3.5%)

This lower unemployment was achieved even given Clermont County’s higher rate of workforce participation (65.8%), meaning that many of its citizens were both actively seeing – and finding – employment.

An effect of this combination is that the income of Clermont County residents, whether measured by per capita income or median household income, leads the same figures for the State of Ohio, and effectively equals or exceeds the national equivalents.

These positive economic factors have likely both contributed to, and benefitted from, Clermont County’s steady pace of population growth from 2001 to 2019 (nearly 15% increase over the period), in sharp contrast to the much slower population growth of Ohio (2.6%) and nearly the same as the US (15.6%)





*Table 1 Economic Context*

<b>Economic Context*</b>			
<b>Statistical Category</b>	<b>Clermont County</b>	<b>Ohio</b>	<b>U.S.</b>
<b>Private, non-farm employment growth (2001-2019)</b>	27.2%	7.8%	<b>26.7%</b>
<b>Unemployment Rate, December 2019</b>	3.4%	4.2%	<b>3.5%</b>
<b>Workforce participation (%), 2019</b>	65.8%	63.2%	<b>63.0%</b>
<b>Per Capita Income, 2019 (USBEA)</b>	\$55,842	\$50,199	<b>\$56,474</b>
<b>Median Household Income, 2019 (US Census)</b>	\$67,744	\$58,642	<b>\$65,712</b>
<b>Poverty Rate, 2019</b>	8.2%	8.2%	<b>8.2%</b>
<b>Population change (%), 2001-2019</b>	14.8%	2.6%	<b>15.6%</b>

*\*Unless otherwise indicated, this report only addresses economic statistics of private, for-profit industry sectors, and does not include data from non-profit or government sectors.*

Such positive economic statistics may seem to downplay the need for additional economic development strategies in Clermont County, given the apparent recent economic success. But it should be noted that such a perception of such success is exaggerated by the comparatively poor performance of the Ohio economy. While Clermont County’s economy is outperforming that of much of Ohio, it is only performing at the average level nationally. This suggests that Clermont County needs to continue economic development efforts that offer the potential for new jobs creation and higher income generation. Fortunately, the county’s current economic position provides a basis for optimism as to the feasibility of well-conceived economic initiatives that are positively reinforced by trends and forces contributing to the region’s economic success.

But it is not being overly optimistic to expect that a deeper examination of recent economic and industrial trends may reveal emerging or nascent opportunities for future economic growth. If such opportunities do indeed exist that are likely already being made apparent through the actions of diligent entrepreneurs with prescience borne from insightful diligence apparent only to a very few, or that are as yet indiscernible from often dated and imprecise economic statistics.

### **3. Realignment can reveal opportunities**

In recent decades the economy of Ohio has experienced a realignment that was inevitable given the transformative forces of automation and globalization that were reshaping economies across the US and around the world. In this context, Clermont County has economically outperformed much of the rest of Ohio. The county has nonetheless been affected by the realignment that has presents Clermont’s leadership and citizens with challenges and opportunities to address in their economic development efforts.

While economic realignments are commonly described as examples of “creative destruction”, that reference is inaccurate and can lead to misleading assumptions and policy reactions. As

defined by the originator of the term, Joseph Schumpeter, creative destruction refers to the “incessant product and process innovation mechanism by which new production units replace outdated ones”<sup>1</sup>. In simpler terms, creative destruction describes the intentional elimination or alteration of established business practices in favor of innovative alternative ones. Either way, the application of the phrase to a region’s economy can incorrectly imply a status of inevitability that can seem to leave little room for constructive policy responses. The economic realignment experienced in Clermont County has had very real but not universally positive or negative effects. There is a tendency in economic policy to focus solely on the negative results of change which can obscure newly revealed and nascent opportunities. To paraphrase Nietzsche, “what doesn’t kill your economy may reveal its strengths”.

At the same time, one must be diligent in recognizing that Clermont’s recent successes can also obscure underlying concerns that could prove detrimental. Paradoxically, in such cases the risk is not that economic development efforts might fail, but that they may not optimally capitalize on the opportunities at hand. Economic development is hard and significant successes can be rare. When genuine opportunities present themselves, it is imperative to maximize their potential benefits, which is difficult if one’s economic development focus is mistargeted.

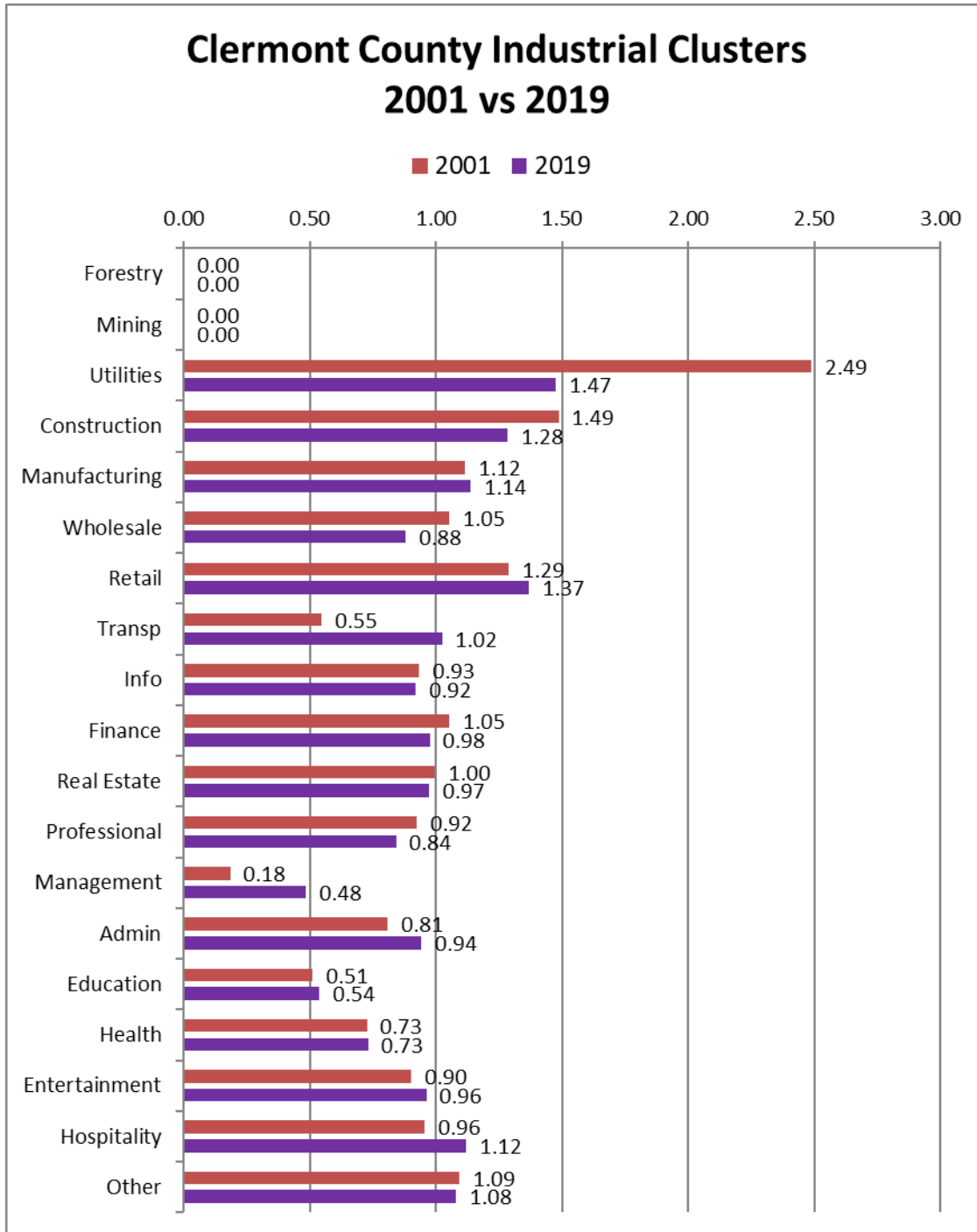
### **3.1 Industry sector comparative analysis**

Industry sector comparative analyses are a powerful technique for revealing regional past and current economic strengths. And while it cannot predict the future, it can provide a factual basis for its forecasting. For example, comparing the share of employment by an industry sector in Clermont County to that of the US – a statistical ratio called a “Location Quotient” (LQ) – can indicate for what types of business activity Clermont has had competitive advantages. As importantly, analysis of the change in LQs over time can show how those advantages are evolving, increasing, or decreasing, and thus provide trends useful in community economic development efforts to capitalize on favorable strategic positions.

#### **Location Quotient**

A location quotient (LQ) is an analytical statistic that measures a region’s industrial specialization relative to a larger geographic unit (usually the nation). An LQ is computed as an industry’s share of a regional total for some economic statistic (earnings, GDP by metropolitan area, employment, etc.) divided by the industry’s share of the national total for the same statistic. For example, an LQ of 1.0 in manufacturing means that the region and the nation are equally specialized in manufacturing; while an LQ of 1.8 means that the region has a higher concentration in manufacturing than the nation.

FIGURE 1 CLERMONT MICROPOLITAN INDUSTRIAL CLUSTERS 2001 AND 2019



Such an examination of the Clermont economy from 2001 to 2019 (Figure 1) shows that while the county has experienced LQ value reduction in some sectors – for example in its dominant position in Utilities declined from an LQ of 2.45 to a still significant 1.47 – it has enhanced its strengths in others such as Retail and Accommodations. A shift toward greater employment concentration in services sectors is unsurprising. But it is conspicuous that as this occurred Clermont County has maintained its robust position in the Manufacturing sector where its LQ even grew slightly from 1.12 in 2001 to 1.14 in 2019. This increase can be interpreted as Clermont County successfully retained more manufacturing jobs than the US due to underlying competitive advantages that portend a foundation for renewal that may already demonstrated in recent business activity trends. This analysis further shows that the Clermont economy has retained, and sometimes enhanced its position in other industry sectors as well. The LQs of the utilities, transportation, construction, and other sectors each remained or in some cases increased – beyond the 1.0 LQ value that demarcates higher than the US share of employment in those industries.

### **3.1.1 Shift-Share Analysis shows Strength Trends**

As previously mentioned, examining changes in a region’s industrial LQs over time can show opportunities to be capitalized upon through economic development strategies. A particularly useful analytic instrument for assessing such changes is **shift-share analysis**. It can be used to differentiate regional economic changes attributable to national trends from those that result from more regional effects. Thus shift-share analysis helps identify industries where a regional economy may have competitive advantages over the larger economy.

This study used shift-share analysis to examine industry sector changes in Clermont County between two periods: 2001-2019 (long-term) and 2010-2019 (short-term). The analysis covered three economic variables:

- Percentage change employment within industries of the Clermont County economy,
- Change in the LQ of those sectors to account for US employment trends, and
- Total 2019 Clermont County employment for those industry sectors

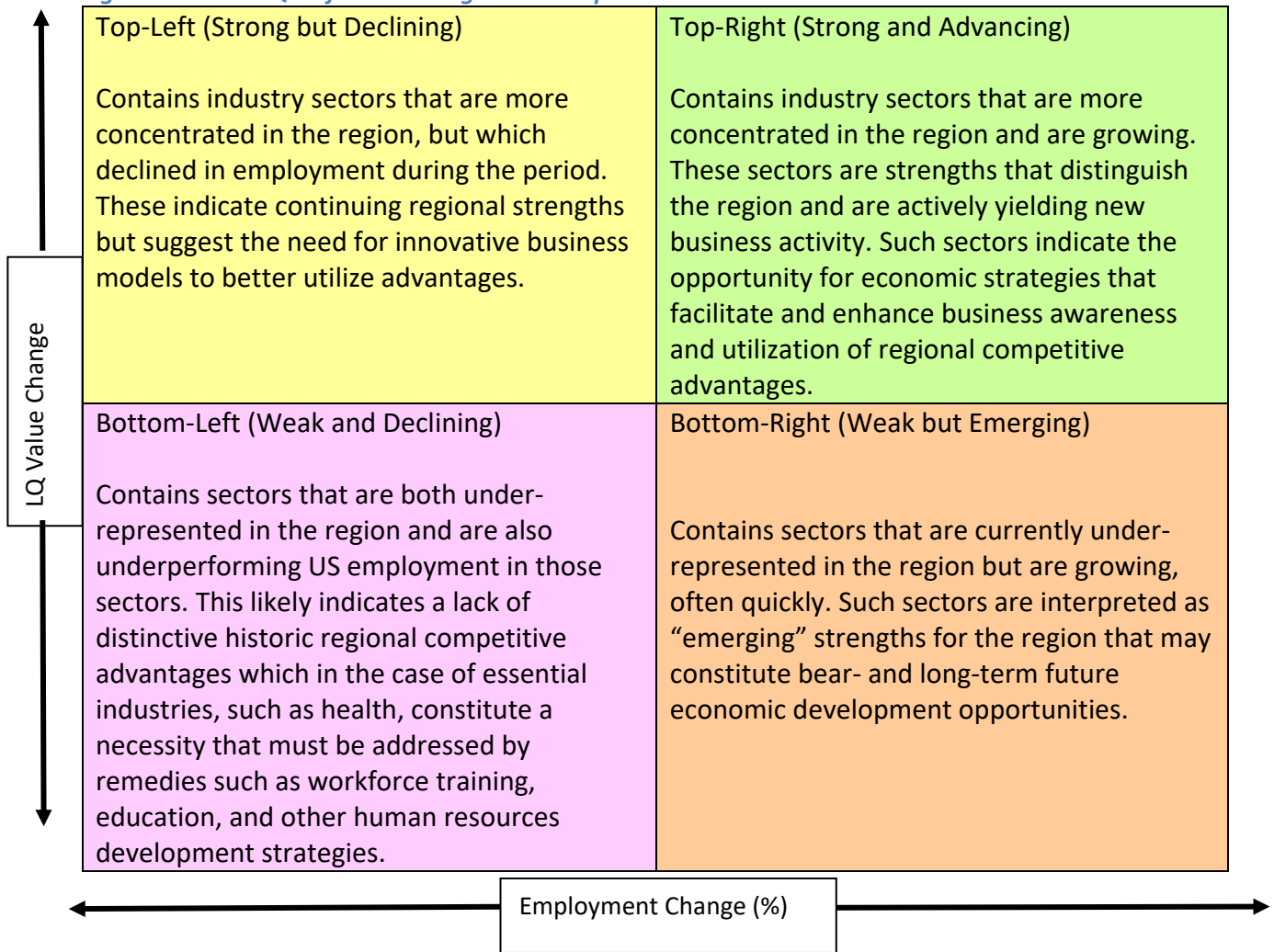
The data for these periods are shown in Table 2.

**Table 2 Employment and LQ Change (2001-2019)**

Industry Sector	2001-2019	2001-2019	2010-2019	2010-2019	2019
	Change%	LQ Change	Change%	LQ Change	Employment
Forestry	NA	NA	NA	NA	NA
Mining	NA	NA	NA	NA	NA
Utilities	-47%	-1.01	-30%	-0.51	379
Construction	-2%	-0.20	22%	-0.01	6,443
Manufacturing	-24%	0.02	36%	0.24	6,878
Wholesale	-14%	-0.17	-1%	-0.03	2,551
Retail	10%	0.08	5%	0.01	11,616
Transportation	215%	0.48	63%	0.02	4,183
Info	-17%	-0.01	-3%	-0.05	1,422
Finance	28%	-0.08	-4%	-0.19	4,760
Real Estate	78%	-0.03	14%	-0.07	4,246
Professional	37%	-0.08	13%	-0.05	5,526
Management	273%	0.30	49%	0.06	599
Admin	52%	0.14	23%	0.05	5,289
Education	65%	0.03	11%	-0.01	1,150
Health	51%	0.01	13%	-0.01	7,519
Entertainment	68%	0.06	18%	-0.04	2,084
Hospitality	61%	0.16	20%	-0.02	7,615
Other	26%	-0.01	16%	0.01	5,653

The outputs of the shift-share analysis are displayed as “bubbles” representing employment in the industry sector positioned on a grid in which the X-axis position represents industry sector employment change over the period and the Y-axis position indicates change in the Location Quotient (LQ) value for the industry sector. The result is a graphical depiction of industry sectors over four quadrants where their position indicates trends and prospects for industrial development as described in Figure 2.

**Figure 2 LQ Shift-Share Diagram Description**



A comparison of the relative long- (Figure 3) and short-term (Figure 4) competitive positions of Clermont’s industry sectors displays a distinct and significant “Top-Right” directional shift. The long-term economic shift had left many Clermont County industries in relatively middling competitive positions. But more recent, short-term trends have taken several of the industry sectors in a far more positive direction into or toward “Strong and Advancing” Top-Right quadrant indicating that positive employment growth in industry sectors with increasing LQ concentration in Clermont County.

FIGURE 3 CLERMONT LONG TERM ECONOMIC REALIGNMENT (2001-2019)

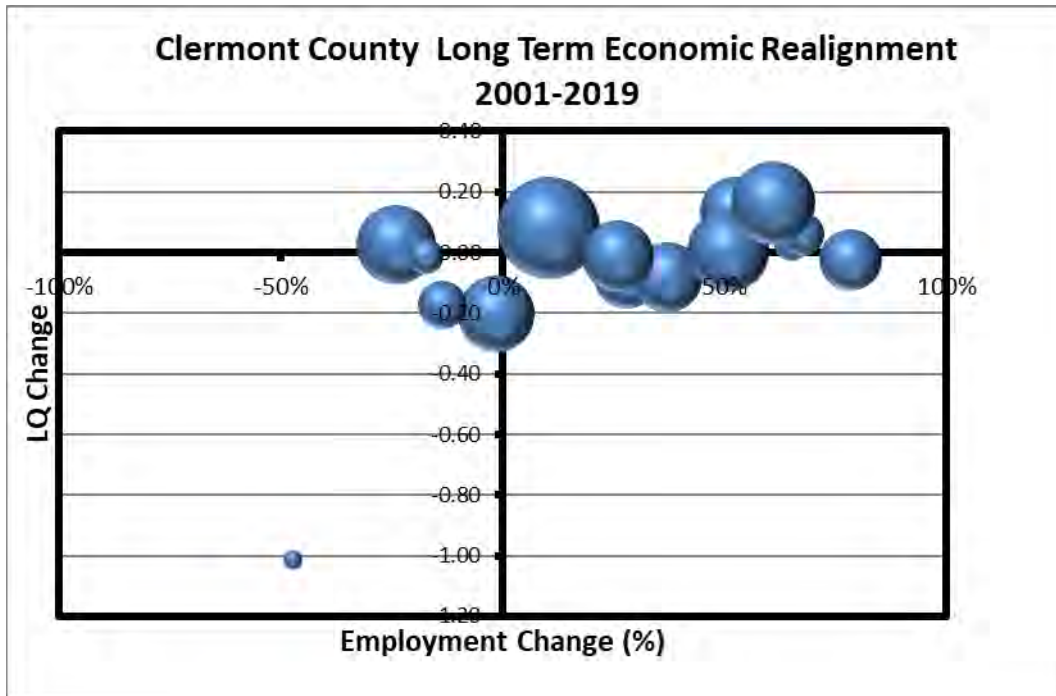
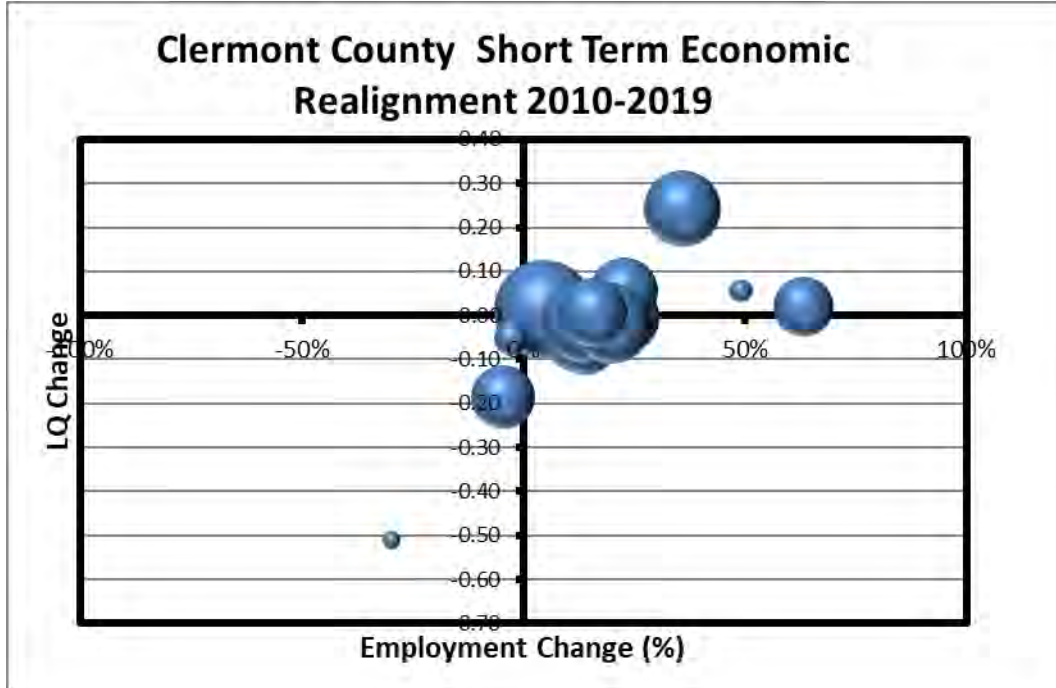


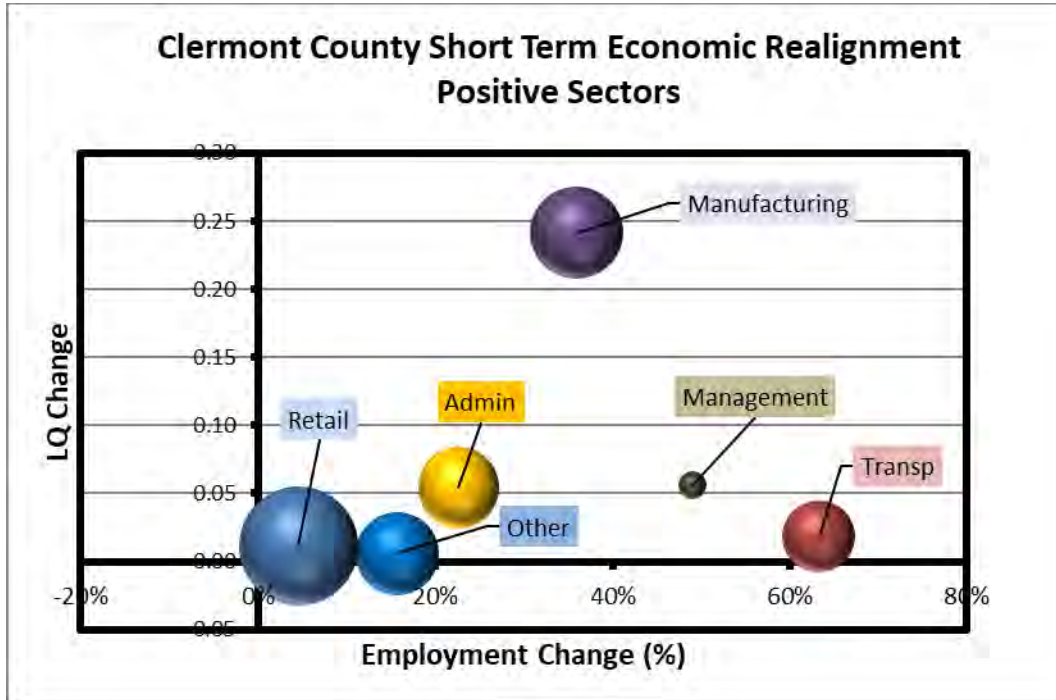
FIGURE 4 CLERMONT SHORT TERM ECONOMIC REALIGNMENT (2010-2019)



### 3.1.2. Clermont’s Positive Economic Sectors

There were six (out of a total of 19) Clermont County industry sectors that exhibited improved gains in LQ value and employment patterns in the 2010-2019 short-term period as compared to those sectors’ long-term 2001-2019 values. (Figure 5).

FIGURE 5 CLERMONT POSITIVE SHORT TERM ECONOMIC REALIGNMENT



The strength of the short-term LQ gain varied widely across these sectors, ranging a LQ increase 0.24 in the Manufacturing sector to only 0.01 in the Retail sector. The specific industry sectors showing the most positive short-term (2010-2019) LQ movement included (Table 3):

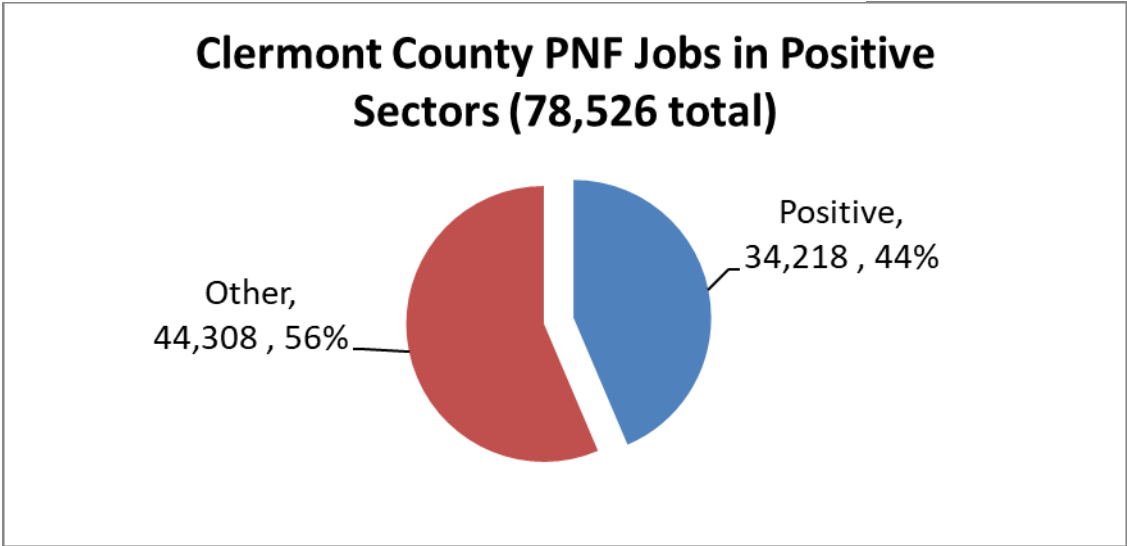
**Table 3 Clermont Positive Industrial Sectors**

Positive Sectors	LQ gain	Jobs
<b>Manufacturing</b>	0.24	6,878
<b>Management</b>	0.06	599
<b>Admin</b>	0.05	5,289
<b>Transportation</b>	0.02	4,183
<b>Retail</b>	0.01	11,616
<b>Other</b>	0.01	5,653
<b>Total</b>		34,218



It is significant that these six positive sectors, while a minority of the total nineteen private industry sectors, account for a very large share of economic activity in Clermont County. Together the six positive sectors account for 34,218 (44%) of all private sector jobs in the county. (Figure 6) This indicates that business activity in these sectors have a significant effect on the Clermont County economy.

FIGURE 6 CLERMONT REGION JOBS IN POSITIVE SECTORS



It is expected that the economic strengths in Clermont County’s positive industry sectors would similarly offer bases for entrepreneurial development, with new ventures capitalizing on the underlying region advantages. That prospect was examined and is discussed in the next section.

**4. Clermont County Base Level Entrepreneurial Activity**

Entrepreneurship is an inherent activity in any economy. Indeed, research has found that the differential between economies with perceived high versus low levels of entrepreneurial activity is generally not great, often just a matter of a few percentage points. But where in an economy those relatively few additional new firms arise can have tremendous “downstream” significance as a subset of such local “startup” businesses may survive, mature, and expand into substantial high growth enterprises with disproportionately large economic roles.

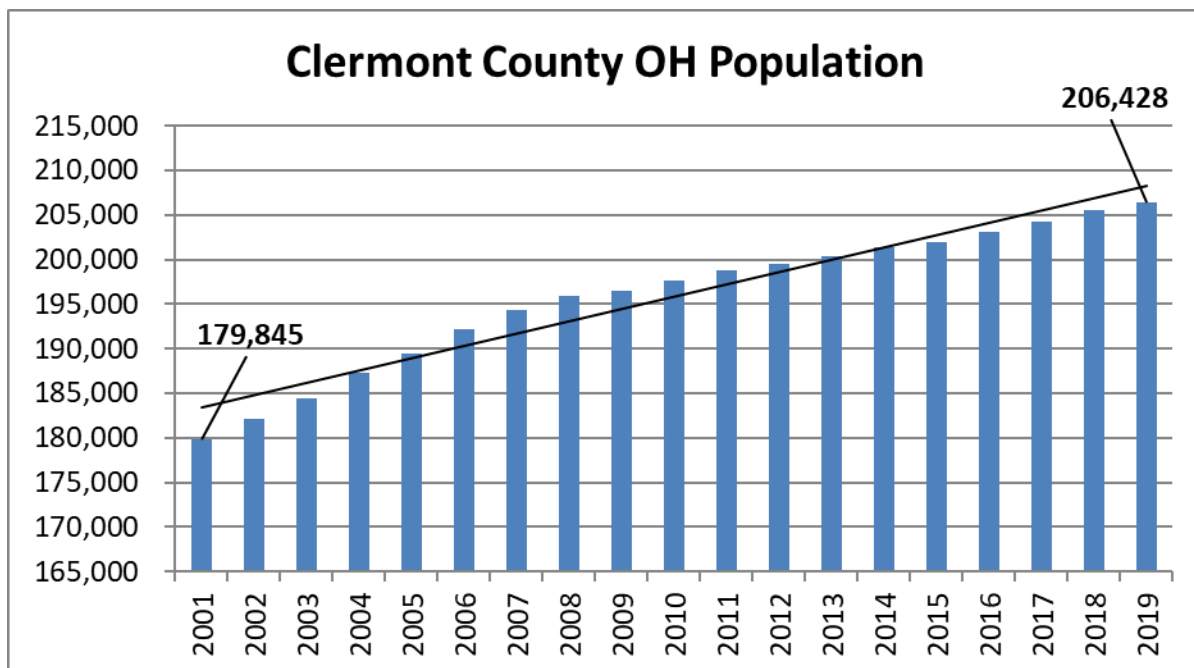
A challenge in economic development is to discern where such opportunities are already in evidence and intercede effectively with the correctly focused entrepreneurial support. It is a fascinating prospect, for which the viability is a function of several factors. Some of these factors are immediately quantifiable through extrapolations of recent market area trends. But other equally significant factors but can be examined only indirectly, such as or by inferences drawn from applicable research applied to the Clermont County economy. In this section we discuss the findings of a combination of these approaches to describe the opportunities for entrepreneurial development in the county and offer some insights on potential strategies.

## 4.1 Population Trends and Entrepreneurship

Given that research have found a general correlation between a region’s population growth and its level of entrepreneurial activity, Clermont County’s more positive trend in population growth relative to Ohio is encouraging. This positive trend alone is likely to enhance the county’s entrepreneurial prospects as new businesses start, and existing small businesses expand, to supply the increasing demand for products and services of a growing population of potential customers. However, it is important to note that such population-correlated growth tends to favor largely retail and service sectors, so called “non-traded” sectors, rather than growth by businesses in “traded” industry sectors that serve non-local – meaning in this case “non-Clermont County” customers elsewhere in Ohio and the world.

The population of Clermont County has grown steadily over the past two decades (Figure 7). From just under 180,000 in 2001, the county’s population grew 14.8% to 206,000 in 2019.

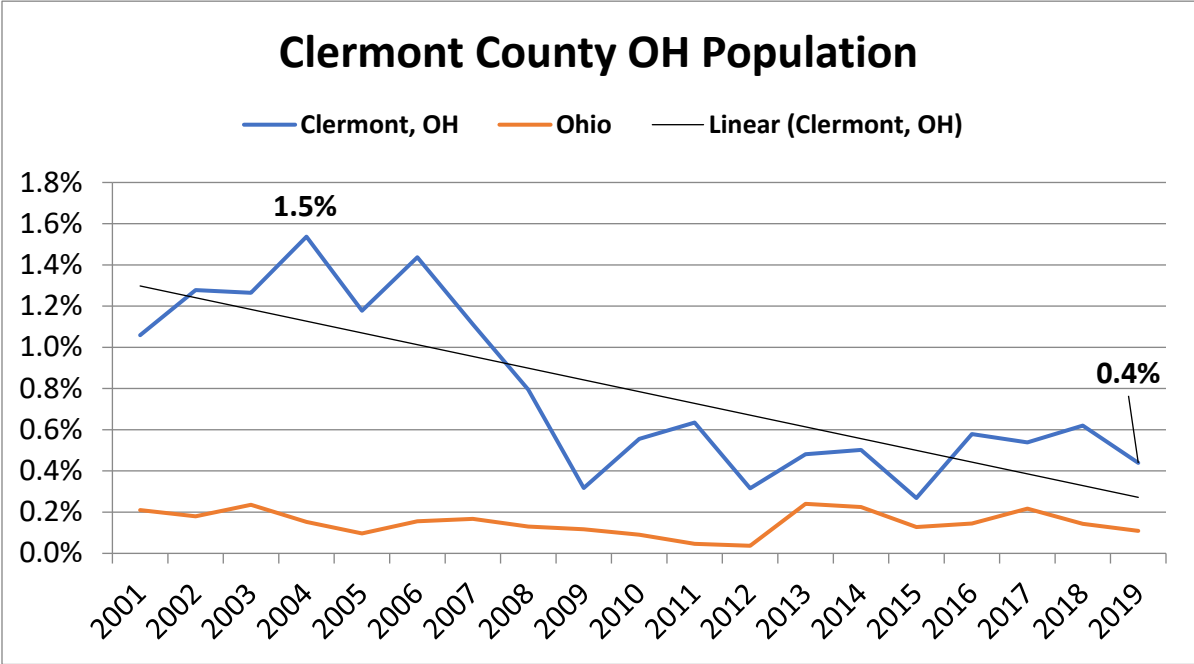
FIGURE 7 CLERMONT COUNTY POPULATION



This rate of population is noteworthy, especially given that over the same period the population of the State of Ohio grew a total of only 2.6%. Clermont’s higher relative rate of population growth is further illustrated in Figure 8 where the county’s annual rates of growth exceeded that of Ohio in every year of the 2001 to 2019 period.

But this graphic also shows that Clermont’s population growth rate, while still positive, has nonetheless been slowing dramatically in more recent years. After peaking at 1.5% annually in 2004, the county’s annual population growth rate has slowed to 1.4% by 2019. Thus, it is reasonable to conclude that, to whatever extent entrepreneurial activity in Clermont County has been supported by higher rates of population growth, that impetus is lessening as the county’s population growth is slowing.

Figure 8 Clermont County Population Annual Growth Rate



This slowing population growth could have implications for Clermont’s future entrepreneurial activity to the extent it affects entrepreneurial activity. Research on US rates of business startups have found that decreases in population growth tend to lower new firm “entry” rates, with the effect of shifting the regional firm-age distribution towards older firms. <sup>2</sup> Moreover, further research found that, rather than being a geography- or industry-specific effect, the relationship between regional population growth and firm formation rates is remarkably strong, even after controlling for other factors—including regional effects, industrial and labor market composition, culture, and public policies.

**4.2 Absolute Business Formation Rates**

Fortunately, this generally strong relationship between slowing population growth and entrepreneurial activity can have exceptions, especially when the population decline is a function of economic dislocation-driven outmigration. In such scenarios, as may be the case in Clermont County, economic realignments lead to employment contraction (and associated outmigration) by businesses in some industry sectors. But robust resource and location advantages can be then redeployed for use by other new and attracted firms with more

competitive business models. In such instances, regional advantages revealed and reallocated through economic realignment can enable a newer generation of companies to begin the slow process of growth to regional preeminence.

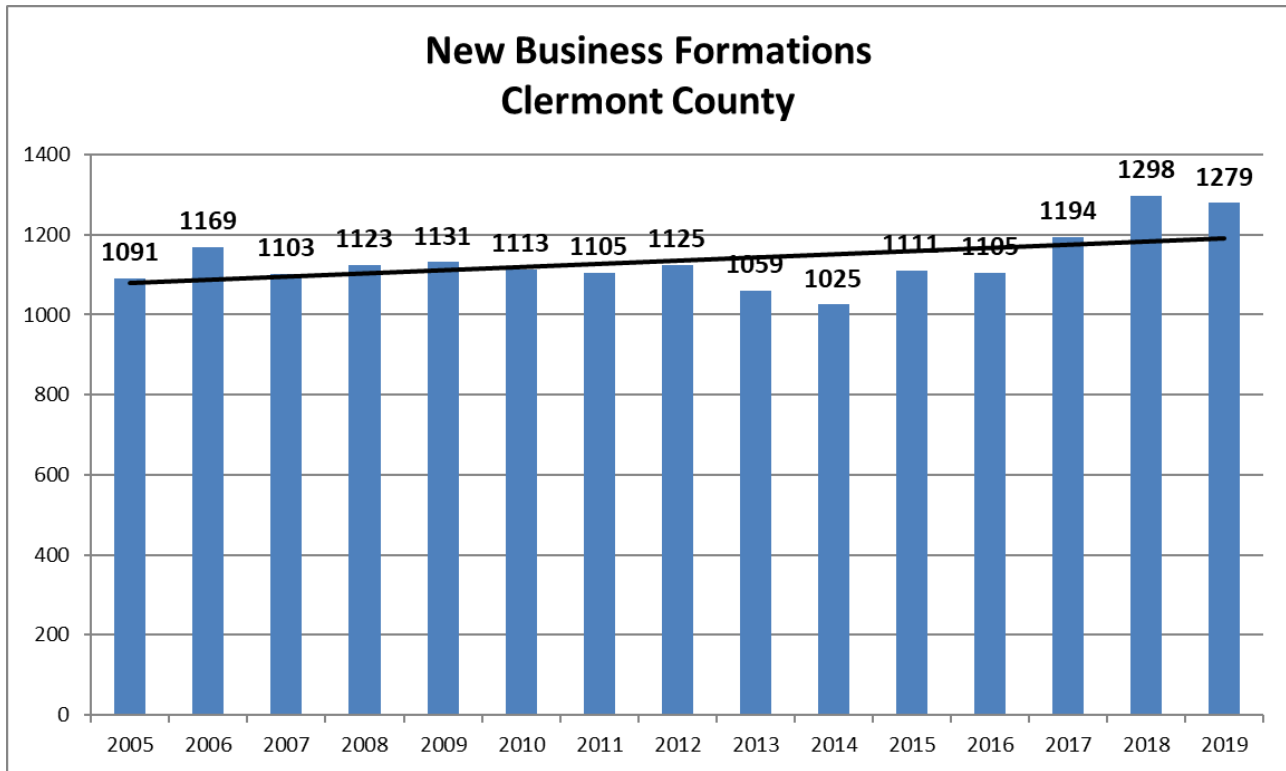
The potential for such a phenomenon may be first detected in its earliest stages when the growth in the rate of new business starts, rather than matching along with slowing population growth, begins to rise faster than population growth. There is evidence that this may be the case in Clermont County and suggests a potentially stronger market potential than otherwise indicated.

That evidence is in the form of previously unavailable information on entrepreneurial activity, Business Formation Statistics (BFS), which are an experimental data product of the U.S. Census Bureau being developed by economists affiliated with Board of Governors of the Federal Reserve System. BFS data is distinguished from other, less substantive measures of entrepreneurial activity in that it includes only new businesses applying for Employer Identification Numbers (EINs) in the United States and are thus associated with new companies with employees (as opposed to self-employed or sole proprietorships). The BFS measures both business initiation activity and the cycle from initiation to realized business formation. The BFS thus gives an early look at business formation activity within the U.S. at a detailed state level and regional level.

#### **4.2.1 Clermont County Recent New Business Formations**

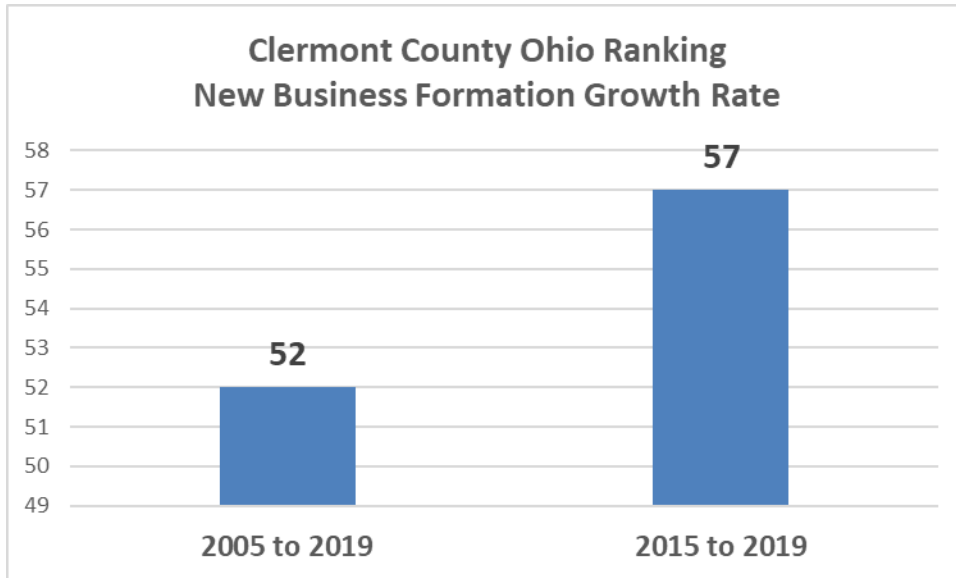
Analysis of BFS data available through the US Census found a recent and sustained increase in new business formations in Clermont County. Over the 2005 to 2019 period for which data was available, Clermont County consistently added had more than a thousand new businesses with employees annually. (Figure 9) The county has even experienced a modest increasing annual rate of new business formations which contrasts with the declining rate of population growth in the period. In fact, the county achieved its two highest years of new business formation in 2018 and 2019.

FIGURE 9 CLERMONT COUNTY NEW BUSINESS FORMATIONS



Despite these positive trends, it must be noted that Clermont County is not particularly entrepreneurial relative to other Ohio counties. The US Census BFS database was queried for information on business initiation activity in all 88 Ohio counties over the past several years. Analysis of this data found that Clermont County’s New Business Formation growth rate has lagged that of most Ohio counties in both the long and short term. While new business formations in the county increased by 17.2% between 2005-2019, and by 15.1% in the more recent 2015-2019 period, Clermont ranks only 52<sup>nd</sup> and 57<sup>th</sup> (out of 88 counties) in those periods respectively. (Figure 10)

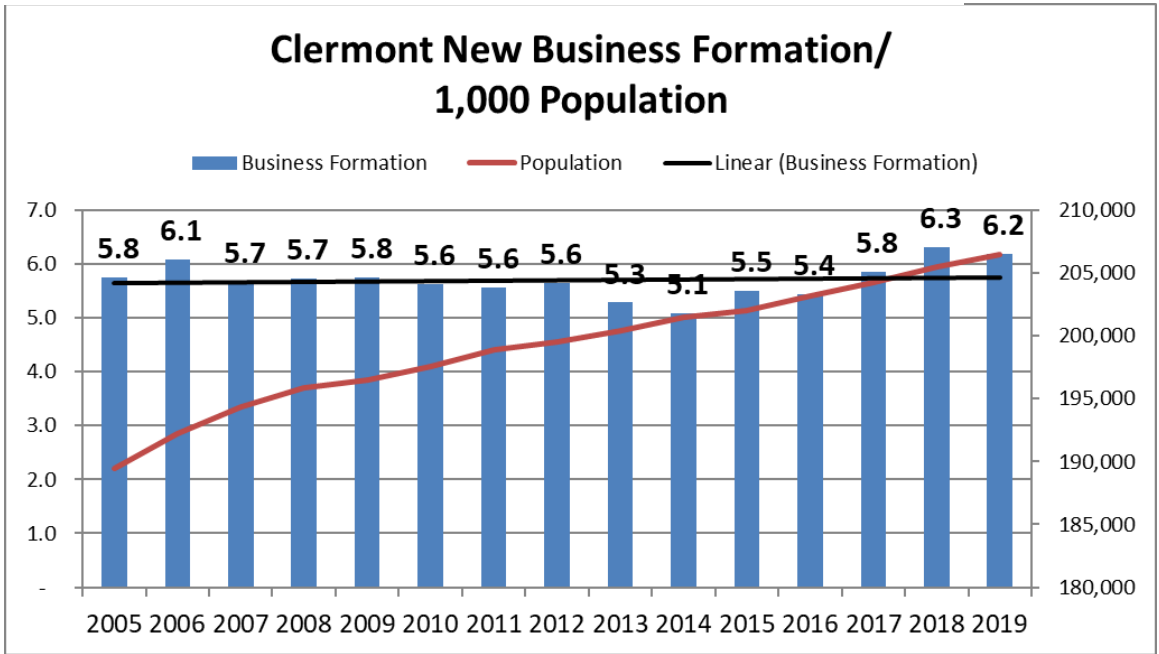
FIGURE 10 CLERMONT COUNTY ENTREPRENEURIAL ACTIVITY RANKING



#### 4.2.2. Population-Weighted Business Formation Rates

The potential significance of such rankings needs to take into account the reality that the population of Ohio's counties vary greatly, and with such variance comes high levels of data volatility as even small changes in business formation rates can have exaggerated effects in smaller population counties. For that reason, a deeper analysis was performed to determine Clermont County's population-adjusted rate of new business formation over the 2005-2019 period. This analysis looked at the annual rate of new business formations per 1,000 population and compared the change rate of business formation to population. (Figure 11)

FIGURE 11 CLERMONT COUNTY POPULATION WEIGHTED NEW BUSINESS FORMATION RATE



This analysis showed that the changing rate of population growth in Clermont County has had very little effect on changing rates of new business formation. In fact, new business formations per 1,000 people have been remarkably consistent as the population of Clermont County has grown. Perhaps more importantly, business formation, rather than slowing as the rate of population growth has slowed (since 2014), population-adjusted business formation rates have actually accelerated significantly – from 5.1 to 6.2 - over the most recent years.

One interpretation of this recent inflection can be that a new generation of entrepreneurial firms is forming in Clermont County from the re-utilization of resources and locational assets freed up by long-term economic realignment. This can be encouraging news for economic development initiatives in Clermont County that are premised on cultivating nascent business opportunities.

This sustained increase suggests both an increasingly positive economic climate for entrepreneurial development in the region and the probable existence of a significant market of nascent ventures in the Clermont County “entrepreneurship pipeline”. Census data on new business formation inevitably undercounts entrepreneurship as it only identifies businesses that apply for governmental Employer Identification Numbers (EINs) for employment tax purposes. It therefore omits non-employer businesses, such as sole proprietorships, as well as potential ventures still at the ideation and evaluation stages of entrepreneurial development. While it is unknown what percentage of nascent firms mature to the formation stage, at which they might apply for an EIN and become statistically visible, encouraging more prospective entrepreneurs to begin that process and then accelerating their maturation could significantly increase the size and diversity of Clermont County’s business population.

## **5. Clermont County's Emerging Businesses**

The basic task in assessing the potential market for a targeted entrepreneurial development effort is the identification and characterization of how many “nascent” businesses, or those just coming into existence, might exist in Clermont County. This task is challenging as nascent prospects are, by definition, individually statistically invisible. Most exist only in the minds of their potential founders as ideas and intentions. Others may have progressed further toward realization in the form of hobbies or crafts or part-time consulting “gigs”, perhaps being sold in weekend markets, through on-line platforms, or websites.

Fortunately, assessing the feasibility of an entrepreneurial development strategy does not require identifying specific client prospects but rather the likelihood of their existence. And that potentiality can be deduced from the existence of their predecessors. Just as the potential diners at a planned restaurant can be inferred from the number of filled tables at similar nearby establishment, so can the number and nature of potential Clermont County businesses be inferred from the composition of the region's current business population. Each of these, and probably multiples of additional potential businesses that were not “realized”, were previously at the earliest stage of conception. It is the number and nature of those realized businesses that provide the basis for estimating the potential Clermont County entrepreneurial market. Incubator.

### **5.1. Clermont County Business Demographics in Positive Sectors**

The size and composition of the current Clermont County small business population provide precedents that can inform an understanding of the area's emerging entrepreneurial market. Research indicates that this may be a particularly valid in examinations of the smaller size cohort of businesses present in those Clermont County industrial sectors exhibiting persistent regional advantages via their increasing Location Quotient values.

As discussed in a previous section of this report, Location Quotients (LQ) are an analytical statistic measuring a region's industrial specialization relative to a larger geographic unit (usually the nation). An LQ is computed as an industry's share of a regional total for some economic statistic (earnings, GDP by metropolitan area, employment, etc.) divided by the industry's share of the national total for the same statistic. As previously discussed, LQ values can also be used as the basis for shift-share analysis to examine changes in a region's industrial concentrations over time, revealing competitive advantages to be capitalized upon through economic development strategies.

This technique was applied in an earlier section to identify industrial sectors within the Clermont County economy that recently increased their LQ values during the on-going, long-term economic realignment. This analysis identified six (out of a total of 19) industry sectors in Clermont County that showed near-term improved gains in LQ value and employment patterns. While the analysis of these positive sectors discussed in the previous section emphasized their employment contributions, examining the composition of the number and sizes of businesses in the six positive sectors provides additional information on the potential makeup of the



Clermont County entrepreneurial population.

### 5.1.1 Business Industry Distribution in Clermont County Positive Sectors

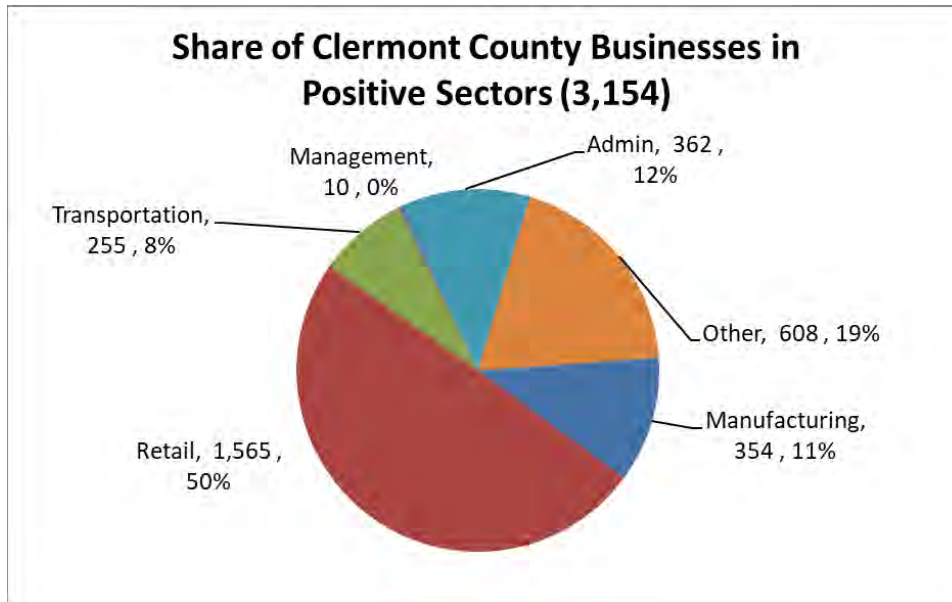
In 2019 the six positive sectors comprised a total of 3,154 businesses (Table 4). The largest share of these were in the Retail sectors, which accounted for 50% of the total. However, it is important to note that of the six positive sectors, the Retail sector experienced the weakest gain in LQ value, which suggests it may be the least robust of the sectors for future entrepreneurial development due to the relative insignificance of its regional competitive advantage.

*Table 4 Clermont County Positive Sectors LQ Gains and 2019 Businesses*

Positive Sectors	LQ Gain	2019 Businesses	% Firms
<b>Manufacturing</b>	0.24	354	11%
<b>Management</b>	0.06	10	0.3%
<b>Admin</b>	0.05	362	11%
<b>Transportation</b>	0.02	255	8%
<b>Retail</b>	0.01	1,565	50%
<b>Other</b>	0.01	608	19%
<b>Total</b>		3,154	

At the opposite end of the spectrum, the Manufacturing sector was found to have increased its already strong concentration in the Clermont County economy while comprising a small but significant share (11%) of firms in the positive sectors. (Figure 12) One interpretation of this combination is that while future new manufacturing ventures starting in Clermont County may not be numerous, those that do could be able to better leverage distinctive local attributes to achieve significant marketplace competitive advantages in their markets, thus positioning them for greater growth.

FIGURE 12 SHARE OF CLERMONT COUNTY BUSINESSES IN POSITIVE SECTORS



### 5.1.2. Business Size Distribution in Clermont County Positive Sectors

These industry distribution characteristics are encouraging for an economy, like Clermont County, that is challenged to grow and attract businesses employing strategies which capitalize on the region's competitive advantages in new ways. That the region is already experiencing some success in this challenge is evidenced by the dominant role of smaller businesses in the county's positive sectors.

The great majority of businesses in the six Clermont County positive sectors are small, locally owned firms with 83% currently having fewer than 20 employees - perhaps positioned for substantial future growth (Figure 13). These businesses are also predominantly locally owned, with 68% being sole locations rather than branches or subsidiaries of larger companies (Figure 14). This indicates that even given the county's relatively healthy economic growth of the past few decades, Clermont is fertile ground for new entrepreneurs and could produce more.

FIGURE 13 OWNERSHIP OF CLERMONT COUNTY BUSINESSES IN POSITIVE SECTORS

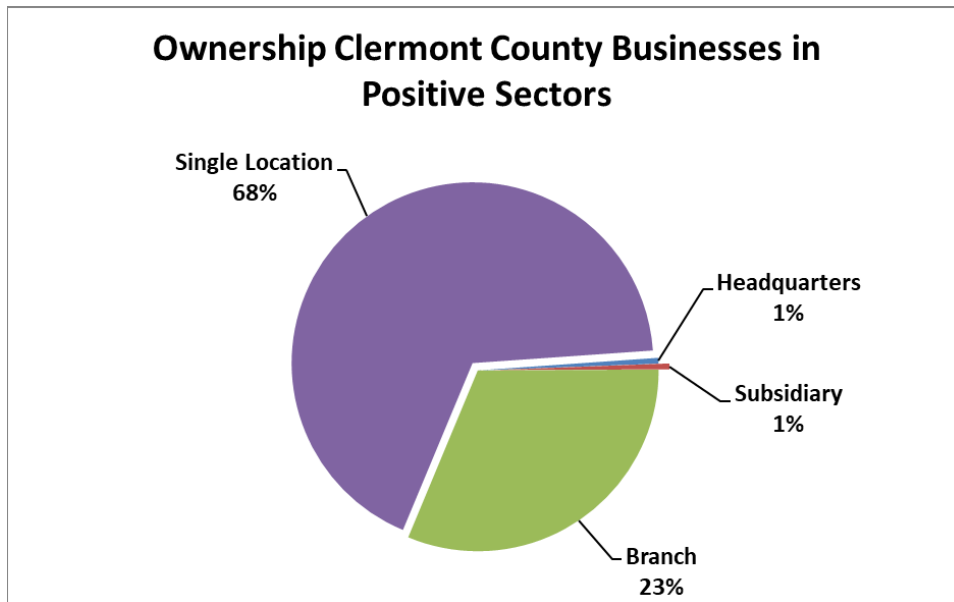
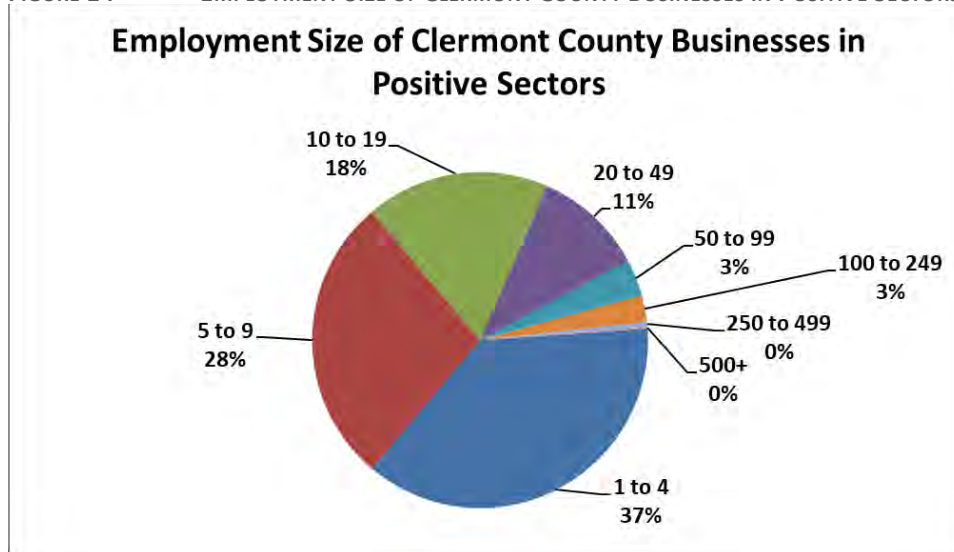


FIGURE 14 EMPLOYMENT SIZE OF CLERMONT COUNTY BUSINESSES IN POSITIVE SECTORS



## **6. Clermont County's Growth Positioned Attraction Prospects**

This research project focused on producing information for the attraction of growth positioned entrepreneurial firms to locate along the Clermont County Highway 32 Industrial Corridor. The goal was to identify a set of firm attraction candidates or a "Virtual Portfolio", derived from positive industry sectors previously identified for Clermont County, as representative examples of economic development prospects.

### **6.1 Prospect Identification**

The prospect identification was conducted by focusing on growth positioned firms' potentially seeking relocation and/or expansion locations correlated with Clermont County economic strengths as evidenced by recent patterns of industrial development. The resulting constructed Virtual Portfolio delineates firm characteristics in workforce and infrastructure to inform ongoing and near-term economic development efforts and provide basis for economic impact estimation.

#### **6.1.1 Disaggregation of Clermont County positive industrial sectors**

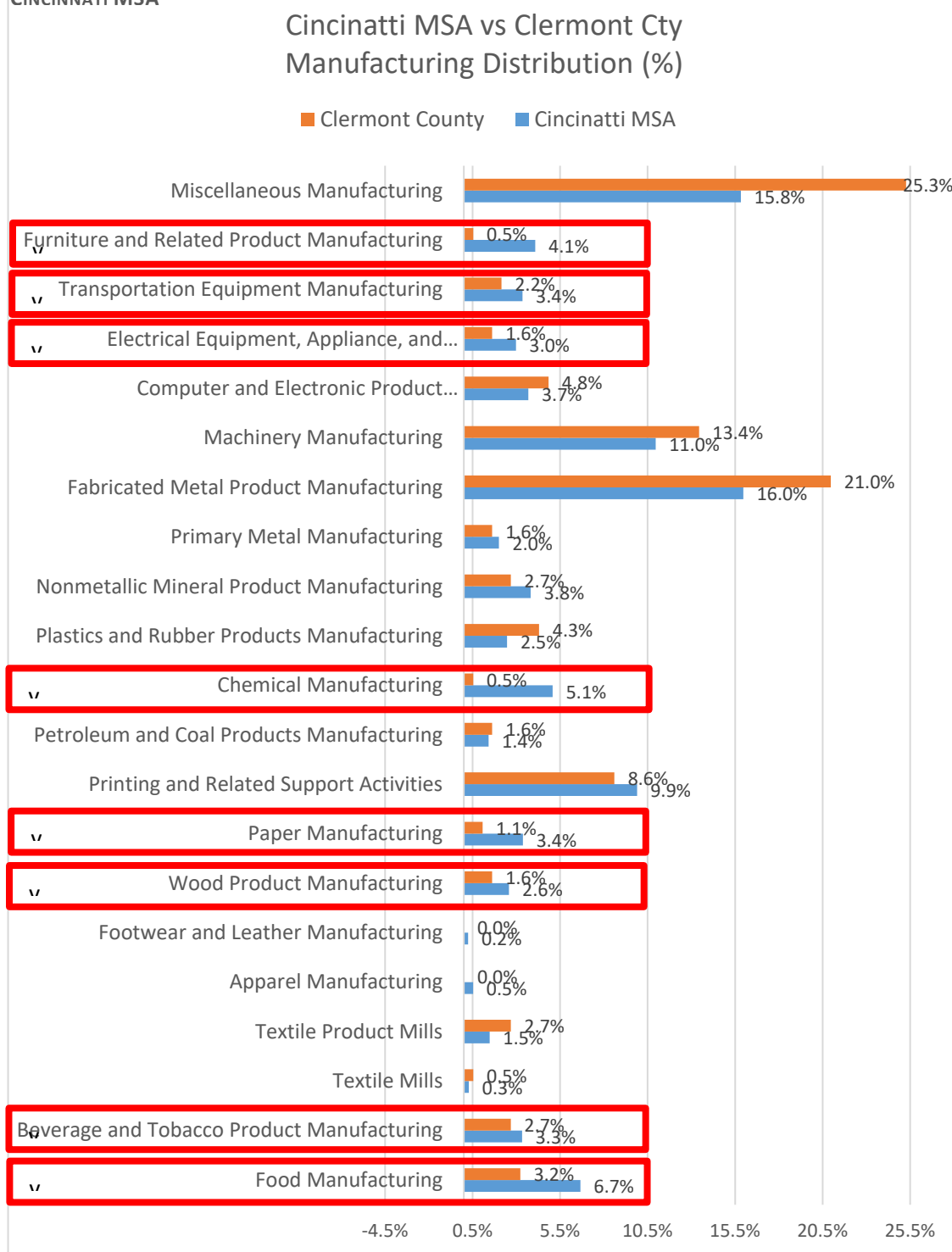
Previously identified Clermont County positive industrial sectors were disaggregated to 3-digit NAICS code levels to specify distinctive market-validated subsector advantages. These sectors were further differentiated at more precise levels by their constituent firms. Out of a total of 232 manufacturing firms, 186 operating as either headquarter (HQ) or sole location (SL) locally-owned firms were identified in 19 3-digit NAICS manufacturing categories (Table 5).

*Table 5 Distribution of HQ/SL Firms in Clermont County's Manufacturing Sector*

<b>Clermont County Manufacturing Industry Sector HQ/SL Firm Distribution</b>		
<b>NAICS Code</b>	<b>NAICS Category</b>	<b># Firms</b>
	Textile Mills	1
325	Chemical Manufacturing	1
	Furniture and Related Product Manufacturing	1
322	Paper Manufacturing	2
	Wood Product Manufacturing	3
324	Petroleum and Coal Products Manufacturing	3
	Primary Metal Manufacturing	3
335	Electrical Equipment, Appliance, and Component Manufacturing	3
	Transportation Equipment Manufacturing	4
312	Beverage and Tobacco Product Manufacturing	5
	Textile Product Mills	5
327	Nonmetallic Mineral Product Manufacturing	5
	Food Manufacturing	6
326	Plastics and Rubber Products Manufacturing	8
	Computer and Electronic Product Manufacturing	9
323	Printing and Related Support Activities	16
	Machinery Manufacturing	25
332	Fabricated Metal Product Manufacturing	39
	Miscellaneous Manufacturing	47
<b>TOTAL</b>		<b>186</b>

The resulting Clermont County HQ/SL industry sectoral population distribution was compared with the manufacturing industry distribution of the broader Cincinnati Metropolitan Statistical Area (MSA) to identify prevalent regional sectors with firm under-representation – highlighted within red lined boxes - in Clermont County. (Figure 15)

FIGURE 15: COMPARISON OF THE MANUFACTURING INDUSTRY DISTRIBUTION OF CLERMONT COUNTY TO THE CINCINNATI MSA



This analysis identified 8 “high potential” NAICS3 sectors (Table 6) in which the Cincinnati MSA region had significantly larger share of manufacturing firms than Clermont County. This indicates that the regional economy, that includes Clermont County, has market-validated advantages that have attracted firm creation, relocation, and growth in those sectors. The lower share these sectors represent in Clermont County’s economy further suggest the county can leverage those advantages in a targeted effort toward growth firms within those sectors.

*Table 1 High Potential NAICS3 Sectors*

NAICS3	NAICS Category
311	Food Product
312	Beverage and Tobacco Product
321	Wood Product
322	Paper
325	Chemical
335	Electrical Equipment
336	Transportation Equipment
337	Furniture and Related Product

**6.1.2 Parent Company Geographic Analysis**

Geographic analysis of Clermont County subsidiary firms’ parent companies’ locations to delineate established patterns of regional advantage recognition and location capture behavior that reveal locations from which to derive future business (re)location prospects

Subsidiary location decisions made by parent companies involve consideration of a broad set of factors. Such decisions collectively constitute a market-based validation of a selected region’s comparative economic advantages for those firms’ industry sectors either as contrasted with the home region of the parent company or alternative subsidiary location options. Therefore, the decisions of parent companies to locate subsidiaries in Clermont County are compelling, empirical evidence of industry preferences that reveal high potential geographic targets for the solicitation of additional economic development prospects from the county.

The population of Clermont County subsidiary firms with verified parent company relationships within the 8 “high potential” NAICS3 sectors were examined to identify the home regions of those parent companies. These locations – representation – highlighted within red lined boxes with the exception of Ohio - became the target market areas from which relocation and expansion prospects for Clermont County would be identified (Table 7).

*Table 7 Home Regions of High Potential NAICS3 Sectors outside of Ohio*

City	State	Firms
Siloam Springs	AR	1
Canoga Park	CA	1
Centennial	CO	1
Melbourne	FL	2
Orlando	FL	2
Atlanta	GA	1
Carol Stream	IL	2
Chicago	IL	2
Batesville	IN	1
De Soto	KS	1
Florence	KY	1
St Louis	MO	1
Davidson	NC	1
Parsippany	NJ	1
College Point	NY	1
Akron	OH	3
Cincinnati	OH	3
Medina	OH	3
Coraopolis	PA	3
Pittsburgh	PA	3
Yardley	PA	3
Franklin	TN	1
Carrollton	TX	3
Irving	TX	3

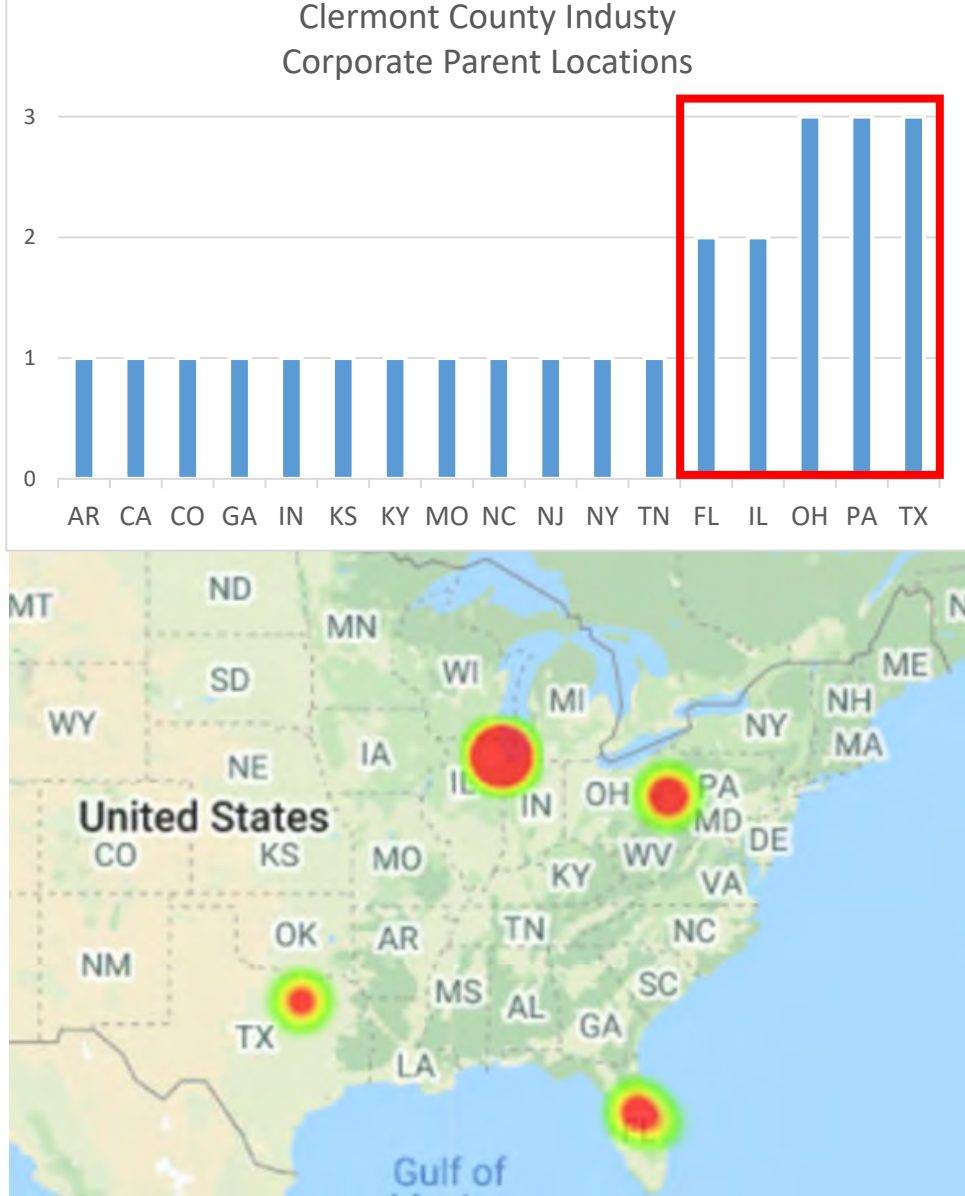
Parent corporations from four non-Ohio states representation – highlighted within red lined boxes - exhibited the strongest market-validated preferences for Clermont County as a location: Texas, Pennsylvania, Ohio, Illinois, and Florida (Figure 16). Nonetheless, as location preferences are most often aligned with city or metropolitan area characteristics, the actual corporate parent home city locations were used in the search parameters for Clermont County prospects.<sup>1</sup>

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<sup>1</sup> Identification of headquarters and sole location growth positioned candidate firms matching Clermont positive industry subsectors and geographic location sourcing patterns



FIGURE 16 DISTRIBUTION AND MAP OF CLERMONT COUNTY INDUSTRY CORPORATE PARENT LOCATIONS



### 6.1.3 Prospect Profiling and Identification

Identify headquarters and sole location growth positioned candidate firms matching Clermont positive industry subsectors and geographic location sourcing patterns.

Information on high potential industry sectors and geographic locations was combined with research evidence on growth-positioned company characteristics to compile a Clermont County prospect profile. (Table 8) Searches of a proprietary commercial business database using the Clermont County Prospect Parameters identified 347 verified businesses meeting all 6 of the parameters.

*Table 8 Revised Clermont County Prospect Parameters*

Revised Clermont County Prospect Parameters	
<b>Industry Sector</b>	9 NAICS3 high potential categories
<b>Geography</b>	Twelve target cities in IN, TN, MO, FL, TX, IL, and PA
<b>Ownership</b>	Headquarters (HQ) or Sole Locations (SL)
<b>Employment</b>	10 to 249 employees
<b>Revenues</b>	\$5MM to \$500MM
<b>Facility Size</b>	10,000 to 40,000 square feet

#### Geography

These prospects were not evenly divided geographically (Table 9); however, they were present in all twelve targeted cities. (Table 3) Prospects were concentrated in Chicago (51%), Indianapolis (12%), Pittsburgh (10%), and St. Louis (9%). (Figure 17)

*Table 9 Geographic Distribution of the 12 Targeted Cities*

City	State	#Firms	%
<b>Melbourne</b>	FL	6	1.7%
<b>Orlando</b>	FL	15	4.2%
<b>Carol Stream</b>	IL	5	1.4%
<b>Chicago</b>	IL	180	51.0%
<b>Indianapolis</b>	IN	43	12.2%
<b>St. Louis</b>	MO	30	8.5%
<b>Coraopolis</b>	PA	4	1.1%
<b>Pittsburgh</b>	PA	34	9.6%
<b>Yardley</b>	PA	2	0.6%
<b>Nashville</b>	TN	14	4.0%
<b>Carrollton</b>	TX	6	1.7%
<b>Irving</b>	TX	8	2.3%
<b>TOTAL</b>		347	

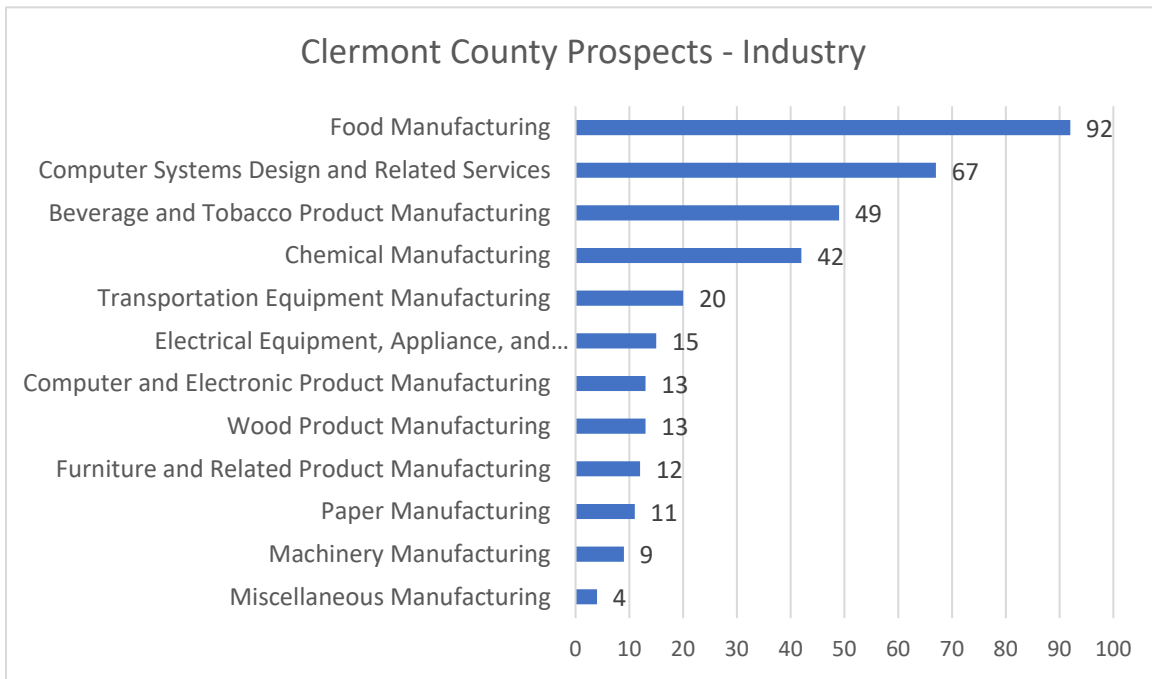
FIGURE 17 MAP OF THE CONCENTRATION OF THE TARGETED CITIES



### Industry

The Clermont County prospect pool was similarly concentrated in terms of its distribution across the 9 NAICS9 high potential categories (Figure 18). Of the 347 prospects identified, a large plurality were in Food Manufacturing (92), followed by Computer Systems Design (67), Beverage (49), Chemicals (42), and Transportation Equipment (20).

Figure 18 Industry Distribution of Clermont County Prospects



NAICS3	NAICS Category	#Firms
339	Miscellaneous Manufacturing	4
333	Machinery Manufacturing	9
322	Paper Manufacturing	11
337	Furniture and Related Product Manufacturing	12
321	Wood Product Manufacturing	13
334	Computer and Electronic Product Manufacturing	13
335	Electrical Equipment, Appliance, and Component Manufacturing	15
336	Transportation Equipment Manufacturing	20
325	Chemical Manufacturing	42
312	Beverage and Tobacco Product Manufacturing	49
541	Computer Systems Design and Related Services	67
311	Food Manufacturing	92
	TOTAL	347

### Scale

As expected for growth-positioned entrepreneurial industrial firms, the Clermont prospect pool trended to the smaller ends of the scale related parameters. Most of the prospects reported annual revenues of \$5 to \$10 million (178) or \$10 to \$20 million (87) (Figure 19). Employment was similarly concentrated in the lower levels of 10 to 19 (190) and 20 to 49 (152) (Figure 20). Despite these tendencies, a majority of firms operated in the large of the two facility size parameters, with 228 in the 20,000 to 39,999 s.f. range, compared to the 119 firms in 10,000 to 19,999 s.f. range (Figure 21).

FIGURE 12 REVENUE DISTRIBUTION OF CLERMONT COUNTY PROSPECTS

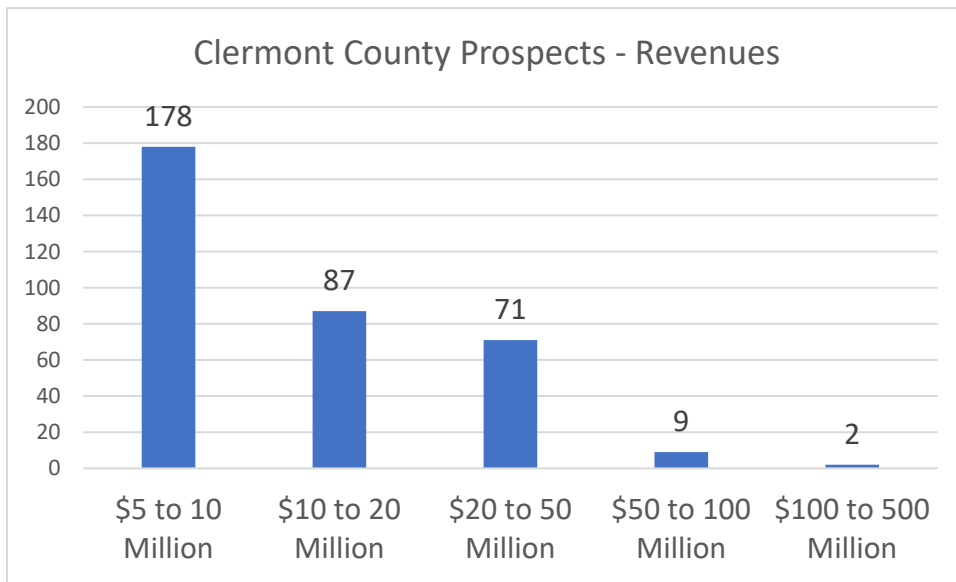


FIGURE 20 EMPLOYMENT DISTRIBUTION OF CLERMONT COUNTY PROSPECTS

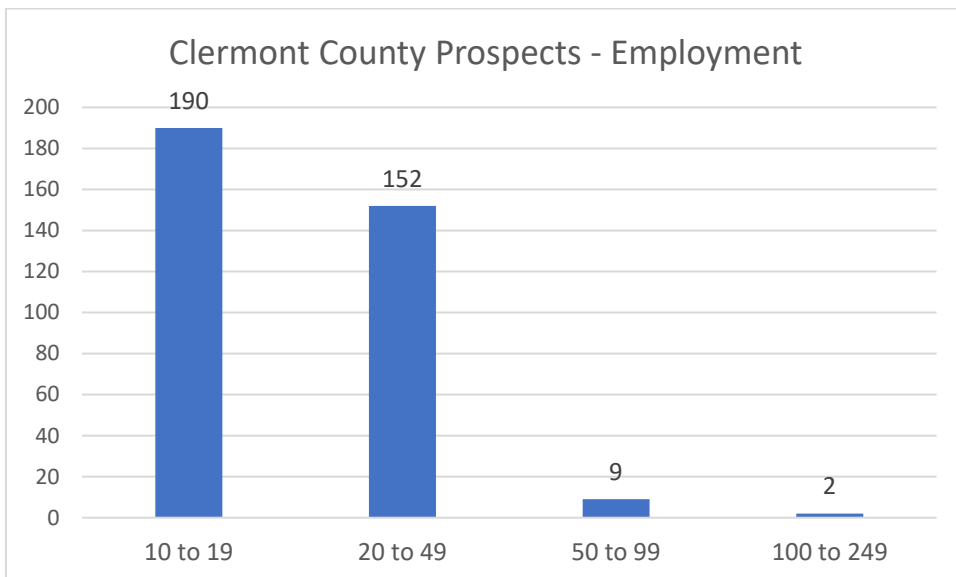
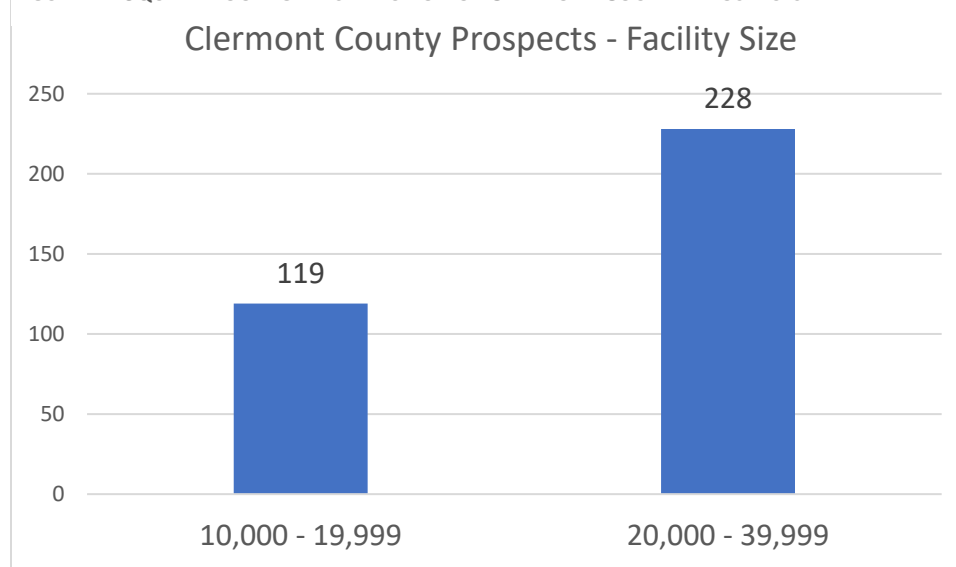


FIGURE 21 SQUARE FOOTAGE DISTRIBUTION OF CLERMONT COUNTY PROSPECTS



## 6.2 Virtual Portfolio Construction

A “Virtual Portfolio” was constructed comprising 20 candidate firms aligned with Highway 32 industrial corridor location factors (workforce, utility, facilities, etc.). Information derived from the Clermont County prospect firms population was organized using a “Virtual Portfolio” modeling technique. This technique enables a platform for economic development planning refinement in terms of strategy viability and scale of economic outcomes. The Virtual Portfolio technique also provides an opportunity for market-validated, granular information on the employment and site location requirements prerequisites of the business prospects as an aid to workforce, infrastructure, and facility development planning.

By presenting representative business examples this Virtual Portfolio provided a substantive basis to demonstrate resource requirements and potential economic impacts. As such the Virtual Portfolio tool enables a calculation and characterization of the physical facilities requirements of the prospect firms to be attracted to the Highway 32 corridor. Those requirements can be compared to the currently available inventory of appropriate properties to assess the adequacy of available properties and the priority of planned facilities.

### 6.2.1 Hwy 32 Industrial Corridor Entrepreneurial Prospects

Representative examples of aligned Target Sector firms were used to construct and populate a preliminary Virtual Portfolio of 20 growth-positioned firms (Table 9) illustrating attainable outcomes of a successful Highway 32 economic development plan to attract growth-positioned entrepreneurial manufacturing firms.

Portfolio entries were selected based on an alignment of the Clermont County industrial distribution with a representative cross section of the larger Cincinnati MSA manufacturing firm population as previously described. According, portfolio firms were selected proportionally from the Clermont County prospect firm database across the 8 NAICS3 high potential sectors (Table 10), with the largest number of firms derived from the Food Products, Electrical Equipment, and Transportation Equipment sectors.

Collectively the targeted 20 Virtual Portfolio firms would require a total of approximately 540,000 square feet of industrial and commercial facilities. The average facility size for firms in the portfolio is 27,000 s.f. (Table 11).

In accordance with discussions of the draft findings earlier this week, the initial findings were augmented by including three additional metro areas (Nashville, Saint Louis, and Indianapolis) and firms from the 5415 NAICS category – Computer Systems Design and Related Services (Figure 22). Information in high potential industry sectors and geographic locations were combined with research evidence on growth-positioned company characteristics to compile a Clermont County prospect profile.

*Table 10 Revised Clermont County Prospect Parameters*

<b>Revised Clermont County Prospect Parameters</b>	
<b>Industry Sector</b>	9 NAICS3 high potential categories
<b>Geography</b>	Twelve target cities in IN, TN, MO, FL, TX, IL, and PA
<b>Ownership</b>	Headquarters (HQ) or Sole Locations (SL)
<b>Employment</b>	10 to 249 employees
<b>Revenues</b>	\$5MM to \$500MM
<b>Facility Size</b>	10,000 to 40,000 square feet

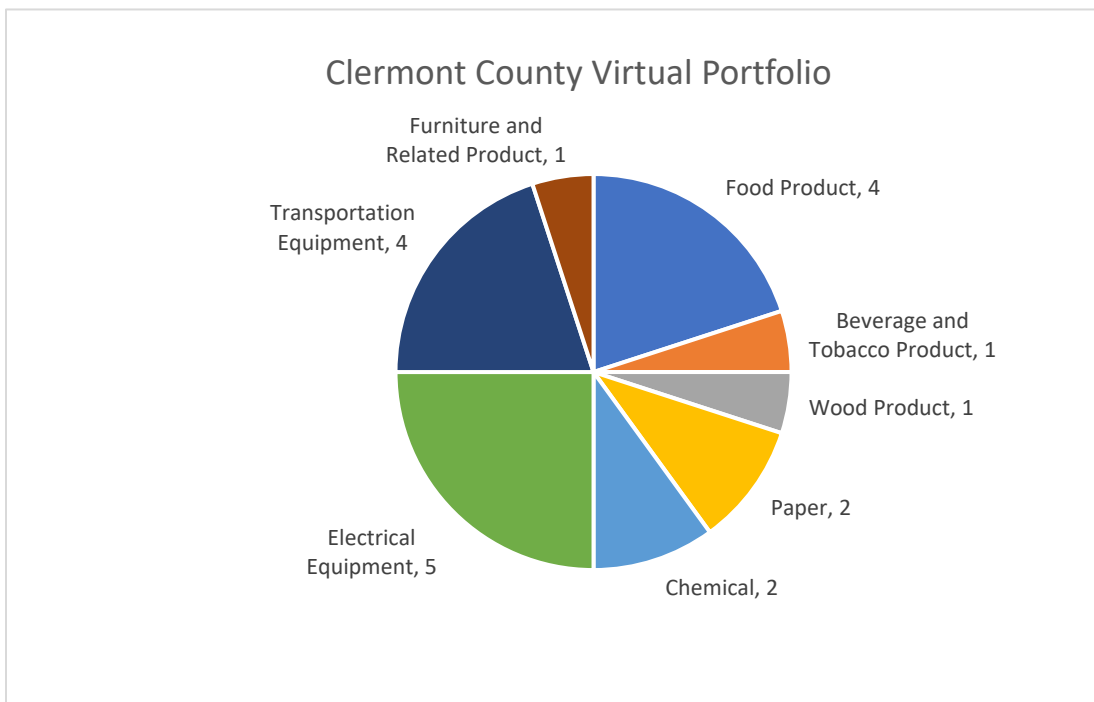
**Table 11 Clermont County Prospects Virtual Portfolio**

Clermont County Prospects Virtual Portfolio							
Company Name	City	ST	NAICS3	Primary NAICS Description	Emp.	Revenues	Facility (sf)
<b>Padrino Foods</b>	Irving	TX	311	All Other Miscellaneous Food Manufacturing	13	\$5,048,000	30,000
<b>egal Health Food Intl</b>	Chicago	IL	311	All Other Miscellaneous Food Manufacturing	43	\$19,449,000	30,000
<b>Simple Sugars</b>	Pittsburgh	PA	311	Cane Sugar Manufacturing	18	\$5,423,000	30,000
<b>TEC Foods Inc</b>	Chicago	IL	311	All Other Miscellaneous Food Manufacturing	40	\$17,840,000	30,000
<b>Aurochs Brewing Co</b>	Pittsburgh	PA	312	Breweries	48	\$64,090,000	30,000
<b>Cardinal Pallet Co Inc</b>	Chicago	IL	321	Wood Container And Pallet Manufacturing	30	\$6,683,000	15,000
<b>Armbrust Paper Tubes Inc</b>	Chicago	IL	322	Metal Can Manufacturing	22	\$11,905,000	30,000
<b>Rudd Container Corp</b>	Chicago	IL	322	Corrugated And Solid Fiber Box Manufacturing	42	\$10,470,000	30,000
<b>Accu-Labs Inc</b>	Chicago	IL	325	All Other Miscellaneous Chemical Product And Preparations	20	\$11,429,000	30,000
<b>Acid Products Co Inc</b>	Chicago	IL	325	All Other Basic Organic Chemical Manufacturing	15	\$25,032,000	30,000
<b>Revision LP</b>	Irving	TX	335	All Other Miscellaneous General Purpose Machinery	15	\$12,194,000	30,000
<b>Orbital Systems LLC</b>	Irving	TX	335	Radio And Television Broadcasting And Wireless Com	13	\$6,128,000	30,000
<b>Gus Berthold Electric Co</b>	Chicago	IL	335	Switchgear And Switchboard Apparatus Manufacturing	40	\$9,640,000	30,000
<b>Homewood Products</b>	Pittsburgh	PA	335	All Other Miscellaneous Electrical Equipment	29	\$7,041,000	15,000
<b>Phoenix Electric Mfg. Co</b>	Chicago	IL	335	Motor And Generator Manufacturing	38	\$9,063,000	30,000
<b>Fleet Services Inc</b>	Chicago	IL	336	Other Motor Vehicle Parts Manufacturing	15	\$5,436,000	30,000
<b>Ramptech</b>	Chicago	IL	336	Railroad Rolling Stock Manufacturing	17	\$10,412,000	15,000
<b>Top Line Automotive Engineering</b>	Chicago	IL	336	Other Motor Vehicle Parts Manufacturing	40	\$14,495,000	30,000
<b>Wheeler Trailer Inc</b>	Chicago	IL	336	Travel Trailer And Camper Manufacturing	30	\$12,608,000	30,000
<b>Resilient Cognitive Solutions</b>	Pittsburgh	IL	541	Custom Computer Programming Services	41	\$12,284,000	15,000
<b>TOTAL</b>					<b>569</b>	<b>\$276,670,000</b>	<b>540,000</b>



Figure 22 Clermont County prospect profile

NAICS3	NAICS Category	#Firms
311	Food Product	4
312	Beverage and Tobacco Product	1
321	Wood Product	1
322	Paper	2
325	Chemical	2
335	Electrical Equipment	5
336	Transportation Equipment	4
337	Furniture and Related Product	1
	<b>TOTAL</b>	<b>20</b>



Impact Factor	Total	Avg.
Employment	569	28
Revenues	\$ 276,670,000	\$ 13,833,500
Facility (sf)	540,000	27,000

## 6.2.2 Estimated Economic Impact of Highway 32 Corridor Virtual Portfolio

The established econometric model, IMPLAN (Impact Analysis for Planning) was used to estimate the combined economic impact on Clermont County of the 20 firms constituting the Highway 32 Virtual Portfolio. IMPLAN is an economic analysis software uses an input-output methodology to track the ripple effects of each dollar spent within a regional economy. For example, when a firm buys good and services from another firm in the same region, that firm pays its employees in wages and makes subsequent purchases to other firms. These firms in turn make purchases of goods and services from other firms, and so on. Additionally, employees of these firms spend their wages on other industries in the Clermont County which also creates ripple effects within the region

As a result, each initial dollar spent on activities supporting the operations of the firms of the Virtual Portfolio may be circulated several times within the county. The number of times each dollar circulates within a regional economy is referred to as a multiplier effect. For example, if a firm's output multiplier is 1.50, then every two dollars' worth of spending to support the firm will generate an additional dollar's worth of economic activity within the regional economy.

The inputs for the IMPLAN were derived from the aggregate impacts of the Virtual Portfolio calculated in the previous section. Those inputs include 569 employees, employee compensation of \$31,295,000 and revenues totaling \$276,670,000. Summary results of the IMPLAN analysis are reported below in Table 12. Note that when IMPLAN reports direct effects for labor income, this is a sum of both employee compensation and proprietor income.

**Table 12: Impact Summary**

Impact	Employment	Labor Income	Value Added	Output
<b>1 - Direct</b>	569.00	\$ 307,965,000	\$ 312,747,631	\$ 212,004,691
<b>2 - Indirect</b>	326.10	\$ 18,861,808	\$ 31,104,175	\$ 62,176,293
<b>3 - Induced</b>	1025.70	\$ 43,425,206	\$ 88,873,968	\$ 154,287,478
<b>Total</b>	<b>1920.80</b>	<b>\$ 370,252,014</b>	<b>\$ 432,725,774</b>	<b>\$ 428,468,463</b>
<b>Multiplier</b>	<b>3.38</b>	<b>1.20</b>	<b>1.38</b>	<b>2.02</b>

These results imply that, while \$212 million was spent supporting the operations of the Virtual Portfolio, these activities generated a total of \$428.5 million in economic output for Clermont County in (YEAR). Furthermore, these activities support a total of 1,921 jobs in the county, including the 569 employees of the 20 portfolio companies. An output multiplier of 2.02 implies that, for every dollar spent supporting the operations of these firms, an additional dollar is generated in economic output for Clermont County.

Table 13 is an expansion of table 12, detailing the direct impacts of the Virtual Portfolio firms and the indirect effects generated for other industries within Clermont County. Industry-specific multipliers can also be generated for each individual industry. For instance, the Virtual Portfolio aggregate employment of 569 workers supports an additional 83 workers in the full-service restaurant industry. So, for every 7 workers employed by the Virtual Portfolio firms, we should expect an additional worker in the full-service restaurant industry to be supported in Clermont County.

**Table 13: Top Ten Industries Impacted**

Industry	Jobs	Labor Income	Value Added	Output
391 - Miscellaneous manufacturing	569.01	\$31,295,319	\$312,748,242	\$212,006,849
509 - Full-service restaurants	83.75	\$2,105,894	\$18,786,597	\$23,848,759
510 - Limited-service restaurants	74.18	\$1,994,828	\$5,501,715	\$10,104,225
447 - Other real estate	58.06	\$1,808,817	\$4,864,005	\$9,870,753
521 - Religious organizations	43.22	\$1,731,955	\$3,797,887	\$8,372,430
472 - Employment services	41.28	\$1,684,369	\$3,773,467	\$7,513,242
411 - Retail - General merchandise stores	37.59	\$1,644,703	\$2,900,604	\$6,238,579
406 - Retail - Food and beverage stores	33.67	\$1,420,087	\$2,897,254	\$5,732,808
396 - Wholesale durable goods merchants	30.17	\$1,360,627	\$2,865,300	\$5,242,905
491 - Nursing and care facilities	26.29	\$1,229,547	\$2,569,905	\$4,567,490

**Discussion**

In addition to estimated impact that the Virtual Portfolio on their Clermont County, these firms have additional other economic benefits not listed here. For example, the analysis found that the Virtual Portfolio generates about \$428.5 million in economic activity and supports about 1,920 jobs in Clermont County. Furthermore, the operation of the Virtual Portfolio generates about \$13.8 million and \$56.5 million in state and federal taxes, respectfully.

**END**

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Voinovich School of Leadership and Public Service

THE APPALACHIAN OVRDC REMOTE WORKING READINESS ECONOMIC DEVELOPMENT  
OPPORTUNITY

FINAL REPORT

December 2021

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## Summary

In 2021, staff of the Ohio University Voinovich School of Leadership and Public Service undertook an applied research project to provide information on remote working support and attraction factors, as well as potential economic benefit, to guide ongoing discussions and future decisions by Ohio Valley regional public policy leadership. The research was directed by Brent Lane, Executive in Residence with the Voinovich School of Leadership and Public Service, with the support of other Ohio University scholars, staff, and students. The project was completed in December 2021.

The study found the remote working necessitated by the COVID pandemic has accelerated pre-existing trends and revealed market preferences that create opportunities for non-metro communities to both retain and attract remote workers, especially young professionals and working family demographic segments, with preferences for smaller communities but whose relocation had been previously thwarted by limited local employment opportunities. The broader use and acceptance of remote working established during the pandemic is expected to reduce this limitation, especially for communities that are well prepared to support the infrastructure, services, and other needs/preferences of distance workers.

While remote working was found to offer economic opportunities, particularly for non-metro areas, the study found that the high-profile city and state programs that have driven and framed many remote working discussions are primarily focused on incentive-based attraction strategies unlikely to yield significant economic benefits due to their limited scales. As such, even “successful” remote workers attraction incentive programs seem fated to “succeed too small” by being prohibitively expensive to expand to increase outcomes.

The study characterized several other alternative remote working strategies for rural economic development and their requisite factors that, in addition to financial incentives, would distinguish a community as “remote work-ready”. A “scorecard” assessment of remote working requirements constructed and applied to the Appalachian OVRDC region found that, while there are several areas for improvement, the region is nonetheless fairly well positioned to begin supporting and attracting remote workers – at least in some areas.

The study concluded that remote work offers significant potential economic development for the Appalachian OVRDC region by enabling current and prospective residents’ abilities to secure employment independent of an employer being locally located or requiring costly out-commuting. Therefore, remote work offers advantages both to current residents who wish to remain in the region through remote work, and to non-resident remote workers strongly desiring to relocate to the region. Rather than replicating incentive-based new resident attraction models prominently in use elsewhere, the Appalachian OVRDC region should pursue a comprehensive strategy enabling remote work by both current and prospective residents. By capitalizing on an array of remote work opportunities, such a plan would serve a broader, more diverse spectrum of the region’s citizens and families to a greater economic effect.

## **1. Introduction**

The remote working necessitated by the COVID pandemic has accelerated pre-existing trends and revealed market preferences that create opportunities for non-metro communities to retain and attract high priority residential segments. Significant young professionals and young family demographic segments have established preferences for smaller communities but have been hampered in relocating by the limited professional opportunities such locations typically afford. The broader use and acceptance of remote working established during the pandemic is expected to reduce this limitation, especially for communities that are well prepared to support the infrastructure, services, and other needs/preferences of distance workers.

The expansion of remote working thus has the potential to enable more non-metro residents to improve their employment prospects while remaining in – or perhaps moving to – the smaller towns and rural areas where they prefer to live. Encouraging remote working and remote workers may constitute a significant opportunity to enhance the economies of the Ohio River Valley Development Commission (OVRDC) region and, more importantly, the economic well-being of their citizens. However, information on remote working, at least at the scale experienced during the 2020-21 COVID pandemic, is currently limited.

### **1.1 Research Project Structure**

In 2021, staff of the Ohio University Voinovich School of Leadership and Public Service undertook an applied research project to provide information on remote working support and attraction factors, as well as potential economic benefit, to guide ongoing discussions and future decisions by the Appalachian OVRDC region’s public policy leadership. The project was directed by Brent Lane, Executive in Residence with the Voinovich School of Leadership and Public Service, with the support of other Ohio University scholars, staff, and students. The project was designed to be completed in December 2021.

### **1.2 The Appalachian OVRDC Study Area**

The Ohio Valley Region Development Commission (OVRDC) twelve counties in Southern Ohio. The region is populated by approximately 670,000 residents and spans 6,022 square miles. There are 171 townships, 70 villages, 9 cities, and 14 census-designated places (CDP’s). Established in 1967, OVRDC serves as a Local Development District for the Appalachian Regional Commission, an Economic Development District for the US Department of Commerce, Economic Development Administration, and a Regional Transportation Planning Organization for the Ohio Department of Transportation.

The geographic area included in this project included the eleven (out of a total of 12) of OVRDC counties that are also designated as Appalachian Regional Commission (ARC) counties (Table 1). The Appalachian OVRDC study area therefore consisted of the counties shown in Figure 1.



Table 1

Appalachian OVRDC Study Region	
Adams County	Lawrence County
Brown County	Pike County
Clermont County	Ross County
Gallia County	Scioto County
Highland County	Vinton County
Jackson County	

Figure 1



### 1.3 Methodology

The project Scope of Work focused on the identification of factors that could assess both the Appalachian OVRDC region’s current level of remote worker preparedness and aspects that need to be addressed to enhance remote working in the region. The limited academic and professional research literature on remote working was examined to identify recognized factors for the attraction and support of remote workers, especially to non-metro areas like the Appalachian OVRDC region. These factors were compiled into a “scorecard” to 1) aid assessments of the region’s current level of remote working preparedness and to 2) help community leaders identify factors that might be enhanced if the encouragement of remote working addressed community development goals.

## The Appalachian OVRDC Remote Working Readiness Economic Development Opportunity

The study methodology involved the following tasks:

1. Examination of academic, professional, and media sources to identify trends influencing remote working nationally and regionally that might affect efforts in the Appalachian OVRDC region.
2. Interpretation and synthesis of academic and professional literature that identify remote worker prerequisite and attraction factors.
3. Compilation of consensual and prioritized factors into a remote work readiness assessment “scorecard” format.
4. Application of the remote work readiness scorecard to attributes of the Appalachian OVRDC region to delineate the status (presence/absence) of key elements.
5. Assessment of the Appalachian OVRDC region’s relative sufficiency/competitiveness scorecard position.
6. Estimation of the economic impacts of the attraction of non-resident remote workers.
7. Identification and definition of other forms of economic and community development benefits potentially provided by remote working.
8. Disaggregation and characterization of prospective Appalachian OVRDC candidate remote working demographic segments.
9. Delineation of a portfolio of Appalachian OVRDC remote working economic development strategic options.

## **2. The Recent State of U.S. Remote Working**

What is meant by remote working? Many people and occupations have routinely been performed without operating from a central business location. Often self-employed people operate service business activities from their homes - consultants, artisans, tradespeople. But the advent of increasing high speed broadband internet access across multiple technology platforms has led to an expansion of the occupations that can operate remotely. This technological capability has led to not just the liberation of some employment from the conventional office setting but the creation of new forms and patterns of employment entirely independent of such settings.

### **2.1 Definition of Remote Working - “Digital Commuting”**

For the purposes of this project, not all such forms of “working from home” were considered to constitute remote working. Instead, the focus was placed on a narrower definition under which remote working refers to employment where work is fully or partly carried out, on a regular basis, at an alternative worksite other than a dedicated employer’s premises.

Even within this narrower definition there are many phrases used to refer to remote work, including: telework, e-Work, mobile work, smart working, telecommuting, flexible working, hub-work, co-working, etc. Each of these describe an employer-employee relationship in which the employee’s work is performed partly or wholly independent of the employer’s physical location. From this perspective, remote working can perhaps be best understood as the digital alternative to physical commuting to a place of employment. Such “digital commuting” activity is the form of remote work investigated in this project.

### **2.2 COVID and Remote Work**

While the term “remote working” has gained greater prominence during the COVID pandemic, the concept itself is not new. It was a form of employment that, while still practiced to a limited extent, was steadily growing. In 2019, the US Census Bureau’s American Community Survey found that since 2000, the percentage of Americans working remotely had risen from 3.3% to 5.2%. While this meant that relatively few people worked primarily from home, the U.S. Bureau of Labor Statistics’ American Time Use Survey, in 2019, also found that almost a quarter of American workers did some work at home.

Thus, even before the COVID pandemic, increasing numbers of American workers were becoming accustomed to performing some portion of their work away from their employer’s location. Concurrent with this trend, expanding (albeit uneven) broadband availability, along with more convenient interpersonal and group interaction internet platforms (Zoom, etc.), were providing more facile tele-video and data communications enabling the expansion of remote working.

These capabilities proved timely when the 2020 onset of the COVID-19 pandemic in the U.S. necessitated an acceleration of the remote working trend, introducing the concept to entire new populations and categories of employees while also increasing the share of work performed away from the employer location for those already so engaged. Information on the extent of remote working in the US economy remains limited and imprecise, but a special supplement to the US Bureau of Labor Statistics found that in May 2020, 48.7 million people, about 35% of the employed workforce, reported that they had worked from home in the prior four weeks because of COVID.

This effect intensified as the pandemic extended through 2020. Remote working began to mature from an emergency response to a broadly accepted conventional business model. A November 2020 McKinsey Global Institute analysis of 2,000 tasks over 800 job categories estimated that 29% of work in the United States could be permanently performed remotely with no productivity loss, and an additional 10% could be done remotely as needed.<sup>1</sup>

### **2.3 US Trends favoring Remote Working**

The extent to which remote working continues after the lifting of COVID pandemic restriction is unknowable in the specific but foreseeable in the general. Given how favorably many Americans now view their remote working “natural experiment” of the past many months it is inevitable that past employment conventions have changed. In particular, there are significant trends that preceded the COVID pandemic that have been reinforced and accelerated by that experience, including some that suggest remote working has the potential to benefit non-metro areas like the Appalachian OVRDC region.

- As previously noted, the concept of remote working in the US is not new and was already increasing in number and nature prior to the onset of COVID pandemic-imposed restrictions on traditional workplaces.
- The increasing pre-COVID availability of broadband internet, along with the emergence of a suite of internet business and consumer technologies for facile group meetings, videoconferencing, and file sharing, combined to quickly facilitate the pandemic imposed abrupt shift to remote working.
- The persistence of pandemic restrictions has provided for a maturation of initially impromptu remote working practices into the codification and broad adoption of remote work as conventional business and employment model.
- Both employers and employees have realized numerous economic and non-economic benefits of remote working that have shifted work/life expectations of both sides, precluding a full return to “old normal” past practices.

Numerous recent surveys of both employees and employers have attempted to forecast how and to what extent remote working will continue in the U.S. While they can differ widely in their estimates, they are consistent in concluding that remote working is an established reality for the future.

- Global Workplace Analytics believes that 25-30% of the workforce will work remotely by 2021.<sup>2</sup>
- Upwork estimates that 22% of the workforce (36.2 million Americans) will work remotely by 2025.<sup>3</sup>
- OWL Labs 2020 State of Remote Work Report found that after COVID 80% of people surveyed expected to work at least 3 days from home per week.<sup>4</sup>
- The OWL report further found that 59% of respondents said they would be more likely to choose an employer who offered remote work, and with 23% of those surveyed being willing to take a 10% pay cut to work from home permanently.<sup>5</sup>

## 2.4 Remote Working and Rural Economies

Of particular relevance to this study are research findings indicating a popularity of remote work among certain demographic and geographic populations segments that potentially creates economic opportunities for non-metro regions. Research has found that, not only are more people preferring to work remotely from home, they also often want to change the locations of their homes to more desirable locations.

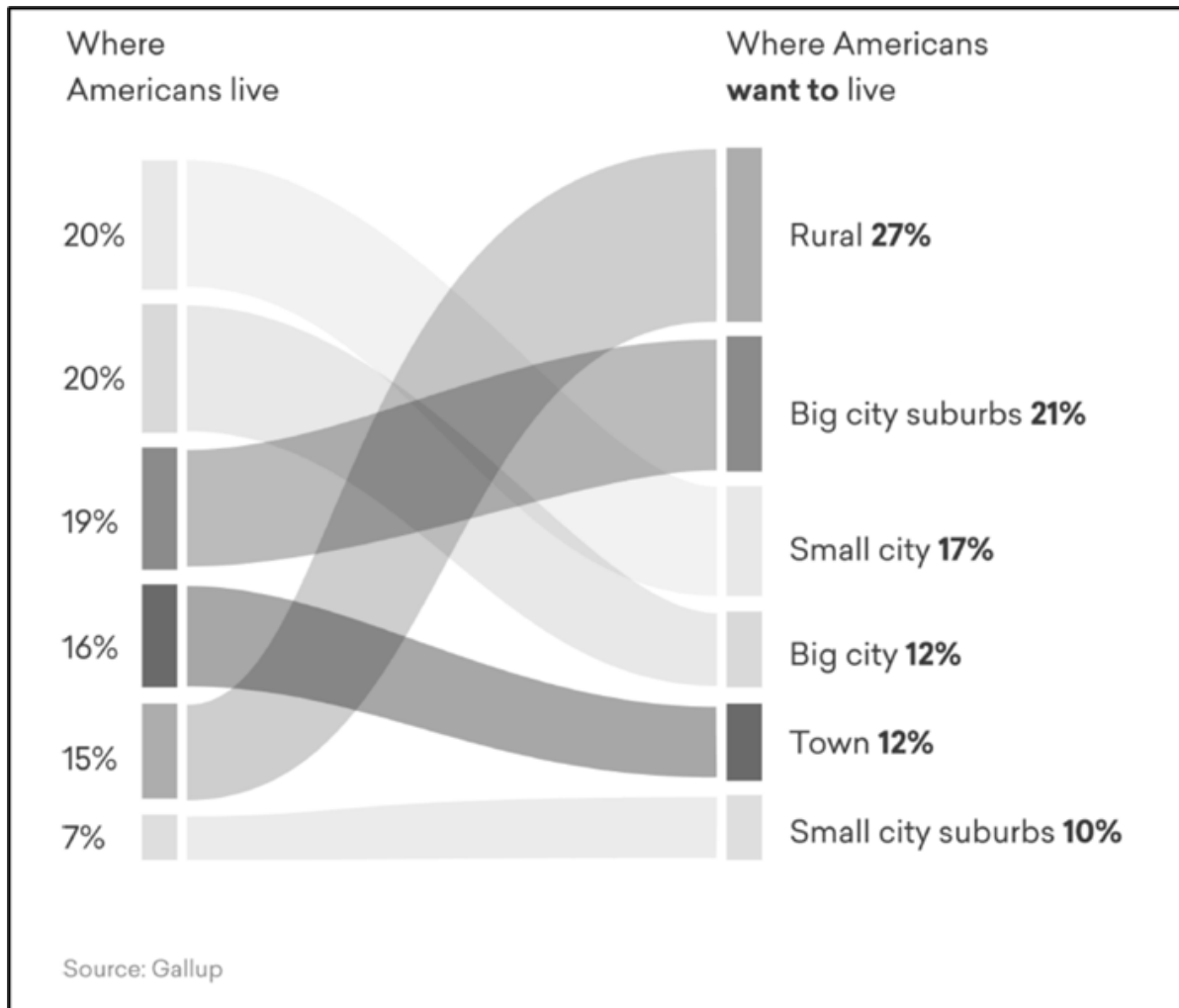
Just prior to 2020 COVID pandemic there was growing media attention to research indicating that, despite the perception created by the growth of American cities in recent decades, there was a strong, unfulfilled desire by many urbanites to live elsewhere. But the desires of many urban dwellers to relocate to smaller cities, towns and rural areas were thwarted by the necessities of employment centralization in urban areas. A December 2018 story in the Washington Post described the situation well, asking:

*“If Americans say there’s not much appeal to big-city living...why do so many of us live there?...Quite simply, big metro areas tend to be where the jobs and opportunities are.”<sup>6</sup>*

The Post article quoted was reporting on research by the survey firm Gallup, Inc. which documented a stark contrast between where Americans live and where they would prefer to live. In particular, in 2018 Gallup found that many American urban residents would like to make a move to non-metro areas. 27% of survey respondents said that a rural area would be their

ideal community and another 17% wanted to live in a town.<sup>7</sup> Thus, even before the COVID pandemic-imposed constraints on daily activities in America’s big cities, some 44% of those surveyed desired to move away from big cities to areas more like the Appalachian OVRDC region. (Figure 2)

Figure 2



The reason most commonly cited in the survey for the inability to relocate was simply “cities were where the jobs are”. As the Gallup report’s author Frank Newport – perhaps prophetically – summed up the research:

“If Americans did sort themselves according to their desires, there would be an exodus from the big cities and, to a lesser degree, from small cities and town, accompanying a movement to

rural areas...Labor markets work as a positive feedback loop: Job opportunities attract talented employees, and talented employees attract firms looking to hire.”

When Gallup updated this poll in December 2020, the results suggested that the effect of the pandemic had not only reinforced these preferences, but it had also enhanced them. Gallup reported that “Nearly half of Americans (48%) at the end of 2020 said that, if able to live anywhere they wished, they would choose a town (17%) or rural area (31%) rather than a city or suburb. This is a shift from 2018, when 39% thought a town or rural area would be ideal.”<sup>8</sup>

The remote working model that is emerging in the US from the COVID pandemic has the potential to scramble the historically powerful labor/employer geographic proximity relationship in industries where remote working is feasible and mutually advantageous. Those remote workers should have increasing latitude to pursue no longer mutually exclusive goals of employment and preferred residency. Non-metro areas that satisfy the prerequisites that enable such relocations, and that proactively facilitate those relocation decisions, stand to benefit first and most.

### **3. Remote Working and Rural Economic Development**

Several high-profile city and state programs to attract remote working were launched both before and during the COVID pandemic. Some non-metro areas have also been quick to recognize and attempt to capitalize on the rural economic development potential of remote working. Many more communities, including some in the Appalachian OVRDC region, have recently begun deliberations prompted by those examples to explore rural working economic development strategy benefitting smaller cities, towns, rural areas.

#### **3.1 Remote Worker Attraction Program Examples**

This study identified and examined several such existing initiatives to see what lessons might be useful to inform and guide the Appalachian OVRDC region’s policy makers on the potential of remote working support to benefit their citizens and economies. The intent was not to provide a comprehensive inventory of all such program but to provide a representative sample illustrating the basic parameters of such initiatives. Several prominent U.S. and international examples were catalogued and are summarized in Table 2 (and are further described in Appendix 1).

Table 2

Location	Program
Ireland	Open 400 remote work hubs by 2021 across rural Ireland connected to the same network; this includes a mix of public facilities and partnerships with private firms such as bars and restaurants.
West Virginia	"Ascend West Virginia"; \$12,000 subsidy (10k over monthly payments over 2 years, and final \$2k at the end of the second year), free travel to any remote workers moving to WV countryside, free use of recreational facilities. This includes 3 towns: Morgantown, Shepherdstown, and Lewisburg.
Vermont	\$10k over two years towards remote workers in tech industries. Two explicit goals; 1. foster VT's tech industry, and 2. combat VT's image of being "unfriendly to new businesses"
Topeka, Kansas	\$15,000 for home buyers, \$10,000 for renters in incentives; this is famously one of the more generous programs, with; the goal specifically to attract high-skill workers.
Baltimore, Maryland	\$5k towards down payment only on fixed-mortgage loans.
Maine	Up to \$15,660 in tax rebates; specific consideration being given to degree holders, especially STEM majors; specifically outlined to fight the decreasing youth population in Maine.
Tulsa, Oklahoma	\$10,000 in cash, plus free co-working space; one of the more generous programs.
Fayetteville, Arkansas	\$10,000 in cash, plus a free mountain bike; particularly successful, attracting 29,000 workers from every state and countries around the world.
Savannah, Georgia	\$2,000 in reimbursement for moving here specifically for tech-workers, plus additional grants for job-creation.
Remote Shoals, Alabama	Up to \$10,000 over the first year depending on wages; requires an income of \$52k annually, likely in order to target high-skill workers.
Hawaii	Incentives limited to free airfare; one of the explicit goals was to repair Hawaii's tourism industry, which took a 90% hit during the pandemic.

What the majority of these programs share is a strategic premise that attracting non-local, typically metro area, remote workers to relocate would enhance the local economy, principally through the mechanism of the local spending of additional income provided through remote employment. Such "recruitment of income" strategies are entirely logical and an accepted



economic concept that should indeed eventually lead to increases in employment, income, and economic activity (output).

It is important to observe how these financial incentives change depending on the demographic a city government wants to attract. Maine, for example, has an explicitly stated goal of retaining a population of young professionals. Instead of offering lump payments of cash, they offer tax credits on student loan payments up to \$377 per month. Remote Shores, Alabama wished to specifically attract high-skill, high-income remote workers, and offers \$10,000 to workers if their income is at least \$52,000. Vermont also offers \$10,000 to new workers in categories targeted by the state government, giving special priority to remote workers in tech industries. Inherent in these targeted strategies is that the preferential attraction of some demographic categories yield higher economic impacts than others.

### **3.2 Economic Impacts of Attracting Remote Worker Income**

The economic impacts of a single additional remote working household can be calculated through the IMPLAN econometric model. IMPLAN is the most commonly used instrument for estimating impacts of economic events. As applied in economic development, the economic event for which impacts are estimated using IMPLAN are typically the attraction of an industrial facility location. But the same technique can be used to estimate impacts of new income into a regional economy from remote workers. In Table 3, those impacts have been calculated for the **addition** of a single household across varying annual household income levels.

As exhibited in the table, those economic impacts increase with the income of the remote worker household added to the Appalachian OVRDC region's population and economy. The effect of adding a \$40,000-\$50,000 income household would be the creation of an additional 0.23 jobs, nearly \$9,000 in new total income, and over \$32,000 in total new economic activity. In contrast, adding a \$190,000 to \$200,000 household would add 0.81 jobs, \$32,000 in new total income, and nearly \$116,000 in total new economic activity.

Table 3

<b>Economic Impacts of a Remote Worker Household</b>			
<b>Annual Household Income Level</b>	<b>Employment</b>	<b>Labor Income</b>	<b>Output</b>
<b>\$40,000</b>	0.23	\$8,968	\$32,227
<b>\$50,000</b>	0.29	\$11,210	\$40,283
<b>\$60,000</b>	0.31	\$12,071	\$43,915
<b>\$70,000</b>	0.36	\$14,083	\$51,234
<b>\$80,000</b>	0.4	\$16,202	\$57,114
<b>\$90,000</b>	0.45	\$18,227	\$64,253
<b>\$100,000</b>	0.5	\$20,252	\$71,393
<b>\$110,000</b>	0.53	\$21,243	\$74,588
<b>\$120,000</b>	0.58	\$23,175	\$81,369
<b>\$130,000</b>	0.63	\$25,106	\$88,149
<b>\$140,000</b>	0.67	\$27,037	\$94,930
<b>\$150,000</b>	0.72	\$28,968	\$101,711
<b>\$160,000</b>	0.68	\$27,042	\$97,655
<b>\$170,000</b>	0.72	\$28,732	\$103,758
<b>\$180,000</b>	0.76	\$30,422	\$109,862
<b>\$190,000</b>	0.81	\$32,112	\$115,965

### 3.3 Remote Worker Programs' Capacities Determine Economic Impacts

The experience of most of these initiatives - and there are seemingly more announced every week - is very limited in both scope and time. The majority are either only in their design or early implementation stages. This study examined several of the more established program to assess their potential economic significance, even if they succeeded in their objectives. This was done by multiplying the economic impacts calculated in Table 3 for a household in the \$100,000 level by the capacity of the program as estimated in Table 4 below.

Table 4

Program Region	Per Worker Incentive	Budget	Remote Workers Capacity
Vermont	\$10,000	\$500,000	50
Topeka, Kansas	\$15,000	\$900,000	60
Baltimore, Maryland	\$5,000	\$100,000	20
Maine	\$15,660	\$5,000,000	319
Tulsa, Oklahoma	\$10,000	\$1,000,000	100
Fayetteville, Arkansas	\$10,200	\$1,000,000	98
Savannah, Georgia	\$2,000	\$100,000	50
Remote Shoals, Alabama	\$10,000	\$100,000	10
Hawaii	\$665	\$33,250	50
West Virginia (per city)	\$14,500	\$3,000,000	207

The expected economic impacts at the \$100,000 income level were estimated and are displayed in Table 5 below. The impacts of differing state and city programs were normalized using an IMPLAN econometric Ohio context for comparative consistency. As indicated, the economic impacts vary by the amount of funding available, and the amounts of the incentives offered. For most of the programs the results of successful implementation are modest. The expected new jobs resulting from attracting remote workers ranges from single digit results in Baltimore and Remote Shoals to low- or mid-two-digit jobs total in Vermont, Topeka, Tulsa, Fayetteville, Savannah, and Hawaii. Only from the much more substantially funded programs in Maine (128) and West Virginia (139) might one expect success to yield appreciable number of jobs and other economic impacts.

Yet even in those examples such results must be placed in the context of the scale of the local and state economies in which they occur. Overall, it is highly questionable that the limited scale of most of these programs will be sufficient to yield significant economic benefits.

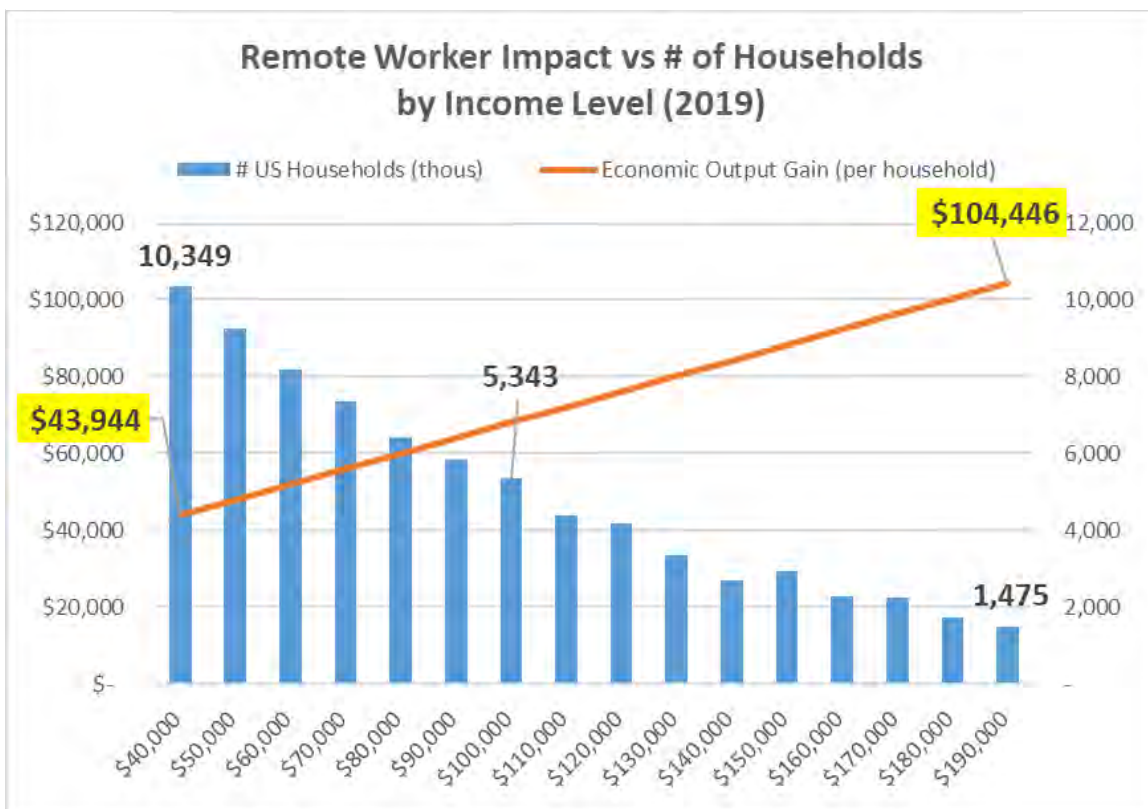
Table 5

Program Region	Employment	Labor Income	Output
Vermont	11.5	\$448,392	\$1,611,340
Topeka, Kansas	18.6	\$724,264	\$2,634,873
Baltimore, Maryland	7.2	\$281,658	\$1,024,673
Maine	127.6	\$5,168,336	\$18,219,433
Tulsa, Oklahoma	45.0	\$1,822,690	\$6,425,348
Fayetteville, Arkansas	49.0	\$1,984,707	\$6,996,490
Savannah, Georgia	26.5	\$1,062,174	\$3,729,398
Remote Shoals, Alabama	5.8	\$231,747	\$813,687
Hawaii	31.5	\$1,255,296	\$4,407,470
West Virginia	138.6	\$5,593,891	\$19,640,717

Arguably this limited level of analysis may underestimate expected economic impacts, especially if the programs examined are intended to attract higher net worth households than the \$100,000 income level used in this example. It is certainly accurate to expect that if the programs attracted households in the upper range of income levels the impact would increase proportionately.

But it is worth noting the challenge inherent in this scenario as depicted in Figure 3, which shows combination the economic impact on total output and the number of U.S. households for respective income levels. There is a far smaller population of \$190,000 income households (1.5 million), from which to attract relocations, than from the \$100,000 (5.3 million) or \$40,000 (10.3 million) income segments. Focusing attraction efforts to ever higher income demographics lessens a program’s probability of success by targeting a much smaller number of wealthier candidates to whom financial incentives are proportionately less influential. This reality may call into question the wisdom of designing rural economic development strategies that primarily capitalize on the potential benefits of remote working through non-local attraction strategies.

Figure 3



#### **4. Remote Work Attraction/Readiness Factors**

If it is true that many prospective remote workers desire to relocate to non-metro areas, such as smaller cities, towns, and rural areas, what factors would lead them to select one location over another. This is a critical issue for those communities anticipating that attracting remote workers will contribute to the vitality of their economies. These same factors are expected to affect the extent to which communities enable the continuation and expansion of remote working by current residents. Thus, factors that determine a community's attractiveness to in-migrating remote workers also enable remote work by current residents, effectively addressing both sides of the same "remote work readiness" coin.

A primary objective of this study was to address specifically this issue by identifying location characteristics and factors that attract and support remote workers, and thereby guide Appalachian OVRDC regional officials considering this as an economic development strategy. This involved compiling academic and professional research literature on remote working as well as on related demographic subjects. These findings were synthesized in the format of a "scorecard" describing the nature (and to a lesser extent the priority) of several factors recognized as affecting location decisions of remote workers.

1. Examination of several dozen publications identified and prioritized cited factors enabling and/or attracting remote workers.
2. Many factors identified in the remote worker literature differ little from the conventional location preference factors that describe any community's relative desirability or "quality of life".
3. However, several factors were identified as distinct priorities to remote workers as prerequisites to their remote employment or as highly preferred advantages to their former, typically urban, location.

##### **4.1 Remote Worker Attraction Research Literature Review**

The phenomenon of remote working is not new, but despite it having increased in significance in recent years, the subject has less attention in the academic literature than from professional literature and media. The exponential increase in remote working necessitated by the 2020-21 COVID pandemic will eventually prompt more scholarly attention in the future, but fortunately the phenomenon is already being thoroughly examined in professional and policy reporting. Such sources provided the bulk of the information compiled and analyzed in this research.

An examination of several dozen publications prioritized the findings of the most relevant and recent reports (Appendix 2) that specifically cited factors enabling and/or attracting remote workers. Particular attention was placed on more recent literature that accounted for effects or insights yielded by the 2020-21 COVID pandemic. The information collected and presented in

these reports was assimilated and analyzed to reconcile disparate terminology referencing similar issues. Significance was attributed to how often identified factors were independently cited in multiple publications as a qualitative measure of market-articulated priority.

#### 4.2 Remote Worker Priority Factors

Many of the factors identified in the remote worker literature differ little from the conventional location preference factors that describe any community’s relative desirability or “quality of life”. Such standard metrics of the quality of life include income, employment, the environment, health, education, recreation, and safety are important to prospective remote workers just as they are to anyone considering relocation. As such they are important to recognize and address in a remote worker attraction strategy. However, this study focused on validated factors that are distinct priorities to the remote worker, either as prerequisites to their employment or as highly preferred advantages to their former, typically urban, location. Those identified include the factors described in Table 6.

Table 6

Remote Working Attraction/Readiness Scorecard	
Factor	Description
<b>1. Internet Access</b>	Accessible, affordable, and adequate internet service is an absolute prerequisite for remote workers whose bandwidth and speed requirements may exceed those of the typical residential user. For example, while the US Federal Communications Commission officially defines high-speed broadband internet as a minimum of 25 Mbps download and 3 Mbps upload, the requirements of many remote working applications, such as video conferencing, already exceed that standard. Equally important is the reliability and affordability of those services; there is a strong preference for multiple (3 or more) competing internet service providers (ISPs).
<b>2. Attainable Housing</b>	A primary motivation for many relocating remote workers is to move to areas where housing, and especially home ownership, is more attainable. A 2020 analysis by the real estate platform Zillow, found that nearly 2 million urban renters were employed in jobs that could be done remotely in markets where they could afford to buy a house. <sup>9</sup> Millennials, with an average age of 38, could be the largest first-time home buyer segment to benefit from remote working. Communities offering the combination of quality of life and affordable houses desired by this segment would be well positioned to attract such remote workers.

<p><b>3. Cost of Living</b></p>	<p>Surveys have shown that many employees are willing to accept lower compensation in order to work remotely. Remote workers therefore often seek locations that increase the spending power of stable or even declining income.</p>
<p><b>4. Remote Workspaces</b></p>	<p>As remote working evolves from its largely unplanned pandemic origins to a codified employment arrangement, remote workers reliance on temporary “work from home” arrangements will shift to more structured settings. While the majority of remote working will likely continue to be home-based, an increasing share will take place in a combination of broadband capable, formal (coworking, business incubation, innovation hubs) and informal (libraries, cafes, coffeeshops) locales. Surveys indicate that collective spaces, like co-working centers, are especially important for supporting first time and early career remote workers with an interactive social environment.</p>
<p><b>5. Childcare</b></p>	<p>Of all the extemporary at-home working accommodations imposed on employees during COVID, childcare is the most critical factor in need of optimization to support remote working. An April 2021 report in the Harvard Business Review found that 63% of U.S. working parents had difficulty finding childcare during the pandemic.<sup>10</sup> This was a major reason that 2.3 million women left the U.S. labor force since February 2020, accounting for 80% of all discouraged workers during the pandemic. Where childcare was a problem before the pandemic, remote working did not provide a sustainable solution. Along with broadband access and attainable housing, available/affordable pre-school, daycare, and afterschool childcare constitute the essential triad enabling remote work for younger households.</p>
<p><b>6. Outdoor Recreation</b></p>	<p>Prospective relocating remote workers seeking non-metro locales emphasize regional outdoor recreation opportunities Recreation includes open green spaces, natural assets, parks, etc. This preference is especially influential among younger remote workers.</p>
<p><b>7. Professional Educational</b></p>	<p>Remote workers, particularly those early in their careers, are concerned with continued advancement in their professional trajectories. This requires access to technical training and certification, continuing education for accreditation, as well as academic and executive education. Current residents benefit from remote working-focused upskill training enabling mid-career shifts and displaced worker re-employment.</p>

<b>8. Remote Work Training</b>	The increasing prevalence and acceptance of remote work as a conventional employment model has led to the availability of hundreds of thousands of previously geographically constrained job opportunities. Moreover, the range of occupations being performed remotely as also broadened significantly. Nonetheless, many first time workers and existing workers will desire and require workforce training and retraining to qualify for remote work positions. Moreover, training is required to optimize remote working digital skills for current and future remote workers. Areas where conventional workforce development programs have adapted to provide training and skill development specific to remote working employment will position residents in their service areas to be more competitive for such opportunities.
<b>9. Travel Access</b>	Remote workers preferring non-metro locations still require expeditious ground transportation or air service to major business metros. Public and private transportation options to nearby cities are desired to access medical, retail, and business services not locally available. Convenient access to an airport with direct flights to major US cities and one stop service to international destinations is a priority as well.
<b>10. Financial Incentives</b>	Numerous states and cities have recently begun programs offering financial incentives to attract relocating remote workers. These programs often target certain demographic or occupational categories to achieve economic development outcomes. The implementation experience of these programs is limited to date with little, if any, information as yet available on their performance.



## 5. Appalachian OVRDC Remote Working Readiness “Scorecard”

Each of these factors was incorporated and briefly described in the “scorecard” format below (Table 7). The scorecard is intended to provide a structure for examining the competitive position of the region from the perspective of relocating remote workers. While some readily evaluative aspects of the Appalachian OVRDC region’s current status are described herein, this study should be considered only an initiation of a more detailed assessment as the region’s remote working strategy continues to evolve.

### 5.1 Internet Access

**Factor One:** Accessible, affordable, sufficient - from multiple ISPs.

Ohio is ranked 24 nationally and has 47.7% of required low price plans compared to a 51.1% average.. Low price plans are \$60 and less per month (Internet Access in Ohio: Stats & Figures, broadbandnow.com).

According to a June 2019 report by the Federal Communications Commission (FCC), 81% of U.S. census blocks households had access to three or more broadband providers.<sup>11</sup> For the Appalachian OVRDC region this percentage was essentially 100%. In the region, approximately 116,000 (18%) people do not have access to 25 Mbps broadband. This is especially true outside of Clermont County where counties such as Gallia and Vinton have broadband internet coverage of less than 50%. (Table 1)

Such internet statistics are often much disputed. Regardless of exact figures, it is reasonable to assume that current and future remote working prospects in the Appalachian OVRDC region may be discouraged by a real or perceived reduction in their quality of broadband access.

Table 7

Internet Access						
AREA	Total Population	%Coverage >25 down/3 up MBPS	# of internet providers	# internet plans	Average Plan price	No broadband (25Mbps)
<b>Ohio</b>	11,690,000	89%	98			
<b>Appalachian OVRDC</b>	697,863	75%			\$64.12	
<b>Adams County</b>	27,776	52%	5	4	\$69.99	13,000
<b>Brown County</b>	43,572	68%	4	4	\$69.99	NA
<b>Clermont County</b>	204,275	99%	4	10	\$60.49	1,000
<b>Gallia County</b>	30,088	31%	7	5	\$53.00	NA
<b>Highland County</b>	43,016	70%	7	10	\$67.98	NA
<b>Jackson County</b>	32,450	72%	7	9	\$75.99	NA
<b>Lawrence County</b>	60,184	87%	8	13	\$66.50	8,000
<b>Pike County</b>	28,000	75%	6	10	\$67.98	NA
<b>Ross County</b>	76,948	92%	4	7	\$75.68	NA
<b>Scioto County</b>	76,040	84%	3	1	\$49.99	
<b>Vinton County</b>	13,083	38%	5	4	\$69.99	

## 5.2 Attainable Housing

**Factor Two:** A primary motivation for many remote workers is enhancing their home ownership status, either as first-time buyers or more commodious housing.

The Appalachian OVRDC region’s housing stock includes 194,795 owner-occupied housing units with a median value of \$117,870. According to real estate site Relator.com, the median list price for homes for sale in the region was 176,042 in 2021 and had decreased slightly (12.4%) in the past year. Overall, housing costs in the region are well below that of the US, at only 39% of the national average, and have not experienced the volatility seen in other markets. (Table 8) The ability to purchase a first home is likely to be the Appalachian OVRDC region’s most compelling attraction for remote workers.

Table 8

Area	Median Listing	Median Income
United States	\$374,900	\$67,521
Ohio	\$181,756	\$56,602
Adams County	\$129,900	\$39,079
Brown County	\$172,500	\$54,575
Clermont County	\$242,500	\$66,968
Gallia County	\$153,700	\$44,858
Highland County	\$142,500	\$44,169
Jackson County	\$140,000	\$47,550
Lawrence County	\$142,500	\$45,118
Pike County	\$162,400	\$42,832
Ross County	\$174,900	\$51,092
Scioto County	\$139,900	\$41,330
Vinton County	\$179,900	\$45,673

### 5.3 Cost of Living

**Factor Three:** Remote workers often seek locations that increase the spending power of stable or even declining income.

As measured in 2020 by the U.S. Bureau of Economic Analysis (USBEA), the Appalachian OVRDC region is a relatively less expensive place to live. Overall, the cost of living in the region is 80.2% of the U.S. cost; therefore, the region will be viewed as having a favorable cost of living by most current and prospective remote work candidates. (Table 9)

Table 9

Area	Cost of Living Index	Grocery	Health	Housing	Transportation	Utilities	Child Care
United States	100	100	100	100	100	100	100
Ohio	82.6	96.1	87.4	60.9	83.9	100.0	97.2
Appalachian OVRDC Avg	80.2	96.1	104.8	46.4	85.5	104.3	71.9
Adams County	79.5	94.3	94.4	43.7	94.0	102.3	61.9
Brown County	86.7	95.5	95.7	53.5	113.0	102.3	72.3
Clermont County	92.5	97.2	97.0	76.6	99.6	99.4	117.5
Gallia County	79.0	98.6	109.5	40.6	84.2	108.4	72.3
Highland County	77.3	94.6	97.5	43.5	81.8	101.7	61.9
Jackson County	77.5	97.1	107.5	41.9	77.1	107.4	74.2
Lawrence County	78.2	97.3	103.4	39.1	83.0	107.8	72.3
Pike County	78.4	94.9	103.6	44.6	79.9	106.4	61.9
Ross County	81.3	95.5	120.1	51.7	76.0	103.0	72.3
Scioto County	76.5	96.7	124.6	33.7	76.8	106.1	72.3
Vinton County	77.9	97.4	106.9	38.2	87.0	103.9	61.9

### 5.4 Remote Workspaces

**Factor Four:** Abundant dedicated and informal remote workspaces.

The Appalachian OVRDC region has very limited designated formal remote working spaces. A prospective remote worker using common internet co-working space search platforms, such as LiquidSpace or CoWorker, will find no listings of co-working space available in the region. And the nearest currently available business incubators are outside of the region in either Cincinnati or Athens, Ohio.

However, within the Appalachian OVRDC region this situation is improving. The recently launched Kricker Innovation Hub at Shawnee State University in downtown Portsmouth, is implementing a building renovation that when completed will include coworking space, business incubation space, and a digital technology makerspace. In 2019 Ohio University Southern announced the creation of “Southern Launch”, a new business incubator located in the Dingus Technology Center on the Ironton campus serving Lawrence County and surrounding communities that will also provide coworking space.

While the availability of formal remote working spaces can be important in supporting remote work, such employment overwhelmingly relies on informal workspaces in homes, libraries, and commercial establishments such as coffeeshops and restaurants. Unfortunately, there is no efficient mechanism for identifying and qualifying such informal infrastructure in the region; a hindrance to remote workers and researchers alike. Nonetheless, searches using internet services such as Google Map reveal the presence of WiFi service availability in public and private locales in most Appalachian OVRDC communities that suggest the potential for, if not the current adequacy of, the development of additional codified remote working space capacity.

## 5.5 Childcare

**Factor Five:** Availability and affordability of acceptable pre-school, daycare, and afterschool care for remote worker families.

Childcare may be an important advantage for the Appalachian OVRDC region in supporting remote work. The job search firm Zippia recently researched over 500 locations and evaluated their status for working families. This evaluation provided a favorable assessment of childcare availability and costs in the region, which compared the percentage of median income to the average daycare cost. Similarly, the childcare search website, CareLuLu.com, reports the average cost for full-time daycare in U.S. counties.<sup>12</sup> This data shows childcare in the Appalachian OVRDC region to be may comparatively less expensive, and therefore attractive, for remote working families. (Table 10) Nonetheless, but a lack of affordable and available childcare undoubtedly remains a persistent problem for many working families that may hinder remote work opportunities for many residents.

Table 10

Area	Yearly Childcare Costs
United States	\$11,896
Ohio	\$10,009
Appalachian OVRDC counties Avg.	\$7,020

## 5.6 Outdoor Recreation

**Factor Six:** Prospective relocating remote workers seeking non-metro locales emphasize regional outdoor recreation opportunities.

The Appalachian OVRDC region has distinctive outdoor recreation assets to differentiate the county in the market for remote workers. The region is home to numerous natural and cultural heritage attractions that significantly occur throughout the region’s counties. While a comprehensive inventory of heritage assets was beyond the scope of the study, a representative cross section of these was compiled at the county level to demonstrate their pervasiveness across the region. (Table 11)

Table 11

County	Attraction
Adams County	Appalachia Discovery Quilt Barn Trail
	Edge of Appalachia Preserve System
	Ohio Brush Creek public access
	Red Barn Convention Center, LLC
	Serpent Mound
	Shawnee State Forest
	The Ohio River Scenic Byway
	John Rankin House
	Chatfield College
	President Ulysses S. Grant
	Ohio River
	Grant Lake
	Indian Creek Wildlife Area
Clermont County	Ohio to Erie Trail
	Cincinnati Museum Center
	East Fork State Park
	Stonelick State Park
	Cincinnati Nature Center
	Clermont County Quilt Trail
	Loveland Castle
	National Underground Railroad Freedom Center
	Lytle Dairy House and Museum

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<b>Gallia County</b>	Bob Evans Farm Homestead Museum
	Ariel Opera House (Home of the Ohio Valley Symphony)
	Elizabeth Evans Waterfowl and Birl Sanctuary
	French Art Colony
	Lambert Lands Memorial
	Mound Hill Cemetery
	Raccoon Creek County Park
	Rio Grande Reservoir
	Tycoon Lake State Wildlife Area
<b>Highland County</b>	Rocky Fork State Park
	Fort Hill Earthworks & Nature Preserve
	Paint Creek State Park
	Amish Communities
	Fort Salem Indian Mound
<b>Jackson County</b>	Lake Katharine State Nature Preserve
	Jackson Lake State Park
	Leo Petroglyph
	Buckeye Furnace State Memorial
	Lake Alma State Park
	Hammertown Lake
	The Lillian Jones Museum
	McKinley Park
<b>Lawrence County</b>	Lake Vesuvius
	Timbre Ridge Lake
	Dean State Forest
	Burlington 37 Cemetery
	Historic Iron Furnaces
	Macedonia Church
	Old Route 75 Tunnel
	Symmes Creek-Chesapeake
	Wayne National Forest- Ironton district

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<b>Pike County</b>	Brush Creek State Forest
	Buckeye Trail
	Canal Trail
	Cave Lake Center for Community Leadership
	Dogwood Pass Old West Town
	Lake White State Park
	Ohio's Most Perfect Tree
	Pike Lake Forest and State Park
	Scioto Trail State Forest
	Scioto Valley Railroad house
<b>Ross County</b>	Hopewell Culture National Historical Park
	Great Seal State Park
	Earl H Barnhart "Buzzards Roost"
	Adena Mansion & Gardens Historic Site
	Yoctangee Park
	Scioto Trail State Park
	Ancient Ohio Trail
	Story Mound
	Junction Earthworks/ Arc of Appalachia
<b>Scioto County</b>	Shawnee State Park
	Southern Ohio Museum and Cultural Center
	Portsmouth Floodwall Mural
	Turkey Creek Lake
	White Gravel Mines Production
	Raven Rock State Nature Preserve
	Shawnee Lodge & Conference Center
	Portsmouth Raceway Park
<b>Vinton County</b>	Lake Hope State Park
	Zaleski State Forest
	Lake Alma State Park
	Superior Wildlife Area
	Wayne National Forest- Ironton district
	Hocking Hills Region
	Moonville Tunnel



## 5.7 Professional Education

**Factor Seven:** Professional development through training certifications and post-

The Appalachian OVRDC region is home to a significant diversity of post-secondary and professional educational institutions and programs that would serve the continuing education needs of remote workers throughout their career trajectories. (Table 12)

Table 12

Area	PE / College- 15min
<b>Adams County</b>	<ul style="list-style-type: none"> <li>• Ohio Valley Career &amp; Technical Center</li> <li>• Maysville Community and Technical College</li> </ul>
<b>Brown County</b>	<ul style="list-style-type: none"> <li>• Southern Hills Career and Technical Center</li> <li>• Brown County Education Service Center</li> </ul>
<b>Clermont County</b>	<ul style="list-style-type: none"> <li>• Brighton’s Center for Employment Training</li> <li>• Interactive College of Technology (ICT)</li> </ul>
<b>Gallia County</b>	<ul style="list-style-type: none"> <li>• Putnam Career and Tech center</li> <li>• Buckeye Hills Career Center</li> </ul>
<b>Highland County</b>	<ul style="list-style-type: none"> <li>• Southern State Community College</li> <li>• Chatfield College</li> <li>• Wilmington College</li> </ul>
<b>Jackson County</b>	<ul style="list-style-type: none"> <li>• Buckeye Hills Career Center</li> </ul>
<b>Lawrence County</b>	<ul style="list-style-type: none"> <li>• Collins Center - Ohio University</li> <li>• Lawrence County Adult Learning Center</li> </ul>
<b>Pike County</b>	<ul style="list-style-type: none"> <li>• Pike County Career Tech</li> </ul>
<b>Ross County</b>	<ul style="list-style-type: none"> <li>• Ohio University - Chillicothe</li> <li>• Pickaway-Ross Career and Tech Center</li> </ul>
<b>Scioto County</b>	<ul style="list-style-type: none"> <li>• Shawnee State University</li> <li>• Scioto County Career and Technical Center</li> </ul>
<b>Vinton County</b>	<ul style="list-style-type: none"> <li>• Daymar College</li> <li>• University of Rio Grande and Rio Grande Community College</li> </ul>

### 5.8 Remote Work Training:

**Factor Eight:** Workforce development programs targeting remote work occupations and remote working skills.

The level that the Appalachian OVRDC region can benefit from increased practice of remote working depends greatly on the extent to which its residents are qualified for occupations amenable to remote working. Fortunately, the region has numerous workforce development resources for education and training that could be directed at remote working preparation. This study identified a representative cross section of relevant workforce development programs by county of operation (Table 13). As remote working has been increasingly adopted as a codified employment model, increasingly administrators of these resources are adapting and customizing programs focusing on remote work occupational skills.

Table 13

County	Program(s)
Adams & Brown County	<p>Computer Numeric Control Classes</p> <ul style="list-style-type: none"> <li>● Adams County Board of County Commissioners</li> <li>● milling, tooling, lathing, blueprint reading, and drafting</li> <li>● IN PROCESS</li> </ul> <p><a href="https://www.adamscountyohecd.com/500000-awarded-for-new-adams-county-training-center/">https://www.adamscountyohecd.com/500000-awarded-for-new-adams-county-training-center/</a></p> <p>Virtual Employment Workshops</p> <ul style="list-style-type: none"> <li>● OhioMeansJobs: Adams-Brown Counties</li> <li>● virtual interviews, working from home, virtual meetings</li> <li>● Free</li> </ul> <p><a href="https://www.omjadamsbrown.org/digital-resource-packets/virtual-employment">https://www.omjadamsbrown.org/digital-resource-packets/virtual-employment</a></p> <p>Grow with Google</p> <ul style="list-style-type: none"> <li>● OhioMeansJobs Adams-Brown Counties</li> <li>● real-person help with google IT/Data certifications</li> <li>● Free Google as well</li> </ul> <p><a href="https://www.omjadamsbrown.org/digital-resource-packets/grow-with-google">https://www.omjadamsbrown.org/digital-resource-packets/grow-with-google</a></p>

<p><b>Clermont County</b></p>	<p>Workforce Inventory of Education and Training</p> <ul style="list-style-type: none"> <li>● OhioMeansJobs Butler, Clermont, and Warren Counties</li> <li>● Connects jobs seekers with training for employment opportunities</li> <li>● Can be translated into remote work opportunities and training</li> </ul> <p><a href="https://bcworkforce.com/career-enhancement-solutions/">https://bcworkforce.com/career-enhancement-solutions/</a></p>
<p><b>Gallia County</b></p>	<p>Data Entry Training</p> <ul style="list-style-type: none"> <li>● University of Rio Grande</li> <li>● Online and in-person training for a primarily remote job</li> </ul> <p><a href="https://www.rio.edu/subject/cs/">https://www.rio.edu/subject/cs/</a></p>
<p><b>Highland County</b></p>	<p>Highland Community Action Partnership</p> <ul style="list-style-type: none"> <li>● Connected to OhioMeansJobs Highland County</li> <li>● Career and Occupational assessments to better assist customers in determining their present status and how their skills, interests, and abilities may be transferred into another occupation.</li> <li>● Can connect people with skills assessments for remote work positions</li> <li>● Free resources</li> </ul> <p><a href="https://hccao.org/workforce-services/">https://hccao.org/workforce-services/</a></p>
<p><b>Jackson County</b></p>	<p>Data Entry Training</p> <ul style="list-style-type: none"> <li>● University of Rio Grande- Jackson County branch</li> <li>● Online and in-person training for a primarily remote job</li> </ul> <p><a href="https://www.rio.edu/subject/cs/">https://www.rio.edu/subject/cs/</a></p> <p>Buckeye Hills Career Center</p> <ul style="list-style-type: none"> <li>● Jackson County Economic Development Partnership</li> <li>● adult and training programs for business and industry in data entry, robotics, etc.</li> </ul> <p><a href="https://www.buckeyehills.net/">https://www.buckeyehills.net/</a></p>
<p><b>Lawrence County</b></p>	<p>Workforce Development Resource Center</p> <ul style="list-style-type: none"> <li>● Resume Writing, Interviewing, Computer skills, and Employability skills training</li> <li>● Occupational skills training, and workshops and seminars</li> </ul> <p><a href="http://www.wdrc.net/">http://www.wdrc.net/</a></p>
<p><b>Pike County</b></p>	<p>Workforce and Business Development Program</p> <ul style="list-style-type: none"> <li>● Community Action Committee of Pike Community</li> <li>● Provides services under WIOA</li> <li>● Career Readiness Workshops and Computer Classes</li> </ul> <p><a href="https://www.workforcebusinessdevelopment.org/">https://www.workforcebusinessdevelopment.org/</a></p>

<p><b>Ross &amp; Vinton County</b></p>	<p>OMJ Open Computer Workshop</p> <ul style="list-style-type: none"> <li>• OhioMeansJobs Hocking, Ross, and Vinton Counties</li> <li>• South Central Ohio Jobs and Family Services</li> <li>• Improve basic computer skills, obtain certifications for future employment that can be used for remote work opportunities</li> </ul> <p><a href="http://www.scoifs.org/services/ohio-means-jobs/workshops.html">http://www.scoifs.org/services/ohio-means-jobs/workshops.html</a></p>
<p><b>Scioto County</b></p>	<p>Information Technology Professional Program</p> <ul style="list-style-type: none"> <li>• Scioto County Career Technical Center</li> <li>• Receives Computing Technology Industry Association (ComTIA) certification</li> <li>• Computer Hardware and Software, Computer Troubleshooting, Windows Server Administration, Computer Networking, Physical and Digital Security skills development</li> <li>• Can apply for scholarships for the training</li> </ul> <p><a href="https://www.sciototech.org/secondary/information-technology/">https://www.sciototech.org/secondary/information-technology/</a></p>

## 5.9 Travel Access

**Factor Nine:** Expeditious ground transportation and commercial/charter air travel to major business metros.

The Appalachian OVRDC region has excellent ground transportation with rapid highway accessibility to the economic centers of Cincinnati and Columbus, Ohio, with travel times of 60-90 minutes. (Table 14) Much of the region is also served by GoBus, a federally funded intercity bus service connecting the region to Ohio’s urban centers. While the region lacks an airport with scheduled commercial service, it is served by two nearby commercial airports: the Huntington (WV) Tri-State Airport with non-stop service to five U.S. destinations, and the Cincinnati/Northern Kentucky International Airport which offers non-stop passenger service to over 50 destinations in North America and Europe.

Table 14

Area	Major Roads	Airports	Train Line
Adams County	Route:68	Alexander Salamon Airport	Cincinnati Eastern Railroad
Brown County	Routes: 50,52,62	Brown County Airport	Cincinnati Eastern Railroad
Clermont County	Interstate: 275 Routes: 50,52,62	Eastern Cincinnati Aviation	Indiana & Ohio Railway Cincinnati Eastern Railroad
Gallia County	Route:35	Gallia-Meigs Regional Airport	
Highland County	Routes : 50,62	Highland County Airport	Indiana & Ohio Railway
Jackson County	Routes: 35	James A Rhodes Airport	Ohio South Central Railroad
Lawrence County	Routes :52	Lawrence County Airpark	
Pike County	Routes: 23	Pike County Airpark	Norfolk Southern Railway
Ross County	Routes: 35,23,50	Ross County Airport	CSX Transportation
Scioto County	Routes: 52, 23	Greater Portsmouth Regional Airport	Norfolk Southern Railway
Vinton County	Routes: 50	Vinton County Airport	

### 5.10 Financial Incentives

**Factor Ten:** Monetary/assistance for location identification, selection, and relocation.

Many analyses of the rural economic development potential of remote working have focused on attracting relocating remote workers using financial incentives. But as reported in Section 3 of this report, the limited capacities’ of programs implemented for that purpose would yield insignificant economic impacts. Moreover, focusing attraction efforts to higher income candidates targeted a small market of wealthier candidates to whom financial incentives are proportionately less influential.

The Appalachian OVRDC region does not currently offer financial incentives for remote workers. The region could, nonetheless, benefit economically from attracting remote workers if the costs

of such initiatives were minimal. Fortunately, this study found and described a taxonomy of relocation candidate prospects whose respective levels of “Appalachian OVRDC Affinity” could reduce or eliminate the need for financial incentives. Efforts to support remote working in the region could include enabling these candidates’ existing, but thwarted, preferences to live in, and work remotely from, there.

**Appalachian OVRDC Remote Work Readiness Status**

Although the remote working scorecard information to date on the Appalachian OVRDC region is not comprehensive, it is nonetheless already encouraging. While there are several areas for improvement, the region is already fairly well positioned to begin supporting and attracting remote workers – at least to some areas of the county. The region has a Positive status on Attainable Housing, Cost of Living, Outdoor Recreations, and Professional Education. (Table 15) Of the two factors assessed as “Negative” in the region, Remote Work Training is the more significant one given its broader relevance, whereas the current lack of Financial Incentives for attracting relocating remote workers has a far more limited applicability. Where the region’s status is more problematic, or “Neutral”, such factors as Internet Access, Remote Workspaces, Childcare, and Travel Access, decisions on potential enhancement efforts should first recognize there are multiple ways to capitalize on the Appalachian OVRDC region’s remote working opportunity that will yield different types/levels of economic outcomes to different beneficiaries. Decisions on how to invest in remote working readiness will require understanding of the connection between those strategic options and community development priorities.

Table 15

<b>Appalachian OVRDC Remote Work Readiness Status</b>		
<b>POSITIVE</b>	<b>NEUTRAL</b>	<b>NEGATIVE</b>
<b>Attainable Housing</b>	<b>Internet Access</b>	<b>Remote Work Training</b>
<b>Cost of Living</b>	<b>Remote Workspaces</b>	<b>Financial Incentives</b>
<b>Outdoor Recreation</b>	<b>Childcare</b>	
<b>Professional Education</b>	<b>Travel Access</b>	

## **6. Appalachian OVRDC Region and the Remote Working Opportunity**

To the extent it lessens the geographic proximity prerequisite of the employer/employee relationship, remote working holds significant promise as a non-metro and rural economic development opportunity. As the set of occupations that can be performed remotely grows, that opportunity will expand to encompass a broader range of both demographics and geographies. This also increases the number and locations of communities that could benefit from incorporating remote working into their economic development strategies.

As more communities engage, we can expect remote working support strategies to grow in sophistication beyond the current focus on incentive-based, new resident attraction programs targeting specific, narrow socioeconomic segments. Successful support program will evolve into comprehensive multifaceted portfolios designed to capitalize of the spectrum of economic development opportunities offered by remote working. As with any portfolio, different elements will vary in their return on investment (ROI). The challenge to the Appalachian OVRDC region's leadership is to build a remote working strategy portfolio that, when successful, yields ROIs that best address the regions' communities' priorities.

### **6.1 Appalachian OVRDC Employment and Out-Commuting**

Remote working is particularly potentially advantageous to residents of the Appalachian OVRDC region due to the high levels of out-commuting that characterizes the region. Over 50% of the region's employed residents commute to jobs in another county. (Table 16) While many of the commutes may be within the Appalachian OVRDC region, nonetheless it is at a considerable expenses to those employees as it means that over 100,000 of the region's residents spend an average of 60 minutes and nearly \$29 in their daily commutes. Remote working provides an alternative to these physical commutes and therefore a reduction of commuting costs in both time and money.

Table 16

Appalachian OVRDC Labor Force and Commuting					
Area	All employees working in county	Employed but living in other counties	Employed and live in County	Percent worked OUT county	Percent with commute of 30 minutes or more
Adams County	5,501	2,315	3,186	37%	50%
Brown County	7,481	3,900	3,581	58%	57%
Clermont County	58,584	34,875	23,709	42%	47%
Gallia County	11,020	5,756	5,264	69%	39%
Highland County	10,009	4,938	5,071	53%	42%
Jackson County	10,177	4,853	5,324	62%	35%
Lawrence County	12,552	5,747	6,805	42%	31%
Pike County	9,878	5,885	3,993	58%	38%
Ross County	28,003	13,532	14,471	69%	31%
Scioto County	22,677	8,315	14,362	74%	33%
Vinton County	2,417	1,205	1,212	40%	50%



## **6.2 Appalachian OVRDC and Remote Worker Attraction**

One of those strategic options is the attraction of currently non-local remote workers to relocate to the Appalachian OVRDC region. This is the strategy that has been most commonly practiced in other areas to date, and the one that has achieved the most prominence through local and national media coverage. In particular, it is the model employed in the well-known “Ascent West Virginia” program which, because of its prominence and proximity to Ohio, had both stimulated and shaped many on-going community discussions on the remote working opportunity.

The economic development potential and limitations of such “outsider attraction” strategies was discussed in Section 3 of this report. Such programs were acknowledged to have demonstrable, quantifiable economic impacts when successfully implemented. But at the same time, these programs are cost-limited in terms of their economic returns, with most providing modest expected effects on growth of local employment, income, and economic output.

As a result, such programs seem to be fated to “succeed too small” and to be prohibitively expensive to scale up to achieve economically significant outcomes. Moreover, the most feasible option to increase their significance is to focus attraction efforts to ever higher income demographics, which lessens their probability of success by targeting a much smaller number of wealthier candidates to whom financial incentives are proportionately less influential. As previously concluded, this reality calls into question the wisdom of designing rural economic development strategies that primarily capitalize on the potential benefits of remote working through non-local attraction strategies. Nonetheless, an attraction strategy can be a useful component of a potential, broader “Appalachian OVRDC Remote Working Portfolio”.

## **6.3 Appalachian OVRDC Resident Remote Working Economic Benefits**

Given the high costs of incented attraction strategies, it is fortunate that remote working has more economic development potential for the Appalachian OVRDC region than just the economic impacts created by the attraction of relocating remote workers. Moreover, in many cases these other forms of economic outcomes may provide benefit that better align with regional economic and public policy priorities. Several such examples are described below to illustrate the breadth of the additional potential outcomes and benefits:

### **1. Increase Appalachian OVRDC income and local spending from “traded” remote worker earnings**

Remote work can increase the number of Appalachian OVRDC residents employed outside of the county whose incomes then accrue in the region and grow the local “economic pie”. Not only might remote work increase its residents’ employment opportunities, thereby enabling them to maximize their earning potential, those

increased earnings are imported into the region's economy to circulate therein with benefits to local businesses and employees.

**2. Reduce retail leakage from physical out-commuting.**

Pre-Covid, over 51% of employed residents of the Appalachian OVRDC region physically commuted outside of their resident county to work, often to jobs located outside of the region itself. While this has the effect of importing income into the region, physical out-commuting contributes to retail spending "leakage" from workplace area spending. Continuing current remote work and converting future physical out-commuting to remote work will lessen retail leakage to the benefit of Appalachian OVRDC businesses.

**3. Reduced physical commuting benefits both wallets and the environment.**

Remote work, by reducing physical commuting, is a significant cost savings for workers, as well as benefit to the environment. In the U.S., an estimated \$758 million is being saved per day by post-COVID remote workers, with 890 million fewer miles being traveled daily by former commuters. In the Appalachian OVRDC region, during 2019, 51% of the region's employed residents "out commuted". Replacing a daily automobile commute of 50 miles with remote work saves that employee over \$7,250 and 250 hours annually. Converting just 10% of typical the region's out-commuting jobs with remote work could put additional \$70 million into Appalachian OVRDC residents' pockets and 2.5 million hours back into their schedules each year.

**4. Retain local graduates/early career residents.**

Recent school graduates – whether high school or postsecondary – who desire to remain in their community are often compelled to relocate for early career employment due to a lack of job opportunities aligned with their skillsets and professional interests. Proactive remote working outplacement would greatly increase their prospects of employment in an intended field while enabling continued local residency.

**5. Increase labor force participation.**

The labor force participation rate is the proportion of the working-age population that is either working or actively looking for work. This rate has been declining across the U.S. for several years. The decline has been attributed to several factors, some of which – regional skills gaps, workplace accessibility, work schedule imbalance – could be addressed by the location and work schedule flexibility afforded by remote work.

**6. Enhance upward socioeconomic mobility opportunities for residents.**

Like labor force participation, socioeconomic mobility - the movement of people from one social class or economic level to another – has also been declining across the U.S. from causes that may be addressable through increased remote work. By greatly

expanding the scale, scope, and diversity of avenues for employment, remote working increases opportunities for both workforce entry and career advancement enabled by worker experience and skills growth. It may also provide greater variety for flexible mid-career training and facilitate re-employment adjustments by mediating relocation.

#### **7. Diversify employment and employer regional portfolios.**

Remote work can infuse a community with skills and knowledge it may not otherwise possess. Increased remote work both by current and new residents often involves occupations or industries uncommon in a regional economy due to the lack of a local employer in such sectors. Conversely, diversification can also result in an enhanced ability to attract locally under-represented business and industry types as otherwise workforce- or skill-constrained location decisions are mediated through increased reliance on remote workers beyond the local labor shed.

#### **8. Increase Appalachian OVRDC human/social capital.**

As remote workers migrate into a community, they contribute skills and capabilities – “social capital” – that extend beyond their economic value. Many areas of the U.S. are experiencing declines in the share of prime work age (25-54) segments in their population, a segment whose diverse roles as citizens, parents, volunteers, entrepreneurs, etc. are key to sustained community vitality. Fortunately, this essential “young professional” demographic closely mirrors that of many prospective relocating remote workers.

### **6.4 Capitalizing on Ohio (and Appalachian OVRDC) “Stickiness”**

One of the most interesting population dynamics statistics available from the U.S. Census is data on how people living in a state came to be there. The Census conducts routine surveys that measure how many people migrate between states and how many people stay in the state of their birth. States with a large proportion of residents drawn from other states are termed “Magnets”. States with a large share of people born there are described as “Sticky”. It is possible for a state to be both, neither, or a combination.

A 2009 analysis of Census data by the Pew Research Center found that, for example, in California, only 38% of adult residents come from out of state, which ranks it 28th on the Magnet scale. Therefore, for all its historic allure, the Golden State is not a Magnet. But 69% of adults born in California still live there, ranking it 4<sup>th</sup> highest nationally in that regard. So, California is designated a “Sticky” state.<sup>13</sup>

According to the U.S. Census, Ohio attracts an even smaller share of its population from other states than California. Much smaller. In fact, Ohio ranks among the lowest states (47<sup>th</sup>) on the US magnet scale for attracting new residents from out of state. Ohio is decidedly no “Magnet”.

But on the other hand, many of its natives choose to remain to remain in Ohio. The state ranks 12<sup>th</sup> nationally in that regard. Ohio is definitely a “Sticky” state.

### **Philopatry as an Appalachian OVRDC Competitive Advantage**

One aspect of U.S. demographic migration that the Census does not report on are the number of people who leave, but then return to, their state of birth. In biology this pattern is termed “natal philopatry” and describes animals that return to their birthplace to breed. A common example is the salmon returning the headwaters of the stream in which they were spawned. When applied to humans this same migration pattern describes people returning “home” to reunite with social networks, rejoin their families, or perhaps begin their own family.

Demographers infer that natives who leave “sticky” states, like Ohio, are more inclined to return. This especially true when that departure was necessitated by circumstances that either lapse, such as military services or college, or are compelled against their preferences to seek employment. The tendency is that once such obligations are absent, and if circumstances allow, they are highly inclined to “go home again”.

Given that out-migration is often a function of employment seeking, the potential remote working has to increase residential choice mobility should remove a major barrier – employment - for people otherwise thwarted in a desire to relocate. This may be especially true for remote workers highly motivated to return to “sticky” Ohio, and Appalachian OVRDC can capitalize on this inclination by focusing its remote worker support or attraction efforts toward such prospects. Leveraging the strength of relocation prospects’ “Appalachian OVRDC affinity” could decrease, and even eliminate, the need to offer financial incentives.

An “Appalachian OVRDC Remote Working Affinity” taxonomy was developed (Table 17) to differentiate categories of prospective remote workers by their demonstrated (or likely) affinity for remaining in or relocating to the Appalachian OVRDC region. It should be stated that scholarly and professional research on location preferences in remote working is limited. While the below taxonomy is to be considered as conceptual (rather an empirical) in nature, it is intended to stimulate and inform a more granular dialogue on intended beneficiaries in a consideration and/or design of remote working support strategies.

In this taxonomy the categories are arranged in order by presumed affinity to being located in the Appalachian OVRDC region from the highest (#1) first to the lowest (#7). From a marketing perspective, it is expected that the declining affinity strength in later taxonomy categories is offset by a correlated expansion in market size. For example, while #1 CONTINUE category population has a high affinity due to their current Appalachian OVRDC residency, it represents far fewer people than does the much larger, but Appalachian OVRDC -indifferent, population of #7 INCENT category.

Table 17

<b>Appalachian OVRDC Remote Work Economic Development Strategy Portfolio</b>	
<b>1. CONTINUE</b>	Support continued remote working by current residents
<b>2. CONVERT</b>	Help physical out-commuters become remote workers
<b>3. UPSKILL</b>	Provide remote work training and outplacement for current residents
<b>4. RETAIN</b>	Remote work outplacement for graduates and likely out-migrants
<b>5. REPATRIATE</b>	Solicit return of former residents via remote working
<b>6. (RE)CONNECT</b>	Attract new remote working residents with social/family connections
<b>7. INCENT</b>	Attract remote workers with no connection using incentives

**1. CONTINUE: Continuation of remote working by current residents**

Surveys have reported that most US remote workers would prefer to continue to work remotely post-COVID for some or all of their work week. Hybrid models combining in-workplace with remote working are expected to become a standard structure for many businesses. Current residents of the Appalachian OVRDC region who already work remotely, and who wish to continue to do so post-COVID restrictions, may be the most immediate subjects for supportive programs.

**2. CONVERT: Conversion of current and future physical out-commuters to remote workers**

“Out-commuting” by Appalachian OVRDC residents to jobs outside their home counties was very common pre-COVID. The U.S. Census reported that in 2018 over half (51%) of the region’s employed residents “out commuted” – to work in other counties. From an economic benefit perspective, it is significant that out-commuting not only enables people to continue living in their preferred locations, but it also effectively imports a large net amount of additional income that expands and infuses the Appalachian OVRDC economy. But physical commuting is high cost in time and money to local residents and is a leading source of “retail leakage” that diminishes the regional economy. Enabling the conversion of current and future physical out-commuting to remote working enables more Appalachian OVRDC residents to earn higher incomes while remaining – or perhaps moving to the region.

**3. UPSKILL: Expand remote working by current residents through training and outplacement**

Remote work can offer many benefits to employees, but the reality is that many Appalachian OVRDC residents are employed in occupations where remote working is infeasible. Others may desire but lack the job skills required by remote work occupations. And others may be unfamiliar with remote working opportunities and require outplacement assistance. Research finds that remote working employees typically earn higher incomes primarily because the expanded range of employment opportunities it can offer enables workers to maximize their earnings potential through better skill utilization. These Appalachian OVRDC residents would

benefit from assistance in both enhancing their skillsets through training and leveraging those skills through effective remote work employment seeking practices.

**4. RETAIN: Retention of Appalachian OVRDC graduates and likely out-migrants seeking remote employment**

Each year the Appalachian OVRDC region loses residents and graduating students who might not have left had they been able to find satisfactory employment in the county. Remote employment could enable many of them to remain in the region. This represents a considerable market for remote working support.

**5. REPATRIATE: Attraction of returning (philopatric) previous remote working residents**

Many of those who either reluctantly or voluntarily departed the Appalachian OVRDC region earlier in their lives and careers may desire the opportunity to return as residents again. With the exception of retirees or the self-employed, historically such decisions were predicated on existing relevant employment opportunities in the county, or at least within physically commuting distance. Therefore, most return-motivated former residents were thwarted in their preferences by a lack of such jobs in the Appalachian OVRDC labor shed. As remote working increasingly remove local employment as an impediment, enhancements to the region as “remote work-ready”, along with measures intended to facilitate first-time home buyers, would enable self-incented relocations.

**6. RECONNECT: Attract new remote working residents with social/family connection to Appalachian OVRDC**

One need not be native or former resident of the Appalachian OVRDC region to have an affinity for the county based on other forms of social or personal connection. For some it could be a strong kinship connection based on historic or current family ties; others may have active business, academic, or recreational connections. An often-overlooked economic development opportunity is the favorable exposure that tourism can provide to visitors – especially entrepreneurs - who previously had not conceived of the region as a potential relocation site.

**7. INCENTIVIZE: Attract new residents with no connection using (non)/financial incentives**

As described in section 3 of this report, a strategy using financial incentives to attract relocating remote workers could purchase some number of new residents. But financial incentives cannot offset unresolved remote working disadvantages in the Appalachian OVRDC region and therefore unlikely to succeed in areas of the county of the greatest economic need. Limited funds for direct financial incentives also inevitably require the design and management of selective – and therefore discriminatory – criteria for their allocation. An existing remote working incentive programs are already experiencing political backlash from residents questioning the appropriateness of subsidizing higher-income new residents. Funding envisioned for financial incentives could likely be put to better use supporting enabling actions serving higher affinity categories.

## **7. Conclusion and Findings**

This study was performed to inform ongoing discussions and future decisions by Appalachian OVRDC public policy leadership on remote working support and attraction opportunities, and their potential economic benefits. The initial project focus was on assessing remote working's economic development significance, identifying key factors by which to assess the region's current level of remote working readiness, and describing aspects that could be enhanced. Subsequent research characterized multiple economic benefits and the diversity of potential beneficiaries of a comprehensive Appalachian OVRDC remote working-based economic development strategy.

### **7.1. The Recent State of U.S. Remote Work Trends**

The study found the remote working necessitated by the COVID pandemic has accelerated pre-existing trends and revealed market preferences that create opportunities for non-metro communities to both retain and attract remote workers, especially young professionals and working family demographic segments, with preferences for smaller communities but whose relocation had been previously thwarted by limited local employment opportunities. The broader use and acceptance of remote working established during the pandemic is expected to reduce this limitation, especially for communities that are well prepared to support the infrastructure, services, and other needs/preferences of distance workers.

- Forced remote working compelled by the 2020 COVID pandemic both accelerated pre-existing trends and codified remote work for broad segments of the U.S. workforce with enduring effects yielding new models of employment.
- The resulting mitigation of the historical linkage of proximity of employment and residential locations is enabling greater flexibility for people to separately consider where they want to live, from where they want to work.
- Historically, many people expressed who strong preferences to live in smaller cities, towns and rural areas had been compelled to either live (or relocate) close to metropolitan-based employment or endure onerous physical commutes. Preferences for non-metro residency increased as a result of the COVID pandemic.
- Remote working therefore creates economic opportunities for non-metro areas previously experiencing population and talent loss from reluctant out-migration and thwarted in-migration.

## 7.2 Remote Working and Rural Economic Development

The study found that high-profile city and state programs that have driven and framed many remote working discussions were primarily focused on incentive-based attraction strategies. An analysis of the likely economic impacts of those programs estimated that for most of the programs the results of successful implementation would be only modest. Considering the size of the local and state economies in which these benefits would accrue, the study concluded it was unlikely such incented-attraction programs would be sufficient to yield significant economic benefits, especially considering their costs.

- Some non-metro areas have been quick to recognize and attempt to capitalize on the rural economic development potential of remote working. To date, nearly all have emphasized the attraction – usually through financial incentives – of non-local, metro area remote workers to relocate. Their common premise is that such in-migration will grow the local economy from the spending of additional income provided through remote employment.
- Such “recruitment of income” strategies are a logical and accepted economic concept that should indeed eventually lead to increases in employment, income, and economic activity. However, the significance of that effect depends on the number, income, and spending behavior of the attraction remote workers, as well as the scale and nature of local economic growth priorities.
- Despite their high profiles in media and local policy discussions, the experience of most of these initiatives is very limited in both scope and time. The study analyzed several of the more established program to assess their potential economic significance, assuming they succeeded in their defined objectives. This analysis found that only more substantially funded programs (Maine and West Virginia) might expect success to yield appreciable number of jobs and other economic impacts.
- Viewed in the context of the scale of the local and state economies in which they occur, even “successful” remote workers attraction incentive programs are unlikely to yield significant local economic benefits. Such programs seem to be fated to “succeed too small” and to be prohibitively expensive to scale up to achieve economically significant outcomes. Moreover, the most feasible option to increase their significance is to focus attraction efforts to ever higher income demographics, which lessens their probability of success by targeting a much smaller number of wealthier candidates to whom financial incentives are proportionately less influential.



### 7.3 Remote Work Attraction/Readiness Factors

These study findings challenged the wisdom of designing rural economic development strategies that primarily capitalize on the potential benefits of remote working through non-local attraction strategies. The study characterized several alternative remote working strategies for rural economic development and the factors that, in addition to financial incentives, would distinguish a community as “remote work-ready”. Academic and professional research literature on remote working requirements was analyzed and synthesized in the format of a “scorecard” describing the nature (and to a lesser extent the priority) of several factors recognized as affecting location decisions of remote workers. Applying that assessment tool to the Appalachian OVRDC region found that while there are several areas for improvement, the region is already fairly well positioned to begin supporting and attracting remote workers – at least in some areas.

- Analysis of remote worker literature identified several factors validated as distinct priorities to the remote worker, either as prerequisites to their employment or as highly preferred advantages to their former, typically urban, location. Ten leading factors were incorporated in a “scorecard” structure for a preliminary assessment of the competitive position of the Appalachian OVRDC region from the perspective of relocating remote workers.
- Although the remote working scorecard information to date on the Appalachian OVRDC region is not comprehensive, it is nonetheless already encouraging. While there are several areas for improvement, the region is already fairly well positioned to begin supporting and attracting remote workers – at least to some areas of the county.
  - The Appalachian OVRDC region appears to possess advantages in attainable housing, cost of living, outdoor recreation, and professional education
  - It offers advantages and disadvantages in internet access adequacy, remote workspaces, and childcare, as their sufficiency varies county-wide, or existing capabilities require enhancement
  - Ground transportation access within the region offers advantages for some remote work substitution of physical out-commuting, especially with hybrid work models, but it is likely that perceptions of commercial air travel inconvenience will be detrimental for some prospects
- Capitalizing on existing advantages should be combined with efforts that enhance and extend positive factors geographically while addressing areas of perceived (rightly or wrongly) deficiencies. Discussion of potential enhancement efforts should first recognize there are multiple ways to capitalize on the region’s remote working opportunity that

will yield different types/levels of economic outcomes to different beneficiaries. Decisions on how to invest in remote working readiness will require understanding of the connection between those strategic options and community development priorities.

#### **7.4 Appalachian OVRDC region and the Remote Working Opportunity**

The study concluded that remote work offers significant potential economic development for a non-metro areas, like the Appalachian OVRDC region, by lessening the conventional geographic proximity prerequisite of the employer/employee relationship. Through remote working , residents' ability to secure employment need not be dependent on employers being located nearby or necessitate costly physical commuting. Moreover, remote work offers advantages to both current residents who wish to remain in the region and current remote workers desiring to relocate to the region. As remote work business models evolve, the set of occupations that can be performed remotely is growing, expanding opportunities to encompass a broader range of both demographics and geographies. This correspondingly increases the economic development strategies by which communities can benefit from remote working.

The Appalachian OVRDC region can benefit from the experience of other communities' remote work models to design a comprehensive, multi-faceted remote working support plan that advances beyond the current focus on incentive-based, new resident attraction programs that target specific, narrow socioeconomic segments. A diversified policy portfolio enabling increased remote work by both current and prospective residents will serve broader, more diverse constituencies to greater economic effect. As with any portfolio, different elements will vary in their public policy "return on investment" (ROI). The challenge to the Appalachian OVRDC region's leadership is to build a remote working strategy portfolio that, when successful, yields economic benefits that best address the priorities of the region's communities and citizens.

END

## Appendix 1 – Remote Work Program Examples

State/City	Incentive/Plan
West Virginia	"Ascend West Virginia"; \$12,000 subsidy (10k over monthly payments over 2 years, and final \$2k at the end of the second year), free travel to any remote workers moving to WV countryside, free use of recreational facilities. This includes 3 towns: Morgantown, Shepherdstown, and Lewisburg.
Vermont	\$10k over two years towards remote workers in tech industries. Two explicit goals; 1. foster VT's tech industry, and 2. combat VT's image of being "unfriendly to new businesses".
Topeka, Kansas	\$15,000 for home buyers, \$10,000 for renters in incentives; this is famously one of the more generous programs, particularly because homes in Topeka are very cheap to begin with; the goal is specifically to attract high-skill workers.
Baltimore, Maryland	\$5k towards down payment only on fixed-mortgage loans.
Maine	Up to \$15,660 in tax rebates; specific consideration being given to degree holders, especially STEM majors; specifically outlined to fight the decreasing youth population in Maine.
Tulsa, Oklahoma	\$10,000 in cash, plus free co-working space; one of the more generous programs.
Fayetteville, Arkansas	\$10,000 in cash, plus a free mountain bike; particularly successful, attracting 29,000 workers from every state and countries around the world.
Savannah, Georgia	\$2,000 in reimbursement for moving here specifically for tech-workers, plus additional grants for job-creation.

<b>New York/Seattle/others</b>	Conversion to "Smart City", a city that maximizes efficiency by connecting mobile devices, software solutions, user interface and communication networks. Through private-public partnerships, New York and other major cities can create remote working hubs to facilitate remote work; there are obviously other goals of a smart city, such as energy efficiency, but attracting remote workers poses another goal.
<b>Remote Shoals, Alabama</b>	Up to \$10,000 over the first year depending on wages; requires an income of \$52k annually, likely in order to target high-skill workers.
<b>Hawaii</b>	Interestingly, no incentive other than free airfare; one of the explicit goals was to repair Hawaii's tourism industry, which declined 90% during the 2020 COVID pandemic.
<b>Ireland</b>	Open 400 remote work hubs by 2021 across rural Ireland connected to the same network; this includes a mix of public facilities and partnerships with private firms such as bars and restaurants.

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## End Notes

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#### 4. CREATING INVESTMENT READY COMMUNITIES/OPPORTUNITY ZONES

# **Creating Investment Ready Communities and Opportunity Zones**

Prepared by Center of Economic Development and Community  
Resilience, the Voinovich School of Leadership and Public Affairs

October 2021

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## ***Introduction***

A total of 38 locations were identified within the OVRDC region that is in an opportunity zone. All locations were uploaded to <https://opportunityzones.ohio.gov/wps/portal/gov/ooz/home>. Of these 37 sites, eight sites were identified as the most investable sites in the OVRDC region. These locations include Zahn's Corner (Pike County), Mt. Orab Megasite (Brown County, Attachment 1), Washington Court House Industrial Park (Fayette County, Attachment 2), Dan Evans Industrial Park (Gallia County, Attachment 3), Industrial Rail Site and Wellston Industrial Park (Jackson County, Attachment 4), The District (Lawrence County, Attachment 5), and the Southern Ohio Aeronautical Regional Business Park (Scioto County, Attachment 6). Zahn's Corner Industrial Park in Pike County has since sold and is no longer on the market.

## ***Available and Investable Assets in Designated Opportunity Zones***

The counties in the OVRDC region provide many benefits to potential businesses. First is large transportation infrastructure. Multiple routes span the region including, US 23, US 50, Route 32, US 52, and the region neighbors Interstate 71, Interstate 70, and Interstate 64. The highway systems provide businesses with easy access to Columbus, Cincinnati, Charleston, and any other surrounding cities. The region is also located within a day's drive of  $\frac{3}{4}$  of the United States population. The region also has a large rail infrastructure. Scioto County for example has access to the Norfolk Southern Heartland Corridor and the Pocahontas Division Rail Yard. These rail lines run throughout the district, providing businesses the opportunity to ship their supplies and products via rail. Another transportation benefit is access to the Ohio River. Many of the counties are located along the Ohio River with the remaining counties a short drive to the river. The Ohio River provides businesses the opportunity to reach markets around the world. Finally, the region has access to multiple local airports and multiple international airports. The region is within a short drive to Cincinnati/Northern Kentucky International Airport, John Glenn International Airport (Columbus, OH), Yeager Airport (Charleston, WV), and the Huntington Tri-State Airport. These airports provide the region with a Foreign Trade Zone designation.

Another asset to the region is the educational system. The OVRDC Region is home to multiple universities including Shawnee State University, Ohio University Southern, University of Rio Grande, and it borders major universities like Ohio University, Ohio State University, Marshall University, the University of Cincinnati, and more. Many of the counties also have their own career centers. Lawrence County is home to the Collins Career Technical Center. Other career centers in the region include Buckeye Hills Career Center (Gallia County), Scioto County Career Technical

Center (Scioto County), and the Ohio Valley Career and Technical Center (Adams County).

The Region has access to a large population trained workforce. It also has access to large neighboring cities that can pull more workers to provide businesses with access to all the labor force the company could need. The region averages an unemployment rate of 5.7%. Lawrence County has access to a population that exceeds 300,000 people thanks to its proximity to the tristate region of Ironton, Ohio, Ashland, Kentucky, and Huntington, West Virginia.

The OVRDC Region also benefits from many other various assets including a multitude of ways for employees and business owners to enjoy their time away from work. The region provides excellent opportunities for outdoor recreational activities including the Ohio River, Lake Vesuvius, and the Wayne National Forest. There are multiple historical sites throughout the area including the home of President Grant. There are many different locations to shop and eat with your family including the new Canal Warehouse Project in Ross County that is turning an abandoned canal-building into a downtown attraction for Chillicothe, Ohio. The region is full of sporting events, musical events, plays, and other festivals and events to keep the business owners and their employees entertained during off-hours.

***Investible Projects Attractive to Investors with Capital Gains to Manage.***

The OVRDC Region provides investors with 35 different properties that are in an Opportunity Zone. The properties identified as the best properties for investment include Industrial Rail Site and Wellston Industrial Park (Jackson County), The District (Lawrence County), Airpark Industrial Park (Scioto County), Mt. Orab Megasite (Brown County), Dan Evans Industrial Park (Gallia County), and Washington Court House Industrial Park (Fayette County).

Adams County: Winchester Industrial Park (Attachment 1)  
 Moores Road Business Park

Brown County: Mt. Orab Megasite (Attachment 2)  
 Mt. Orab Tract 250 East Tract 416

Clermont  
 County: 4174 Half Acre Road  
 Half Acre and State Route 276

Fayette County: Washington Court House Industrial Park  
 (Attachment 3) Kea Inc.

Gallia County: Dan Evans Industrial Park (Attachment 4)  
 US 35 State Route 850 Site  
 Kessinger Property

Highland  
 County: Corvac Property  
 Hobart  
 South Central Industrial Park  
 US 62 and State Route 73  
 Connector North High Business Center  
 Homestead SCPC

Jackson  
 County: Wellston Industrial Park (Attachment 5)  
 48 Acres Jackson CIC Site  
 75 acres Salt Creek Industrial Park  
 1527 McGiffin Rd  
 Jackson Logistics Center  
 Industrial Rail Site (Attachment 5)  
 Vets Development  
 GJMV Solid Waste District Office  
 BREC Echo Valley Site

Lawrence  
 County: Ross  
 County: The District  
 (Attachment 6) River  
 Road Development  
 Canal Warehouse

Scioto County: Southern Ohio Aeronautical Regional Business Park  
 (Attachment 6) Portsmouth Gateway Industrial Park  
 New Boston Industrial Park

Vinton County: Vinton County Business Park

***Capital Targets and Developed Business Case(s) for Investible Projects.***

The local economic developers were contacted to determine the best industries to pursue for the properties that were identified as the readiest for investment in the OVRDC Region. The preferred industries for each are listed below.

- Adams County: Manufacturing
- Brown County: Auto, Data, Food Manufacturing, industries with large electric and low gas usage.
- Fayette County: Manufacturing
- Gallia County: Small Manufacturing, Distribution Center
- Jackson County: Manufacturing
- Lawrence County: Manufacturing
- Scioto County: Manufacturing and Aviation

***Marketable Assets to Attract and Seal Investment.***

A prospectus was created for each of the counties. These prospectuses had a section for each property located within the county.

***Adams County: Attachment 1***

Adams County, Ohio, is a premier location for potential and growth. The Workforce has demonstrated proven success with General Electric and Columbus Industries for retention and development in the community. Adams County recently purchased a 15,100 square foot building that is currently being renovated to become a region's training center. Many prospective industries are attracted to Adams County as they pride themselves on having the lowest average gross tax rate in the state (35.75%) within a public utility, commercial, industrial, and mineral class of real property. According to the Ohio Department of taxation, the county also holds the lowest average tangible personal property tax (34.72%), including public utility personal property.

With the recent completion of a new hospital, Adams County now has a new state-of-the-art cancer treatment and new dialysis center. The potential for medical tourism demonstrates the improved health care system and a resurgence of growth for the community. Adams County has a rich culture with many historical and cultural destinations for its residents and non-residents alike. The public enjoys visiting many covered bridges, historic homes, the Ohio River, the Serpent Mound, and the Manchester Islands. With these abundant attractions, the community takes pride in the many festivals they host throughout the year.

Adams County has focused on providing the next generation an abundant education through their two school districts. Ohio Valley School District offers a

career and technical center with many specialty programs to empower the future Workforce. Manchester Locals Schools received the Bronze Medal for Best High School by U.S. News and World Report and received the highest test scores for the Ohio Graduation Test of any Southeastern Ohio school district.

The geography and abundant land provide access to the limitless potential within the community. The Winchester Industrial Park is a modern, industrial park located off State Route 32. This location offers companies with quick access to Cincinnati and a connection to east coast markets. The proximity to both Cincinnati and Columbus gives businesses a competitive advantage and access to international airports. The site has 55 acres owned by the Community Improvement Corporation and the Board of Adams County Commissioners with construction to provide the park with upgraded utilities, sewer, water, gas, broadband, and phase III electricity.

### *Brown County: Attachment 2*

Brown County, Ohio, is home to 43,572 residents, with nearly half of the population working age. Currently, 14.9% of residents have obtained a Bachelor's degree or higher. The three most popular employment industries are Health Care and Social Assistance (22.6%), Educational Services (17.3%), and Retail Trade (10.8%). Brown County attracts people for their entertainment and recreation to the beautiful destinations. The rich Ohio history of Brown County admires the John Rankin House, John Parker House, The Ohio Tobacco Museum, and former President Ulysses S. Grant's boyhood home. The area also provides a painted mural, wineries, breweries, golfing, boating, fishing, and hunting.

Brown County offers residents five school districts that provide excellent opportunities for education, including Georgetown Exempted Village, Western Brown Local, Fayetteville-Perry Local, Eastern Local, Ripley-Union-Lewis-Huntington Local. Brown County is home to Southern Hills Career and Technical Center, which offers elaborate programs in Automotive Technology, Construction Technologies, Agriculture/Industrial Mechanic, and more.

The Mt. Orab Megasite Industrial Park is 1,043 divisible acres within an Opportunity Zone, Enterprise Zone, Foreign Trade Zone, and TIF District. Transportation logistics is a considerable advantage as it is 22 miles from Interstate-275 and 36 miles from I-71. Cincinnati is less than an hour's distance, providing an international hub for many businesses with direct access to the river ports and airports. The site has conducted a plethora of research to offer future businesses information for the area's potential.

### *Fayette County: Attachment 3*



Fayette County offers a multitude of attractions for entertainment and recreation. The locals love the great selections of diners, shopping, and more. Fayette County is a convenient 1 hour drive to access the capital of the state, Columbus. Deer Creek State Park is an attraction with excellent camping, including laundry facilities, basketball courts, volleyball, full restrooms, miniature golf, and more. Eyman Park offers an ideal space for events and family space for children to be entertained. Paint Creek Recreational Trail connects bicyclists to Chillicothe on an abandoned B&O railroad corridor.

28,620 residents call Fayette County home, with 16.3% having a bachelor's degree or higher. The three most popular employment industries are Retail Trade (19.2%), Manufacturing (15.6%), and Health Care and Social Assistance (12.4%). Fayette County's location and transportation networks enable 2,000 workers to commute into the county daily with connections through State Route 38, 41, and 735. The county is centrally located between Columbus, Cincinnati, and Dayton, providing a hub of air travel options with three international airports within the proximities.

The two school districts that Fayette County provide abundant resources to connect the community to future employment. Miami Trace Local School District was rated excellent in Ohio. Washington Courthouse City Schools offers updated facilities with new buildings, incredible technology, and a great community to ensure students reach their potential. With the proximity to Columbus, many students are encouraged to pursue higher education like Ohio State University, Capital University, and Ohio Dominican University.

The Washington Court House Industrial Park is an impressive 272 acres within an Opportunity Zone and an Enterprise Zone just off of U.S. 23. There are multiple sites within the park and surrounding the park with railroad access through Genessee and Wyoming. The utilities are fully equipped with 69kV KVA electric line, 6 in line, a 12 in. water line, and a 10 in. sewer line with 700,000 GPD excess capabilities. Phase I ESA, Geotechnical, Wetlands, Archeological and Endangered Species research, and studies have been completed on the site.

#### *Gallia County: Attachment 4*

Gallia County is located on the edges of the Ohio River, which offers excellent recreational opportunities for residents. Downtown Gallipolis provides a quaint, safe place for families to eat, shop, walk and enjoy the beautiful river views. Furthermore, the University of Rio Grande offers multiple sporting teams to provide residents with pride and entertainment for the community. The regional labor of employees is nearly 278,228, with Gallia County being home to 30,088 residents. The county has abundant options for grants, loans to aid a new business.

Gallia County provides excellent options for employees to further their training and for the next generation to access education. The three school districts provide abundant learning experiences through the Gallia Academy, South Gallia, or River Valley. The University of Rio Grande provides advancement degrees and certifications for welding, computer science, industrial technology, industrial automation, and more. Buckeye Hills Career Center is also available for residents to earn the skills they need to succeed. Furthermore, Ohio University and Marshall University are within an hour commute for residents interested in higher education.

The Dan Evans Industrial Park is 77 acres authenticated site through Jobs Ohio Site Ohio Program that guarantees the site to be ready for development. Currently, utilities are readily available with excess capabilities. Research and studies have been completed to ensure the future developer has the readiness and safety to provide a successful project.

#### *Jackson County: Attachment 5*

Jackson County is often an attraction for businesses as it does not have corporate profit taxes or income taxes. The labor force is a substantial 12,880 residents with 24.4% having an Associate's Degree or higher. Jackson County is loved for its nature and commitment to the outdoors. Lake Katherine State Nature Preserve offers many hiking trails which allow visitors to experience a beautiful side to the area. Jackson Lake State Park, Lake Alma State Park, and Hammertown Lake are also very popular lake attractions. The Buckeye Furnace State Memorial displays an iron furnace that was constructed in 1852 and also has a museum, multiple reconstructed buildings, and nature trails. The public also loves the entertainment offers of great restaurants, bowling, golf courses, tennis courts movies theaters, and much more.

Jackson County is home to many properties and locations within an Opportunity Zone. The two main sites are the Wellston Industrial Park and the Industrial Rail Site. The sites all have similar transportation benefits as Jackson County is home to the intersection of State Route 32 and U.S. 35. Businesses have indefinite circumstances to reach Columbus, Charleston, Huntington, and other major cities. This is a considerable advantage for air travel and higher education opportunities. Jackson is also within 140 miles of 140 million North American consumers. The Ohio South Central Railroad provides rail services for businesses in the county that have the logistics to connect these resources. The James A Rhodes Airport in Jackson County offers a 5,200-foot runway.

The Wellston Industrial Park is 56.8 acres located in Wellston, Ohio. This location has demonstrated as an ideal location for wood companies or related

companies as the property is neighboring Superior Hardwoods of Ohio. There is currently water, sewer, electric, and fiber available and if needed, the City of Wellston has estimates for upgraded sewer capacity. This location is located within an Opportunity Zone, Enterprise Zone, and HUB Zone. The Phase I ESA, Geotechnical, Wetlands, Archeological, and Endangered Species studies have already been completed.

The Jackson Ohio Industrial Rail Site is 22 acres located near the U.S. 35/S.R. 32 intersection. There is a rehabilitated rail spur located at the site with all utilities up to industrial standard. The site is currently undergoing an environmental remediation project. The site is situated in an Opportunity Zone, Enterprise Zone, Foreign Trade Zone, and HUB Zone with Phase I ESA and Phase II studies already have been completed.

#### *Lawrence County: Attachment 6*

Lawrence County has a lower cost of living than the national average. The county currently has 35, 262 between the ages of 18 and 65. The average commuter time to work is 23.4 minutes. Lawrence County is home to the Wayne National Forest. Lake Vesuvius offers residents an excellent opportunity to appreciate the outdoors through camping, hiking, kayaking, fishing, and horseback riding. Lawrence County is a short drive from Ashland, Kentucky which is home to the Paramount Arts Center with performances in music, theatre, comedy, and more. The RO-NA Theatre in Ironton, Keith-Albee Theatre in Huntington, and Huntington Symphony Orchestra provides an excellent scene for musicals and other performances. There are also endless amounts of retail and entertainment through the tri-state region. Residents can also enjoy many festivals and events throughout the county and tri-state area.

Lawrence County offers residents high-quality colleges and universities within an hour's drive. The county is home to Ohio University Southern and the Collins Career Technical Center which provides numerous opportunities for advancements inside and outside of the classroom. Marshall University and Shawnee State University are also within the region. The residents have 7 school districts available to provide their children with high-quality education. The 7 school districts dispersed through the county are Chesapeake Local, South Point Local, Ironton City Schools, Dawson-Bryant, Fairland, Rock Hill, and Symmes Valley. The labor pool is abundant, hailing from within and beyond the Tri-State area (Huntington, WV, Ashland, KY, Ironton, and Portsmouth, OH) to represent a growing population that currently exceeds 400,000. The trained Workforce specializes in production and technology to provide solid labor and operations for businesses to thrive. The abundant Workforce, along with a low cost of living, has made area labor costs affordable for companies.

The educational and training institutions surrounding The District play an active role in following modern industry trends as well as skills required for these jobs.

The Southern Ohio Industrial District (The District) provides vital advantages to a variety of businesses, industries, and organizations such as petrochemicals, energy, and metals. The District offers both green-field sites and fully developed buildings. The District is equipped to accompany future developers with a 40-acre site with immediate access to multiple means of transportation. Currently, the site has a 92,000 square foot building available for use. The site is located on the Ohio River with direct access to U.S. 52 and Norfolk Southern rail and within 45 minutes of the Huntington Tri-State International Airport. The District's local utility providers ensure the presence of reliable infrastructure resources. The buildings total 400,000 square feet where most small and medium-sized business needs can easily be accommodated. The District is currently home to Dynegy, Rumpke, AmSty, and Sun Coke. The District provides impressive utilities and connectivity options available. With multiple 765 KV lines providing redundant power sources to one of Ohio's largest ARP substations, the 69 K.B. substation feeding The District offers the comfort of nearly guaranteed, uninterrupted power to all District businesses. The District is crossed by an 8" line from Columbia Gas with 320 psi.

#### *Scioto County: Attachment 7*

Scioto County ranks in the top 25 for Cost of Living in Ohio. The location provides businesses with excellent transportation, workforce options, educational opportunities, and much more. The bulk transport of goods is accessed through the Ohio River and an extensive rail network which logistically enables companies to access larger networks. U.S. 52 and U.S. 23 are easily accessible throughout the country, which ultimately connects to interstates and highways. Scioto County is abundant in resources with its massive volumes of freshwater, affordable and fantastic electricity, natural gas, propane, and broadband.

The county is proud to offer ten different school districts, including; New Boston, Portsmouth City, Bloom-Vernon, Clay, Green, Minford, Northwest, Valley, Washington-Nile, and Wheelersburg. These school districts ensure that whatever location in the county, the public will be close to advancing the future generations. There are 43,073 working-age adults and many opportunities for local career advancements. Scioto County Career Technical Center offers many programs that can be utilized to advance the Workforce further. Shawnee State University provides a range of degree options to improve human capital and skills.

The geography of southern Ohio and riverfront properties offer plenty of outdoor recreational activities. Brush Creek State Forest, Shawnee State Forest, and

Shawnee State Park attract those interested in hiking, fishing, swimming, and other outdoor activities. The Southern Ohio Museum and Cultural Center, Boney Fiddle Military Museum, and the Portsmouth Flood Wall Mural provide a rich history and culture of what southern Ohio can offer. Portsmouth offers a diverse selection to enjoy higher-end dinings such as Scioto Ribber, The Portsmouth Brewing Company, Market Street Café, and many more.

The Southern Ohio Aeronautical Regional Business Park (SOAR) project includes 145 acres within airport fences that are zoned for aviation businesses. The remaining park consists of 126 acres of land outside the airport property that can be utilized for any type of business. The creation of the new industrial park in northeastern Scioto County is within an Opportunity Zone, providing limitless potential for success in Scioto County. The completion of State Route 823 connects U.S. 52 and U.S. 23, which run beside the industrial park property and offer access to the Ohio River, railroad infrastructures, and access to Columbus, Ohio. Construction has begun on the park's first building, with limitless potential for future businesses.

### ***OVRDC CEDS Projects and Economic Development Strategies.***

#### *Adams County, The Winchester Industrial Park: Attachment 1*

Strengths of Adams County and the Winchester Industrial Park includes industrial lands, highway systems with State Route 32 running through the county, Ohio River access, proximity to metropolitan cities, new hospitals, an abundance of resources, The unique benefits of Adams County include state of Ohio taxes as well as low local taxes, state and federal resources through the OVRDC, and access to workforce development with the planned creation of a workforce training center in the county.

The Winchester Industrial Park accomplished Objective 1 by providing the OVRDC region with an industrial park. This park is a major development along the Appalachian Highway. This helps the OVRDC accomplish its goals in Objective 6, Strategy 4 which is the promotion and development of the Appalachian Highway. Adams County also has the potential to help the OVRDC accomplish Objective 8 through the creation of its training center. This will help not only Adams County but the surrounding region.

#### *Brown County, Mt. Orab Megasite: Attachment 2*

The Mt. Orab Megasite is in line with the OVRDC CEDS Objective 1, Objective 6, and multiple common strengths and unique strengths. This park offers industrial land, shovel-ready properties, proximity to major metropolitan areas, Foreign Trade Zone, available megasite, state and federal resources through OVRDC,

and local airport availability. Objective 6, Strategy 4 as the county and the park is located near the Appalachian Highway. The development of this park will help increase the development of the Appalachian Highway.

*Fayette County, Washington Court House Industrial Park: Attachment 3*

Common strengths of Fayette County include available industrial land, shove-ready industrial park, highway systems, trained and mobile workforce with approximately 2000 workers commuting into the county each day and a workforce that includes workers from nearby Columbus, proximity to metropolitan areas, access to post-secondary 4-year institutions and local airport availability. Unique benefits of Fayette County include an intersection of major transportation routes (US 23 and Interstate 71), state of Ohio tax structure, state and federal resources through OVRDC, benefits of having different zone designations including being a SiteOhio Authenticated Site and Enterprise Zone, and access to training through the local career centers and local universities.

Objective 1, Strategy 1 and 2 through development and improvement of this existing industrial park and the completion of multiple studies including Phase 1 ESA, Geotechnical, Wetlands, Archeological and Endangered Species which will help make the park more marketable.

*Gallia County, Dan Evans Industrial Park: Attachment 4*

Common strengths of Gallia County and the industrial park include access to the Ohio River, highway systems with State Route 7 and US 35 running through the county, industrial land, and shove-ready sites, new schools, proximity to metropolitan areas, low cost of living, and the unique benefit of being authenticated site through JobsOhio. Objective 1 Strategy 1 and 2 through the development and improvement of an industrial park and the completion of multiple studies to help improve the marketability of the property.

*Jackson County, Industrial Rail Site and Wellston Industrial Park: Attachment 5*

Common strengths of the Jackson County sites include state of Ohio tax system, no corporate tax or income tax, access to rail, access to highways and a major intersection with State Route 32 and US 35 intersection, proximity to major metropolitan areas, Enterprise Zones, HUB Zones, and Foreign Trade Zones.

Objective 1, Strategy 1 and 2 are met through the development and promotion of these two industrial parks. Phase I ESA, Geotechnical, Wetlands, Archeological, and Endangered Species studies already completed at the Wellston Industrial Park. Phase I ESA and Phase II ESA studies are completed at the Rail Site. Objective 5 is available for this site. The Wellston Industrial Park has the potential to upgrade the sewer capacity to the park if needed. Wellston City has already received estimates for

the construction of the upgrades. OVRDC has the opportunity to assist with the completion of this project, should it be required. Objective 6, Strategy 4 is accomplished through the development of these parks. Jackson County sits along the Appalachian Highway so the development of these parks will increase the development of the highway and surrounding communities.

*Lawrence County, The District: Attachment 6*

Common strengths of Lawrence County and The District include industrial land and buildings available, highway systems with US 52 running beside the park and Interstate 64 a short drive away, Ohio River access, proximity to metropolitan areas including being located within the Huntington Metropolitan Area, new schools, access to four-year post-secondary education institutions within Ohio University Southern in county and Marshall University in a neighboring county, low cost of living, the potential for tourism with the county being home to part of the Wayne National Forest, and local airports available, specifically the Huntington TriState Airport. Unique benefits of Lawrence County include an abundance of water capabilities with the Ohio River running along the southern border, state and federal resources through OVRDC, energy proximity to coal, and the state of Ohio tax plan.

The District has available industrial land and industrial buildings to accomplish Objective 1 and Objective 1 Strategy 1. The District is already home to multiple manufacturing companies. Objective 2 is accomplished through the identification of the targeted industry and the pursuit of similar industries. The District and Lawrence County also help the OVRDC promote the region as a tourist destination due to the many outdoor activities visitors can experience in the Wayne National Forest and Lake Vesuvius. This property also promotes better usage of rail and river access in Lawrence County. This park is located on a site that was previously closed so the creation and success of this park increase the use and productivity of the rail line and river access in Lawrence County.

*Scioto County, Southern Ohio Aeronautical Regional Business Park (SOAR Park): Attachment 7*

Strengths of the SOAR Park include industrial land, highway systems with the completion of the 823 bypass and US 23 running through the county, Ohio River access, proximity to metropolitan cities, access to 4-year post-secondary institutions with Shawnee State University located in the county, diversity of business and industry, local airports and abundance of natural resources. The unique benefits of this park include access to large amounts of water, the state of Ohio tax structure, and highway intersections with US 23 and US 52.

Objective 1 is achieved through the parking being an industrial park with industrial land available for development. Objective 5 is accomplished with this project as the park recently needed to expand water and sewer to make the park ready for development. Water, sewer, and gas infrastructure are areas that will possibly need further development in the future as the park grows. Objective 6, Strategy 6 is another part that has been accomplished with this park as they have completed a locally owned road project into the park itself.



# Adams County, *Ohio*

## Opportunity Zone Prospectus

Winchester Industrial Park

Moore's Road Business Park

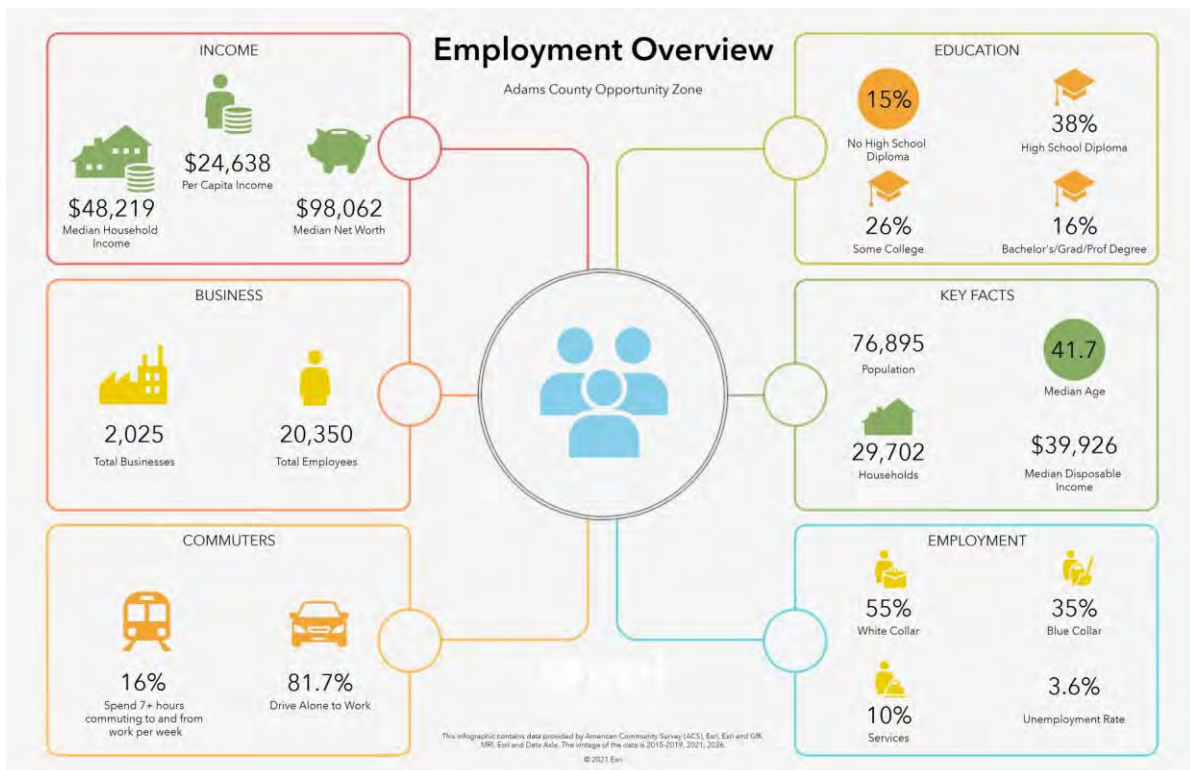
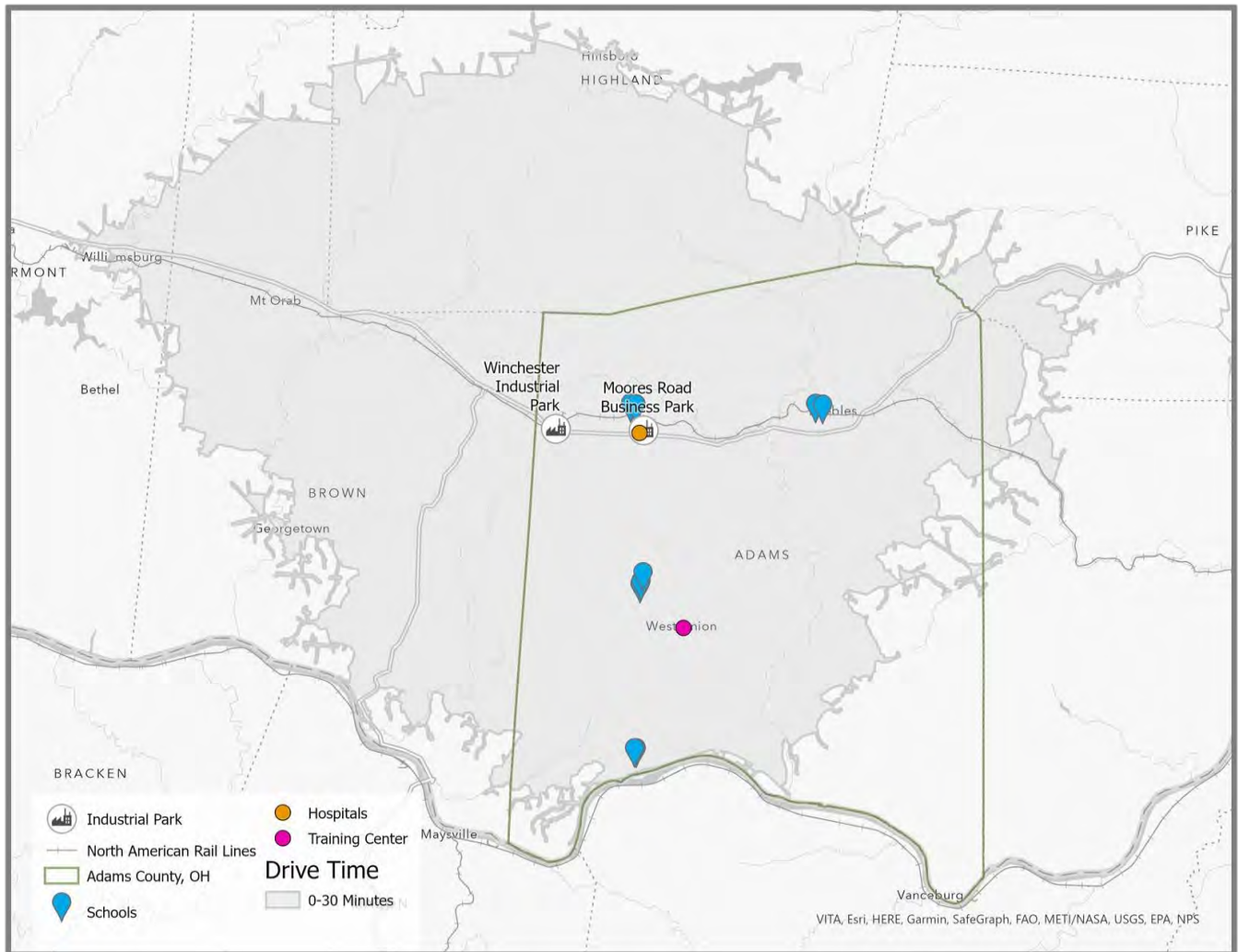


## Workforce

- Adams County recently purchased and is renovating a 15,100 sq. ft. building in West Union which will become a training center for the region.
- Initial classes will include training in computer numerical control, welding, nursing, and nursing assistant.
- Partnership is available to meet the needs of businesses in the area.
- Employment overview: 30 minute drive time



# Why should you choose Adams County?

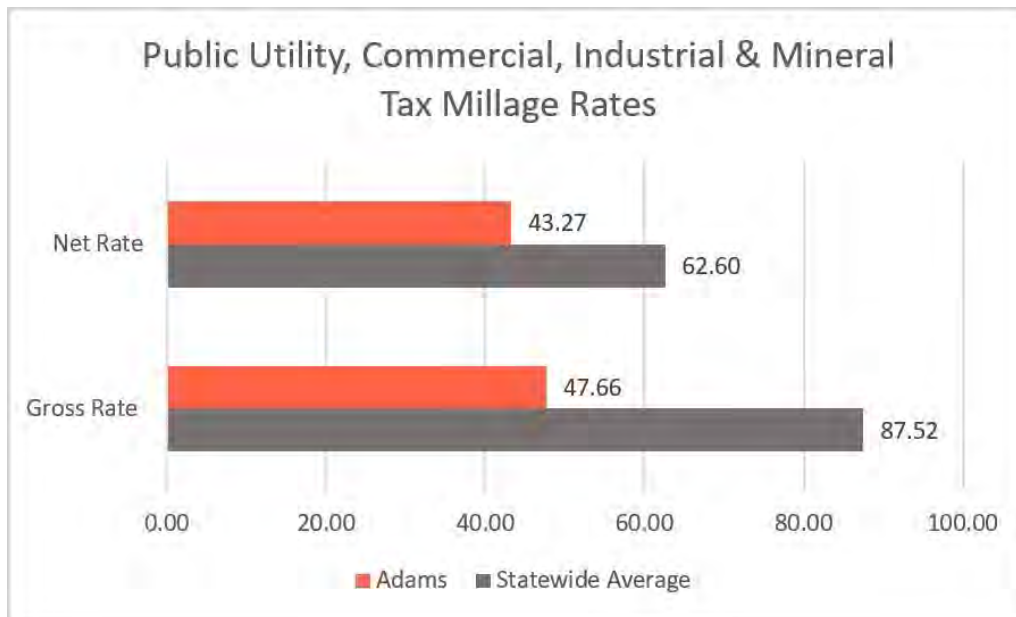


## Proven Success

- General Electric and Columbus Industries have a proven track record of success in Adams County.

## Taxes

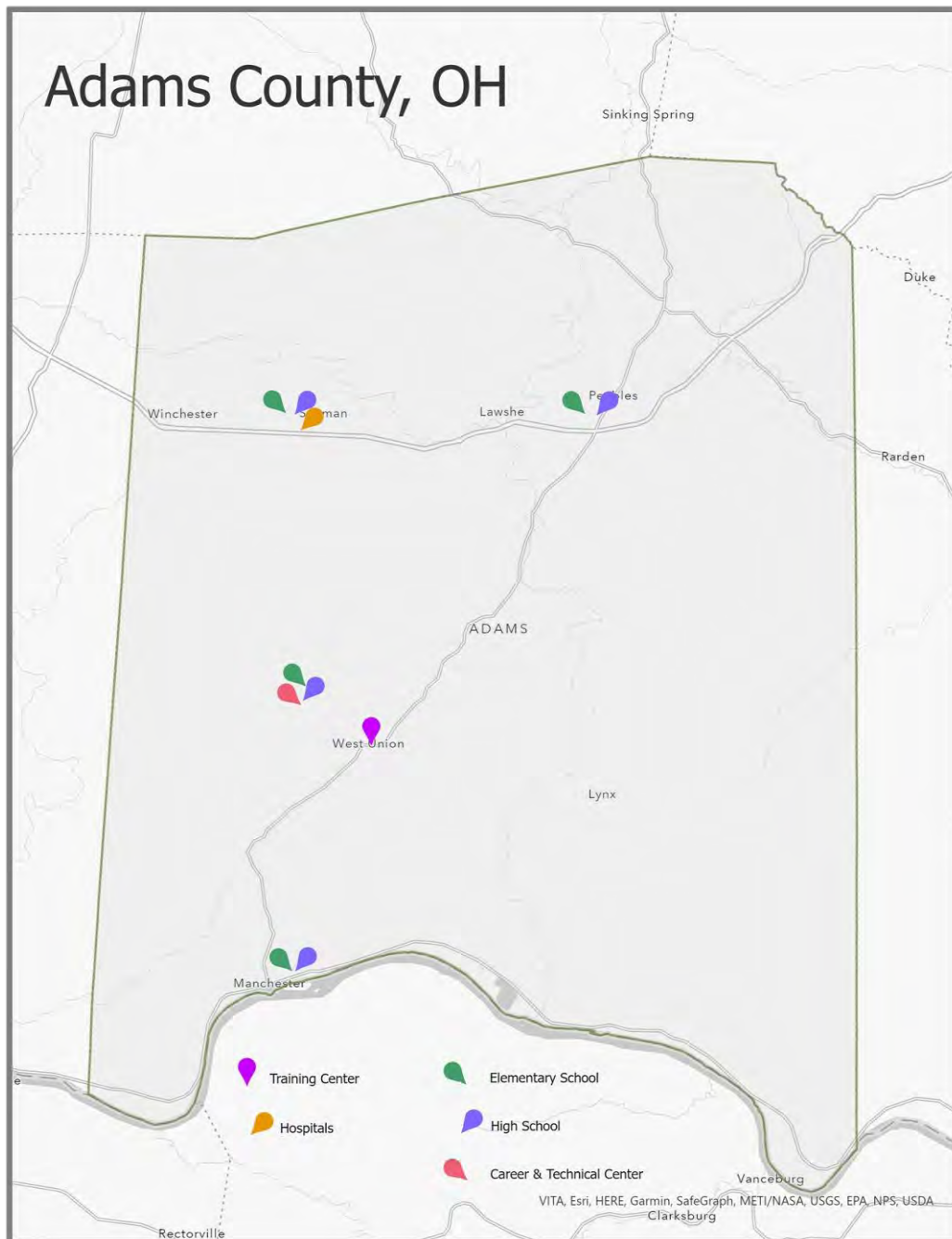
- Adams County boasts the lowest average gross tax rate (35.75%) in the state within the public utility, commercial, industrial, and mineral class of real property. The county also has the lowest average tangible personal property tax (including public utility personal property) at 34.72 according to the Ohio Department of Taxation.



# Why should you choose Adams County?

## Education

- Adams County offers two school districts that provide a great education for the children of the county.
- Ohio Valley School District offers a career and technical center as well as various specialty programs for children with disabilities.



## Healthcare

- Adams County is prepared to offer the best in healthcare with the recent completion of a new hospital, a new state of the art cancer treatment center, and a new dialysis center.



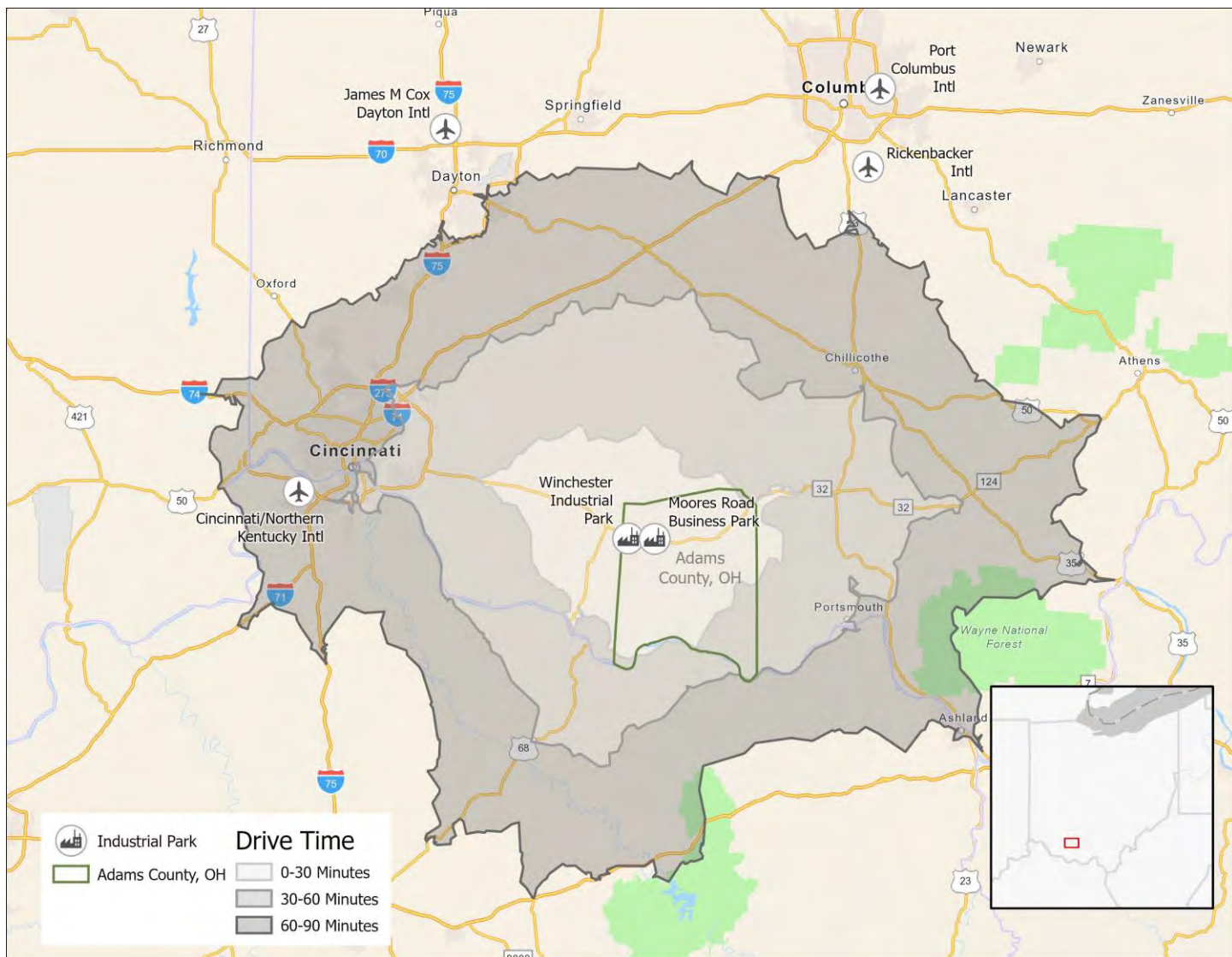
## Culture and Recreation

- Adams County offers many historical and culture adventures for its residents.
- The county has multiple covered bridges, many historical homes, the Ohio River, the Serpent Mound, and the Manchester Islands.
- The county also offers many festivals throughout the year.



# *Why should you choose Adams County?*

## **Industrial Parks Overview**



### **Location Benefits**

- Both parks are located off SR 32, which provides companies quick access to Cincinnati and a connection to east coast markets.
- The close proximity to both Cincinnati and Columbus provides businesses with access to international airports.

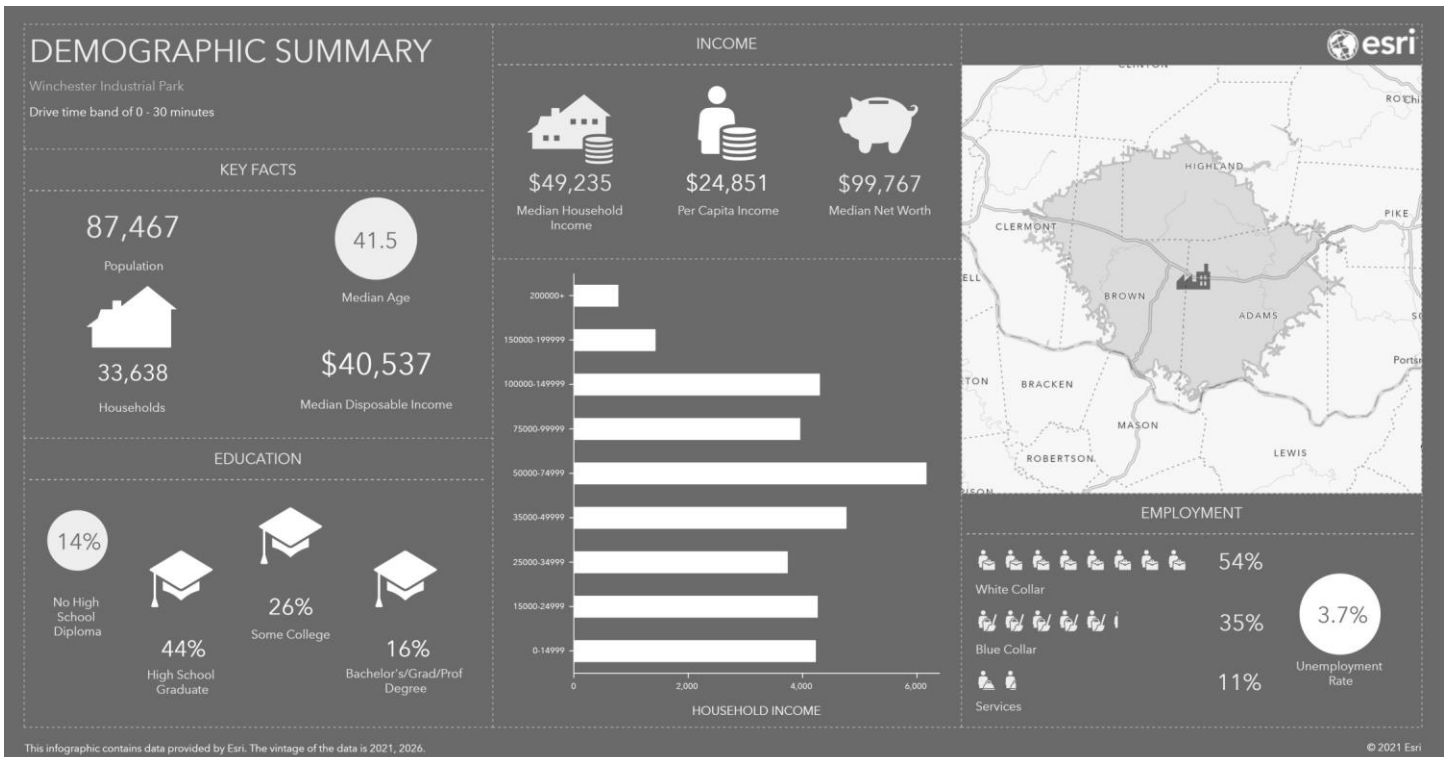
# Winchester Industrial Park



- The Winchester is a modern industrial park located off State Route 32
- The park is has access to a large workforce
- This 55 acre site is currently owned by the Community Improvement Corporation and the Board of Adams County Commissioners.

- Construction is underway to provide the park with upgraded utilities including sewer, water, gas, broadband, and 3 phase electricity.

# Moore's Road Business Park





- \$30,000/acre for raw industrial land
- \$65,000/acre for developed industrial lots
- \$75,000 acre for retail or office use.

- 67 miles from Cincinnati Northern Kentucky International Airport
- North Adams High and Elementary School located on property



- Commercial property provided by the Adams County Regional Medical Center
- 124 dividable acres
- Water, sewer, and electric provided at the site
- Direct access to State Route 32
- Under an hour drive to I-275, I-71



If you are interested in all the Winchester Industrial Park, Moore Road Business Park, or Adams County has to offer, please contact Holly Johnson with the Adams County Economic & Community Development Office.



Holly Johnson

[holly.johnson@adamscountyoh.gov](mailto:holly.johnson@adamscountyoh.gov)

Adams County Economic & Community Development Office

215 N. Cross Street, Suite 101

West Union, OH 45693

P: (937) 544-5151

Attachment 2

# Brown County, Ohio

## Opportunity Zone Prospectus

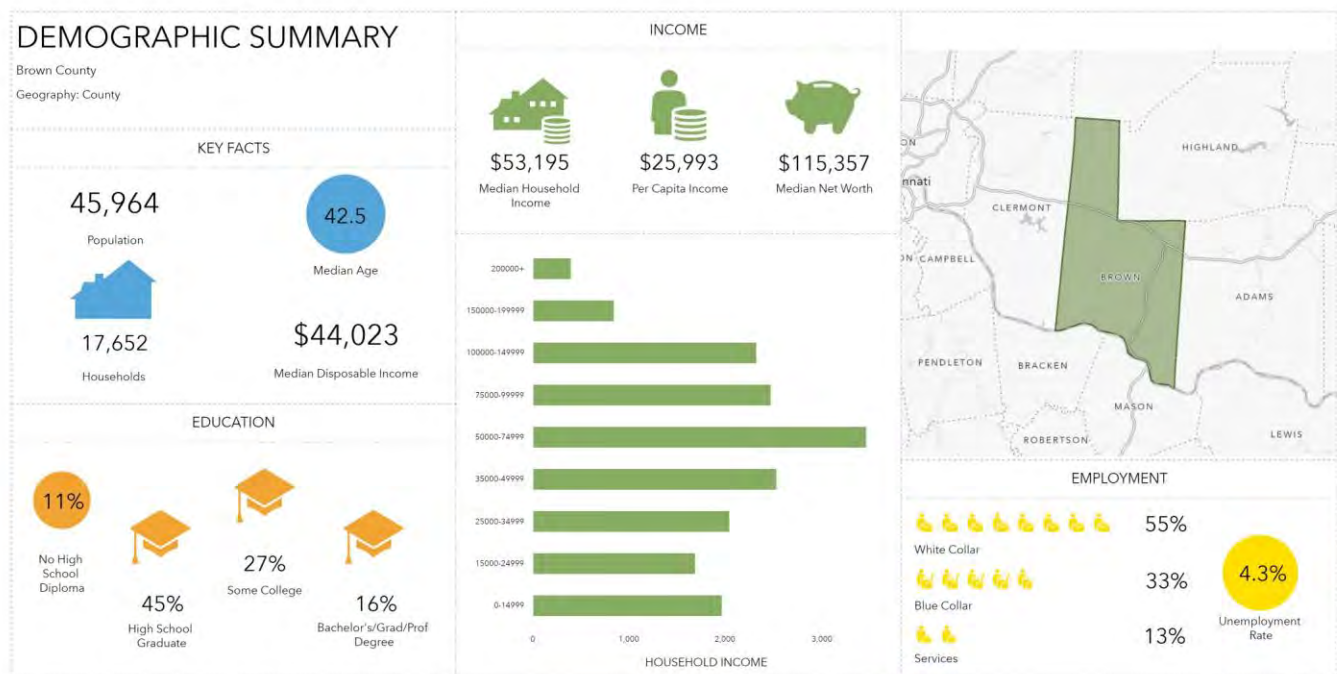
Mt. Orab Megasite  
Mt. Orab Tract 250 East  
Tract 416



# Why should you choose Brown County?

## Workforce

- Population of Working Age: 20,663
- Workers Commuting into the county: 3,900
- Top three employment industries:
  - Health Care and Social Assistance: 22.6%
  - Educational Services: 17.3%
  - Retail Trade: 10.8%



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## Education

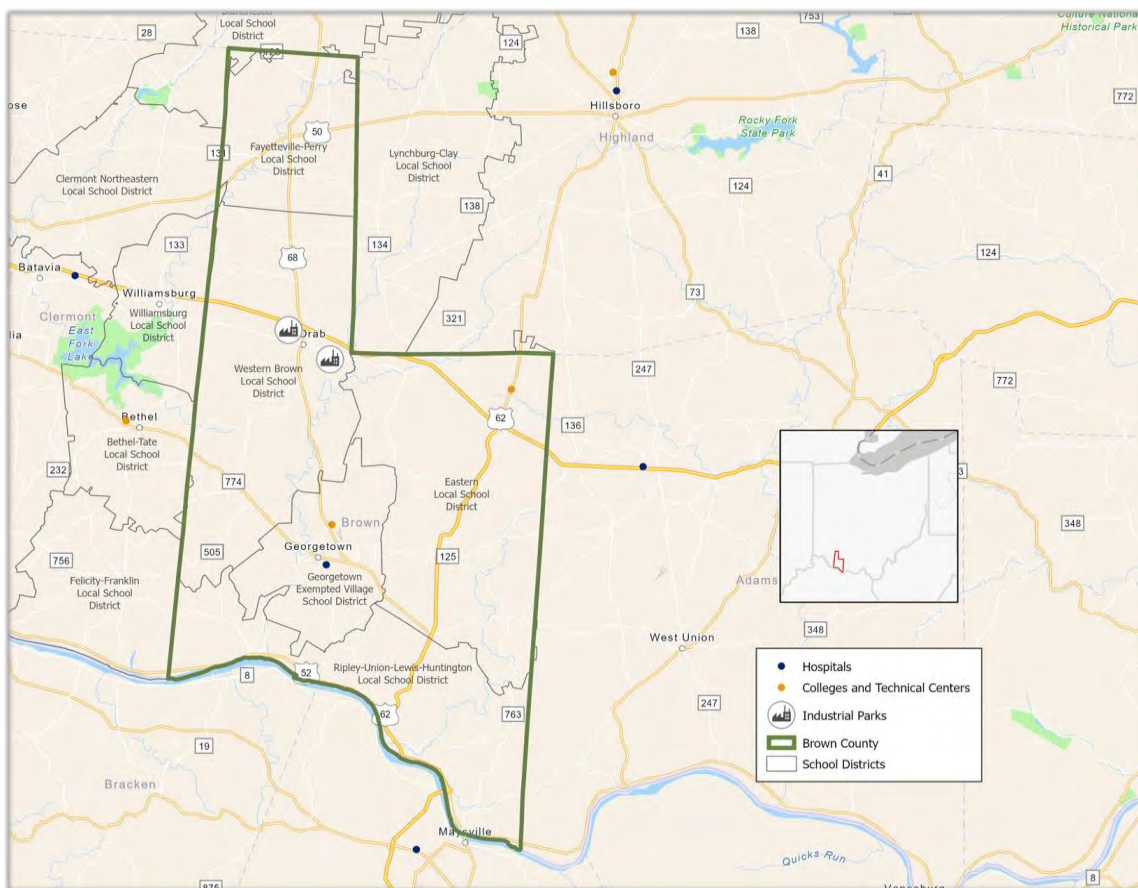
Brown County offers residents five school districts that offer great opportunities for education. Those schools include:

- Georgetown Exempted Village
- Western Brown Local
- Fayetteville-Perry Local
- Eastern Local

# *Why should you choose Brown County?*

- Ripley-Union-Lewis-Huntington Local

Brown County is also home to Southern Hills Career and Technical Center which offers programs in Automotive Technology, Construction Technologies, Agriculture/Industrial Mechanics, and more.



## **Entertainment and Recreation**

Brown County is home to many historical sites to explore, covered bridges to find, outdoor activities, great dining and more.

- John Rankin House: this house was one of the most known and visited homes along the Underground Railroad system
- John Parker House: John Parker was also known as a very successful conductor on the Underground Railroad
- Ripley's Historic Museums: these museums include The Ohio Tobacco Museum and the Ripley Museum

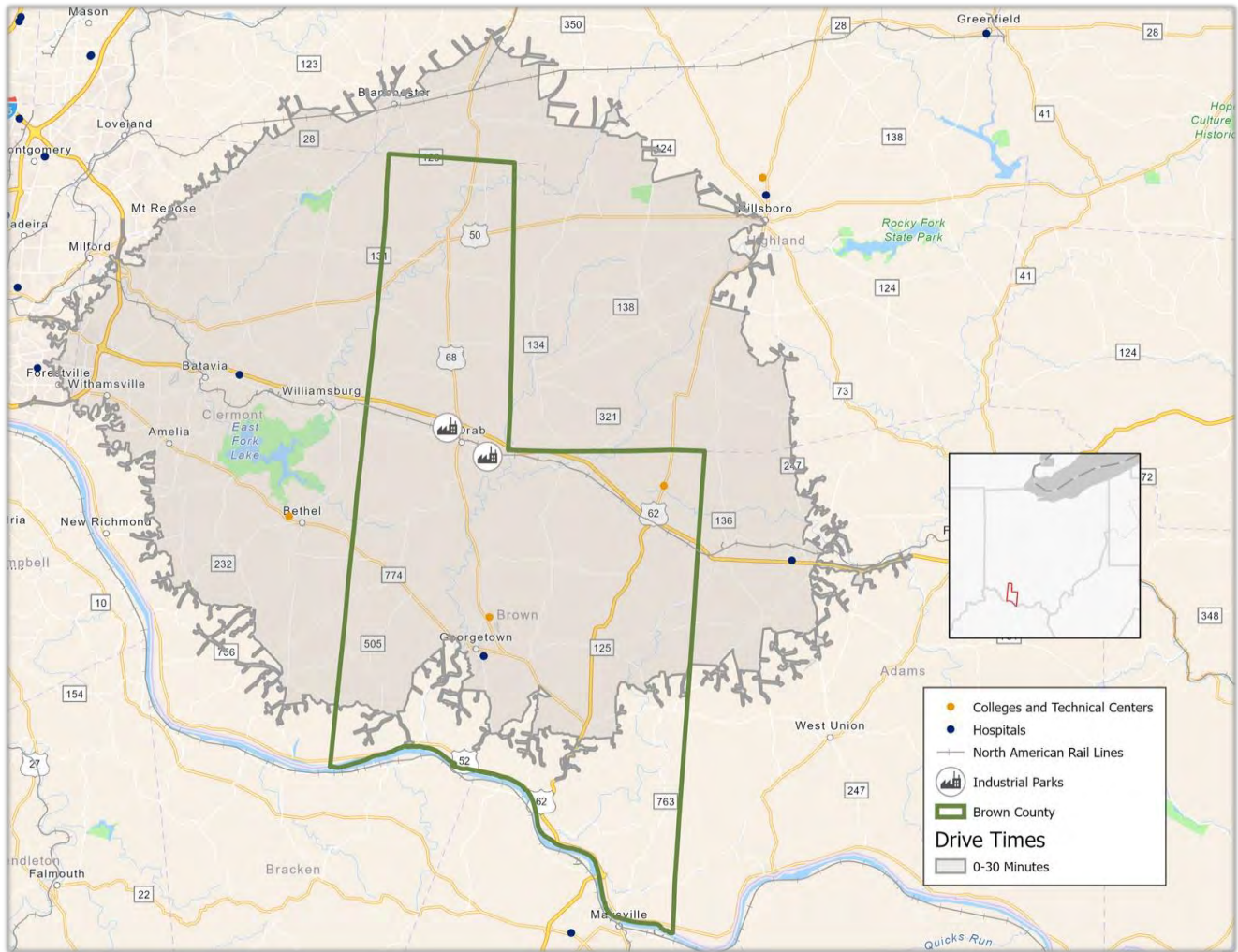
# *Why should you choose Brown County?*

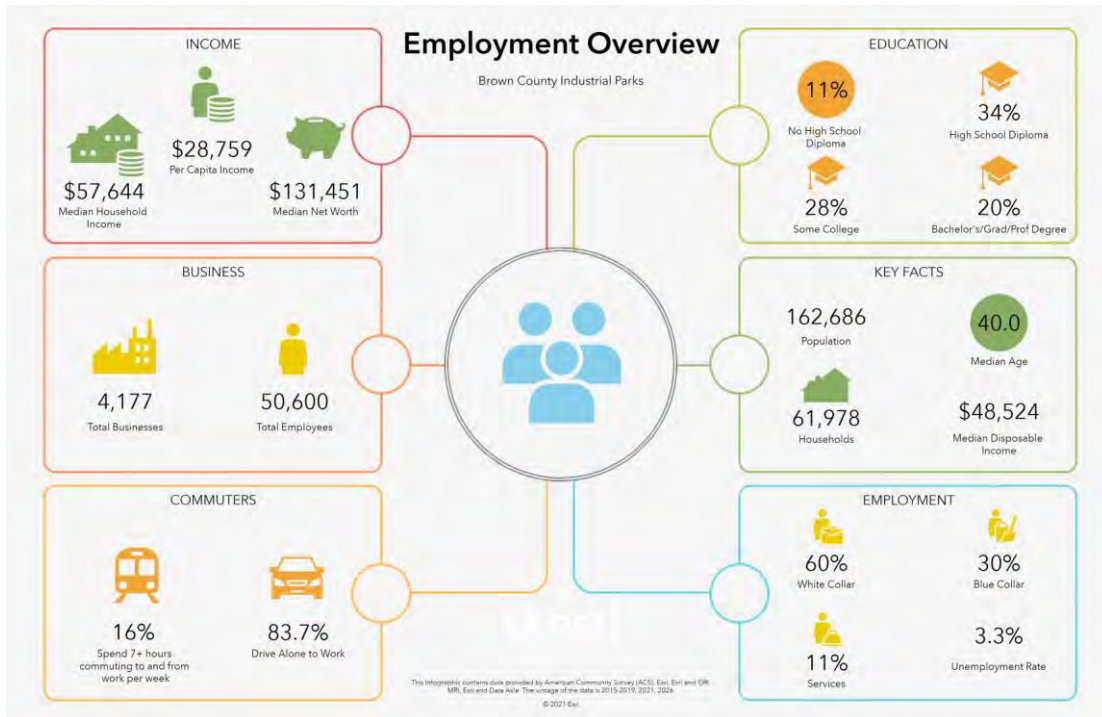
- President Ulysses S. Grant: Brown County is home to President Grant's boyhood home and his schoolhouse
- Brown County Painted Murals
- Multiple wineries and breweries



President Grant's Childhood Home

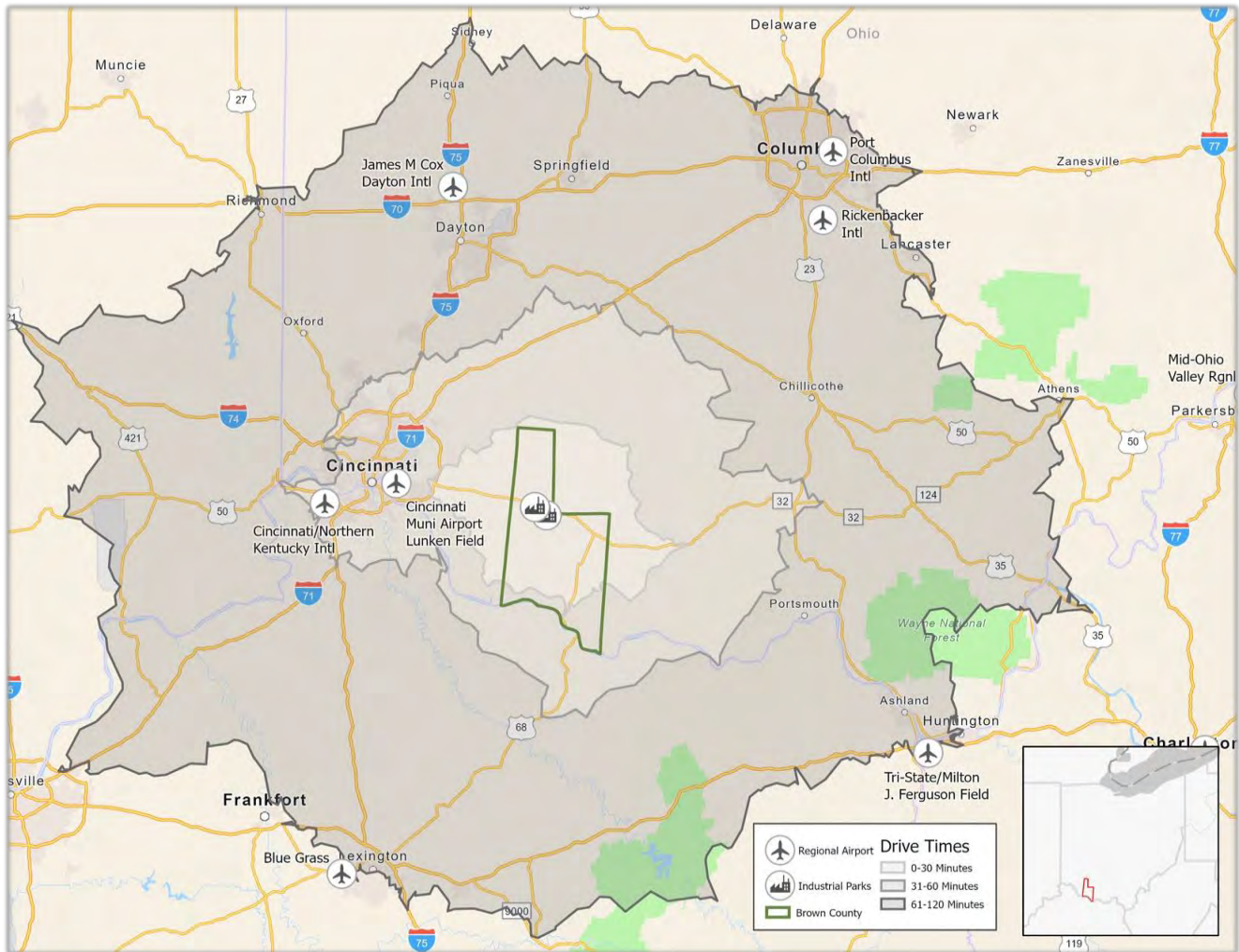
# Employment Overview: 30 Minute Drive Time







# Industrial Parks Overview



## Location Benefits

- Within one hour of Cincinnati and two hours of Columbus, giving access to international airports
- Close proximity to railways
- Close proximity to the Ohio River, making transportation on waterways accessible
- Close proximity to major highways
- Located in an Opportunity Zone, Enterprise Zone, and TIF District

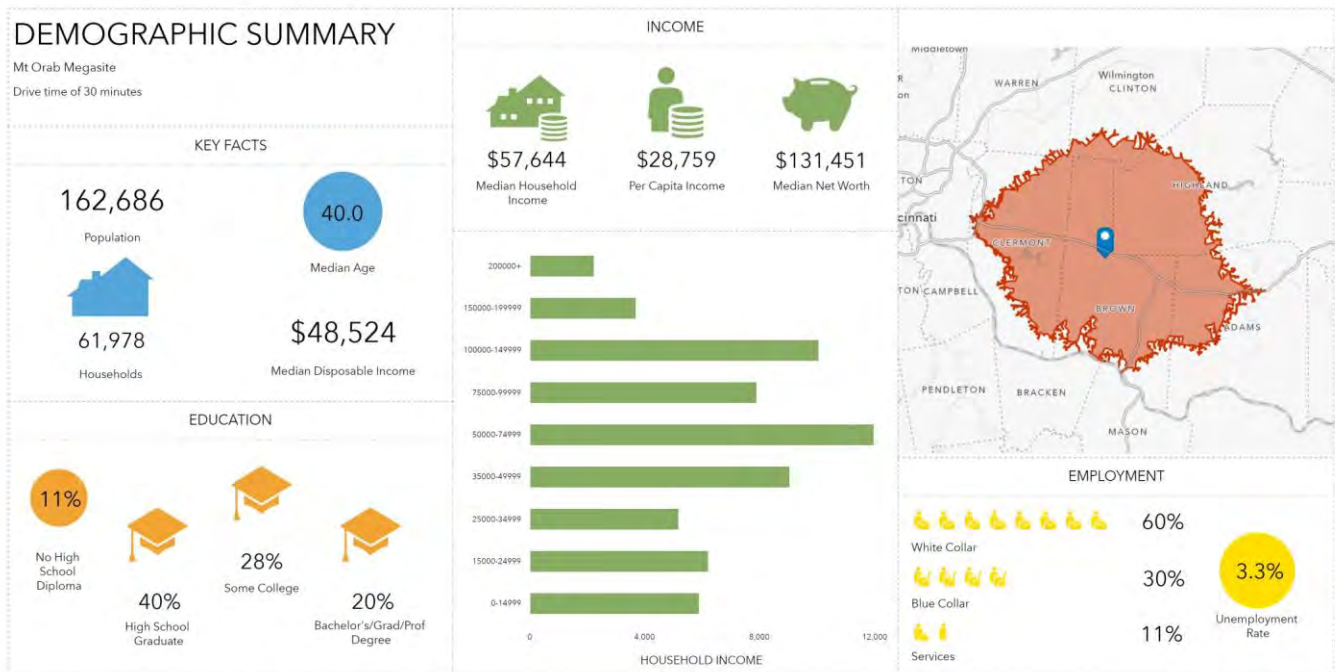
# Mt. Orab Megasite

Brown County is home to the Mt. Orab Megasite Industrial Park

The 1,043 acre site is divisible

Located in an Opportunity Zone, Enterprise Zone, Foreign Trade Zone, and TIF District

- Located less than a mile from State Route 68 and State Route 32
- Located 22 miles from Interstate-275 and 36 miles from I-71
- Just 48 miles from the Cincinnati/Northern Kentucky International Airport
- Less than an hour away, Cincinnati also provides the site with a river port
- Multiple studies have already been completed to make the park ready for your business

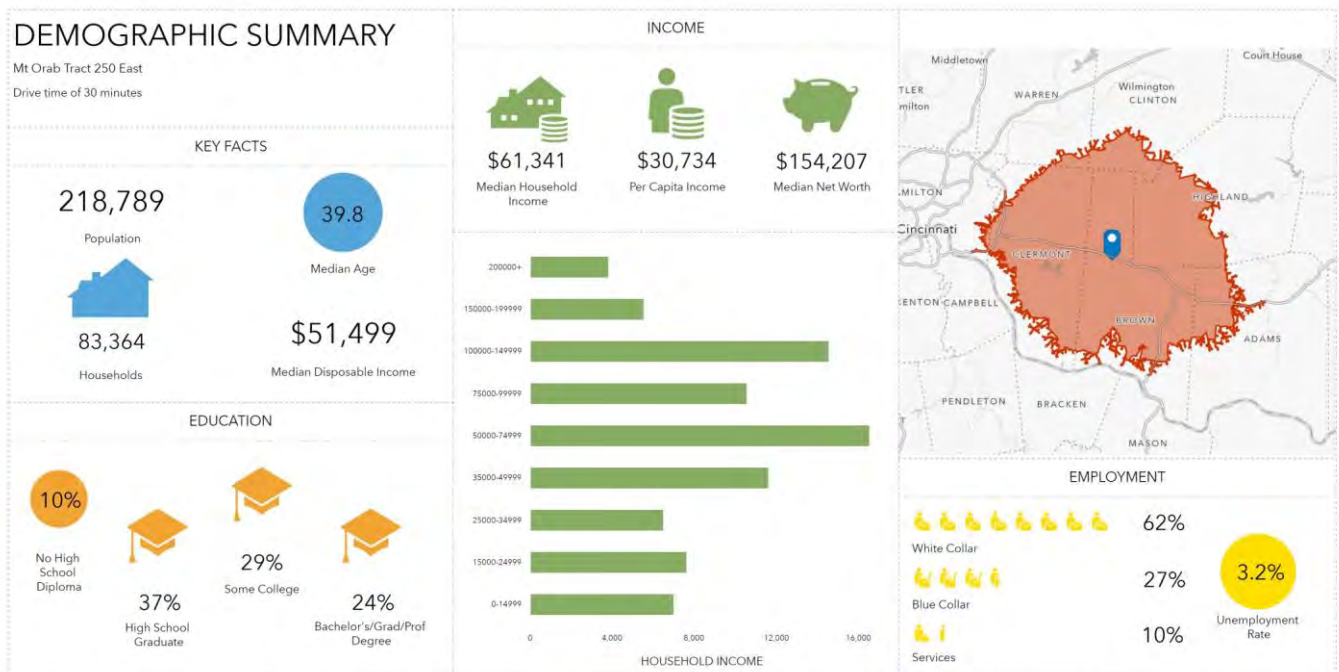


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# Mt. Orab Tract 250 East

- 78 acres available at this site with little to no obstructions on the property
- All utilities available at the edge of the site
- Located within an Opportunity Zone, Enterprise Zone, and a TIF District
- Located within an hour of all transportation needs
- Phase I ESA, Geotechnical Study, and Agriculture Study completed with Wetland and Endangered Species study in progress



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**Brown County, Ohio**

# Tract 416

- This site has 111 acres available for development
- Opportunity Zone, Enterprise Zone, TIF District and Foreign Trade Zone
- This site is expanding with neighboring properties coming available
- All utilities available



If you are interested in any of the properties Brown County has to offer, please contact the Brown County Department of Economic Development



**Brown County Department of Economic Development**

800 Mt. Orab Pike, Suite 131

Georgetown, OH 45121

P: (937) 378-3536

# Fayette County, Ohio

## **Opportunity Zone Prospectus**

Washington Court House Industrial Park

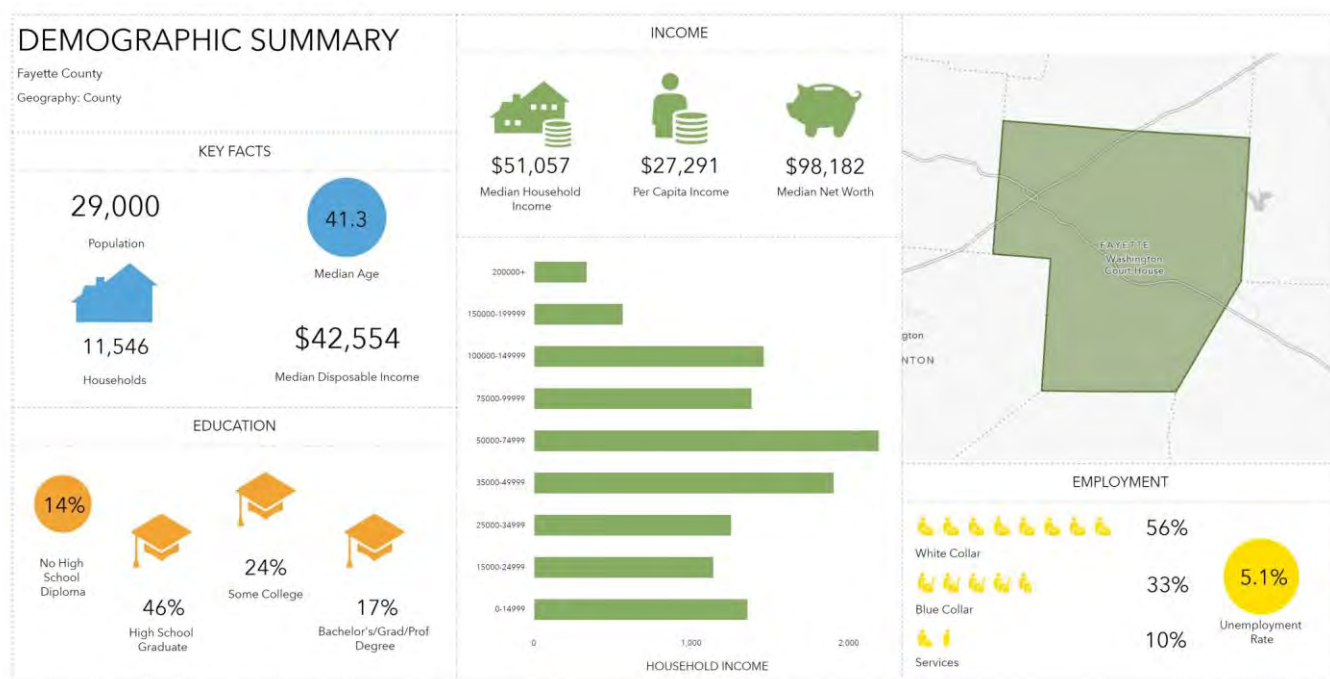
Kea Inc.



# Why should you choose Fayette County?

## Workforce

- Population over 16 years old: 22,646
- Largest Employment Industries:
  - Retail Trade: 19.2%
  - Manufacturing: 15.6%
  - Health Care and Social Assistance: 12.4%



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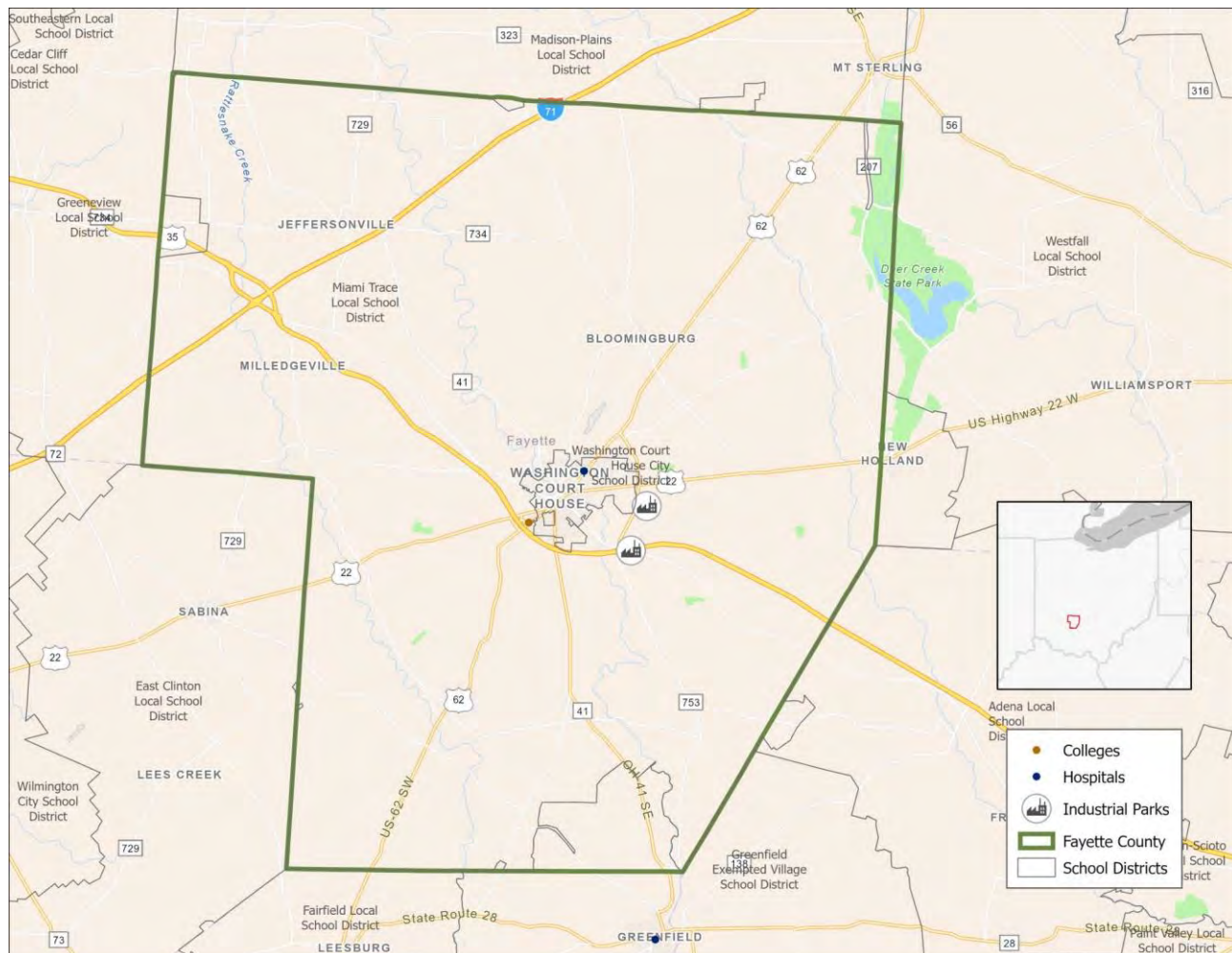
## Education

- Fayette County offers two school districts that provide outstanding education options, with Miami Trace Local School District rated as excellent!
- Washington Court City Schools offers great facilities with new buildings, great technology, and a great staff in a fantastic community to ensure students receive the best education possible

**Fayette County, Ohio**

# *Why should you choose Fayette County?*

- Fayette County is also less than an hour to Columbus, which offers many more education options like Ohio State University, Capital University, Ohio Dominican, and more.



## **Entertainment and Recreation**

Fayette County offers a great selection of recreational activities.

- Deer Creek State Park provides an excellent option for camping, with laundry facilities, basketball courts, volleyball, full restrooms, miniature golf, and more.



# *Why should you choose Fayette County?*

- Eyman Park offers a great place for children to play or to host an event.
- Paint Creek Recreational Trail offers you the chance to bike to Chillicothe and back. Located on the abandoned B&O railroad corridor

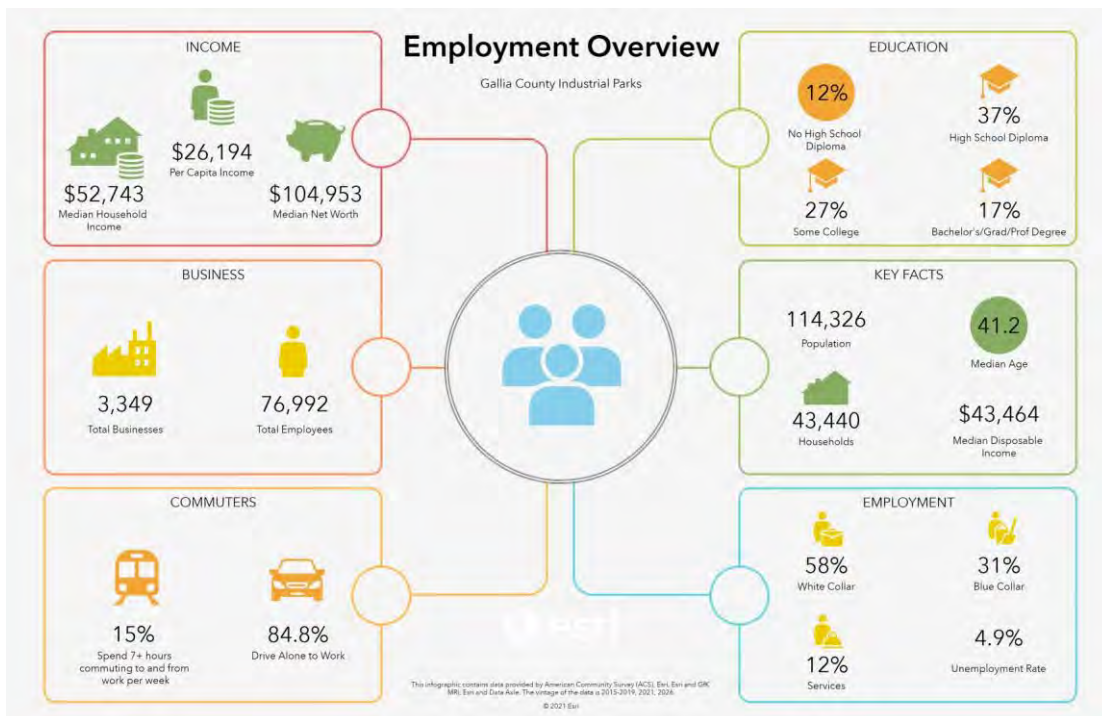
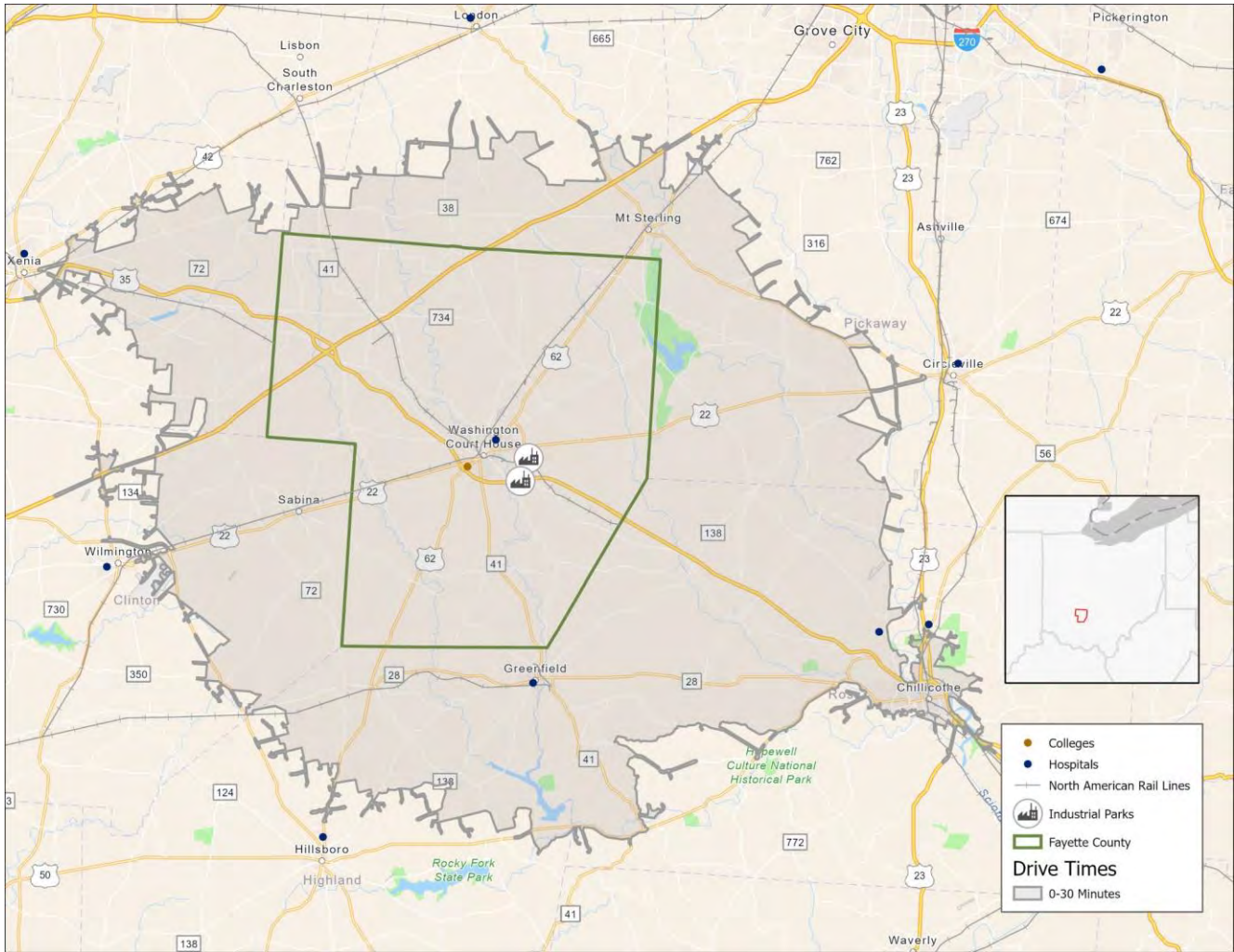
If outdoor activities are not what interests you, Fayette County offers a great selection of diners, shopping, and more! The county is also located within an hour of Columbus, so you will have quick access to all the shopping, restaurants, sports, and events you could want.

**Employment Overview: 30 minute drive time**

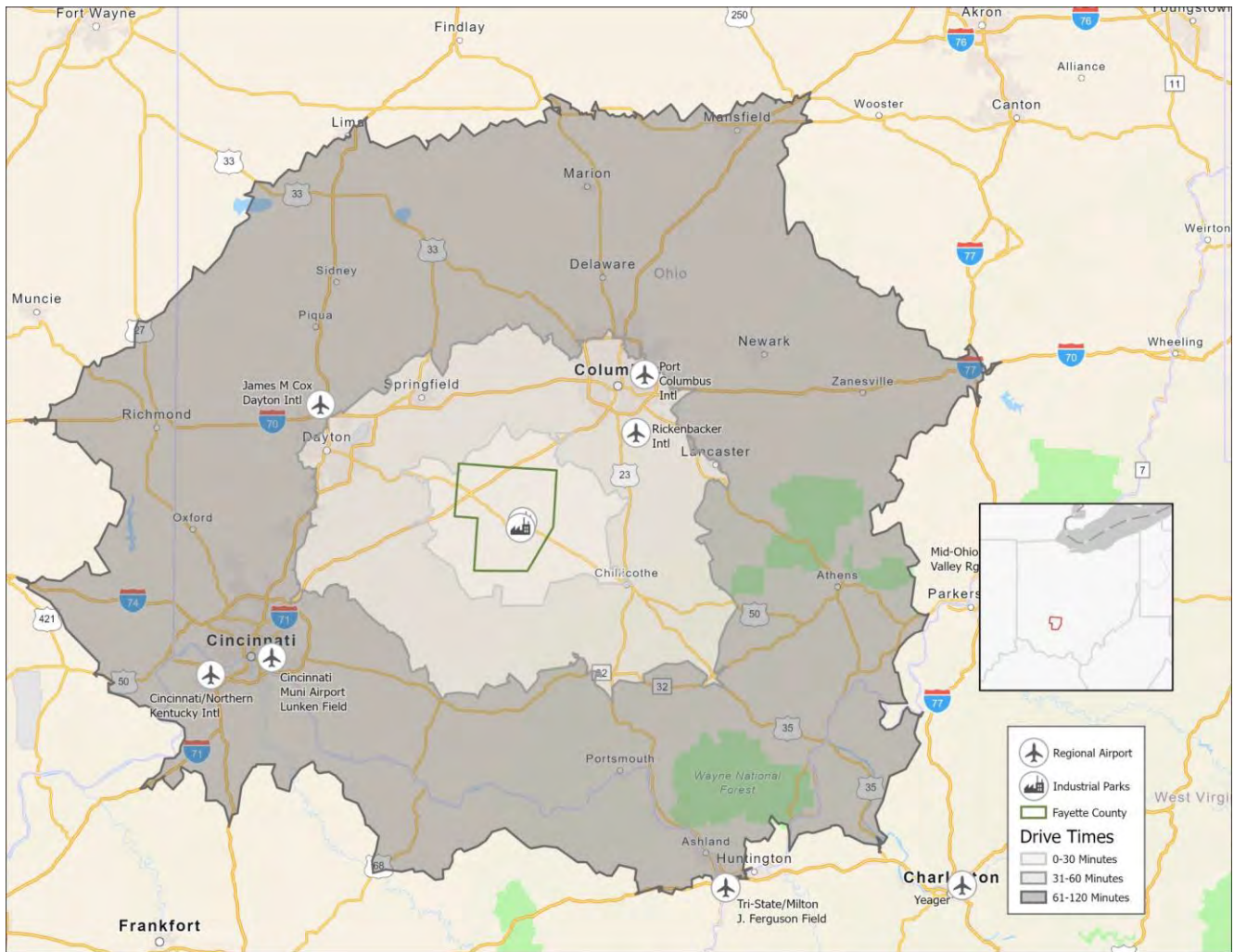


**Fayette County, Ohio**

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# Industrial Parks Overview

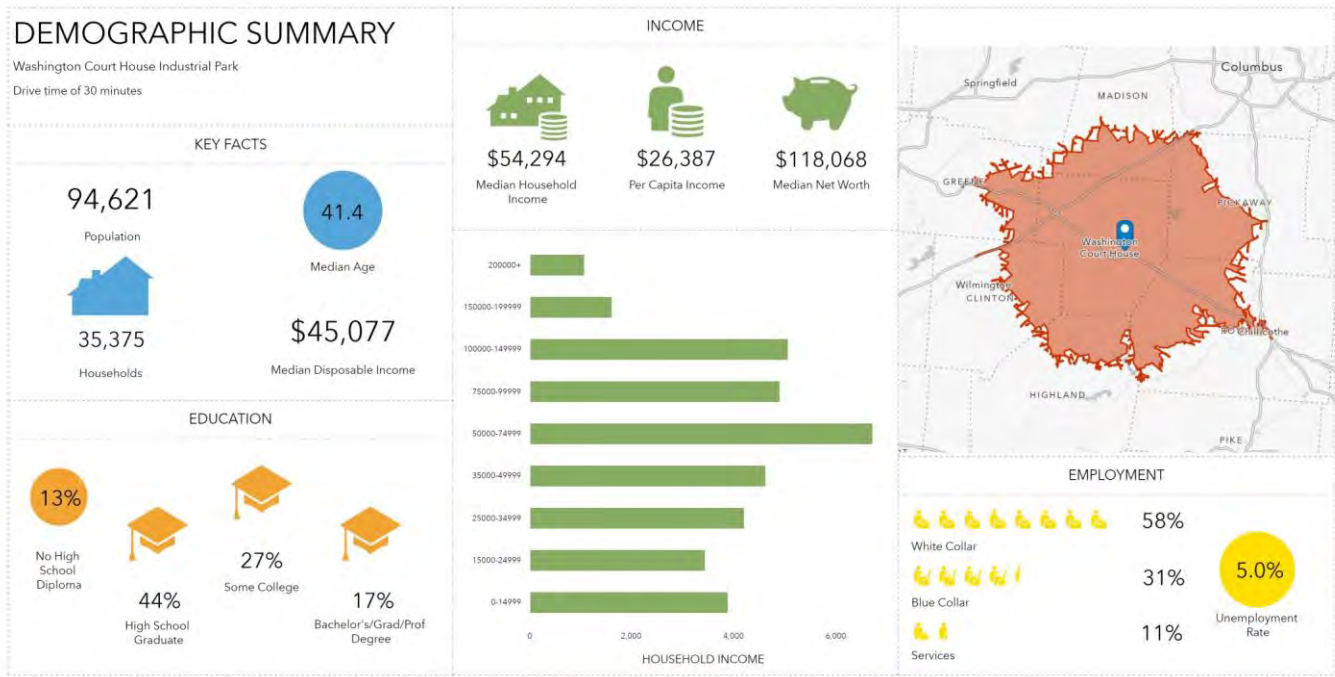


## Location Benefits

- Great transportation is a huge advantage for Fayette County. The county has access to many state routes including 38, 41, and 735.
- The county is also centrally located from Columbus, Cincinnati, and Dayton, providing great options for air travel and close proximity to three international airports
- Fayette County's location and transportation network allows for 2,000 workers to commute into the county each day

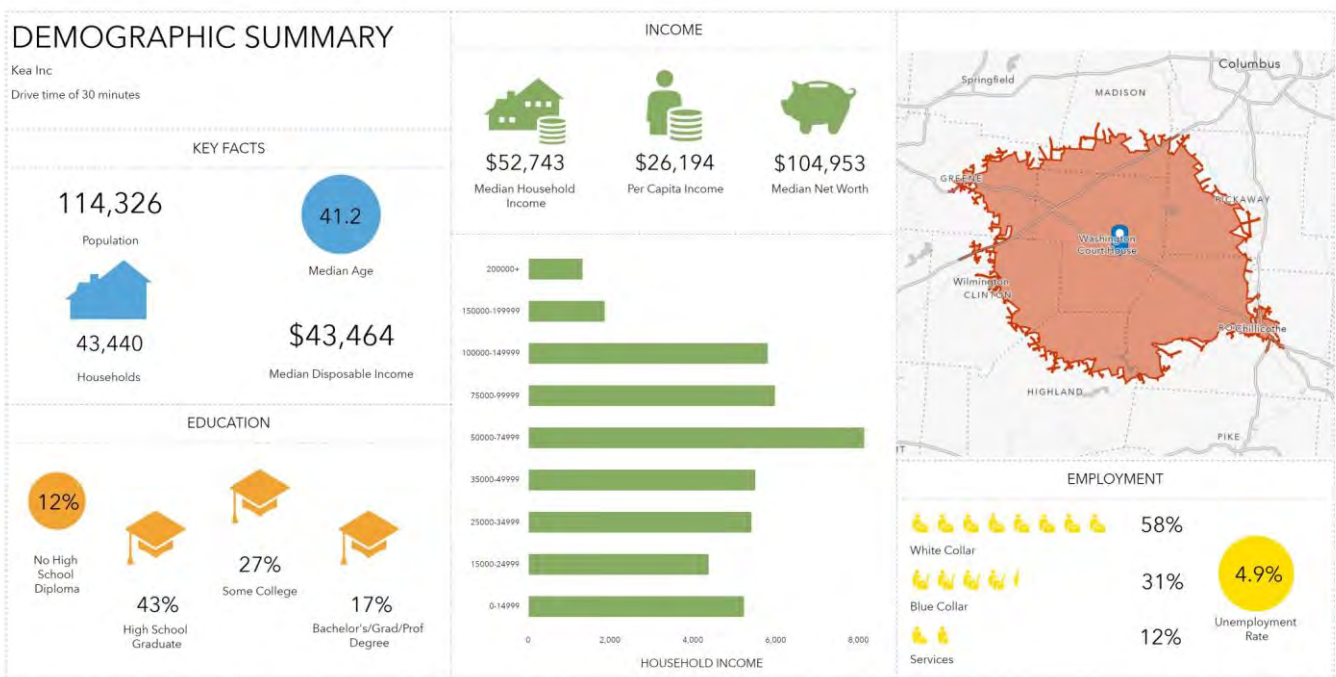
# Washington Court House Industrial Park

- 272 acres site located just off US 23
- This is a SiteOhio Authenticated site
- Located within an Opportunity Zone and an Enterprise Zone
- All utilities are available at the site
- Utility Dimensions: 69kV KVA electric line, 6 inch gas line, 12 inch water line, and a 10 inch sewer line with 700,000 GPD excess capabilities
- Completed studies include: Phase I ESA, Geotechnical, Wetlands, Archeological, Endangered Species
- Railroad access is available through Genessee & Wyoming
- Multiple sites exist within the park and surrounding the park



# Kea Inc.

- Located 2 miles from State Route 35
- Building sits on 6 acres of land with an additional 8 acres possible
- Upgrades available to building to suit buyer's needs
- 24,000 square foot building
- Metal building with 16 ft ceiling heights, 10 dock doors, drive in doors and a 1,600 sq ft office



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If you are interested in these properties, or any other properties in Fayette County, please contact the Fayette County Economic Development Office



Godwin Apaliyah  
Executive Director  
P: (740) 636-2354

[Godwin.apaliyah@fayette-co-oh.com](mailto:Godwin.apaliyah@fayette-co-oh.com)

# Gallia County, Ohio

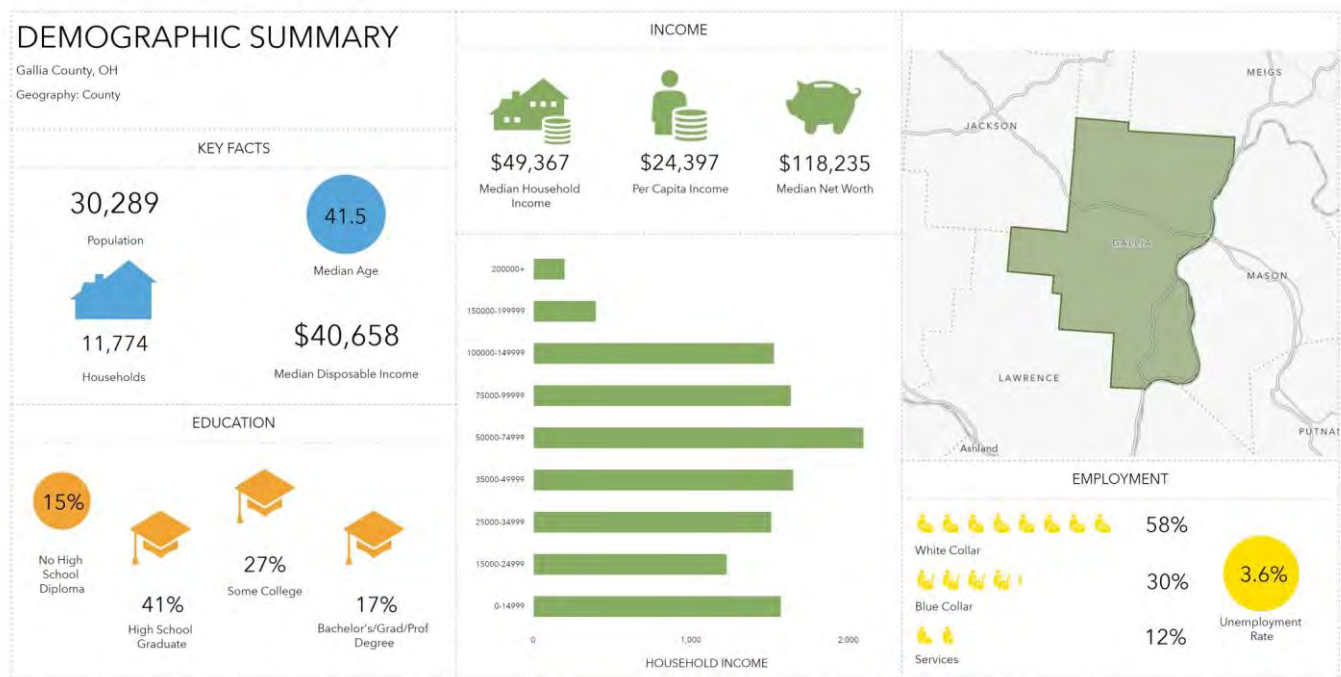
## **Opportunity Zone Prospectus**

Dan Evans Industrial Park  
US 35 State Route 850 Site  
Kessinger Property



# Why should you choose Gallia County?

- Population of Working Age: 12,742
- Regional Labor Employees: 278,228
- These industrial parks fall within an Opportunity Zone, providing great tax incentives for investment
- The county also has access to grants, loans, and other incentives to assist a new company
- Easy partnership options with Foreign Trade Zone #138
- Lightstone Generation Gavin Plant, ElectroCraft, GKN Sinter Metals, and Ohio Valley Trackwork prove success is possible in Gallia County



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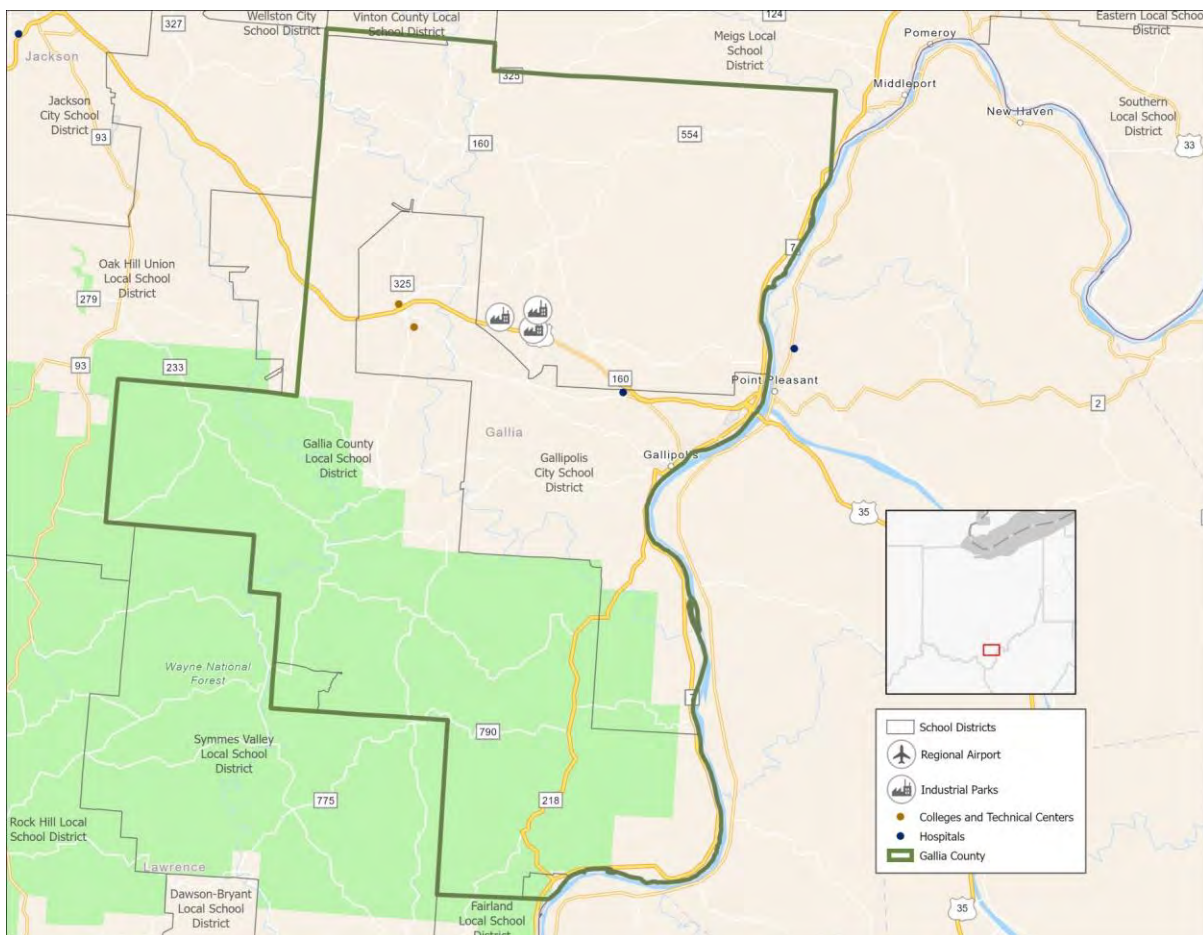
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# *Why should you choose Gallia County?*

## **Education**

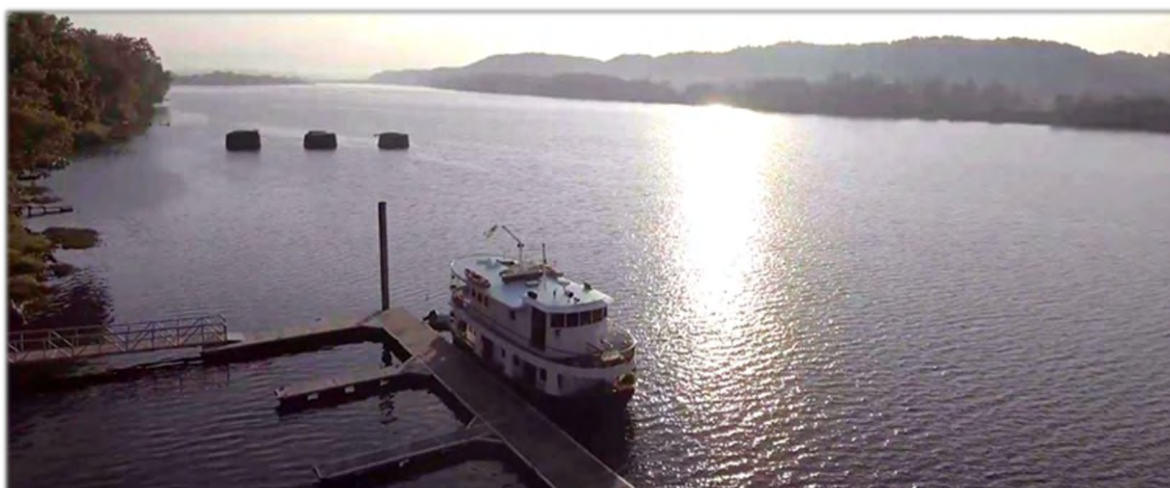
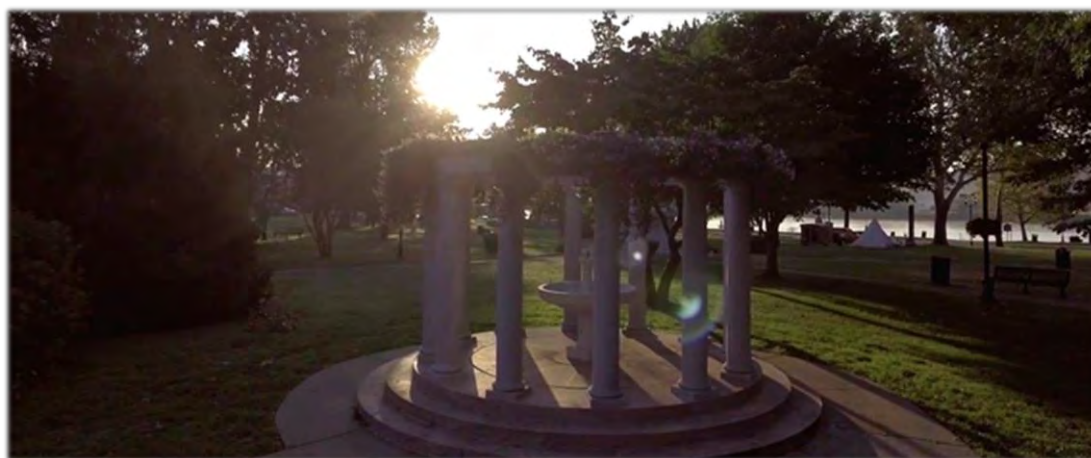
- Gallia County offers great options for your employees to further their training or for their families to get educations
- Gallia County offers three school districts that provide a great education for children, Gallia Academy, South Gallia, and River Valley
- The University of Rio Grande is located in Gallia County, providing programs in welding, computer science, industrial technology, industrial automation, and more
- Buckeye Hills Career Center also offers great opportunities for your employees to further their training and education
- Ohio University and Marshall University are within an hour's drive

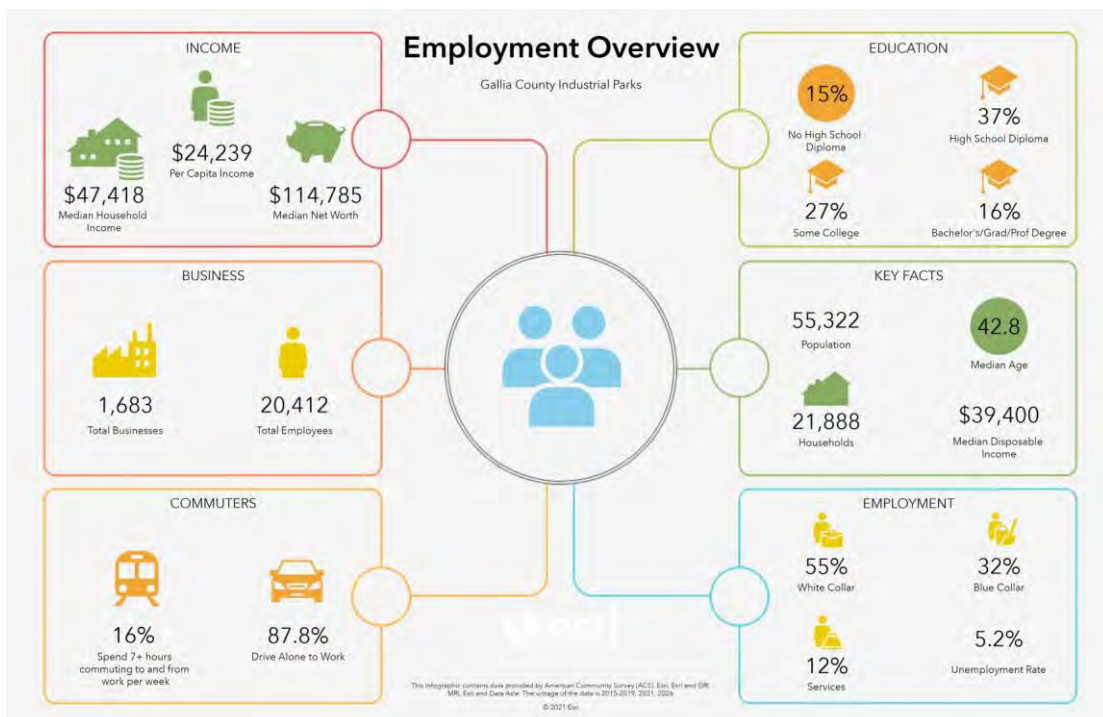
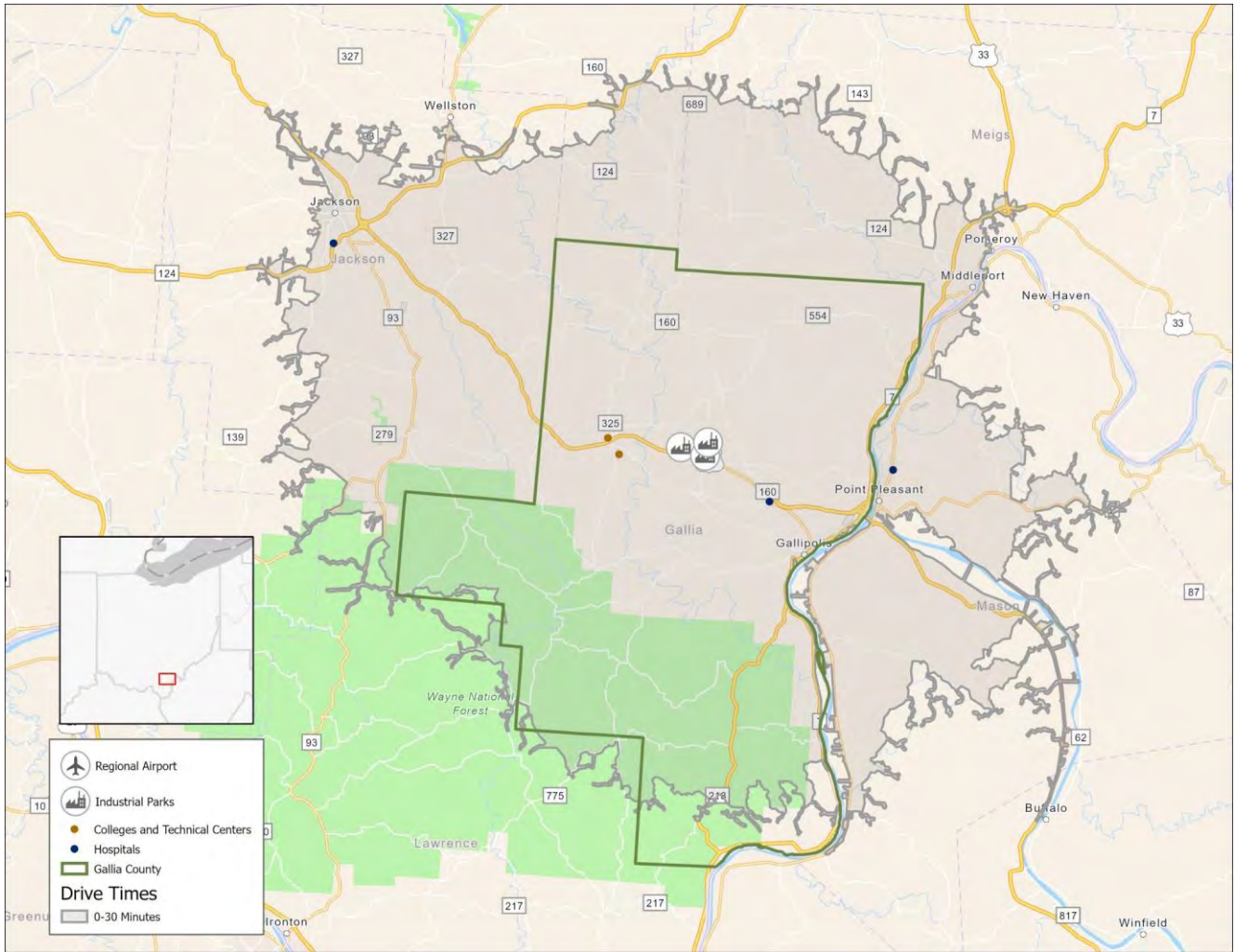


# *Why should you choose Gallia County?*

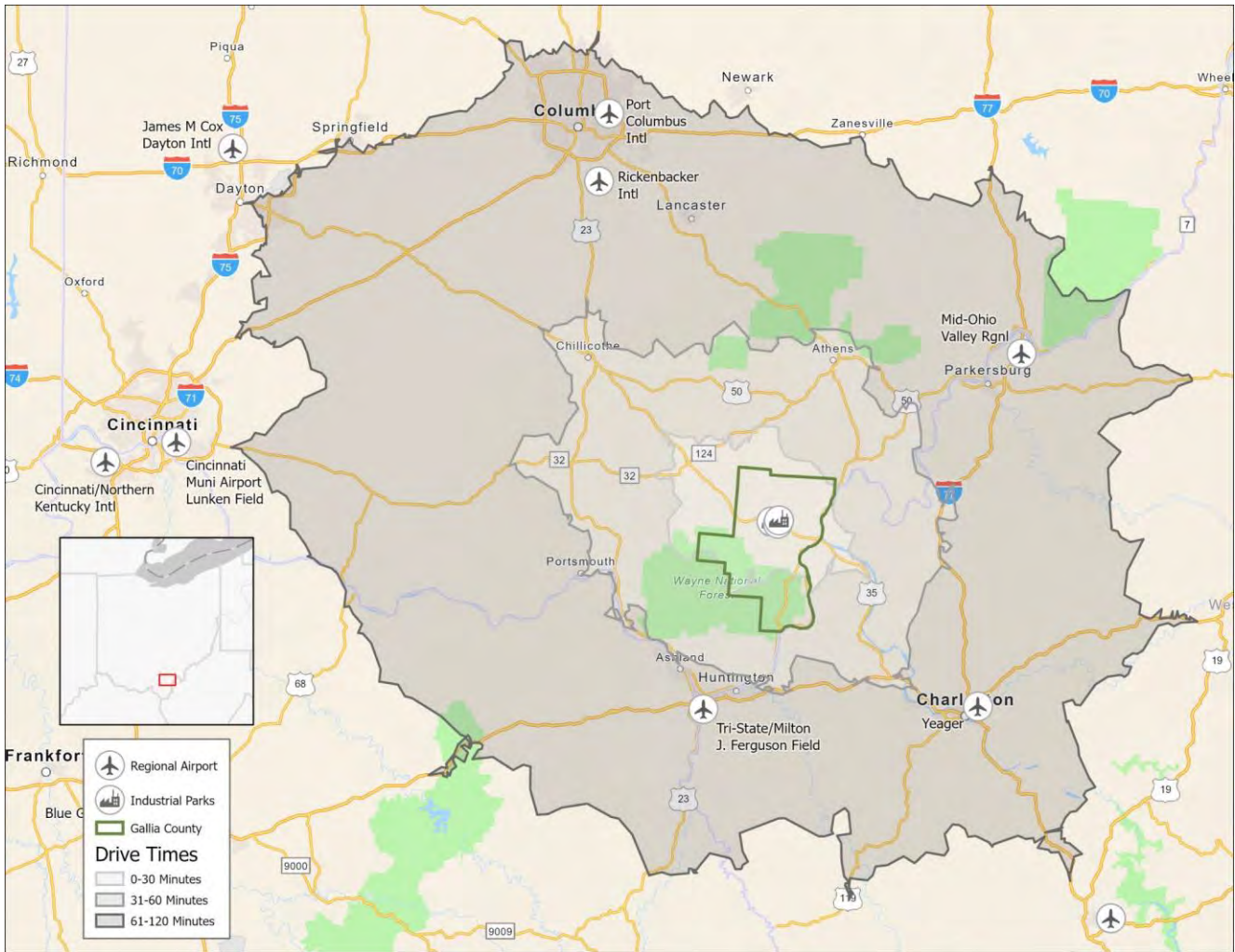
## **Recreation**

- The Ohio River provides great recreational options for residents.
- Sports are also available for entertainment purposes with the University of Rio Grande providing multiple sporting teams, including a national champion soccer team.
- Downtown Gallipolis provides a quiet, safe place for families to eat, shop, walk the park and just enjoy the river view.
- Employment Overview: 30 minute drive time





# Industrial Parks Overview



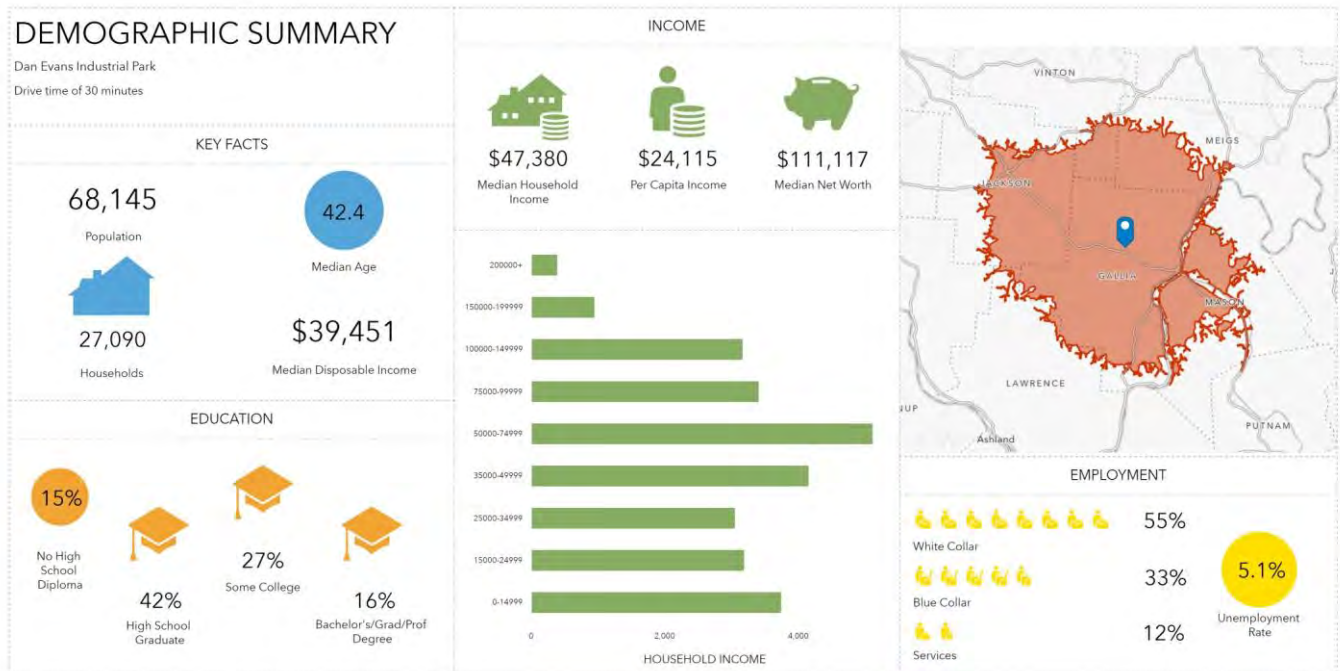
## Location Benefits

- Within two hours of Columbus and three hours of Cincinnati, giving access to international airports
- Close proximity to the Ohio River provides businesses with access to ports for transportation
- The parks are in close proximity to US 35, providing easy access to Ohio's highway system
- Close proximity to Jackson Logistics center enables easy access to railway transportation

# Dan Evans Industrial Park

This site is an authenticated site through the JobsOhio SiteOhio Program, guaranteeing the site is ready for development

- 77 acres ready for development
- Utilities are provided to the site, with excess capabilities
- Multiple studies have been completed to ensure the readiness and safety of the property
- Located near four-lane US 35, providing quick access to I-64, I-77 and I-79
- Gallia-Meigs Airport is located 9 miles from the site
- James A Rhodes Airport, located 21 miles away, offers a 5,201 ft. runway
- Located an hour from Huntington Tri-State Airport and Yeager Airport
- Dan Evans Industrial Park is less than 30 minutes from the Ohio River



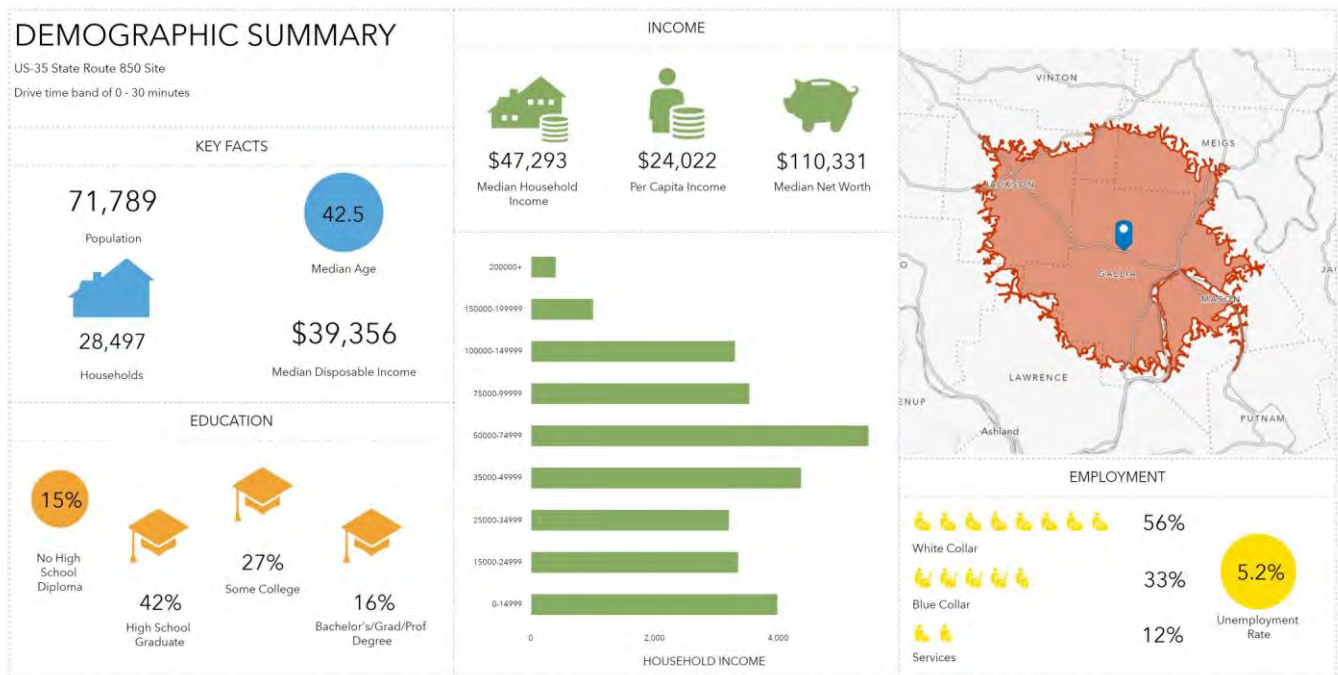
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## US 35 State Route 850 Site

2350 State Route 850, Bidwell, OH 45614

- Located near the Dan Evans Industrial Park
- 48-acre site off US 35 at the State Route 850 intersection
- 1/4 mile from the Dan Evans Industrial Park
- Electric, gas, fiber and excess sewer and water capacity available
- The site is not zoned, so available for any type of business
- Jackson Logistics Site is less than 25 miles away for railroad needs
- Less than an hour to I-64, I-77, and the Huntington Tri-State Airport
- 100 miles to John Glenn International Airport in Columbus, OH



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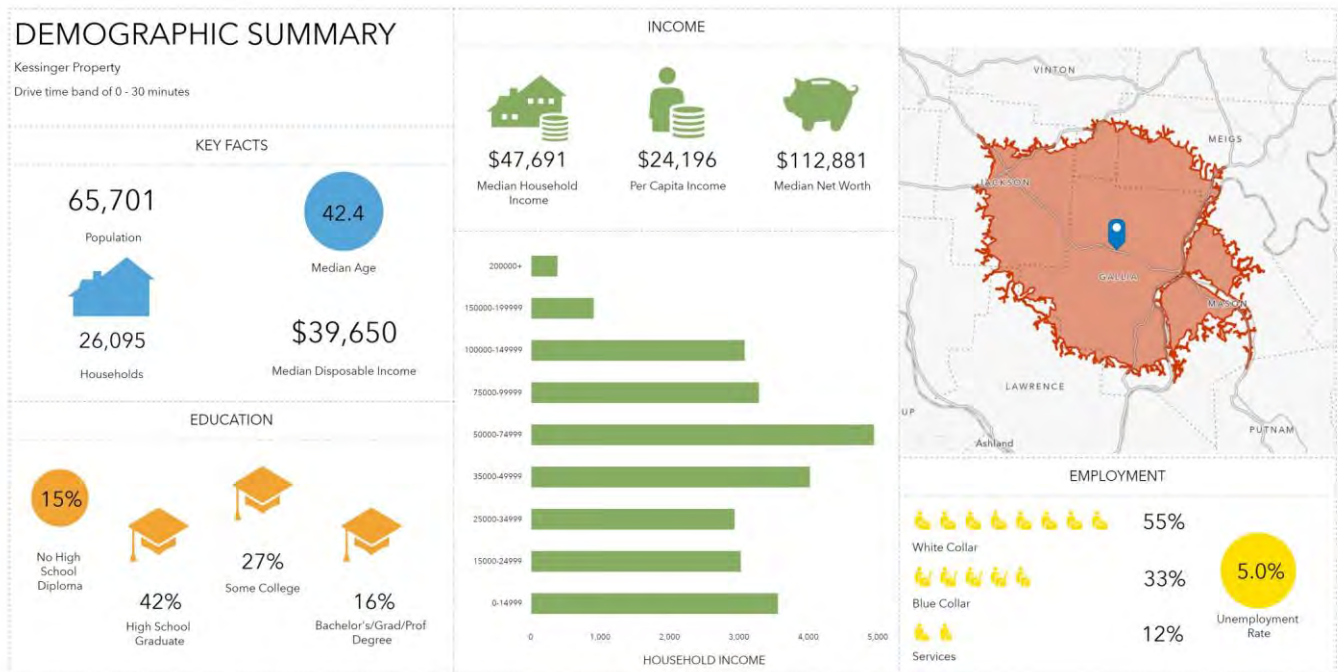
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## Kessinger Property

3501 Kerr Rd, Bidwell, OH 45614

- Also located near the Dan Evans Industrial Park
- High visibility from US 35
- One mile from Dan Evans Industrial Park
- Within 25 miles to the Jackson Logistics Center

- 79 acres available
- 1 1/2 miles to US 35 and 22 miles to US 32
- Less than an hour to I-64 and I-77
- Completed site studies include Phase 1 ESA, Geotechnical study, Wetlands Delineation, Phase 1 Culture Resources, Endangered Species Study



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If you are interested in joining Gallia County's success, please contact the  
Gallia County Economic Development Office.  
Gallia County is ready to welcome you to our community!



**Gallia County Economic Development Office**

18 Locust Street, Room 1268

Gallipolis, OH 45631

P: (740) 446-4612



# Jackson County, Ohio

## Opportunity Zone Prospectus

Wellston Industrial Park

Salt Creek Industrial Park

Jackson Ohio Industrial Rail Site

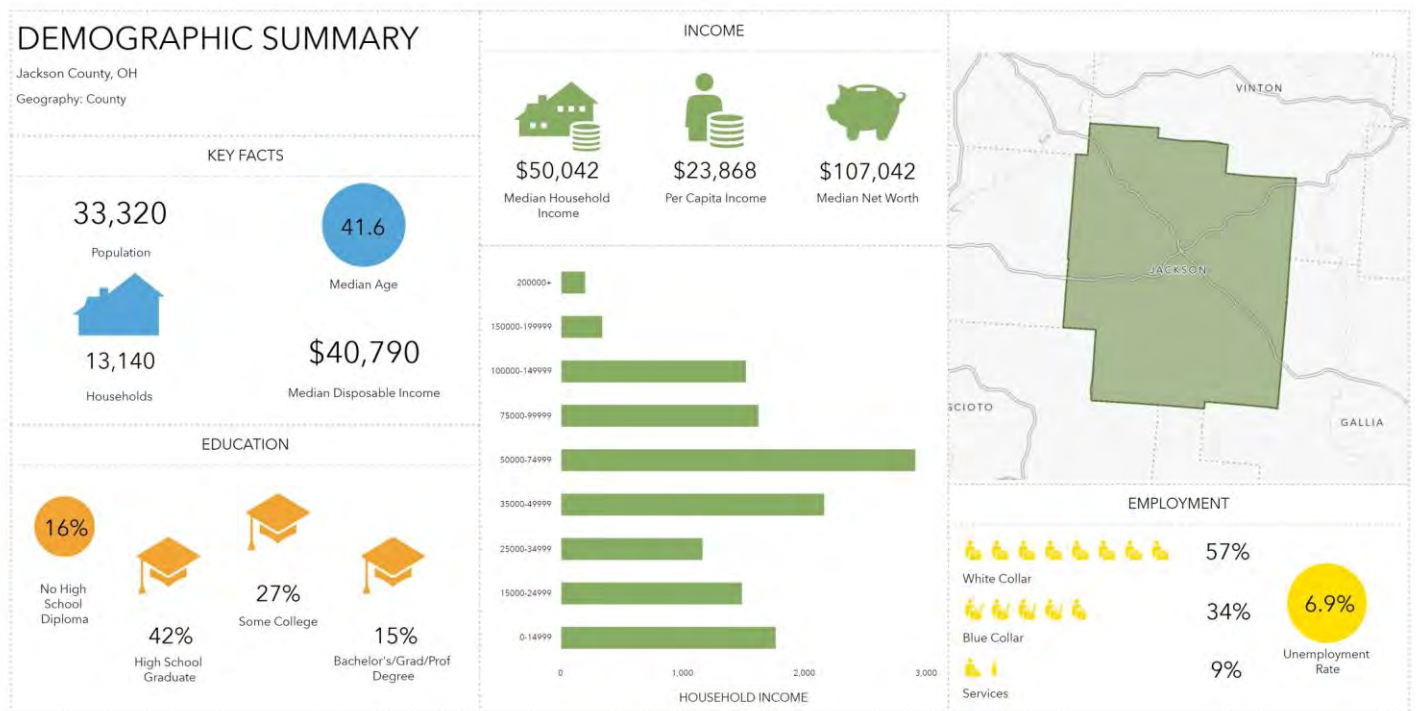
Opportunity Zone Properties



# Why should you choose Jackson County?

## Incentives and Workforce

- No corporate profits tax or Income Tax
- Sites are available with Phase I ESA and Phase II ESA studies completed
- Easy access to both railways and highways
- Working Age Adults: 18,248
- Jackson County GDP: \$1,085,877



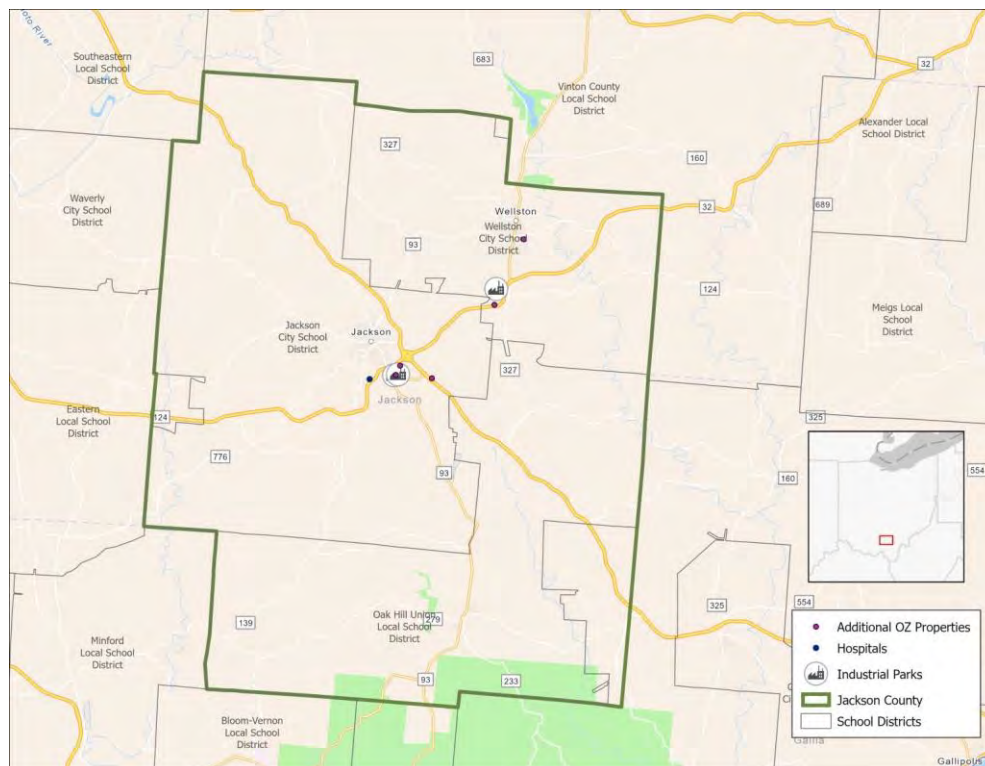
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# *Why should you choose Jackson County?*

## **Education**

- Jackson County offers three school districts that provide an excellent education (Jackson City Schools, Wellston City Schools, and Oak Hill Union Schools)
- Summer Manufacturing Institute introduces students to the world of manufacturing through tours of facilities and activities focused on science, engineering, math, and technology
- Jackson County is also located within a short drive of multiple career centers, including Buckeye Hills Career Center
- The University of Rio Grande offers residents the opportunity to continue their education, either at the Jackson branch campus or at the main campus which is less than 30 mins away
- Custom workforce training is available through Ohio's Manufacturing Extension Partnership



# *Why should you choose Jackson County?*

## **Entertainment and Recreation**

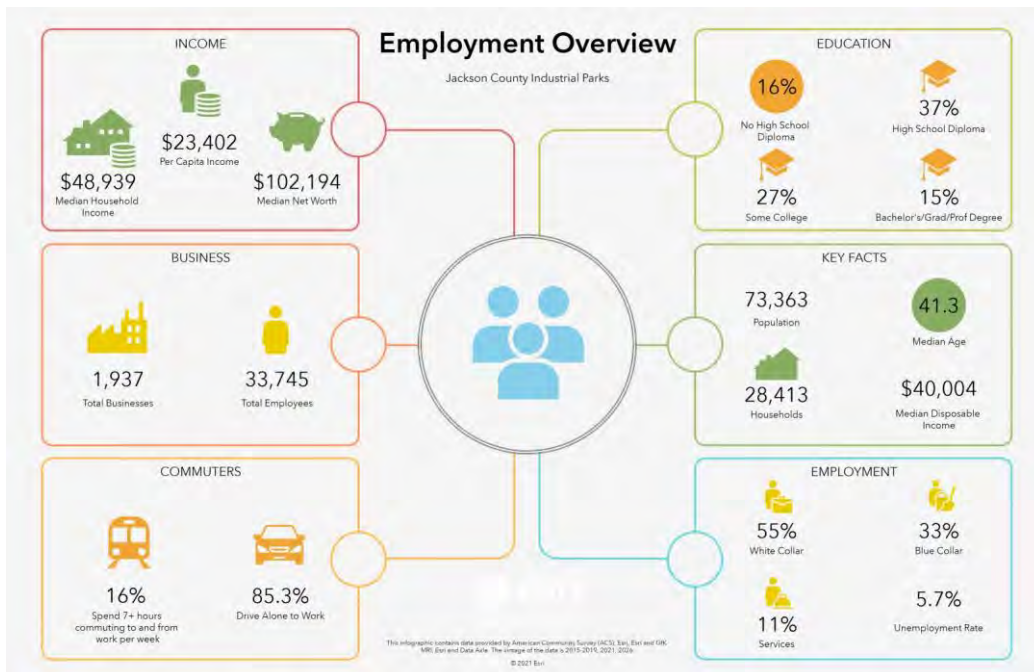
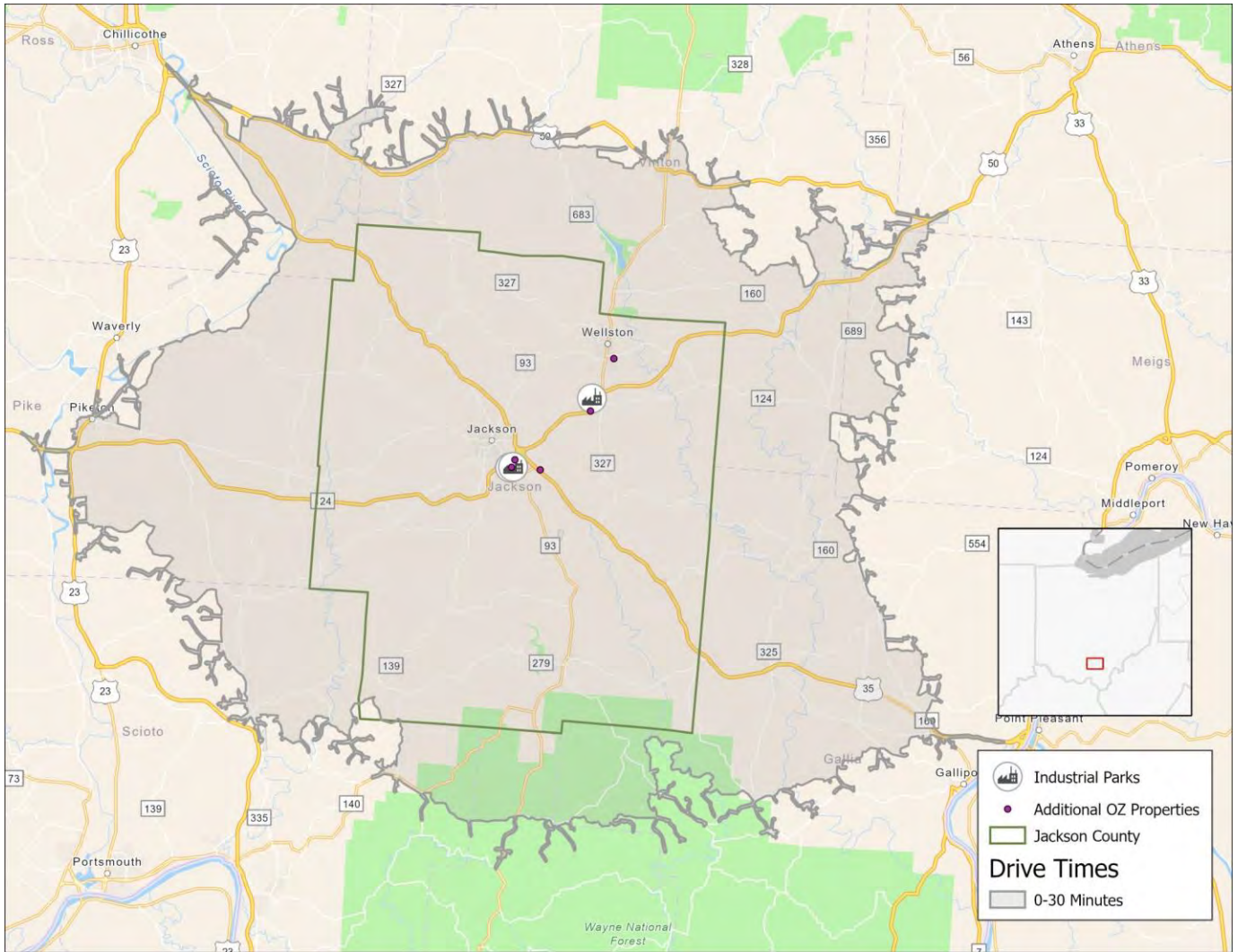
Jackson County offers a great opportunity for residents to experience the outdoors. Nature lovers have the options of Lake Katherine State Nature Preserve, Jackson Lake State Park, Lake Alma State Park, Hammertown Lake, and more!

- Lake Katherine offers many different hiking trails, allowing visitors the chance to explore the natural beauty of Jackson County
- You can visit the Buckeye Furnace State Memorial. Here you can see an iron furnace that was constructed in 1852. This site has a museum, multiple reconstructed buildings to explore, and nature trails

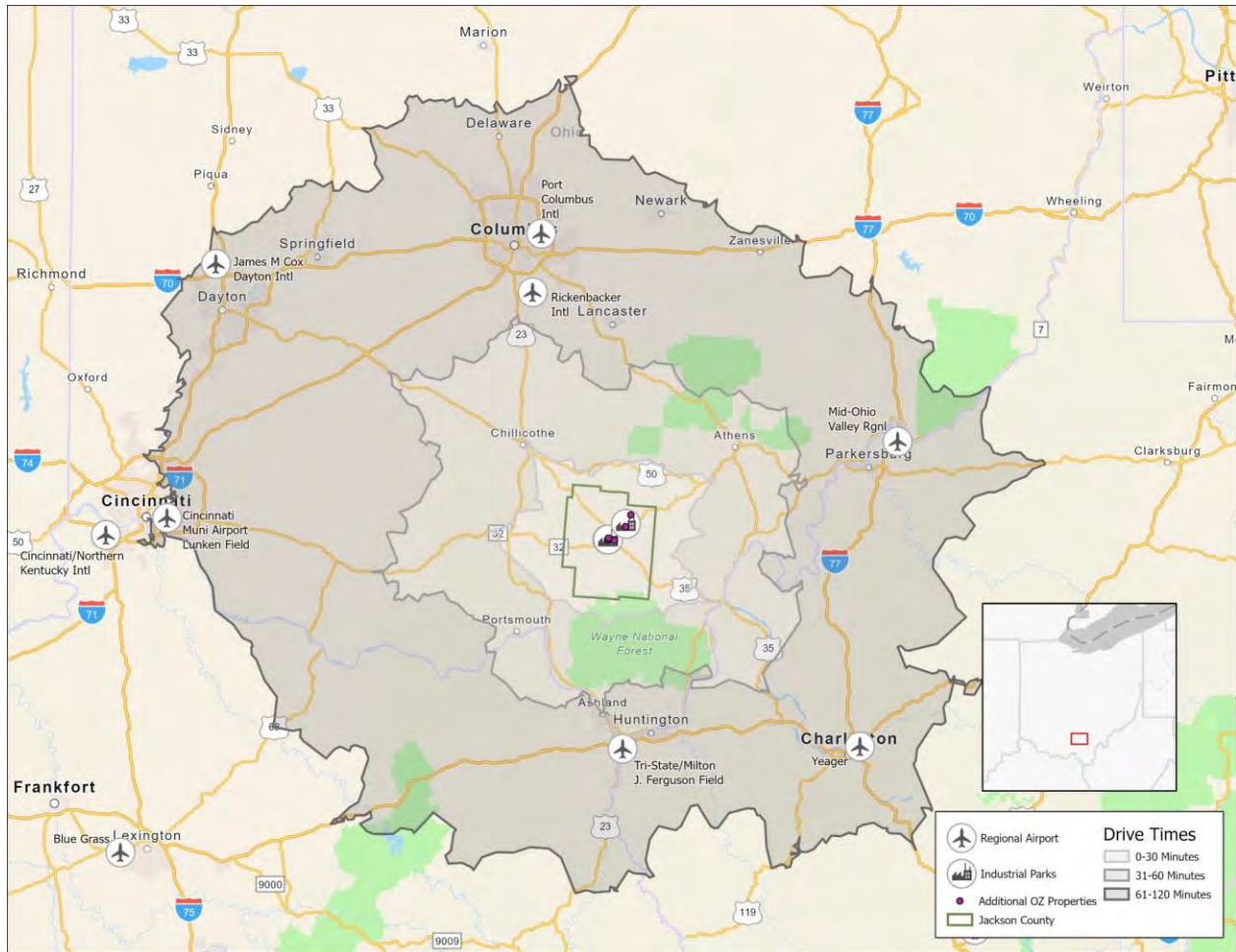
Other entertainment options in the county include great restaurants, bowling, golf courses, tennis courts, movie theaters and more.

Employment Overview: 30 minute drive time





# Industrial Parks Overview



## Location Benefits

Jackson County offers multiple properties and locations within an Opportunity Zone. The three main sites include the Wellston Industrial Park, Salt Creek Industrial Park, and the Jackson Ohio Industrial Rail Site.

- All of these sites have similar transportation benefits
- Jackson County is home to an intersection of State Route 32 and U.S. 35. This provides businesses with a great opportunity to reach Columbus, Cincinnati, Charleston, Huntington, and other major cities within a short drive
- Jackson is also within a days drive of 140 million North American customers
- Ohio South Central Railroad provides rail services for businesses in the county that need that form of transportation
- The James A Rhodes Airport in Jackson County offers a 5,200 ft. runway. If you need larger air travel, Cincinnati/Northern Kentucky International Airport, Rickenbacker International Airport (Dayton), and John Glenn International Airport (Columbus) are a short drive away

# Wellston Industrial Park

56.8 acre site located in Wellston, Ohio

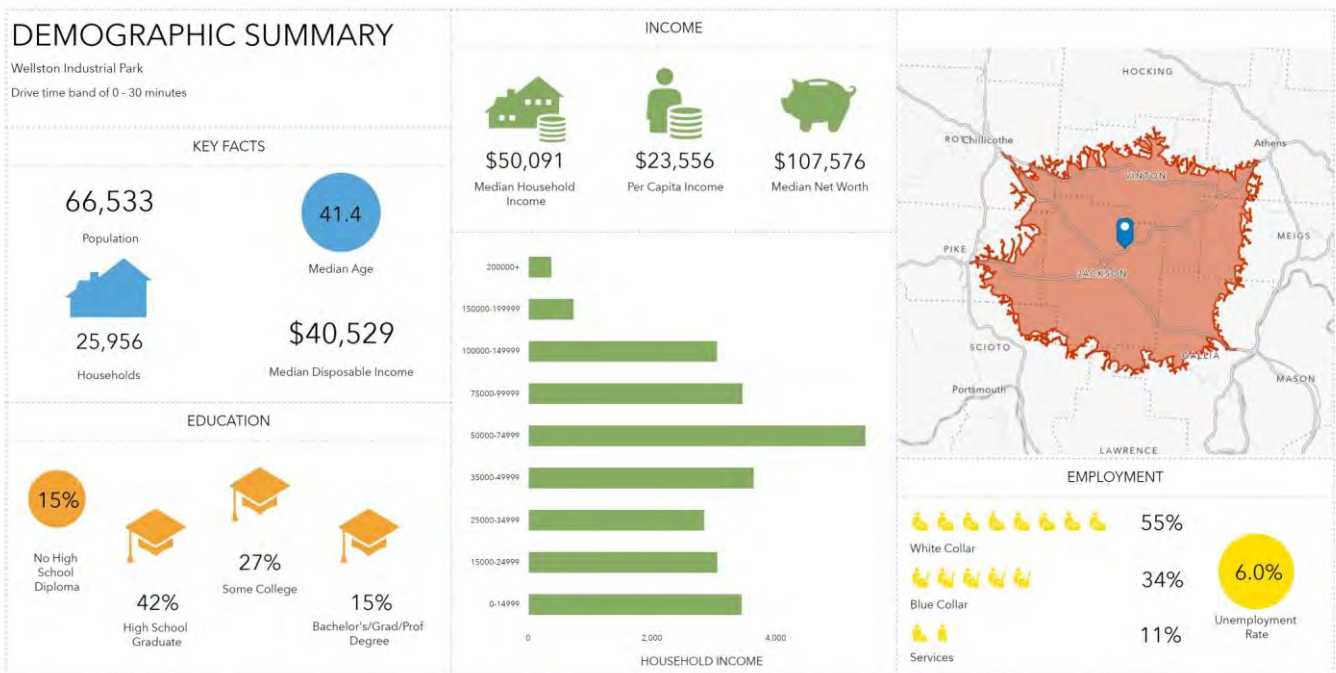
Water, sewer, electric, high pressure gas, and fiber available at the site.

Perfect location for wood companies or related companies as the property is neighboring Superior Hardwoods of Ohio.

Located within an Opportunity Zone, Enterprise Zone, and HUB Zone

If upgraded sewer is needed, the City of Wellston already has estimates to increase sewer capacity.

Phase I ESA, Geotechnical, Wetlands, Archeological, and Endangered Species studies already completed.



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# Salt Creek Industrial Park

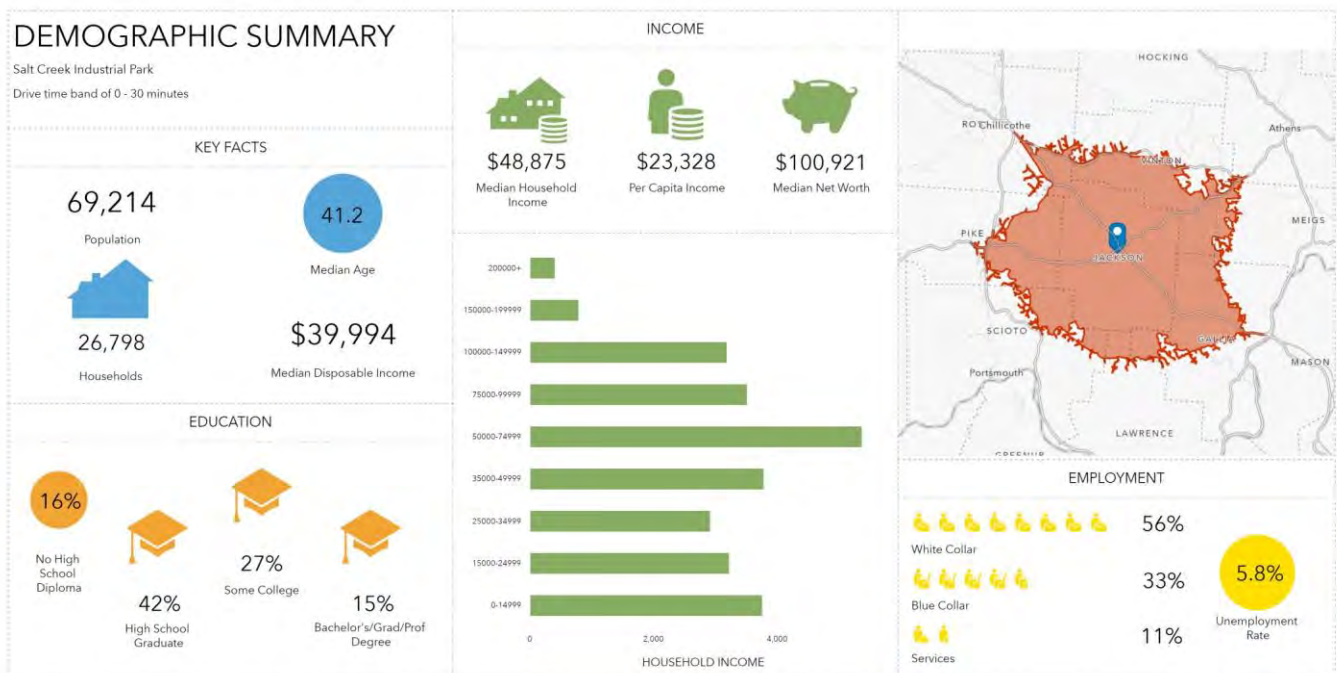
30 acre site located within two miles of the US 35/SR32 intersection

Rail available at the site

All utilities are available at the site

Neighboring companies include: Bellisio Foods (dry goods warehouse), Jackson Logistics Center (Ohio South Central Railroad trans-load facility), Callahan Hardware, Adena Health Systems, Fastenal, and West Virginia Electric

- Phase I ESA Study completed





# Jackson Ohio Industrial Rail Site

22 acres site located near the US35/SR32 intersection

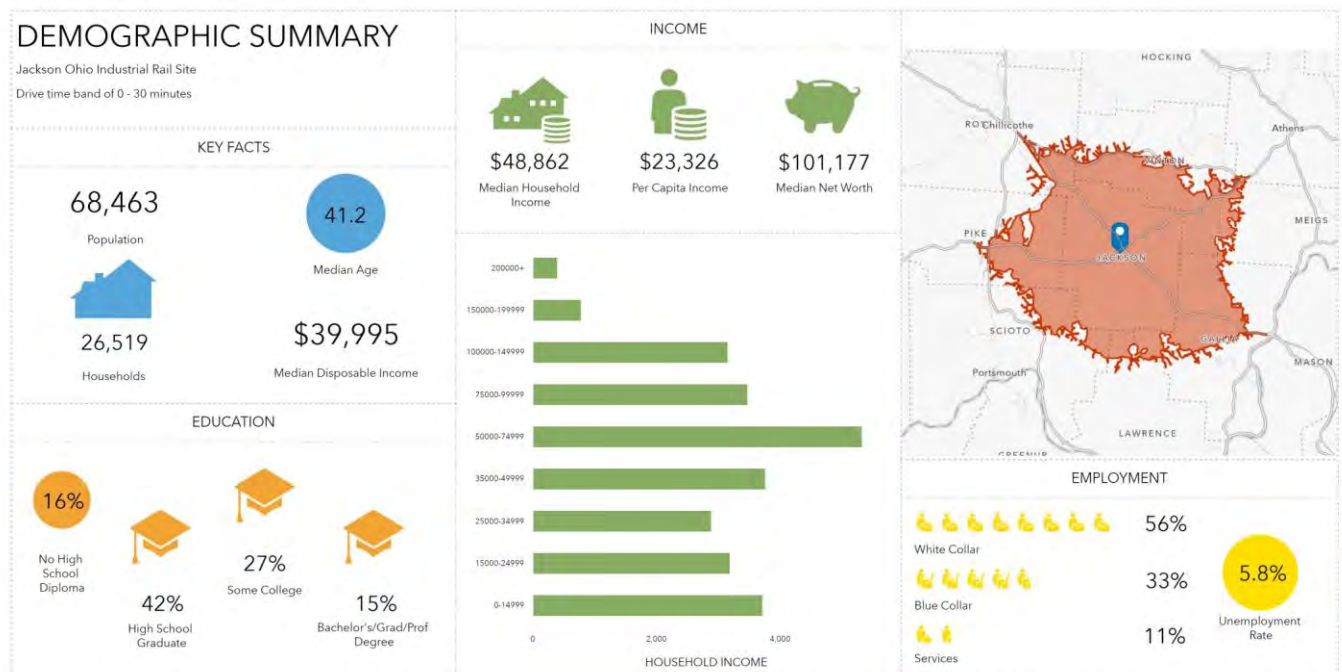
Rehabilitated rail spur located on at the site

All utilities are of industrial standards and located at the site

The site is currently undergoing an environmental remediation project

Opportunity Zone, Enterprise Zone, Foreign Trade Zone, HUB Zone

Phase I ESA and Phase II ESA studies are completed



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# Opportunity Zone Properties

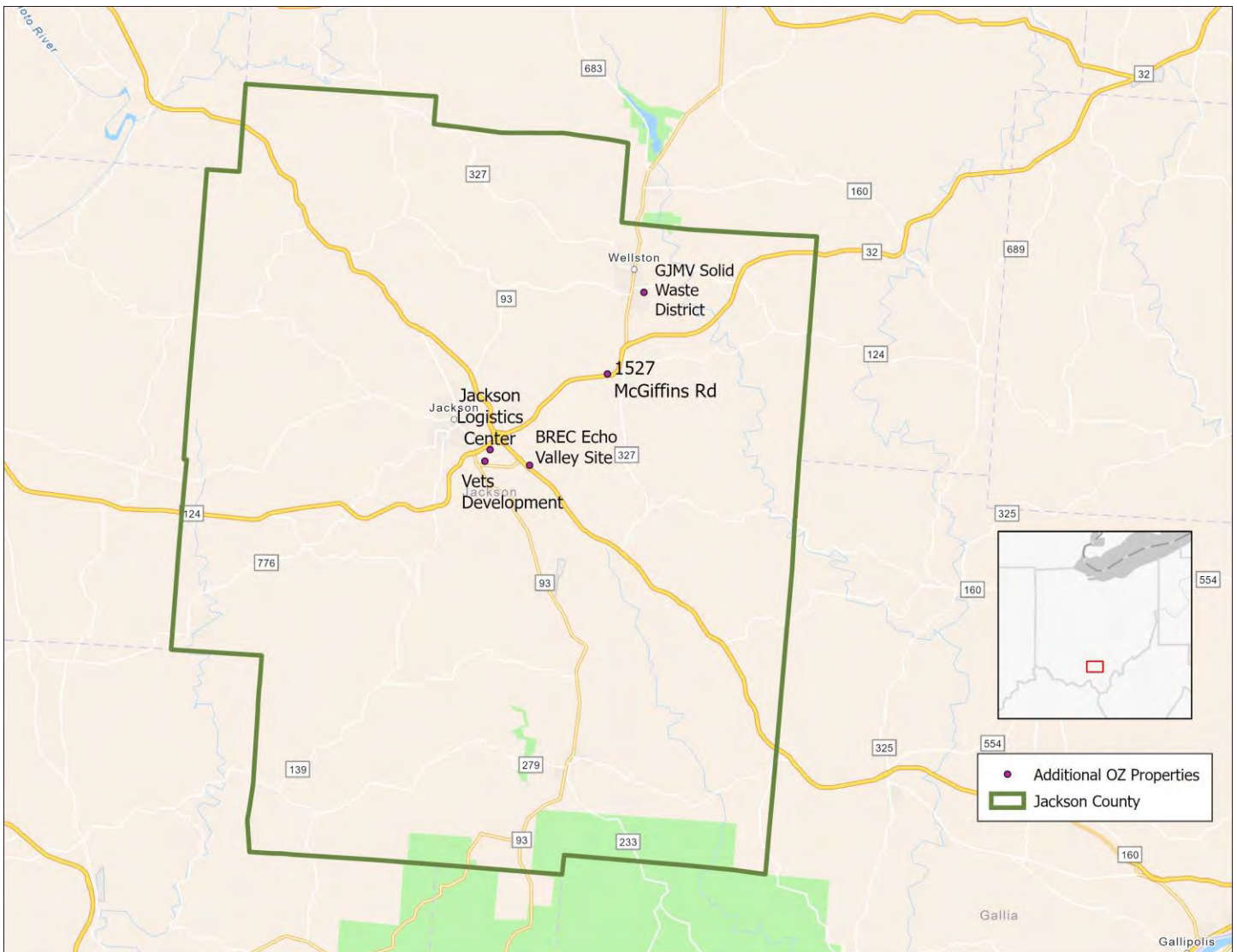
1527 McGiffins Road: 15-acre site located off State Route 32. Utilities available at the site. This site also features a 3,200 square foot building

Jackson Logistics Center: 50,000 square foot building on 5.5 acres of property

Vets Development: multipurpose site located near an active rail spur, potential build-to-suit, utilities available at site

GJMV Solid Waste District Office: ideal site for clean warehousing or distribution

BREC Echo Valley Site: 12.93-acre site. Located close to US 35. Utilities provided at the site



If you are interested in any of the properties Jackson County has to offer,  
please contact Sam Brady with the Jackson County Economic  
Development Partnership



**Sam Brady**

Executive Director

[Sam.brady@jacksoncountyohio.com](mailto:Sam.brady@jacksoncountyohio.com)

P: (740) 988-6622

**Jackson County Economic Development Partnership**

920 Veterans Drive, Suite A

Jackson, OH 45640

P: (740) 286-2838

# Lawrence County, Ohio

## Opportunity Zone Prospectus

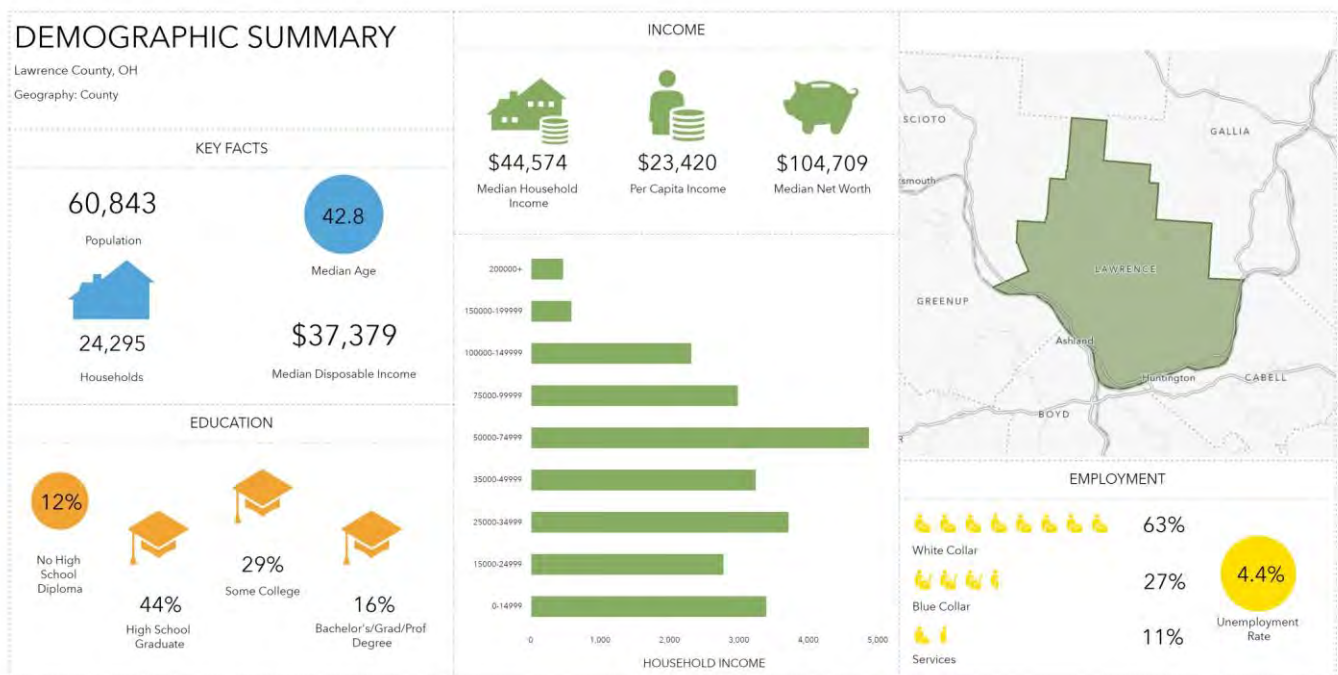
### The District Industrial Park



# Why should you choose Lawrence County?

## Workforce

- The District's labor pool is abundant, hailing from within and beyond the Tri-State area (Huntington, WV, Ashland, KY, Ironton and Portsmouth, OH) to represent a growing population that currently exceeds 300,000.
- This trained workforce specializes in production and technology to provide solid labor and operations for businesses to thrive. The abundant workforce, along with a low cost of living, has made area labor costs affordable for businesses.
- The educational and training institutions surrounding The District play an active role in following modern industry trends as well as skills required for these jobs.



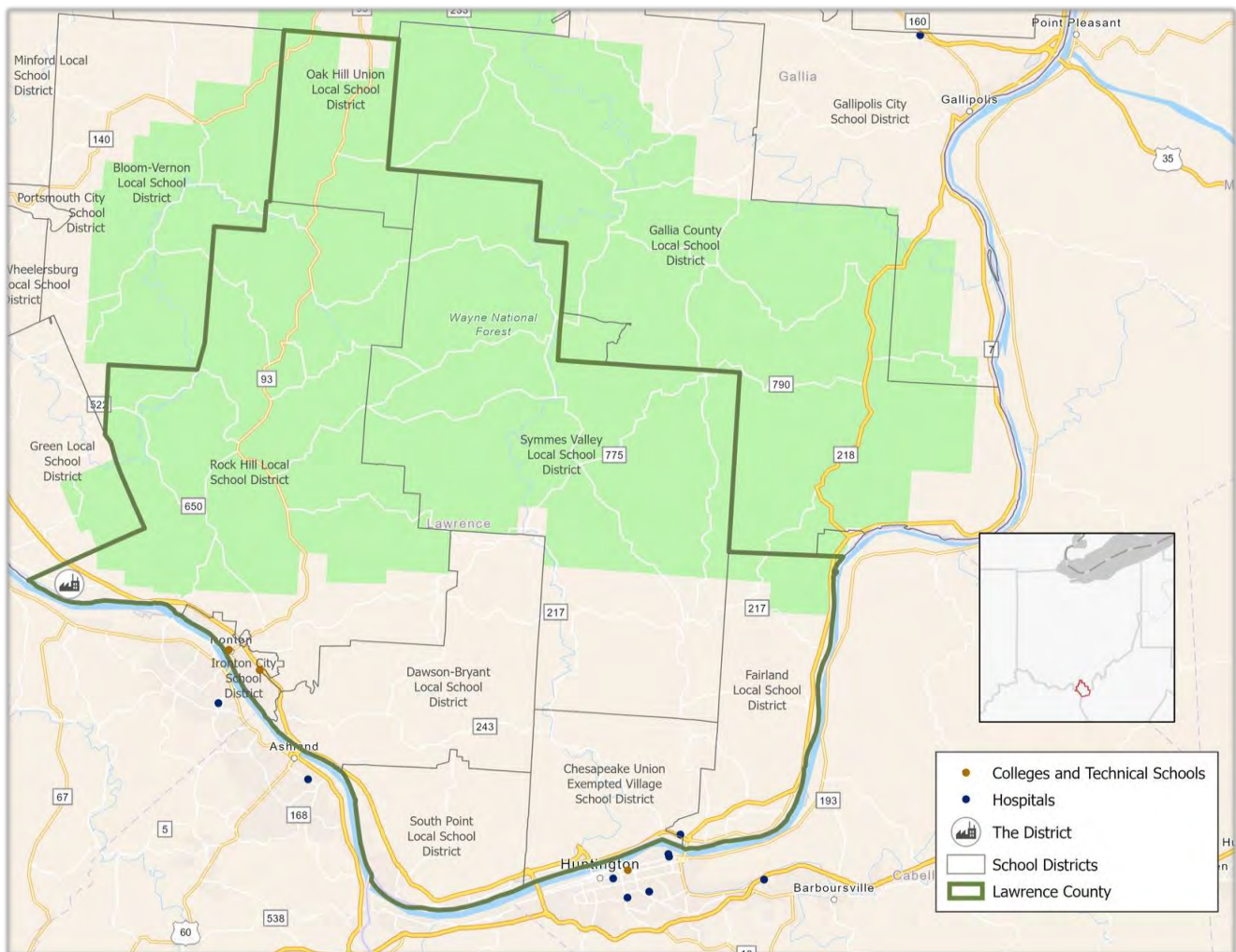
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# *Why should you choose Lawrence County?*

## **Education**

- Lawrence County offers residents high quality colleges and universities within an hour drive. The county is home to Ohio University Southern and the Collins Career Technical Center. It is also a short drive from Marshall University and Shawnee State University.
- Residents have the option of 7 school districts that will provide your children with a great education
- These districts include Chesapeake Local, South Point Local, Ironton City Schools, Dawson-Bryant, Fairland, Rock Hill, and Symmes Valley



# *Why should you choose Lawrence County?*

## **Recreation**

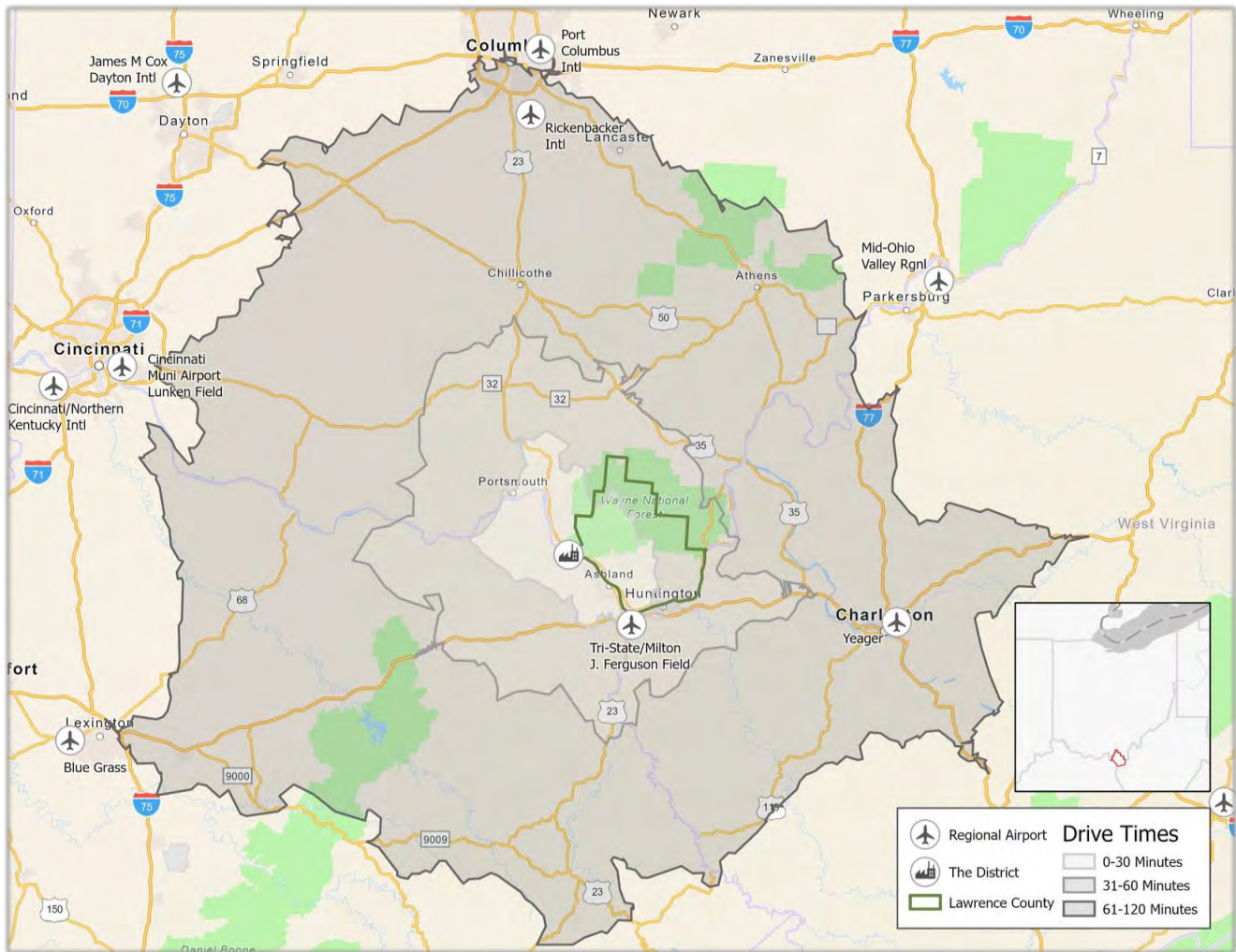
- Lawrence County is home to the Wayne National Forest. Lake Vesuvius offers residents a great opportunity to experience the outdoors through camping, hiking, kayaking, fishing, and horseback riding.
- Located a short drive away in Ashland, Kentucky, the Paramount Arts Center offers residents the chance to experience performances in music, theatre, comedy and more.
- The RO-NA Theatre in Ironton, Keith-Albee Theatre in Huntington and the Huntington Symphony Orchestra also offer the opportunity for musical and other performances.
- The region offers many opportunities to try different foods through the numerous restaurant options.
- Residents are within short driving distance of two malls as well as multiple shopping centers throughout the tri-state region.
- Residents can also enjoy many different festivals and events throughout the year in the county and the region.







# Industrial Parks Overview



## Incentives

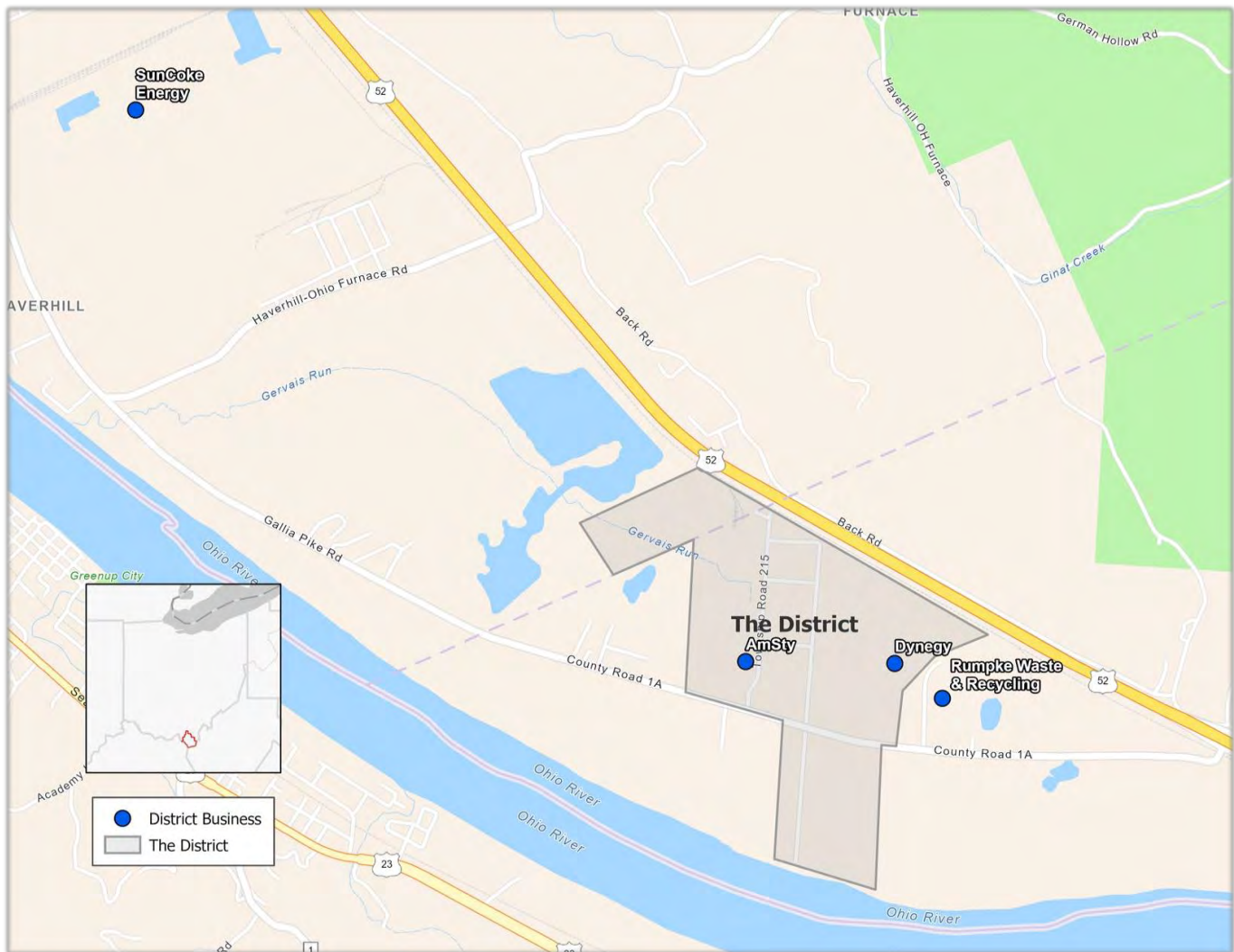
- Some of the incentives provided by Lawrence County include grants for infrastructure and partial real estate tax abatement.
- These county incentives, combined with local incentives, lay a solid foundation for your business.
- The state of Ohio's incentive package, including the option for low cost loans, training grants, access road support, a job creation tax credit, and numerous others, help lead to success in Lawrence County.
- The LEDC, which operates The District, specializes in providing turn-key buildings for potential businesses. This will allow you to open your doors and begin work sooner.

# The District

The Southern Ohio Industrial District (The District) provides key advantages to a variety of businesses, industries and organizations, including petrochemicals, energy, and metals.

The District offers both green-field sites and fully-developed buildings. With buildings totaling 400,000 square feet, most small and medium-sized business needs are easily accommodated.

The District is currently home to Dynegy, Rumpke, AmSty, and Sun Coke.



# The District, Continued

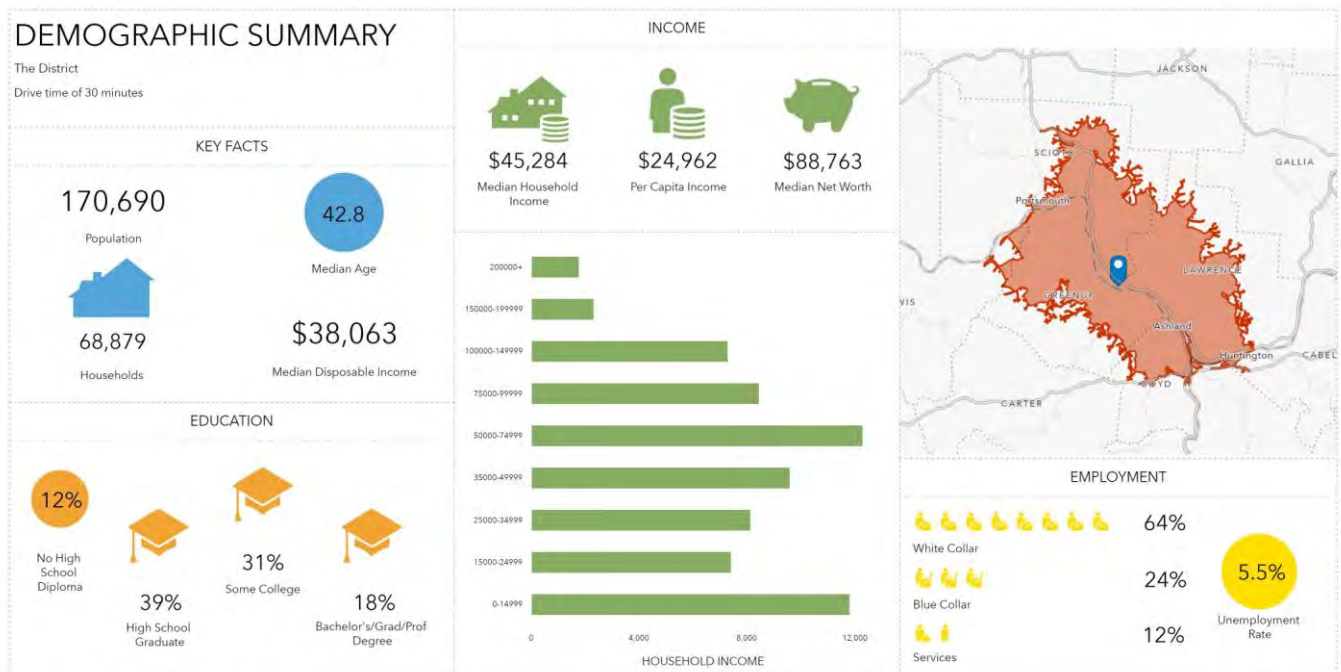
The District offers your company a 40 acre site with immediate access to multiple means of transportation. The site is located on the Ohio River and has both US 52 road access and Norfolk Southern rail access.

This site offers build-to-suit spec buildings so you will be able to move in and begin work immediately.

Currently, the site has a 92,000 square foot building available for use.

The District is within 45 mins of the Huntington Tri-State International Airport.

The District's local utility providers ensure the presence of reliable infrastructure resources. With multiple 765 KV lines providing redundant power sources to one of Ohio's largest AEP substations, the 69 KV substation feeding The District offers the comfort of nearly guaranteed, uninterrupted power to all District businesses.



# The District, Continued

The District is crossed by an 8" line from Columbia Gas with 320 psi.

The existing water line is a 12" 100+ psi line, proving more than capable to supply existing and incoming businesses. Since The District borders the Ohio River, an unlimited amount of process water is available.

Along with these resources, The District has liquid process and storage tanks, multiple silos, and broadband services.



*If you are interested in joining the success in Lawrence County,  
please contact Dr. Bill Dingus or Jeremy Clay at the Lawrence  
County Economic Development Corporation.*



**Bill Dingus, PhD.**  
**Executive Director**



**Jeremy Clay, MSE**  
**Associate Executive Director**

**Lawrence County Economic Development Corporation**

**216 Collins Ave, South Point OH 45680**

**P: (740) 377-4550**

**F: (740) 377-2091**

# Scioto County, Ohio

## Opportunity Zone Prospectus

Project SOAR Industrial Park

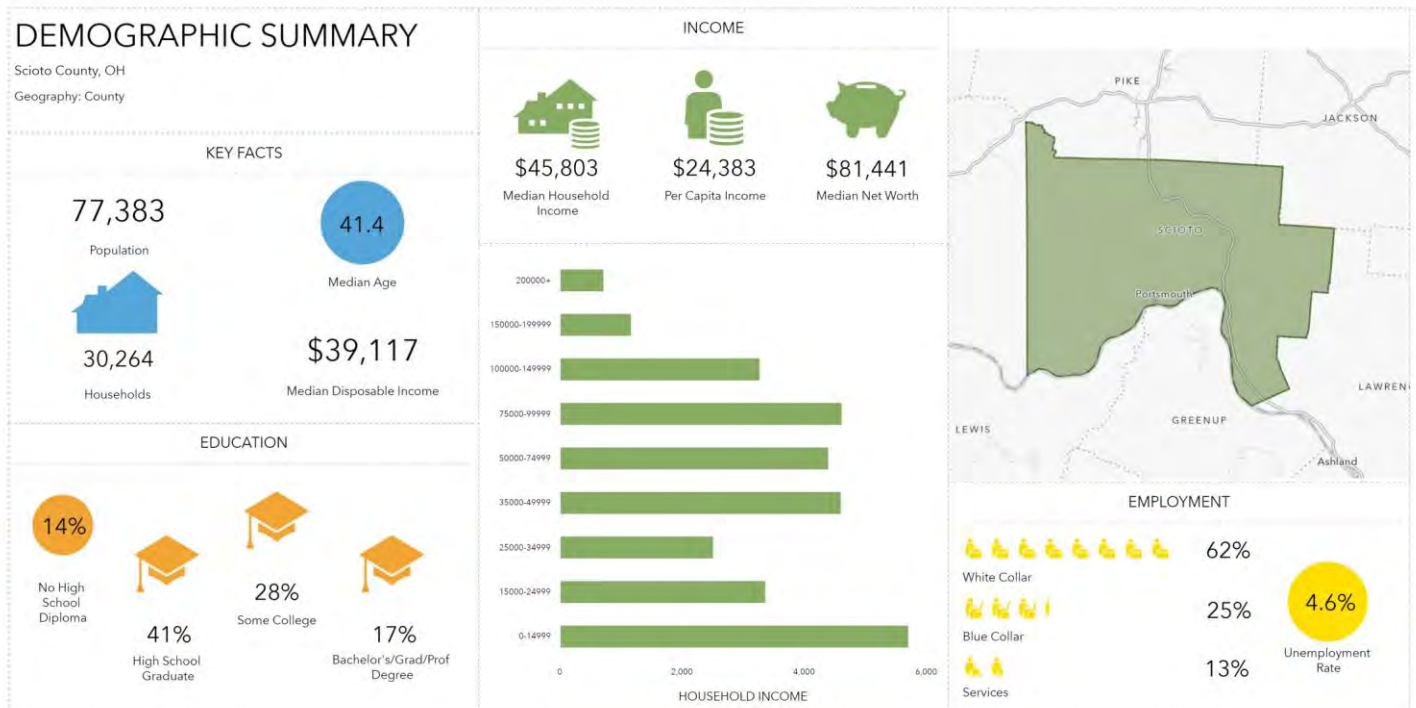
Portsmouth Gateway Industrial Park

New Boston Industrial Site



# Why should you choose Scioto County?

- Businesses in Scioto County have access to the Ohio River for bulk transportation of goods
- Companies also have access to an extensive rail network for easy transportation of goods the company needs to be successful
- Scioto County also offers a great road network, with US 52 and US 23 easily accessible throughout the county
- Plentiful natural resources are available, such as fresh water, affordable and abundant electricity, natural gas, propane, and broadband



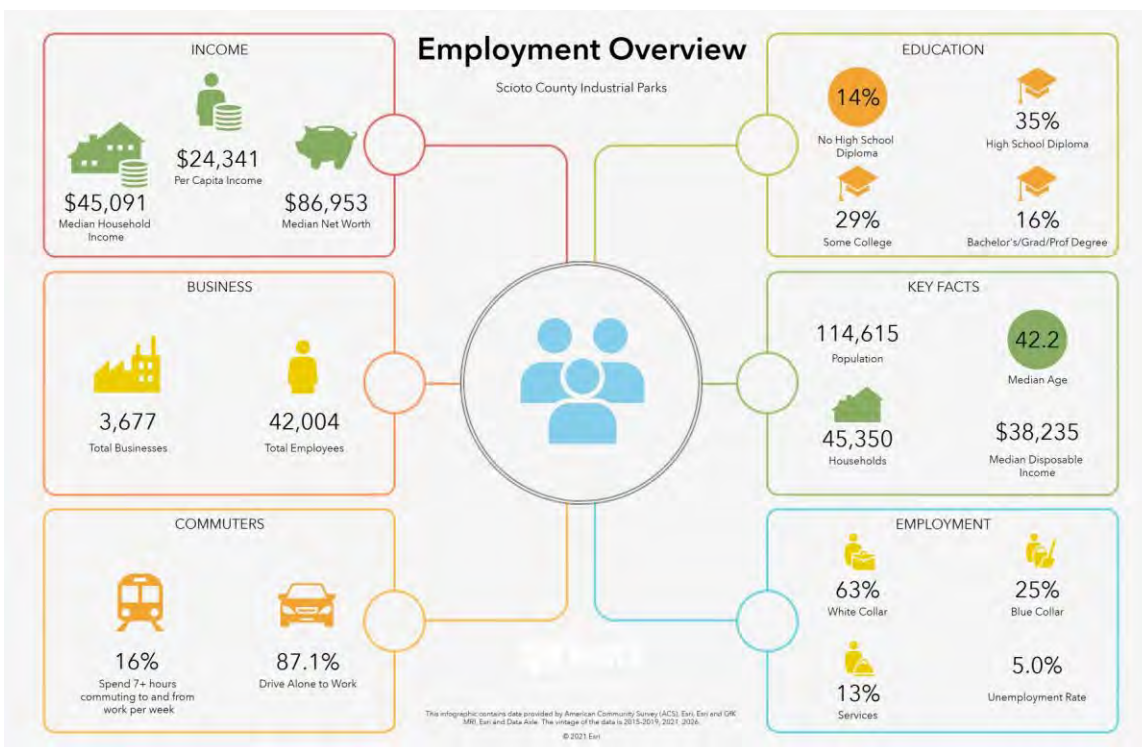
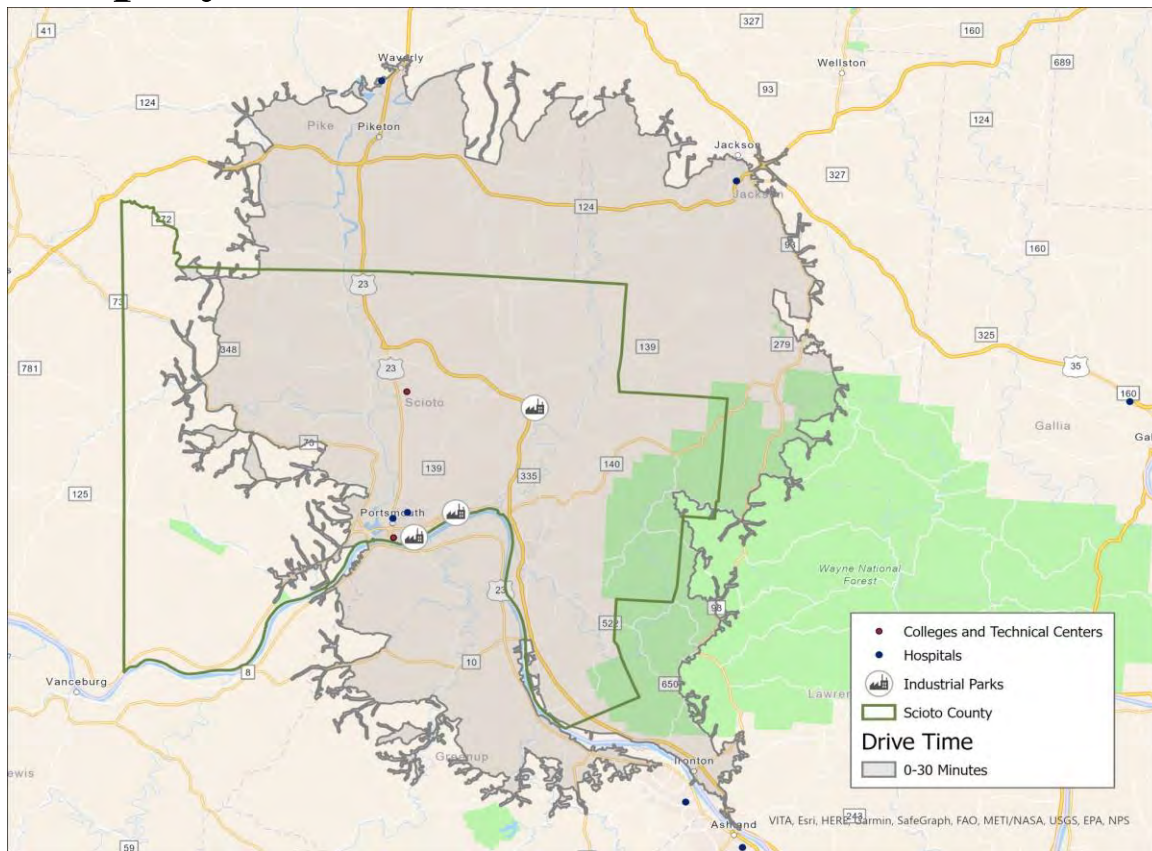
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**Scioto County, Ohio**

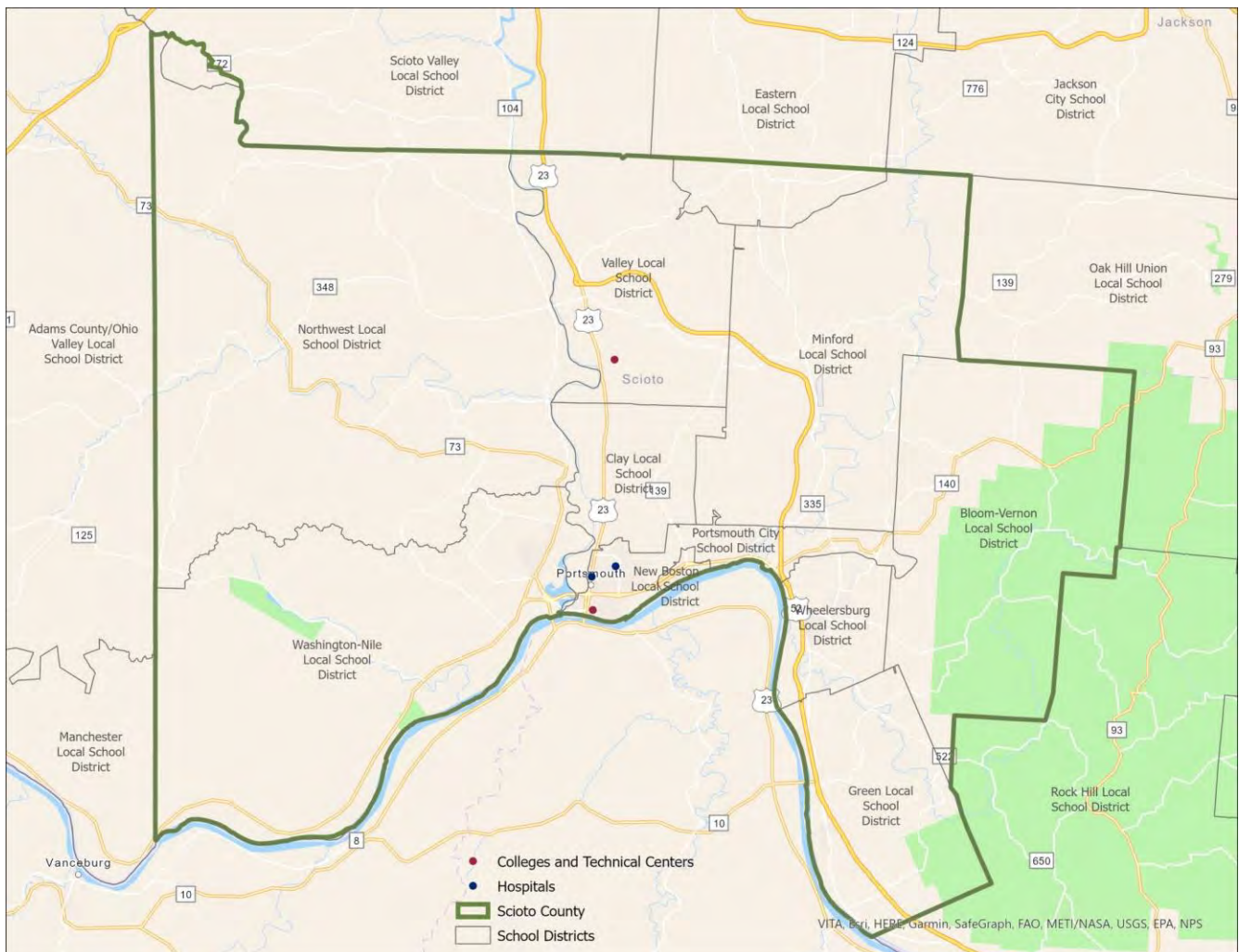
# Employment Overview: 30 Minute Drive Time





# *Education and Training*

- Scioto County is home to Shawnee State University, which provides a wide range of degree options so your employees and their families can further their education and training.
- The county is proud to offer ten different school districts, including New Boston, Portsmouth City, Bloom-Vernon, Clay, Green, Minford, Northwest, Valley, Washington-Nile and Wheelersburg, to provide education to future employees or the children of your employees and also to ensure that wherever you choose to locate within our county, you and your family will be within a short drive to school
- Scioto County Career Technical Center offers many programs that can be utilized to further advance your workforce.



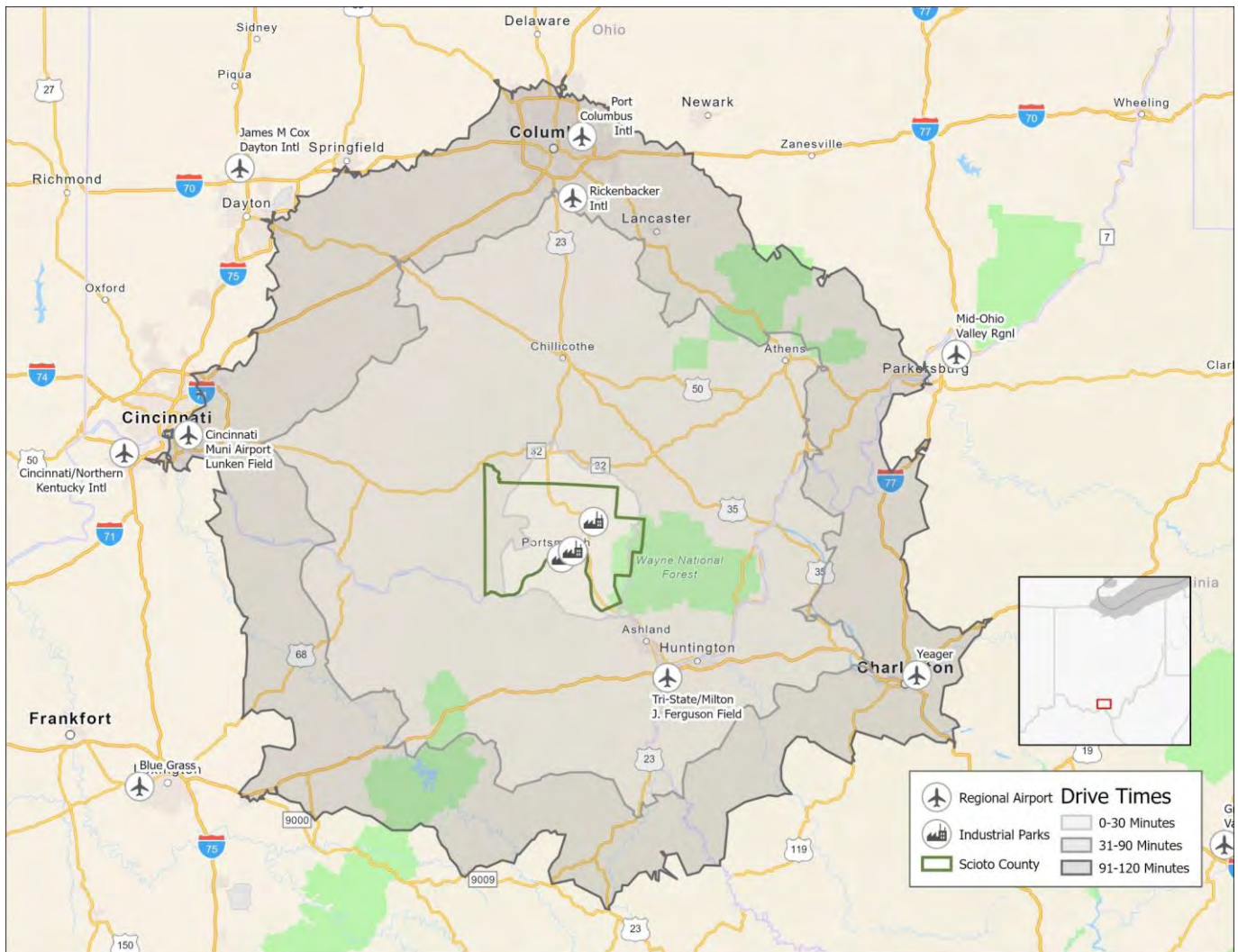
# *Recreation and Entertainment*

Being located in Southern Ohio, Scioto County offers plenty of outdoor recreational activities for you, your employees, and their families.

- Brush Creek State Forest, Shawnee State Forest, and Shawnee State Park are a few of the attractions for those that like hiking, fishing, swimming, and other outdoor activities.
- Portsmouth offers many places to enjoy a dinner including the Scioto Ribber, The Portsmouth Brewing Company, Market Street Café, and many more.
- You can also visit the Southern Ohio Museum and Cultural Center, Boneyfiddle Military Museum, Portsmouth Flood Wall Mural and much more.



# Industrial Parks Overview



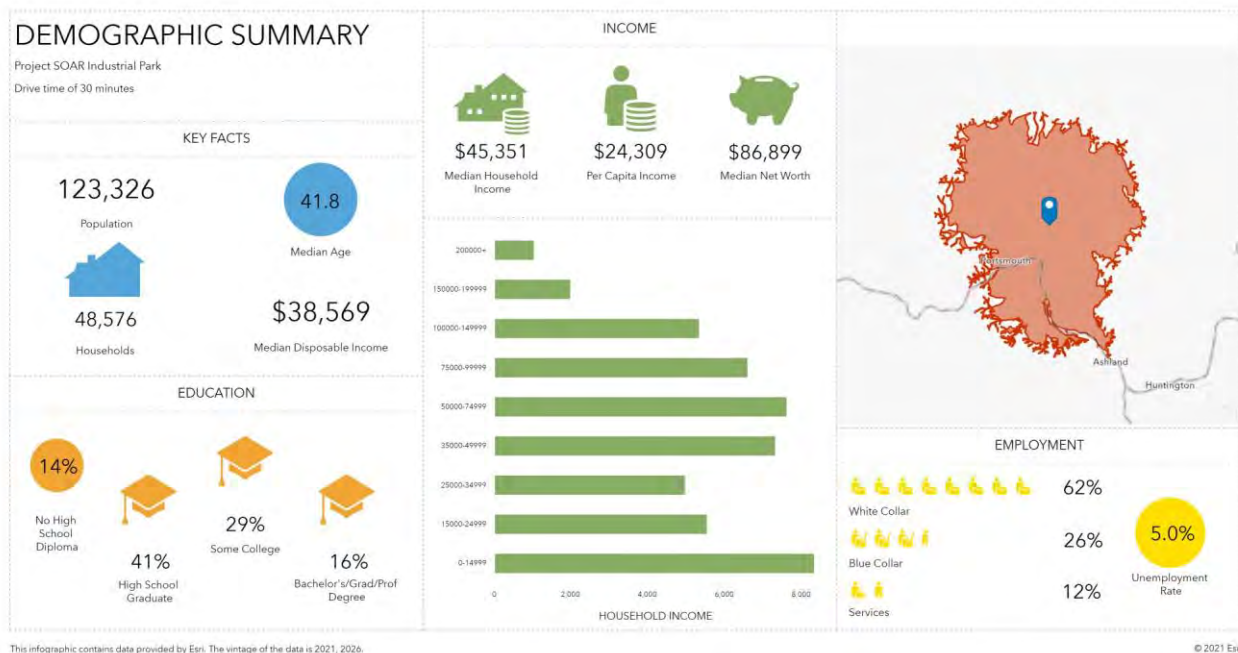
## Location Benefits

- The parks are located in easy proximity to US 52 and US 23, which provides companies quick access to Columbus and a connection to east coast markets
- The close proximity to both Cincinnati and Columbus provides businesses with access to international airports
- The close proximity to the Ohio River provides businesses with access to ports for transportation

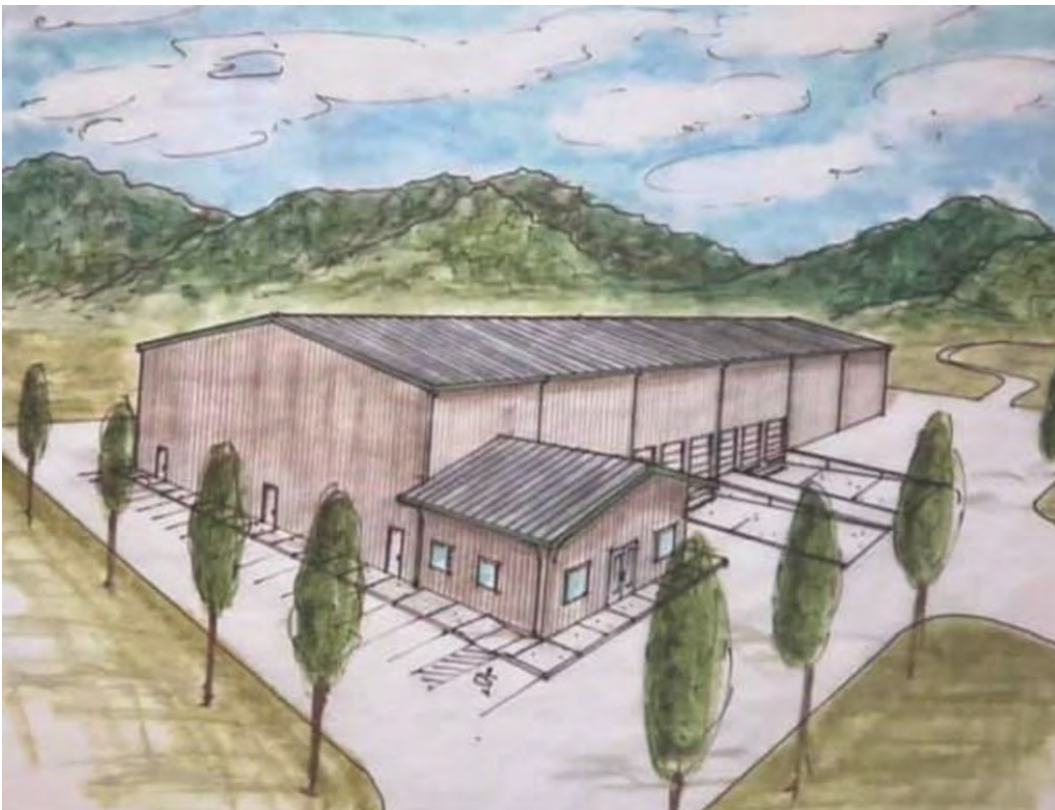
# Project SOAR Industrial Park

Project SOAR stands for Southern Ohio Aeronautical Regional Business Park. The creation of this new industrial park in northeastern Scioto County is in an Opportunity Zone, providing a great opportunity for success in Scioto County.

- The industrial park is located at the Greater Portsmouth Regional Airport.
- It includes 145 acres within the airport fences. These acres are zoned for aviation businesses.
- The remaining park includes 126 acres of land outside the airport property that can be utilized for any business.
- With the completion of State Route 823, which connects US 52 and US 23 and runs beside this industrial park property, access to the Ohio River, the railroad infrastructure, and Columbus to the north, Project SOAR is located in a great spot for success.
- Construction has begun on the park's first building



# *Project SOAR Industrial Park*

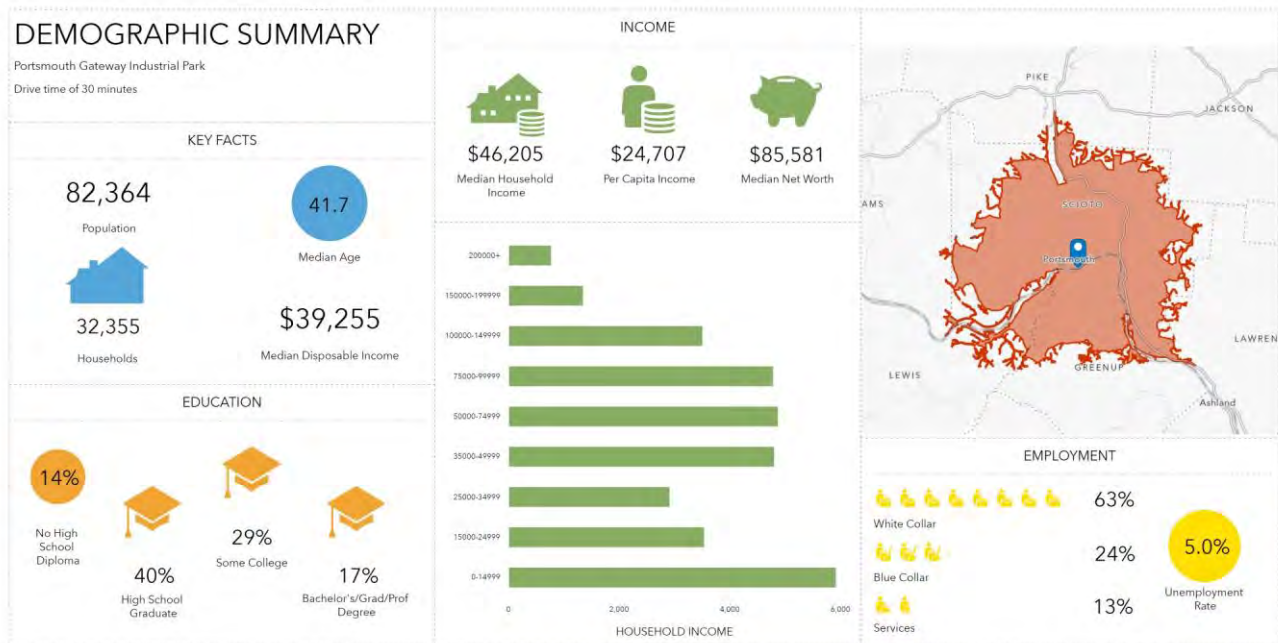


**Scioto County, Ohio**

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# Portsmouth Gateway Industrial Park

- This industrial park is located on the east side of Portsmouth and provides excellent transportation options.
- The site has barge loading and off-loading facilities, direct access to Norfolk Southern Heartland Corridor and the Pocahontas Division rail yard, and direct access to US 52.
- The site has buildings ready for use or acreage ready for development.
- Portsmouth Gateway is also within an hour drive of Interstate-64 and the Huntington Tri-State International Airport



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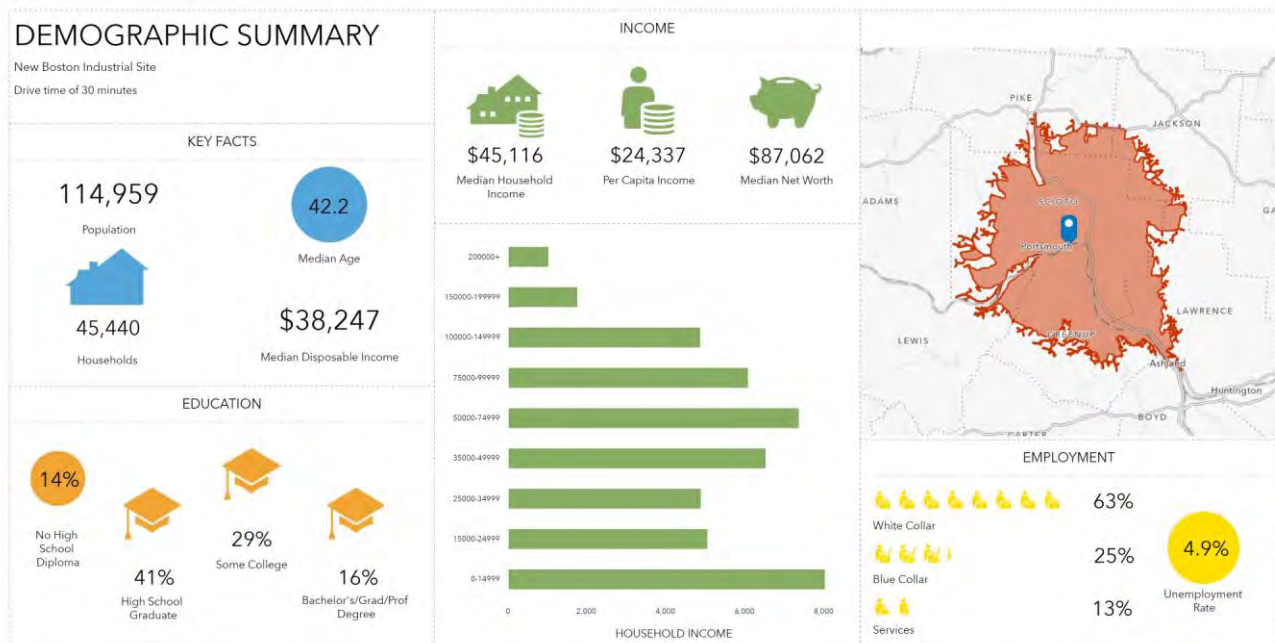
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**Scioto County, Ohio**

# *New Boston Industrial Site*

- 22-acre site available in New Boston, Ohio
- Located within 5 miles of US 52 and US 23
- Utilities provided at the site
- Rail and river access possible from the site.
- Close proximity to the Conley River Dock
- Within an hour to two airports and within two hours to John Glenn International Airport in Columbus, Ohio.



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**Scioto County, Ohio**

For more information on any of these sites, or to join the success in Scioto County, please contact Robert Horton or Mark Ward with the Scioto County Economic Development Office.



Scioto County Economic Development Office  
502 Court Street  
Portsmouth, Ohio 45662  
P: (740) 357-9779

[Robert.Horton@sciotocounty.net](mailto:Robert.Horton@sciotocounty.net)  
[Mark.ward@sciotocounty.net](mailto:Mark.ward@sciotocounty.net)



## 5. REPORT DEVELOPMENT, WEBSITE CREATION, AND DISSEMINATION

Best Practices: Building Economic Resilience and Recovery after a Major Coal Economy Closure

Prepared by Center for Economic Development and Community Resilience, the Voinovich School of Leadership and  
Public Service

December 2021

Laura Davis

Anna Minton

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## **Introduction**

The Building Opportunities Beyond Coal Acceleration Transition (BOBCAT) Network is a regional development project that will promote entrepreneurship, support economic diversification, and identify infrastructure and workforce needs within the 12-county OVRDC Region. Through this past report on the project as a whole, there have been three main goals that have been identified as priorities for Adam County, but that can also be implemented within all other OVRDC counties: creating classes to help people start businesses or entrepreneurship, focusing on improving and preserving the character of main streets, and increasing foot traffic of existing occupants on main street.

In 2019, the BOBCAT Network project conducted research to identify main assets in communities that we classified as institutions, identified associations, physical attributes, and community champions. The institutions included businesses, health services, cultural and recreation, social services, economic development, education and libraries, and Amish Country. Within the report, the importance of collaboration with educational institutions, local businesses, regional partners and the community is continually emphasized. The identified associations include social and membership groups, recreation and youth groups, occupational and professional groups, events and festivals, cultural groups, and charitable service groups. Some of the identified community champions include commissioners, school superintendents, and ministers. The identified physical attributes that were seen as assets included infrastructure sites, natural resources, and transportation location. The report also emphasized the importance of developing the natural resources that make the community unique.

## **Common Approaches and Strategies**

Based on research, there are many common threads between attempts to revitalize economies within the OVRDC Region. While success rates differ between locales, these strategies are most often used by local governments to mitigate the effects of a transition away from a coal-based economy. One main strategy in regard to a community previously dominated by the coal economy. is to increase social capital. This includes increasing the region's connections with outside communities. Rather than a community becoming self-reliant on its own economy, increased outside connections will allow the community to transition beyond its own coal-based economy and into something new. Another approach to transition away from a coal economy is to increase human capital. This includes addressing the individual needs and understanding what skill level each community's workforce is at. This investment into the unique workforce of each community allows for a more accurate understanding of what new industries will thrive in each community.

Another strategy to approach this transition is to diversify the community's economies. Rather than having the community become solely dependent on one industry again, such as coal, it is important to ensure that there are multiple solid industries within the region. One more common approach to transitioning away from a coal-based economy is investing money into these regions. Many communities see funders funneling money into their transition plans, with the hopes of seeing a return on investment. Specifically in Adams County, these common approaches were utilized through attracting new major employers, supporting existing businesses, diversifying the local economy, developing workforce development and training programs, and the enhancement of natural assets. In reality, no one strategy works for a single community. Rather, the best results come from the blending and mixing of multiple strategies.

## **Common Issues that Come with Economic Transition**

The main issue most commonly seen with communities attempting to transition out of a coal-based economy is an under-investment in human capital. One common issue that is seen throughout communities transitioning to new economies from a coal-based economy is a lack of skills assessment prior to the switch. This essentially means that those who are leading this approach are more focused on what industries are successfully outside the community and bringing that to the region, rather than looking at skill sets and workforce available in their own community and seeing what industry would match the best with that. This does not mean that training workforces for new industries do not work. Rather, it means that there should be some understanding of the individual workforce to address what skills training would even work, and what should be invested in.

An example of this would be in a case study from Waynesburg, Pennsylvania, where the coal workforce was trained to acquire coding skills since the local government saw that coding was a big industry nationally. However, while the skills training happened, there were no actual coding jobs brought to the region, partially due to broadband issues within the geographic profile of the community. Now, there is a workforce of former coal miners who can code, but no actual industry to hone their skills within. This leads to another suggestion- that skills training should have a connection with the actual employer. If there is going to be a big push to train a whole new workforce a whole new set of skills, it should be led by the employer or industry that actually plans on employing these workers at the end of the day.

## **Mitigation of the Effects from Transitioning Economies**

There are many different approaches as to how a community can build an economic strategy to ensure they are no longer vulnerable to the effects of transitioning out of a coal-based economy. When any community relies on one economy for an extended period of time- such as Adams County with Coal- it allows them to become fiscally reliant and vulnerable. In order to create a diversified economy, revenue solutions need to be put into place. Communities need to create solutions that focus on sustaining the competitive advantage while circulating capital investments through expanded opportunities. In the case of Adams County, multiple different solutions were employed to ensure the strength of the county. Some of these solutions included broadening their tax bases to replace the lost coal revenue, ensuring resource taxes address the community's specific needs and goals, and identifying federal grant and loan programs for previously coal-based communities- just to name a few. These solutions help increase local fiscal autonomy. These solutions also must allow communities to redistribute revenues previously allocated to taxes associated with the coal industry, into other areas where wealth distribution would benefit the community, and not lead to further economic dependency.

## **Strategies for Economic Diversification**

There are specific resources that have the possibility to diversify the OVRDC region's economy- specifically Adams County. The rivers within Adam's County can be seen as environmental resources and should be taken advantage of by communities that are transitioning away from a coal-based economy. As stated previously, thorough skills assessments are necessary to diversify a community's economy prior to inviting new industries to move to that community. Shaping a community to a specific industry is less influential than approaching what skills are already within the community, and how those skills can be translated to a specific up-

and-coming industry. Each community is different. A solution that works for one county cannot just be copied and pasted into another county and expected to work exactly the same. However, while solutions cannot be repeated, approaches and strategies can. Approaching each community has its own individual ecosystem, and then addressing their needs and skill level proportionately is a strategy that is both simultaneously individual and universal and will lead to the greatest success for this region's transition into a more modern, stable, and lasting economic future.

### **Vulnerabilities and Eliminating Barriers to Transition**

Communities that have historically depended on coal and other extractive industries often suffer when said industrial activities decline. Industrial communities tend to be relatively isolated with minimal infrastructure and institutional and leadership capacities. This leads to transition challenges because of smaller social and political networks. Fiscally, it is important to recognize how communities have reinvested resources over the duration of the coal economies. This ensures that the duration of coal activity and transition in assets continues to generate wealth after the coal revenue declines. The stabilization of coal revenues ensures that revenue is accessible to reinvest in the community long after the coal economy subsides. Communities need to assess their dependency on extraction industries whereas the resource nears depletion and the revenue declines. When a community sustains an assessment and planning solutions, there is a better understanding of fiscal policy tools and barriers.

### **Regional Empowerment**

Regionally, the area thrives on the empowerment of local communities. There are many strengths locally to create resilience through having industry diversity (OSCO Foundry, Timber



Industry), education systems, a robust workforce, a heavily industrial corridor, and strong logistics. The area has demonstrated success through thinking regionally and utilizing institutions as resources. The career/educational resources have provided abundant opportunities for the workforce and resiliency for community members. The strong regional thinking has diversified industries to attract industries including plastics, petrochemical, timber, medical and advanced manufacturing.

### **Opportunity Zones**

The identified opportunity zones in the Ohio Valley region provide many available and investible resources to encourage the future development of the region. In correlation with the abundant natural resources, infrastructure and education, the area also attracts employees and business owners to enjoy the natural beauty of the Appalachian foothills. The region is vibrant with sporting events, musical events, plays and other various festivals to highlight the culture.

Adams County recently purchased and is renovating at 15,100 square foot building in West Union which will serve as a training center for numerical controlling, welding, nursing and nursing assistance. There are many local partnerships available to meet the needs of the businesses and work force in the area.

Adams County demonstrated proven success with General Electric and Columbus Industries. The taxes serve as a large attraction for developers as Adams County has the lowest average gross tax rate in the state within public utility, commercial, industrial, and mineral class of real property. The county also upholds the lowest average tangible personal property tax (including public utility personal property) according to the Ohio Department of Taxation.

**What does success look like?**

Coal may be Adams County's past, but it should not be its future. Rebranding the communities' attitudes can counteract negative perceptions. Instead of continuously trying to revitalize a depleting industry, the focus needs to be shifted to preserving future generations and economies. Adams County must develop a vision that is open to change while embracing new ideas with pathways to succeed. With the closing of the coal fired power plant, the transition needs to be understood and accepted with respect to a realistic plan. The community must understand the social impacts of the closure while developing strategies to adapt to the former lifestyle of coal economies. The needs of Adams County, as well as all communities within the OVRDC region should be self-assessed through place-based and people-based strategies to create opportunities and choices for the community members. As previously stated, economic ruptures can shock a community quickly while diversifying an economy takes time. Diversity can apply to differentiation of industries and income sources- wage labor, self-employment, investments, and government involvement.

**References:**

Building a Resilient Twenty-First-Century for Rural America

APA 7th Edition (American Psychological Assoc.)

Don E. Albrecht. (2020). Building a Resilient Twenty-First-Century Economy for Rural America. Utah State University Press.

[https://headwaterseconomics.org/wp-content/uploads/HE\\_Coal\\_Transition\\_Solutions\\_2019.pdf](https://headwaterseconomics.org/wp-content/uploads/HE_Coal_Transition_Solutions_2019.pdf)

## Report Development, Website Creation, and Dissemination Summary

In addition, the preparing the provided reports in this document, the Voinovich School has been sharing the findings on a dedicated website: <http://economicdevelopment.ohio.edu>. Individual pieces of this report, community engagement materials, and a recording of a webinar can be found on this website. In particular, the webinar on this site was held on January 21st, 2022. An overview of the project, key findings from the report, and the impact on the region were discussed by panelists from the Voinovich School, the OVRDC, OhioSE, the project's two Recovery Coordinators and local economic developers with whom we worked closely during this project. Furthermore, an additional webinar can be found at <https://midwesterngovernors.org/Power-Plant-Closures/>. Once on the website, the webinar can be accessed from the Midwestern Governors Association under the "Workforce & Education" tab in the "Resources for Subgroups" section. The webinar was titled *Understanding the Skill Gap and Employment Needs of Displaced Coal Fired Power Plant Workers from Voinovich School of Leadership and Public Affairs at Ohio University* and was held on March 17th, 2021.

OHIO RIVER VALLEY DEVELOPMENT COMMISSION (OVRDC)

## **OVRDC Scope of Work for Project BOBCAT**

### **A. Industrial Park Feasibility Study for Adams County (COMPLETED)**

Adams County's location along the Ohio River provides a potential opportunity for a river-oriented industrial park. The Stewart Station port in Adams County is the first intermodal port east of Cincinnati, with access to U.S. Route 52 and rail. Adams County is located within the Port of Cincinnati. Highway 32 crosses the northern portion of Adams County and provides access to the Cincinnati metro region to the west and Piketon and Jackson to the east. The county Community Improvement Corporation purchased 36 acres on SR 32. Both the Ohio River site and the U.S. 32 site represent potential locations for an industrial park. A feasibility study, in conjunction with findings from the Economic Development Strategic Plan, will assist Adams County in determining the best location for industrial development in Adams County.

#### **Tasks to be Completed:**

1. Conduct a land capabilities analysis county-wide to determine the best possible location for industrial site/park development using OVRDC GIS.
2. Identify at a minimum, two potential industrial sites/parks in Adams County to target for future infrastructure improvement, development, and marketing.

#### **Summary of Scope of Work Activities:**

This scope of work item was a detailed analysis of the capabilities of Adams County to support industrial structures based on aspects such as soil, slope, and infrastructure support. This analysis was detailed eliminating and classifying the whole county based on the best type of development for all lands and was reviewed by a committee of local experts. OVRDC utilized our GIS capabilities to process data from authoritative sources and create a countywide map of land use potential across Adams County. In addition to the County map, OVRDC selected nine high potential locations to highlight. These and the report were submitted to Adams County for their use. The report was completed in February 2021 and sent to review by the local committee that aided in the completion of the document. Adams County has responded positively regarding the analysis and the report. No other comments were received. **See the attached Adams County Industrial Park Feasibility Analysis.**

### **B. Development Analysis for OVRDC Region Opportunity Zones (COMPLETED)**

Opportunity Zones have been formally designated across the nation and at least one has been designated in each of the 12 OVRDC member counties. An analysis of the best locations in these Opportunity Zones for developing land for industry will be conducted. This work would be similar to the work completed for the Adams County Industrial Park Feasibility Study but not as detailed in analysis.

#### **Tasks to be Completed:**

1. Conduct analysis to determine the best possible location for industrial site/park development using OVRDC GIS.
2. Identify one potential industrial sites/parks in each Opportunity Zone to target for future infrastructure improvement, development, and marketing.

**Summary of Scope of Work Activities:**

The OVRDC Opportunity Zone Analysis covered all twelve counties in the Southern Ohio region designated to OVRDC. The analysis was for the Opportunity Zones was based on the Adams County work but did not exhaustively classify the land as done previously. The work was done on a county scale since data was more easily available at that scale instead of within the Opportunity Zones alone. The Opportunity Zones for each county were marked prominently to highlight their importance. The work on the Opportunity Zone Analysis was completed in a form of 12 county maps and zoomed in maps for each Opportunity Zone within each of the 12 OVRDC counties. **See the attached Development Analysis for OVRDC Region Opportunity Zones map.**

**C. Economic Recovery Coordinators for Adams/Lawrence/Scioto Counties (COMPLETED)**

Two Economic Recovery Coordinators will be contracted to assist with redevelopment efforts in Adams, Lawrence and Scioto Counties. The closure of two Dayton Power & Light (DP&L) facilities in Adams County is a key driver of this proposal. The closures represent the loss of 370 direct jobs at the facilities and 1,131 total lost jobs in Adams and surrounding counties. Lawrence and Scioto Counties, two counties to the east of Adams County along the Ohio River, have also experienced impacts of the coal economy's decline. The proximity of these counties to Kentucky and West Virginia represents a shared labor shed with two states also impacted by coal-related decline, especially for companies using the port to ship coal or coal economy related items on the Ohio River. An Economic Recovery Coordinator will be contracted to assist with the development of a Strategic Action Plan for Adams County and to begin implementing the recommendations from such study. A separate Economic Recovery Coordinator will be contracted to assist Lawrence and Scioto County with the redevelopment of two brownfield properties in each county.

**Tasks to be Completed:**

1. Solicit interested parties through a RFP process and select final candidates.
2. Assist with development of Adams County Strategic Plan
3. Begin implementation of components of Adams County Strategic Plan
4. Develop Strategic Action Plan for the two brownfield properties
5. Begin implementation of components of Strategic Action Plan

**Summary of Scope of Work Activities:**

**Adams County Economic Recovery Coordinator**

On November 13, 2019, after a delay due to extenuating circumstances, interviews were held by the Selection Committee (OVRDC, Ohio University Voinovich School, and the local Adams County officials) with the two finalists for the Adams County Economic Recovery Coordinator. The Selection Committee made the recommendation to contract with Scurti Consulting LLC and the recommendation was taken to the OVRDC Executive Committee on November 21, 2019 and approved. A contract with Scurti Consulting LLC was executed on January 10, 2020 and Mr. Evan Scurti has been working since as the Adams County Economic Recovery Coordinator. Scurti Consulting provided technical assistance on several development

initiatives in Adams County including the Winchester Industrial Park, the Adams County Workforce Training Center, the gas line extension to the Winchester Industrial Park, and a few other development and marketing efforts for the county. The most noteworthy accomplishment from efforts of the Recovery Coordinator was that Adams County was able to secure \$4.2 million from JobsOhio for on-site infrastructure at the Winchester Industrial Park. The Recovery Coordinator assisted the county economic development department with submitting the necessary materials to JobsOhio to secure the funding. The Adams County Economic Recovery Coordinator's contract ended on December 31, 2021. **See attached the Final Report of Progress from Scurti Consulting along with various attachments.**

### Lawrence County and Scioto Brownfield Recovery Coordinator

COVID-19 slowed OVRDC down on getting the RFP released in early 2020 for the Brownfield Recovery Coordinator, however despite this setback, the RFP for a Lawrence/Scioto County Brownfield Recovery Coordinator was released on April 16, 2020. We were able to meet in July to select finalist for interviews. The committee selected three finalists and the OVRDC Executive Committee approved the recommendation of the selection committee to enter into contract with Hamman Consulting Group (HCG) for up to a 24-month contract but only if EDA granted an extension on the BOBCAT grant for 24 months. EDA only awarded a 15-month extension and OVRDC spoke with Hamman Consulting Group and they were still interested in the contract opportunity. Hamman Consulting Group (HCG) has been on contract since October 1, 2020 for 15 months. Hamman Consulting Group provided technical assistance on several development initiatives in Scioto and Lawrence Counties including project management and grant writing for the New Boston Brownfield site, consultation with the City of Portsmouth on its new water treatment plant, and GIS, labor market, and targeted industry analysis for Lawrence County. The most noteworthy accomplishment of the Brownfield Recovery Coordinator was moving forward the Environmental Site Assessment for the New Boston Brownfield site and development and submission of a grant application for \$12 million in assistance with the cleanup of the property. As of the end of the performance period for the BOBCAT project (December 31, 2021) no word on the success of the grant application has been received. EDA will be notified by Ohio University/OVRDC if and when the grant is awarded to Scioto County for cleanup of the brownfield property. The Scioto/Lawrence County Brownfield Recovery Coordinator's contract ended on December 31, 2021. **See attached the Final Report of Progress from Hamman Consulting Group.**



A. INDUSTRIAL PARK FEASIBILITY STUDY FOR ADAMS COUNTY

# Adams County Industrial Park Feasibility Analysis

Prepared by Ohio Valley Regional Development Commission

January 2021

Jacob Taylor

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## Introduction

This industrial park feasibility analysis project for Adams County was undertaken by Ohio Valley Regional Development Commission (OVRDC) thanks to the efforts of community members in Adams County and a need for an in-depth look at land resources throughout the county. Those efforts resulted in a partnership between OVRDC and Ohio University's George Voinovich School (GVS). The project became the Building Opportunities Beyond Coal Accelerating Transition Network or BOBCAT Network (hereafter referred to as BOBCAT). BOBCAT's goal was to assist communities in the OVRDC region that have been impacted by the decline of the coal industry. Adams County was a central part of this proposal as the shutdown of two Dayton Power & Light facilities will have a significant detrimental impact on the county. Ohio University's study found the closures would cause the loss of 370 direct jobs at the facilities and 1,131 total lost jobs in Adams and surrounding counties. Additionally, as noted in the same study, the Adams County auditor estimated that Adams County and local governments/schools within the county will lose \$8.5 million in tax revenue as a result of these closures. The goal of BOBCAT is to aid in mitigating these impacts and to do so, an industrial site analysis to aid the county in its decision where to direct investment was deemed to be useful and appropriate.

The document here forward is an explanation of the method used to compile the industrial site analysis maps and an analysis of the meaning of the maps. Further, the potential industrial sites on the map have been numbered. These numbers are used in the document as a reference for each site when looking at their suitability. All numbered locations meet the minimum site selection criteria. If there are any further questions or needs, please contact:

**Ohio Valley Regional Development Commission**

**73 Progress Dr, Waverly, OH 45690**

**(740) 947-2853**

**Jacob Taylor**

## Overview of Industrial Park Feasibility Analysis

An industrial park feasibility analysis uses the physical land characteristics such as soil type, geology, and slope in combination with natural hazards such as flood zones as well as man-made features and areas such as roads and communities to determine suitability of locations for potential industrial park placement. In creating an industrial feasibility analysis, we have also taken on most of the responsibilities of a land use analysis. This action was necessary as a first step since this document's goal is to look at the suitability of the entire county for industrial park placement though it restricts itself to only a few recommended locations. Since industrial parks could be established in locations outside of the ones recommended, we have classified all lands in the county for their most appropriate use. After classifying for their most appropriate use, we then focused on specific criteria to narrow down specific industrial park locations. This process allowed for a narrowly defined and reasonable amount of land suitable for industrial park use while at the same time demonstrating the potential for other types of land to specific levels of development. The recommendations display where development would be most efficient though development can occur in other locations, those locations are expected to be more expensive or burdensome.

The recommendations in this document are not regulatory by themselves and are in no way binding. Recommendations are for the purpose of helping government officials, landowners, and developers make knowledgeable and informed land use decisions; decisions that maximize land resources while minimizing social and economic costs. Economics and social costs resulting from inappropriate land use can lead to public health issues from waste water flowing into vital water supplies, the destruction of economically vital and community cherished green spaces, or the destructions of homes and businesses from flood waters; all costs that can be significantly diminished by informed development if not eliminated altogether. It is important to note that since this is simply a recommendation based on landforms and features, it is not mapped to existing parcel structures which would be a necessity for future land development.

## Potential Land Use Classes and Their Meanings

OVRDC staff cooperated with a committee of local community members to discuss, plan, and develop the industrial capabilities analysis. This group came up with the following classes of land use and class requirements. Below, the classes will each be listed with a few short explanatory sentences, along with the class' suitability for industrial development. Then they will be further defined by a criteria list stating each different qualification.

- Industrial
  - This land classification is suitable for the heaviest development. Relatively flat and near to major roads. This class is deemed most suitable for industrial parks and a majority of all recommended locations fall in this class.
  - Criteria:
    - Slope <15°
    - Not within a Flood Zone
    - Not on Public or Protected Land (ODNR, Nature Preserves)
    - Soil Types defined according to USDA classifications
    - 3/4 of a mile proximity to a major road
    - Not within Restricted Class areas (cultural or environmental resources)
    - Size large enough to support industrial park (Approximately 2,500,000 sq. ft.)
- Commercial or Residential/Light Industrial
  - Land classified for this use is suitable for many uses though not as well suited for heavy development. It is capable of supporting heavier development, including industrial parks, with sufficient investment and may even be a superior location depending on other factors unrelated to the characteristics of the land.
  - Criteria:
    - Slope <15°
    - Soils suitable for on-site wastewater disposal systems
    - Not deemed suitable for industrial use
    - Not within Restricted Class areas (Cultural or environmental resources)

- Low-Density Residential or Agricultural/Recreational
  - Land classified for this use is suitable for very low-density development. It typically is steep or rugged along with other traits that would make dense development for commercial or industrial purposes a significant challenge.
  - Criteria:
    - Slope > 15°
    - Soil Limitations for on-site septic systems
    - Not within Restricted Class areas (Cultural or environmental resources)
- Agricultural/Recreational
  - Typically in flood plains, they pose significant hazards to human development or are examples of prime farmland on land unsuitable for heavy development. These lands are not recommended for industrial development barring extraordinary circumstances.
  - Criteria:
    - Land slippage, sinks, or other hazard areas based on geology and soil types
    - Known closed landfill sites
    - Within the FEMA 100-year flood plain
    - Prime farmland as identified by Natural Resource Conservation Service was shifted into this class from Low-Density Residential Class when it was not suitable for commercial or industrial development
    - Not within Restricted Class areas (Cultural or environmental resources)
- Restricted
  - Restricted areas are buffered based on community involvement and decisions to protect valuable natural and cultural resources. Primarily, these are major historical areas around Serpent Mound or the archaeological site around Indian Springs as well as the important water sources on the Ohio River. These lands are not only not recommended for industrial development, but significant barriers are present to any such development.
  - Criteria:
    - Land unavailable for development or use by counties or individuals
    - Wellhead and surface water protection zones where identified
    - This was defined as National Register Sites (NR), a buffer of ½ mile around NR sites, and areas designated as EPA Drinking Water Protection Areas

## Methodology

To create a plan fitting with the above requirements, OVRDC staff made use of geographic information systems (GIS). GIS technology allows a user to do detailed analysis through the use of data grouped into layers. These layers are pulled from authoritative sources such as Ohio Department of Natural Resources (ODNR), Federal Emergency Management Agency (FEMA), or the United States Department of Agriculture (USDA). Those layers are then modified by the requirements above to create a layer fitting each of the above larger categories such as Agricultural/Recreation Class. Then the final result is displayed in the countywide and site-specific maps listed at the end of this document.

The analysis for the project began by creating an initial Restricted Class layer of the map. The lands classified as restricted would be considered off-limits to development for OVRDC purposes based upon the land's nature as unique or vital natural or cultural resources. These lands would be absolutely unfeasible to consider for an industrial park since they were locations like Serpent Mound or the Environmental Protection Agency (EPA) Drinking Water Protection Areas. After the Restricted Class, the Industrial criteria layer for Adams County was created. First, a Digital Elevation Model (DEM) taken from the Ohio Geographically Referenced Information Program (OGRIP) was used to create slope measurements for Adams County. After removing county lands beyond the 15° maximum, then FEMA's 100-year flood plan data was added to the map. By removing lands in the 100-year flood plain, the extent of potential land was reduced further. The same process of taking new data layers and subtracting their boundaries from the available land in the county was repeated until all the criteria was met leaving only areas suitable for industrial development. The other data sources were USDA soil map, the Ohio History Connection, ODNR lands, National Forests, locally protected lands such as the Edge of Appalachia, and outside of the Restricted Class mentioned earlier. As the last step, the output was cleaned to remove too small blocks of Industrial Class land and pieces of data too distant to major roadways. At this point, the basic aspects of the Industrial Class layer were complete.

While the Industrial Class layer was the first, the other layers were still needed for completion and use for planning for OVRDC's recommendations and future use. The other classifications have an important role in the industrial site analysis by functioning as a ranking for how appropriate industrial site placement would be in any given location. The GIS analysis was completed through the manipulation of data layers for each other classification. The process for the other layers were similar to the Industrial Class layer. Lands were "subtracted" based on criteria, but since each layer was less strict than the one before, it eventually filled the county. In addition to the data sources, each layer took into consideration



more stringent classification types. Therefore, the Commercial classification was completed before the Agricultural/Recreational or Low-Density Residential classification then, contrary to expectations, the Agricultural/Recreational classification was completed next. This change in the expected order was because the Agricultural/Recreational classification was mostly an additive process instead of a subtractive and the final layer was the least strict being Low-Density Residential. The other classifications were defined by their ability to either not be another classification or by their ability to not withstand certain types of development. The Agricultural/Recreation classification was defined by it being certain types of landforms which are not ideal for any other development. These types of land classifications were almost exclusively FEMA 100-year floodplain areas and prime farmland classifications when those prime farmlands did not conflict with commercial or industrial potential uses. The final classification, Low-Density Residential Class is the broadest category. The only true restriction for the classification was that it was not within a Restricted Class designated location.

## How to Use

A series of maps are included in this document. The maps are first a map of Adams County, a map of the historic site locations, a map of the project scaled for all of Adams County, project maps for each of the nine selected industrial locations. The map of Adams County is a standard road and political map for orientation and familiarity with the location. It includes the smallest roads labeled on it whereas the county-wide project map does not for the sake of the project map's readability. The historical location site information is included from the Ohio History Connection Online Mapping System for use in industrial site decisions since there would be potential burdens placed on any projects developed near or on a site with historical properties. The historical site map is approximate and for reference as any project should consult the most up to date and accurate information from the state offices.

The project maps are all presented in the same style with the same types of information. The map presents all county lands fitting the credentials as a series of solid colors. These are yellow for Industrial, orange for Commercial, grey for Low-Density Residential, teal for Agricultural, and purple for Restricted. Restricted Class is somewhat different than the others in that it is represented in the legend with three different types of symbols. These are a purple hatched line symbol, a brighter purple, and a lavender purple. These are for distinguishing the different types of Restricted Class lands. The brighter purple is the National Register lands located at Sandy Springs and Serpent Mound. The hatched lines are the

buffer around them based on community consultation. The lavender is the standard restricted area mostly the EPA Drinking Water Protection Areas. Included on the map are protected natural lands in green from public or private sources, Adams' County Opportunity Zone, and current existent or planned industrial park locations.

The BOBCAT project set out to advise a minimum of two locations for industrial park use. OVRDC has selected more than this to sufficiently spread out the locations across the county. These are marked on the map with a black outline and a number from 1-9. These are numbered working from the south to the north of the map and the numbers are based on their location not on any ranking. There are a cluster of recommended locations grouped in the northwest corner of the county. This is because of the importance of the Opportunity Zone as a potential benefit to businesses. Opportunity Zones were established as a result of the Federal Tax Cut and Jobs Act of 2017. These zones created by the State of Ohio and the U.S. Treasury are located in 320 economically distressed census tracts among 73 Ohio counties. Adams County has one zone located in the northwest of the county.

## Identified Industrial Park Locations

The following are the OVRDC identified potential industrial park as well a short description of the particular selection. These locations are simply potential locations and there are other possible locations that could be identified in addition or instead of the locations mentioned.

1. Located near the Village of Manchester to the west, this site is located along US 52. It was selected from the few suitable locations along the Ohio River. It is near the former J.M. Stuart Power station. Of the two Ohio River sites, this one is the larger site.
2. Located between the Village of Manchester and Rome, this site is located along US 52. It was selected from the view suitable locations along the Ohio River. It is near the former Killen power station. Of the two Ohio River sites, this one is the smaller. Its size may pose issues for substantial development without bringing the Killen Power station land into use.
3. Located between the Village of Bentonville and the Village of West Union, this site is located along SR 41. The location is close to the edge of West Union, the largest population center in the county. However, this site lacks easy access to major roadways which in the county are limited to SR 32 and US 52.

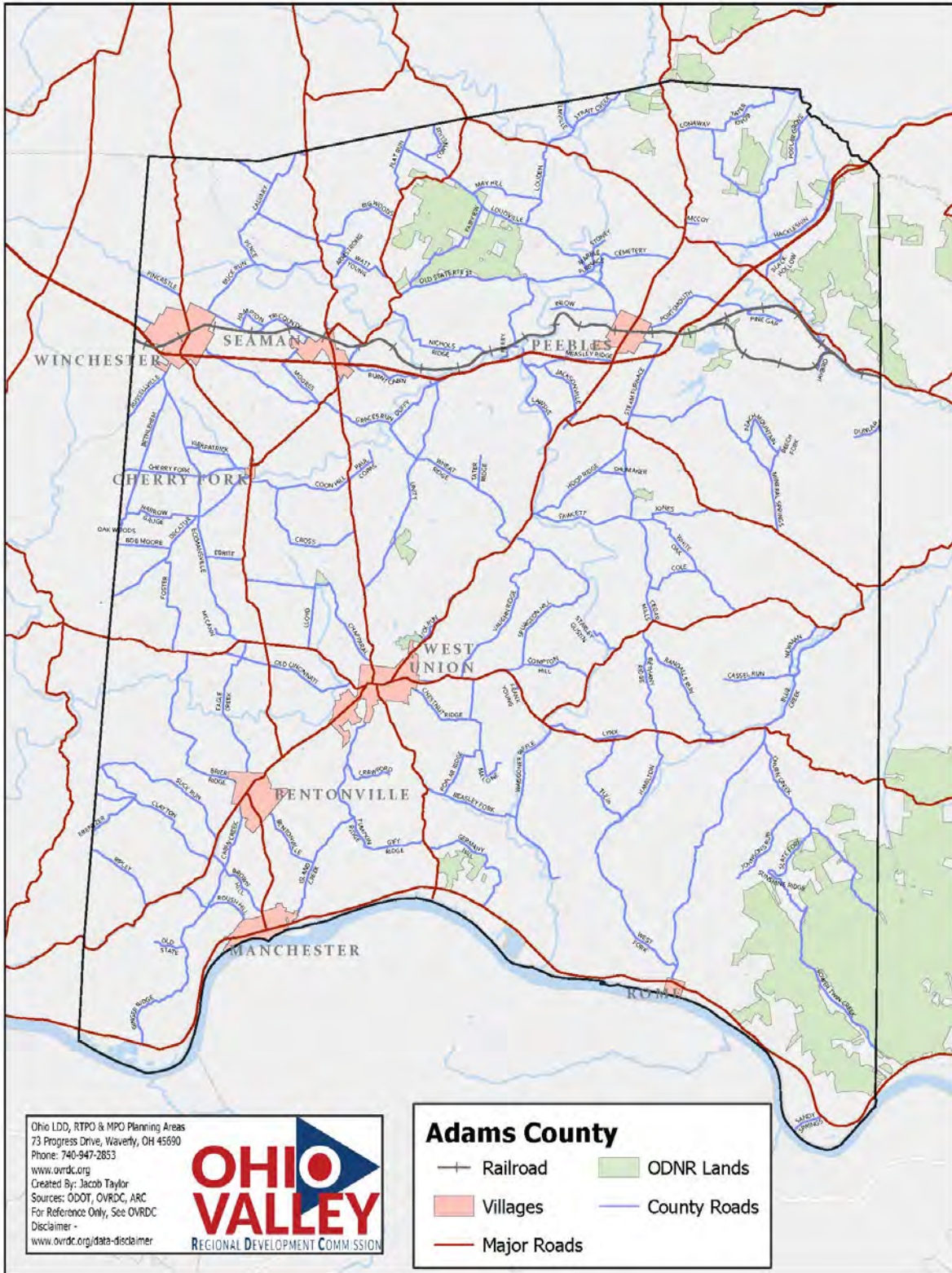
4. Located northwest of the Village of West Union, this site is located along SR 125 and near the junction with SR 136. This site is located in the largest unbroken stretch of land suitable to industrial development in the county. It, like location 3, is also somewhat distant from major roadways.
5. Located near at the edge of the Village of Peebles, this site is located along SR 41 and near the intersection with SR 32. It touches the edge of the village limits and is close to an active rail line. Of the two locations near the Village of Peebles, this is location would be preferred based on committee comments and our criteria.
6. Located near the Village of Peebles, this site is located along both CR 198/Portsmouth Rd. and SR 32. The location is selected from a relatively large area of industrial suitable land that is broken up by rises in elevation or floodplains. This location which also would be located adjacent to the railroad, was selected as the best of the available lands. However, despite its advantages, the site has a few hinderances to development. The location is located on the north side of the road where there is more developable land, but not much road frontage. A road would have to be constructed to make full use of the land. The area is also somewhat hemmed in by the natural features forcing development down a corridor perpendicular to the road instead of along the existing infrastructure. Perhaps the most pressing concern is from comments by the planning committee that expressed concerns over the watershed in the area since it is a valuable resource for both drinking water and ecological purposes.
7. Located near the Village of Seaman, this site is located along Tri-County Rd. and Moore's Rd. It is located within Adams County's Opportunity Zone. The site is located on a smaller section of industrial suitable land at the edge of Seaman, but it is comparable to the larger existent industrial parks. The park here is near the railroad. Of the three industrial site locations near Seaman/Winchester, this is likely the least developable. Despite good land features and transportation access, there is a North Adam High School in the immediate vicinity.
8. Located near the Village of Winchester, this site is located along SR 32 and Graces Run Rd. It is near the rail line that passes through northern Adams County and it also located in the County's Opportunity Zone. Of the three identified industrial sites near Seaman/Winchester, this one would be highly recommended since there are little impediments to development in term of land features or expressed concerns.
9. Located south of, but near to the Village of Winchester, this site is located along SR 136 and a short distance from SR 32. It is just outside of the County's Opportunity Zone which makes it less

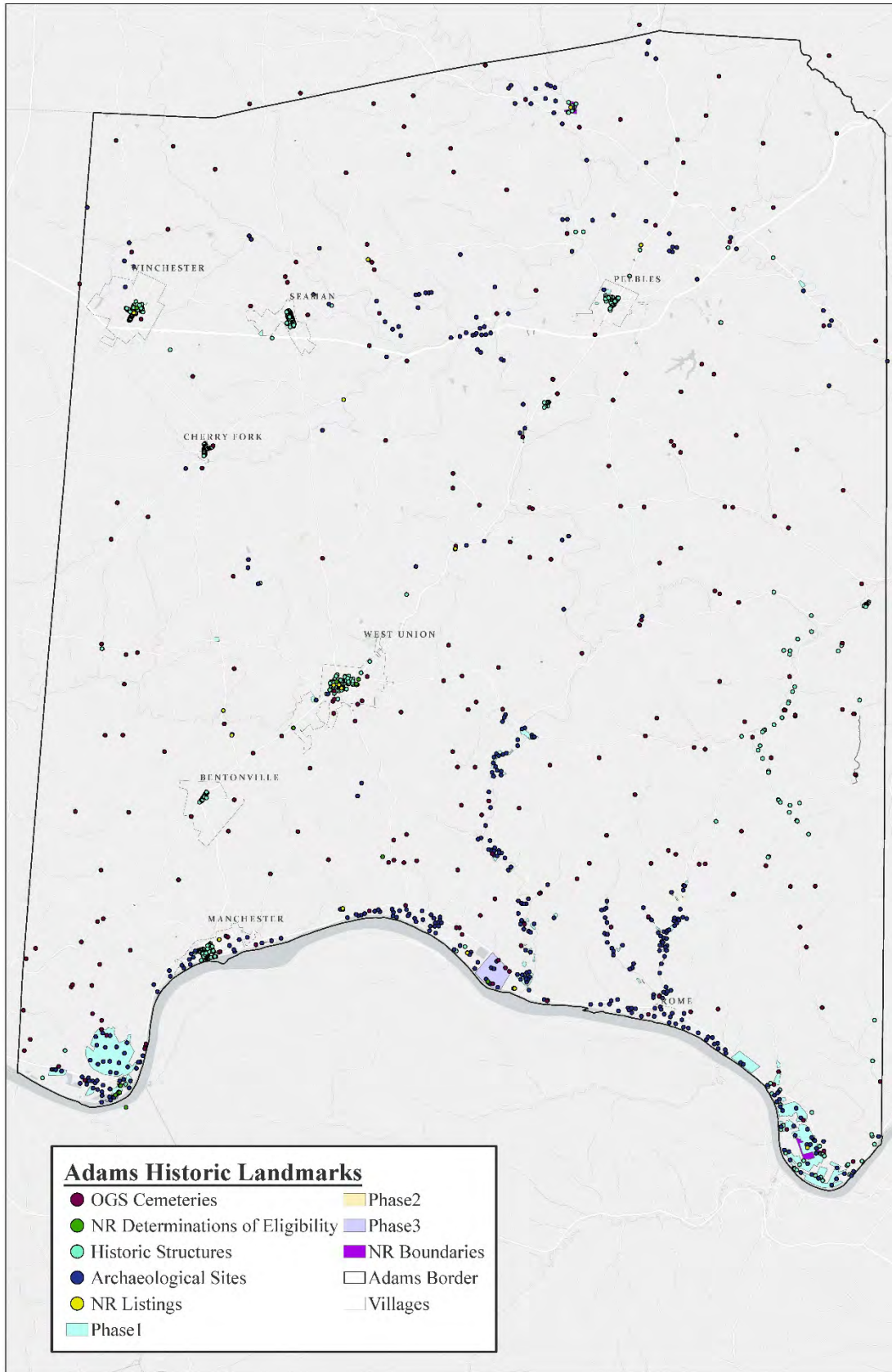
favorable than the other Winchester location. Otherwise, the location has many of the land features sits on land with high development potential.

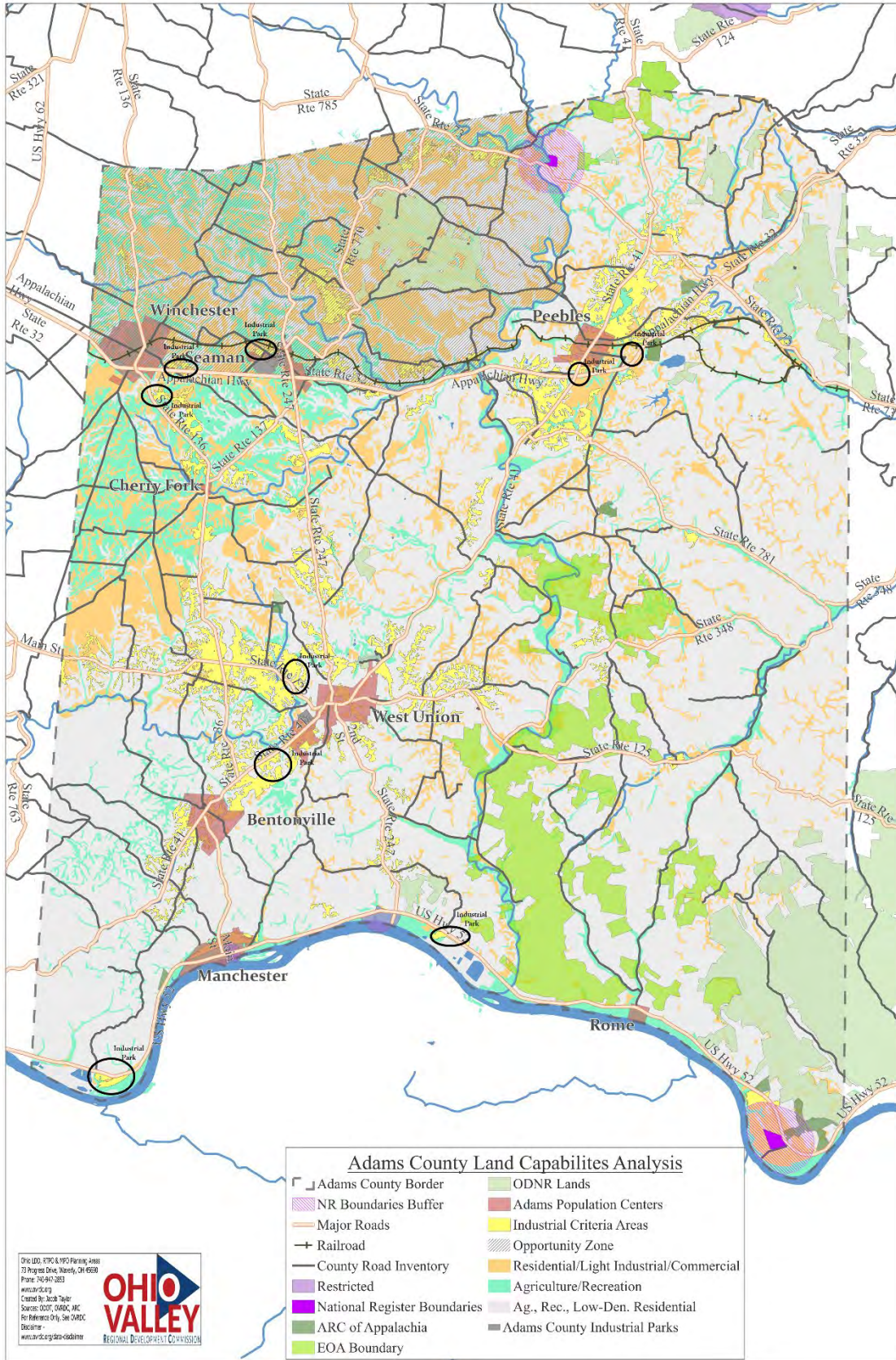
Those locations previously mentioned are all locations that have been identified via the resources available to us for potential industrial site selection. It bares mentioning though that the recently developed Winchester Industrial Park located on SR 32 and directly west of and adjacent to the Village of Winchester would be ranked highly by the established criteria and would likely be one of the best potential locations to develop. Now that the location is already owned and being prepared, the Winchester Industrial Park is in an ideal location situated along the rail line in Adams County and along SR 32.

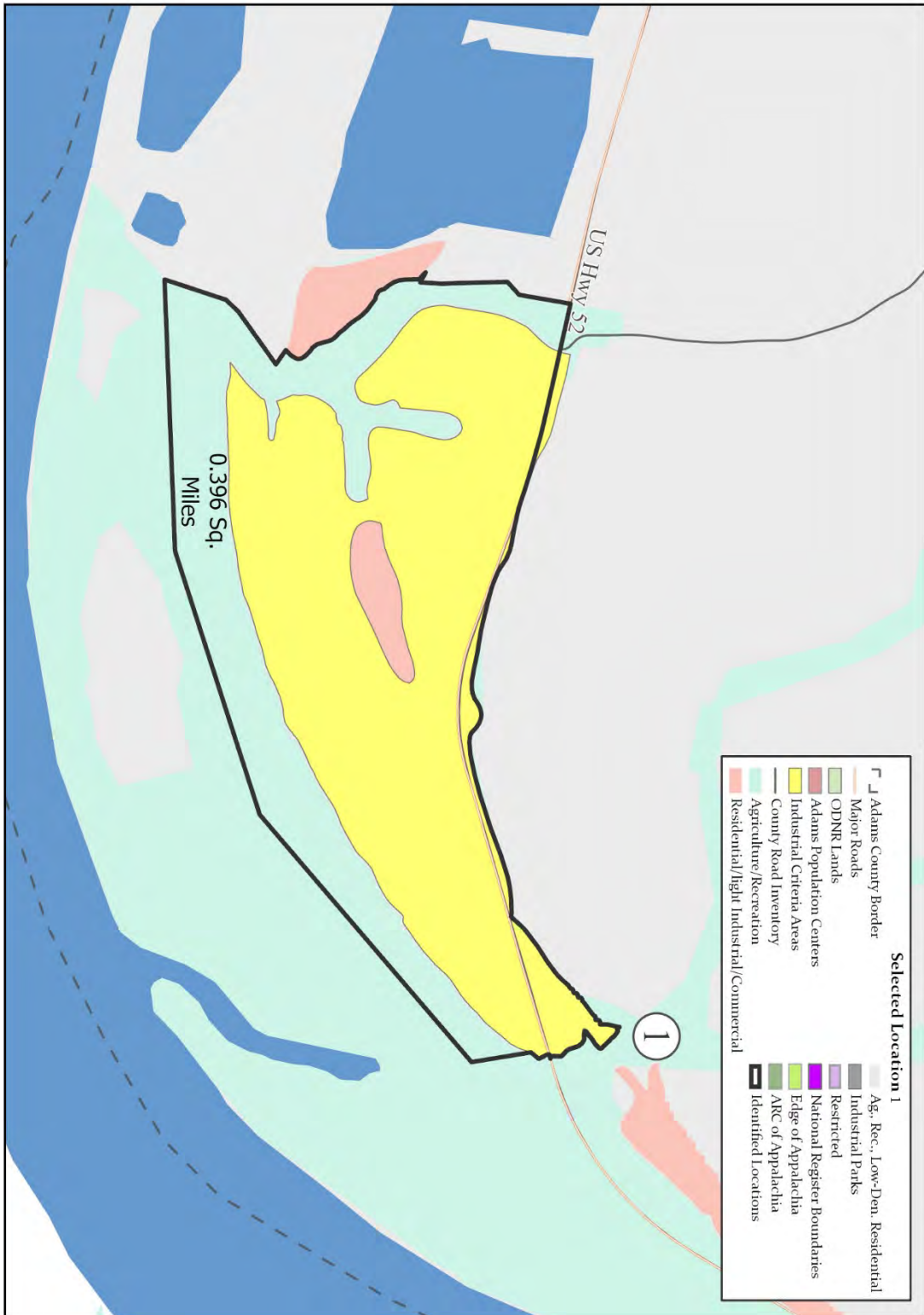
## Maps

Maps begin on the next page and continue to the end of the document.





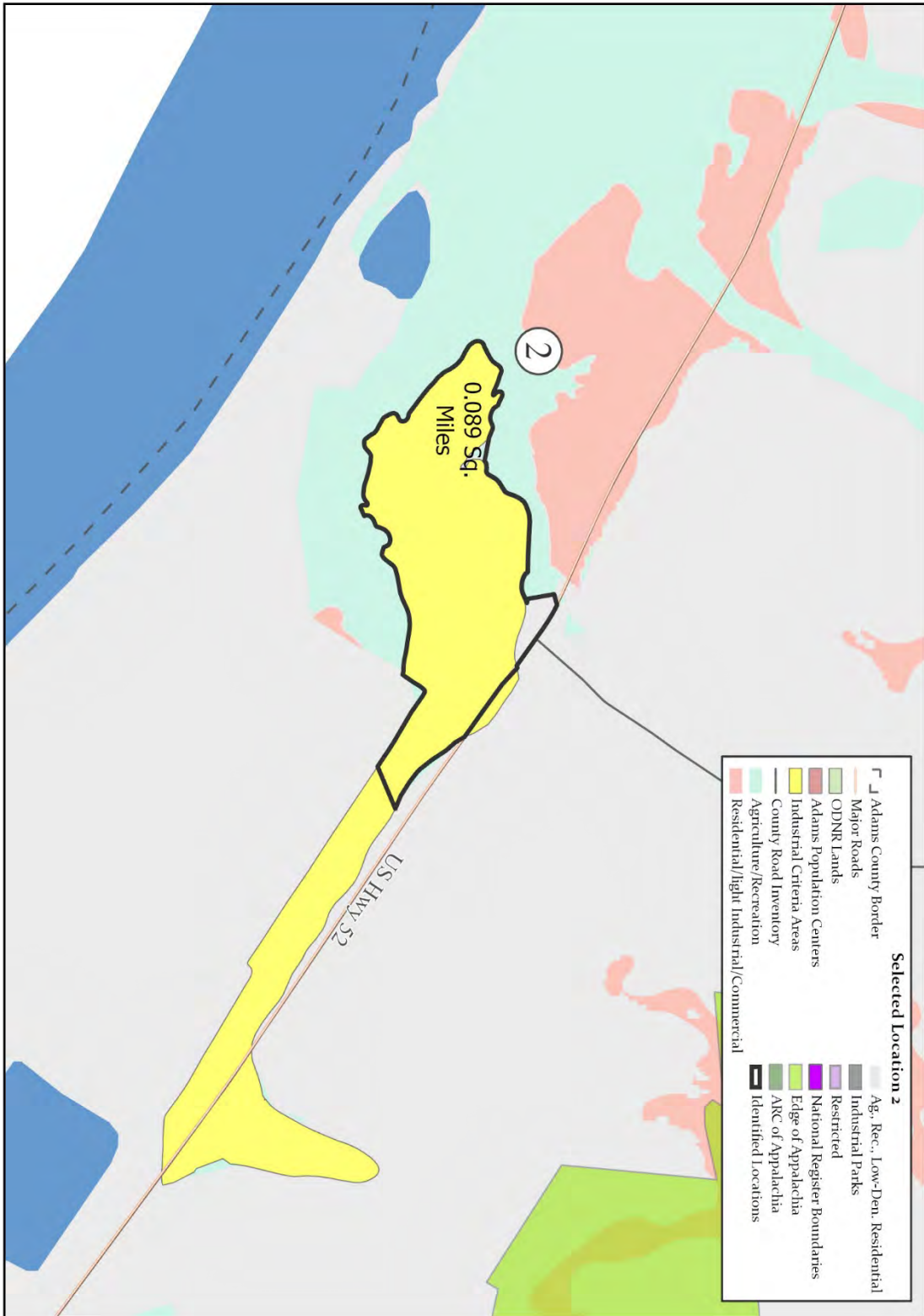


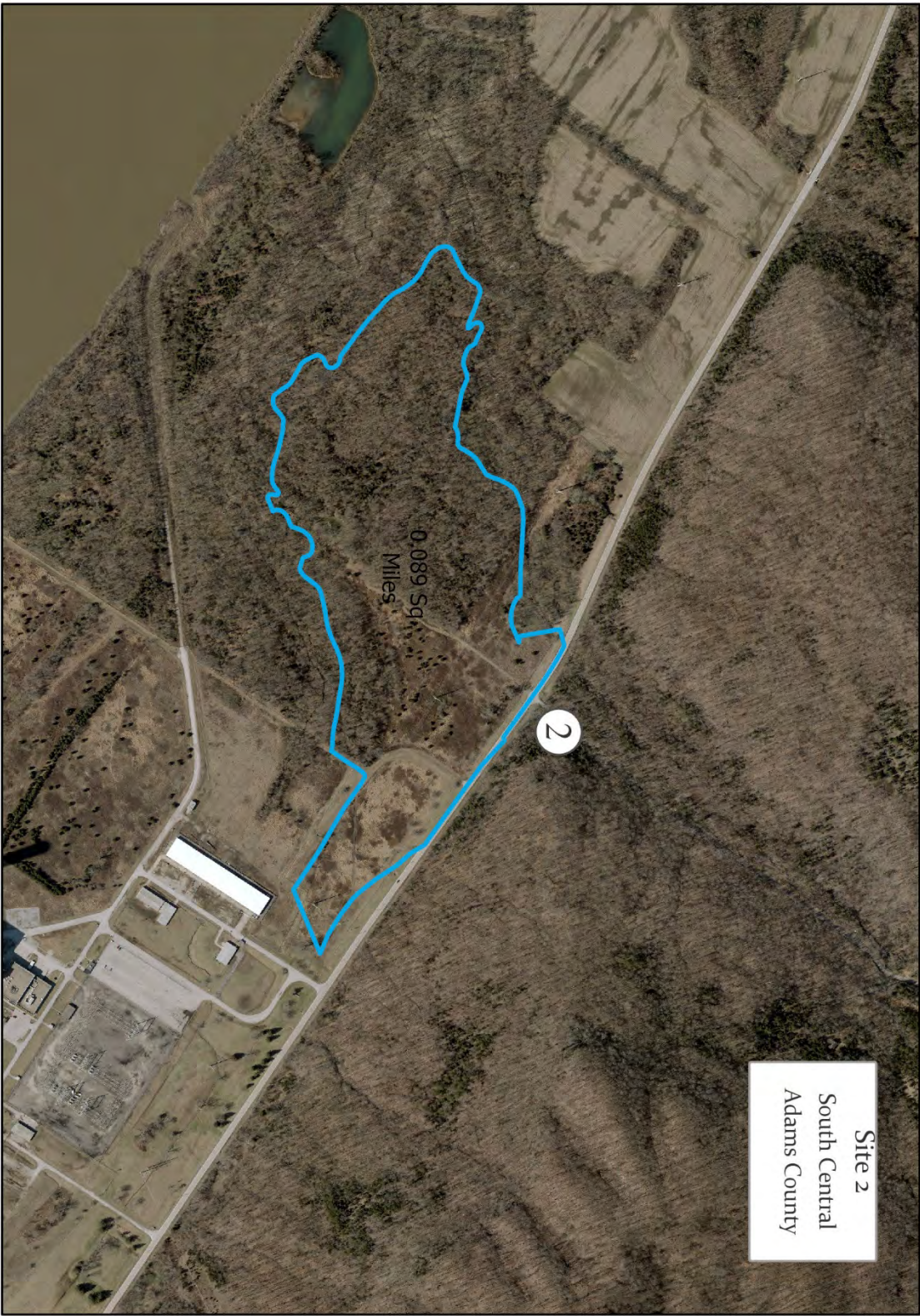


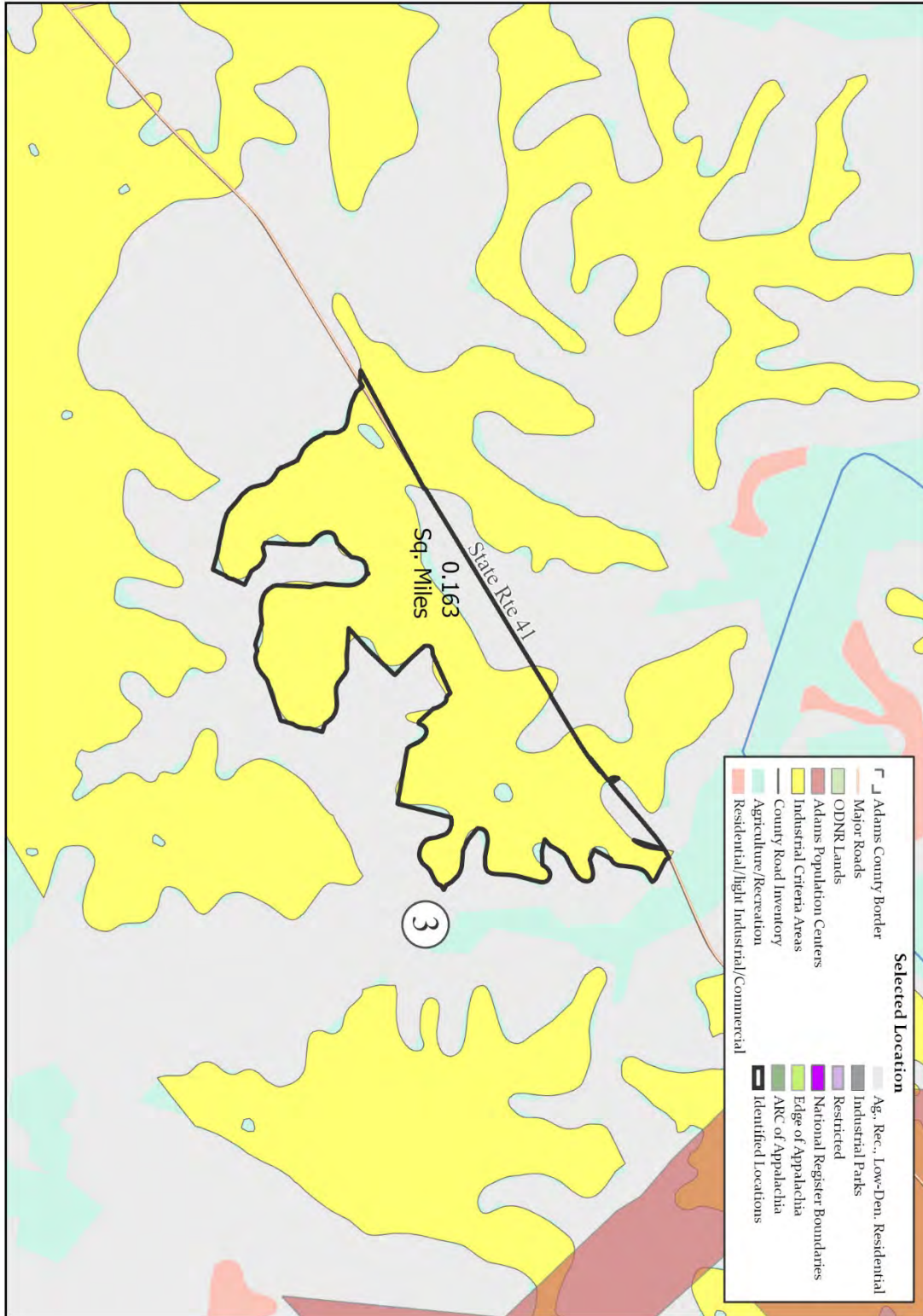




Site 1  
Southwest Adams  
County

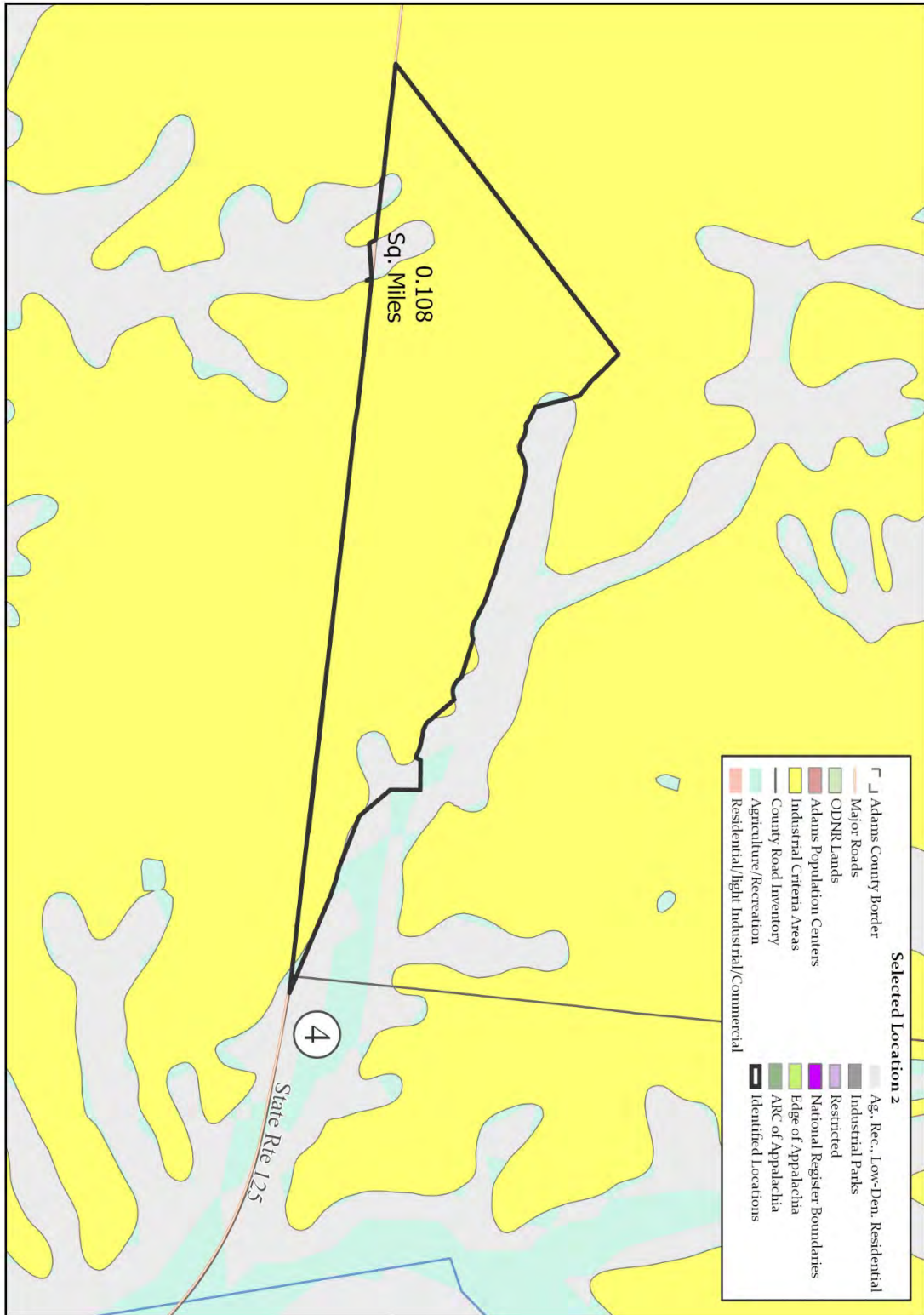






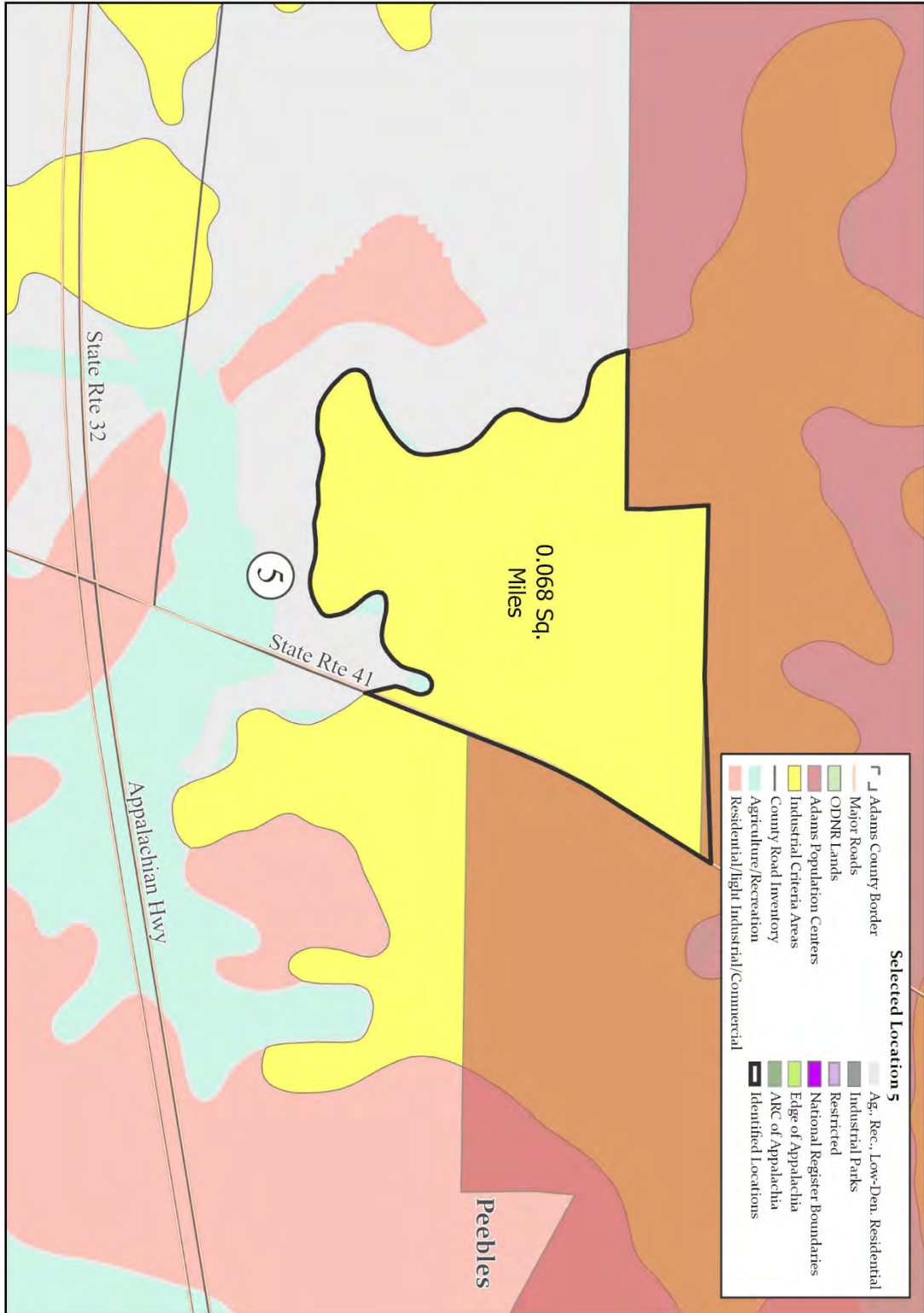
Site 3  
Southwest of West Union  
Adams County







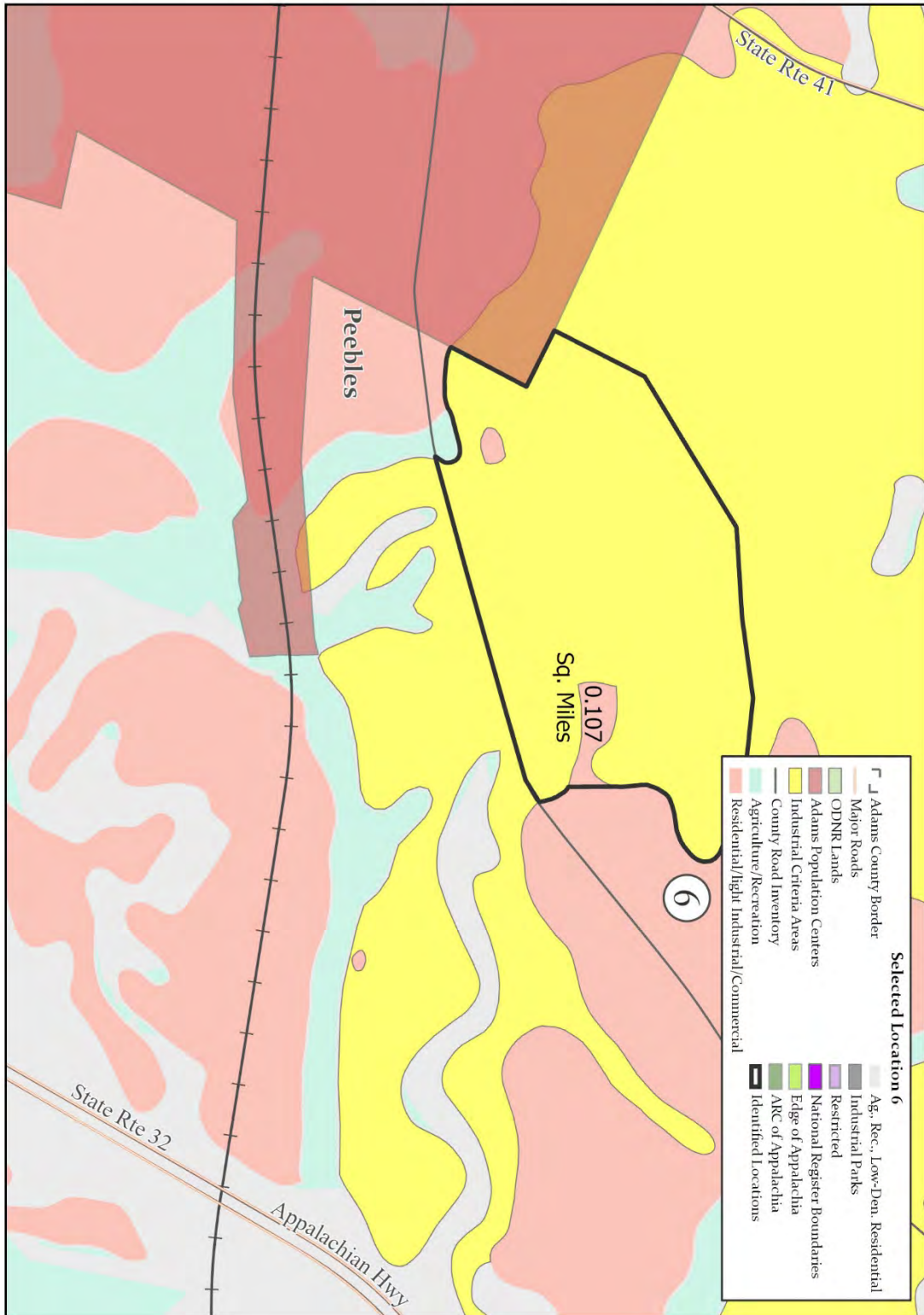
Site 4  
Northwest of West Union  
Adams County



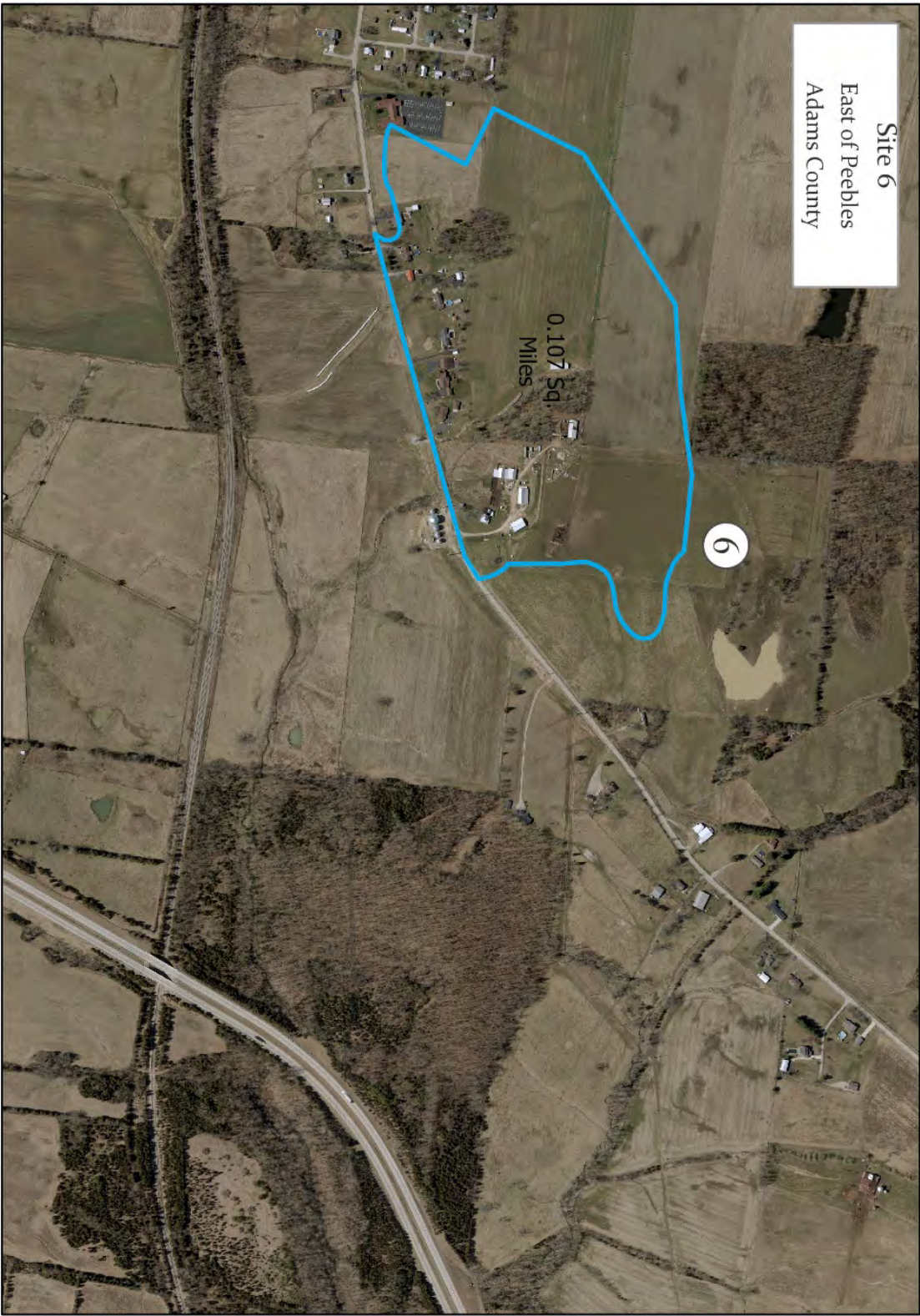


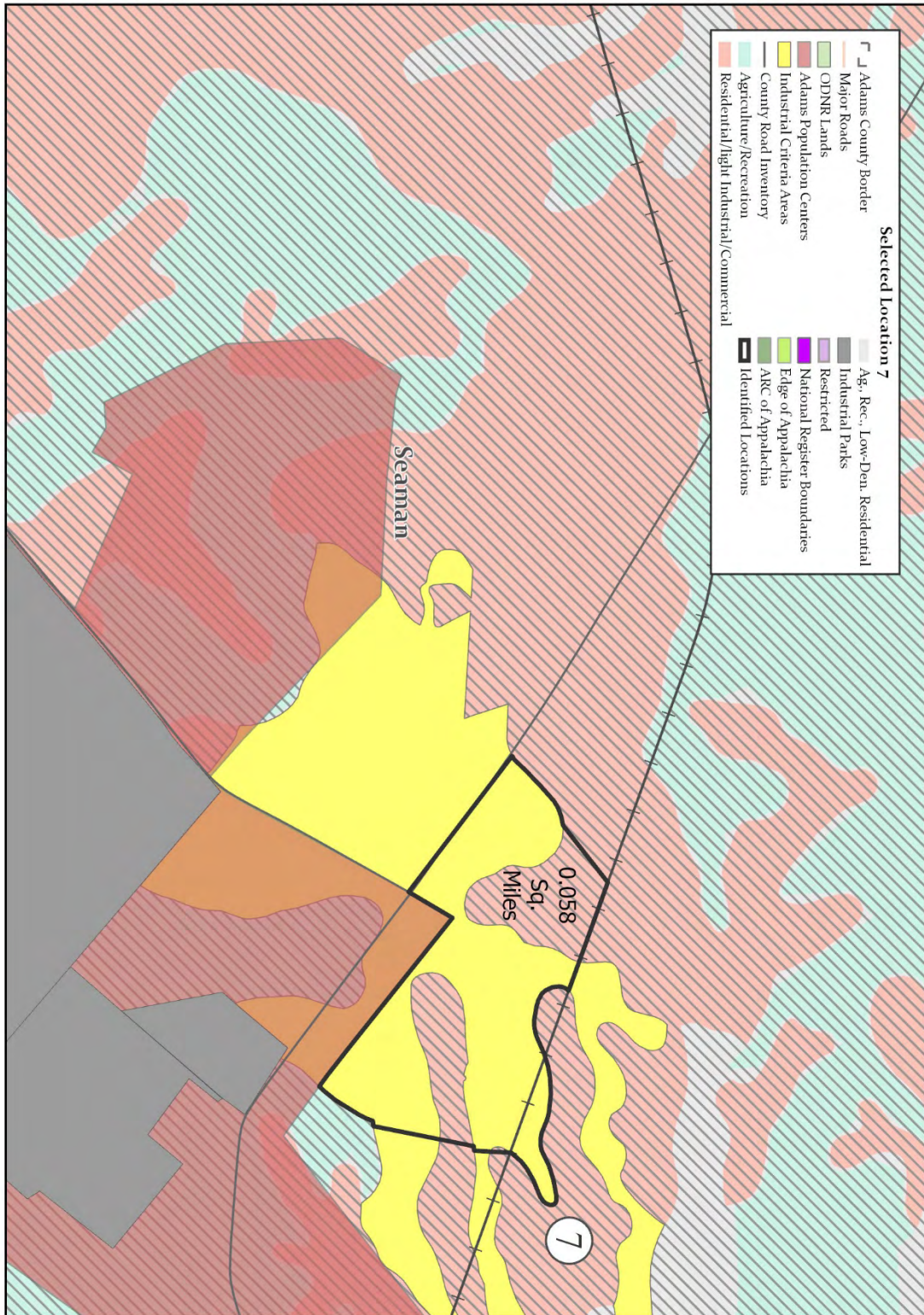
Site 5  
South of Peebles  
Adams County





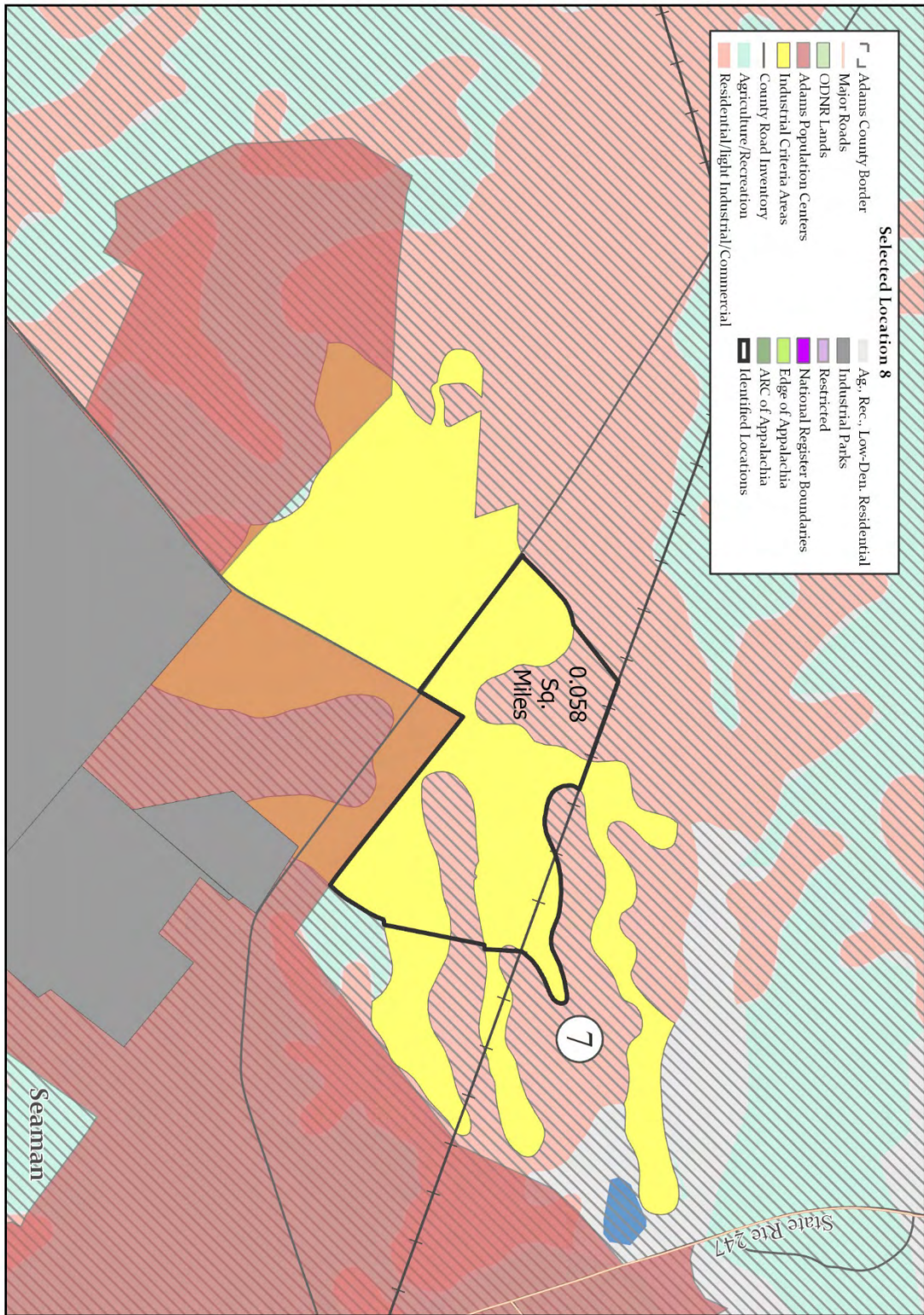
Site 6  
East of Peebles  
Adams County





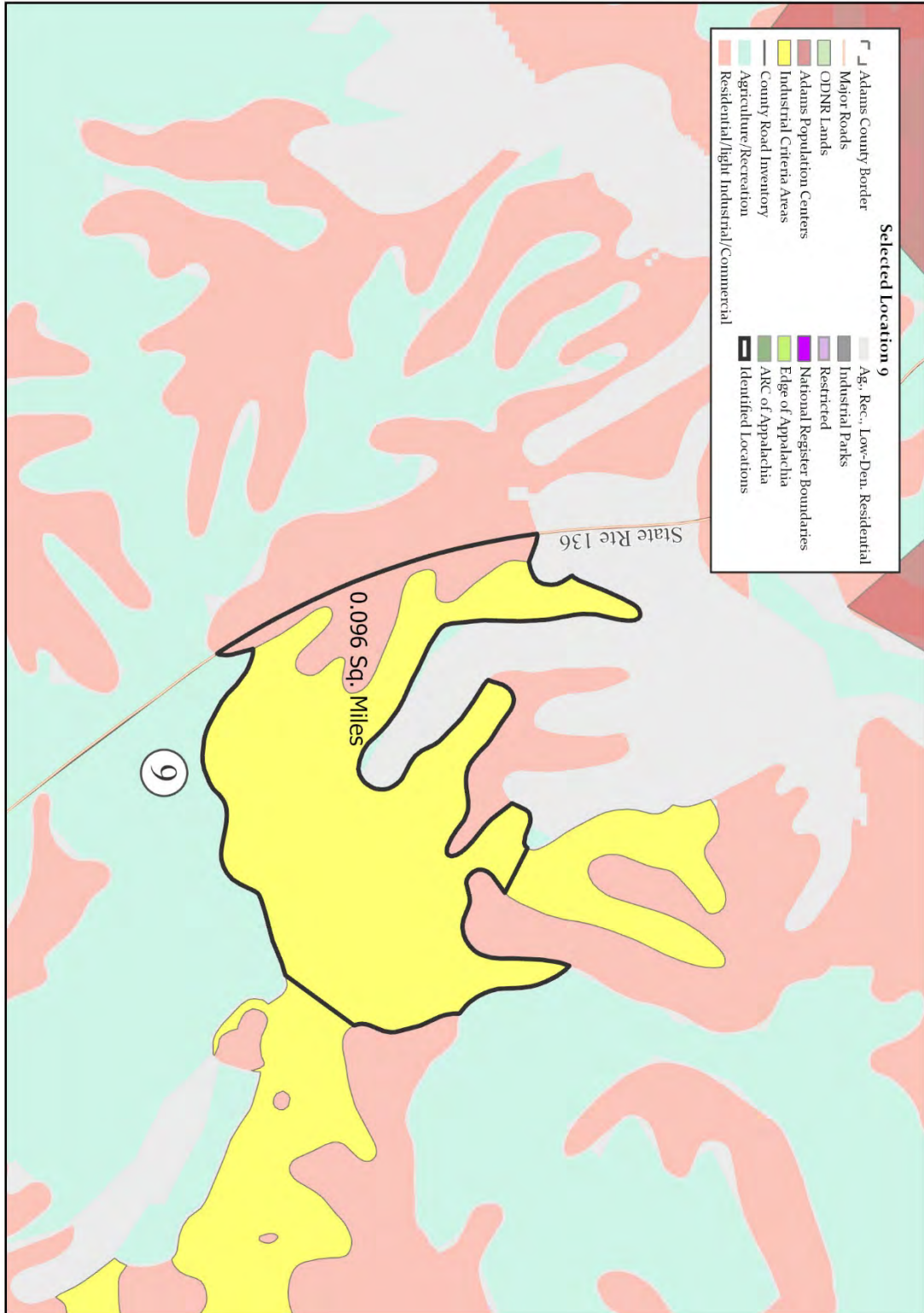
Site 7  
West of Seaman  
Adams County





Site 8  
East of Winchester  
Adams County



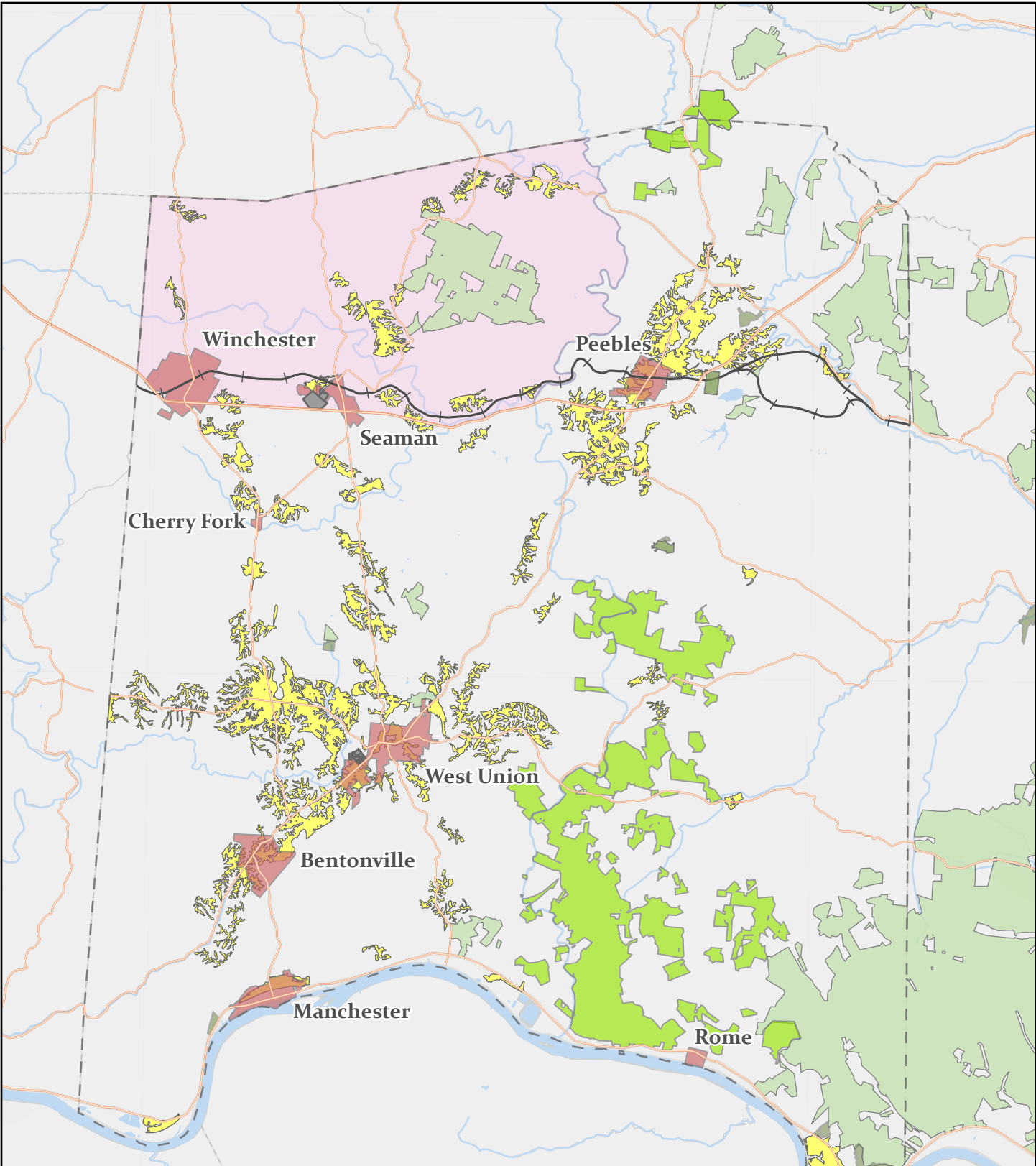




Site 9  
South of Winchester  
Adams County



B. DEVELOPMENT OPPORTUNITY ANALYSIS FOR OVRDC REGION  
OPPORTUNITY ZONES



Ohio LDD, RTPD & MPO Planning Areas  
 73 Progress Drive, Waverly, OH 45690  
 Phone: 740-947-2853  
[www.ovrdc.org](http://www.ovrdc.org)  
 Created By: Jacob Taylor  
 Sources: ODOT, OVRDC, ARC  
 For Reference Only, See OVRDC  
 Disclaimer -  
[www.ovrdc.org/data-disclaimer](http://www.ovrdc.org/data-disclaimer)

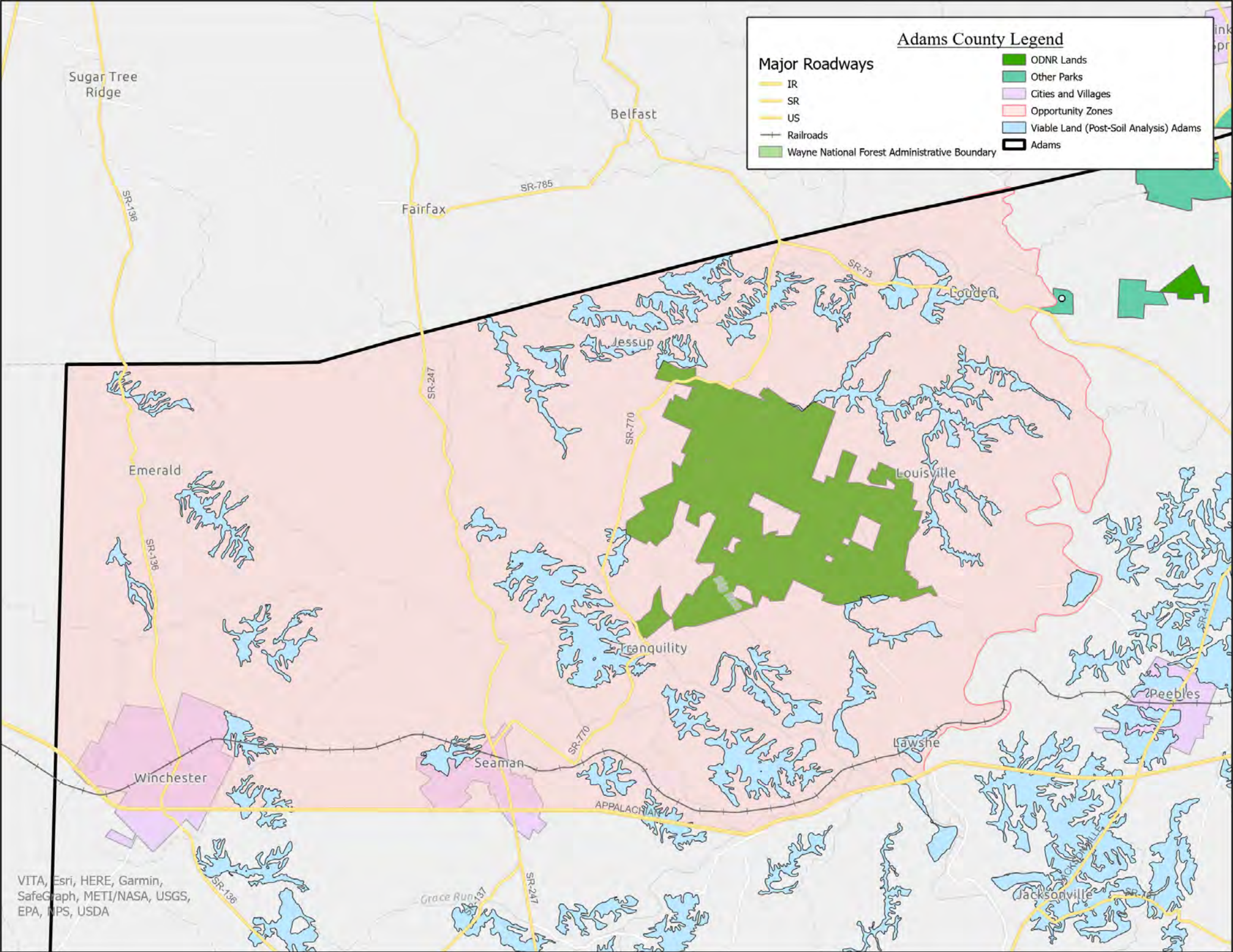


**Map of Adams County of Land Capabilities**

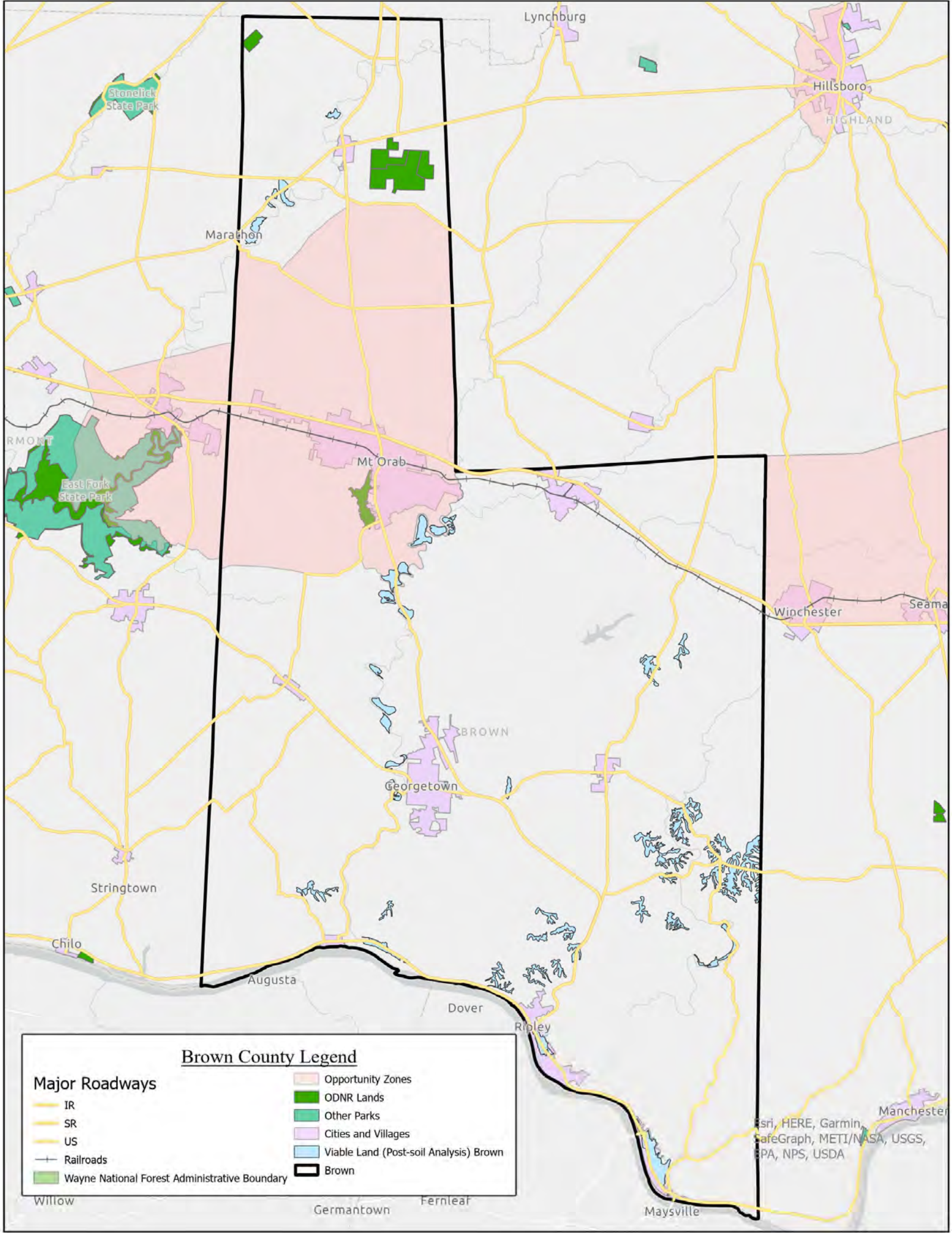
- |                          |                           |
|--------------------------|---------------------------|
| Railroad                 | ODNR Lands                |
| Major Roads              | Adams Population Centers  |
| ARC of Appalachia        | Opportunity Zone          |
| EOA Boundary             | Adams County Border       |
| Current Industrial Parks | Industrial Criteria Areas |

### Adams County Legend

<b>Major Roadways</b>		<span style="color: green;">■</span> ODNR Lands
<span style="color: yellow;">—</span> IR	<span style="color: purple;">■</span> Cities and Villages	<span style="color: green;">■</span> Other Parks
<span style="color: yellow;">—</span> SR	<span style="color: pink;">■</span> Opportunity Zones	<span style="color: lightblue;">■</span> Viable Land (Post-Soil Analysis) Adams
<span style="color: yellow;">—</span> US	<span style="color: black;">—</span> Railroads	<span style="border: 1px solid black;">■</span> Adams
<span style="color: black;">—</span> Railroads	<span style="color: green;">■</span> Wayne National Forest Administrative Boundary	














VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



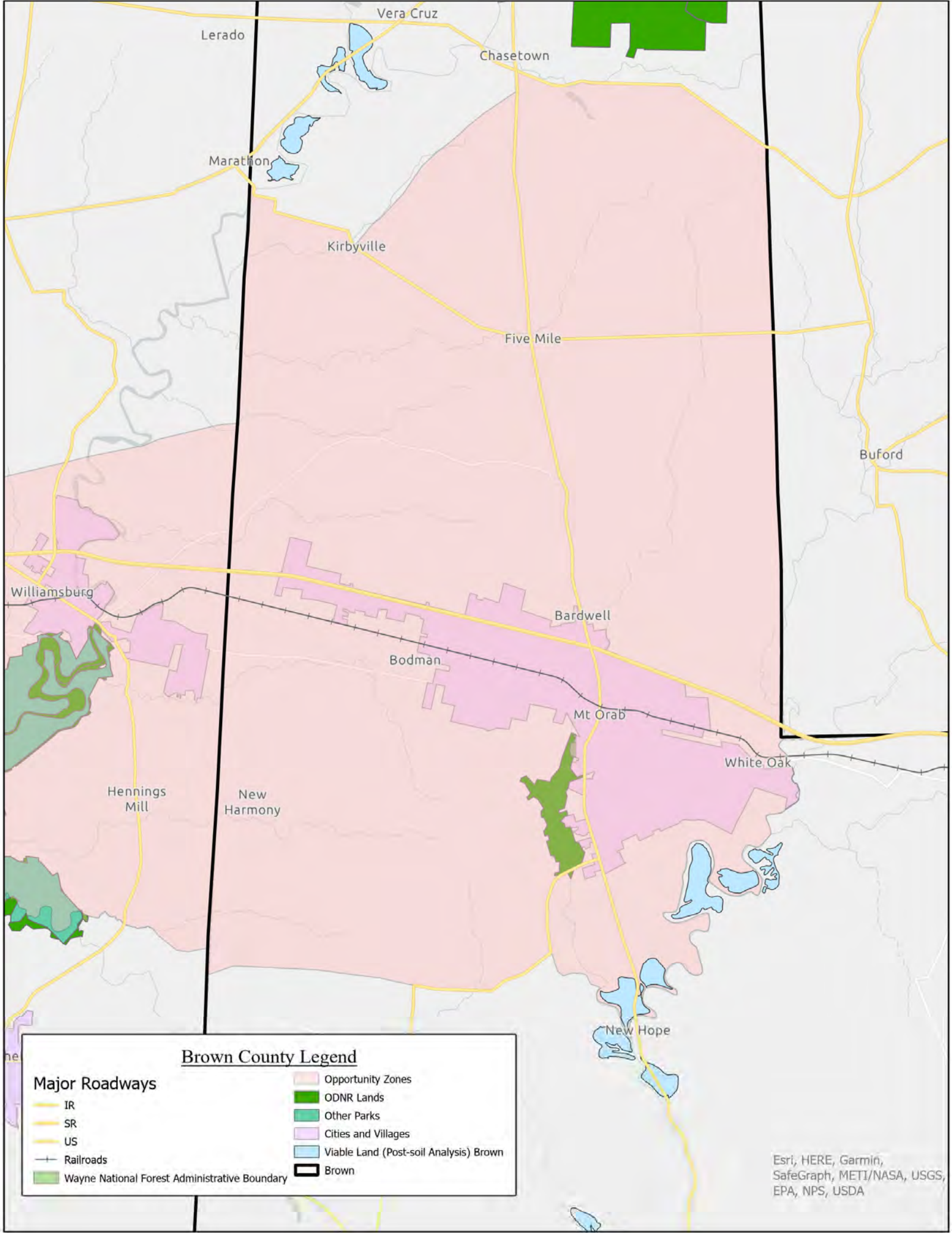
**Brown County Legend**

**Major Roadways**

-  IR
-  SR
-  US
-  Railroads
-  Wayne National Forest Administrative Boundary

-  Opportunity Zones
-  ODNR Lands
-  Other Parks
-  Cities and Villages
-  Viable Land (Post-soil Analysis) Brown
-  Brown

Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



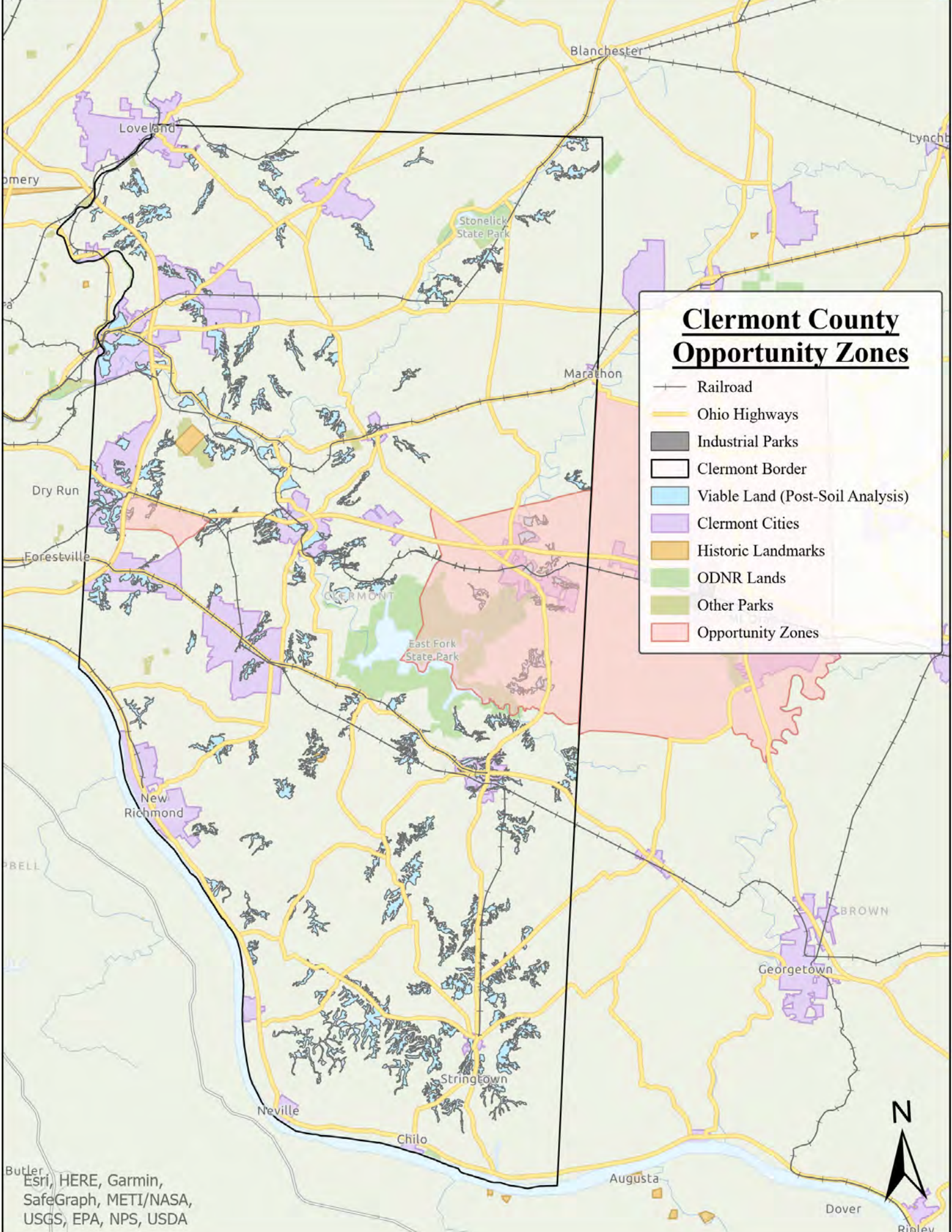
**Brown County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-soil Analysis) Brown
- Brown

Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

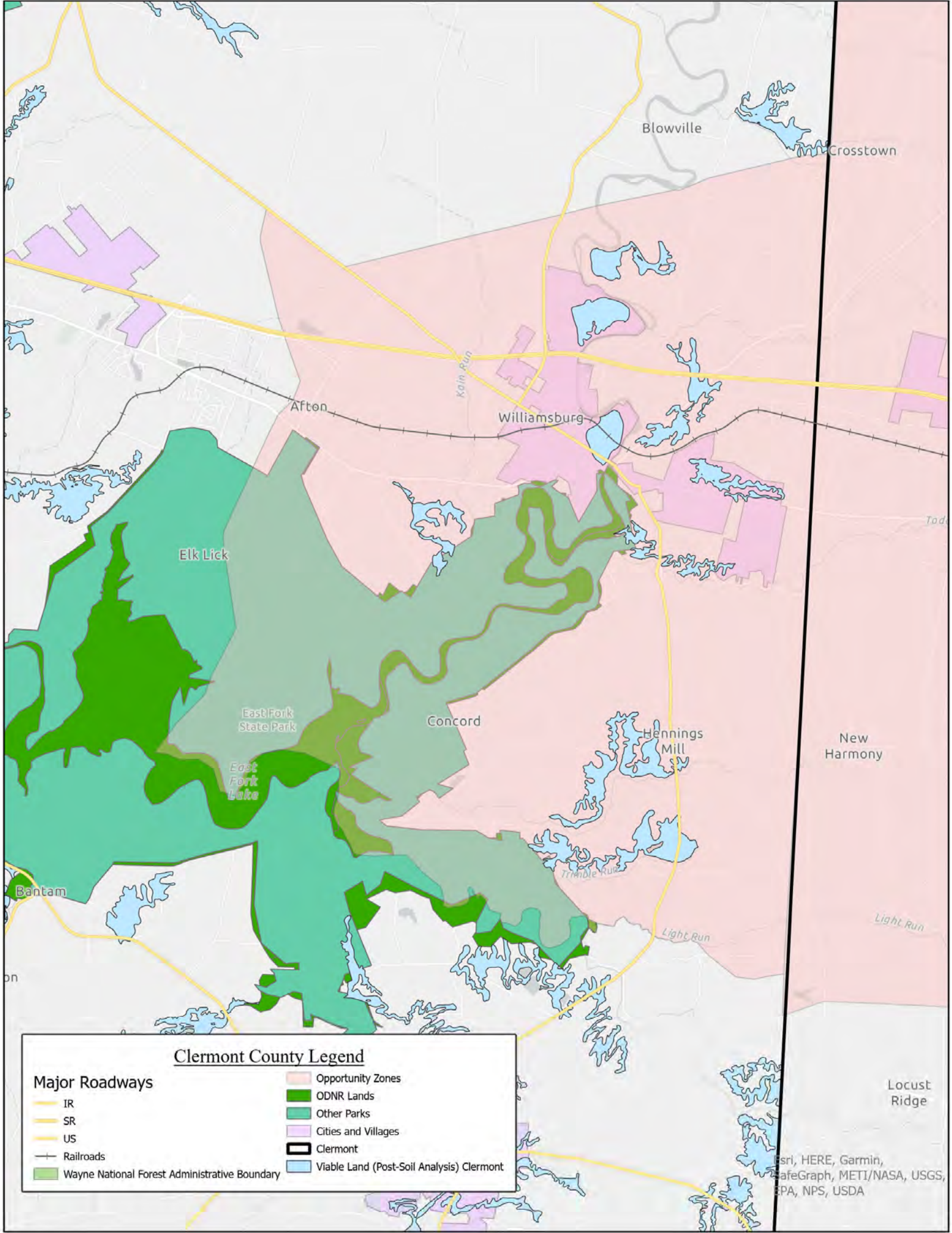


## Clermont County Opportunity Zones

- Railroad
- Ohio Highways
- Industrial Parks
- Clermont Border
- Viable Land (Post-Soil Analysis)
- Clermont Cities
- Historic Landmarks
- ODNR Lands
- Other Parks
- Opportunity Zones

Butler, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA





**Clermont County Legend**

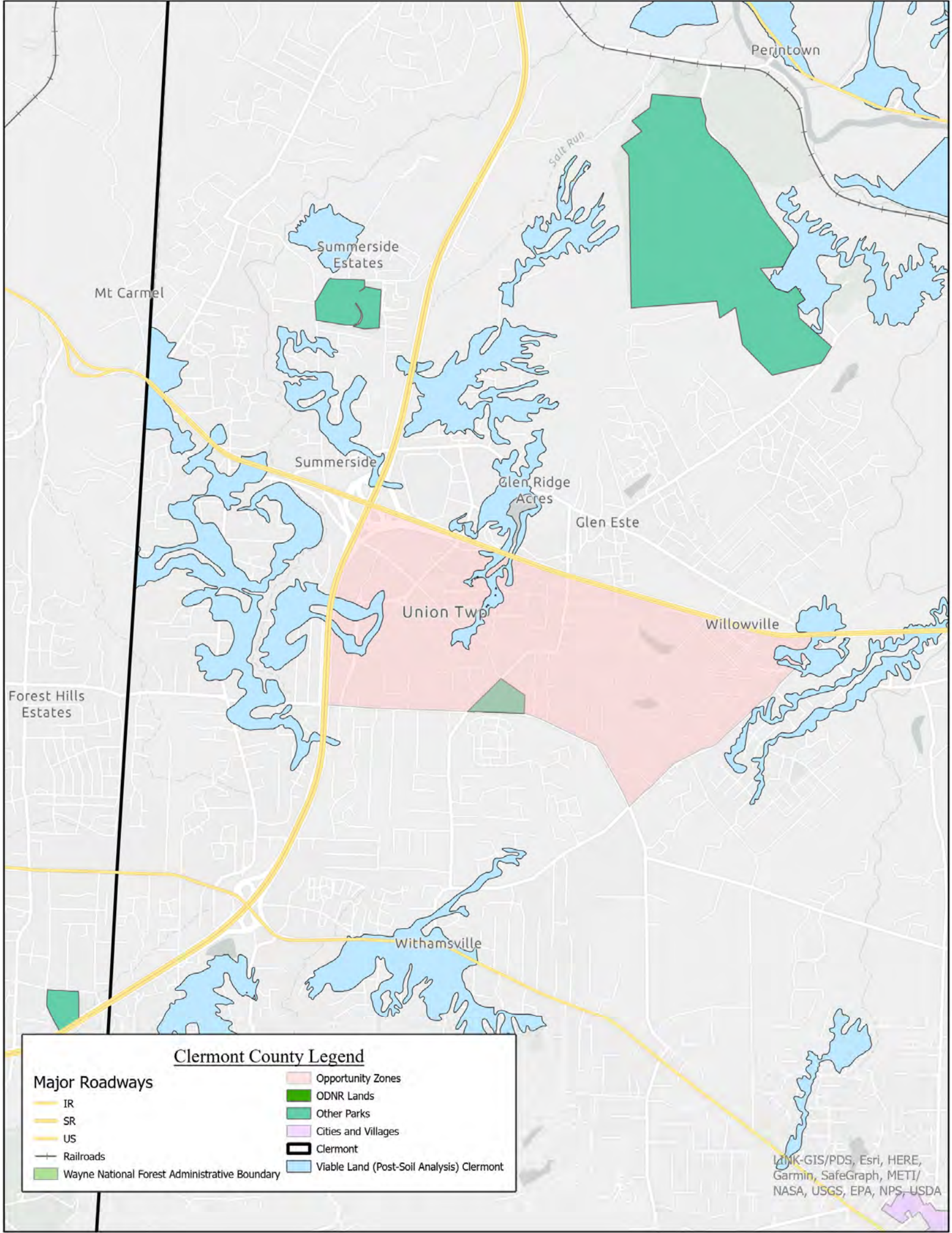
**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Clermont
- Viable Land (Post-Soil Analysis) Clermont

Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA





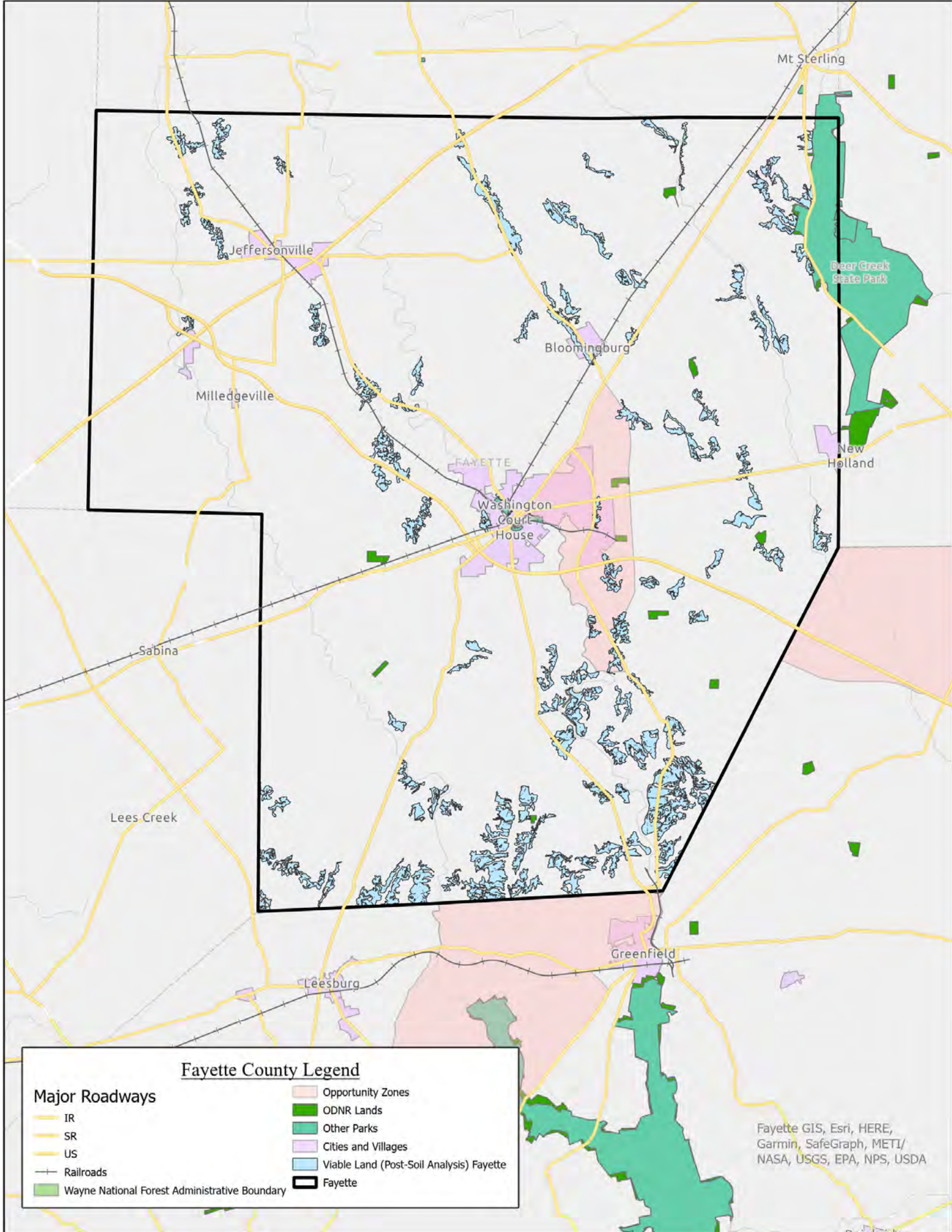
**Clermont County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Clermont
- Viable Land (Post-Soil Analysis) Clermont

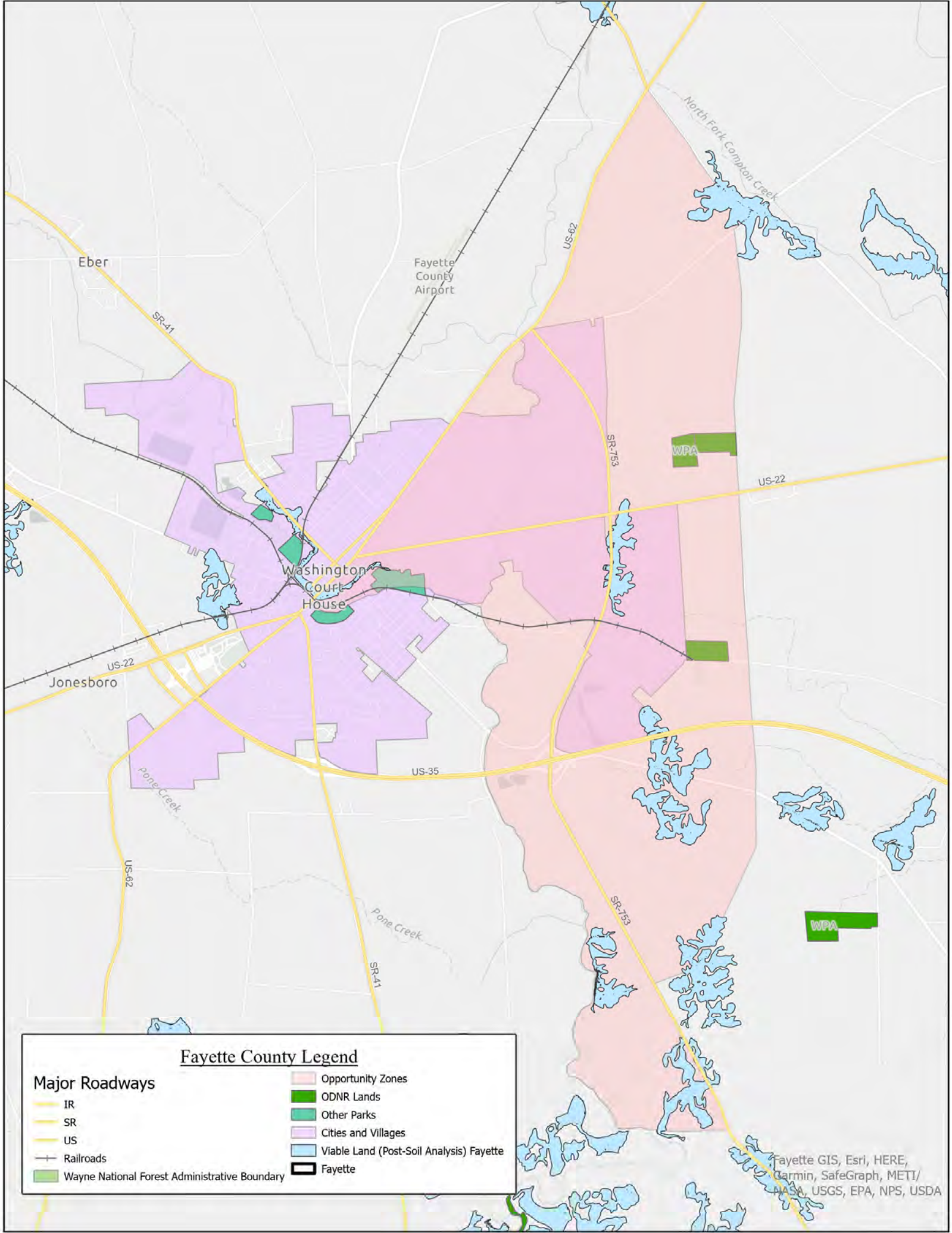
LINK-GIS/PDS, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



**Fayette County Legend**

- |   |           |  |
|---|-----------|--|
| <b>Major Roadways</b>                         |           | Opportunity Zones                        |
| IR  | SR        | ODNR Lands                               |
| US  | Railroads | Other Parks                              |
| Wayne National Forest Administrative Boundary | Fayette   | Cities and Villages                      |
|   |           | Viable Land (Post-Soil Analysis) Fayette |

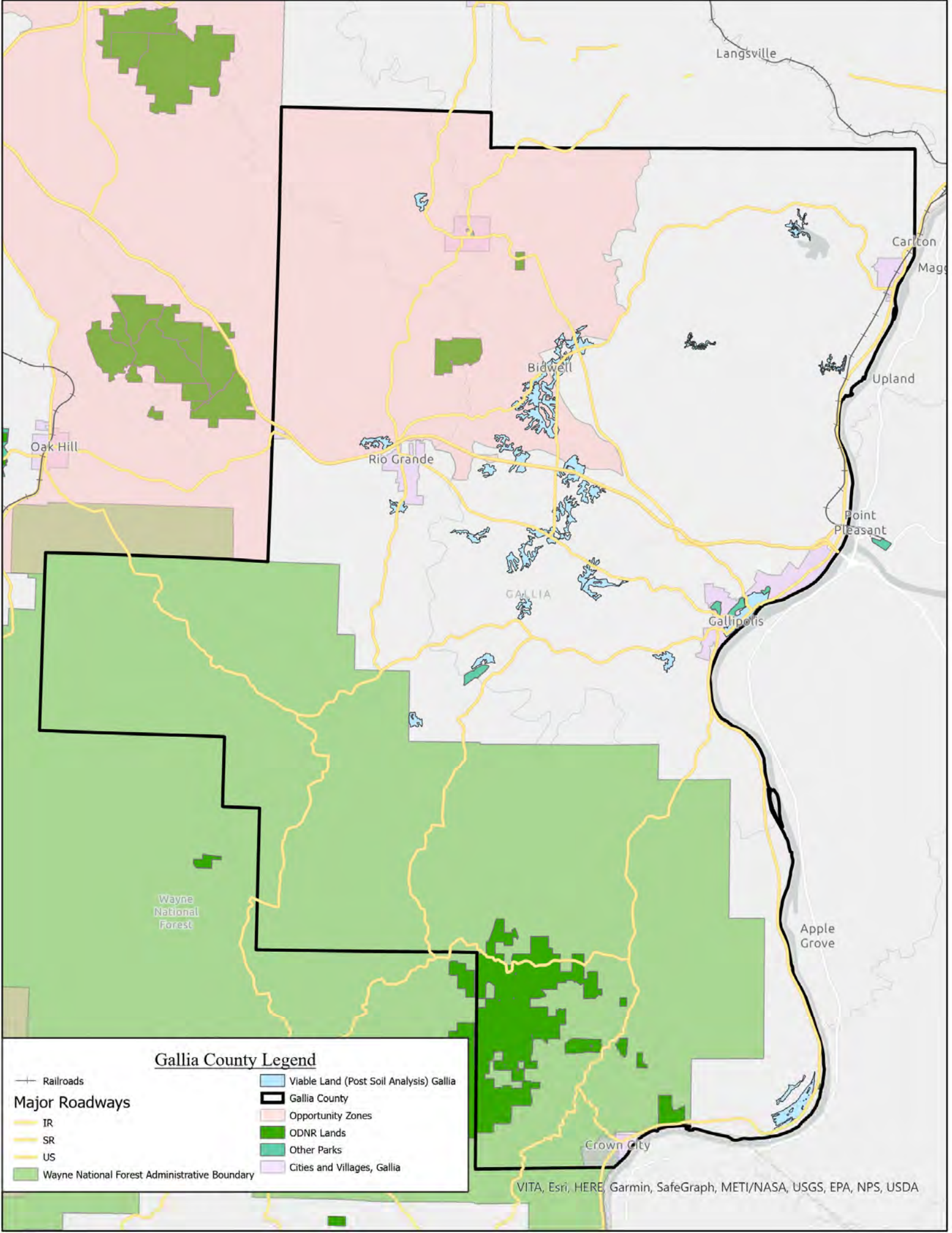
Fayette GIS, Esri, HERE, Garmin, SafeGraph, METI/ NASA, USGS, EPA, NPS, USDA



**Fayette County Legend**

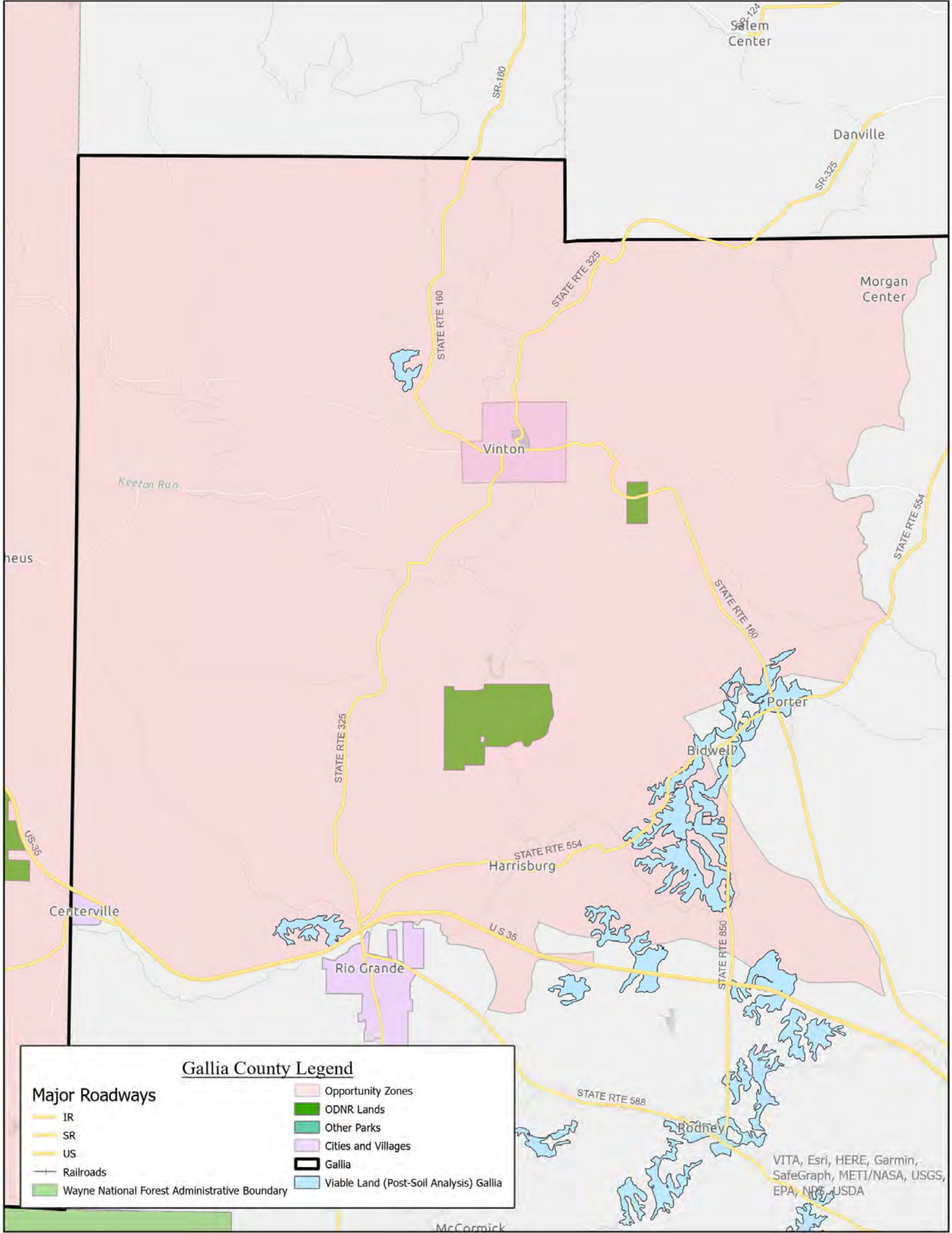
- |   |                     |  |
|---|---------------------|--|
| <b>Major Roadways</b>                         |                     | Opportunity Zones                        |
| IR  | ODNR Lands          | Other Parks                              |
| SR  | Cities and Villages | Viable Land (Post-Soil Analysis) Fayette |
| US  | Fayette             |  |
| Railroads                                     |                     |  |
| Wayne National Forest Administrative Boundary |                     |  |

Fayette GIS, Esri, HERE, Garmin, SafeGraph, METI/PIASA, USGS, EPA, NPS, USDA



**Gallia County Legend**

- +— Railroads
- Major Roadways**
- IR
- SR
- US
- Wayne National Forest Administrative Boundary
- Viable Land (Post Soil Analysis) Gallia
- Gallia County
- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages, Gallia



**Gallia County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Gallia
- Viable Land (Post-Soil Analysis) Gallia






VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA







CLINTON

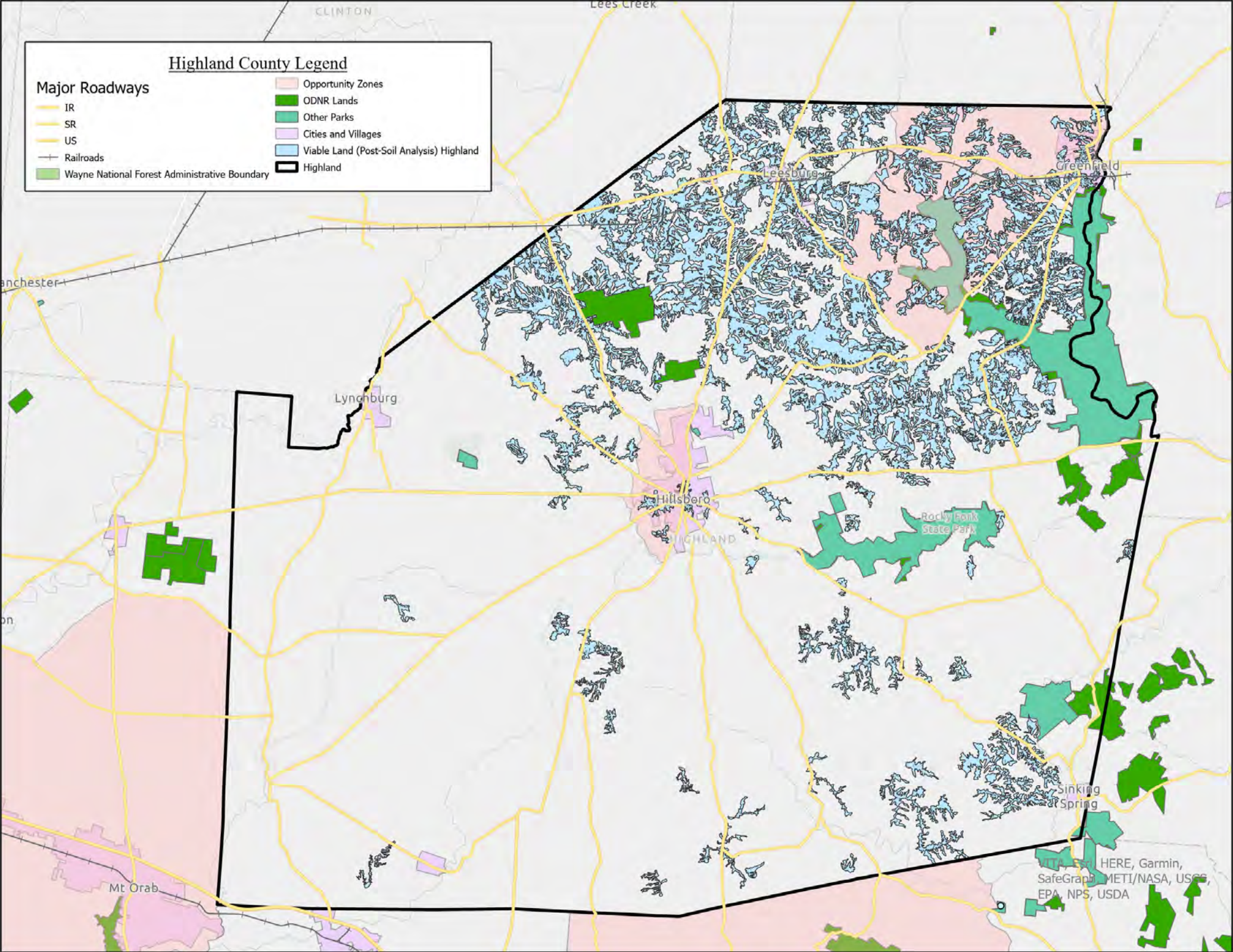
Lees Creek

### Highland County Legend

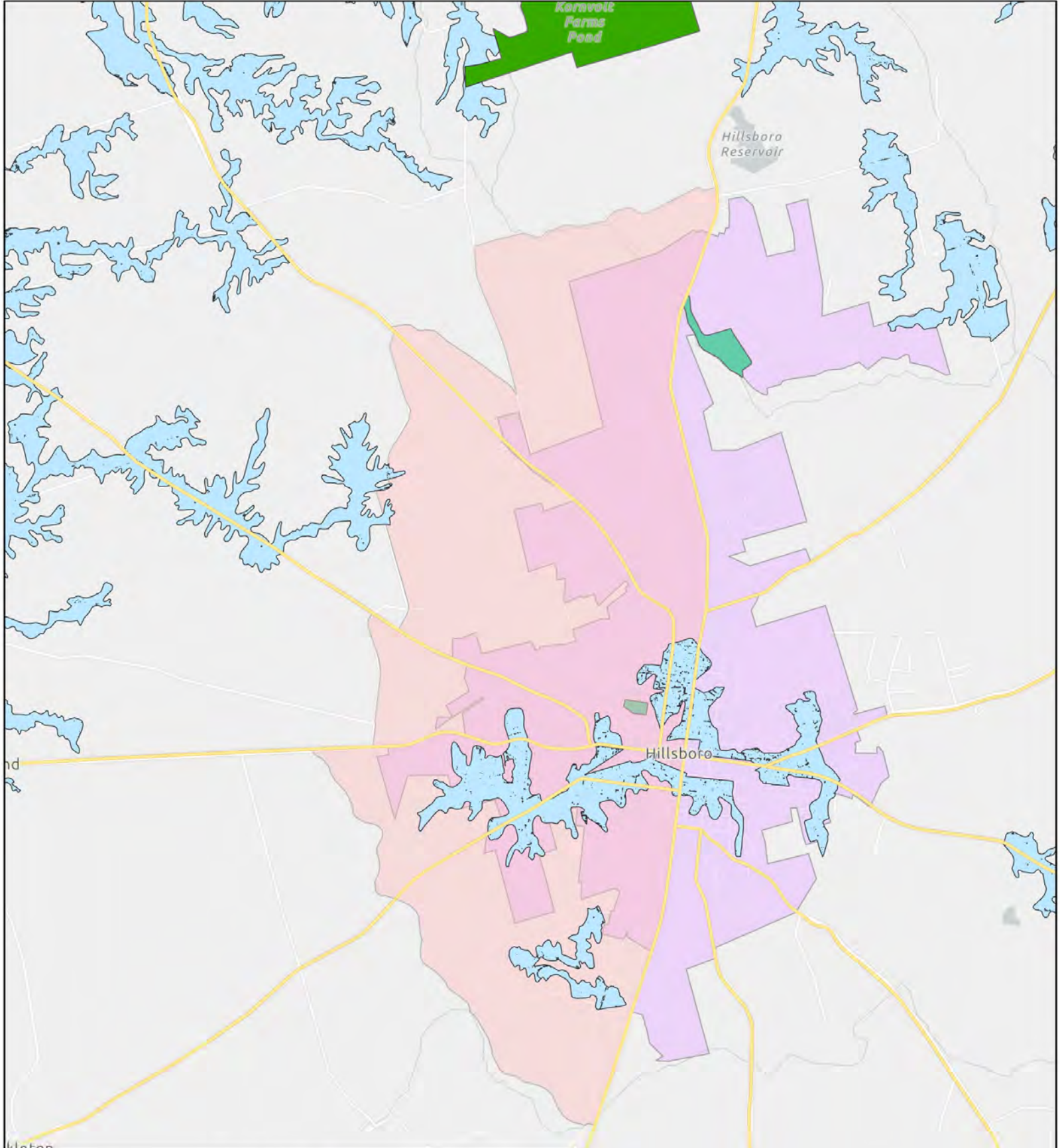
#### Major Roadways

-  IR
-  SR
-  US
-  Railroads
-  Wayne National Forest Administrative Boundary

-  Opportunity Zones
-  ODNR Lands
-  Other Parks
-  Cities and Villages
-  Viable Land (Post-Soil Analysis) Highland
-  Highland



Map data by HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



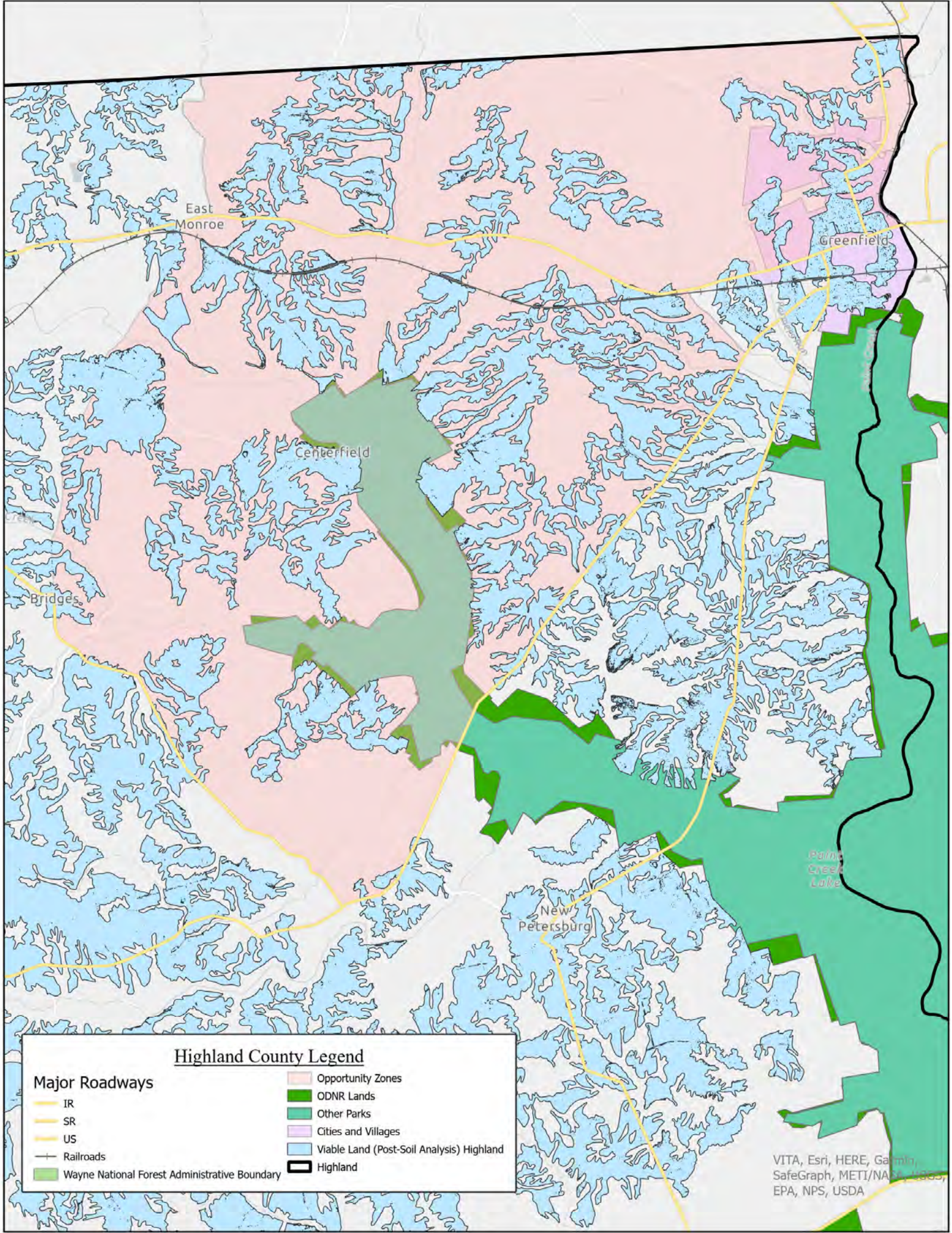
### Highland County Legend

#### Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Highland
- Highland

VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



### Highland County Legend

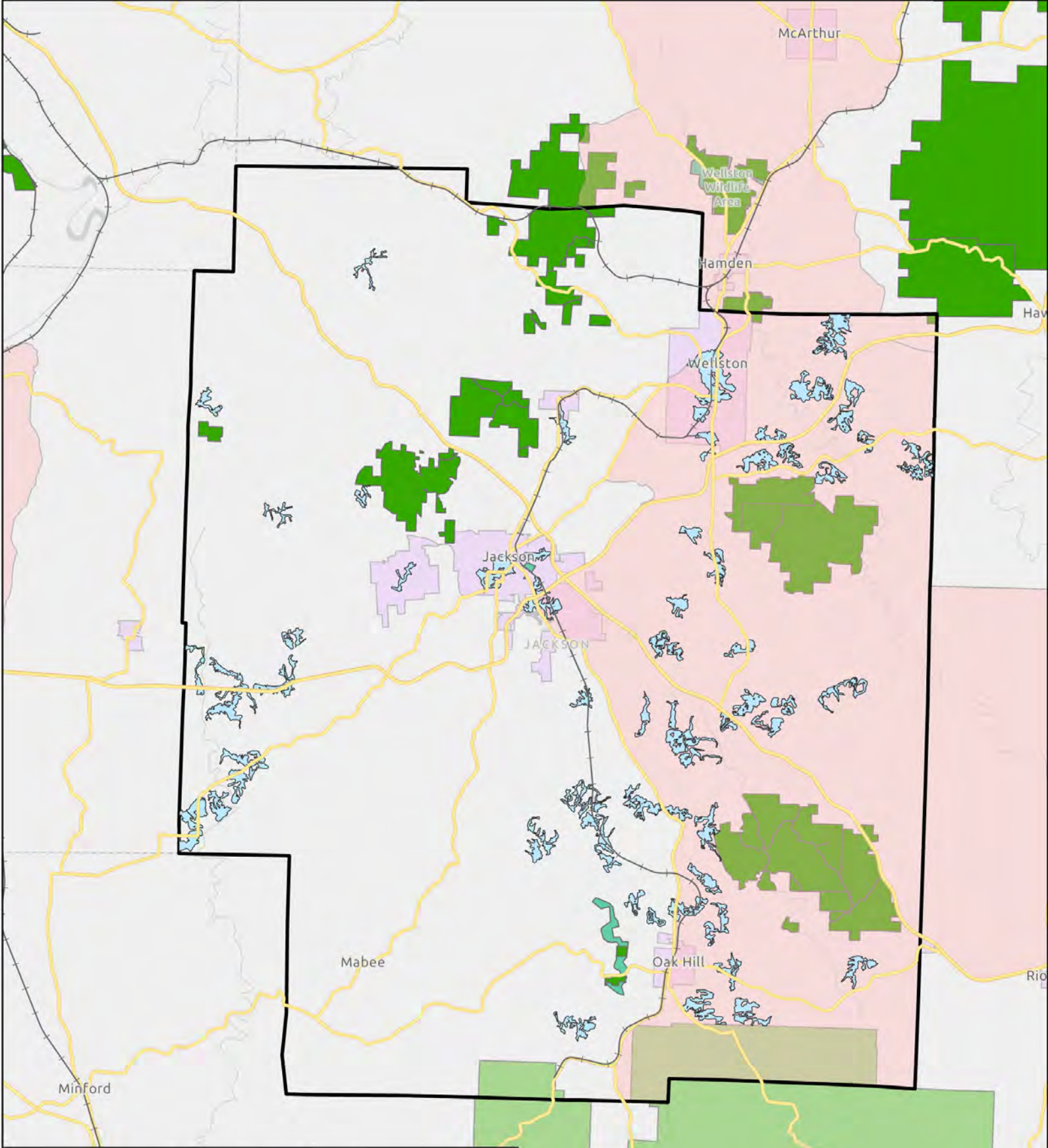
#### Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Highland
- Highland

VITA, Esri, HERE, Garmin,  
 SafeGraph, METI/NASA, USGS,  
 EPA, NPS, USDA



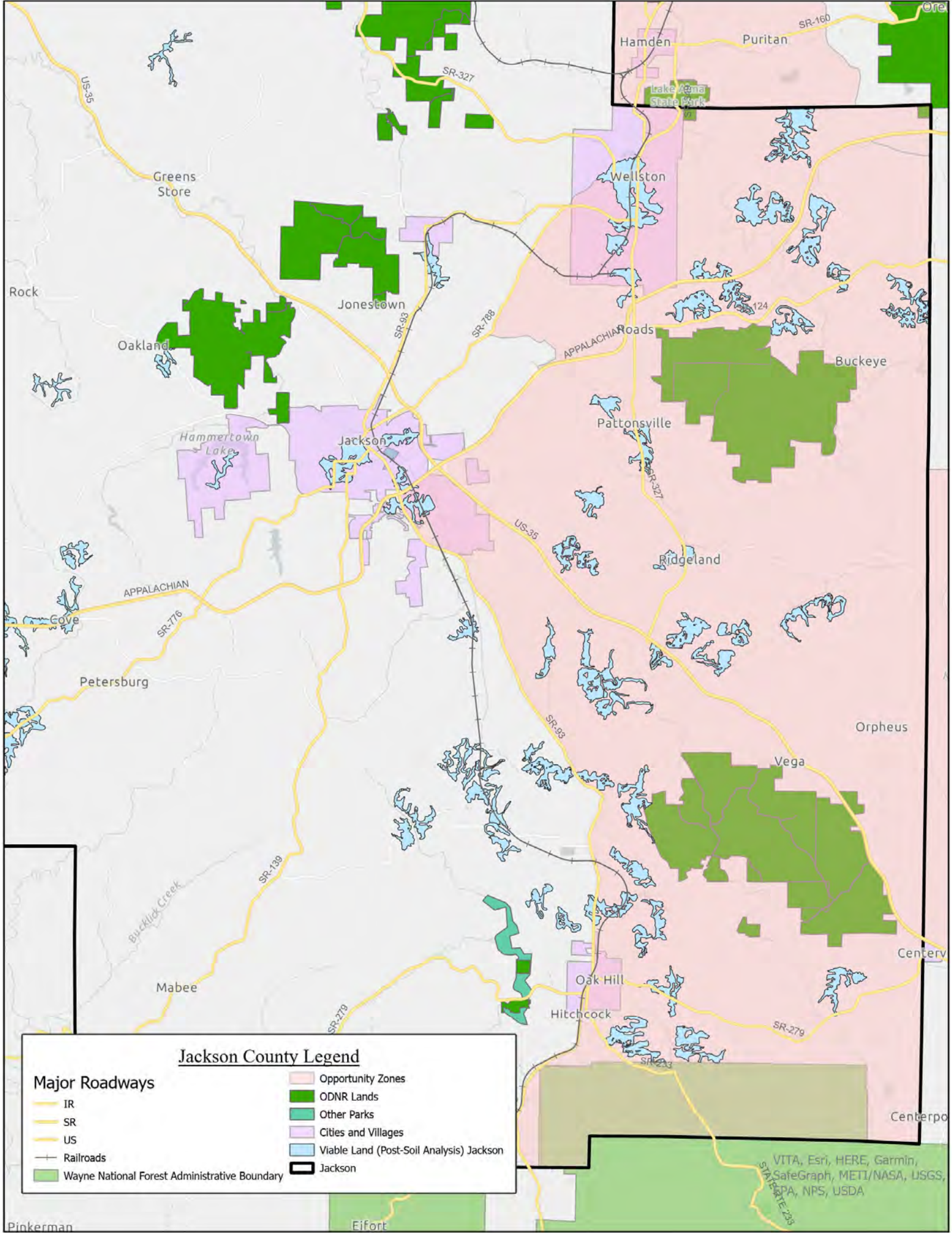


**Jackson County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary







- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages, Jackson
- Jackson
- Viable Land (Post-Soil Analysis) Jackson



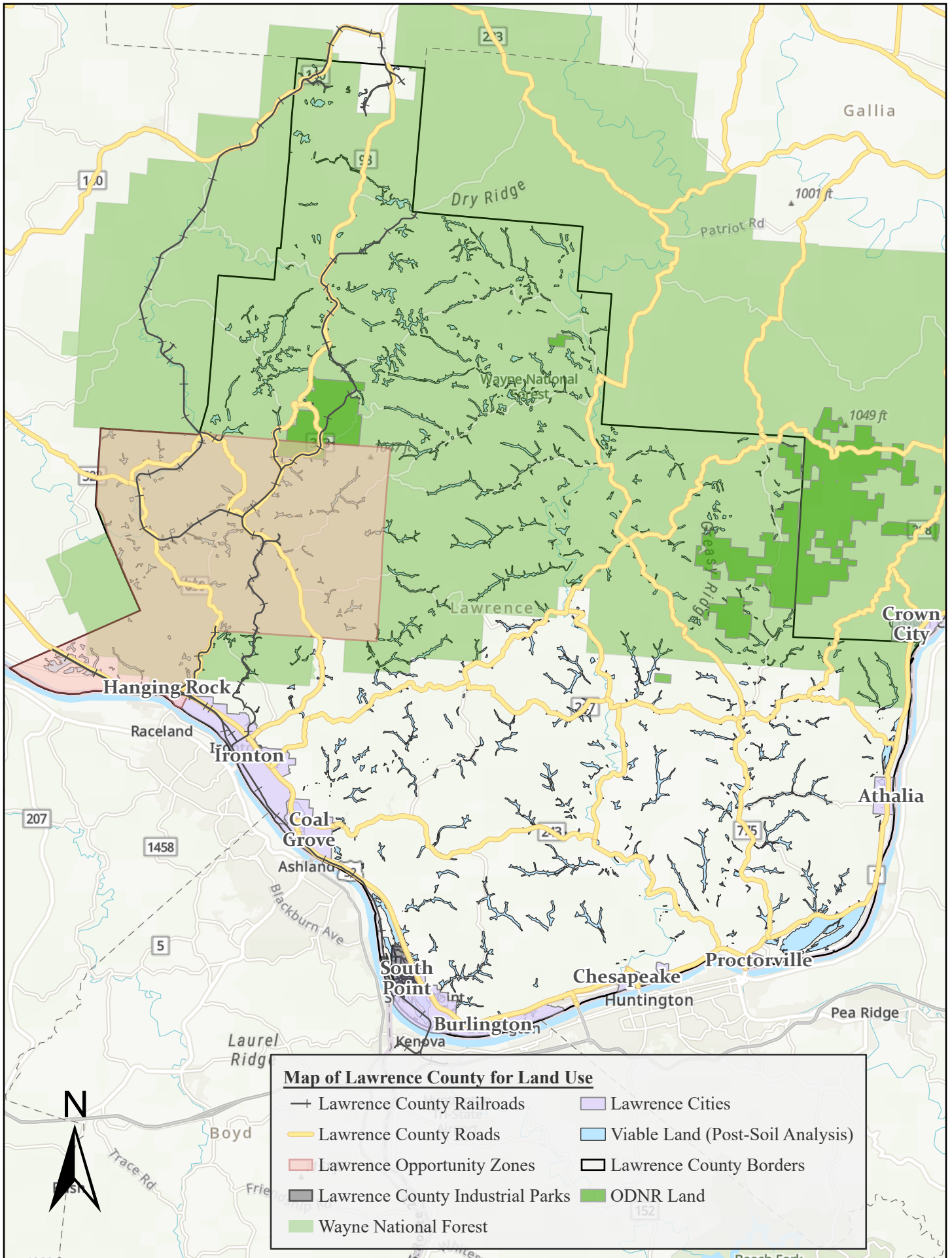
### Jackson County Legend

#### Major Roadways

-  IR
-  SR
-  US
-  Railroads
-  Wayne National Forest Administrative Boundary

-  Opportunity Zones
-  ODNR Lands
-  Other Parks
-  Cities and Villages
-  Viable Land (Post-Soil Analysis) Jackson
-  Jackson

VITA, Esri, HERE, Garmin,  
SafeGraph, METI/NASA, USGS,  
Swire, NPS, USDA

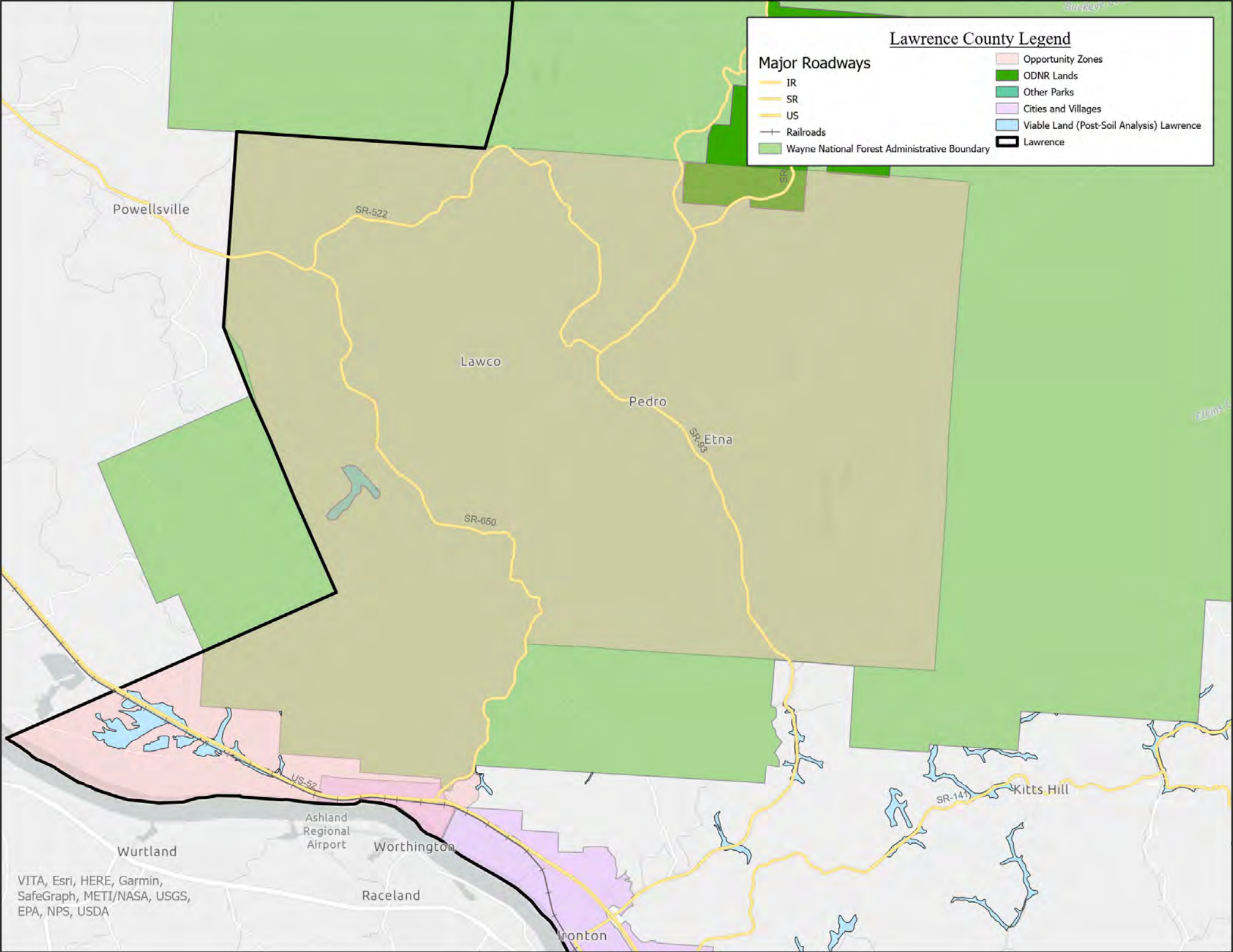


**Lawrence County Legend**

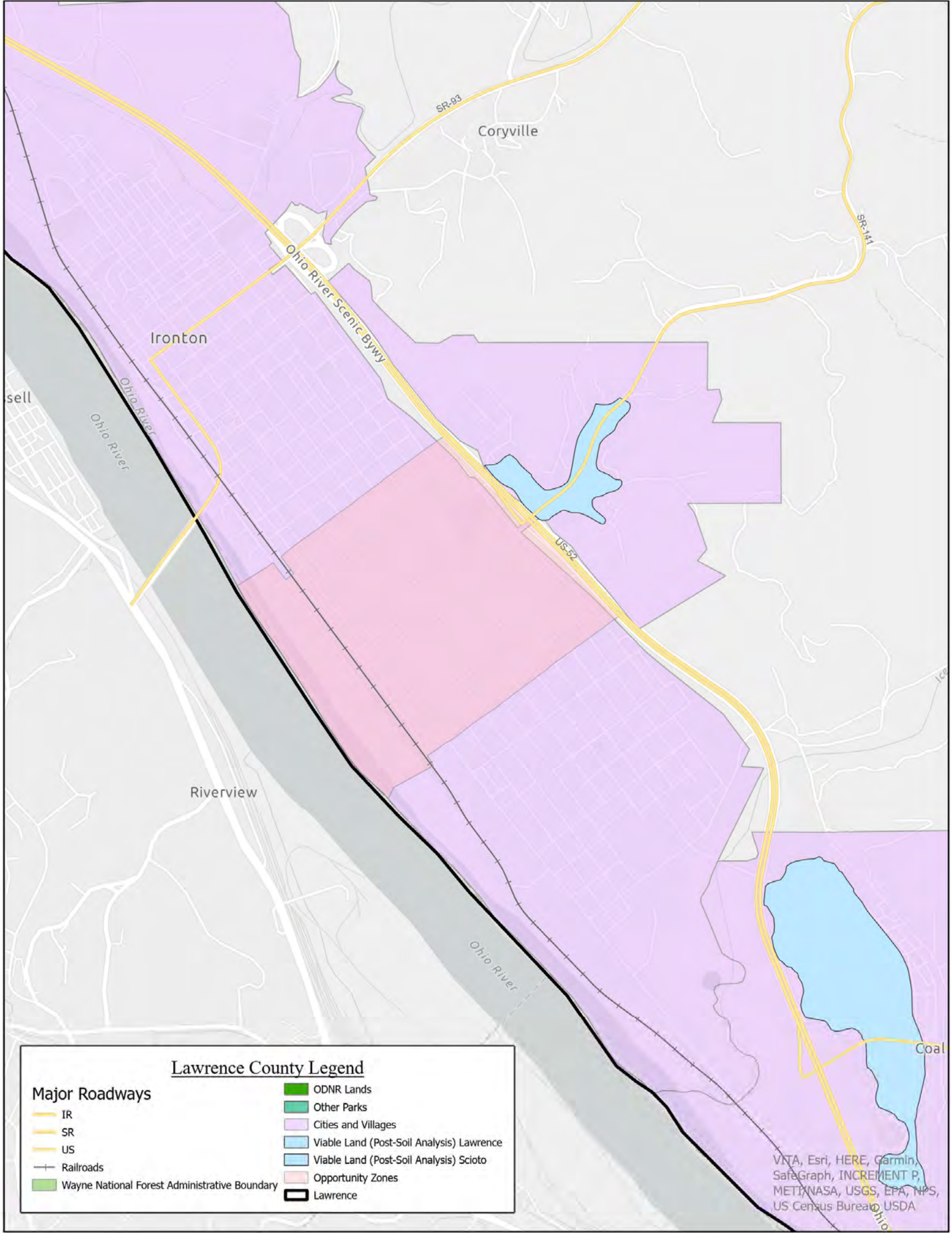
**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Lawrence
- Lawrence



VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



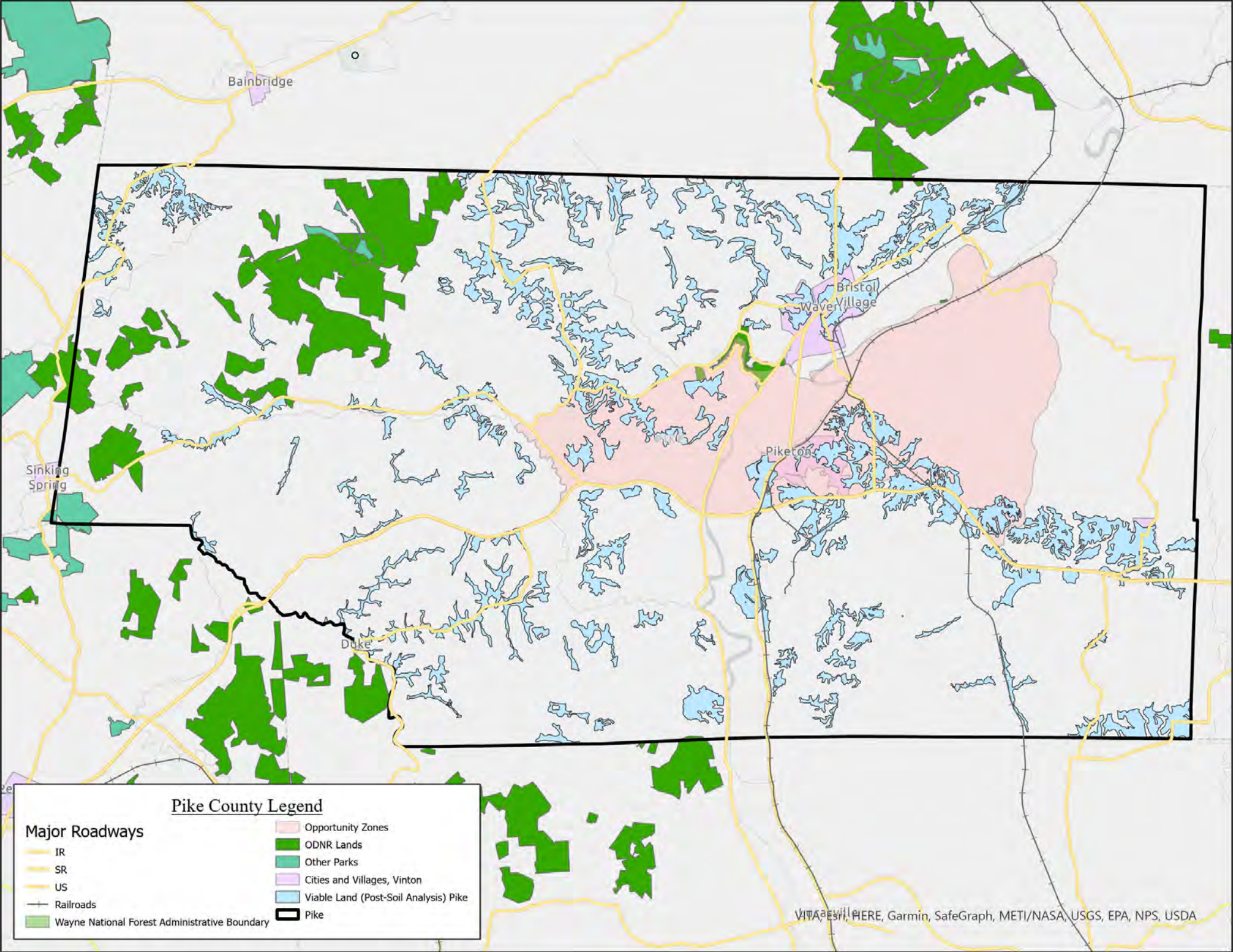
**Lawrence County Legend**

**Major Roadways**

- IR
- SR
- US
- +— Railroads
- Wayne National Forest Administrative Boundary

- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Lawrence
- Viable Land (Post-Soil Analysis) Scioto
- Opportunity Zones
- Lawrence

VITA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI, NASA, USGS, EPA, NPS, US Census Bureau, USDA



**Pike County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

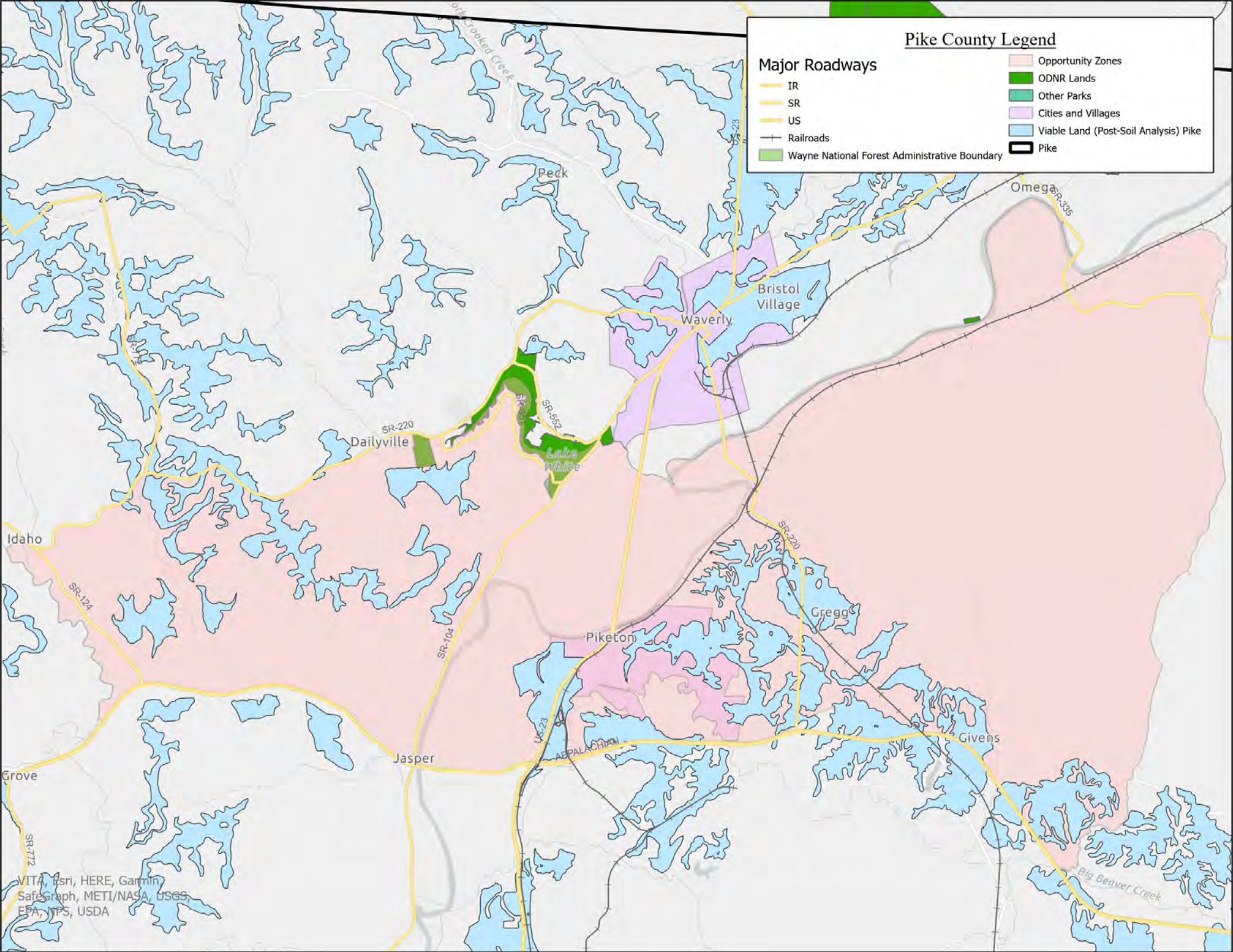
- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages, Vinton
- Viable Land (Post-Soil Analysis) Pike
- Pike

# Pike County Legend

## Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

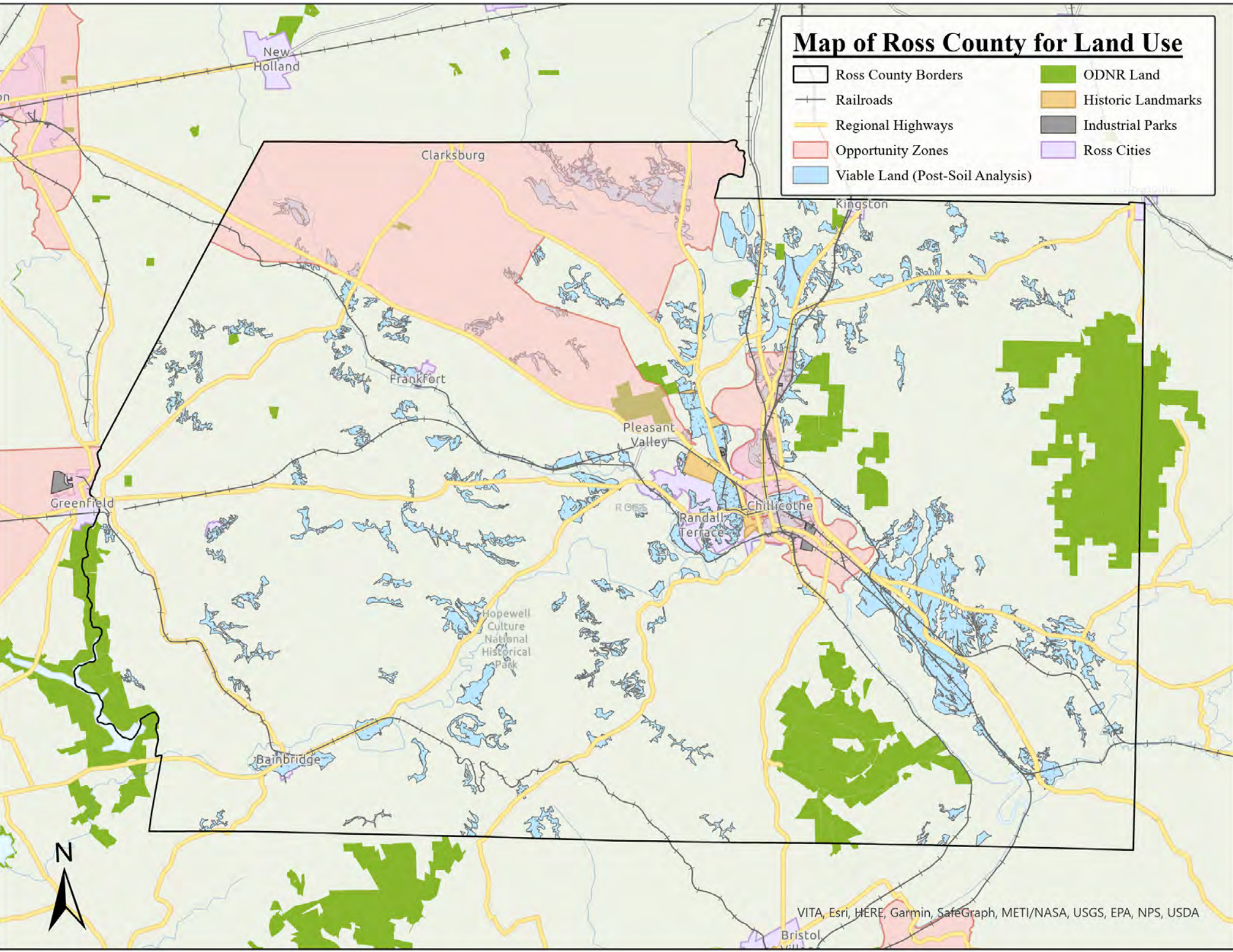
- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Pike
- Pike



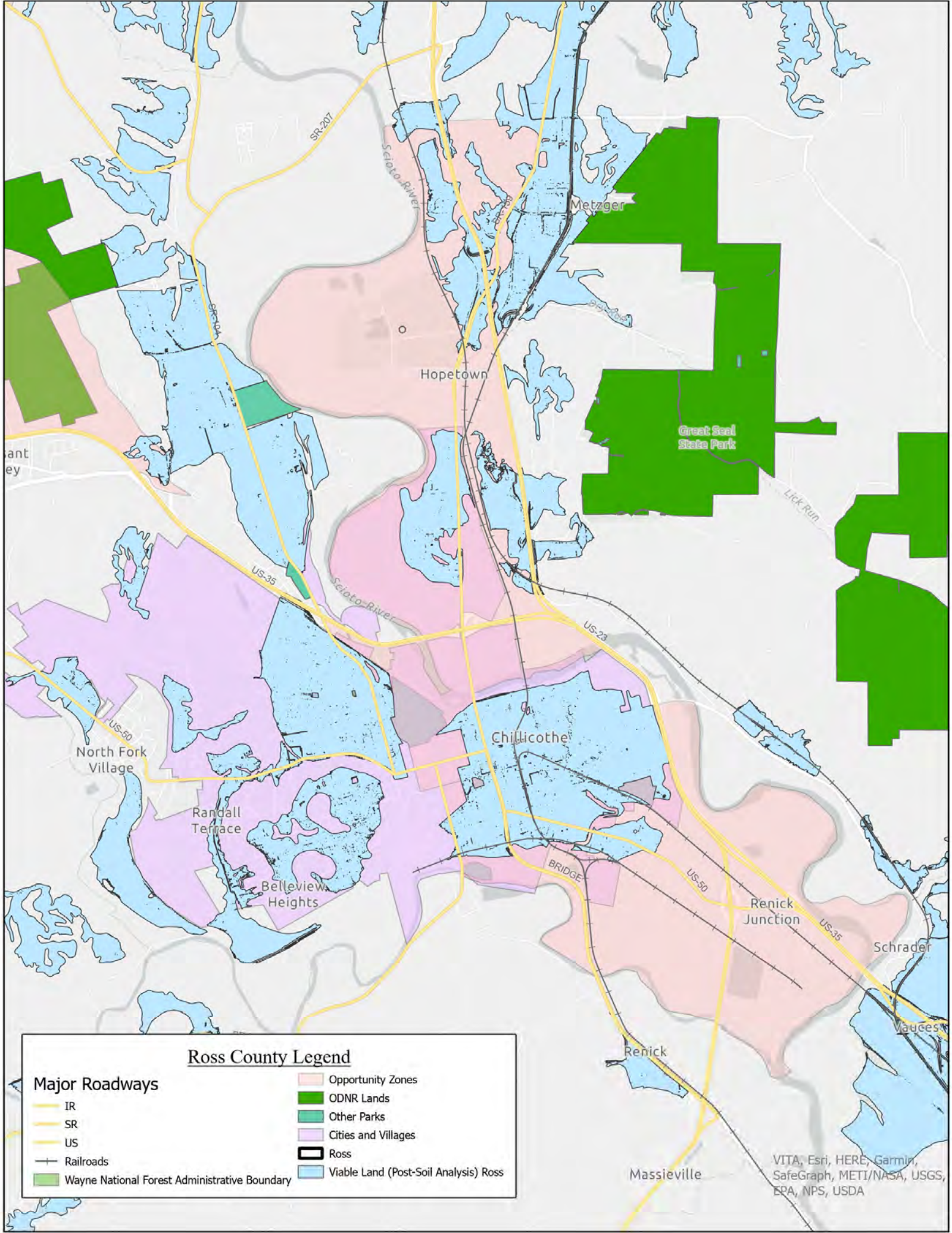
VITA, Esri, HERE, Garmin  
SafeGraph, METI/NASA, USGS,  
EPA, NPS, USDA

# Map of Ross County for Land Use

- Ross County Borders
- Railroads
- Regional Highways
- Opportunity Zones
- Viable Land (Post-Soil Analysis)
- ODNR Land
- Historic Landmarks
- Industrial Parks
- Ross Cities





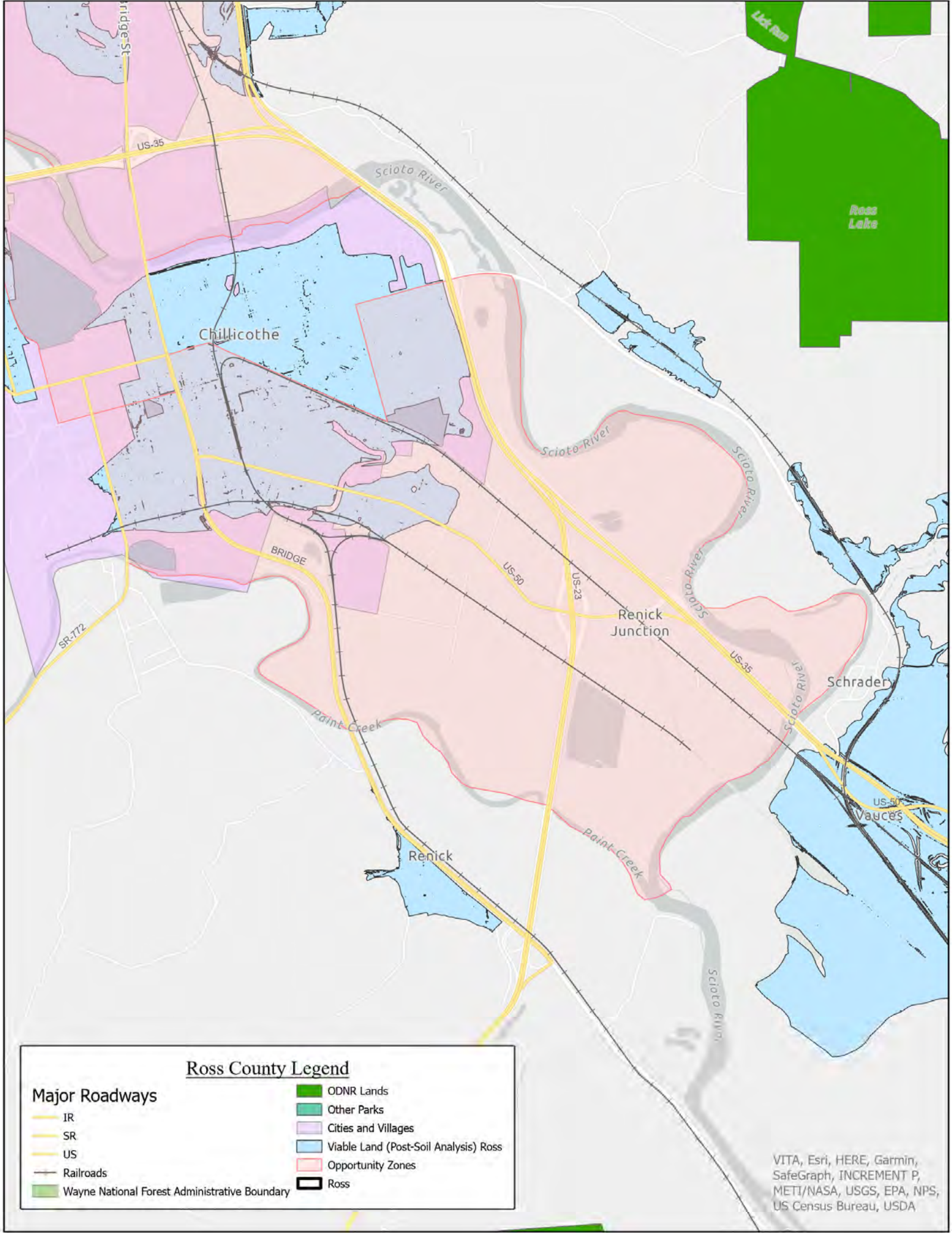


**Ross County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary
- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Ross
- Viable Land (Post-Soil Analysis) Ross

VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



**Ross County Legend**

**Major Roadways**

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Ross
- Opportunity Zones
- Ross

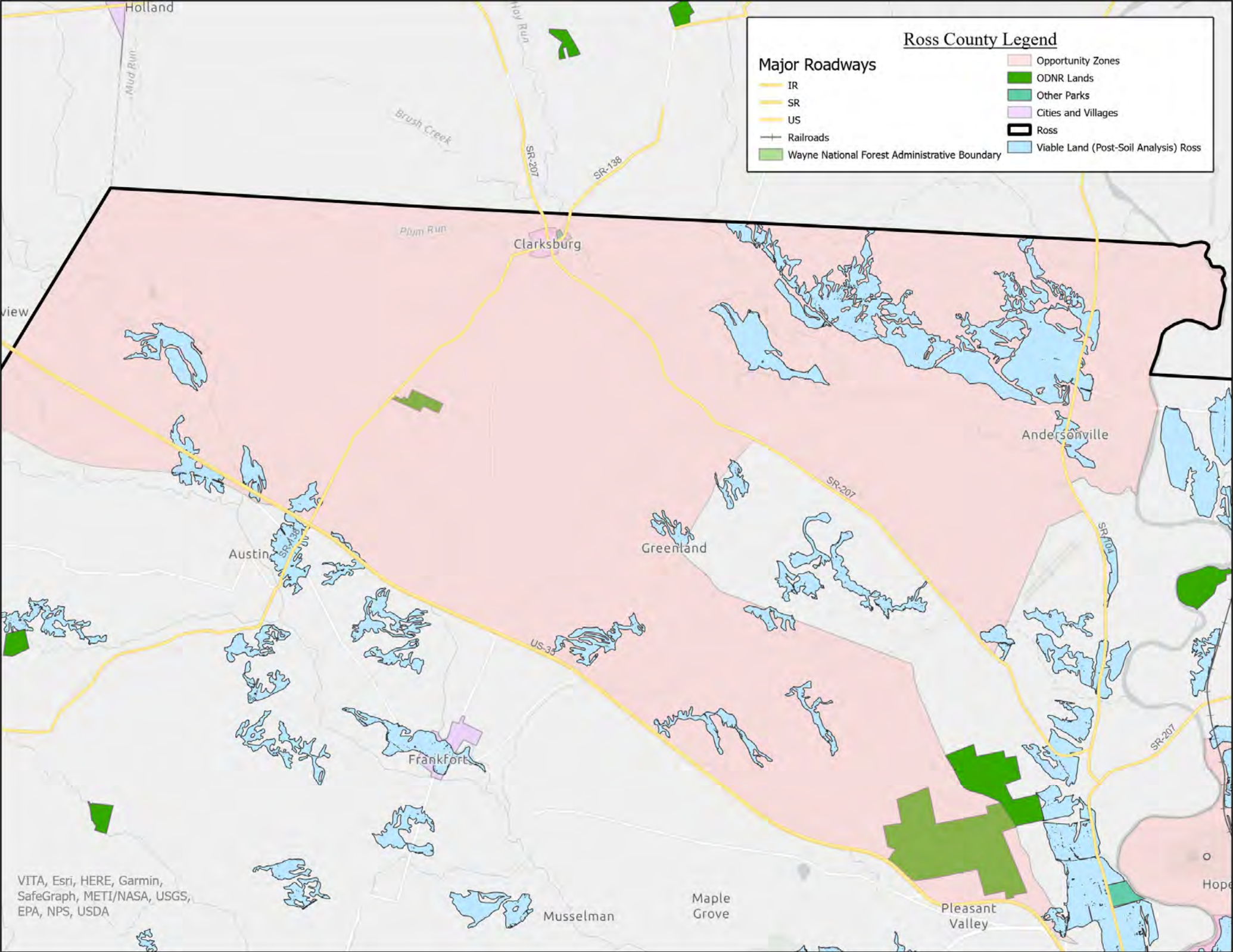
VITA, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA

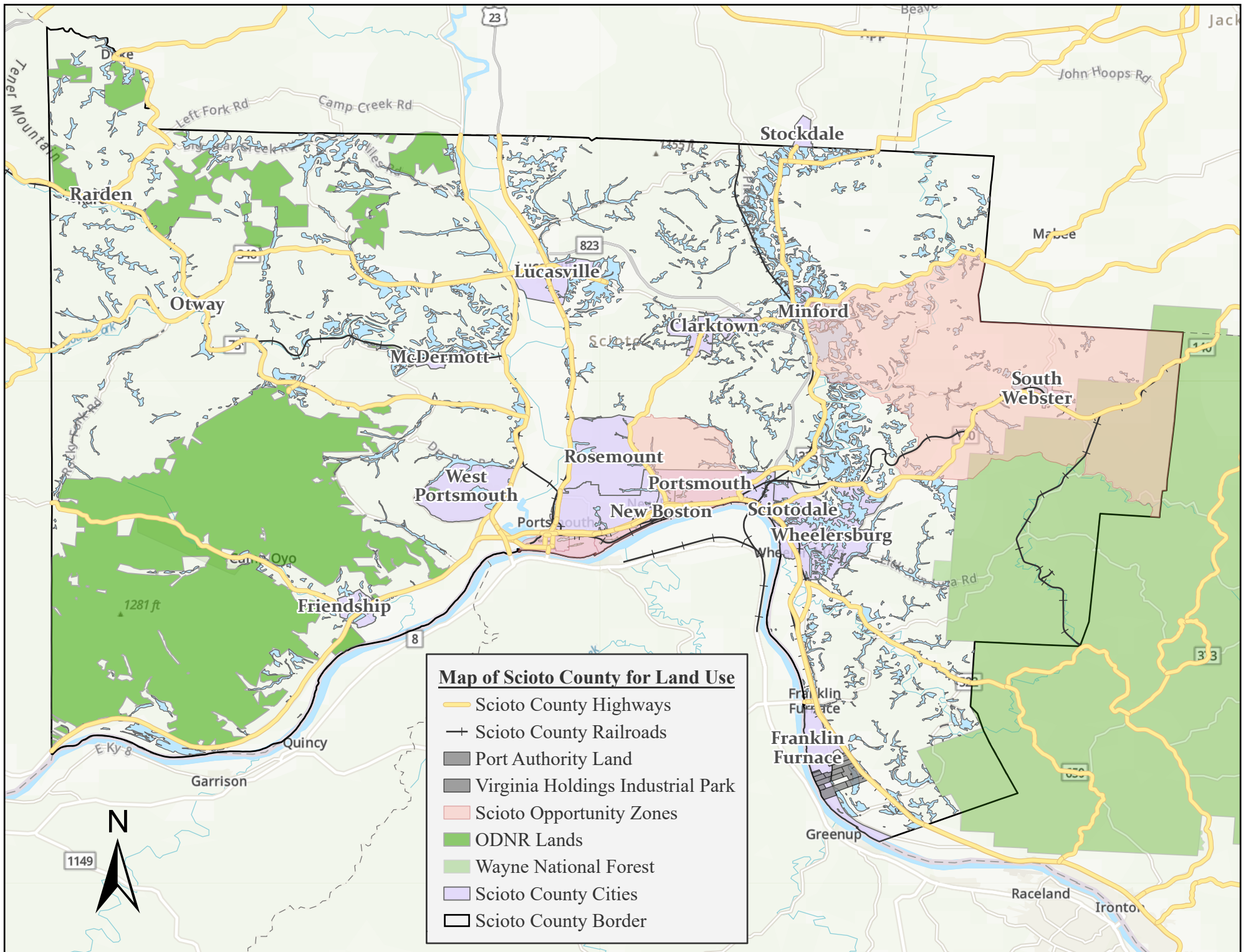
### Ross County Legend

#### Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Ross
- Viable Land (Post-Soil Analysis) Ross





**Map of Scioto County for Land Use**

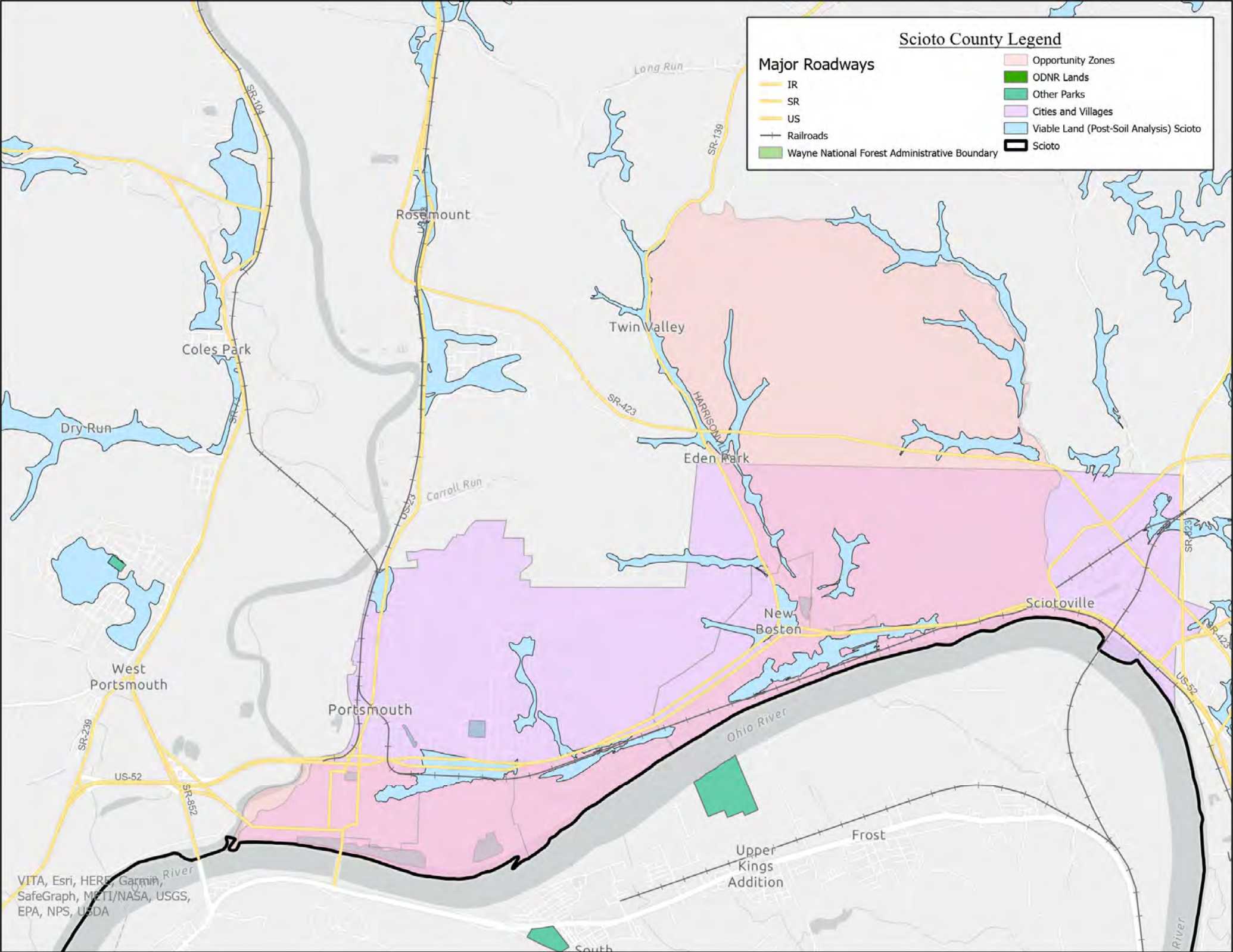
- Scioto County Highways
- Scioto County Railroads
- Port Authority Land
- Virginia Holdings Industrial Park
- Scioto Opportunity Zones
- ODNR Lands
- Wayne National Forest
- Scioto County Cities
- Scioto County Border

### Scioto County Legend

#### Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Scioto
- Scioto



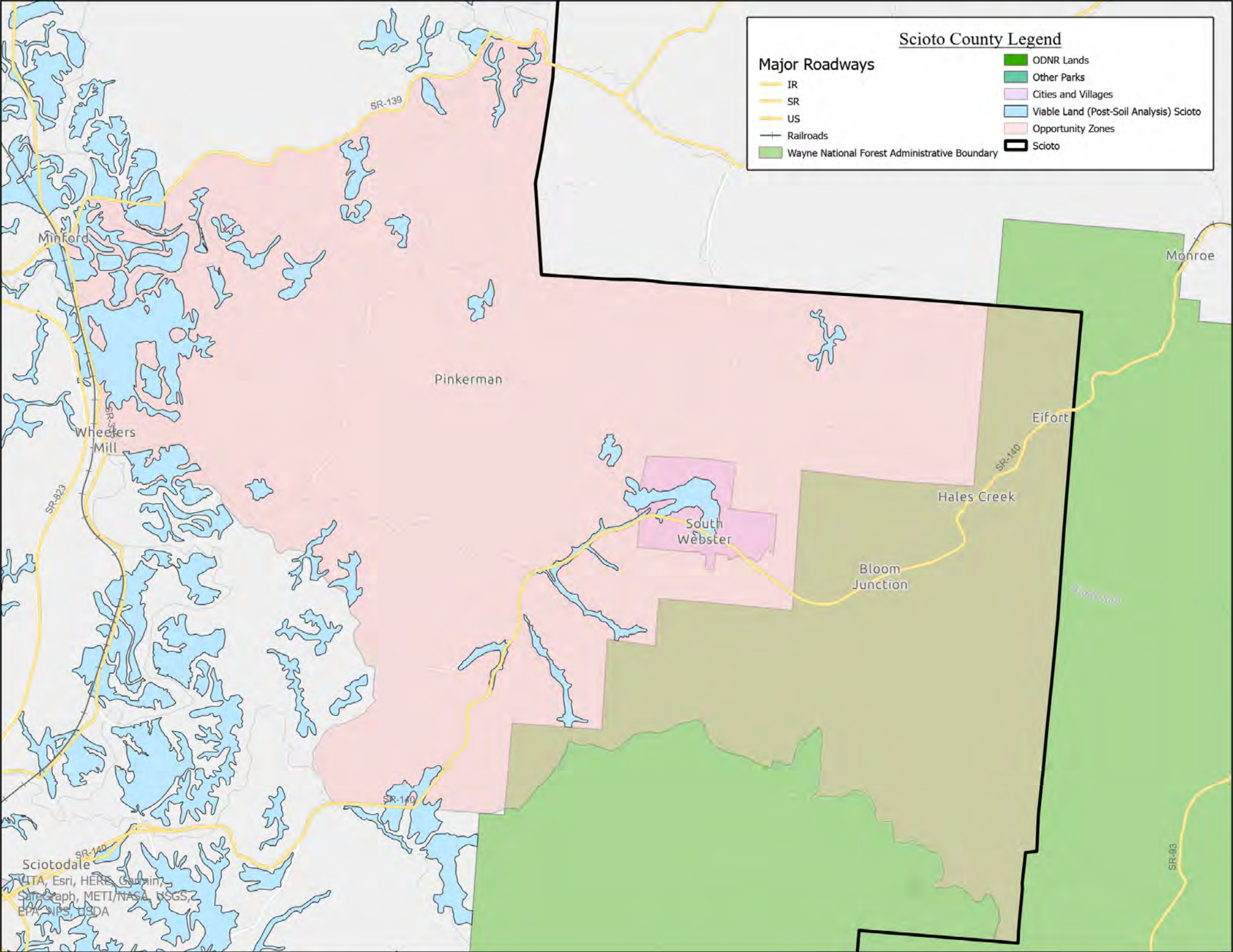
VITA, Esri, HERE, Garmin, SafeGraph, MDTI/NASA, USGS, EPA, NPS, USDA

### Scioto County Legend

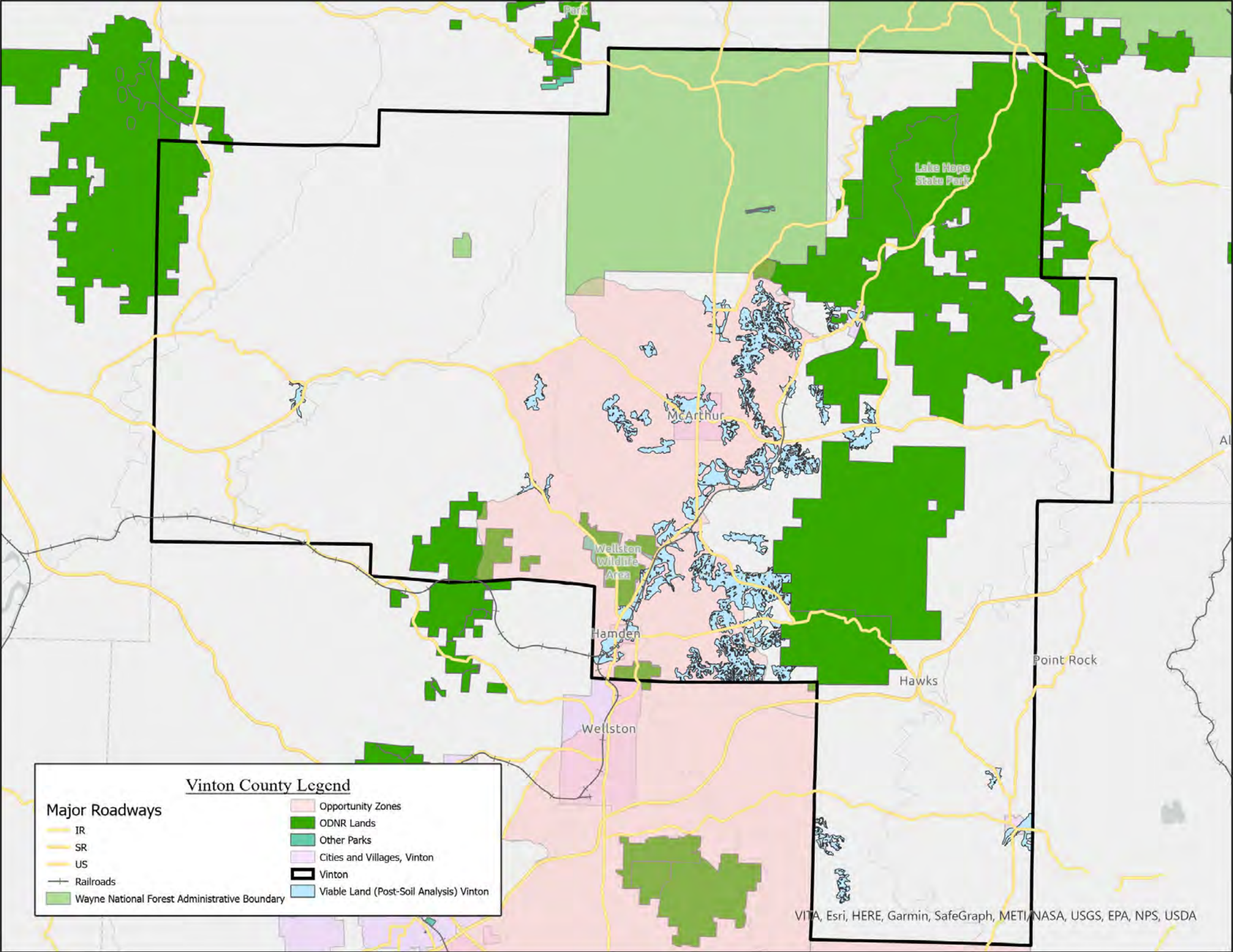
#### Major Roadways

- IR
- SR
- US
- Railroads
- Wayne National Forest Administrative Boundary

- ODNR Lands
- Other Parks
- Cities and Villages
- Viable Land (Post-Soil Analysis) Scioto
- Opportunity Zones
- Scioto



Scioto County, Ohio  
Data sources: MTA, Esri, HERE, Garmin,  
Swatch, METI/NASA, USGS,  
EPA, NPS, USDA

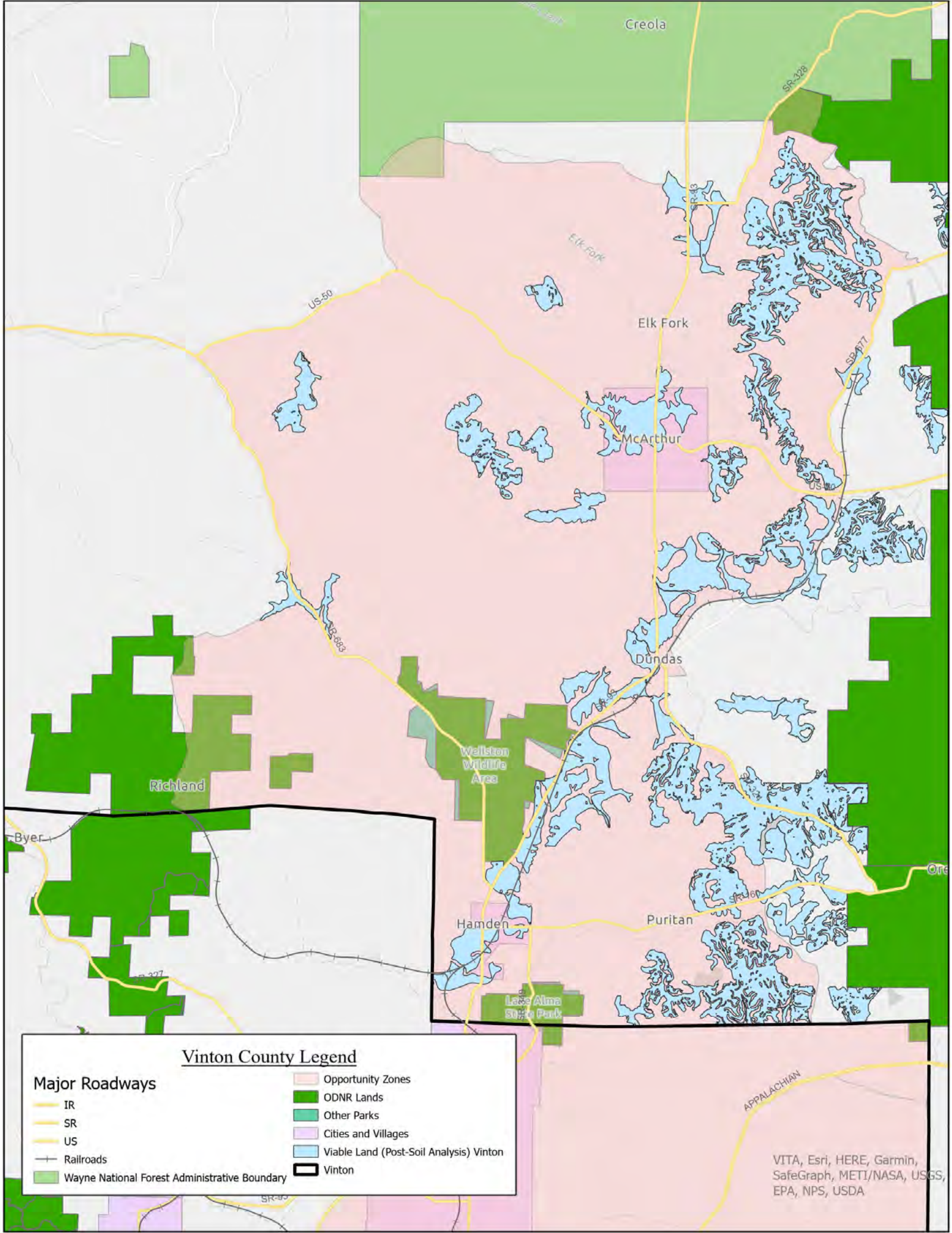


**Vinton County Legend**

**Major Roadways**

- IR
- SR
- US
- +— Railroads
- Wayne National Forest Administrative Boundary







- Opportunity Zones
- ODNR Lands
- Other Parks
- Cities and Villages, Vinton
- Vinton
- Viable Land (Post-Soil Analysis) Vinton



**Vinton County Legend**

**Major Roadways**

-  IR
-  SR
-  US
-  Railroads
-  Wayne National Forest Administrative Boundary

-  Opportunity Zones
-  ODNR Lands
-  Other Parks
-  Cities and Villages
-  Viable Land (Post-Soil Analysis) Vinton
-  Vinton

VITA, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA



C. ECONOMIC RECOVERY COORDINATORS FOR ADAMS COUNTY AND  
LAWRENCE/SCIOTO COUNTIES

*Adams County Economic Recovery Coordinator*

# SCURTI consulting

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740-512-3093

[evan@scurticonsulting.com](mailto:evan@scurticonsulting.com)

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## MEMORANDUM

**TO:** John Hemmings, Executive Director, Ohio Valley Regional Development Commission

**FROM:** Evan Scurti, Adams County Recovery Coordinator (contract term: 1/10/20—12/31/21)

**SUBJECT:** Overview of Recovery Coordinator Activities and Deliverables

**DATE:** January 4, 2022

---

Dear John:

Contracting with your organization to provide recovery services to Adams County has been a wonderful opportunity for my company. This is some of the most important and impactful work a consultant can pursue. Appalachian areas like Adams County have a proud history of strong communities with residents very committed to the common good. Unfortunately, our local economies, especially along the Ohio River Corridor, are often overly dependent on mineral extraction and a few large employers. As you know, this dynamic is no longer sustainable, and our residents deserve focused efforts toward more diverse and resilient economies. I hope I was able to advance that cause in Adams County over the past two years.

It was an honor to immerse myself in the local community, especially amongst the local economic development and government leaders. I am very impressed with the County's general commitment to creating a more diverse economy with the goal of near-term job creation and retention. My work products were designed to support the County's evolving vision of 21<sup>st</sup> century utilities, workforce resources, and new industrial real estate availability to support a greater variety of economic sectors. The five referenced and enclosed documents, as you know, have been submitted to you with my quarterly reports, but I am submitting them again with this final report for your convenience. I am confident that our work has laid a strong foundation for a more modern, innovative local economy. The sections below will highlight how the local team viewed recovery through a lens of four key pillars: Economic Development Structures; Utilities; Workforce; and Real Estate.

### Augmenting the County's Economic Development Structural Foundation

If a local community is to pursue any form of economic development, a dedicated team to organize all stakeholders and initiatives is critical. Adams County is clearly fortunate to have this system in place, and it has survived both the coal plant closures and the pandemic. The County's economic development office has a director (Holly Johnson) with a 20+-year history of assisting or leading Adams County development projects, including processing millions of dollars in grant money each year. My initial discussions with Holly led us to the brainstorm of the County potentially creating a Port Authority to assist her office as well as the Community Improvement Corporation in advancing critical infrastructure and real estate development goals. It is widely accepted throughout Ohio that

ports (i.e. organizations referenced in ORC 4582) have unique powers in the areas of real estate sale and bond financing techniques. As the County moves closer to entertaining development proposals at the new Winchester Industrial Park as well as collaborating with the new owners of the power plant sites, a port's unique toolkit could be instrumental.

The enclosed report was designed to be a brief, readable resource for County leaders to refer to as they ponder the future creation of a port. I strived to outline the basic Port Authority formation and governance laws within the Ohio Revised Code. I also included some examples of Ports being used to achieve infrastructure and job creation metrics that likely would not have been realized without the use of a Port. As a past director of an Ohio Port (Jefferson County), I would be honored to expand upon this research and provide further Port formation assistance.

### 21<sup>st</sup> Century Utilities

Adams County has achieved great advances in regard to the regionalization of water and sewer resources to support residents and industry. The Economic Development Office's successful grant writing to expand these systems is making the new 55-acre Winchester Industrial Park a reality. County leaders explained to me that a key missing piece of utility offerings is natural gas service. Most of the county has no gas service, and County leaders are correct that many modern industries will refuse to locate in an area that lacks this utility.

Unfortunately, the market opportunity for natural gas firms to extend a 20+ - mile transmission line into Adams County does not presently exist. Nevertheless, I worked diligently alongside County leaders to develop basic structures (e.g. the concept of future tax increment financing districts to finance a gas line) as market conditions evolve. Further, with pending Federal and State infrastructure support legislation, now is the perfect time to keep this vision alive and continually update it with data. Enclosed is the general gas service expansion overview I developed to aid the County as it begins conversations with grantors and the general public. The piece was designed to convey the utility's nexus with new industry (Winchester Industrial Park) and the County's Opportunity Zone to emphasize how the vision aligns with sound land use planning.

### Workforce Development Assistance

Prior to my contract, County leaders made the wise decision to invest in workforce development to support a more modern local economy. County government's purchase of a 15,000 square foot facility in West Union is a great testament to the local commitment, and I am sure it was instrumental in securing various State grants to support the facility's redevelopment into a center that will offer nursing, welding, and CNC certificate courses. It is important to note that the center will fill a critical void in that Adams County has never had a post-secondary training facility. Residents had to travel at least 15-20 miles to nearby community colleges to pursue any type of workforce training.

My role in supporting Adams County's Workforce Development & Training Center was to prepare the primary sections of a 2021 Workforce Opportunity for Rural Communities (WORC) grant application. Ultimately, a decision was made to not submit the grant, as the development of a training provider(s) model was still in its infancy. As the County has since advanced the training models and moves closer

to a ribbon-cutting, a WORC grant (or similar program) could be helpful in adding machinery and associated classes. Please contact me if you would like me to assemble a file of the data sets and general narratives that I designed to support the new center.

### Industrial Real Estate Development

Private sector redevelopment of the two coal-fired power plants is still in the early stages, and I believe County leaders made a very wise decision over five years ago to invest in a new industrial development area along the Appalachian Highway (US 32). Residents should be very proud that their County government successfully collaborated with the County Community Improvement Corp. (CIC) to purchase 55 acres that will soon be offered to site selection and corporate leaders. Heretofore, a modern industrial park environment did not exist throughout the County; thus, the new Winchester Industrial Park is a critical part of the new economic development toolkit to recruit and nurture a variety of industrial sectors. Moreover, Holly Johnson's team's experience with infrastructure grant writing and financing structures can be a source of confidence to future prospects searching for local government partnerships.

My role in regard to Winchester Industrial Park was focused on securing a key piece of the \$12 million infrastructure buildout budget. Enclosed is the Power Point I developed for Ohio Southeast's ([www.ohiose.com](http://www.ohiose.com)) investment pitch to JobsOhio ([www.jobsohio.com](http://www.jobsohio.com)) for infrastructure support. The effort was successful and resulted in a \$4.2 million JobsOhio grant for road, water, and sewer development. In addition to this grant pursuit and general consulting regarding other grant writing, I developed the enclosed marketing flyer and suggested distribution list, as the County is beginning to raise awareness among real estate and consulting professionals. Finally, as the County might pursue other forms of grant assistance to work alongside business prospects, I developed the enclosed feasibility report to more clearly highlight the justification and necessity for Park development.

I hope this summary has been helpful. I am confident that these various projects and general economic development topics constitute a good recovery roadmap for most Appalachian communities. While each of our communities is unique, new workforce, real estate, and infrastructure systems seem to be a general need. While there is of course much work to do to truly build a 21<sup>st</sup> century economy, I would hope County leaders would agree they are closer to their general vision as a result of my assistance.

Please contact me at any time to clarify any work activity within these project areas or in regard to my general consulting services. I hope to hear from you periodically to learn how the County is progressing. I cannot adequately thank you for this opportunity to engage in meaningful work. Thank you for all that you have done and will continue to do for our region!

Sincerely,




Evan Scurti  
Principal

# SCURTI consulting

DEVELOPMENT STRATEGIES | GRANT WRITING  
LOCATION ADVISORY SERVICES

## MEMORANDUM

To: Holly Johnson, Director, Adams County Economic Development Department

From: Evan Scurti, Recovery Coordinator 

RE: Creation of a County Port Authority – Rationale and Formation Process

Date: February 25, 2020

---

Dear Holly,

As we discussed recently, I believe the formation of an Adams County Port Authority could be a very valuable initiative in Adams County's near-term recovery process, while also serving as a long-term vehicle toward growth and job creation. As you know, Port Authorities have become a very common local economic development tool. Over 60 Ports, formed according to the prescribed process in Ohio Revised Code Ch. 4582, now exist throughout the State. While Ports' initial usage, as the name suggests, was related to maritime purposes, it is now well-accepted that Ports provide very strategic economic development advantages for a variety of financing and land development projects. That is why many local jurisdictions in all areas of our State utilize a Port in some manner within their overall economic development framework.

I could refer you to many in-depth articles regarding complex financing and land development tools available through a Port structure. In a very general sense, I believe the unique advantages fall into 3 broad categories: 1) Ports have the ability to offer bond financing beyond some of the constraints on Community Improvement Corporations (CIC) under Ohio law; 2) In conjunction with bond-backed financing, Ports also offer critical tax incentive advantages for large capital investments that are otherwise not available through a CIC; and 3) As an independent unit of local government under Ohio law, Ports bring the advantage of serving as a conduit for several State and Federal grants that require a local government partner. Thus, future grantors could enter into contracts directly with your Port Authority, as opposed to burdening the Board of Commissioners and other local jurisdictions with contracting processes. ***In addition to these general advantages, I would contend that the foreseeable future of Adams County's economy aligns very well with the need for a local Port Authority. Simply put, there is great potential in the next 5-10 years for large capital investment proposals within your County borders.*** Your work at the new Winchester Industrial Park and the ongoing redevelopment of the DP&L sites will present hundreds of quality acres to the development community. Prospects in the energy, metals, or other manufacturing sectors could bring large capital investment proposals searching for a partnership with a local Port Authority. In addition to these business development opportunities, your work to strengthen local infrastructure (water, sewer, the Utility Pipeline, Ltd. gas line, etc.) could be

aided by a Port's ability to facilitate creative infrastructure financing plans. Thus, I would advise your team to create a new Port with this very focused goal – bringing incentive, infrastructure, and land development powers to your economic development toolbox. Of course, the Port could evolve over time to add other initiatives and strategies to this general purpose.

While there are several steps in the Port formation process, I would like to emphasize here my general opinion regarding the proper *structure* of your future Port within the context of your economic development framework. Unfortunately, there are several examples in small market economies similar to Adams County that involve community leaders “pushing” for the creation *and* staffing of a new Port alongside a similarly staffed CIC or government economic development office that already exists. This almost always leads to confusion and political in-fighting. I will strive to illustrate in later sections of this report how a *new/additional economic development staff is not necessary when you create a Port. Many small markets have created a Port, do NOT staff it with any direct employees, and are able to use it very strategically as projects present themselves.* I hope the examples I provide will affirm this point. Most importantly, should your County Commissioners choose to create a Port and begin to appoint the Board members, it is imperative to share this vision/philosophy with the new Board and obtain their buy-in. You have built a solid economic development team/organization within your office, and I believe that team will more than suffice to provide administrative service to the new Port and its Board of Directors.

I hope these pages serve as a trusted handbook for you. I have tried to create sections that describe the major Port formation steps and cover operational topics. These sections include:

- I. The most relevant ORC Ch. 4582 sections regarding Port formation. ORC requires a local government resolution/ordinance to officially form a Port; examples of County Commissioners' resolutions are provided.
- II. Examples of Bylaws, which are required by ORC 4582.
- III. Examples of operating models that follow the aforementioned concept of an *unstaffed* Port Authority that operates under a partnership with another economic development agency.
- IV. Case Studies that highlight the effectiveness of a Port in terms of job creation, capital investment, or infrastructure development.

Please note that none of my comments within this report should be considered legal advice, as I am not a licensed attorney. All comments and sections within this report should be discussed with your legal counsel. My comments are simply from my perspective as a former Port Authority Executive Director. I hope they are helpful.

## I. Port Formation Process, Governance, and Major Powers – ORC Ch. 4582

Below are summaries of what I consider to be the most important sections of ORC 4582, as local government considers the creation of a Port Authority. I have added *italics* to highlight certain points and/or to suggest further research.

**4582.02 Creation of a Port Authority.** This section describes how any unit of local government, or any combination thereof, may create a Port simply through ordinance/resolution. Once created, the Port becomes an independent unit of local government within the State.

Examples of County Commissioner Resolutions are included at the end of this section.

**4582.021 Contracting with county prosecuting attorney.** This section was added to ORC (also discussed in ORC 309.09) in 2018 and states that a Port Board *may* contract with the County Prosecutor for legal services. If desired by all parties, this could be helpful alongside other specialized legal services, e.g. bond financing counsel.

**4582.023 Appropriation and expenditure of public funds for port authority.** This section states that any political subdivision(s) within a Port's borders (e.g. villages, cities and townships within a county) may choose to provide operating funds to the Port. The section also states that the political subdivision(s) that initially created the Port has indefinite power to dissolve the Port.

*There is a wide variety of strategies to fund Port operations in addition to local government subsidies. The Jefferson County Port Authority holds an annual fundraising appeal that has yielded approximately \$40,000.00 from local corporations to the annual general fund. Most Ports also rely on project fees charged to developers/companies in exchange for tax incentives.*

*Should Adams County Commissioners choose to create a county-wide Port, it is imperative, in my opinion, to communicate that the new Port will serve as a vehicle for economic development within ANY local village or township. Even though the Board of Directors will be created and maintained solely by the County Commissioners, there can be real value for all local jurisdictions. If that is communicated properly, then local jurisdictions will hopefully choose to provide funding and/or other support to the Port. For example, the Jefferson County Port Authority was created only by the County and City of Steubenville, but other local jurisdictions (City of Toronto, Village of Mingo Junction, and Eastern Gateway Community College) have periodically provided annual donations between \$1000--\$5000.00 to support the Port's work.*

**4582.03 Organization of Board of Directors.** The Board of Directors is created by the political subdivision(s) that created the Port. It is important to remember that the founding unit of government (e.g. Adams County Commissioners) maintains the Board appointment power throughout the life of the Port Authority. Key ORC requirements for any Port Board:

- ORC does not stipulate the number of Board members; the average around the State appears to be 5-9.

- A majority of the Board of Directors must be “qualified electors of or shall have had their businesses or places of employment in” the jurisdiction of the Port for at least 3 years prior to their appointment to the Board.

*I believe most local governments that have created Ports are using their local discretion to require that ALL members of the Board reside or do business within the Port boundaries. The Jefferson County Port Authority goes even further by requiring all Board members to live within Jefferson County.*

- When the Port is first created, Board members will serve staggered terms and then 4-year terms thereafter. There is NO local discretion regarding length (4 years) of Board member terms.

*Renewable Terms – I have not found ORC language regarding term limits. I believe the founding government has discretion to implement term limits if desired.*

- All Port Boards must appoint (via Port Board action) a Chairperson, Vice Chairperson, and Secretary. The Secretary does not need to be a Board member.

**4582.091 Confidential information.** Information submitted by a business to Port Authority during incentive discussions, property negotiations, etc. are not considered a public record under Ohio law. All communications preceding a signed contract and official decision to invest, purchase property, etc. may be held in confidence. Further, the Board of Directors has the right to enter into executive session according to ORC 121.22 to discuss potential sale or purchase of property and offerings of tax or utility incentives. All resulting contracts must then be executed in public sessions of the Board.

*I have found this to be a critical section. Businesses are often hesitant to communicate with government officials due to public record concerns. I have always emphasized this section to prospects to explain that a Port employee/administrator has confidentiality rights more liberal than a Mayor, Commissioners, etc. during discussions. HOWEVER, something that should be researched further is whether the Adams County Economic Development Office would also enjoy these confidentiality powers when serving as the Port administrator, if that administrative structure is implemented.*

**4582.121 Conveyance or exchange of property with political subdivision.**

Ports often rely on this section to perform important property sale/development services for the local governments within their jurisdiction. The Jefferson County Commissioners, for example, continue to own all available parcels in the County Industrial Park. As prospects are vetted and purchase agreements are prepared, parcels are first conveyed to the Port and then sold *without competitive bidding* to end users based upon the local officials’ desired capital investment and job creation commitments from the company.



The Board of County Commissioners of the County of Medina, met on 10/20, 2003, commencing at 9:30 o'clock, a.m., in regular session at the offices of the Board in the County Administration Building, 144 North Broadway, Medina, Ohio, with the following members present:

STEPHEN D. HAMBLEY                      SHARON A. RAY                      PATRICIA G. GEISSMAN

The Clerk advised the Board that the notice requirements of Section 121.22 of the Revised Code and the implementing rules adopted by the Board pursuant thereto were complied with for the meeting.

Mrs. Geissman offered the following preambles and resolution and moved their adoption, which motion was seconded by Ms. Ray.

RESOLUTION NO. 03- 865

**RESOLUTION CREATING THE MEDINA COUNTY PORT AUTHORITY, PROVIDING FOR THE ORGANIZATION THEREOF AND APPOINTING MEMBERS TO THE BOARD OF DIRECTORS.**

WHEREAS, under authority of Sections 4582.21 through 4582.59 of the Ohio Revised Code (the "Act"), a county may, by resolution of the county commissioners, create a port authority which shall be a body corporate and politic, have the powers and jurisdiction enumerated in the Act and have territorial limits coterminous with the territorial limits of the County as the political subdivision creating such port authority; and

WHEREAS, in order to assist Medina County in carrying out its purposes of promoting projects that will provide for the creation of jobs and employment opportunities and improve the economic welfare of the people residing in Medina County, as well as to encourage projects to enhance, foster, aid, provide or promote transportation, economic development, housing, recreation, education, governmental operations, culture or research within the territory served by the port authority; and

WHEREAS, this Board desires and determines it to be necessary to create a port authority to serve the entire area of the County, there being no port authority in existence in any portion of the County;

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of the County of Medina, State of Ohio, that:

Section 1. A port authority to be designated and known as the "Medina County Port Authority" (the "Port Authority") is hereby created under the authority of Section 4582.21 of the Act

Section 2. The Port Authority shall have territorial limits coterminous with the boundaries of the County as they now or hereafter exist. The Port Authority shall be a body corporate and politic and shall have all the powers and jurisdiction now or hereafter given to it by the Act, as the same may be expanded or limited by changes in the Act or by subsequent resolutions of this Board. The exercise of those powers and jurisdiction by the Port Authority are deemed to be essential governmental functions of the State of Ohio. The Port Authority shall comply with all provisions of law applicable to it including, but not limited to, Sections 121.22 and 149.43 of the Ohio Revised Code, in each case as modified by the Act.

In accordance with Section 4582.22(B), this Board of County Commissioners determines that the Port Authority shall have all the powers currently granted by the Act, except it shall not have the following powers or engage in the following activities:

- (a) Issue voted bonds or notes in accordance with Section 4582.31(G) of the Ohio Revised Code;
- (b) Exercise the power of eminent domain in accordance with Section 4582.31(Q) of the Ohio Revised Code,
- (c) Levy an ad valorem property tax upon the affirmative vote of the qualified electors within the Port Authority voting at an election held for the purpose in accordance with Section 4582.40 of the Ohio Revised Code; or



- (d) Participate in any undertaking which involves the relocation of a business within the boundaries of the Port Authority from one political subdivision to another political subdivision without the approval of this Board of County Commissioners.

Section 3. The Port Authority shall be governed by a nine member Board of Directors each of whom shall serve for a term of four years, provided that such Board initially shall be composed of members having terms of office commencing on the date of the adoption of this resolution and expiring as follows: two members shall have a term of office expiring December 31, 2004, two members shall have a term of office expiring December 31, 2005, two members shall have a term of office expiring December 31, 2006, and three members shall have a term of office expiring December 31, 2007. The initial appointments to the Board of Directors of the Port Authority are set forth in Section 5 of this Resolution. All of the members of the Board of Directors shall be appointed by the Board of County Commissioners and shall have the qualifications provided by Section 4582.27 of the Act and by this Resolution; provided, however, that in addition to those qualifications, the Board of County Commissioners in making appointments to the Board of Directors of the Port Authority shall also make appointments such that ;

- (i) not less than one member shall represent the City of Medina,  
(ii) not less than one member shall represent the City of Brunswick,  
(iii) not less than one member shall represent the City of Wadsworth,  
(iv) not less than one member shall represent the unincorporated areas of the County,  
(v) not less than one member shall represent the villages within the County,;  
(vi) no more than four members shall represent any one jurisdiction, and  
(vii) not less than two members shall also be members of chambers of commerce located within the County.

As used in the preceding sentence, "represent" shall mean that the particular member shall have been a qualified elector of, or shall have had his or her business or place of employment in, the particular jurisdiction in question for a period of at least three years next preceding his or her appointment. Upon the resignation or removal of a member of the Board of Directors or the expiration of a member's term of office, the Board of County Commissioners in the manner provided herein shall appoint a new member of the Board of Directors. Any person appointed to fill a vacancy shall be appointed to fill only the unexpired term and any director shall be eligible for reappointment. Effective January 1, 2006, no member of the Board of Directors may serve for more than two consecutive terms.

Section 4. No member of the Board of Directors shall serve as a paid employee of the Port Authority. The members of the Board of Directors shall serve without compensation but may receive reimbursement for reasonable expenses incurred in the performance of their duties. No member appointed to the Board of Directors shall hold any other incompatible public office. Any member of the Board of Directors may be removed by the Board of County Commissioners of the County for misfeasance, nonfeasance, or malfeasance in office. Board members may be removed for failing to abide by approved rules and regulations of the Board and lack of attendance at meetings.

- (a) Malfeasance: the performance by a public official or an act that is legally unjustified, harmful, or contrary to law; wrongdoing of an act in violation of a public trust.  
(b) Misfeasance: a wrong, actual or alleged, arising from or consisting of an affirmative action. The wrongful performance of a normally lawful act; the wrongful and injurious exercise of lawful authority.  
(c) Nonfeasance: the omission of some act that ought to have been performed.

Section 5. A majority of the members of the Board of Directors shall have been qualified electors of, or shall have their businesses or places of employment in, one or more political subdivisions within the area of jurisdiction of the Port Authority, for a period of at least three years next preceding their appointment.

The initial appointments to the Board of Directors of the Port Authority shall be as follows:

- (a) William Frantz and James Gerspacher are hereby appointed for terms ending December 31, 2004;
- (b) Robert Kenderes and Dean Harris are hereby appointed for terms ending December 31, 2005;
- (c) Ronald Paydo and Robert Madden are hereby appointed for terms ending December 31, 2006; and
- (d) Tammy Antonille, Ralph Berry, Jr. and Robert Trimble are hereby appointed for terms ending December 31, 2007;

Section 6. The Clerk of this Board, after consultation with this Board, shall give written notice of the time and place of the organizational meeting of the Board of Directors to the initial members of the Board of Directors at least five days prior to the meeting. The Clerk shall also give public notice of the time, place and purpose of the organizational meeting of the Board of Directors to news media to which notice of special meetings of this Board is required to be given, at least twenty-four hours prior to the meeting. The Board of Directors at such meeting shall pursuant to Section 4582.27 of the Revised Code, elect one of its members as chairperson and another as vice-chairperson and shall designate their terms of office, and shall appoint a secretary, who need not be a member of the Board of Directors.

Section 7. Subject to compliance with or assumption or satisfaction of the applicable requirements (if any) of any outstanding notes, bonds, contracts or other obligations of the Port Authority, the Port Authority may be dissolved at any time upon adoption of a resolution by the Board of County Commissioners of the County; provided that upon dissolution, any real or personal property or combination thereof which has been received from or made available by the County shall be returned to the County. In the event of a dissolution, and after paying all expenses, debts and costs of the Port Authority, any balance remaining in the Port Authority's funds and any remaining real or personal property belonging to the Port Authority shall be distributed to the County.

Section 8. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this Resolution were taken in an open meeting of this Board and that all deliberations of this Board and of any committees that resulted in those formal actions were in meetings open to the public in compliance with the law.

Section 9. This Resolution shall be in full force and effect immediately upon its adoption

The foregoing motion having been put to vote, the result of the roll call was as follows:

<u>Mr. Hambley</u>	<u>AYE</u>	<u>Ms. Ray</u>	<u>AYE</u>
	<u>Mrs. Geissman</u>	<u>AYE</u>	

The undersigned, Clerk of the Board of County Commissioners of the County of Medina, Ohio, does hereby certify that the foregoing is a true and correct copy of a resolution of the Board of County Commissioners duly adopted on 10/20, 2003, and appearing upon the official records of said Board.

Volume: 126 Page: 478

Adopted: 10/20, 2003

Dated: 10/20, 2003

  
 \_\_\_\_\_  
 Clerk, Board of County Commissioners  
 County of Medina, Ohio

# GUERNSEY COUNTY COMMISSIONERS

ROBERT L. HENDERSHOT

THOMAS J. LAUGHMAN

LYNNE M. JONES

128 E. 8TH STREET, SUITE 101  
CAMBRIDGE, OHIO 43725-2364

KARI A. HITZEL, Clerk  
(740) 432-9200

1-800-887-0938  
Fax (740) 432-9359

Regular Session

October 2, 2000

The Board of County Commissioners of Guernsey County, Ohio, met in regular session on the above date with the following members present: Lynne M. Jones, Robert L. Hendershot and Thomas J. Laughman

**RESOLUTION AUTHORIZING THE CREATION OF A PORT AUTHORITY WITHIN THE COUNTY OF GUERNSEY AND STATE OF OHIO IN ACCORDANCE WITH THE PROVISIONS OF SECTION 4582.21 TO 4582.99, INCLUSIVE, OF THE REVISED CODE.**

WHEREAS, Sections 4582.21 to 4582.99, inclusive, of the Revised Code of Ohio authorize the establishment and creation of port authorities by political subdivisions within the State of Ohio; and

WHEREAS, it is deemed necessary and in the best interests of all of the people residing therein to create a port authority embracing the territory of the entire County of Guernsey in the State of Ohio.

**NOW, THEREFORE, BE IT RESOLVED;**

1. A Port Authority is hereby declared to be established and created within and embracing the entire territory of the County of Guernsey in the State of Ohio.

2. That said Port Authority herein established and created shall be designated as "The Guernsey County Port Authority."

3. That The Guernsey County Port Authority created herein shall be a body corporate and politic which may sue and be sued, plead and be impleaded, and shall have the powers and jurisdiction enumerated in Sections 4582.21 to 4582.99, inclusive, of the Revised Code of Ohio. The exercise by The Guernsey County Port Authority of the powers conferred upon it shall be deemed to be essential governmental functions of the State of Ohio.

RESOLUTION AUTHORIZING THE CREATION OF A PORT AUTHORITY WITHIN THE COUNTY OF GUERNSEY AND STATE OF OHIO IN ACCORDANCE WITH THE PROVISIONS OF SECTION 4582.21 TO 4582.99, INCLUSIVE, OF THE REVISED CODE.

Page 2

A motion was made by Commissioner Hendershot, duly seconded by Commissioner Laughman, adopt the foregoing resolution this 2nd day of October, 2000.

Roll call voting resulted:

Commissioner Jones - Yea  
Commissioner Hendershot - Yea  
Commissioner Laughman - Yea

Attest:

Kari A. Hitzel  
Kari A. Hitzel, Clerk

Board of County Commissioners  
Guernsey County, Ohio

Lynne M. Jones  
Lynne M. Jones, President  
Robert L. Hendershot  
Robert L. Hendershot, Vice President  
Thomas J. Laughman  
Thomas J. Laughman, Member

I hereby certify this to be a true copy of the original resolution passed by the Board and entered in Commissioners Journal 34

10/2, 2000  
Kari A. Hitzel  
Clerk, Board of County Commissioners  
Guernsey County, OH

It is found and determined that all formal actions of this board concerning and relating to the adoption of this resolution were adopted in an open meeting of the Board and that all deliberations of this board and of any of its committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements, including Section 1.21.22 of the Ohio Revised Code.

# GUERNSEY COUNTY COMMISSIONERS

ROBERT L. HENDERSHOT

THOMAS J. LAUGHMAN

LYNNE M. JONES

128 E. 8TH STREET, SUITE 101  
CAMBRIDGE, OHIO 43725-2364

KARI A. HITZEL, Clerk  
(740) 432-9200

1-800-887-0938  
Fax (740) 432-9359

Regular Session  
December 18, 2000

**RESOLUTION APPOINTING THE INITIAL MEMBERS OF  
THE BOARD OF DIRECTORS OF THE GUERNSEY COUNTY PORT  
AUTHORITY AND MAKING RELATED DETERMINATIONS IN  
ACCORDANCE WITH THE PROVISIONS OF SECTION 4582.21 TO 4582.99,  
INCLUSIVE, OF THE OHIO REVISED CODE**

The Board of County Commissioners of Guernsey County, Ohio, met in regular session on the above date with the following members present: Lynne M. Jones and Robert L. Hendershot

WHEREAS, The Guernsey County Port Authority was created by this board by resolution adopted October 2, 2000, and

WHEREAS, it is necessary to appoint the initial members of the Board of Directors of The Guernsey County Port Authority, now, therefore, be it resolved

1. The Guernsey County Port Authority created by this Board by resolution adopted October 2, 2000, shall be governed by a Board of Directors composed of five (5) members.

The Directors first appointed shall serve staggered terms of two (2), three (3), and four (4) years. Thereafter each successor shall serve a term of four (4) years. This Board shall consider the nominations of the Board of Directors of the Guernsey County Port Authority for successors to be appointed to the Board of Directors.

The appointees of this Board of Commissioners appointed to the Board of Directors and their terms are as follows:

Effective January 1, 2001 through December 31, 2002 (2 Year Terms)  
Larry A. Caldwell, 6901 Glenn Highway, Cambridge, OH

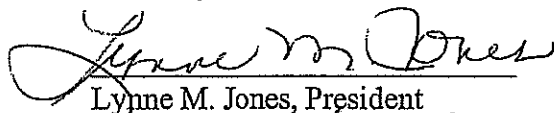
Effective January 1, 2001 through December 31, 2003 (3 Year Terms)  
Regis Woods, 9263 Liberty Road, Cambridge, OH  
Pete Mikula, 927 Wheeling Avenue, Cambridge, OH

**RESOLUTION APPOINTING THE INITIAL MEMBERS  
OF THE BOARD OF DIRECTORS OF THE GUERNSEY  
COUNTY PORT AUTHORITY AND MAKING RELATED  
DETERMINATIONS IN ACCORDANCE WITH THE  
PROVISIONS OF SECTION 4582.21 TO 4582.99, INCLUSIVE,  
OF THE OHIO REVISED CODE**

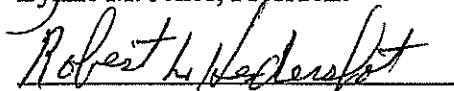
Effective January 1, 2001 through December 31, 2004 (4 Year Terms)  
Thomas Hartley, 319 Wheeling Avenue, Cambridge, OH  
Tim McKim, 9108 Southgate Road, Cambridge, OH

A motion was made by Commissioner Hendershot, duly seconded by Commissioner Jones, to adopt the foregoing resolution this 18<sup>th</sup> day of December, 2000.

All vote yea.  
Board of County Commissioners  
Guernsey County, Ohio



Lynne M. Jones, President



Robert L. Hendershot, Vice President

I heraby certify this to be a true  
copy of the original resolution  
passed by the Board and entered in  
Commissioners Journal 34

12/18, 2000

Rania H. H. H.  
Clerk, Board of County Commissioners  
Guernsey County, OH

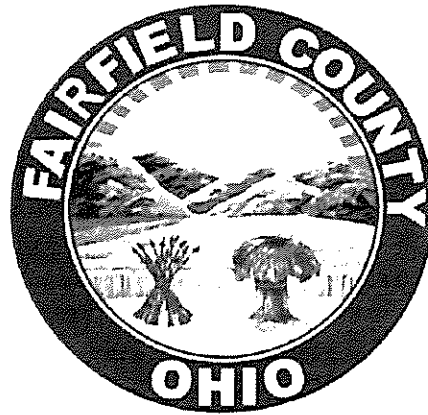
It is found and determined that all formal actions  
of this board concerning and relating to the adoption  
of this resolution were adopted in an open meeting  
of the Board and that all deliberations of this board  
and of any of its committees that resulted in such  
formal action, were in meetings open to the public,  
in compliance with all legal requirements, including  
Section 121.22 of the Ohio Revised Code.

## II. BYLAWS

Election of officers and adoption of bylaws are the first acts of a Port Board of Directors. Bylaws appear to be fairly uniform throughout the State. I have enclosed three examples, two of which are from County Commissioner-created Ports, while one (Jefferson County) is an example of a Port created through a partnership between the County Commission and the county seat municipality.

Notice that the Jefferson County Port Authority Board of Directors has delegated all Bylaws amendment powers to the founding governments (City of Steubenville and Jefferson County). This appears to *not* be common practice around the State but was presumably done because the City and County Board appointment powers (i.e. the division of appointments between City and County) are actually written into the Bylaws. Should a Port be created solely by Adams County Commissioners, I would suggest following the Medina County example -- allow the Commissioners to maintain their own records of their board appointments, beginning with their Resolution to create the Port, and then simplify the Bylaws into a document that governs the Port's meeting rules, Board officers, contract processes, etc. The Port's Board of Directors, in these County Commissioner-created Ports, should retain the power to amend the Bylaws at any time.





Fairfield County  
Port Authority  
Rules and Regulations

Adopted by the Board of  
Directors of the Fairfield County  
Port Authority

Resolution No. 2015-01

As Amended by  
Resolution No. 2015-08

**RULES AND REGULATIONS  
OF THE FAIRFIELD COUNTY PORT AUTHORITY  
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**RULES AND REGULATIONS  
OF THE FAIRFIELD COUNTY PORT AUTHORITY**

**ARTICLE I  
Offices**

**Section 1. Offices**

The Board of Directors (Board) may establish and maintain a principal office within the jurisdiction of the Fairfield County Port Authority (Port Authority) and such branch offices as the Port Authority may require.

**ARTICLE II  
Directors**

**Section 1. General Provisions**

Board members (Directors) shall be appointed and shall serve according to the terms set by the Fairfield County Board of Commissioners. The powers of the Directors are defined by Sections 4582.21 through Section 4582.59 of the Ohio Revised Code and by the Fairfield County Board of Commissioners. Directors shall comply with local, state, and federal laws and regulations in the performance of their duties.

**Section 2. Compensation**

Directors shall not be compensated for their services on the Board.

**Section 3. Reimbursement of Expenses**

Directors may be reimbursed for their reasonable expenses in the performance of their duties upon such terms and conditions as the Board may from time to time determine.

**ARTICLE III  
Officers**

**Section 1. General Provisions**

The Board shall elect a Chair and a Vice Chair from among the Directors and shall appoint an Executive Director, Secretary-Treasurer, and an Assistant Secretary-Treasurer, each of whom may, but need not be Directors.

**Section 2. Term of Office**

Bylaws Adopted January 28, 2015  
As Amended March 18, 2015

The Chair and Vice Chair shall be elected at a meeting of the Board to be held in December of each year. They shall serve for one calendar year, commencing on the January 1st following their election and expiring upon the election and qualification of their successors. The Executive Director, Secretary-Treasurer, and Assistant Secretary-Treasurer shall be appointed at a meeting of the Board to be held in December of each year. They shall serve for one calendar year, commencing on the January 1st following their election and expiring upon the appointment and qualification of their successors.

Any officer may resign by giving written notice to the Secretary-Treasurer, or in the event of resignation of the Secretary-Treasurer, by giving written notice to the Chair. Resignation shall be effective as of the date stated in such resignation. Notice of resignation shall be transmitted by the officer receiving the same to all members of the Board.

**Section 3. Removal**

All officers shall serve at the pleasure of the Board, and shall be subject to removal at any time.

**Section 4. Vacancies**

Vacancies in all offices shall be filled by the Board.

**Section 5. Chair**

The Chair shall be a member of the Board. He or she shall preside at all meetings of the Board, shall be an executive officer of the Port Authority, and shall exercise supervision over the business of the Port Authority and over its officers and employees. He or she shall have authority to sign all contracts, releases, bonds, notes, and other instruments and documents to be executed on behalf of the Port Authority requiring his or her signature without derogation of the authority specifically granted by these Rules and Regulations or by the Board to other persons. He or she shall perform such other duties and have such other authority as may be prescribed by the laws of Ohio or may be assigned to him or her from time to time by the Board.

**Section 6. Vice Chair**

The Vice Chair shall be a member of the Board. He or she shall perform the duties and have the authority of the Chair during the absence or disability of the Chair, and shall preside at the meetings of the Board when and while the Chair shall vacate the presidency. At the request of the Chair or in the Chair's absence or disability, the Vice Chair shall perform all the duties of the Chair, and when so acting shall have all the

powers of the Chairman. The Vice Chair's authority to sign in the name of the Port Authority all contracts, releases, bonds, notes and other instruments and documents to be executed on behalf of the Port Authority shall be coextensive with the Chair's signing authority. The Vice Chair shall perform such other duties and have such other authority as may be assigned to him or her from time to time by the Board or the Chair.

**Section 7. Executive Director and Assistant Fiscal Officer**

A. The Executive Director shall be the chief operating officer of the Port Authority. The Executive Director may, but need not be a member of the Board. He or she shall conduct and be responsible for the day to day activities of the Port Authority, the supervision of its personnel, the preparation of budgets, the Port Authority's planning, the scheduling of the meetings of the Board, and all other such duties as may be necessary to effect the proper operation of the Port Authority, such that the Port Authority shall remain at all times in full compliance with all federal, state, and local laws and regulations, including the terms of the Port Authority's creation set by the Board of County Commissioners of Fairfield County, Ohio.

E. The Executive Director may be compensated for his/her services such sum of money as the Board of Directors may determine and may be reimbursed for reasonable expenses incurred in the performance of these duties.

B. The Executive Director also shall serve as an Assistant Fiscal Officer of the Port Authority.

C. Before entering upon his or her duties, the Executive Director shall give a surety bond to the Port Authority in a sum to be determined from time to time by the Board. Such bond shall be conditioned upon the faithful performance of the duties of the office, to be executed by sureties satisfactory to the Port Authority. The cost of such bond and any other bonds required by these Rules and Regulations shall be paid by the Port Authority.

F. The Executive Director shall have the care and custody of the funds of the Port Authority and may on behalf of the Port Authority endorse for deposit or collection all drafts, checks, notes and other instruments and orders for the payment of money to the Port Authority of its order, and to sign receipts. The Executive Director therefore also shall be empowered: to endorse checks on behalf of the Port Authority on which the Port Authority is designated as a joint payee for its own protection under leases,

contracts, insurance settlements and other documents; to deliver such checks to the other payees or such other persons as are properly entitled to receive the same; and to report each transaction of this nature to the Board.

D. The Executive Director shall have authority to sign, on behalf of the Port Authority, all vouchers for payments to be made by the Port Authority and checks, drafts, notes and other obligations of the Port Authority for the payment of money by the Port Authority in the manner and to the extent provided in these Rules and Regulations.

E. The Executive Director from time to time and with the approval of the Board shall allocate and reallocate the Port Authority's funds into inactive funds, interim funds, active funds, and special funds, as provided and permitted by law.

F. The Executive Director, together with the Secretary-Treasurer, shall prepare and submit to the Board proposals for the annual budget and appropriations; shall maintain operations and expenditures within the budget and appropriations; and shall establish budget procedures and maintain supervision over budget control.

G. The Executive Director shall have such other authority and shall perform such other duties as are conferred by law upon or incident to the office of fiscal officer of an authority, board, commission, or business organization. He or she shall be deemed to have discharged his or her responsibilities under these Rules and Regulations if he or she shall have caused the same to be discharged by an officer, assistant, or employee of the Port Authority properly authorized or assigned to the Executive Director by the Board, except as to any duties which under law can be discharged only by the fiscal officer of a port authority, in which case the Executive Director shall be deemed to have discharged all of his or her responsibilities under these Rules and Regulations if he or she shall have caused the same to be discharged by the Secretary-Treasurer or Assistant Secretary-Treasurer.

H. The Executive Director shall have the authority to invest Port Authority funds in lawful investments as provided in the Ohio Revised Code, including by means of wire transfer between banks for the purchase of investment securities from Port Authority funds in compliance with such rules, regulations, guidelines, or policies as the Board may from time to time adopt.

I. The Executive Director shall have authority to sign on behalf of the Port Authority powers of attorney required by the United States Department of Treasury and the United States Customs Service.

**Section 8. Secretary-Treasurer and Fiscal Officer**

A. The Secretary of the Port Authority also shall be the Treasurer of the Port Authority. The Secretary-Treasurer can be, but need not be, a member of the Board of Directors.

G. The Secretary-Treasurer may be compensated for his/her services such sum of money as the Board of Directors may determine and may be reimbursed for reasonable expenses incurred in the performance of these duties.

B. The Secretary-Treasurer shall serve as the Fiscal Officer of the Port Authority.

C. Before entering upon his or her duties, the Secretary-Treasurer shall give a surety bond to the Port Authority in a sum to be determined from time to time by the Board. Such bond shall be conditioned upon the faithful performance of the duties of the office, to be executed by sureties satisfactory to the Port Authority. The cost of such bond and any other bonds required by these Rules and Regulations shall be paid by the Port Authority.

D. The Secretary-Treasurer shall attend all meetings of Board, shall keep accurate records of the proceedings at such meetings, and shall attest to the records of the proceedings. The Secretary-Treasurer shall have such authority and perform such duties as are provided by law and such as may, at any time and from time to time, be delegated to the Secretary-Treasurer by the Board of Directors.

E. The Secretary-Treasurer shall cause to be kept accurate books of account of all transactions on behalf of the Port Authority.

H. The Secretary-Treasurer shall have the care and custody of the funds of the Port Authority and may on behalf of the Port Authority endorse for deposit or collection all drafts, checks, notes and other instruments and orders for the payment of money to the Port Authority of its order, and to sign receipts. The Secretary-Treasurer therefore also



shall be empowered: to endorse checks on behalf of the Port Authority on which the Port Authority is designated as a joint payee for its own protection under leases, contracts, insurance settlements and other documents; to deliver such checks to the other payees or such other persons as are properly entitled to receive the same; and to report each transaction of this nature to the Board.

I. The Secretary-Treasurer shall have authority to sign, on behalf of the Port Authority, all vouchers for payments to be made by the Port Authority and checks, drafts, notes and other obligations of the Port Authority for the payment of money by the Port Authority in the manner and to the extent provided in these Rules and Regulations.

J. The Secretary-Treasurer shall, from time to time, with the approval of the Board of Directors, allocate and reallocate the funds of the Port Authority into inactive funds, active funds and special funds, as provided or permitted by law.

K. The Secretary-Treasurer shall assist the Executive Director in the preparation of the annual budget and appropriations; shall maintain operations and expenditures within the budget and appropriations; and shall establish budget procedures and maintain supervision over budget control.

L. The Secretary-Treasurer shall be secretary to all committees, and when directed by the chair of any committee, shall cause minutes of each meeting to be kept.

M. The Secretary-Treasurer shall have such other authority and perform such other duties as are conferred by law upon or incident to the office of Secretary-Treasurer and fiscal officer of an authority, board, commission or business organization. The Secretary-Treasurer shall be deemed to have discharged his or her responsibilities under these rules if he or she shall have caused the same to be discharged by an officer, assistant, or employee of the Port Authority properly authorized or assigned to the Secretary-Treasurer by the Board, except as to any duties which under the law can be discharged only by the Secretary-Treasurer of a Port Authority, pursuant to the provisions of Chapter 4582 of the Ohio Revised Code, and except as to any duties which under law can be discharged only by the fiscal officer of a port authority, in which case the Secretary-Treasurer shall be deemed to have discharged all of his or her responsibilities under these Rules and Regulations if he or she shall have caused the same to be discharged by the Executive Director or Assistant Secretary-Treasurer.

N. The Secretary-Treasurer shall have authority to sign, on behalf of the Port Authority, powers of attorney required by the United States Department of Treasury and the United States Customs Service.

**Section 9. Assistant Secretary-Treasurer and Assistant Fiscal Officer**

The Board may appoint one or more persons as Assistant Secretary-Treasurer, each of whom shall be an Assistant Secretary-Treasurer and Assistant Fiscal Officer, and who need not be a member of the Board of Directors. Each Assistant Secretary-Treasurer, unless otherwise specified by the laws of Ohio, these Rules and Regulations, the Board, or the Secretary-Treasurer, may perform any and all duties of the Secretary-Treasurer which are customarily and ordinarily delegated to the office of the Secretary-Treasurer and, to the extent permitted by law, may perform such further duties as may be assigned from time to time by the Board or the Secretary-Treasurer. An Assistant Secretary-Treasurer shall serve in the absence of the Secretary-Treasurer and shall have all of the powers, responsibilities and authority of the Secretary-Treasurer when operating in this capacity.

Before entering upon his or her duties, each Assistant Secretary-Treasurer and Assistant Fiscal Officer shall give a surety bond to the Port Authority in a sum to be determined from time to time by the Board. Such bond shall be conditioned upon the faithful performance of the duties of the office, to be executed by sureties satisfactory to the Port Authority. The cost of such bond and any other bonds required by these Rules and Regulations shall be paid by the Port Authority.

**Section 10. Delegation of Duties**

The authority, at all times, to delegate, transfer, assign, and reassign duties, to the extent permitted by law, remains reserved in the Board.

**ARTICLE IV  
Meetings**

**Section 1. Place of Meetings**

All meetings of the Port Authority shall be held at a location as designated from time to time by the Chair.

**Section 2. Regular Meetings**

Meetings shall be held on such date and at such time and place as shall be designated from time to time by the Chair. Notice of such meetings shall be given to the Directors at least seven (7) days before the time of such meeting.

**Section 3. Notice of Meetings**

The Secretary-Treasurer shall establish a procedure which shall provide for public notice of meetings of the Board, which notice shall contain the date, time, and place of any meeting of the Board or the Port Authority. The procedure shall comply fully with the provisions of Section 121.22 of the Ohio Revised Code, and a statement of such procedures shall be open to public inspection at all reasonable times.

**Section 4. Quorum**

A majority of all the Directors shall constitute a quorum for the transaction of business, but a lesser number may adjourn any meeting. The affirmative vote of a majority of the all of the Directors shall be necessary to pass any resolution. The affirmative vote of a majority of the Directors present at any meeting shall be necessary to pass any motion or to conduct any other business which may come before the meeting.

For purposes of these Rules and Regulations, "all the Directors" shall mean the total number of Directors positions authorized by the Resolution establishing the Port Authority, whether or not any of such positions are vacant.

**Section 5. Motions or Resolutions**

Actions of the Board shall be by resolution or motion. Resolutions shall be in written form. On the passage of every resolution or motion, the vote shall be entered in appropriate Journals.

**Section 6. Journals**

Minutes of all meetings shall be recorded in books, which shall be designated as the Journal of the Port Authority. With respect to each meeting, there shall be shown the date and place, the members present, a summary of things done, and a record of each vote taken. Resolutions adopted may be set forth in full in the minutes or identified by appropriate reference.

A separate Journal designated as the Resolutions Journal shall be kept, which shall set forth the full text of each resolution adopted by the Board, together with identification

by appropriate numbering system, and a record of the date and the vote upon its adoption.

All Journals shall be open to public inspection at all reasonable times.

**Section 7. Public Meetings**

All meetings of the Board of Directors of the Port Authority shall be open to the public, provided, however, that the Board of Directors may hold an executive session at any regular or special meeting as provided by Section 121.22 of the Ohio Revised Code.

**Section 8. Conduct of Meetings**

Meetings of the Board shall be conducted in accordance with the following procedures:

A. **Vote.** On the passage of every resolution or motion, the vote shall be entered upon the appropriate Journal of the Port Authority. Any Director shall be permitted to change his or her vote until roll call has been verified and result declared.

B. **Absent Member.** Any member who was absent from a meeting may be permitted to have his or her vote recorded upon any question acted upon during his absence; provided that such vote shall not be counted, and such member shall not be entitled to move to reconsider action on the question voted upon.

C. **Division of Question.** If any question contains two or more divisible propositions, the presiding officer may, and upon request of a Director shall, divide the same.

D. **Order of Business.** The business of regular meetings of the generally shall be transacted in the following order:

1. Roll Call
2. Submission of minutes of preceding meeting
3. Reports and communications from the Chairman, Secretary-Treasurer and the administration
4. Other reports and communication
5. Reports of committees
6. Considerations of pending resolutions and motions
7. Introduction of new resolutions and motions
8. Other business

Bylaws Adopted January 28, 2015  
As Amended March 18, 2015

9. **Adjournment**

E. **Motions.** Motions shall be presented, seconded, and acted upon in accordance with recognized parliamentary procedures. Upon request of any member, any motion shall be reduced to writing. Any motion may be withdrawn by the maker with the consent of the second before it has been amended or voted upon. All motions which have been entertained by the Chair shall be entered upon the minutes of the meeting.

F. **Reconsideration.** After decision of any question, any member who voted with the majority may move a reconsideration of any action at the same or the next succeeding meeting; provided that a resolution authorizing or relating to any contract may be reconsidered at any time before final execution of the contract.

G. **Acting Chairman.** In the absence of the Chairman and Vice Chairman, a quorum of the Board being present, the meeting shall be called to order by the Secretary for the sole purpose of entertaining a motion to nominate an Acting Chairman. An Acting Chairman shall then be selected by majority vote of the members present.

**Section 9. Telephone meetings; Proxies**

Telephone meetings shall not be permitted. Voting by Proxy shall not be permitted.

**ARTICLE V  
Committees**

**Section 1. Committees**

The Chair from time to time may create committees and appoint members and chairs of those committees.

**Section 2. Committee Meetings**

In the absence of a Chair or Vice Chair, a quorum of any committee being present, a temporary chair shall be selected by majority vote of the committee members present.

**Section 3. Advisory Board**

The Board may maintain and name the members of an Advisory Board.

**ARTICLE VI**  
**Annual Budget, Appropriations and Contracts**

**Section 1. Annual Budget**

The Board annually shall prepare a budget for the Port Authority.

**Section 2. Appropriation Resolution**

No money shall be appropriated except by resolution. All resolutions pertaining to fixing a tax rate, appropriating money, issuing bonds, creating any special fund, or creating a liability on the part of the Port Authority for the payment of money shall be authorized by the favorable vote of a majority of all the Directors.

Except as otherwise specifically limited, the adoption of a resolution appropriating money shall be deemed to include the authorization to make expenditures, enter into contracts, and perform any other necessary or incidental acts.

**Section 3. Contracts**

No contract involving an expenditure or commitment by the Port Authority of \$5,000.00 or more shall be made unless the same shall have been authorized by resolution of the Board. Contracts involving expenditures of less than \$5,000.00 may be made by the Chair, Executive Director, or Secretary-Treasurer.

**Section 4. Audits**

The Board shall cause an audit to be performed at least as often as the Auditor of State shall require by an independent certified public accountant or by the Auditor of State.

**Section 5. Fiscal Year**

The Port Authority's fiscal year shall be January 1 through December 31.

**ARTICLE VII**  
**Administration**

**Section 1. General Provisions**

The Board shall provide for the administration of the Port Authority in accordance with Section 4582.21 through Section 4582.59 of the Ohio Revised Code and other local, state and federal law.

**ARTICLE VIII**

Bylaws Adopted January 28, 2015  
As Amended March 18, 2015

## **Construction and Amendment**

### **Section 1. Construction & Separability**

Each rule and regulation set forth in these Rules and Regulations shall be construed, if possible, in a manner consistent with the laws of Ohio. If and to the extent that any rule and regulation shall be deemed to be in conflict with the laws of Ohio, such rule and regulation shall be void.

Each rule and regulation shall be deemed separable from every other rule and regulation. The invalidity of any rule and regulation shall not affect any other rule or regulation.

### **Section 2. Amendment**

These rules and regulations may at any time be amended or supplemented by majority vote of all the Directors.

RESOLUTION ADOPTING RULES AND REGULATIONS  
FOR THE MEDINA COUNTY PORT AUTHORITY.

WHEREAS, under authority of Sections 4582.21 through 4582.59 of the Ohio Revised Code (the "Act"), Medina County (the "County") has, by resolution of the Board of County Commissioners (the "Resolution"), created the Medina County Port Authority (the "Authority"), a body corporate and politic duly organized and validly existing under the laws of the State of Ohio; and

WHEREAS, the Board of County Commissioners has appointed Tammy Antonille, Ralph Berry, Jr., William Frantz, James Gerspacher, Dean Harris, Robert Kenderes, Robert Krisowaty, Ronald Paydo and Robert Trimble as members of the Board of Directors of the Authority; and

WHEREAS, the Clerk of the Board of County Commissioners has notified (i) the appointed members of this Board of Directors and (ii) the news media to which notice of special meetings of this Board is required to be given of this meeting; and

WHEREAS, public notice of this meeting has been published in a newspaper of general circulation in the jurisdiction of the Authority; and

WHEREAS, the members of the Board of Directors deem it desirable and necessary to adopt rules and regulations;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Medina County Port Authority, Ohio, that:

Section 1. The following, together with any supplements or amendments to it as may from time to time be adopted by this Board, are hereby established as the rules and regulations of the Medina County Port Authority:

RULES AND REGULATIONS  
OF THE  
MEDINA COUNTY PORT AUTHORITY

ARTICLE I

Offices

Section 1. Principal Office. The principal office of the Medina County Port Authority shall be at 144 North Broadway Street, Medina, Ohio 44256, or such other location as may be designated from time to time by the Board of Directors.



Section 2. Other Offices. The Port Authority may establish other offices, at such other places, within or without the County, as the Board of Directors may determine is required by or is in furtherance of the purposes of the Port Authority and the efficiency of its operation.

## ARTICLE II

### Officers

Section 1. Officers. The officers of the Port Authority shall be a Chairperson, a Vice-Chairperson, a Secretary and such assistant secretaries as the Board of Directors of the Port Authority may from time to time designate, provided that only the Chairperson and the Vice Chairperson need be members of the Board of Directors.

Section 2. Terms of Office. Officers shall be elected at a meeting of the Board of Directors to be held in December of each year; provided, however, that the initial election of officers shall take place at the same meeting at which these Rules and Regulations are adopted. They shall serve for a 12 month term commencing January 1 of the following year and until their successors are elected and qualified. All officers elected at the meeting at which these Rules and Regulations are adopted shall remain in office until their successors are elected in December of the following year. Any officer may resign by giving written notice to the Secretary, or in the event of resignation of the Secretary, by giving written notice to the Chairperson. Resignation shall be effective as of the date stated in such resignation or, if not therein stated, upon the appointment of a successor. Notice of resignation shall be transmitted by the officer receiving the same to all members of the Board of Directors.

Section 3. Removal. All officers shall serve at the pleasure of the Board of Directors, and shall be subject to removal at any time.

Section 4. Vacancies. Vacancies in all offices shall be filled by the Board of Directors, and may be filled by the vote of a majority of those present at any regular or special meeting at which a quorum is present.

Section 5. Chairperson. The Chairperson shall be the chief executive and administrative officer of the Port Authority. Subject to the provisions of the laws of Ohio, to these Rules and Regulations, and to the control and direction of the Board of Directors, the Chairperson shall perform the duties assigned to him/her hereby and as may be provided from time to time by the Board of Directors. The Chairperson shall preside at all administrative meetings of the Board of Directors; shall exercise supervision over the business of the Port Authority and over its officers and employees. The Chairperson shall have authority to sign contracts, releases, bonds, notes and other instruments and documents to be executed on behalf of the Port Authority requiring the Chairperson's signature, without derogation of the authority specifically granted by the rules or by the Board of Directors to other persons. The Chairperson shall be the chief officer of the Port Authority for the purpose of service of civil process and is authorized to accept such service on behalf of the Port Authority.

Section 6. Vice-Chairperson. The Vice-Chairperson shall perform the duties and have the authority of the Chairperson during the absence or disability of the Chairperson, and shall preside at the meetings of the Board of Directors when and while the Chairperson shall vacate the chair. The Vice-Chairperson shall perform such other duties and have such other authority as may be assigned to him/her from time to time by the Board of Directors or the Chairperson. At the request of the Chairperson, or in his/her absence or disability, the Vice-Chairperson shall perform all the duties of the Chairperson, and when so acting shall have all the powers of the Chairperson. The authority of the Vice-Chairperson to sign in the name of the Port Authority all contracts, releases, bonds, notes and other instruments and documents to be executed on behalf of the Port-Authority shall be coextensive with like authority of the Chairperson. At any meeting at which both the Chairperson and the Vice-Chairperson are absent, the Board of Directors, by a majority vote of those present, may elect a member of the Board of Directors to serve as presiding officer for that meeting.

Section 7. Secretary and Fiscal Officer.

- A. The Secretary shall also be the Fiscal Officer of the Port Authority. The Secretary need not be a member of the Board of Directors, but may be any administrative official of the Port Authority.
- B. If the Secretary is not a member of the Board of Directors, the Secretary shall receive such compensation as the Board of Directors shall provide.
- C. Before entering upon his/her duties, the Secretary shall give a surety bond to the Port Authority in the sum of \$25,000.00, such bond to be conditioned upon the faithful performance of the duties of the office, to be executed by sureties satisfactory to the Board of Directors. The cost of such bond and any other bonds required by these Rules and Regulations shall be paid by the Port Authority.
- D. The Secretary shall attend all meetings of the Board of Directors and shall keep accurate records of the proceedings at such meetings, which shall be attested by him/her. The Secretary shall have such authority and perform such duties as are provided by law and such as may, at any time and from time to time, be delegated to the Secretary by the Board of Directors. The Secretary shall have custody of and maintain all minutes, resolutions, records, documents and files of the Port Authority and shall certify any minutes, resolutions, records or documents of the Port Authority as true and exact copies thereof.
- E. The Secretary shall cause to be kept accurate books of account of all transactions on behalf of the Port Authority.
- F. The Secretary shall have the care and custody of the funds of the Port Authority and may on behalf of the Port Authority endorse for deposit or collection, and may deposit, all drafts, checks, notes and other instruments and orders for the payment of money to the Port Authority or its order, and may sign receipts therefor. The Secretary shall also be empowered on behalf of the Port Authority to endorse checks on which the Port Authority is designated as a joint payee for its own protection under leases, contracts, insurance settlements and other documents; and to

deliver such checks to the other payees or such other persons as are properly entitled to receive the same; and to report each transaction of this nature to the Board of Directors.

G. The Secretary shall have authority to sign, on behalf of the Port Authority, all vouchers for payments to be made by the Port Authority and checks, drafts, notes and other obligations of the Port Authority for the payment of money by the Port Authority in the manner and to the extent provided in these Rules and Regulations. The Secretary shall prepare, on a monthly basis, an itemized report of expenses and revenues of the Port Authority and shall distribute this report to the Board of Directors immediately thereafter.

H. The Secretary shall have authority to invest funds of the Port Authority in lawful investments as provided in the Ohio Revised Code. The Secretary shall, from time to time, with the approval of the Board of Directors, allocate and reallocate the funds of the Port Authority, as provided or permitted by law.

I. The Secretary shall assist in the preparation of the annual budget and appropriations; shall maintain operation and expenditures within the budget and appropriations; and shall establish budget procedures and maintain supervision over budget control.

J. The Secretary shall be secretary to all committees, and when directed by the chair of any committee or otherwise required by these Rules and Regulations and the laws of Ohio, shall cause records relating to such committees to be kept.

K. The Secretary shall have such other authority and perform such other duties as are conferred by law upon or incident to the office of Secretary and the office of the Fiscal Officer of an authority, board, commission or business organization and shall perform such other duties and have such other authority as may be prescribed by the laws of Ohio or may be assigned to him/her from time to time by the Board of Directors. The Secretary shall be deemed to have discharged his/her responsibilities under these Rules and Regulations if he/she shall have caused the same to be discharged by an assistant or employee properly authorized or assigned to the Secretary by the Board of Directors, except as to any duties which under the law can be discharged only by the Secretary or Fiscal Officer of a port authority, pursuant to the applicable provisions of the Revised Code of Ohio.

Section 8. Assistant Secretary. The Board of Directors may appoint one or more persons as Assistant Secretary, each of whom shall be an Assistant Secretary and who need not be a member of the Board of Directors. Each Assistant Secretary may, unless otherwise specified by the laws of Ohio, these Rules and Regulations, the Board of Directors or the Secretary, perform any and all duties of the Secretary, which are customarily and ordinarily delegated to the office of the Secretary or the Fiscal Officer, and, to the extent permitted by law, may perform such further duties as may be assigned from time to time by the Board of Directors or the Secretary. Before entering upon the duties, the Board of Directors may require that an Assistant Secretary shall file with the Port Authority a surety bond similar to the bond prescribed for the Secretary, in the sum of \$25,000.00.

Section 9. Assistant and Subordinate Officers. The Board of Directors may appoint such assistant and subordinate officers or employees, and hire such professional consultants or advisors as it may deem desirable or necessary, who shall hold office or employment, or be employed as independent contractors, during the pleasure of the Board of Directors and perform such duties as the Board of Directors may prescribe. The Board of Directors may authorize any officer to appoint and remove subordinate officers or employees, to prescribe their authority and duties, and to fix their compensation within amounts appropriated by the Board of Directors.

### ARTICLE III

#### Board of Directors

Section 1. Employment. Members of the Medina County Port Authority Board of Directors are prohibited from becoming an employee of the Authority for at least one year after terminating membership on the Board.

### ARTICLE IV

#### Meetings

Section 1. Quorum. A majority of all the members of the Board of Directors of the Port Authority shall constitute a quorum for the transaction of business, but a lesser number may adjourn any meeting. The affirmative vote of a majority of the Directors present at any meeting shall be necessary to adopt any resolution, motion or to conduct any other business which may come before the meeting.

Section 2. Place of Meetings. All meetings of the Board of Directors shall be held at 144 North Broadway Street, Medina, Ohio, or at such other places as may be designated by the Chairperson at a preceding meeting, or designated in the notice of the meeting as hereinafter provided.

Section 3. Meetings. It is the intention of the Board of Directors that meetings shall be held regularly, on such date and at such time and place as shall be designated from time to time by the Chairperson. Notice of such meetings shall be given to the members of the Board of Directors at least 48 hours before the time of such meeting.

Section 4. Special Meetings. Subject to the requirements set forth in Article III, Section 5, special meetings may be called at any time by the Chairperson, the Vice Chairperson or any two Directors, upon at least 24 hours notice given to each member of the Board of Directors.

Section 5. Notice of Meetings. The Secretary of the Board of Directors shall establish a procedure which shall provide for public notice of meetings of the Board of Directors of the Port Authority, which notice shall contain the time, place and date of any meeting. Said procedure shall fully comply with the provisions of Section 121.22 of the Revised Code of Ohio and a statement of such procedures shall be open to public inspection at all reasonable times.

Section 6. Motions or Resolutions. Action of the Board of Directors shall be by resolution or motion. Resolutions shall be in written form. On the adoption of every resolution or motion the vote shall be entered in the minutes of the meeting.

Section 7. Minutes. The minutes of each meeting shall be recorded in separate books which shall be designated as the Minutes of the Port Authority, bearing appropriate volume numbers, to be kept by the Secretary for that purpose. With respect to each meeting, there shall be shown the date and place at which the meeting was held, the names of the members present, a summary of things said and done, and a record of each vote taken. Resolutions adopted may be set forth in full in the minutes or identified by appropriate reference. A separate book designated as the Resolutions Book shall be kept, which shall set forth the full text of each resolution adopted by the Board of Directors, together with identification by appropriate numbering system, and a record of the date and of the vote upon its adoption. As provided by law, the minutes of the Port Authority and the Resolutions Book shall be open to public inspection during normal business hours.

Section 8. Public Meetings. All meetings of the Board of Directors of the Port Authority shall be open to the public; provided however, that the Board of Directors may hold an executive session at any regular or special meeting as provided for by Section 121.22 or Chapter 4582 of the Revised Code of Ohio.

Section 9. Rules of Procedure. Unless otherwise provided in these Rules and Regulations or by the Board of Directors, meetings of the Board of Directors shall be conducted in accordance with Robert's Rules of Order.

Section 10. Conduct of Meetings. Meetings of the Board of Directors shall be conducted in accordance with the following procedures:

A. Vote. On the adoption or defeat of every resolution or motion, the vote including any abstentions shall be entered upon the appropriate minutes of the meeting. Any member of the Board of Directors shall be permitted to change his/her vote until roll call has been verified and the result declared.

B. Absent Member. Any member who is absent from a meeting may be permitted to have his/her vote recorded upon any resolution or motion acted upon during his/her absence; provided that such vote shall not be counted for purposes of adopting or rejecting a resolution or a motion.

C. Division of Question. If any question contains two or more divisible propositions, the presiding officer may, and upon request of a member shall, divide the same.

D. Order of Business. The business of regular meetings of the Board of Directors shall generally be transacted in the following order:

1. Call to Order
2. Approval of Minutes

3. Reports and Communications from officers
4. Other Reports and Communications
5. Reports of Committees
6. Consideration of Pending Resolutions and Motions
7. Introduction of New Resolutions and Motions
8. Other Business
9. Public Comment Period
10. Adjournment

E. Motions. Motions shall be presented, seconded, and acted upon, in accordance with recognized parliamentary procedures. Upon request of any member, any motion shall be reduced to writing. Any motion may be withdrawn by the maker with the consent of the second, before it has been amended or voted upon. All motions which have been entertained by the presiding member shall be entered upon the minutes of the meeting.

F. Absence of Secretary. In the event the Secretary and any assistant secretary are not present at any meeting, the presiding member may designate any person, who need not be a member of the Board, as Acting Secretary to record the minutes of the meeting and attest any resolution adopted at such meeting. The Acting Secretary may also certify as to the authenticity of any resolution adopted at such meeting or to the correctness of a copy or extract of the minutes of such meeting.

## ARTICLE V

### Powers and Duties

Section 1. Delegation of Duties. There is reserved in the Board of Directors the authority, at all times, to delegate, transfer, assign and reassign duties, to the extent permitted by law.

Section 2. Execution of Instruments.

A. Deeds, Leases, Contracts and other Agreements. Deeds, leases, contracts, agreements and all other documents excepting those referred to in Paragraph B below, shall be signed by the person or officer specified in any pertinent statute as the person or officer required to execute such instrument. If no such statutory requirement exists, such instruments shall be signed by the Chairperson or Vice Chairperson, and by the Secretary or Assistant Secretary; the Board of Directors may at any time or from time to time designate one or more of its members or any other employee or officer to execute any such instrument for and on behalf of the Port Authority. Facsimile signatures are hereby authorized and permitted to be used to the extent permitted by law.

B. Checks, Drafts, etc. Checks, drafts, purchase orders, notes, bonds and other instruments requiring the payment of sums of money of \$2,500.00 or more shall be executed by the Chairperson of the Board and the Secretary or any authorized Assistant Fiscal Officer. The Board of Directors may at any time or from time to time designate one or more of its members or

any other employee or officer to execute any such instrument for and on behalf of the Port Authority.

Section 3. Departments. The Board of Directors may establish, for the convenience of operation of the Port Authority, such departments and staff positions as it may from time to time deem necessary, all of which departments and staff positions shall, subject to appropriation therefor by the Board of Directors, be under the supervision and direction of the Chairperson and shall be staffed as he/she may determine, with the approval of the Board of Directors.

## ARTICLE VI

### Official Seal

Section 1. Seal. The Port Authority determines it will not adopt an official seal.

## ARTICLE VII

### Committees

Section 1. Committees. The Board of Directors may, from time to time, create committees, the members and chairs of which shall be appointed by the Chairperson, unless otherwise provided by the Board. The Chairperson, in his/her discretion, may appoint citizens with special expertise to serve as ex officio members of one or more committees. Committees can be created or eliminated by the Board at any time and from time to time.

Section 2. Committee Meetings. Committees shall meet when requested to do so by the Chairperson or his/her designee or the chair or vice chair, if any, of the committee. In the absence of a chair or vice chair, a quorum of any committee being present, a temporary chair may be selected by the members present.

Section 3. Advisory Board. The Board of Directors may maintain and from time to time name the members of an advisory board and may establish from time to time committees of such advisory board which shall be composed of such members of the advisory board as shall be designated by the Chairperson. The Chairperson shall also designate one of the members of each committee as chairperson of the committee. The advisory board and each committee may establish a procedure for calling and giving notice of its meetings, the conduct of such meetings, the undertaking of its activities, and the preparation of its reports. The Chairperson shall be an ex-officio member of the advisory board and each of its committees.

## ARTICLE VIII

### Appropriations and Contracts

Section 1. Appropriations. The fiscal year of the Port Authority shall commence on January 1. The Board of Directors shall annually prepare and adopt an appropriation measure for the Port Authority no later than April 1 of each year and in accordance with the provisions of Ohio Revised Code Section 5705.38. No money shall be appropriated except by resolution. Except as otherwise specifically limited, the adoption of a resolution appropriating money shall be deemed to include the authorization to make expenditures, enter into contracts, and to perform such other acts as are necessary and incidental thereto.

Section 2. Contracts. Except as hereinafter provided, neither a contract for services nor the procurement of goods, materials, and equipment involving an expenditure or commitment by the Port Authority of more than \$2,500.00 shall be made unless the same shall have been authorized by resolution of the Board of Directors. Any and all expenditures shall be made only when funds have been appropriated and remain unencumbered for such purposes in the Port Authority budget for the then current fiscal year, and that competitive proposals or bids are sought when and as required by Ohio law.

## ARTICLE IX

### Construction and Amendment

Section 1. Construction and Separability. Each Rule and Regulation herein set forth shall be construed, if possible, in a manner consistent with the laws of Ohio, if and to the extent that any Rule and Regulation shall be deemed in conflict with any such law, such Rule and Regulation shall be void, but each Rule and Regulation shall be deemed separable from every other Rule and Regulation and its invalidity shall not affect any other Rule and Regulation.

Section 2. Amendment. These Rules and Regulations may at any time and from time to time be amended or supplemented by majority vote of the Board of Directors.

\* \* \*

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this Resolution were taken in an open meeting of this Board and that all deliberations of this Board and of any committees that resulted in those formal actions were in meetings open to the public in compliance with the law.

Section 3. This Resolution shall be in full force and effect immediately upon its adoption.

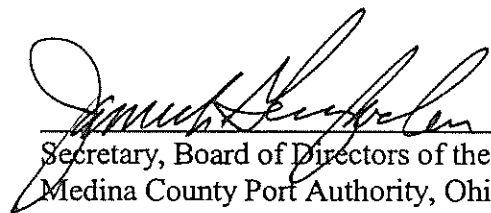


The foregoing motion having been put to a vote, the result of the roll call was as follows:

Tammy Antonille	Aye
Ralph Berry, Jr.	Aye
James Gerspacher	Aye
Dean Harris	Aye
Robert Kenderes	Aye
Ronald Paydo	Aye
Robert Trimble	Aye

I, James Gerspacher, Secretary of the Board of Directors of the Medina County Port Authority, do hereby certify that the foregoing is a true and correct copy of a resolution of the Board of Directors duly adopted November 3, 2003.

Dated: 11-3-03

  
Secretary, Board of Directors of the  
Medina County Port Authority, Ohio

## Jefferson County Port Authority

### By-Laws

#### Article I

Section 1. The Jefferson County Port Authority is a port authority formed under the provisions of Chapter 4582, Ohio Revised Code, as a body corporate and politic.

Section 2. Principal Office. The principal office of the Jefferson County Port Authority (“Authority”), its Board of Directors, and its Secretary shall be located at 500 Market Street, 1<sup>st</sup> Floor, Suite 3, Steubenville, OH 43952. The Board of Directors may establish an office at any other location within the territorial limits of the City of Steubenville or outside the city limits but within Jefferson County, Ohio, if the Board of Directors believe such a move would improve the efficiency of the Authority’s operation.

#### Article II

##### Board of Directors

Section 1. Number and Qualifications of Board Members. The Board of Directors (the “Board”) shall consist of nine (9) members. These members shall be registered voters of Jefferson County and reside within the City of Steubenville or within Jefferson County, Ohio, for a period of three (3) years preceding his or her appointment and for the duration of his or her term. Any changes to residency to outside of Jefferson County means dismissal from the Board. Commencing in 2012, each county commissioner of Jefferson County shall have one Board appointment and one appointment by the majority vote of the Commissioners, with the fourth member being a member of the Board of Realtors. The appointments from the Jefferson County Commissioners shall not be residents of the City of Steubenville. The Mayor of the City of Steubenville with the advice of the City Council and the City Manager of the City of Steubenville shall by majority vote appoint four (4) Board members with the fourth member being a member of the Jefferson County Chamber of Commerce. The appointments from the City shall be residents of the City of Steubenville. Commencing in 2012, the ninth (9<sup>th</sup>) Board member shall be a non-elected official as recommended by the membership of Jefferson County Regional Planning.

Section 2. Term of Office. One (1) of the Board members appointed by each of the City of Steubenville Council and the Board of County Commissioners of Jefferson County, Ohio, shall serve for an initial term of four (4) years. These four (4) year appointments shall be decided by majority vote of both political entities. One (1) of the Board members appointed by the City of Steubenville and the Board of County Commissioners of Jefferson County, Ohio, shall serve for an initial term of three (3) years. These three (3) year appointments shall be decided by majority vote of both political entities. One (1) of the Board members appointed by the City of Steubenville and the Board of County Commissioners of Jefferson County, Ohio, shall serve for an initial term of two (2) years. These two (2) year appointments shall be decided by majority vote of both political entities. One (1) of the Board members appointed by the City of

Steubenville and the Board of County Commissioners of Jefferson County, Ohio, shall serve for an initial term of one (1) year. This one (1) year appointment shall be decided by majority vote of both political entities. The Board member appointed by the Jefferson County Regional Planning Commission, shall serve for an initial term of one (1) year. Thereafter each successor member of the Board of Directors shall serve for a term of four (4) years, except that any person appointed to fill a vacancy shall be appointed to only serve for the remaining unexpired term. The term of a Board member will, if necessary, only continue for up to 60 days beyond its normal expiration date. If no nominee is appointed, the Board position will remain vacant until an appointment is made by the appropriate authority. After the initial appointment, a Board member may be reappointed to additional terms, according to the terms of Board appointments.

Section 3. Resignation/Removal. Any member of the Board may resign by giving written notice of such resignation to the Chairperson of the Board. Such resignation shall be effective the date desired by the Board member. Any member of the Board shall be removed by the majority of the Board if a Board member misses three (3) consecutive regular meetings of the Board or misses more than a total of four (4) regular meetings on an annual basis if monthly meetings are held or if a Board member commits misfeasance, nonfeasance, or malfeasance in office or commits a felony or take any act in contravention of Ohio Revised Code Chapter 4582 of Ohio law.

Section 4. Vacancies. Vacancies in the position of any member of the Board shall be filled by the appointing entity.

Section 5. Ex-Officio Members. The City Manager of the City of Steubenville, the Chairman of City of Steubenville's Economic Development Committee, the Mayor of the City of Steubenville and the Chairperson of the Board of Commissioners of Jefferson County shall be ex-officio non-voting members of the Board. Ex-officio non-voting members of the Board may designate a person to represent him or her in the event of inability to attend any scheduled meeting of the Board.

Section 6. Board Member Compensation. Members of the Board of Directors shall serve without compensation. Board members, however, shall be eligible for reimbursement of reasonable expenses, as determined by the Board, in the performance of official duties.

Section 7. Civil Immunity. In addition to any immunity from civil liability that is conferred upon a Director or Board member by any other provision of the revised Code or by decisions of Ohio or any court of competent jurisdiction including Federal Courts, no member of the Board of Directors of the Authority shall be personally liable for any monetary damages that arise from actions taken in the performance of his or her official duties, except for acts or omissions that are not in good faith or that involve intentional misconduct or a knowing violation of law, or any transaction from which the Director or Board member derived an improper benefit.

### Article III

#### Officers

Section 1. Officers. The Board of Directors shall elect by a majority roll call vote one member from the Board to serve as Chairperson and one member from the Board as Vice Chairperson and one member from the Board as Secretary. Each officer has equal voting rights with other Board members. The Chairperson shall serve a two (2) year term and may serve more than one (1) term, but not in succession.

Section 2. Term of Office. All officers elected pursuant to the adoption of these Rules and Regulations of the Jefferson County Port Authority shall continue to hold office until the January reorganizational meeting or until their successors take office. Thereafter, the term of each officer shall be two (2) years in duration and until his or her successor takes office. At the December meeting, the Chairperson will accept nominations from the Board of Directors for the offices of Chairperson, Vice Chairperson, and Secretary. The Chairperson will contact each Director to ensure that the nominated Director has accepted the nomination and is willing to serve in such capacity. Officers currently serving will preside at the January meeting until the new officers are elected and placed into office. During the January meeting the Board of Directors will vote independently for each office. A roll call will be taken for each vote. Upon completion of the election, new officers will take over immediately and preside for the remainder of the meeting and commence their terms of office. Anyone becoming a Board Member or officer cannot be employed by the Authority, nor any of the appointing entities.

Section 3. Resignation. Any officer may resign his or her position as such officer by giving written notice of such resignation to the Chairperson of the Board of Directors, provided that in the event of resignation of the Chairperson, then such written notice shall be given to the Vice Chairperson. The resignation shall be effective when such resigning officer states in their letter. Notice of the resignation shall be transmitted officially at the next meeting of the Board of Directors. The resignation does not require a Board acceptance or vote.

Section 4. Removal. All officers shall serve at the pleasure of the Board of Directors and shall be subject to removal by majority of vote of the Board of Directors. An officer shall also be automatically removed as an office holder in the event such officer commits misfeasance, nonfeasance, or malfeasance in office, commits felony, or takes any act in contravention of Ohio Revised Code Chapter 4582 of Ohio law.

Section 5. Vacancies. Vacancies in the position of any officer shall be filled by the Board of Directors by majority roll call vote for the remainder of such officer's term of office.

Section 6. Chairperson. The Chairperson shall preside at all meetings of the Board of Directors and shall be the chief executive officer of the Authority. He or she shall perform all duties commonly incident to the position of presiding officer of a Board or commission and all duties commonly incident to the position of chief executive officer of a Board of Directors and shall exercise supervision over the business of the Authority, its officers and any employees. Any authority given to the Director for contractual business or entering into agreements shall only occur if the majority of the Board of Directors grants such authority. The Chairperson in conducting meetings shall follow Robert's Rules of Order. The Chairperson shall appoint from among the members of the Board of Directors and any outside resource/experts to such

committees, both standing and special, as may be needed to investigate, evaluate, and recommend matters of policy and matters involving specific courses of action to the Board of Directors, when appropriate in conducting the business of the Authority. The Chairperson shall maintain a close liaison with the appropriate officials of Jefferson County and the City of Steubenville in matters which are of common interest to the County, the City and the Authority.

Section 7. Vice Chairperson. The Vice Chairperson shall perform the duties and have the authority of the Chairperson during the absence or inability of the Chairperson to perform his or her duties, and shall preside at all meetings of the Board of Directors when and while the Chairperson is absent. At any meeting at which both the Chairperson and Vice Chairperson are absent then the secretary shall preside and run the Board of Directors meeting.

Section 8. Secretary. The Secretary shall attend all meetings of the Board of Directors and shall keep accurate minutes of the proceedings at such meetings. The Secretary shall have authority to perform such duties as are provided by law and may, at any time, as may be delegated by the Board of Directors. Custody of the minutes belong to the Board of Directors but preparation of minutes is the duty of the Secretary. The Secretary also prepares and records all resolutions adopted by the Board of Directors.

The Secretary shall be the fiscal officer for the Board of Directors. Before receiving any moneys on behalf of the Board, the Secretary shall furnish a bond in accordance with Section 4582.22 of the Ohio Revised Code in such amount as shall be determined by the Authority and will be reimbursed for such bond by the Authority, with sureties satisfactory to the Authority and all funds coming into the hands of the Secretary shall be deposited by him or her into the bank account of the Authority as determined by the Board. All funds shall be secured in the same manner as funds are required to be secured by the Auditor for the County of Jefferson, Ohio. No disbursements shall be made from such funds except in accordance with the rules adopted by the Authority or specific actions of the majority of the Board of Directors. The Secretary shall have the care and custody of the funds that belong to the Board of Directors. The Secretary shall have the authority to deposit monies on behalf of the Board of Directors. All purchasing over \$500.00 must have the approval of the majority of the Board of Directors. The Secretary has the authority to write checks not to exceed \$500.00. Two signatures are required on all checks that are distributed on behalf of the Authority. The signatories shall be the Chairperson, the Vice Chairperson and the Secretary. The Secretary shall prepare and submit to the Board of Directors proposals for the annual budget and shall establish budget procedures and supervision over budget control.

Section 9. Assistant Secretary. The Board of Directors may appoint an assistant to the Secretary when the Board deems such assistance appropriate and necessary. An Assistant Secretary may perform any and all duties and have the authority of the Secretary, including that of fiscal officer, excepting only such authority and duties as are specified by Chapter 4582 of the revised Code, Ohio law. The Assistant Secretary shall perform any duty the Secretary or the Board of Directors deem necessary within the scope of the position of Secretary. The Board of Directors may require that an Assistant Secretary provide a surety bond similar to that of the Secretary.

Section 10. Other Assistant and Subordinate Officers. The Board of Directors may from time to time appoint an executive director and such assistant, subordinate, and other employees, professional consultants or advisors as it deems desirable or necessary, who shall be employed on terms and conditions determined in the sole and absolute discretion of the Board of Directors. The hiring of such individuals shall go through the appropriate hiring and review process. The executive director shall be hired by a roll call vote of the Board of Directors. Any person appointed or employed pursuant to this section shall perform such duties as the Board of Directors may prescribe. The Board of Directors may authorize an executive director to employ and discharge such assistants, subordinates, and other employees and professional consultants and prescribe the authority and duties of such individuals or persons.

#### Article IV Meetings

Section 1. Quorum. A majority of the Board of Directors shall constitute a quorum for purposes of holding a meeting of the Board. The affirmative vote of the majority of a quorum shall be necessary for any action taken by the Authority. The loss of a quorum following commencement of a meeting shall not require adjournment of such meeting, but no action may be taken by or in the name of the Authority without a quorum present. Absentee, telephonic or proxy voting shall not be allowed at any time.

Section 2. Regular meetings. Regular meetings of the Board of Directors shall establish meeting times and frequencies with monthly regular meetings held at least once a month during the calendar year. The place and time of meetings shall be determined by the majority of the Board of Directors. Notices of all regular meetings shall be posted in such a manner as from time to time is required by the Ohio Revised Code.

Section 3. Special Meetings. Special meetings of the Board of Directors may be called at any time by the Chairperson or the Vice Chairperson or any two (2) members of the Board of Directors. A written notice must be given to all members of the Board of Directors when a special meeting is called. Proper notice shall be given either by hand delivery, courier delivery, facsimile transmission, or electronic mail with a delivery/read confirmation and must be done at least two (2) days prior to the commencement of the meeting. Failure to give proper notice to all members of the Board of Directors shall constitute a failure to properly communicate with the Board of Directors and any action taken during such meeting will be considered null and void and not properly authorized. Notices of all regular meetings shall be posted in such a manner as from time to time is required by the Ohio Revised Code.

Section 4. Minutes and Resolutions. Action of the Board of Directors shall be done through resolutions and/or motions. Resolutions shall be in written form. The vote by each Board member shall be officially recorded into the minutes of the meeting. The minutes of each meeting of the Board of Directors shall be recorded in a book titled the Minute Book bearing appropriate volume numbers. With respect to each meeting there shall be shown in the minutes the date and place at which the meeting was held, the names of the members present and absent, a summary of the meeting and a record of each vote taken. Resolutions adopted shall identify by

appropriate reference to the number and title of such resolution. Each resolution adopted by the Board of Directors will be numbered, signed by the Chairperson or the Board member presiding at the meeting, attested by the Secretary or Assistant Secretary and maintained in a separate book titled: the Resolution Book, bearing appropriate volume numbers. Each resolution shall bear as a prefix to its number the year in which it has been adopted. The Minute Book and Resolution Book shall be open to the inspection of the public at a reasonable time at the offices of the Authority.

Section 5. Public Meetings: all meetings of the Board of Directors shall be open to the public in accordance with Ohio Revised Code section 121.22.

Section 6. Rules of Procedure. Unless otherwise provided, meetings of the Board of Directors shall be conducted in accordance with Robert's Rules of Order.

Section 7. Conduct of Meetings. Any member of the Board of Directors shall be permitted to change his or her vote until roll call has been taken. Board members must be in attendance (physically present) at the meeting to officially cast his or her vote.

Section 8. Motions. Motions shall be presented, seconded, and acted upon in accordance with said recognized parliamentary procedures. Upon request of any member of the Board of Directors, any motion shall be placed in writing. Any motion, prior to a vote, may be withdrawn. All motions are to be recorded and placed into the minutes.

Section 9. Absence of Secretary. In the event the Secretary and the Assistant Secretary are not present at a meeting, the presiding member of the Board of Directors may designate a person to be Acting Secretary.

Section 10. Abstention from Vote. In the event of a possible conflict of interest among any members of the Board of Directors on an issue coming before the Board, then such member shall physically remove himself or herself from the meeting during the discussion of said issue and abstain from voting on the issue in question.

#### Article V Administration and Employment.

Section 1. Assistant and Subordinate Officers. The Board of Directors by majority vote may appoint an executive director and an assistant or other employees, professional consultants or advisors as it may deem necessary. All employment must be approved by majority vote of the Board of Directors.

Section 2. Executive Director. These duties will be determined by majority vote of the Board of Directors.

#### Article VI Powers, Appropriations and Contracts

Section 1. Appropriations. Appropriations and budget procedures shall be in accordance and consistent with Ohio Revised Code and the pertinent provisions of Ohio Revised Code Chapter 4582.

Section 2. Contracts. Contracts shall be entered into in accordance with the applicable provisions of the Ohio Revised Code. Any expenditure over \$50,000.00 must utilize a competitive sealed bidding process in accordance with the Authority's Procurement Policy. Additionally, all procurement must be done in accordance with Ohio Revised Code Chapter 4582.12.

Section 3. Execution of Instruments/All Necessary Acts. All contracts, agreements, checks, negotiable instruments, purchase orders, and other documents shall be executed by the person or officer designated in any pertinent provision of the Ohio Revised Code or Ohio Revised Code Chapter 4582. If no such statutory requirement exists, such instruments shall be executed by the Chairperson or Vice Chairperson and by the Secretary or the Assistant Secretary pursuant to a motion adopted by the Board of Directors. The Board of Directors may, at any time, designate one or more of its members or any other employee or officer of the Authority, including the Executive Director to execute any such instrument for and on behalf of the Authority.

Section 4. Audit. The Authority shall be audited by the Ohio Auditor of State's office according to a schedule determined by said office.

Article VII  
Fiscal year

The Authority shall operate on a fiscal year of January one through December 31.

Article VIII  
Amendments

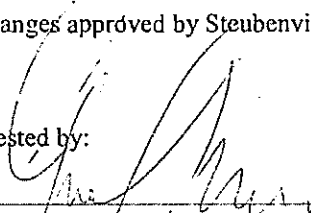
Section 1. Amendments. These Rules and Regulations may at any time be amended, modified, or supplemented with the approval of the Board of Commissioners of Jefferson County and the City of Steubenville City Council.

\*changes recommended to Jefferson County Board of Commissioners and Steubenville City Council by the Port Authority Board of Directors - Motion # 2017-06-04; June 30, 2017 board meeting.

\*changes approved by the Jefferson County Board of Commissioners at their July 13, 2017 meeting.

\*changes approved by Steubenville City Council at their August 8, 2017 meeting.

Attested by:

  
\_\_\_\_\_  
Greg Nemeth, Secretary

8/10/17



### III. OPERATING MODELS

As Adams County begins Port creation discussions, I would recommend meeting with economic development leaders and public officials from three counties to inform your decision-making. Athens, Guernsey, and Medina Counties all feature local economic development systems that include the utilization of a Port for strategic projects, while employing the economic development staff through a non-profit corporation. The Medina County Port's *Administrative Services Agreement* is enclosed as a solid template of how to connect the Port with the non-profit agency and its staff in order to ensure that Port development tools are deployed effectively. While Adams County presents a slightly different scenario (i.e. the economic development team is employed by County government), I would presume that a similar structure could be achieved with your current staff.

The economic development leaders in these three counties have all had great success in recent years, and they have all spoken to the importance of a Port in deploying key strategies, primarily in the areas of industrial park development, prospect recruitment, and infrastructure upgrades. I would be happy to facilitate meetings where you could learn about their projects and administrative structures.

Finally, I am available to serve as an ongoing advisor throughout my Recovery Coordinator contract term to help you initiate the Port formation process as well as guide the new Board of Directors. Some other administrative/operational ideas that I could offer your team include:

1. Under my leadership, the newly-formed Jefferson County Port Authority approved several policies (records retention, contract procurement, travel, etc.) that served as a solid foundation and satisfied basic auditing requirements. All of these policies are available as templates.
2. The Jefferson County Port contracts with a fiscal advisor who performs most accounting procedures. The advisor's best advice was to shift the new Port into the State's Uniform Accounting Network ( <https://ohioauditor.gov/uan.html> ). This could be explored, but I would also suggest having accounting discussions with the three aforementioned Directors.
3. Through my research I have not found any ORC requirement that a Port Board meet monthly, although that does appear to be the standard meeting frequency for Ohio Ports. I would suggest beginning with quarterly Board meetings as a new Board is formed and basic structures are put in place. Frequency can always be increased if the new Port immediately becomes engaged in projects.

Adams County leaders are obviously very busy with several new strategies as part of the recovery process. Forming a Port, in my opinion, could greatly aide the County's ability to attract and facilitate quality investment and job creation, but the process does not have to be an overwhelming burden. I would enjoy the opportunity to expand this discussion and guide you step-by-step in this important work.

## Administrative Services Agreement

This Agreement for Administrative Services (this "Agreement") is made effective as of January 1, 2020, by and between the Medina County Port Authority, of Medina, Ohio and the Service Provider, Medina County Economic Development Corporation, of Medina, Ohio. In this Agreement, the party who is contracting to receive the services shall be referred to as "MCPA", and the party who will be providing the services shall be referred to as "MCEDC".

In consideration of the mutual promises set forth below, the parties agree as follows:

**DESCRIPTION OF SERVICES.** Beginning on January 1, 2020, MCEDC will provide Administrative Support and Services as described here and that includes accounting, clerical, secretarial, receptionist assistance, public records retention, response to public records requests, fiber network communications and any other administrative services reasonably requested by the MCPA and agreed to by the MCEDC.

**SERVICE PROVIDER'S FEE.** In consideration of the services to be performed by MCEDC, MCPA agrees to compensate MCEDC for the services rendered as follows:

MCEDC's administrative fee for the services specified in Description of Services above will be invoiced annually at a rate of \$20,000 per year. This rate could be amended by approval of MCPA's annual budget.

Some additional services (which could include but is not limited to a copier lease, mileage and other incidentals) will be charged at the actual cost of services or an agreed-upon fixed price.

Other additional services (which could include but are not limited to office and meeting supplies, phone charges and other incidentals) will be charged at a rate of 20% of the actual cost of services.

The charges for these additional services will be totaled and approved by an officer of MCPA and will be invoiced to MCPA on a quarterly basis.

**CONFIDENTIALITY.** MCEDC will not at any time or in any manner, either directly or indirectly, use for the benefit of MCEDC, or divulge, disclose, or communicate in any manner any information that is proprietary to MCPA. This provision shall continue to be effective after the termination of this Agreement.

**ENTIRE AGREEMENT.** This Agreement contains the entire agreement of the parties, and there are no other promises or conditions in any other agreement whether oral or written.

  
\_\_\_\_\_  
Rick Sisko, Acting Chair, MCPA

12/21/19  
Date

  
\_\_\_\_\_  
Bethany Dentler, Executive Director, MCEDC

12/4/19  
Date

#### IV. CASE STUDIES

Ports around the State are using their financing and land development powers to achieve success stories for their communities. The two examples below will hopefully be instructive, as they both capitalized on opportunities (and needs) very similar to Adams County scenarios.

##### Plains Energy's Development of a 47-ac. Natural Gas River Terminal—Jefferson County

Plains Energy approached the newly-formed Jefferson County Port Authority in 2015, seeking abatement of sales taxes associated with their proposed \$50 million storage facility at a former FirstEnergy substation site with river access just north of Toronto. ORC allows Ports to offer a full exemption of the sales tax associated with the materials purchased during construction. The process involves the Port constructing the land improvements and leasing them to the prospect, typically for a four-year term with a guaranteed buyout. Within this arrangement, ORC allows the prospect to manage and fund the construction, without any public bidding or prevailing wage requirements. The Port's sales tax exemption on all construction materials flows through to the prospect's bottom line. This program is available to Ohio's Ports, but not its CIC's.

The standard project involves: 1) Financing provided by a bond sale issued by the Port and secured by the project; 2) The prospect paying the Port's legal fees, typically \$25--\$50,000.00; and 3) The prospect paying a service fee to the Port equal to 15-20% of the gross sales tax savings. For example, a \$50 million capital investment will typically involve \$25 million of materials. The 7.25% applied sales tax results in a sales tax burden (without incentives) of \$1,812,500.00. After paying the Port's service and legal fees, the company would still enjoy a sales tax abatement upwards of \$1.4 million, creating a **win-win scenario of company savings along with significant fee revenue that supports the Port and reduces the burden on local governments, which are often tasked with funding a local Port.**

The Jefferson County Port secured \$145,000.00 in fees from Plains and sold the assets back to the company in July 2019. **The project aligns with Adams County in two important ways:**

1. Jefferson County is facing many river site redevelopment opportunities, which are expected to attract large capital investment proposals. This will hopefully be the case in Adams as the Manchester DP&L sites move toward redevelopment. These projects will often negotiate for financing / sales tax abatement that can only be provided through an Ohio Port.
2. The success story is proof that large capital investments do not require a large, well-established Port as a project partner. With dedicated advisors (the Port received excellent guidance from Bricker & Eckler) and a focused staff, a small, new Port can complete these projects.

##### The Medina County Fiber Network ([www.medinacountyfibernet.com](http://www.medinacountyfibernet.com))

Medina County utilized its Port in 2013 to build and own a fiber optic network. The infrastructure has become a critical foundation for the county's growing and diversified economy that relies on high-speed telecommunications. The website contains several success stories of advanced manufacturing, engineering, and other sectors who are thriving and creating jobs and rely heavily on this infrastructure. It is a great success story that highlights how public leaders and economic developers will find true, lasting success when they do the hard work and focus on infrastructure to support their future.

**Of course, the comparable to Adams County is the 2020 gas transmission line and other core infrastructure work.** Medina has exhibited how a Port provides an excellent vehicle (for financing, management and other functions) for complex, expensive infrastructure projects.

# Feasibility Analysis for the Creation of the Winchester Industrial Park Adams County, OH

## **Submitted by:**

**Evan Scurti, Principal**

**Scurti Consulting LLC**

*-serving as Adams County Economic Recovery Coordinator via contract with the Ohio Valley Regional Development Commission (1/10/20—12/31/21).*

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## **Introduction**

The creation of a modern Industrial Park has been a goal of Adams County leaders dating back to at least 2015. As Adams County has historically been an agricultural and coal-dominated economy, with two Dayton Power & Light (DP&L) coal-fired power plants in southern Adams County, economic development leaders understood the need to diversify to build resiliency for local citizens. As coal-fired plants along the Ohio River Corridor and throughout Appalachia were being retired, momentum gathered to create a modern industrial park that would serve job-seekers for years to come. Of course, the wisdom of the vision was validated in 2018 when DP&L announced the immediate closure of the power plants, resulting in devastating effects on the local economy and local residents. Additionally, any analysis of available industrial real estate in Adams County and contiguous counties will lead to the conclusion that new industrial park creation is a very defensible goal for local government and quasi-government economic development agencies. There is very little industrial real estate “product” in the multi-county Southern Ohio area to offer to prospects. Thus, Adams County leadership understood their important role in filling this void and helping the area reach its economic development potential.

Adams County exhibited strong commitment to this goal in 2018/2019 with the purchase of 55 acres along US Highway 32 (the Appalachian Highway) for the ultimate creation of the Winchester Industrial Park. County Government and the Community Improvement Corporation (CIC) collaborated on the \$364,090.00 purchase, which was accomplished with local funds free of State or Federal subsidies. This bold commitment was recognized by regional and State leaders and discussions with them pertaining to an infrastructure buildout vision began in earnest.

## **Specific Economic Needs Analysis**

In addition to the general rationale described above, the need for a modern industrial park to attract new job opportunities could not be clearer. The following key socioeconomic and competitiveness statistics have been shared with various State and Federal grantors and other stakeholders to explain the importance of Winchester Industrial Park within the economic development framework:

- As outlined in the Ohio University Voinovich School’s May 2018 report, the DP&L closures had a devastating effect on the local economy:

- 1,130 jobs lost (370 direct and 760 indirect contractors/vendors) that accounted for a total annual payroll of \$82 million
  - A loss of \$8.5 million in annual local tax revenue
  - A loss of \$700 million in regional output
- Children in Poverty: Even prior to the DP&L closures, 2018 Census updates revealed that Adams County was the third poorest of Ohio's 88 counties in terms of children under 18, with a rate of 29.1% vs. Ohio's 19.2%.
  - Commute Times: Ohio Department of Development research indicates a need for local job creation as Adams County residents commute averages 36.5 minutes vs. an Ohio mean of 23.4 minutes.
  - Realizing the Potential for Petrochemical (and related sectors) Industrial Development: Since the 2018 land purchase, County leaders have focused on a close partnership with leadership at JobsOhio's regional affiliate, OhioSoutheast ([www.ohiose.com](http://www.ohiose.com)). As the regional arm of the state's dedicated economic development organization, OhioSE is a critical partner both in terms of petitioning for infrastructure funding assistance and implementing best practices in regard to marketing and prospect negotiations as the industrial park is prepared for parcel sales/leases to job creators.

OhioSE has remained a very close partner, as their leadership has explained how Winchester Industrial Park will fill a significant void of available industrial property in Adams, Scioto and surrounding counties. County leaders came to understand that this void was not only a problem in the local/regional economy, but an issue from a statewide economic development perspective as well. Natural gas development within the Utica Shale, despite some recent market volatility, continues to be a major opportunity for Ohio, with much of the activity and its associated industrial development potential occurring along the Ohio River Corridor throughout Ohio's Appalachian counties. Thus, if Adams County is to realize its potential and capture the investment of petrochemical corporations searching for locations along the corridor, the creation of Winchester Industrial Park is an absolute necessity. This dynamic coupled with the County's overall economic development track record is what led to a significant 2021 infrastructure grant from JobsOhio, as outlined below.

### **Infrastructure Analysis and Buildout Plan**

The Adams County Economic Development, led by Executive Director Holly Johnson since 2011, has developed a complete infrastructure deployment plan that will allow the industrial park to entertain development proposals beginning in late 2023. In addition to the new infrastructure that will be necessary for manufacturing and logistics activities, the Economic Development Office

has clearly communicated existing infrastructure attributes that make Winchester Industrial Park a wise investment for State and Federal grantors. This includes:

- The Park offers a unique and strategic industrial location along the Appalachian Highway (US 32) in Southern Ohio. The park's rural selling points will be coupled with easy access to a metropolitan workforce and other business relationships. Winchester Industrial Park is located only 40 miles east of the Cincinnati outerbelt and 54 miles from the Port of Cincinnati.
- US 32 is an approved business corridor within the Federal government's 3,090-mile Appalachian Development Highway System.
- A rail spur into the park is feasible if two rail bridges in Portsmouth are rehabilitated.
- JobsOhio recognized the potential for the park, beginning in 2019 and funded full due diligence studies, which revealed no environmental or soil bearing capacity issues.

JobsOhio jumpstarted the creation of the industrial park in 2021 by awarding \$4.2 million toward the thorough 12.8 million infrastructure buildout plan developed by the Economic Development Office. <https://ohiose.com/news/adams-county-community-improvement-corporation-cic-receives-4-2-million-jobsOhio-grant-to-develop-the-winchester-industrial-park-and-attract-new-business/>

JobsOhio fully vetted the situation and came to the strong conclusion that the local infrastructure plan is justified and will bring a solid return on investment to local and State tax revenue streams. The reasonable development analysis presented by the Economic Development Office included a buildout vision of 300,000 square feet of facilities and a \$10 million payroll throughout the Park, which would include a forecast of 300 jobs at an average salary of \$35,000.00 per year. This buildout potential will yield \$9 million cumulative over 20 years to local and State tax revenues, according to the JobsOhio-approved analysis.

In short, JobsOhio's large grant in an important Southern Ohio industrial asset validated the local leaders' vision and ability to procure the remaining \$8.6 million to complete infrastructure buildout. Applications to the Ohio EPA and federal Appalachian Regional Commission are in process and expected to be awarded in 2022. The \$12.8 million infrastructure plan will include:

- Land acquisition and roadwork construction to access the park at the eastern end from US 32.
- A 12" water main extension and construction of a 200,000-gallon tank to be owned by the Village of Winchester. At-site water capacity of 425,000gpd will be achieved.
- Construction of a 6" sewer main and a 700,000 gallon sewer system. At-site capacity will be 400,000gpd.

### **Alignment with Local Economic Development**

The creation and management of industrial parks can be a complex process that requires sophisticated skills and patience at the local economic development level. Despite Adams County's rural

location and depleted local tax revenue since the DP&L closures, the county is blessed with a high-performing local development office. Led by Holly Johnson's 10+ years as Executive Director, the local office offers complete economic development services, including marketing and prospect negotiations and grant management. Under Holly's leadership, the office has secured and managed over \$32 million in infrastructure grants. Specifically, Holly has experience with large corporate investment proposals and is thus more than prepared to entertain and execute Winchester Industrial Park development proposals. Major successes have included the recruitment of Columbus Industries to a 167,000 square foot facility and leading incentives procurement and road expansion to facilitate GE Testing's \$90 million expansion in Peebles.

In addition to a strong track record, the local development office can offer unique assets to Winchester Industrial Park projects. Those include the Opportunity Zone, which contains Winchester Industrial Park in its entirety, a Workforce Development Center being developed by Holly's team and ready to offer classes in 2022. In addition to real estate, County leaders recognized that the lack of post-secondary training (Adams County contains no community college or other post-secondary facilities) was a major drawback in terms of new business recruitment. Beginning next year, industrial prospects will be able to utilize a 15,000 square foot renovated facility that will offer certificate training programs in welding, CNC training, CDS truck driving, and nursing assistance. The creation of the County government-owned Workforce Training Center is a great testament to Adams County's understanding of modern, comprehensive economic development. The local team is very prepared to invite and execute new development proposals that will bring a much-needed diversity of job opportunities.

## **Conclusion**

The foregoing has hopefully illustrated how the creation of the Winchester Industrial Park is not only feasible but represents a once-in-a-generation opportunity for Adams County and all of Southern Ohio to realize its potential in modern site selection. Specifically, the successful development of the Park is likely because of:

1. A well-thought-out infrastructure deployment plan, utilizing local government partnerships and a significant grant (JobsOhio's \$4.2 million) that has spearheaded the process.
2. A local economic development office with deep experience in both infrastructure grant and construction processes and incentives negotiations. The team is well-equipped to lead parcel sale/lease negotiations and recommend final actions by the CIC Board and Board of County Commissioners.
3. Data presented by OhioSE clearly depicted the opportunity for 21<sup>st</sup> century industrial real estate development in the Adams County area. The growth of sectors like petrochemical along the Ohio River Corridor bodes very well for the likely success of job-creating parcel sales within Winchester Industrial Park.
4. Strong consensus around the overall *need* for the Park due to persistent poverty exacerbated by the DP&L closures. Local elected officials and regional/State leaders are expected to support the Park's growth and viability for years to come.

# Winchester Industrial Park

Southern Ohio's Premiere Industrial Park Setting Along the Appalachian Highway



Adams County Commissioners and the County CIC have collaborated on the acquisition of over 55 acres as part of the County's comprehensive economic development plan focused on creating a more diverse local economy. The \$12 million infrastructure deployment (new access road and water/sewer extensions) will be completed in 2022. Developers are encouraged to contact the County Economic Development Office to discuss pricing and job creation proposals:

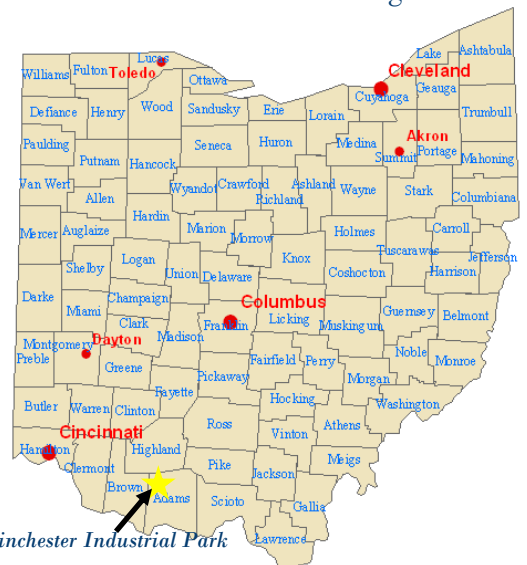
**Adams County Economic Development: Holly Johnson, Director; 937-544-5151; [holly.johnson@adamscountyoh.gov](mailto:holly.johnson@adamscountyoh.gov)**

## JobsOhio Support

Recognized for its location within Adams County's large Opportunity Zone north of US 32 (the federally-designated Appalachian Hwy.), the Winchester Industrial Park received a **\$4.2M** infrastructure grant from JobsOhio, the State's leading economic development organization ([www.jobsohio.com](http://www.jobsohio.com)). The Park is poised to be a critical asset for corporate expansions, as the Ohio River Corridor is fast becoming a focus of the modern Midwest site selection process.



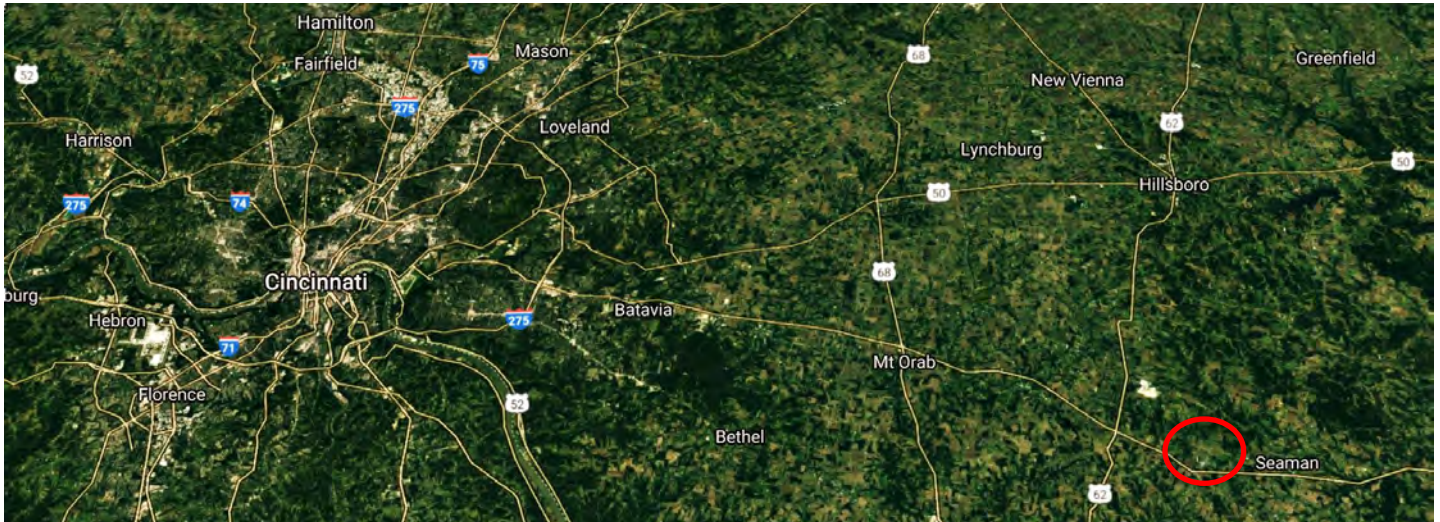
*August 2021 Groundbreaking with JobsOhio officials*





# A Strategic Location within an Unparalleled Economic Development Framework

Located just 35 mi. east of the Cincinnati metro area, the Park's US 32 location offers the ideal balance of a rural setting with easy access to consumer markets and a sizable workforce.



## Economic Development Leadership

County leaders have a long track record of successful public-private partnerships to create an environment that welcomes corporate investments to a rural setting (2019 county pop. estimate—27,698). Since the 2018 closure of two coal-fired power plants within the county, the development team has focused on asset creation to attract new investments (and expansions) from a variety of industries. Some economic development success stories include:

Adams County Regional Water District—Development leaders' foresight created the district in 1969, making innovative industrial developments possible.

GE's Testing Facility (Peebles, OH)—\$200M has been invested in the facility since 2006, with the \$90M '07 expansion facilitated by the Development Office's procurement of \$845,000 in road expansion grants.

Workforce Center — As part of a comprehensive redevelopment strategy, the County purchased a 15,000 sf bldg. in 2018 and is creating the county's first post-secondary center focused on welding, machining and healthcare.

*The local development team processes millions of dollars of grants each year and has recently entered into real estate ownership. Spec building and other public-private partnership proposals are welcomed and encouraged at Winchester Industrial Park!*



*Rendering of the new Adams County Workforce Development & Training Center, scheduled to open in late 2021.*

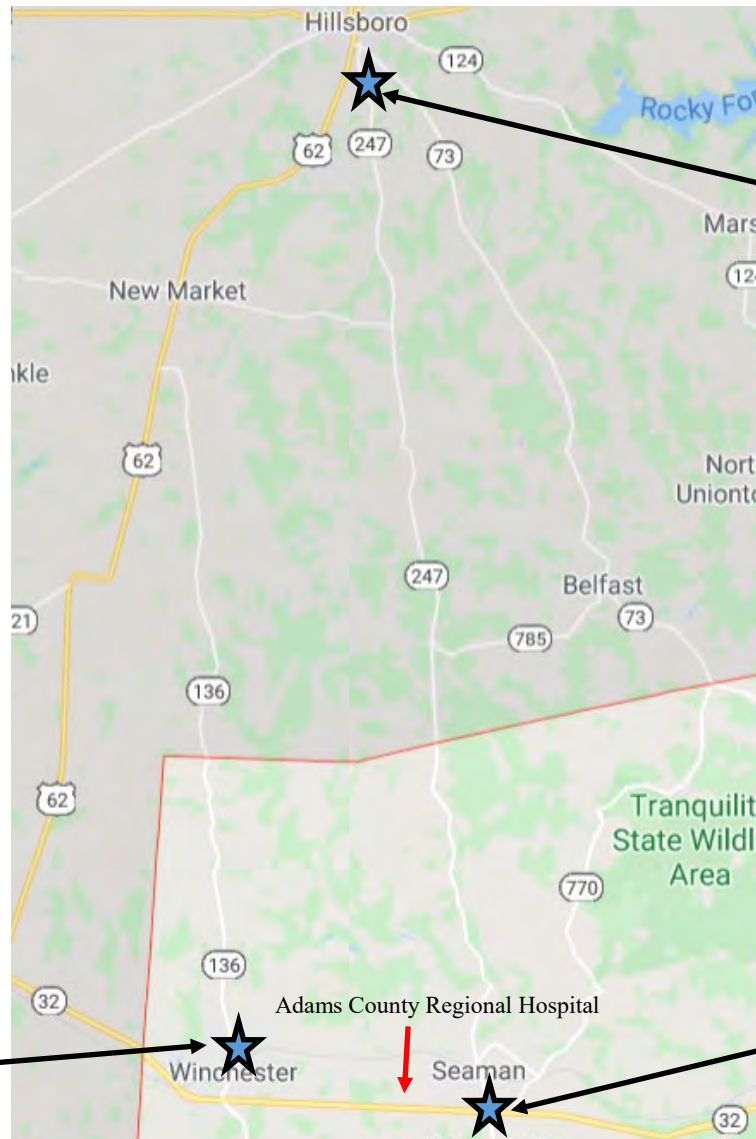
Bryce Custer	NAI Spring	Bryce@naispring.com
Jason Kester	Agracel	jkester@agracel.com
Anthony Adornetto	Shai—Hess	aadornetto@shai-hess.com
A.J. Pantoni, Dir. Indus. Brokerage	Hanna LWE	ajpantoni@hannalwe.com
Pat Sentner	CBRE	Patrick.sentner@cbre.com
Jason Hamman	Hamman Consulting	Jason@hammanconsulting.com
Michelle Comerford	Biggins Lacy & Shapiro	mcomerford@blsstrategies.com
Craig Price	Propel Development	craig@propel-development.com
Jim Lenner	Burton Planning	jlenner@burtonplanning.com
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Global Location Strategies	Didi Caldwell	didicaldwell@glsconsults.com
Next Move Group	Chad Chancellor	chad@thenextmovegroup.com
Vorys Sater Seymour & Pease	Scott Ziance	sjziance@vorys.com
Bricker & Eckler	Caleb Bell	cbell@bricker.com
D. Byers & Associates	Dorinda Byers	Dorinda@dbyersassoc.com
Ohio Ec. Dev. Assc.	Mark Barbash / Jennifer Price	mbarbash@ohioeda.com jprice@ohioeda.com

# Adams County, OH 2020 Natural Gas Service Expansion Plan

County leaders, working in conjunction with gas service expansion specialists at Utility Pipeline, Ltd ([www.utilitypipelineltd.com](http://www.utilitypipelineltd.com)), are prepared to bring low-cost natural gas service into rural Adams County utilizing the corridors of SR 247 and 32 (the Appalachian Highway).

The approximately 25-mi. pipeline extension project represents the county's 2020 shift to a more diverse economy, including low-cost energy options for citizens, medical providers and businesses.

The transmission line will extend west approx. 5.6mi. to Winchester, serving the new 55-ac. Winchester Industrial Park, a collaborative development effort between County Government and the County CIC.



Tie-in Location on the south side of the Village of Hillsboro

Adams County northern border with Highland County

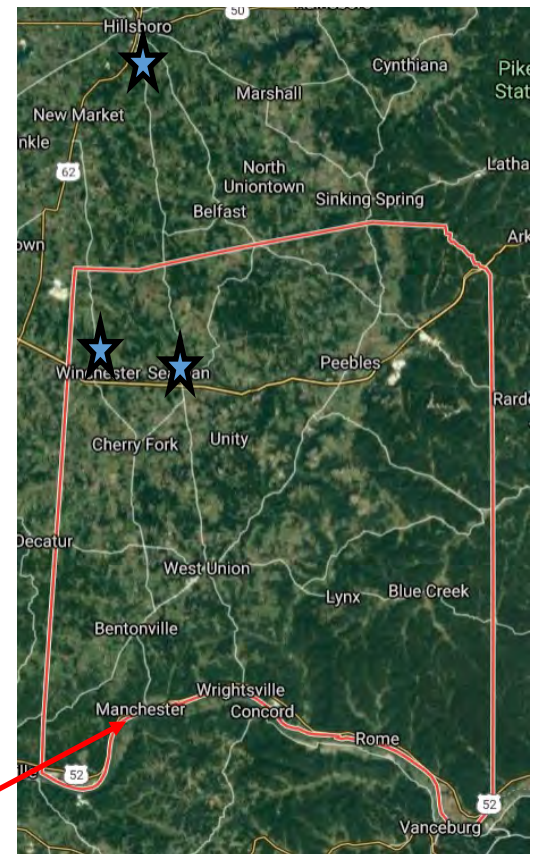
Transmission line extension approx. 19mi. South along SR 247 to the SR 32 intersection

## 2020 Gas Line Extension Within the Regional Planning Context

In response to Dayton Power & Light's 2018 closure of 2 coal-powered electric generating plants and the overall need for a more diversified economy, the greater region has embarked upon proactive planning. A partnership between the Ohio Valley Regional Development Commission and Ohio University was awarded a \$1.6million planning grant from the U.S. Economic Development Administration's (EDA) Assistance to Coal Communities Program. Known as the BOBCAT ("Building Opportunities Beyond Coal Accelerating Transition") Network Project, the regional planning effort has a particular focus on Adams, Lawrence, and Scioto Counties due to the large employer and laborshed footprint that has been displaced in these three counties.

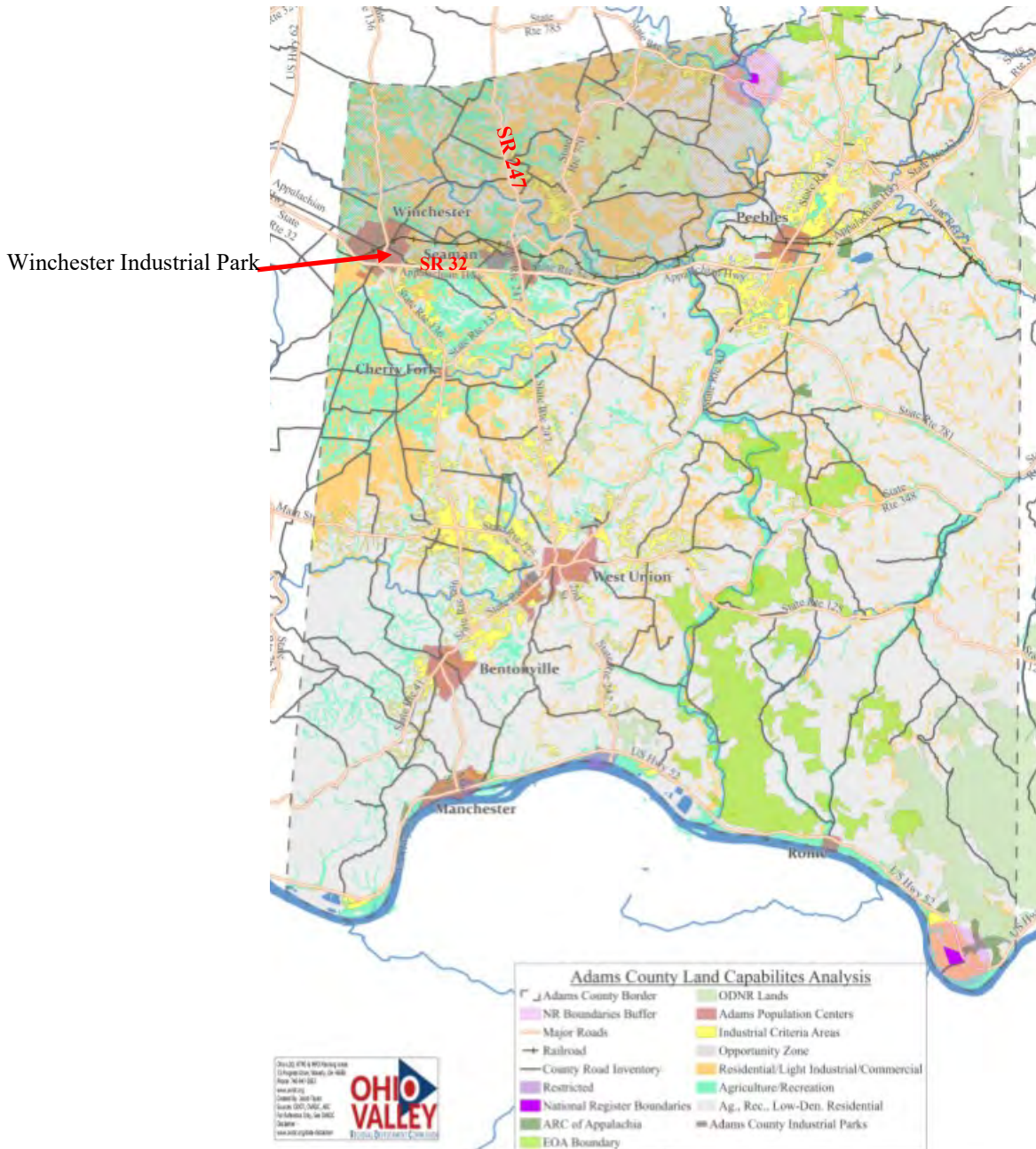
Adams County infrastructure, workforce development, and site preparation projects are contained within this regional plan. In addition to the 2020 gas line project, major projects reaching the implementation stage include:

- The creation of an adult workforce training center, focusing on the medical, manufacturing, and logistics sectors. The new 15,000sf building has been purchased by the County and will fill Adams County's void of having no post-secondary education options.
- The creation of the 55-acre Winchester Industrial Park, located on SR32, to be served by the new gas line. Full utility buildout and initial parcel sales are slated for 2021.



2 Dayton Power & Light coal-powered electric generating plants closed in 2018 in Manchester. The closures displaced over 1000 full-time employees in the region.

# Focused Land Use and Economic Development Planning for 2020 and Beyond



Detailed Adams County land use analyses were completed in 2019 as part of the regional BOBCAT planning process. The Ohio Valley Regional Development Commission ([www.ovrdc.org](http://www.ovrdc.org)) produced a land use planning vision that supports the County's goals in regard to redevelopment and future growth after the closure of the power plants. The Land Capabilities Analysis also directly supports the SR 247 / SR 32 gas line extension strategy. The transmission line route aligns with the following land use planning dynamics:

1. Adams County has developed with much of its current population, as well as growth projections, being west of SR 41, running from the SW corner of the county to the NE. The transmission line strategy allows populated areas to immediately access this new utility service, leaving open strong possibilities for expansion of the service in future years.
2. The transmission line will penetrate the federally-designated Opportunity Zone (OZ) in the NW corner of the county. This is the only OZ in the county, and its selection reflects the industrial and residential growth potential of the general area. County leaders are encouraged by the federal government's support of their vision of the Winchester area as a premiere growth opportunity on the Appalachian Highway. The industrial park presents investment opportunities to nationwide OZ developers.
3. The 2020 transmission line strategy represents an immediate opportunity to complete a fully-serviced, modern industrial setting — the 55-acre Winchester Industrial Park. With a plan to pursue all relevant funding for water, sewer, road, and gas infrastructure, land sales to new or expanding employers are expected in 2021.

# Winchester Industrial Park



County leaders are rapidly advancing a plan to create the premiere industrial park along the Appalachian Highway, a critical corridor that links the Adams County area to major metropolitan markets. The Park will offer 55 acres to prospects in various manufacturing and logistics sectors that are expected to keenly focus on this area in the coming years. Despite the recent job loss problems ushered in by Dayton Power & Light's closure of two power generating units, Adams County's locational and workforce advantages as a place to do business remain. The value proposition for Winchester Industrial Park will further be supported by the fact that Ohio's river communities, in general, are poised for growth due to the current focus on the Ohio River as a renewed industrial corridor in the Midwest. Simply put, the Winchester Industrial Park represents a cornerstone of the local community's focus on creating a diversified economy with excellent job opportunities for local citizens.

In addition to new natural gas service, the infrastructure vision for the new Park includes:

- Significant increase in water availability via a new 12" County feed line and new 500,000 gallon water storage tank east of the Park. The Village of Winchester, including the new Park, will see increased water capacity of 1 million gallons per day (gpd) .
- Sewage treatment service to be provided by a new Winchester treatment plant with a 750,000 gpd capacity.
- Industrial Park entrance through a CR 136 road improvement concept.

# **Utility Pipeline, Ltd. 2020 Gas Line Extension Project**

## ***Financing Strategy and Proposed Funding Sources***

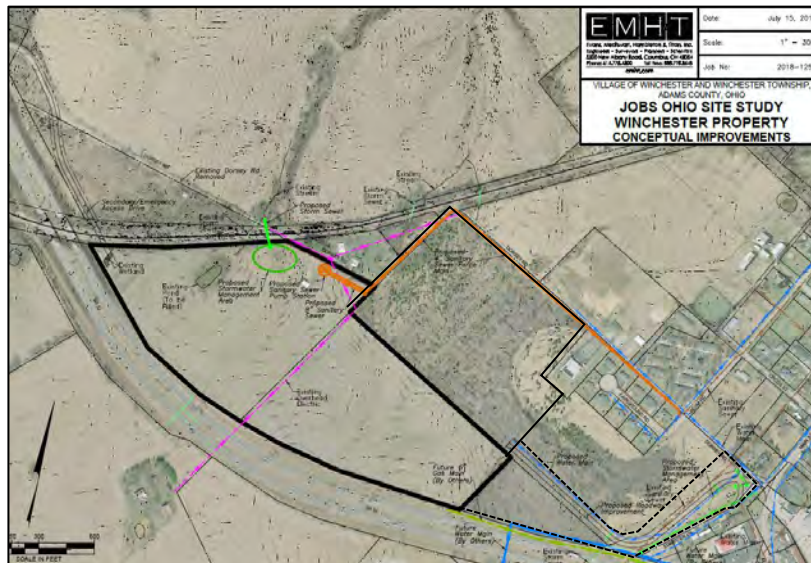
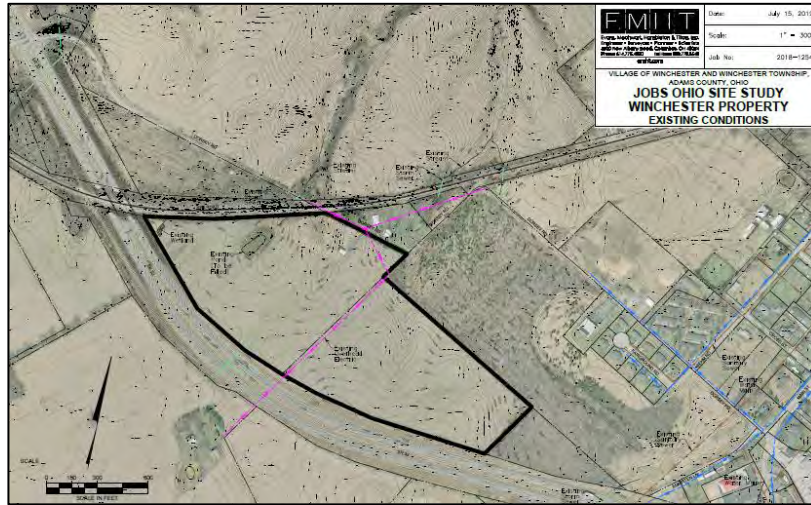
The gas line extension from Hillsboro (Highland County) into Adams County and west to the new Industrial Park is proposed as a Knox Energy Cooperative asset, under the management of Utility Pipeline, Ltd. ([www.utilitypipelineltd.com](http://www.utilitypipelineltd.com)). This structure has proven to be an ideal strategy in similar rural areas of Ohio. It not only offers immediate economic development advantages, but presents the best model for inexpensive natural gas to Adams and Highland County homeowners.

This financing vision for this critical Appalachian infrastructure project revolves around a local—State-Federal partnership model. The local cost-share requirement of \$15.5 million will be supported by grant applications and/or financing structures presented to the following programs and agencies:

1. JobsOhio — specifically, JobsOhio’s new Ohio Site Inventory Program (OSIP) is a bold \$250 million statewide effort (\$50 million over 5 fiscal years) to help communities create shovel-ready sites and buildings for industrial prospects. The Winchester Industrial Park will be presented as a strong candidate in Southern Ohio. OSIP will offer project support equivalent to a maximum of 50% of an industrial site or building’s cost, with JobsOhio support capped at \$5 million through a combination of loan and grant support.
2. Federal Infrastructure Financing Programs — County leaders are tracking several federal programs that target rural infrastructure. There is precedent for natural gas projects being supported by federal agencies.

# Winchester Industrial Park (Adams County)

State Route 32, Winchester, Ohio 45697



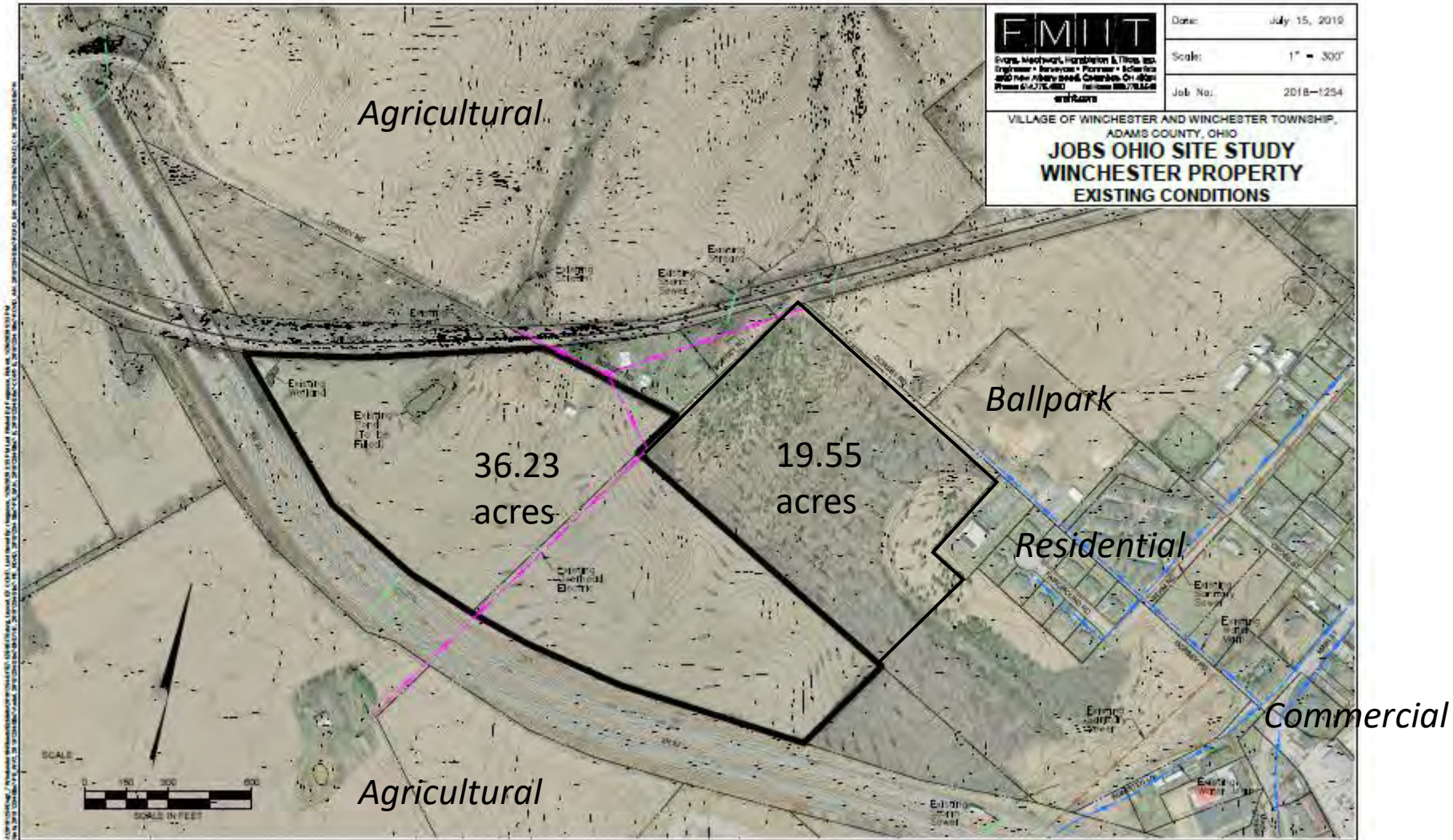
- Requesting **\$4,408,100 JOSDGA grant** toward a \$12.89MM infrastructure buildout plan
- For water and sewer improvements and a new roadway access via SR 136
- Resulting in 55-acre industrial park with safe and convenient truck access and all utilities, ready for sale in Q4 2022

# Site Overview

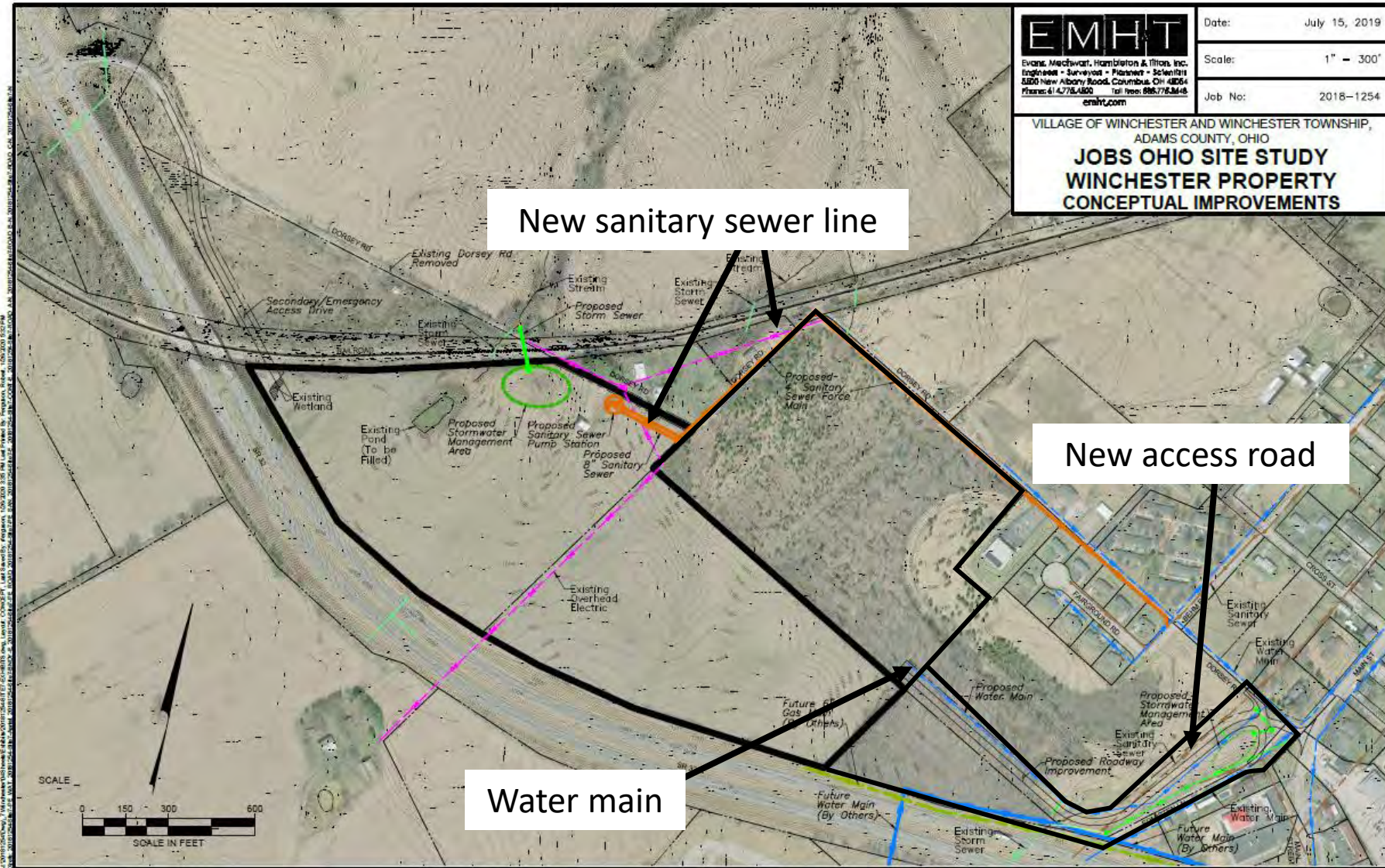




# Existing Conditions & Site Neighbors



# Future State with Site Improvements



# Site History

# Timeline of industrial park development

Historical use to present	The land has been used for agriculture and continues to be farmed.
1990	Central Trust Company acquired the property
1999	<b>Transferred to Milacron, Inc.</b>
2000	Transferred to Churches of Christ
2006	Farmstead dwelling demolished
2011	Transferred to Winchester Church of Christ Christian Union, Inc.
2018	<b>Adams County Community Improvement Corporation (CIC) acquired the property (36.23 acres) for \$217,398.</b>
2018	Preliminary site development plans prepared by CT Consultants
2019	All due diligence studies completed on 36.23 acres.
2019	<b>The Adams County Commissioners purchased 19.55 adjacent acres for \$146,692.50.</b>
2019	Trees cleared from 19.55-acre parcel

# Investment to Date

Adams County Community Improvement Corporation (CIC) purchased 36.23 acres	\$217,398.00
The Adams County Commissioners purchased 19.55 adjacent acres	\$146,692.50
<b>TOTAL INVESTMENT</b>	<b>\$364,090.50</b>



# Physical Site Attributes

# Transportation Access: Highway



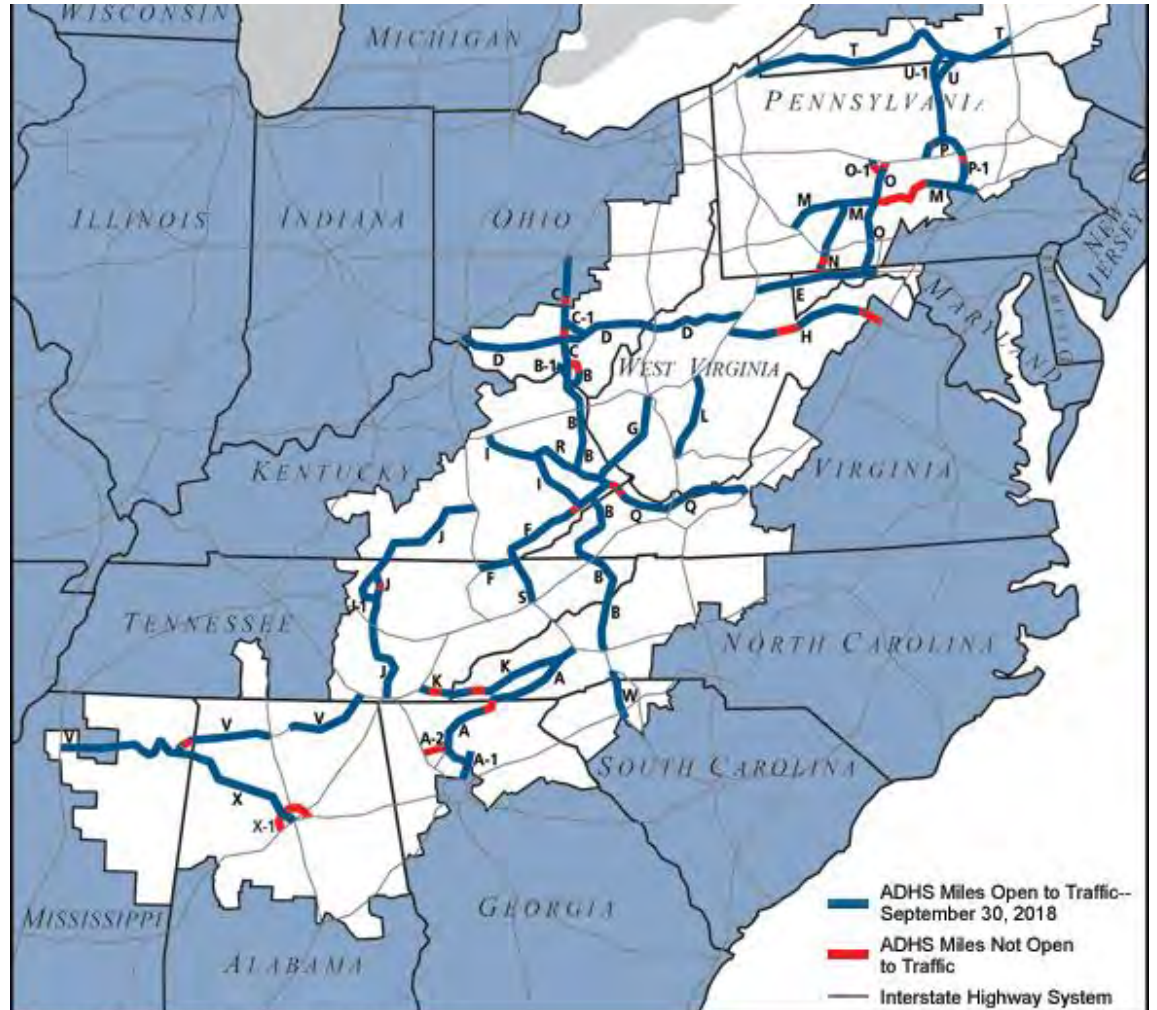
- The Winchester Industrial Park is located immediately off of four-lane highway State Route 32, aka The Appalachian Highway, with visibility from the highway.
- The Appalachian Highway links the Cincinnati market to East Coast markets and emerging oil and gas development in WV.
- Industrial park distances to
  - Cincinnati outerbelt direct via SR 32: **40 mi.**
  - Columbus via CR 62 and I-71: **96 mi.**
  - Charleston, WV, via SR 32, SR 35 and I-64: **149 mi.**



# Transportation Access: Highway

The Winchester Industrial Park not only aligns with state goal of aligning Southern OH development with nearby metro markets, but it meets the national goals of the Congressionally-designated Appalachian Development Highway System (ADHS).

SR 32 is an approved corridor within ADHS's 3,090-mile multi-state system to connect Appalachian residents and businesses to larger markets.



Source: Appalachian Regional Commission

# Transportation Access: Air

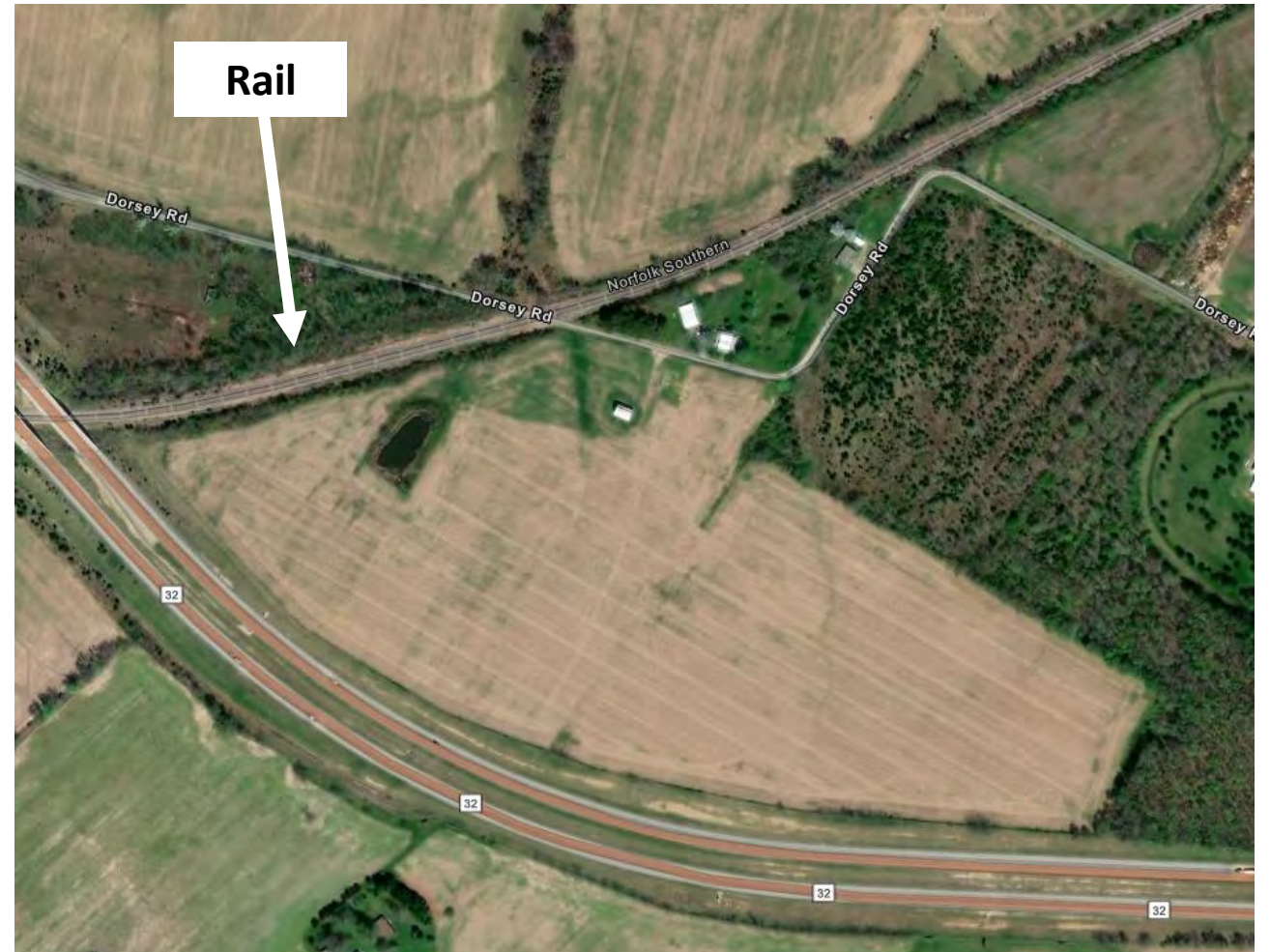
Distance from Winchester Industrial Park

- Cincinnati/Northern Kentucky International Airport (CVG): **60 miles**
- Rickenbacker International Airport with air cargo (LCK): **98 miles**
- John Glenn Columbus International Airport (CMH): **104 miles**

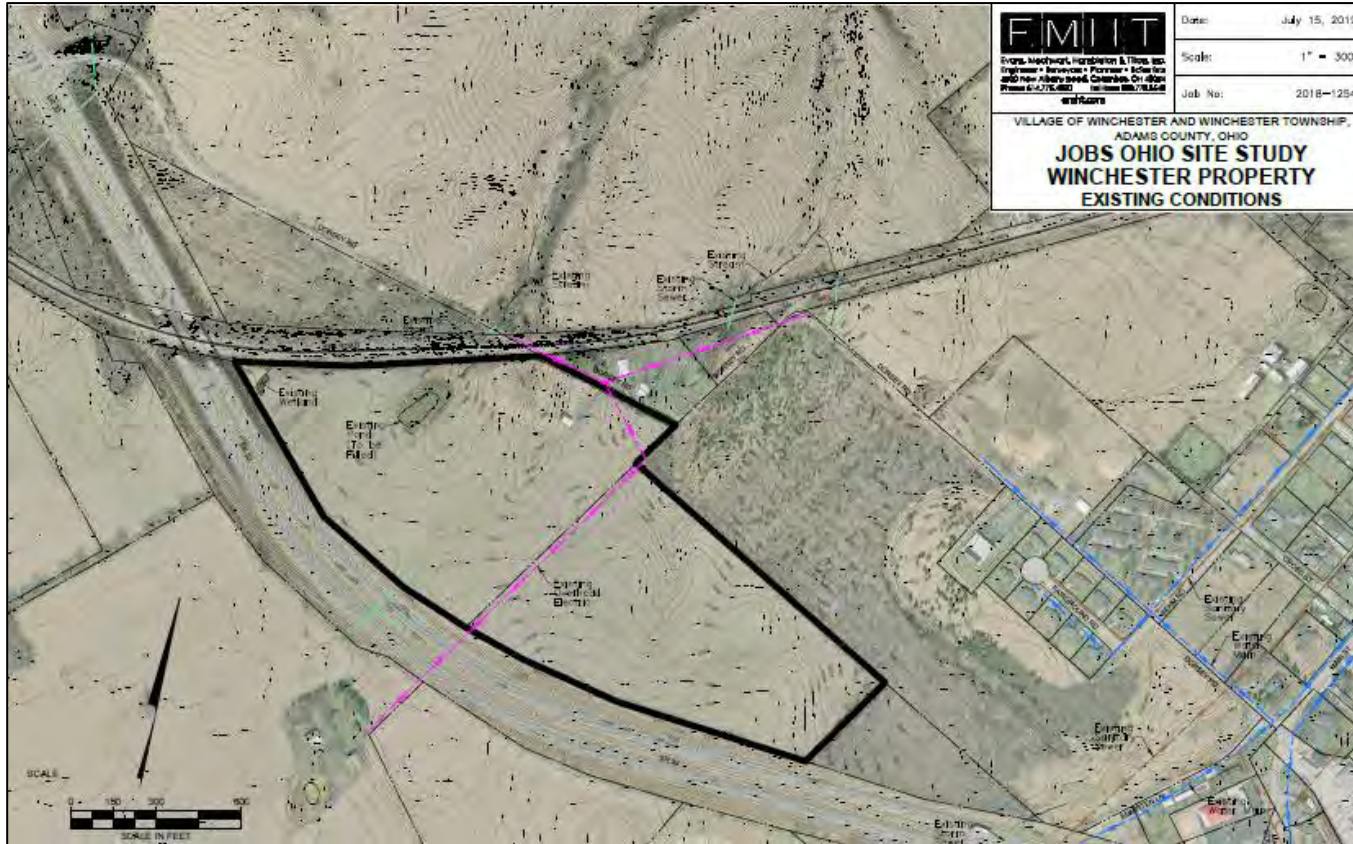


# Transportation Access: Rail

- Rail is adjacent to the site along the northwest border.
- Rail spur on site is feasible.
- Tracks are currently inactive but have potential for reuse with rehabilitation of two bridges in Portsmouth area.



# Utility Map



Utility	Current Capacity
<b>Electric</b> AEP Ohio	Single-phase 250 kVA line is currently in place.
<b>Water</b> Village of Winchester	6" water main adjacent to the site and 100,000 gallon tank with 42,000 GPD of excess capacity.
<b>Sewer</b> Village of Winchester	Sewer system is operating at half capacity with an excess capacity of 85,000 GPD.
<b>Natural Gas</b> Utility Pipeline	No service currently; cost to extend to the site is \$15.5M . Use of propane tanks recommended if small amounts of gas needed.
<b>Fiber</b> Spectrum	Current fiber splice is located 2,000' from the site.

# Due Diligence

All studies have been completed for the CIC's two parcels, totaling 36.2 acres (summaries below)

Study	Company	Result	Date Completed
Phase I ESA	EMH&T	No environmental concerns were noticed on site. An adjacent debris area west of the site revealed no indication of hazardous substances. No evidence of UST's. No recognized environmental conditions (REC's) found on the property. A Phase II was not recommended.	3/18/2019
Wetland Delineation	EMH&T	The study delineated (1) 0.03 ac. area of potential wetlands, classified in the report as "emergent" Category 1. The area is located in the western corner of the site near the RR/SR 32 intersection. A jurisdictional determination process with the USACE has not been conducted. No streams were located within the site.	1/18/2019
Threatened and Endangered Species	EMH&T	Due to the lack of suitable habitat within the project area, and the implementation of winter tree clearing, EMH&T's opinion is that future development is not likely to adversely effect federally listed species.	2/8/2019
Geotechnical	DHDC Engineering Consulting Services	General soil compactness determined sufficient for typical shallow spread footings. For prelim. design, building footings, bldgs. Could be designed for a max. net bearing pressure of 2000-2500 lbs. per sf for column and wall footings.	3/19/2019
Cultural Resources / Achitecture Survey	EMH&T	2 archaeological sites identified and determined to be ineligible for inclusion on the National Register of Historic Places (NRHP). An early 20 <sup>th</sup> century barn was found and determined ineligible for NRHP. No historic properties were found in the area and no further work is recommended.	5/13/2019
Title Search	EMH&T	Title Report pertaining to the CIC's 2 parcels – 19.189ac. and 17.043ac., located in the Village and Twp. of Winchester. No recorded mortgages or leases. The only easement is for AEP – a single phase line at the boundary between the 2 parcels. EMH&T recommends removing and creating a new easement with the plan to bring 3-phase to the site.	2/19/2019 (Report covers 11/25/1974 - 2/19/2019)

# Local Economic Development Incentives

- **Enterprise Zone (EZ):** Adams County Economic Development has facilitated the commitment of all townships and municipalities within the county to join one county-wide Enterprise Zone (EZ).
  - The EZ was instrumental in 2004 in the recruitment of Columbus Industries to their SR 41 satellite 105,000 sq.ft. facility.
  - County leaders are confident that similar facilities will be achieved once the proper real estate product (Winchester Industrial Park) is brought to the market.
- **Opportunity Zone:** Winchester Industrial Park is located entirely within an Opportunity Zone in Adams County's NW quadrant.
- **ARC Programs:** Adams County is currently categorized as a Distressed County within the Appalachian Regional Commission (ARC) system. The County works closely with the Local Development District (LDD), the Ohio Valley Regional Development Commission (OVRDC), and has applied for ARC assistance toward Winchester Industrial Park roadwork. Future ARC and/or EDA initiatives toward spec buildings or build-to-suit proposals will be part of the incentive framework.
- **New Workforce Center:** Customized training to meet prospect needs is a major component of the economic diversification strategic plan.

# Site Strengths

- **Greenfield site**
  - The property has most recently been used for agricultural purposes; soils are conducive to site development; visibility from SR-32
  - Site is flat and needs minimal grading
- **Available workforce**
  - Labor force of 41,129 located in a 45-minute drive time; recent plant closures provide available labor
  - One of the highest unemployment rates in the state at 6.6%
- **Transportation access**
  - Adjacent to four lane SR-32 (east-to-west)
  - Located 37 miles from I-275, which connects to I-71 and I-75
  - Potential for on-site rail spur
  - 53 miles to the Canadian Pacific Intermodal Terminal outside of Jeffersonville, OH
  - The Port of Cincinnati is 54 miles from the site
  - CVG Airport is located 63 miles from the site; John Glenn International Airport is located 104 miles from the site
- **Utilities**
  - Utilities are at or near the site's borders
  - Capacities will be expanded
- **Additional advantages**
  - All due diligence studies complete with clear findings
  - Site is located in a qualified opportunity zone

# Site Challenges

- **Roadwork**
  - There is currently not adequate roadway access to the site. North access to the site via Dorsey Road and east access requires land acquisition and roadwork construction from Dorsey/Edmisten/SR-136.
- **Stormwater**
  - On-site detention basin and sewer outfall need to be bored beneath the rail line.
- **Upgrades to water and sewer**
  - Water: site requires water service, which will be provided by a 12" water main extension, addition of a booster station and a 200,000 gallon elevated tank.
  - Sewer: site currently has no sewer service. Installation of a lift station and 6" force main will be put in-place to provide sanitary sewer. Construction of a new 700,000 GPD wastewater treatment plant will be built off-site to add capacity to the Village of Winchester's municipal sewer system.
- **Natural gas**
  - The cost to extend natural gas to the site is approximately \$15.5M and as such we are recommending future users heat development with propane.



# Development Plan

# Project Scope -- \$12.89 million infrastructure plan

With the help of a \$4.4M JO DDI grant, Winchester Industrial Park will reach its full potential as a modern park on the Appalachian Hwy. The site features very developable, flat site offerings. The Project will provide full road, water, and sewer service by the end of 2022 to meet the demands of modern industry.

## WATER

Regional Upgrades to include:

- Extension of 12" water main from Village of Seaman to Village of Winchester along State Route 32
  - Phase I: Moore's Road at Seaman to Grace's Run Road
  - Phase II: Grace's Run Road to Winchester Industrial Park
- Construction of a 200,000 gallon storage tank

Local Upgrades to include:

- Extension of a water main to the site

*Capacity at site to increase to 625,000 gpd*

## ROAD

Primary access plan

- Acquire approx. 19 acres directly east of site
- Improve the SR 136 / Dorsey Rd. intersection to create a safe turn radius for trucks
- Build a new road parallel to Edmisten Lane to avoid residential and recreational areas

*New road will provide safe truck ingress and egress at site*

## SEWER

Regional Upgrades to include:

- Construction of Winchester WWTP with 350,000 GPD total capacity (expandable to 700,000 GPD)

Local Upgrades to include:

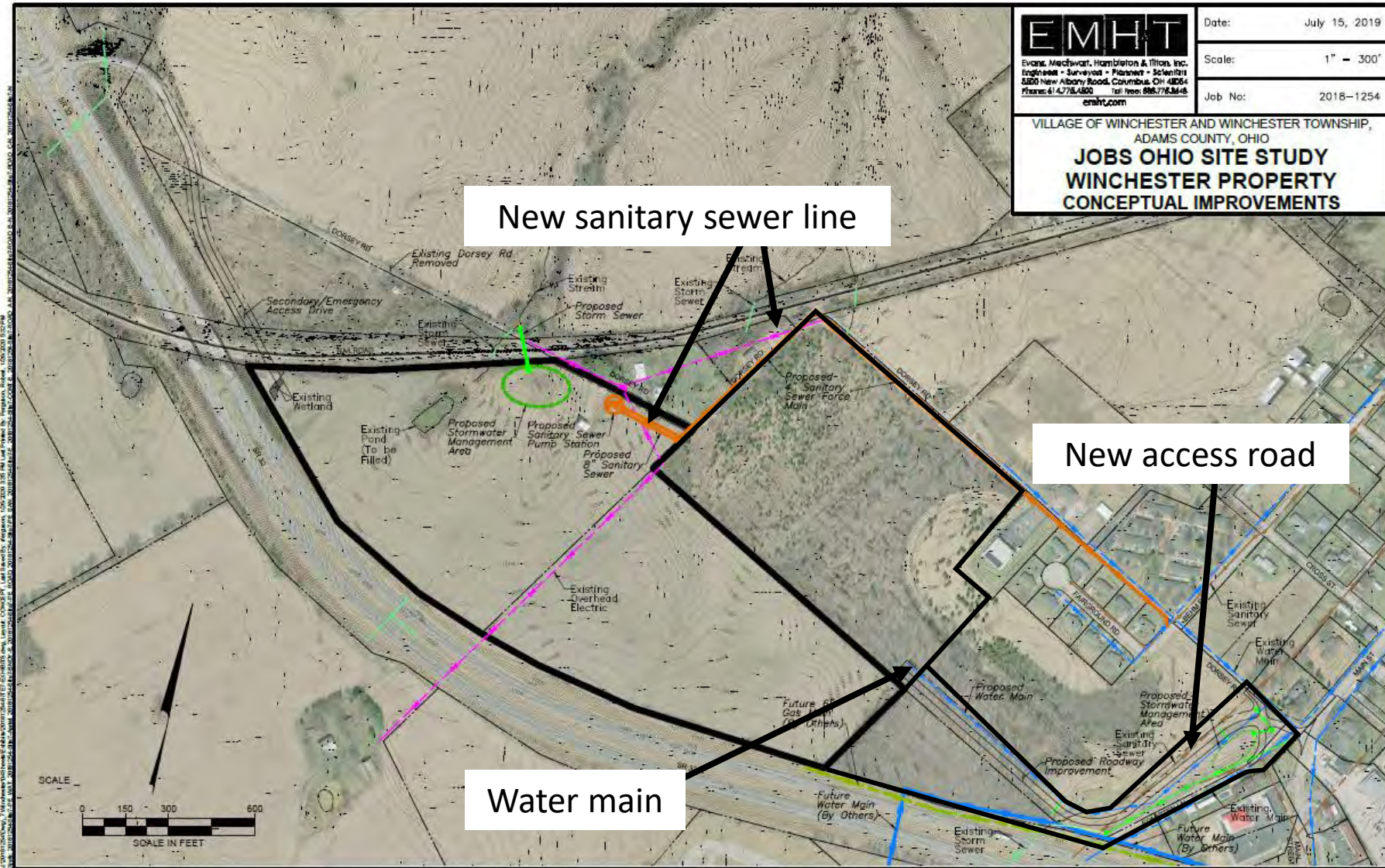
- Installation 8" gravity sewer line
- Installation of a new pump station at northern portion of the site.
- Installation of a 6" force main along Dorsey Road, from new pump station to existing sanitary manhole at the intersection of Dorsey and Behm Road, to connect site to municipal system

*Capacity at site to increase to 200,000 gpd (expandable to 400,000 with future WWTP expansion)*

# Construction Management

- The County is committed to utilizing a construction management model to help oversee the multi-faceted project.
- Construction management estimate includes the following:
  - Topographic, utility, and boundary survey
  - Plat and easements
  - Electrical engineer sub-consultant
  - Project management and meetings
  - Bidding services
  - Construction observation
  - Contract administration and record plans

# Future State with Site Improvements



# Sources/Uses (1 of 2)

Uses	Estimated Cost
<b>Water</b>	
Regional: Line and water tank	\$ 3,452,000
Local: Design for extension	\$ 15,000
Local: Construction to extend to site	\$ 217,000
<b>Subtotal</b>	<b>\$ 3,684,000</b>
<b>Sewer</b>	
New Winchester WWTP	\$ 5,000,000
Design for local extension (including controls for lift station)	\$ 54,700
Extension along Dorsey from Behm to north boundary of site	\$ 1,024,000
<b>Subtotal</b>	<b>\$ 6,078,700</b>
<b>Road</b>	
Design	\$ 40,000
Land acquisition	\$ 225,000
3rd party handle land acquisition	\$ 13,500
Construction of primary access from Dorsey/ Edmisten/ 136	\$ 2,647,600
<b>Subtotal</b>	<b>\$ 2,926,100</b>
<b>Construction Management</b>	
Construction Mgmt	\$ 171,300
Reimbursable Expenses	\$ 18,000
<b>Subtotal</b>	<b>\$ 189,300</b>
<b>TOTAL</b>	<b>\$ 12,878,100</b>

# Sources/Uses (2 of 2)

Sources	JobsOhio J OSDGA Request	ARC Grant	Ohio EPA Loan	Ohio EPA DEFA - WPCLF Loan with forgivable principle	Adams County	Total
<b>Water</b>						
Regional: Line and water tank		\$ 250,000	\$ 3,202,000			
Local: Design for extension	\$ 15,000					
Local: Construction to extend to site	\$ 217,000					
<b>Subtotal</b>	\$ 232,000	\$ 250,000	\$ 3,202,000			\$ 3,684,000
<b>Sewer</b>						
New Winchester WWTP		\$ 500,000		\$ 4,500,000		
Design for local extension (including controls for lift station)	\$ 54,700					
Extension along Dorsey from Behm to north boundary of site	\$ 1,024,000					
<b>Subtotal</b>	\$ 1,078,700	\$ 500,000		\$ 4,500,000		\$ 6,078,700
<b>Road</b>						
Design	\$ 40,000					
Land acquisition	\$ 225,000					
3rd party handle land acquisition	\$ 13,500					
Construction of primary access from Dorsey/ Edmisten/ 136	\$ 2,647,600					
<b>Subtotal</b>	\$ 2,926,100					\$ 2,926,100
<b>Construction Management</b>						
Construction Mgmt	\$ 171,300					
Reimbursable Expenses					\$ 18,000	
<b>Subtotal</b>	\$ 171,300				\$ 18,000	\$ 189,300
<b>TOTAL</b>	\$ 4,408,100	\$ 750,000	\$ 3,202,000	\$ 4,500,000	\$ 18,000	\$ 12,878,100

# Project Background

**The Vision:** A modern industrial setting on the Appalachian Highway (SR 32) that fills the Southern Ohio site selection void.

- Creating the 55-acre Winchester Industrial Park has been a primary goal of Adams County leaders, with land purchase and utility milestones being met in 2018 and 2019.
  - The Park has expanded from 36 acres to 55+ acres with the county government's 2019 purchase of the contiguous 19.55 ac.
- Park development momentum increased significantly in 2018 for two reasons:
  - Dayton Power & Light's closure of two plants displaced over 1,130 full-time employees in the region (Ohio Univ. study); business expansion and attraction is critical.
  - The U.S. EDA awarded a \$1.6 million *Assistance to Coal Communities Grant* to an Ohio University Voinovich School / Ohio Valley Regional Development Commission partnership. Known as the BOBCAT plan ("Building Opportunities Beyond Coal Accelerating Transition"), the creation of the Winchester Industrial Park is a major priority within the plan, which focuses on strategies throughout Adams, Scioto, and Lawrence counties.
- The County will continue its long-standing partnership between Adams County government (which houses the EDO as a government department) and the CIC. All land sales to be vetted by the CIC, with all infrastructure grants to be managed by the LEDO. Director Holly Johnson provides full administration services to the CIC.
- The region and county must meet this need in 2020, as southern and eastern Ohio are forecasted for increased industrial real estate demand. Moreover, the recent increase in regional unemployment has made new growth and employment strategies imperative.

# Metrics to Measure Site Performance

Winchester Industrial Park's 55 acres will be marketed, with the CIC negotiating all property sales/leases, to meet important milestones that help the greater community recover economically. Sales/leases will always be "project-based", meaning that job creation, capital investment, and potentially spec building creation, will be the community's general goals. Sales to land developers with no plans for business creation and/or facility construction, will be avoided. The CIC plans to market the site at \$10,000 per acre.

The community's general vision is **8-10 enterprises** of varying sizes that bring positive results to the tax base and job seekers. Cumulative general metrics to guide the CIC and all stakeholders will include:

- **300,000 sf of total construction.**
- **Minimum construction value of \$15 million at buildout**
- **300 jobs**
- **Total payroll of \$10.5 Million**
- **\$500,000.00 to be yielded from sales/leases**



# Comparable: Moores Road Business Park



**150 Commerce Drive  
Seaman, Ohio 45679**

\$30,000/acre for raw industrial land,  
located in the rear of the park.

# Project Return on Investment

The **\$12.86M** infrastructure buildout plan forecasts the following local and State tax revenue over a 20-year period, based on a vision of 8-10 businesses throughout 55 acres:

	Annual Tax Receipt	Total Tax Receipts/Revenues over 20 yrs.
A minimum target of \$15M of construction value	N/A	<b>\$543,750.00</b> estimated construction sales tax, assuming 50% of value is materials subject to the tax (7.25% tax rate)
\$15M construction value	Total property tax payment on \$15M = \$150,000.00 per year (averaged to \$100,000.00 annually, based on phasing of Park buildout)	<b>\$2,000,000.00</b>
Goal of 300 employees at an average salary of \$35,000.00	Using 2.85% 2019 State tax rate = \$299,250.00 per year	<b>\$5,985,000.00</b>
Average Sale price of \$10,000 per acre	N/A	<b>\$550,000.00</b>
		<b><i>Appx. \$9M local and State tax revenue over 20 Years Corresponding to the Park Buildout Plan</i></b>



# Previous Successes and Strategies

# The Adams County Economic Development Office

The LEDO, housed within County government, brings great stability and an impressive track record to this partnership:

- The office offers consistent leadership under Dir. Holly Johnson, having served as assistant for 12 years and Director since 2011.
- Admin. Assistant Amanda Fraley served as Highland Co. Housing Program Dir. from 2002-2010 and has served as the Adams assistant since 2011. Amanda serves as the County's CHIP Manager and also manages many grant fiscal processes (ARC, CDBG, DSA gas station, etc.), totaling over \$32 million in processing since 2011.
- EDA-funded Recovery Coordinator (Evan Scurti) offers services to Adams County development initiatives under contract through 12/31/2021.
- The LEDO provides administrative services to the County CIC, which is used strategically for land and infrastructure initiatives.

## LEDO HIGHLIGHTS:

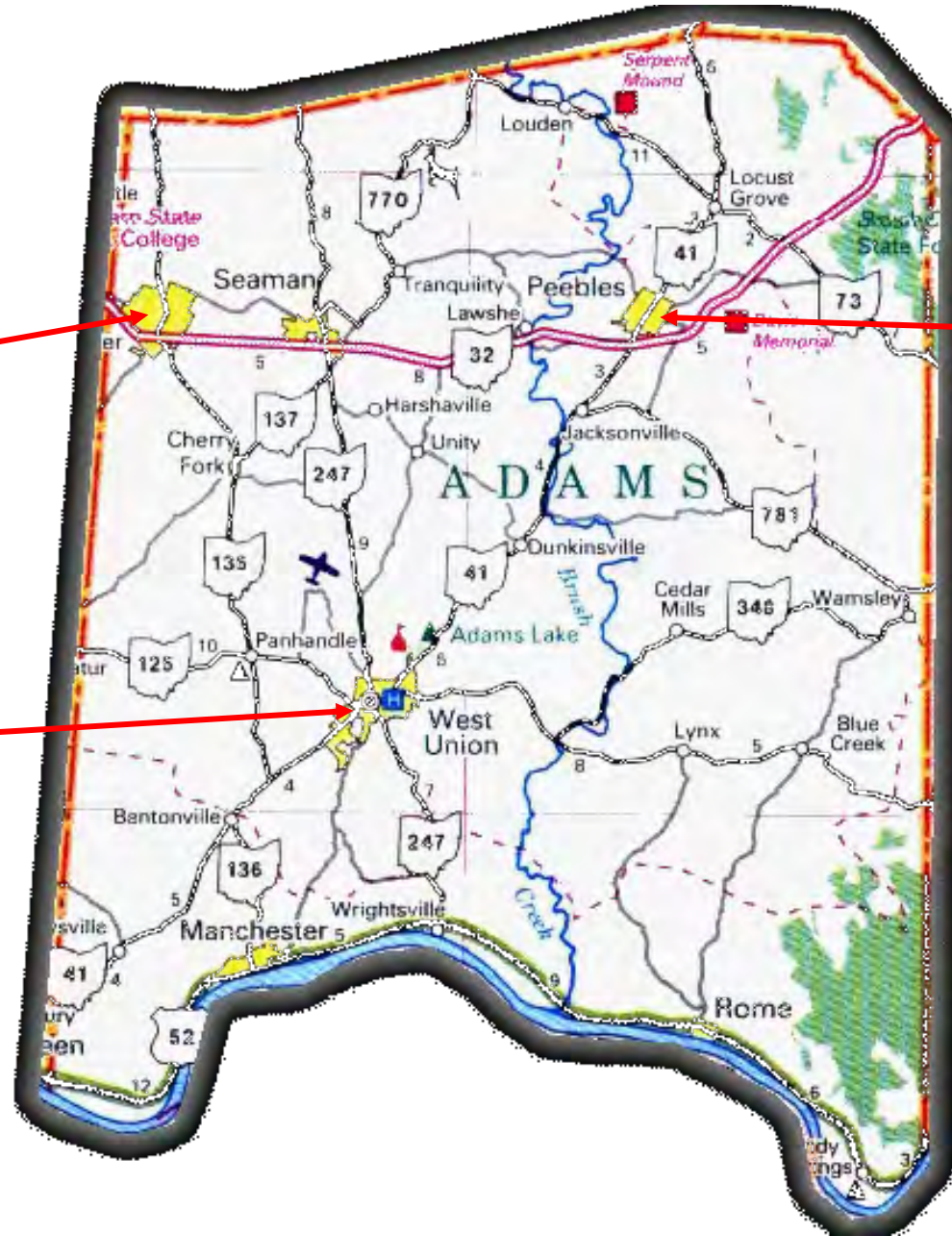
- A comprehensive EDO engaging in traditional industrial development and prospect relations *as well as* significant annual county-wide infrastructure work through management of the CHIP and CDBG programs.
- Facilitated the CIC's 2018 purchase of Winchester Industrial Park land (**\$217,398.00**) and subsequent County purchase of contiguous property (\$146,692.50).
- Infrastructure leadership (Jaybird Rd. expansion) facilitating GE's \$90 million investment at the Peebles facility in 2007.
- Multi-year leadership has led to the 2020 construction of the Adult Workforce Training Center via various grant funds and County commitment.
  - Adams County has NO post-secondary training options. The new 15,000 sf facility fills a critical economic development void.
  - Curriculum is being developed primarily in the areas of welding, CNC, nursing, and in-demand training for existing employers.

# Previous EDO Site/Building Development Successes

The Adams County Economic Development Office has exhibited great leadership in modern site and infrastructure development, positioning the county for this important era of diversification beyond a coal-dominated economy. Major successes include:

1. The Adams County Regional Water District (ACRWD) – the creation of a county-wide water district in 1969 recognized the need for county-wide service to assist small municipalities. The resulting organization ([www.acrwd.com](http://www.acrwd.com)) and infrastructure network has made projects like Winchester Industrial Park possible. ACRWD provides service to over 21,000 county residents and serves 4 villages, including Winchester.
2. GE Testing Facility – An estimated \$200 million has been invested into the Peebles 7,000-acre facility since 2006. The critical \$90 million expansion in 2007 was made possible due to the LEDO's leadership in securing \$845,000.00 in grant funds and coordinating the expansion of Jaybird Road.
3. CIC / State Route 41 --The LEDO has proven its ability to strategically manage and utilize a CIC for industrial development. The CIC's role in SR 41 development directly led to the recruitment of Columbus Industries' 167,000 sq.f. facility. A precedent has been set for Winchester Industrial Park success.

# Locations of Projects with Corporations in the County



Winchester Industrial Park



General Electric's 7000-acre engine testing facility was established in Peebles in 1954. GE invested \$90 million in 2007 with LEDO assistance.

Over 450 full-time employees earn an average salary of \$65,000/yr. at this leading Southern Ohio employer.



Columbus Industries has grown since its inception in 1965 to a global leader in manufacturing air filtration systems. CI now has over 900 employees in 7 locations worldwide.

# Recent Project Example 1 – GE Testing Expansion



GE invested \$90 million into their Peebles engine testing facility in 2007, due in large part to the EDO's leadership in the \$845,000.00 Jaybird Rd. expansion.

The Peebles facility celebrated its 60<sup>th</sup> anniversary in 2014. In its 2014 press release, GE reported that since 2006, \$190 million had been invested into the 7,000-acre Peebles campus.

<https://www.geaviation.com/press-release/business-general-aviation/ge-aviations-peebles-test-operation-blows-out-candles>



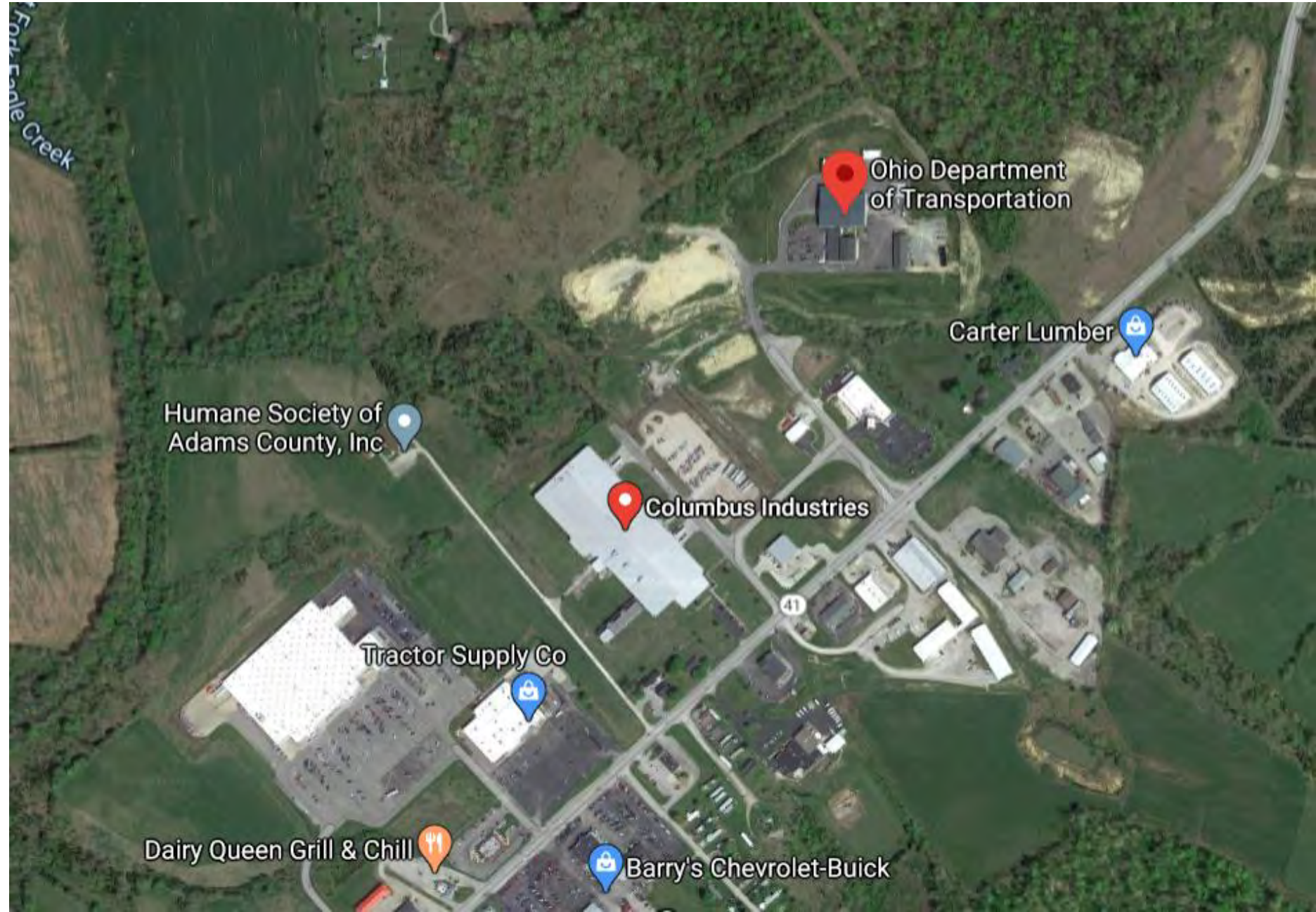
# Recent Project Example 2 – Columbus Industries

In 2004 the CIC and LEDO established a strong precedent of property purchase, improvement and subsequent business recruitment. The CIC purchased a deteriorating 167,000sf facility (formerly home to Copeland, Inc.), improved it with State assistance, and recruited Columbus Industries

The project involved DSA Rural Industrial Park program assistance as well as Enterprise Zone tax abatement that resulted in over \$3.5 million new investment and 82 new jobs.

In addition to Columbus Industries, the CIC marketed and sold excess acreage to retailers like Auto Zone as well as to ODOT.

*Adams County has successfully responded to past closures and worker displacement and is prepared for future success at Winchester.*



# Recent Project Example 3 – Adult Workforce Training Center



The Adams County Economic Development Office led a multi-year effort culminating in the County's 2019 purchase of 15,000sf in the heart of West Union.

- County government invested \$600,000.00 in the purchase of a former grocery store for conversion into the County's ONLY adult training center.
- County secured \$2.3M in grants for renovation. (\$1.8M from DSA's GRIT (Growing Rural Independence Together) program for southern OH and \$500,000 ARC)
- Curriculum primarily in LPN, CNC, and welding being developed in 2020, with pathways to Shawnee and Southern State. An additional focus will be on in-demand training, highlighted by the County's current work with GE to customize engine testing training curriculum.
- Forecasted to train 100 individuals annually.

# Community Impact

# Preparing Winchester Industrial Park for new job creation is the county's #1 priority, as local leaders are determined to reverse negative trends since the DP&L Closures:

- The DP&L closures resulted in the loss of \$8.5 million in cumulative annual property tax payments to local jurisdictions.
- The DP&L closures resulted in severe job and economic output declines in the region:
  - 370 direct jobs with a \$56 million total payroll (wages + benefits)
  - 1,131 total regional job loss with a loss of \$82 million total payroll
  - Loss of \$700 million regional output*(source: 5/2/18 Ohio University Voinovich School report prepared for the County Commissioners)*
- Children in Poverty: The 2018 U.S. Census Small Area Income & Poverty Estimates revealed Adams County had become the 3<sup>rd</sup> highest county for those **under 18 living in poverty at 29.1%**. Only Gallia and Pike are higher, both slightly above 30%. Ohio average is 19.2%.  
*(source: [https://www.census.gov/data-tools/demo/saipe/#/?map\\_geoSelector=u18\\_c&s\\_state=39&s\\_measures=u18\\_snc&s\\_year=2018](https://www.census.gov/data-tools/demo/saipe/#/?map_geoSelector=u18_c&s_state=39&s_measures=u18_snc&s_year=2018))*
- Commuting to Work: County residents have seen their mean travel time to work increase to **36.5 minutes**.  
Ohio mean time – 23.4 minutes  
Lawrence Co. mean time – 23.5 minutes  
Scioto Co. mean time – 25.6 minutes  
*(source: <https://development.ohio.gov/files/research/C1002.pdf> )*
- Unemployment: Adams Co. has one of the highest rates in the State, as well as the highest in Southern OH at **9.8% (Jan. 2020)**  
*(source: <https://ohiolmi.com/portals/206/LAUS/Archive/2020/ColorRateMap0120.pdf>)*

**The adult workforce training center, Utility Pipeline, Ltd. gas line extension from Highland Co. and Winchester Industrial Park are cornerstones of the County's 2020-2021 overall strategy of preparing its citizens for new careers while attracting quality capital investment to diversify the economy.**

# Marketing Strategy

# Need for Site Inventory

An analysis of JobsOhio site searches reveals the following median acreage of statewide searches:

2015 – 50 acres

2016 – 30 acres

2017 – 40 acres

2018 – 23 acres

2019 – 30 acres

Adams County currently offers no available industrial property to meet such needs. The Winchester Industrial Park is a critical strategy to meet this demand for industrial real estate.

# Marketing Plan

County leaders have agreed to market the Winchester Industrial Park to a variety of industries searching for a non-metro location for satellite facilities to link them to markets in KY, WV, and beyond.

As the Park moves toward utility buildout in 2021, the Recovery Coordinator will be utilized to lead a marketing campaign with the following 2021 goals:

1. Pursuing philanthropic funding toward the development of high-quality print and video marketing materials.
2. Meeting with a target list of 5-10 commercial real estate brokers in Cincinnati and Columbus; FAM tours/events in Adams County will be pursued.
3. Develop a list of 15-20 leading site selection consultants to receive marketing materials and/or visit Adams County for FAM events.
4. Ongoing consultation with OhioSE regarding Zoom Prospector updates.

# Contact Information

Adams County Economic Development Department

Holly Johnson, Director

215 North Cross Street, Suite 101

West Union, OH 45693

937-544-5151

[Holly.Johnson@adamscountyoh.gov](mailto:Holly.Johnson@adamscountyoh.gov)



Lawrence County and Scioto Brownfield Recovery Coordinator



# THE HAMMAN CONSULTING GROUP, INC.

## SITE SELECTION – ECONOMIC DEVELOPMENT

### Progress Report: Brownfield Recovery Coordinator – Scioto & Lawrence Counties

December 31, 2021

Prepared for: John Hemmings  
Executive Director  
Ohio Valley Regional Development Commission

Mr. Hemmings,

Please find below a summary report of our activities as Brownfield Recovery Coordinator for Scioto and Lawrence counties.

#### **FORMER NEW BOSTON COKE PROPERTIES**

8.4.2021 Received an update from Hull & Associates regarding the development of a remediation plan that includes the New Boston Coke 23 acres. Hamman Consulting Group discussed different development scenarios for the 23 acres, inquiring if any specific development would be excluded. Hull & Associates explained that most developments could be accommodated, but foundation thicknesses would have to be considered per amount of clean fill dirt and to keep in mind that water cannot be used from the site.

8.19.2021 Hull & Associates completed the Evaluation of Potential Remedial Alternatives that outlined 3 different scenarios for remediating the estimated 23-acre site. Best case is to demo the last of the smokestack and coke oven and crush the remaining brick at the site and cap with clean fill dirt, 3 ft.+ . Hull & Associates warned that they did not know if there was asbestos inside the smokestack and coke oven. There were different local opinions.

9.17.2021 Hamman Consulting Group took some time to review the Evaluation of Potential Remedial Alternatives. HCG put together a projects and funding presentation to share with Robert Horton. During the call with Robert Horton, it was discussed that the County was leaning more toward the cap with clean fill dirt. When asked about end use, Robert Horton talked about his discussions with solar panel companies that may be interested in the property. Robert Horton requested that the HCG look into having an asbestos survey completed on the remaining smokestack and coke oven and possible grants to pay for the asbestos remediation.

9.21.2021 Hamman Consulting Group researched through previous documents for information regarding asbestos. Found in our documents was an asbestos survey that was completed in May 2020 by Mac Paran. The Asbestos Survey indicated that there was non-friable asbestos containing materials on the smokestack and coke oven; 140 sq. ft. of oven tube gaskets and 60 lin. ft. of rope gasket material between the structures. HCG reached out to Hull & Associates to inquire if an additional asbestos survey should be completed. Hull & Associates was not aware of the survey.



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### SITE SELECTION – ECONOMIC DEVELOPMENT

Multiple attempts were made to contact Mac Paran, George Beaudion who performed the asbestos survey, to no avail. It was decided to contact area asbestos remediation companies to discuss the cost of remediation. We are collecting quotes now. HCG plans to use the existing asbestos survey, remediation cost estimates and demolition cost to apply for Ohio Department of Development Brownfield grant funding.

9.9.2021 Hamman Consulting Group did attend a webinar hosted by Ohio Department of Development that discussed the upcoming Brownfield grants that will be available, how to apply, and what would be acceptable projects to submit.

Following the 9.9.21 webinar, HCG identified four (4) companies as potential firms to conduct the asbestos evaluation and perform any needed remediation.

10.19.21 Representatives from Lyle Environmental and AHC Environmental conducted in-person site visits at the New Boston Coke site. HCG has had follow up communications with both of these firms since their site visits. A proposal has been received by Lyle Environmental and ACH Environmental to perform asbestos remediation on the coke oven gaskets and the rope gasket between the coke oven and the smokestack. Ohio Technical Services has also advised that they are interested in this opportunity but have not yet been able to schedule a site visit.

10.20.21 Meeting with Hull & Associates regarding the asbestos remediation and demolition of existing structures. Hull & Associates recommended that additional testing be completed on the block after known asbestos materials have been removed. This process would include demolition of the building, stacking of block, and an environmental company collecting samples of the brick. HCG contacted Lyle Environmental, AHC Environment, and Ohio Technical Services regarding the additional block testing. Hull & Associates recommended contacting Lehi Enterprises, Inc. for a cost estimate as well. HCG requested cost estimates for the additional sampling and testing. HCG received cost estimates from Lyle Environmental and Lehi Enterprises, Inc. ACH, Inc. reported that the testing was outside of their expertise and only submitted a cost estimate for the remediation work.

11.2.21 HCG contacted Ohio Department of Development to discuss New Boston Coke property remediation and demolition project to be included in Brownfield programs. HCG had obtained the Phase II Environmental, Remediation Recommendations Report and cost estimates for the asbestos remediation and demolition. The next step was to secure needed funding. ODOD recommended completing the online Brownfield intake form to get project awareness. HCG reported to Scioto County Economic Development and Scioto County Land Reutilization organizations regarding the cost estimates for asbestos remediation and demolition of structures.

11.4.21 HCG organized a meeting with Scioto County Economic Development, Scioto County Land Reutilization, OVRDC, and Hull & Associates to recap and review all of the completed reports and cost estimates. HCG reported on the conversation with ODOD regarding completing an ODOD Brownfield intake project form to create awareness of the readiness of this project. The team all



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### *SITE SELECTION – ECONOMIC DEVELOPMENT*

agreed to complete the online intake information. HCG began work organizing information that would be needed for the intake form.

12.9.21 HCG participated in the Ohio Department of Development webinar regarding the Ohio Brownfield grant opportunity resulting from funding appropriated from HB110.

12.10.21 HCG contacted Scioto County Economic Development to discuss the remediation recommendations and finalize the decision on which recommendation to move forward with. It was decided to move forward with an option that included the removal of contaminated soil, add clean soil to property to maintain elevations and cap property. A Risk Mitigation Plan will be in place for future development guidance. HCG request via email to Scioto County Economic Development a list of needed information for the application i.e. future redevelopment opportunities, jobs created or retained, and benefits of redevelopment.

12.13.21 Scioto County Economic Development shared with HCG information regarding a redevelopment opportunity for the entire property that would include a solar panel project that would connect and serve the largest AMP substation adjacent to the property.

12.14.21 HCG began building a draft Brownfield ODO grant application for the team to review and edit before official applications were available.

12.17.21 HCG initiated a call to Scioto County Economic Development to be aware of the draft application via email. A draft was also sent to Scioto County Land Reutilization contacts. HCG and SCED discussed properties that were or were not included in the remediation report. We needed an additional report that was previously completed for an additional 2-acre property located south of the New Boston Coke property. With time, the property has overgrown. A discussion was had regarding the original cost estimates and if that would include the grubbing and removal of overgrown saplings and weeds. Contractors would need to be contacted regarding any cost adjustments to the original quotes.

12.21.21 HCG organized a call to include Scioto County Economic Development, Scioto County Land Reutilization, Scioto County Commissioner, and Hull & Associates to review the draft application and discuss solidifying a project budget. SCED initiated conversation regarding the additional 2 acres for remediation and confirming original contractor cost estimates. Hull & Associates provided the needed remediation report for the missing 2 acres. Hull & Associates will contact contractors and confirm cost estimates.

12.23.21 Hull & Associates provided via email an updated cost estimate to complete reporting for a No Further Action determination along with supporting documents. Total cost was: \$130,200.

12.31.21 HCG completed a draft application for the Brownfield ODO grant program. The anticipated funding request will be in excess \$10 million, with the final total still to be finalized.



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### SITE SELECTION – ECONOMIC DEVELOPMENT

1.3.21 Hull & Associates provided via email updated contractor cost estimates. The SCED will need to analyze cost estimates and determine if costs are comparable and steps forward.

#### PORTSMOUTH WATER TREATMENT FACILITY

Strand Engineering is completing concept drawings for the construction of a new water treatment facility. Estimated total project cost is \$40m. Final design is anticipated to start late summer.

6.3.2021 HCG reached out to Strand Engineering regarding the design plans for the new water treatment plant. No response.

10.14.2021 HCG followed up with Andrew Esarey, Strand Engineering regarding the progress of the water treatment plant design. Andrew Esarey explained that Strand Engineering was now under contract with the City of Portsmouth to complete the design and final design was underway. It is anticipated that the design will be at 30% complete near the end of November 2021 / December 2021 with a target final design completed by Fall of 2022.

HCG has encouraged the City and Strand to further explore potential sources of grant funding to assist with the const of construction for the water treatment facility.

#### GIS DATABASE OF INDUSTRIAL CORRIDOR

HCG has acquired GIS data for all parcels in Scioto and Lawrence counties. The parcel shapefiles are being customized to serve as a value-added database of the industrial corridor, which is the focus area for the Brownfield Recovery Coordinator scope of services.

HCG has identified parcels in the Corridor which include major industrial/manufacturing employers, properties currently available for sale and/or lease and other potential development sites.

The GIS database can be used to assist with future planning efforts such as infrastructure and site development, as well as for business attraction and marketing efforts.

#### LABOR MARKET ANALYSIS FOR BUSINESS ATTRACTION AT THE POINT INDUSTRIAL PARK

HCG has created commuting pattern maps for The Point Industrial Park using data from the U.S. Census Bureau, Center for Economic Studies, LEHD. The commuting pattern maps depict the location of residence, by zip code and county, for individuals that are employed within the zip code where the Point is located (in-commuters), as well as the location of employment for residents of the zip code where the Point is located (out-commuters).

Site selection consultants and corporate real estate executives often request labor market data for a 45-minute drive time area from a site. However, workers in smaller and/or rural areas often commute more than 45 minutes to work for good paying jobs. Accordingly, these data illustrate



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*SITE SELECTION – ECONOMIC DEVELOPMENT*

that regional labor shed area for the Point extends beyond the “standard” 45-minute drive time area.

Additional components of the Labor Market Analysis include total employment, unemployment rate, educational attainment, travel time to work and wage rate data.

### TARGET INDUSTRY ANALYSIS

Through an analysis of factors which include industry concentration (Location Quotient), industry competitiveness (Shift Share), growth projections and recent economic development project data, HCG has identified industry sectors that represent suitable targets for the Corridor.

### TARGET COMPANY LIST

Based upon findings from the Target Industry Analysis, HCG has compiled a list of companies operating in the target industry sectors.

The Target Company List includes, where available, executive names, titles and contact information, along with a summary of the company’s operations and locations.

Feel free to contact us with any questions or to further discuss.

Respectfully,

Jason Hamman  
President