OHIO COMPETITIVENESS REPORT

A GUIDE FOR OHIO'S ECONOMIC DEVELOPMENT POLICY

Montrose Development Advisors

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Dear Ohio Community Leader:

Montrose Development Advisors, LLC serves customers with economic development planning, corporate site location and economic development financing services.

Montrose prepared the Ohio Competitiveness Report to analyze the Ohio economy and recommend a policy agenda to achieve bold policy goals. Ohio remains the 21st largest economy in the world with new sources of low-cost domestic energy, a world class system of higher education and over 300 federal Opportunity Zones primed for development. Ohio's stagnant population growth over the last fifty years does not compare well with competitors Texas, Florida and North Carolina who more than doubled their population, and Ohio's 69 rural counties lost 40,000 residents in the last seven years. Ohio added jobs in recent years but competitors like Texas added 5 M, Florida added 2.5M, North Carolina added 400,000 and even Indiana added more private sector jobs than Ohio from 1990 to 2017. Ohio needs an 88 county strategy for retaining and attracting high-wage jobs and capital investment through the adoption of large scale, achievable goals and public policy changes implemented to meet those goals.

The Ohio Competitiveness Report recommends economic development goals that include by 2026: adding one million people; investing $5 B in venture capital; increasing the per capita income by 30%; investing $2 B in infrastructure; and creating 750,000 jobs. The Ohio Competitiveness Report recommends achieving population growth by solving the challenge of urban education and retaining more of the 500,000 Ohio college and university students through state funding and scholarships. Increasing venture capital investment can happen by continuing the focus of the Third Frontier program on early-stage tech companies and developing regional venture capital funds, re-instating the Ohio Technology Investment Tax Credit and gaining more corporate R&D centers through JobsOhio R&D grants. Addressing the state's workforce crisis will raise per capita income dramatically by transitioning the state's Ohio Job Creation Tax Credit into the Ohio Workforce Tax Credit to reward companies for investing in people and developing an Ohio Career Works Program streamlining the state's workforce development programs into one customized workforce training program. Ohio's infrastructure needs demand a multibillion dollar solution through additional revenues, Public-Private-Partnerships and large scale site development. Finally, Ohio needs a job creation strategy that supports regional economic development plans, capitalizes on federal Opportunity Zones and ensures JobsOhio has a community development focus and leads an occupational marketing campaign to highlight Ohio's workforce.

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PURPOSE AND EXECUTIVE SUMMARY OF THE OHIO COMPETITIVENESS REPORT

The purpose of the Ohio Competitiveness Report is to ensure Ohio business, policy and economic development leaders understand the current state of the Ohio economy and how local and state public policy can impact the state's future growth and success. The purpose of this report is NOT to recommend a comprehensive operating, capital, transportation or Bureau of Workers' Compensation budgets or other comprehensive public policy issues. Rather, the focus is on economic development policy as administered by the state of Ohio, JobsOhio and the local public and private sector partners implementing the state's economic development policy.

In summary, the Ohio Competitiveness Report concludes the following:

National economy. Ohio benefits from a booming national economy but threats from economic transformation of blue and white collar jobs in manufacturing, insurance, banking, health care and professional services brought on by automation and Artificial Intelligence and a struggling Midwest regional economy as the area's strong industrial past prove difficult to replace with new high-wage jobs for low-skilled workers provide cause for concern.

Ohio economy. If Ohio were a nation, it would have the 21st largest economy, just below Saudi Arabia, its Gross Domestic Product (GDP) growth is in line with regional competitors except high growth markets like Texas and Florida, but, again, due to the loss of over 500,000 manufacturing jobs and a lack of replacement jobs in high-tech industries, regional job creation outside of Columbus and Cincinnati is very low.

Demographics. From a demographic standpoint, Ohio benefits from being a large state on a population basis, but is enduring very slow population growth compared to the nation and economic competitors in the Southern states.

Regional population & job growth. Without the large growth of Columbus, Ohio's population growth rate would be negative as Cleveland and Cincinnati's growth is and rural Ohio lost nearly 40,000 people over the last five years, and mid-sized communities like Mansfield, Springfield, Lima, Sandusky, and Youngstown have lost 35,500 jobs from 1990-2018 while Columbus added 361,000 and Cincinnati 245,000.

Industry strengths. Ohio remains a global manufacturing leader but has not replaced the lost manufacturing jobs with high-growth industry sectors such as information technology like North Carolina.

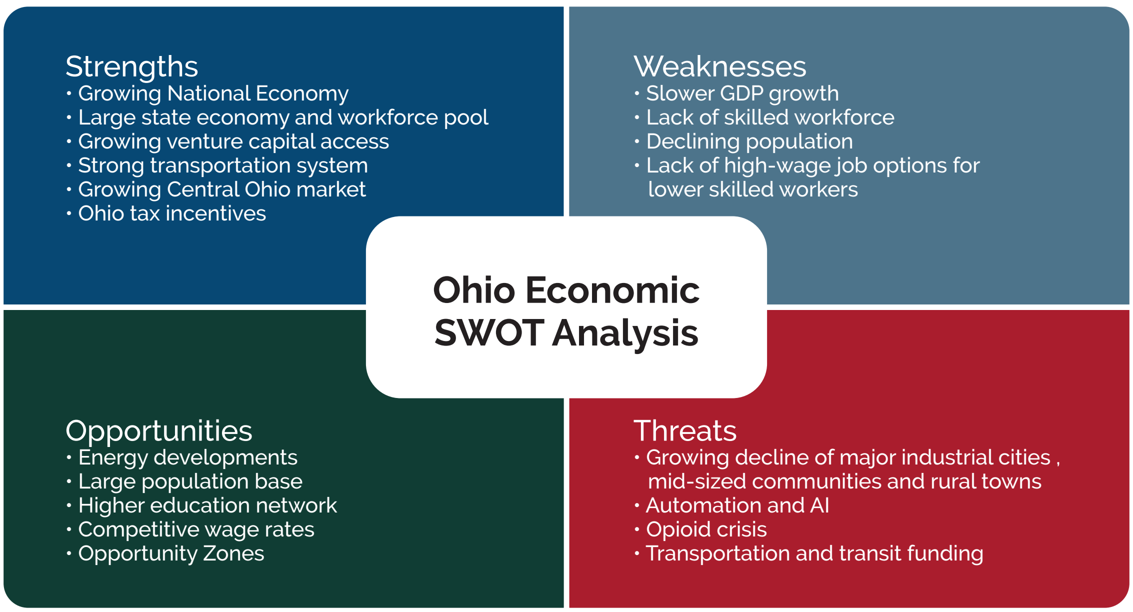
Economic Trends. Central Ohio is benefiting from the growth of distribution and fulfillment centers spurred by the expansion of e-commerce purchases and beginning to develop companies and jobs in disruptive technologies such as autonomous vehicles and early-stage start-ups capitalizing on automation and Artificial Intelligence but other regions of the state have not moved as quickly to capitalize on these growing economic trends.

Workforce. Unlike competitor states such as Indiana, Ohio has a large, diverse workforce spread all over the state, but, like all competitors, Ohio lacks a skilled workforce in nearly all growing industries and is dangerously behind in the number of college graduates—in fact, county poverty measures almost directly correlate with the percentage of people in that county that have a college degree.

Infrastructure. Ohio has an impressive transportation infrastructure industry that makes it a global leader in the logistics and distribution industry but the state's highway system faces a $14 B funding deficit, its transit system is poorly funding putting that strategic advantage in jeopardy, all parts of the state do not benefit from the advantages of broadband but Ohio and the Midwest are growing in the use of venture capital for high-tech, early-stage companies.

Cost of Doing Business. Ohio benefits from a relative low worker wage rate in high-growth occupations such as information technology, has a competitive state tax system but a high local taxing system that can negative the other advantages of Ohio's generally lower cost of doing business without the use of tax incentive.

Quality of Life. Ohio benefits from a very high quality of life established through mature communities but that quality of life is being threaten by the opioid epidemic—Ohio is second behind West Virginia among the states with opioid induced deaths.



MONTROSE'S OHIO COMPETITIVENESS REPORT'S POLICY RECOMMENDATIONS

Add 1 M People

- Address the challenge of urban education thru quality charter schools
- Restore Higher Education Funding & scholarship funding to Pre-Recession Levels
- Create the Ohio Scholars to recruit the nation's best and brightest to go to Ohio colleges and universities and remain for work through forgiveable loans

Invest $5 B of VC in Ohio early-stage companies

- Connect entreprenuers and college/university students
- Focus on targeted industries
- Support early stage start-ups
- Grow Ohio VC investments with matching grants
- Restore the Ohio Technology Investment Tax Credit
- Expand JobsOhio Research & Development Grants to disruptive tech industries

Raise Per Capita Income by 30%

- Replace Ohio JCTC with Ohio Workforce Tax Credit
- Create one Ohio Career Works Program
  - Supports entreprenuers
  - Customized Workforce Training Program for disruptive tech industries
  - Launch an Occupational Marketing Campaign around high-wage industries by training and certifying workers through regional training centers

Invest $14 B in new Ohio infrastructure projects

- Launch Site Ohio to address Ohio's infrastructure crisis
  - Increase the Ohio Motor Fuel Tax and PPPs to address $14B ODOT shortfall
  - Create the Ohio Opportunity Fund Infrastructure Program
  - Expand JobsOhio Site Development Program
  - Restore the Ohio Rural Industrial Park Development Program
  - Utilize Crowdfunding to build Civic Infrastructure

Create 750,000 new jobs

- Expand JobsOhio focus
  - Grow entreprenuers through JobsOhio Growth Loans
  - Recruit tech companies in Silicon Valley
  - Prepare communities through economic development planning funds
  - Expand JobsOhio Revitalization Program to housing
  - Launch an occupational marketing campaign to retain and attract middle market companies
- Grow rural communities by creating the Ohio Rural Development Authority
  - Awards Ohio Rural Industrial Park Loans, CDBG, Ohio Civic Infrastructure Program and Office of Appalachia awards
  - Focus historic preservations on entire state

Ohio Economic Development Market Analysis

Any economic development public policy analysis needs to be based on the current global, national and regional economic market data points. This economic review examines the following 30 data points that assist clients in determining where to locate facilities.

High-Wage Job Focus

Economic development planning strategies need to focus on high-wage job retention and creation. As the U.S. Department of Labor estimates it only takes 170 workers to manufacture today what it took 1,000 workers in 1950, economic development strategies also need to focus not just on manufacturing or one high-wage industry but develop a diversification strategy as well. The U.S. Department of Commerce, working with Harvard Professor Michael Porter, identified 51 industry clusters that dominate America's regional economies. North Dakota, Texas and several other states are leading an economic recovery. Whether an analysis is based upon the Porter industry cluster analysis or comparing which regions and states are growing based upon which industries, five drivers exist for regional economies that promote high-wage job retention and expansion and capital investment.

- **Energy** is a growth industry. According to the U.S. Energy Department, Energy Information Agency, electricity demands will grow 28 percent from 2011 to 2040. The exploration, production and distribution of energy to meet this demand provide high-wage jobs. Economic development studies indicate, midstream, and downstream energy and energy-related chemical companies plan to invest $346 million in the U.S. from 2012-2025. Energy booming North Dakota grew faster than China and more than double Texas—the state that finished second in economic growth in 2014.

- **Technology** companies are big business. From 1996 to 2007 economic development studies indicate, university licensing agreements based on product sales contributed $47 billion to $187 billion to the U.S. GDP. Research and development in total generates $1.238 trillion for the U.S. economy. The Brookings Institution indicates science, technology, engineering and math (STEM) jobs dominate the tech industry and pay 26 percent higher wages.

- **Globalism** represents access to growing markets. According to the U.S. Department of Commerce, 70 percent of the world's customers are outside of the United States and workers for firms that export or are owned by global parents pay workers higher than average wages.

- **Manufacturing** is still a high-wage American job center. Again, according to the Brookings Institution, manufacturing workers from 2008-2010 averaged $943.06 a week, 19.9 percent higher than the non-manufacturing average of $786.40. Due in part to enhanced domestic energy production gains and rising costs in China, advanced manufacturing has bright prospects in the United States in the coming years.

- **Service sector** jobs dominates the American economy and regions have an opportunity to gain high-wage, professional service jobs. Regions with a large pool of college and university educated workers are well positioned to recruit high-wage financial services, insurance, health care and professional service firms that dominate the advanced services marketplace.

Successful regions and states build economies focused on the booming industry sectors of energy, technology, globalism, advanced manufacturing and advanced services. A wide-range of tactics exist to implement strategies related to the five drivers' economic development strategies.

National Macroeconomic Analysis

A review of current economic data illustrates strong national economic growth.

- **Dominant US Market.** The US $18 T economy constitutes nearly 25% of the global economy and is the worlds' largest followed by China at $11 T.

- **Growth of the US Market.** Real GDP increased at an annual rate of 2.2 % in the first quarter of 2018 and, in the fourth quarter of 2017, real GDP increased 2.9 %.

- **Trade Deficit Massive.** The goods and services deficit was $46.2 B in April, 2018m down $1.0 B from $47.2 B in March, revised and the U.S. trade deficit in 2017 increased to $566 B.

- **Growth in Personal Income.** Personal income increased $49.5 B (0.3 %) in April, 2018 with Disposable personal income increasing $60.9 B (0.4 %) and personal consumption expenditures increasing $79.8 B (0.6 %).

- **Stable Inflation.** In April, 2018, the CPI for all urban consumers increased 0.2 % seasonally adjusted; rising 2.5 % over the last 12 months, not seasonally adjusted--the index for all items less food and energy rose 0.1 % in April, 2018.

- **Total Non-Farm Payroll Growing.** Total nonfarm payroll employment increased by 223,000 in May, 2018 and the unemployment rate edged down to 3.8 % with the employment continued to trend up in several industries, including retail trade, health care, and construction.

- **Growing Industry Targets.** For the nation, 17 of 21 industry groups increased in the third quarter with finance and insurance, durable goods manufacturing, and information services were the leading contributors to national economic growth: finance and insurance increased 14.7 % nationally and contributed to growth in every state and the District of Columbia; durable goods manufacturing increased 7.5 % nationally–the sixth consecutive quarter of growth; and information services increased 9.0 % nationally.

- **Stable Real Estate Market.** National real estate vacancy rates in the fourth quarter 2017 were 6.9 % for rental housing, 1.6 % for homeowner housing, rental vacancy rate of 6.9 % was virtually unchanged from the rate in the fourth quarter 2016 (6.9 %) and 0.6 % points lower than the rate in the third quarter 2017 (7.5 %), homeowner vacancy rate of 1.6 % was 0.2 %age points lower than the rate in the fourth quarter 2016 (1.8 %) and virtually unchanged from the rate in the third quarter 2017 (1.6 %) and the homeownership rate of 64.2 % was not statistically different from the rates in the fourth quarter 2016 (63.7 %) or the third quarter 2017 (63.9 %).

- **Declining Foreign Direct Investment.** Expenditures by foreign direct investors to acquire, establish, or expand U.S. businesses totaled $373.4 B in 2016 with spending was down 15 % from $439.6 B in 2015 but was above the annual average of $350.0 B for 2014-2015 and was well above the annual average of $226.0 B for 2006-2008.

- **State Economic Growth Widespread.** Real gross domestic product (GDP) increased in 47 states and the District of Columbia in the fourth quarter of 2017, and the percentage change in real GDP in the fourth quarter ranged from 5.2 % in Texas to -1.3 % in North Dakota

NATIONAL MACROECONOMIC OUTLOOK

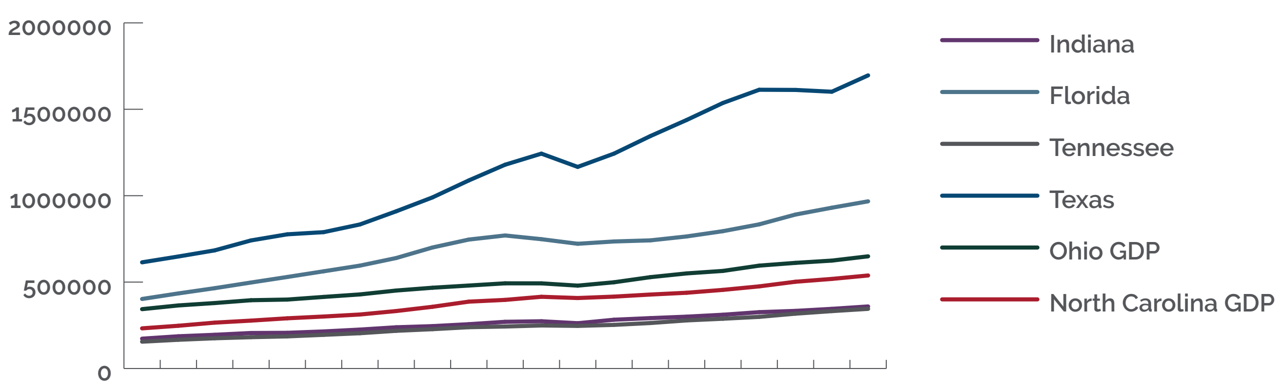
- **Strong national economy**
- **Low unemployment**
- **Rising incomes in key industry sectors**
- **Concerns about impact of automation in key sectors**

Ohio Economic Outlook

Ohio has the seventh largest economy among the fifty states with a $608.1 B GDP as measured in 2015. Pennsylvania ranked 6th in GDP of states and New Jersey as 8th[1] If it were a country, Ohio's economy would be the 21st largest in the world—just below Saudi Arabia.[2] On a per capita basis, Ohio's GDP of $52,363 ranked 26th largest in the nation in 2015.[3] Among its neighboring states, only Pennsylvania ranked higher than Ohio, with per capita GDP of $53,831 (23rd).[4] Over the last decade, average annual economic growth in most of Ohio's neighboring states was faster than in Ohio, including West Virginia where GDP growth averaged 3.3% per year, Pennsylvania (3.2%), Indiana (3.1%), and Kentucky (3.0%).[5] Michigan was the only neighboring state with slower GDP growth than that of Ohio, at an average of 1.6% per year.[7] Ohio's economy when reviewed by industry illustrates an economy not nearly as dominated by the manufacturing industry as had existed in the past.

Ohio's economy showed signs of strength during the recovery as a regional leader across many macroeconomic indicators. From January 2011 to December 2017, there were 496,000 private jobs created in Ohio.[8] This growth contrasts with flat level of employment in the government sector, which over the same period lost 3,000 jobs.[9] Over a longer term, as the chart below illustrates, Ohio's economy has been growing at a steady pace even compared with faster growing markets like North Carolina. Ohio's economy is not alike in all regions of the state. However, as the chart below illustrates, Ohio is being blown away by large competitors like Texas and Florida and continues to struggle to compete with many major states in the union.

State GDP Growth (in millions) 1997-2017 Benchmark Comparison

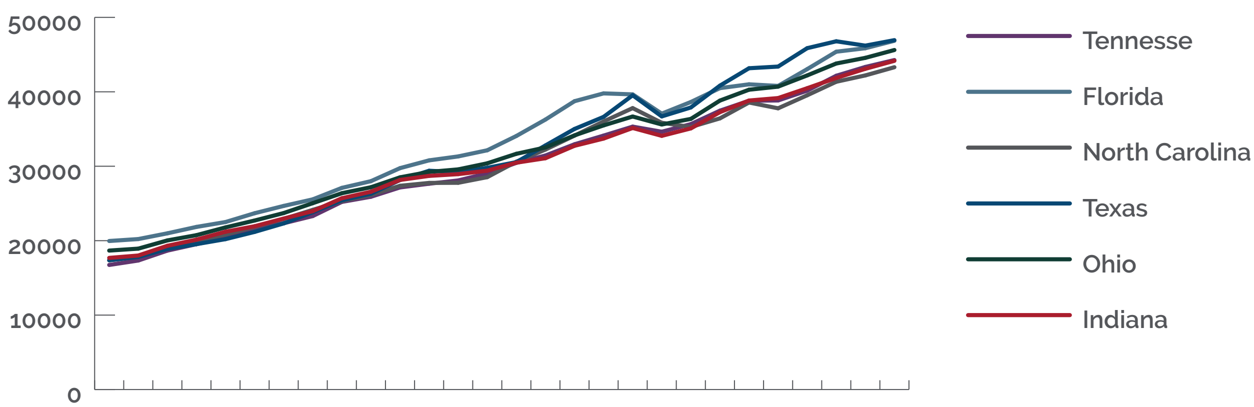


Source: St. Louis Federal Reserve Bank

The "Three C's," Columbus, Cleveland and Cincinnati, on a regional basis, are enjoying robust economic growth. The GDP growth for the Three C regions illustrates that from 2001-2016 the Columbus' MSA GDP grew 77%, Cincinnati's MSA GDP grew 84%; and Cleveland's MSA GDP grew 84 %.[10]

Per capita income is another important measure of economic success. GDP growth represents a larger value tied to production in an economy but with the automation of the manufacturing workforce measuring GDP alone does not provide a complete economic perspective on a state's success or failure. As the graph below illustrates, Ohio's per capita income growth is in line with many of its competitors but continues to fall behind growing competitors like Texas and Florida. More importantly, a generation ago, these Southern states were substantially behind Ohio.

State Per Capita Income Growth

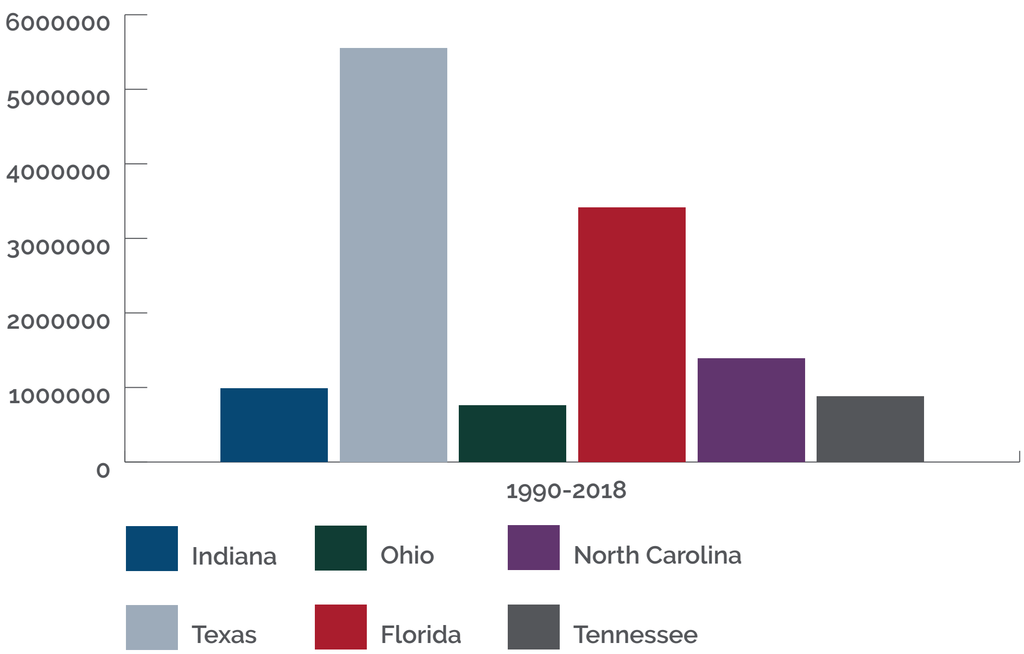


Source: St. Louis Federal Reserve Bank

An important measure of economic performance is the U.S. Bureau of Labor Statistics Non-Farm Payroll Employment data. The Bureau of Labor Statistics *Establishment or Payroll Data* are estimated from a survey of about 400,000 business establishments that account for about one-third of all jobs in the country (it *excludes* agricultural sector jobs).[11] This data is frequently used by economists to analyze labor market and economic conditions.[12] The nonfarm payroll job series is revised annually and is smoother over time than the household survey; it also is considered to be the more accurate employment indicator.[13] Most analysts believe that payroll jobs more closely reflects labor market conditions.[14] Payroll jobs move with the economy and help define business cycles. The nonfarm payroll employment series is one of the key economic statistics that the National Bureau of Economic Research analyzes to determine whether the economy is expanding (expansion) or contracting (recession).[15] The *establishment survey* data on nonfarm payroll employment have another advantage over the *household survey* data on civilian employment; the payroll data also are reported by industry using the North American Industry Classification System (NAICS) to define industries.[16] The industry detail allows economists to research and analyze trends in specific industries, both nationally and in many cases by state and metropolitan areas.[17] Availability of the payroll job numbers provides economists and analysts with a much richer understanding of labor market and industrial conditions across the nation.[18]

A review of state non-farm payroll employment data over the last twenty years provides truly troubling economic news for Ohio. As the table below illustrates, Ohio has created far fewer jobs than most benchmark state competitors. Ohio has not added more non-farm payroll employment than any state in the benchmarking comparison. Even neighboring Indiana with roughly five million fewer residents has created more new jobs through the lens of the federal payroll data. High-growth markets like Texas and Florida completely blew Ohio away from a job creation standpoint and like sized Southern competitors of North Carolina and Tennessee far out-paced Ohio in the job creation category.

State Non-Farm Payroll Employment Growth 1990-2018

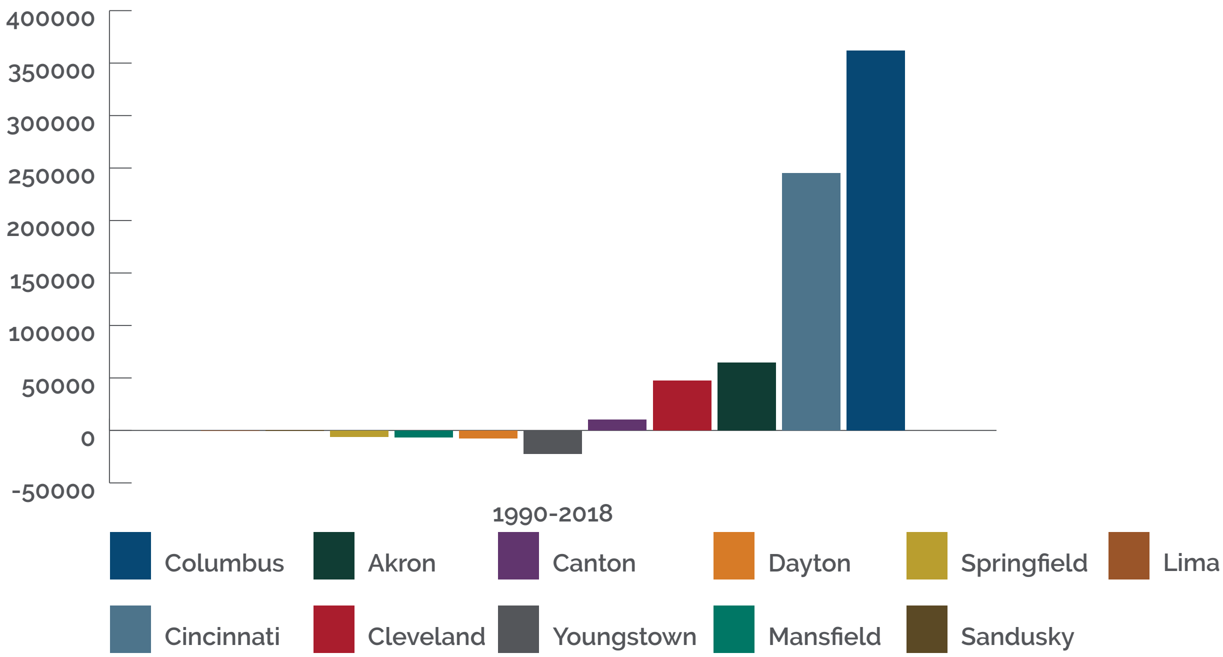


Source: St. Louis Federal Reserve Bank

The job creation challenge for Ohio cannot be solely blamed on the loss of manufacturing jobs. Most states have lost manufacturing jobs over the last twenty years—automation being the primary driver as higher productivity achievements through the use of robots and IT breakthroughs provided the United States with the most productive manufacturing sector in the world. As the manufacturing sector has declined in the total number of jobs they provide to the national and Ohio economy, Ohio has seen a troubling lack of private sector job growth over this timeframe. This point is proven more directly in the workforce section of this report as it illustrates that both Ohio and North Carolina have lost hundreds of thousands of manufacturing jobs. The economic difference between the two states can be found in Information Technology and Financial Services—both booming job producers nationally. North Carolina from 1990 to today has added 20,000 IT and nearly 100,000 financial services jobs. Ohio has lost 40,000 IT jobs and gained only 20,000 financial services positions.

Of greater concern is the fact that most Ohio regions are not producing the jobs the population needs to succeed. As the table below illustrates, Columbus and Cincinnati produced the lion's share of the state's jobs from 1990-2018 while regions like Youngstown, Mansfield, Lima, and Springfield have actually lost a total of 35,500 jobs over this timeframe. Cleveland, once the economic powerhouse of the state, only produced 47,200 jobs over this timeframe which was not as many as Akron, and five times less than Columbus.

Ohio MSA Non-Farm Payroll Employment Gained 1990-2018

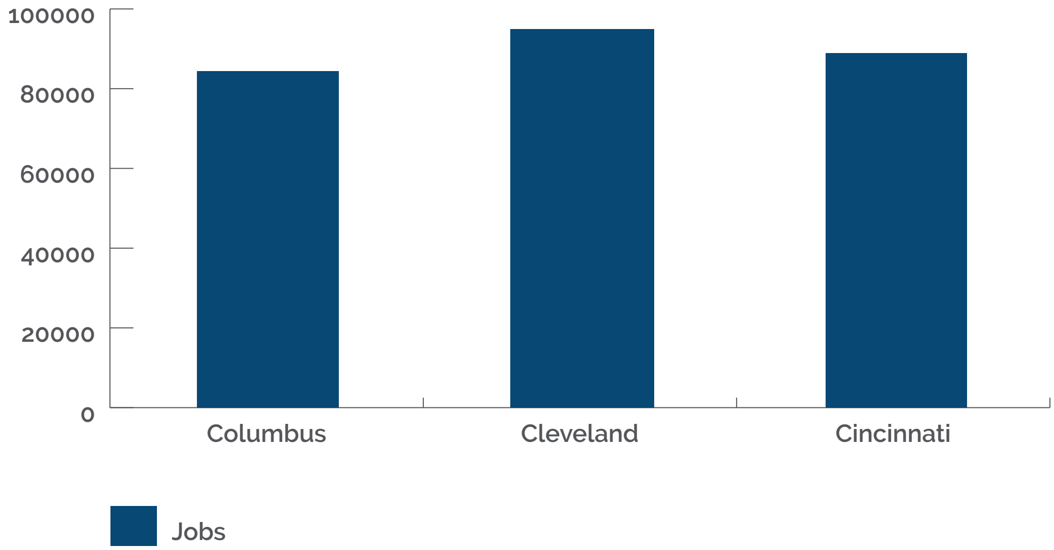


Source: Cleveland Federal Reserve Bank

Ohio's economic challenges are two-fold—1. the state is not growing the jobs in the hot industry sectors, and 2. the growth the state has seen is concentrated in only two regions of a large state.

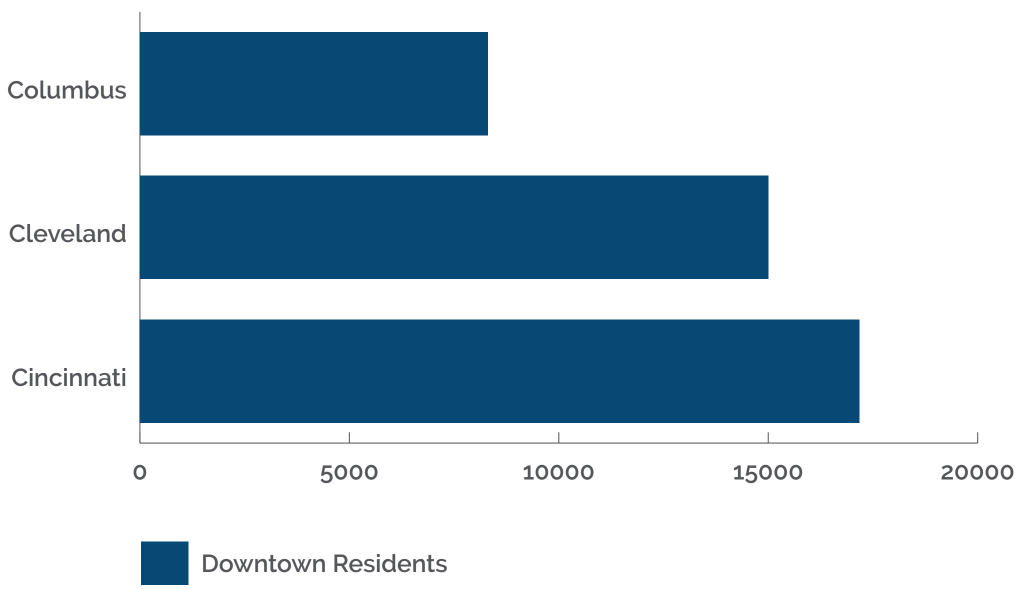
Understanding the performance of Ohio's major cities and their Central Business Districts is critical to planning for the economic success of the region. Columbus' geographic expansion created a development pattern spreading jobs and residential development all over the 200 square miles leaving a Central Business District that does not compare nearly as well to Cincinnati and Cleveland. The development and growth of Central Business Districts is essential for the economic success of a region hoping to attract high-wage technology and advanced services jobs and the millennial workforce that should fill those jobs. Central Business Districts are planned and designed for mixed use development with walkable communities appealing to Millennials. Many of Columbus' large employers do not have their corporate headquarters Downtown but instead are located on the outer belt in highly successful suburban style developments at Easton and Polaris.

3Cs Downtown Job Comparison



Based upon the geographic spread of Columbus' large employers, it should not be a surprise that Columbus is behind Cincinnati and Cleveland in the redevelopment of their Downtown as a variety of measures illustrate. As the graph above indicates, Columbus is below Cleveland and Cincinnati when it comes to the number of jobs in their Downtown. As the graph below illustrates, Columbus is far behind their smaller urban counterparts of Cleveland and Cincinnati in the critical measure of how many residents call Downtown home.

3Cs Downtown Residents Comparison



In fact, a recent market study found that Central Ohio needs 33,048 new apartments to satisfy projected demand through 2030 and the success of Downtown Columbus and the region's efforts to continue to attract Millennials dictates the need for this residential development to occur in Downtown Columbus. To meet that demand, recent news reports indicate that more than two dozen apartment projects have been announced as planned for Downtown Columbus. This should drive Downtown Columbus residents total over 10,000 but still far short of Cleveland and Cincinnati.

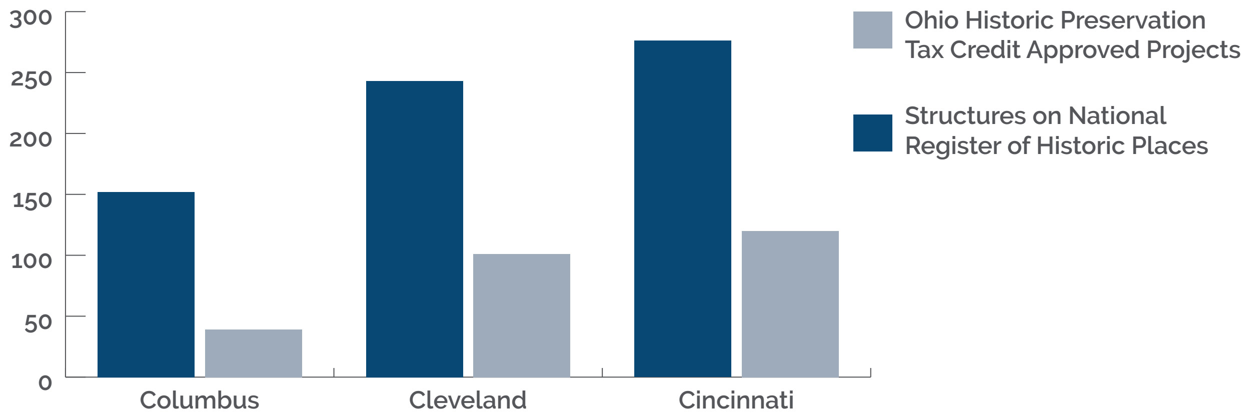
3Cs Downtown Real Estate Office and Retail Comparison

Cleveland Downtown	SF	Vacancy	Absorption	Rental Rate
Office	19,483,278 SF	17.60%	-55,229 SF (YTD 2017)	$18.34 PSF Gross
Retail	2,130,566 SF	9.60%	15,488 SF	$14.67 PSF NNN
Columbus Downtown	**SF**	**Vacancy**	**Absorption**	**Rental Rate**
Office	19,763,167 SF	8.78%	-66,137 (YTD 2017)	$18.77 PSF Gross
Retail	1,129,426 SF	3.11%	-5,088 (YTD Q3 17)	$13.02 PSF NNN
Cincinnati Downtown	**SF**	**Vacancy**	**Absorption**	**Rental Rate**
Office	18,113,763 Sf	12.80%	-20,743 SF (YTD 2017)	$20.01 PSF Gross
Retail	2,379,300 SF	6.30%	-13,591 SF	$18.53 PSF NNN

Source: Colliers

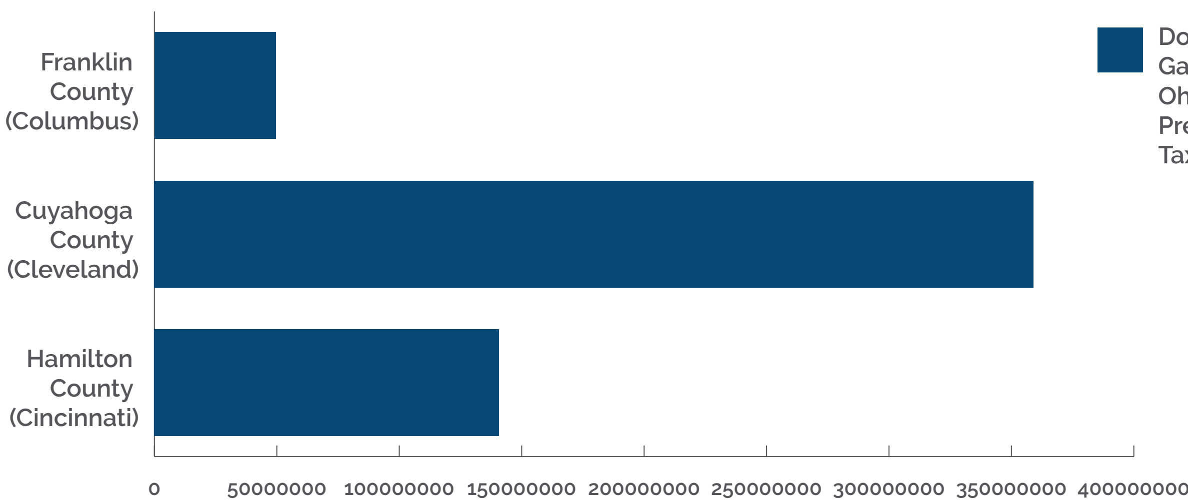
As the table above indicates, Columbus is behind Cleveland and Cincinnati with Downtown retail centers but on par with total office space, office rents and has a lower office vacancy rate than its smaller urban counterparts. However, Downtown Columbus has no critical mass of retailers, a lack of parking, a high 12 % vacancy rate for Classes A and B office space, a 17% vacancy rate on the Capitol Square driven by a lack of parking and an aging office product, and the Fifth Third tower in receivership.

3Cs Use of State Historic Preservation Tax Credit



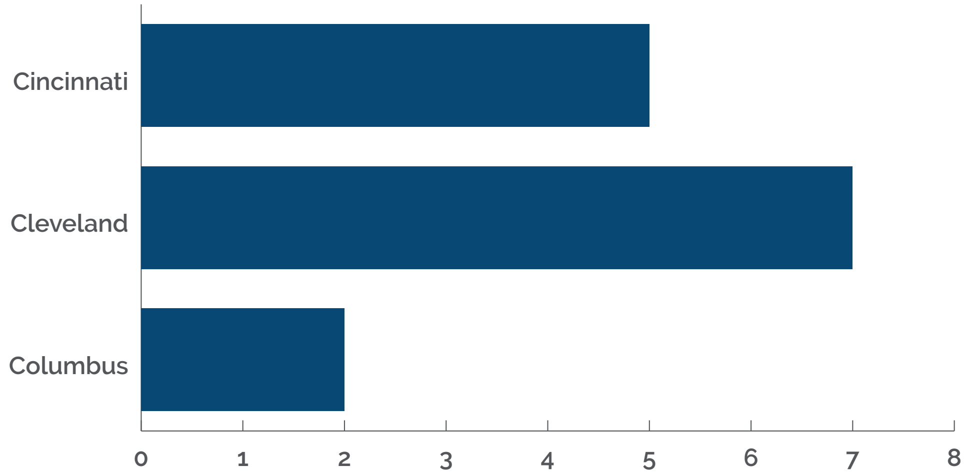
Columbus has also struggled against its urban counterparts to redevelop historic properties. As the graph above illustrates Columbus has 152 sites on the Register of Historic Properties. While this total is smaller than Cleveland and Cincinnati, Columbus has a large volume of sites primed for historic preservation redevelopment. The use of the Ohio Historic Preservation Tax Credit Program by the three regions illustrates how Columbus is far behind Cleveland and Cincinnati in the redevelopment of historic structures. The table above illustrates has Cleveland and Cincinnati have more than doubled Columbus' total of gaining Ohio Historic Preservation Tax Credits as registered by the counties in which they sit.

Dollars Gained from Ohio Historic Preservation Tax Credit



Even more troubling for Columbus, the table above illustrates the staggering dollar amount they are behind Cleveland and Cincinnati in the total dollars gained from Ohio's Historic Preservation Tax Credit. The opportunity cost for Columbus is substantial in its poor performance with Ohio's Historic Preservation Tax Credit Program and it clearly is part of the reason the city's Central Business District has suffered compared to Cleveland and Cincinnati.

Ohio New Market Tax Credit Investments



Finally, Columbus is behind when it comes to the use of the Federal New Market Tax Credit program. The Federal New Markets Tax Credit provides a 39 % Federal Tax Credit Over seven years for real estate investments in poor communities through complex transactions involving retail, office and manufacturing projects. The Ohio New Markets Tax Credit program provides an incentive for investors to fund businesses in low-income communities. The Ohio Development Services Agency provides $10 million annually in a tax credit allocation to Community Development Entities who invest in New Market Tax Credits. Again, as the chart above indicates, Columbus is far behind counterparts Cleveland and Cincinnati when it comes to utilizing the New Markets Tax Credit which is focused on low income urban areas that traditionally have been Downtown.

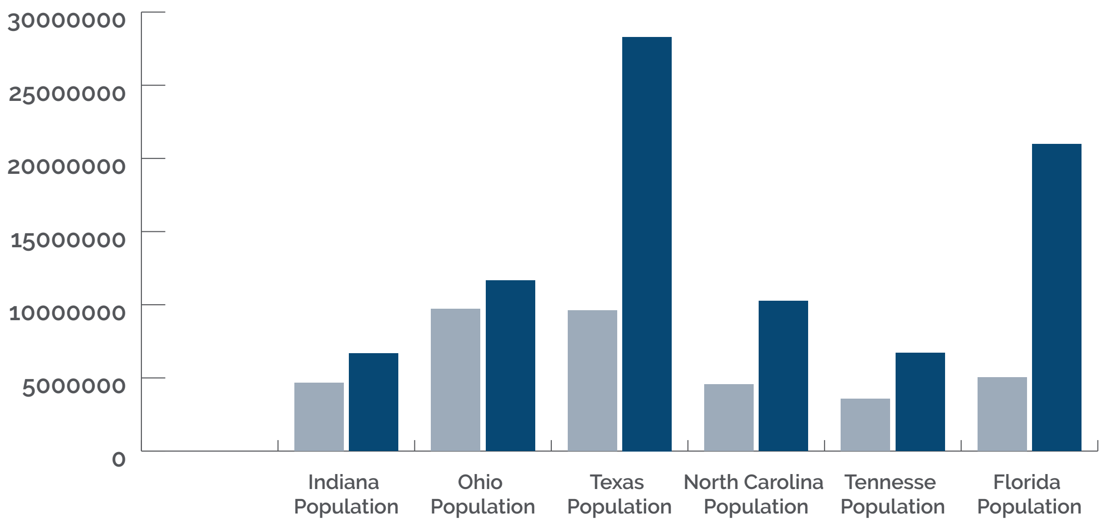
Economic conclusions from comparing Ohio's three cities is clear: from a macroeconomic standpoint, Columbus is the clear winner with substantial recent population, job and wage growth tied to the advanced services industry; and Downtown Columbus is behind Cleveland and Cincinnati focused on critical economic measures such as the number of jobs, residents, and retail space. From an office and job retention and expansion standpoint, the Columbus Capitol Square office market is in desperate need of investment and an update to serve as a beacon for high wage advanced services jobs.

Ohio Demographic Analysis

Reviewing demographic data is a strong starting point for measuring economic. Regions with an increasing population base and a group of younger workers illustrate growing communities. Homeownership rates and home value illustrate stability in a community but also whether it is affordable to buy a home in a community. The percentage of citizens over 25 with a college degree illustrates the likelihood the region can attract high-wage financial services, insurance, health care, high-tech, professional service and other advanced services white collar jobs. Finally, measures of income and poverty rates illustrate the overall economic strength of the community.

Population growth is a critical factor for the economic vitality of a region and state. Growing regions add population and provide a larger workforce pool that is attractive to employers seeking job creation and making capital investments. Regions that enjoy population growth in tandem with increases in their economic output address the challenges of income inequality.[19] Increasing a region's population also raises the standard of living in a region.[20] Ohio's lack of population growth is highly troubling economic data point as the state has only grow by 1.1 % over the last seven years when competitors like North Carolina, Texas and Florida are literally adding millions of people to their population base. In fact, looking at the last fifty years, while states like Texas and Florida have nearly tripled in population, and North Carolina and Tennessee have doubled in size, Ohio has barely grown. The Ohio Development Service estimates Ohio will barely add any people by 2040 unless population growth policies be adopted.[21]

State Population Growth 1960-2017



Ohio like all states should be paying attention to the retention and attraction of younger generations of workers—that includes Millennials and Generation Z. The Annie E. Casey Foundation counts anyone born after 1995 as a member of Generation Z.[22] This means that the group's oldest members will be turning 22 years old in 2018.[23] In the last 16 years, the nation's population of children of color has grown by 26%, and, within this population, which represents 49% of all U.S. kids, 25% of children are Hispanic or Latino, 14% are black or African-American, 5% are Asian, 4% are multiracial, 1% are American Indian or Alaskan Native and less than 0.5% are Native Hawaiian or other Pacific Islander.[24]

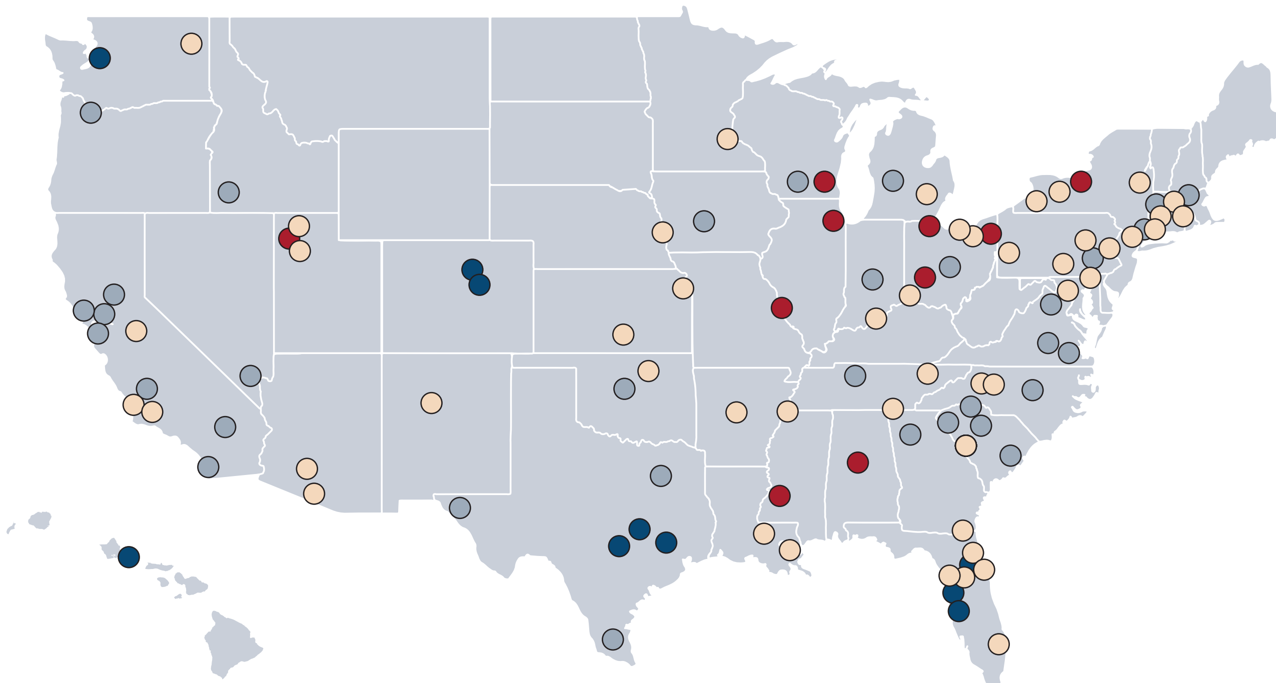
A discomforting 10% of kids lacked health insurance in 2008, the earliest full year of KIDS COUNT data on record, and, today, just 4% of kids have no health insurance, which translates to an impressive 60% drop in the nationwide rate of uninsured children.[25] The teen birth rate now sits at just 20 births for every 1,000 teen girls between the ages of 15 to 19, and, in 1996, when the first wave of Generation Z'ers were born, the nation's teen birth rate was 62% higher — at 53 births for every 1,000 teen girls.[26] Despite these examples of positive progress, which are rooted in smart policies and data-drive strategies, statistical trends aren't all rosy for Generation Z-- for instance, more kids are calling high-poverty areas home.[27]

From 2000 to today, the likelihood that a child lives in a high-poverty area has risen 44%, and, in the U.S. today, 13% of all kids — nearly 9.5 million children — live in areas of concentrated poverty, which are census tracts with poverty rates of at least 30%.[28] Since 2005, which represents the earliest full year of KIDS COUNT data on record, the nation has seen a 42% increase in children growing up in families aided by public assistance.[29] Today, 27% of kids — more than 19.6 million children — live in families that have recently received Food Stamps/SNAP benefits, Supplemental Security Income or cash public assistance income.[30] The number of kids in single-parent families is growing with more than one-third of all kids — 24.3 million children nationwide — are growing up in a single-parent family, and this rate has risen 13% since 2000.[31] Compared with children in married-couple families, kids raised by one parent are more likely to drop out of school, have or cause a teen pregnancy and get divorced as an adult.[32]

Millennials have a major demographic impact on the American economy. More than one-in-three American labor force participants (35%) are Millennials, making them the largest generation in the U.S. labor force.[33] As of 2017 – the most recent year for which data are available – 56 million Millennials (those ages 21 to 36 in 2017) were working or looking for work-- that was more than the 53 million Generation Xers, who accounted for a third of the labor force, and it was well ahead of the 41 million Baby Boomers, who represented a quarter of the total. Millennials surpassed Gen Xers in 2016.[34] Meanwhile, the oldest members of the post-Millennial generation (those born after 1996) are now of working age, and, last year, 9 million post-Millennials (those who have reached working age, 16 to 20) were employed or looking for work, comprising 5% of the labor force.[35]

In 2017 the Generation X labor force was down from its peak of 54 million in 2008.[36] The decline reflects a drop in the overall number of Gen X adults, and, in addition, last year only 82% of Gen Xers were working or looking for work, which is lower than their share in the labor force in 2008 (84%).[37] Though still sizable, the Baby Boom generation's sway in the workforce is waning.[38] In the early and mid-1980s, Boomers made up a majority of the nation's labor force, and the youngest Boomer was 53 years old in 2017, while the oldest Boomers were older than 70.[39] With more Boomers retiring every year and not much immigration to affect their numbers, the size of the Boomer workforce will continue to shrink.[40] While the Millennial labor force is still growing, partly due to immigration, it is unlikely that the Millennial labor force will reach the peak size of the Boomer labor force (66 million in 1997).[41] The Census Bureau projects that the Millennial population will peak at 75 million, and, at that number, a high rate of labor force participation would be needed to reach a labor force of 66 million.[42]

The graphic below from the Brookings Institute illustrates the struggle Industrial Midwestern states like Ohio have seen in the growth of younger, Millennial workers.

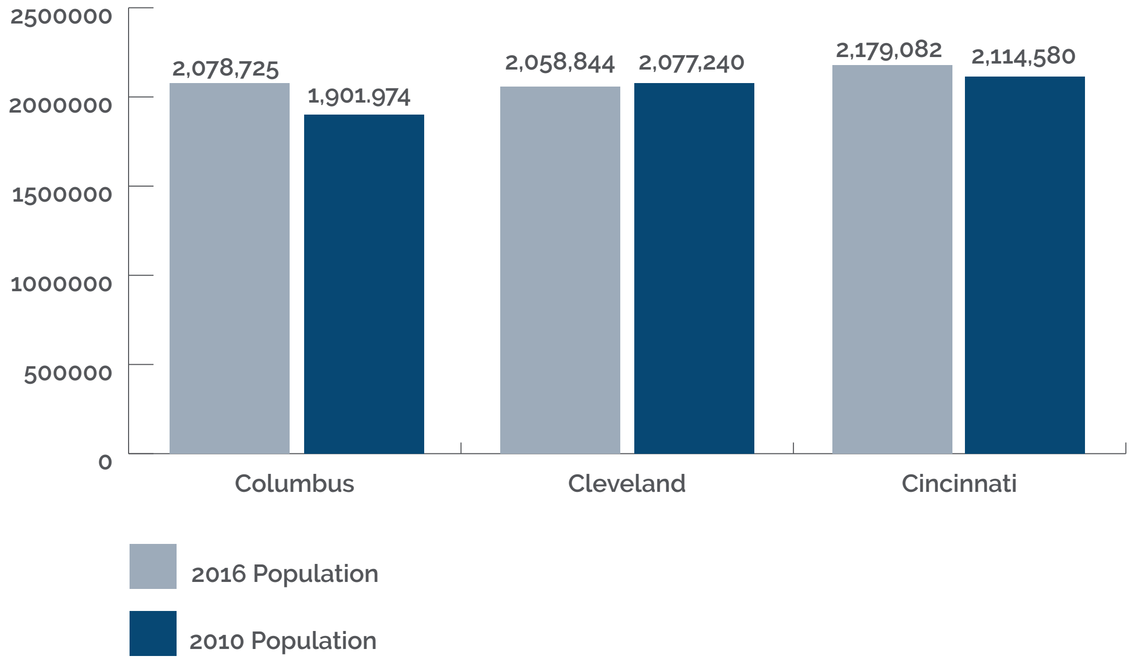


Over 10.8% (top 10) 5.8% - 10.8% 2% - 5.8 % Below 2% (bottom 10)

Top 10 metros		Bottom 10 metros	
Colorado Springs	14.7%	Salt Lake City	1.9%
San Antonio-New Braunfels	14.4%	Dayton	1.7%
Denver-Aurora-Lakewood	12.8%	Syracuse	1.5%
Orlando-Kissimmee-Sanford	12.7%	Milwaukee-Waukesha-West Allis	1.4%
Honolulu	12.2%	Jackson	1.2%
Austin-Round Rock	11.8%	Youngstown-Warren-Boardman, OH-PA	1.0%
Cape Coral-Fort Myers	11.7%	St. Louis, MO-IL	0.9%
Houston-The Woodlands-Sugar Land	11.7%	Toledo, OH	0.5.%
North Port-Sarasota-Bardenton, FL	11.1%	Chicago-Naperville-Elgin, IL-IN-WI	0.2%
Seattle-Tacoma-Bellevue	10.8%	Birmingham-Hoover, AL	-0.6%

Comparing the state of Ohio overall is not the end of the demographic comparison. All parts of Ohio are not succeeding or failing at the same rate. Columbus is far outpacing Cleveland and Cincinnati in nearly every demographic measure, as the table below illustrates. While the Columbus Metropolitan Statistical Area (MSA) has seen dramatic population growth, the Cleveland MSA lost population over the last six years and the Cincinnati MSA has barely gained population.

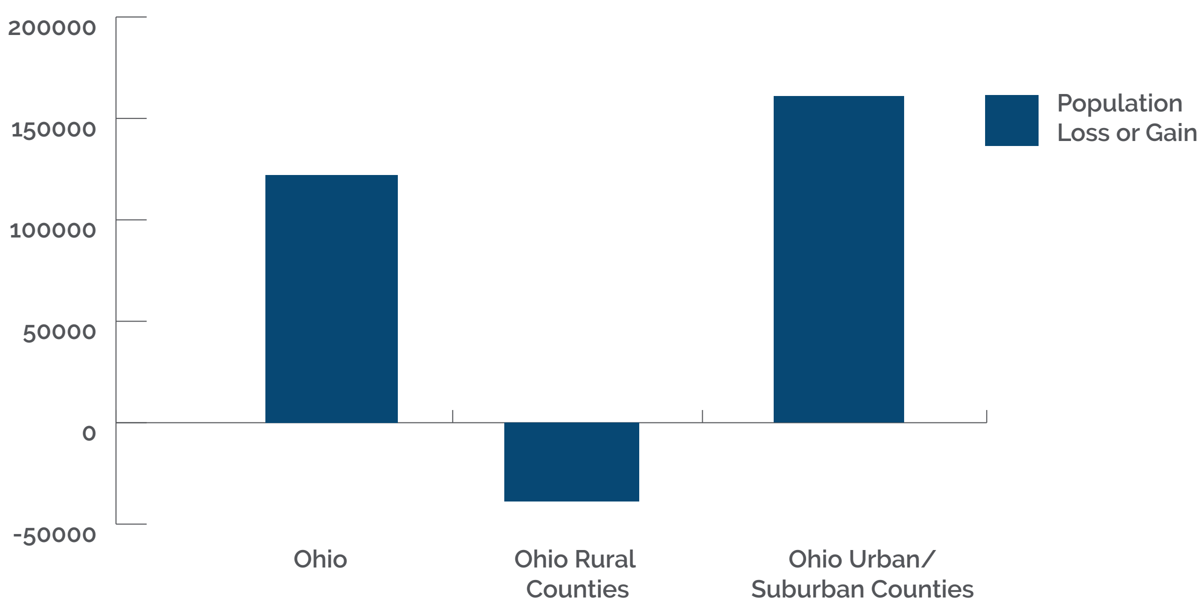
Regional MSA Population Growth Comparison



Source: U.S. Census Data

The population loss in non-urban regions of Ohio is startling. As the table below illustrates, the population loss of the 68 rural Ohio counties totaled nearly 40,000 people from 2010-16 (Appendix B has the 88-county population growth or loss data and the urban and rural designation).

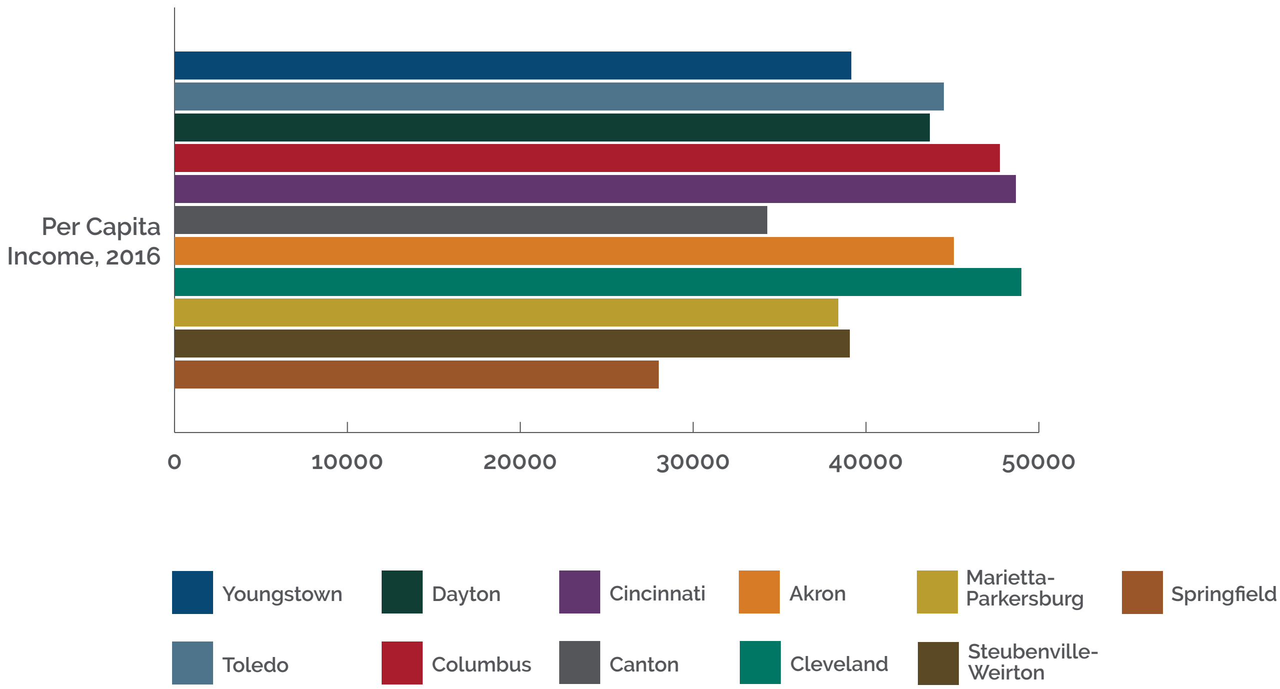
Ohio Population Loss or Gain by County Type



Source: U.S. Census Data

With population loss comes the decline in incomes. As the table below illustrates, smaller urban and rural regions in the state of Ohio have a substantially lower per capita income driven in large part by the loss of manufacturing and agricultural jobs as automation makes those sectors of the economy much more productive but much less job rich.

Ohio MSA Per Capita Income Comparison



Source: US Census Data

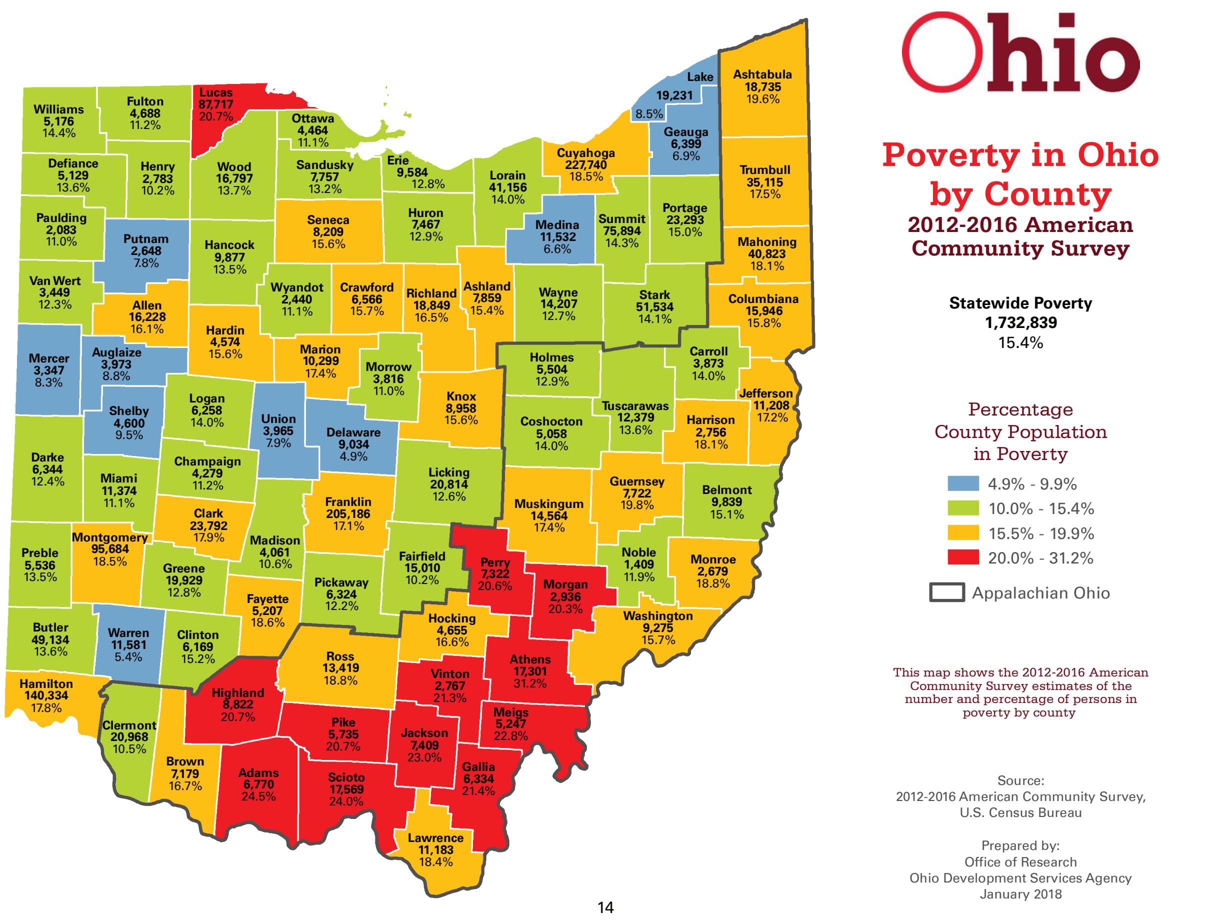
Measuring not just the make up of a state's population but its overall growth and other key demographic measures such as homeownership rate, civilian labor participation rate, median household income an poverty rate are all critical measures of economic success. Utilizing a demographic benchmark comparison, Ohio's homeownership rates are above the national average but trail competitors such as West Virginia and Florida. Ohio's median home value is far below the national average illustrating the affordability of housing in the state.

State Demographic Benchmark State Comparison

Fact	Indiana	North Carolina	Ohio	Tennessee	Texas	Florida
Homeownership Rate	68.70%	64.80%	66.00%	66.30%	61.90%	64.80%
Median Home Value	$126,500	$157,100	$131,900	$146,000	$142,700	$166,800
Bachelor Degree or Higher, over 26	24.60%	29.00%	26.70%	25.40%	28.10%	27.90%
Civilian Labor Participation Rate	63.90%	61.50%	63.20%	60.80%	64.20%	58.50%
Median Household Income	$50,433	$48,256	$50,674	$46,574	$54,727	$48,900
Poverty Rate	14.10%	15.40%	14.60%	15.80%	15.60%	14.70%

Source: U.S. Census Bureau

Rural communities, in particular in the southeastern part of Ohio, are clearly struggling from an economic standpoint. The graphic below compares the poverty rates by counties across the state and illustrates the economic challenges facing rural Ohio in particular.

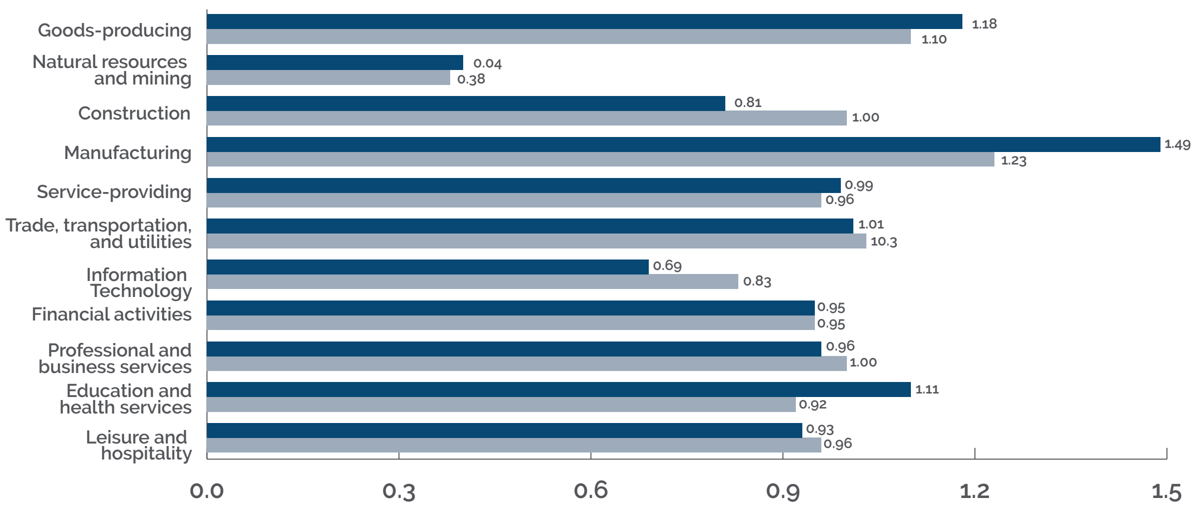


Source: The Ohio Poverty Report, 2018, Ohio Development Services Agency

Ohio Industry Analysis

Ohio, like the nation, is transitioning from a manufacturing-based economy to a service economy. The Buckeye state remains a manufacturing leader but the number of jobs in this sector have seen a dramatic decline. Trade, transportation and utilities, education and health care, government and professional service jobs all have more jobs in Ohio than the manufacturing sector. Measuring industry concentration in a state illustrates industry strengths. This is measured by a review of the industry cluster and location quotient for the success of these clusters. An industry cluster is comprised of a geographic concentration of firms within a particular industry.[43] Location quotient is an indicator of the economic concentration of a certain industry in a state, region, county or city compared to a base economy, such as a state or nation. A location quotient greater than 1 indicates a concentration of that industry in the area.

Ohio v. North Carolina Location Quotient Industry Comparison



Source: US Bureau of Labor Statistics

As illustrated in the chart above, Ohio leads states in trade, transportation and utilities, manufacturing and goods producing industries but in the high-wage information technology sector. North Carolina is a clear leader in technology with the highest location quotient in information technology, and has industry strength in manufacturing, trade, transportation and utilities.

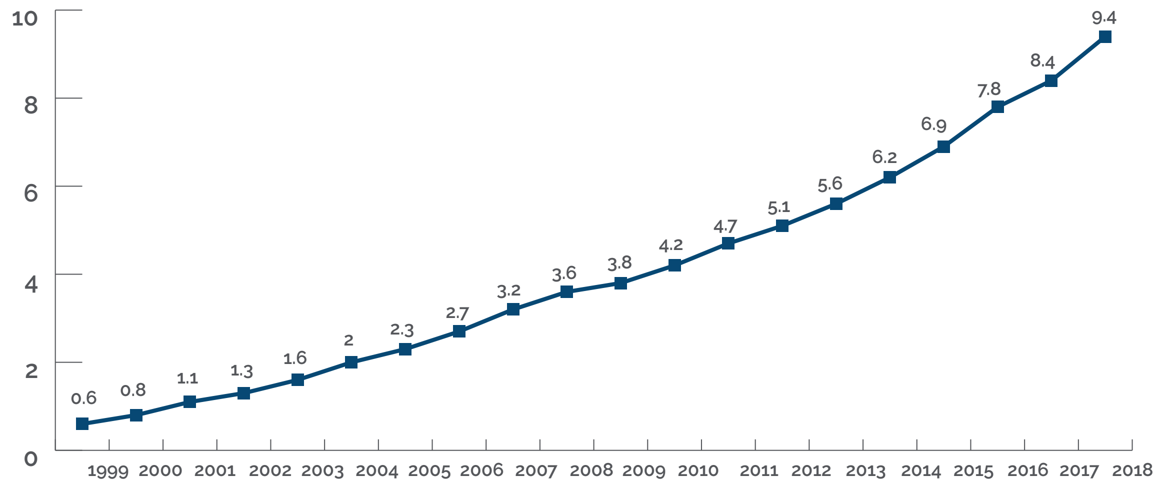
Energy production and the access to new reliable and affordable energy is a major new economic opportunity for Ohio. In Ohio, natural gas production from the Utica shale was 12 times greater in 2015 than in 2011, rising from 1 percent of the nation's total to 3 percent.[44] The eastern part of Ohio contains reserves of coal, crude oil, and natural gas fields, and several interstate natural gas pipelines cross the state.[45] Ohio is the tenth-largest coal-producing state in the nation and the sixth-largest producer of bituminous coal, and the primary fuel for electricity generation in Ohio is coal.[46] Wind energy and solar energy projects have been popping up as well in Ohio driven by social, tax and global high-tech companies demanding energy from renewable sources. Ohio is an energy rich state that provides new opportunities to attract energy-intensive industries where the cost of energy is a major factor in the company's site location consideration. Research indicates energy-intensive firms that produce high-wage jobs are for the most part manufacturing companies. That does not mean other industries do not consume high-rates of energy, but the question becomes: do these industries provide the high-wage jobs that fuel regional economic prosperity? Energy-intensive industries include:

- Paper manufacturing, including paper and paperboard mills
- Chemical manufacturing including basic chemicals, petrochemicals, alkalis and chlorine
- Primary metals including iron, steel, ferroalloy, aluminum production and processing
- Cement and lime production and processing
- Food processing

Measuring past industry success or failures for Ohio is not the end of an industry analysis. Predicting the future impact of economic trends is critical as well. Two major economic trends will impact Ohio and all other regional economies- automation and growth of e-commerce. Automation has been making America's manufacturing industry the most competitive and productive in the world but it has also played a large part in dropping the number of manufacturing jobs in the U.S to about 9% of the US workforce. Automation driven by advances in technology is transforming not only manufacturing but also retail, insurance, banking, and other white collar industries. A couple highlights include:

- The retail industry employs roughly 16 M Americans and nearly half of these retail workers are at risk of losing their jobs to robots and other automation technology;[47]
- The insurance market is estimated to lose 25% of their current jobs over 10 years;[48]
- Mobile banking is booming with bank tellers and back office jobs being replaced by smart phone apps-- Bank of America has seen their mobile banking customer base grow from 12 M in 2012 to 22 M in 2016;
- The health care industry has 36% of its jobs threatened by automation-- Walter Reed Medical Center is using Artificial Intelligence to better predict medical complications and improve treatment of severe combat wounds, leading to better patient outcomes, faster healing, and lower costs;[49]
- The employment of computer and information technology occupations is projected to grow 13% from 2016 to 2026, faster than the average for all occupations, and the median annual wage for computer and information technology occupations was $84,580 in May 2017, which was higher than the median annual wage for all occupations of $37,690;[50]
- Global Autonomous Vehicle market revenue, based on the sensors, hardware, software, services, and autonomous vehicles types, is expected to grow 39.6% during 2017-2027 reaching $126.8 B by 2027; and
- The growth of e-commerce, as illustrated by the table below, will close thousands of traditional retail stores and shopping malls but develop thousands of jobs in logistics, distribution and fulfillment centers-- employment of transportation and material moving occupations is projected to grow 6% from 2016 to 2026, about as fast as the average for all occupations, adding 634,300 new jobs.[51]

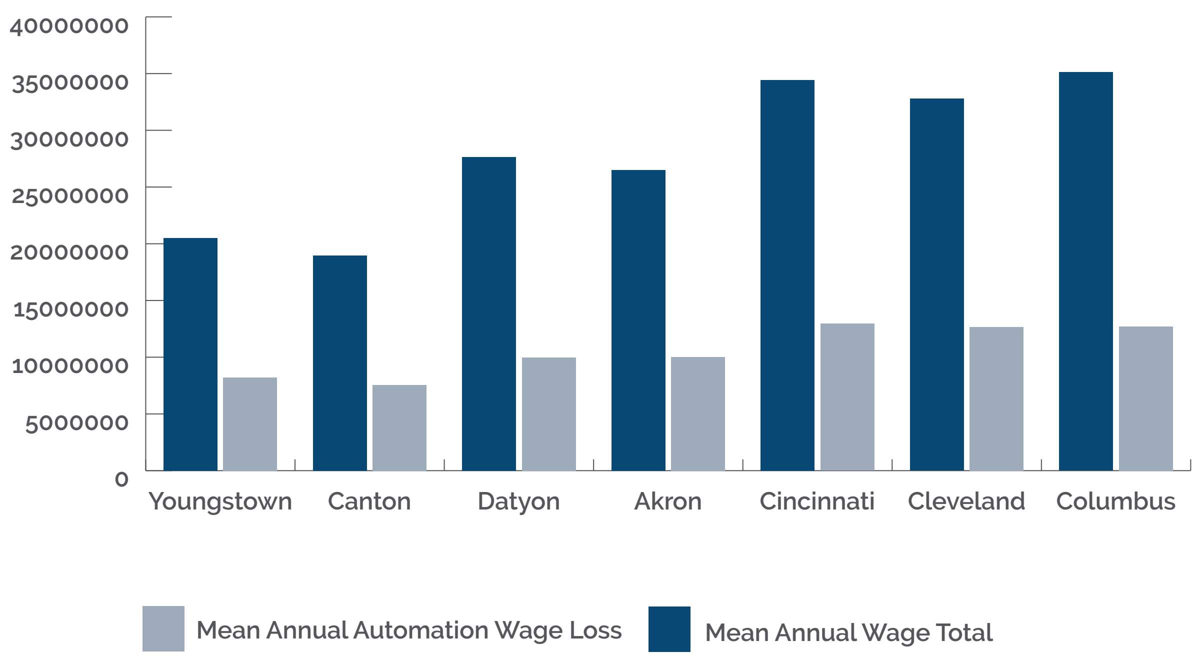
E-Commerce as a Percent of US Retail Sales



Source: US Census Bureau

The Montrose Group, LLC developed the Montrose Automation Index to measure the job and wage impact of automation. The Montrose Automation Index is relatively simply- a region's occupations are researched from U.S. Department of Labor sources to determine the number of these occupations in a region and the wages they pay. Those region's occupations are then compared to the over 600 occupations that Professors Carl Benedikt Frey, and Michael A. Osborne of Oxford University's outlined in their landmark study, *The Future of Employment: How Susceptible are Jobs to Computerisation?*, September 17, 2013. As the table below illustrates, larger cities such as Cincinnati, Cleveland and Columbus will see the largest wage loss—although they by far have the largest total wage pot. Columbus and engineer heavy Dayton will fare the best under this analysis while Youngstown will be impacted the worst with a 40% wage loss from automation.

Wage Loss Impact of Automation on Major Ohio Cities



Montrose Development Advisors

The table below outlines the top ten occupations by wage-loss that will be impacted by automation in Dayton, Ohio. 507 occupations were reviewed in Dayton, Ohio for the impact of automation. The occupations constituted 356,040 jobs providing a total mean wage for Dayton of $27,648,610. Automation, according to the Oxford University study, in Dayton is slated to impact 194,244 jobs and create an annual wage loss of $ 9,972,253 creating a regional wage loss of 36%.

Workforce Analysis

With the retirement of the Baby Boom generation and the invasion of the millennial generation, no issue for a region matters more than the availability of skilled workers.

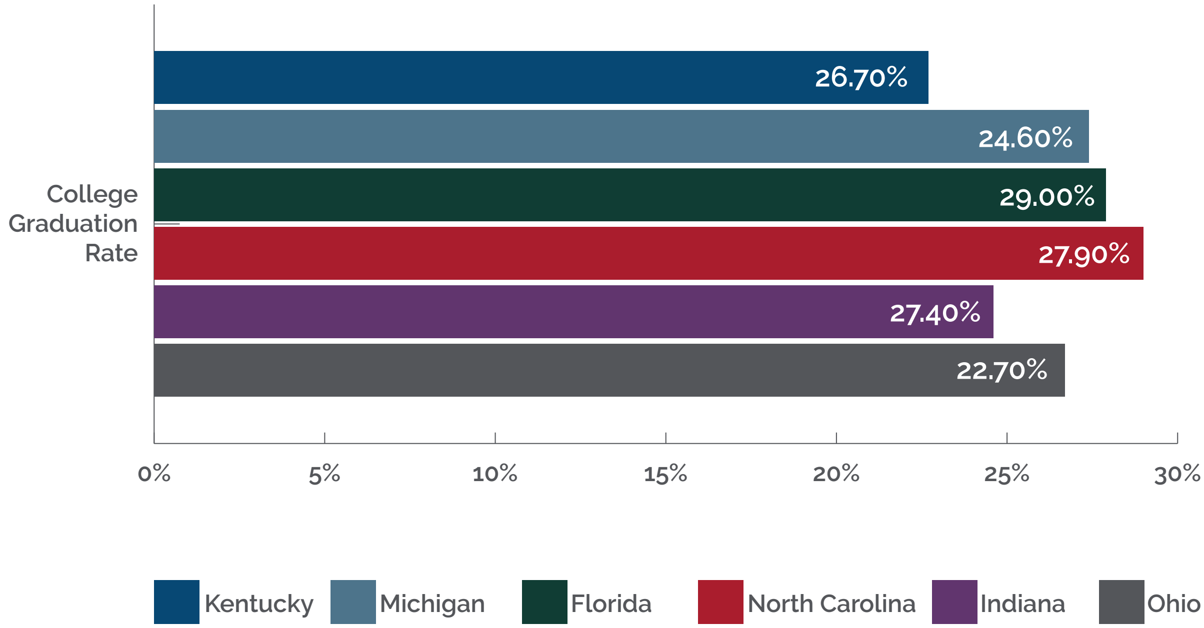
Ohio v. North Carolina Employment by Industry Trends 1990 v. 2017

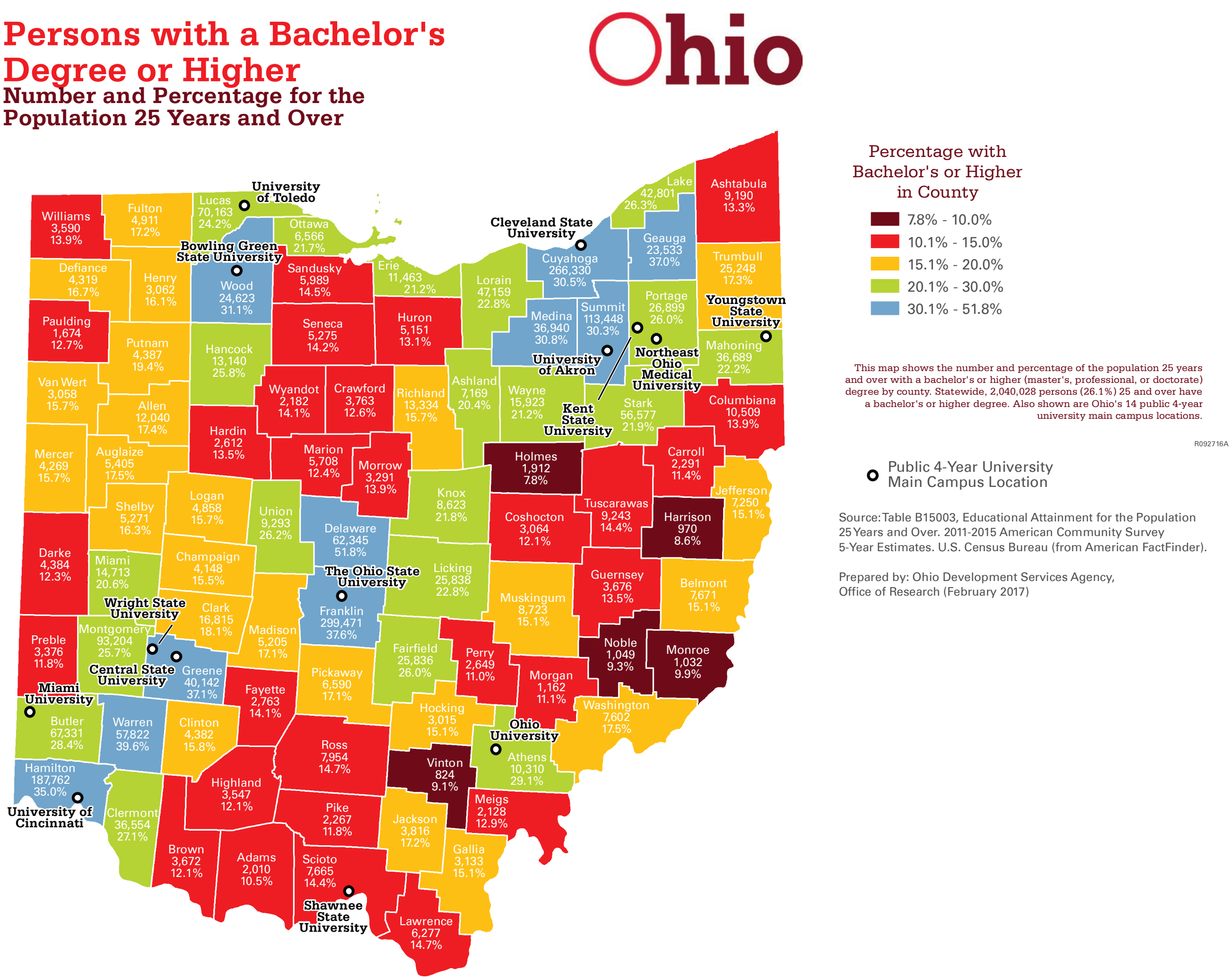
Industry	1990 North Carolina	2017 North Carolina	1990 Ohio	2017 Ohio
Goods-producing	1,012,830	706,728	1,307,783	930,920
Natural resources and mining	25,827	30,917	30,951	27,497
Construction	166,746	208,547	195,190	216,958
Manufacturing	820,256	467,264	1,081,643	686,465
Service-providing	1,589,367	2,926,330	2,790,434	3,715,835
Trade, transportation, and utilities	626,155	825,702	979,023	1,018,107
Information	57,615	78,814	104,735	71,562
Financial activities	134,904	226,622	258,696	288,503
Professional and business services	233,311	615,901	372,577	724,577
Education and health services	225,739	578,456	519,101	897,275
Leisure and hospitality	233,901	493,470	410,579	560,090
Other services	77,170	107,364	145,445	155,241

Comparing industry job growth and loss in Ohio to North Carolina illustrates why North Carolina is succeeding. The North Carolina economy continues to transition away from manufacturing jobs and has grown in the service, financial activities, professional services, education and health care sectors, the above table illustrates North Carolina's success in the tech sector with an increase of over 20,000 jobs in the high-wage information sector and nearly 375,000 jobs in the professional and business services sector. Ohio on the other hand has lost over 30,000 jobs in the information sector and has gained nearly 350,000 jobs in the professional and business services sector over this same timeframe.

As the economy transitions from low-skilled manufacturing work to high-skilled, technology oriented jobs, the availability of college graduates to fill skilled positions is critical. The table below illustrates Ohio is slightly behind most regional competitors and even further behind competitors like North Carolina when it comes to the availability of college graduates to fill high-wage jobs.

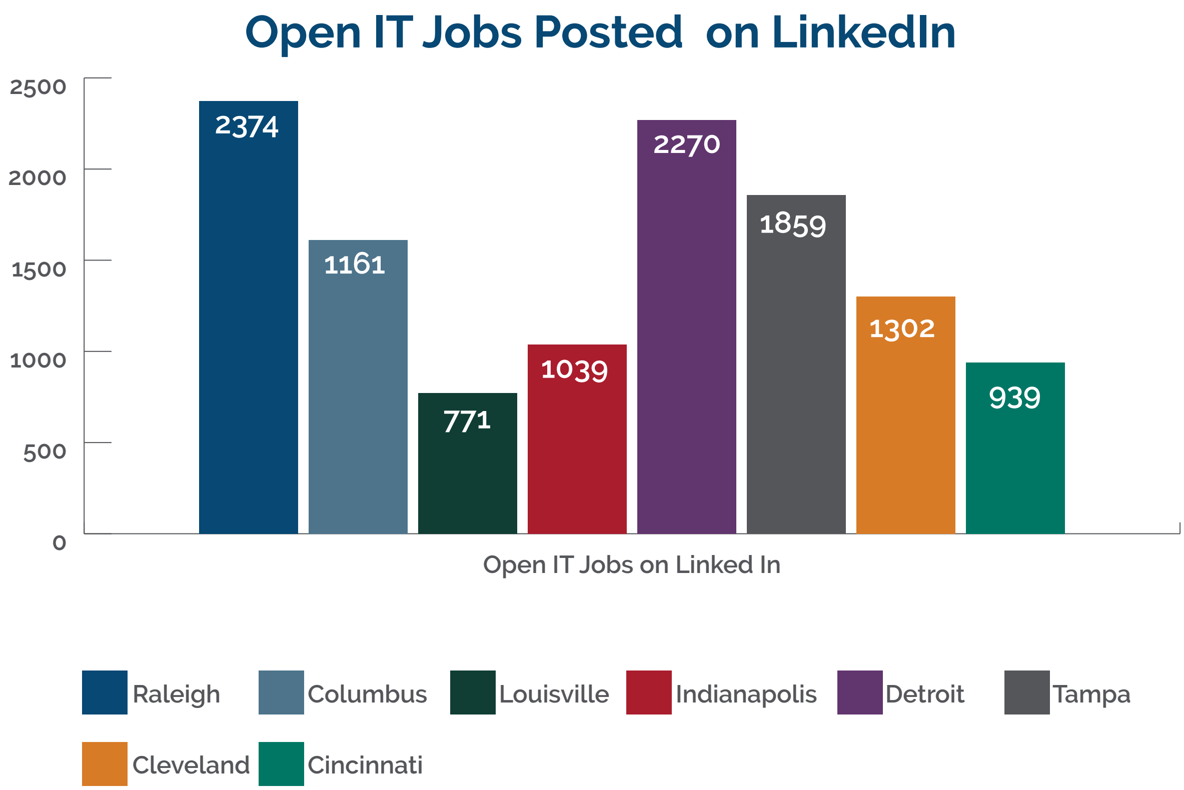
State College Graduation Rate Comparison





All Ohio regions are not on the same equal footing when it comes to educational attainment in the state and this clearly impacts each region's ability to retain and attract high-skilled jobs in a range of fields. As the table above illustrates, Ohio's urban and suburban centers have a higher percentage of college degree attainment while the rural and a handful of urban communities have a lower college degree attainment rate. These urban and suburban centers are clearly strong targets to high-skilled jobs in the advanced services, manufacturing, and technology sectors.

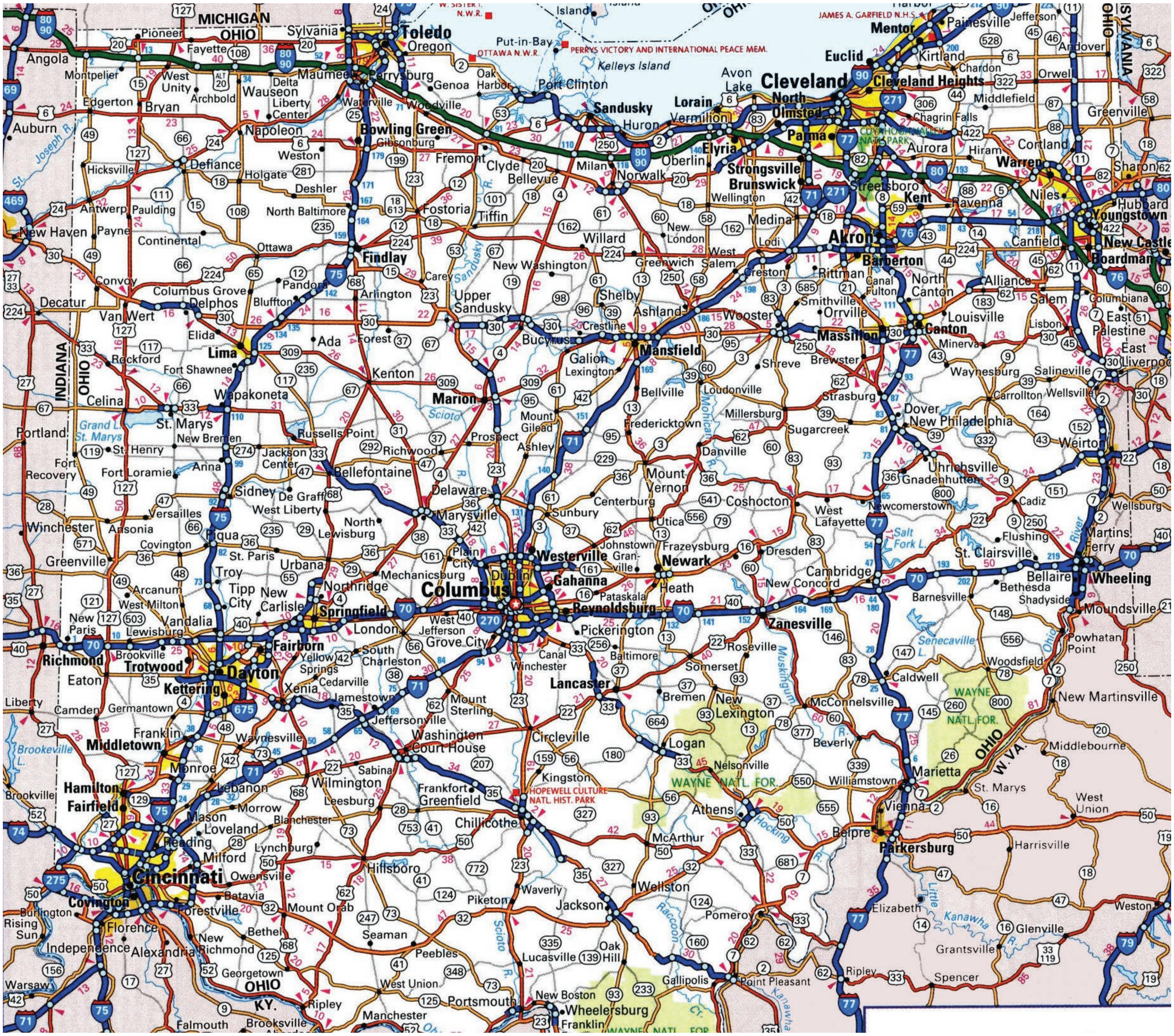
Finally, measuring the number of open jobs in relevant occupations is an important measure for companies considering a corporate site location project. All regions face skills gaps in numerous occupations. The chart below looks at the issue from a regional level and illustrates that even a tech center like Raleigh is facing a skills gap when it comes to information technology workers. LinkedIn has 2,374 and Indeed.com has 3,594 open job postings under the category of information technology in the Raleigh market.



Infrastructure, Site Development and Transportation Analysis

The quality of a region's infrastructure and transportation system directly impacts its chances for current and future economic success. Measures of infrastructure and transportation include a review of major highways, transit and airport systems, and level of traffic congestion that all impact the ability to do business. Ohio has a robust highway and roadway transportation network that is mature and serves to connect the urban, suburban and rural markets as well as to major Midwest and East Coast markets.

Ohio Interstate and State Highway Map

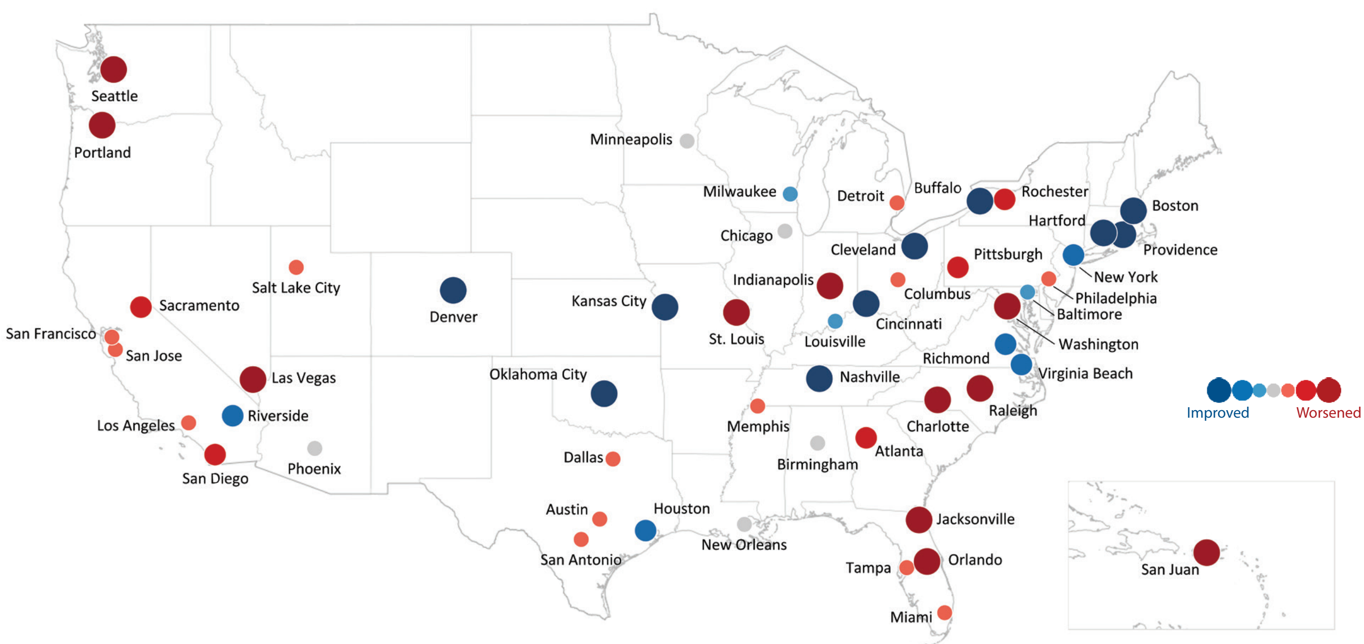


Source: http://ontheworldmap.com/usa/state/ohio/ohio-road-map.jpg

While Ohio has a substantial base of infrastructure all over the state, the maintenance and operation of this infrastructure system has come under criticism. Nationally, the American Society of Civil Engineers gives the nation's infrastructure a "D+" in the 2017 Infrastructure Report Card. Ohio, like the rest of the national faces infrastructure challenges. Ohio's driving on roads in need of repair costs each driver $475 per year, and 6.9% of bridges are rated structurally deficient.[52] Drinking water needs in Ohio are an estimated $12.2 B, and wastewater needs total $14.58 B.[53] 362 dams are considered to be high-hazard potential, and the state's schools have an estimated capital expenditure gap of $683 M.[54] More troubling are the massive transportation infrastructure needs facing Ohio that include:

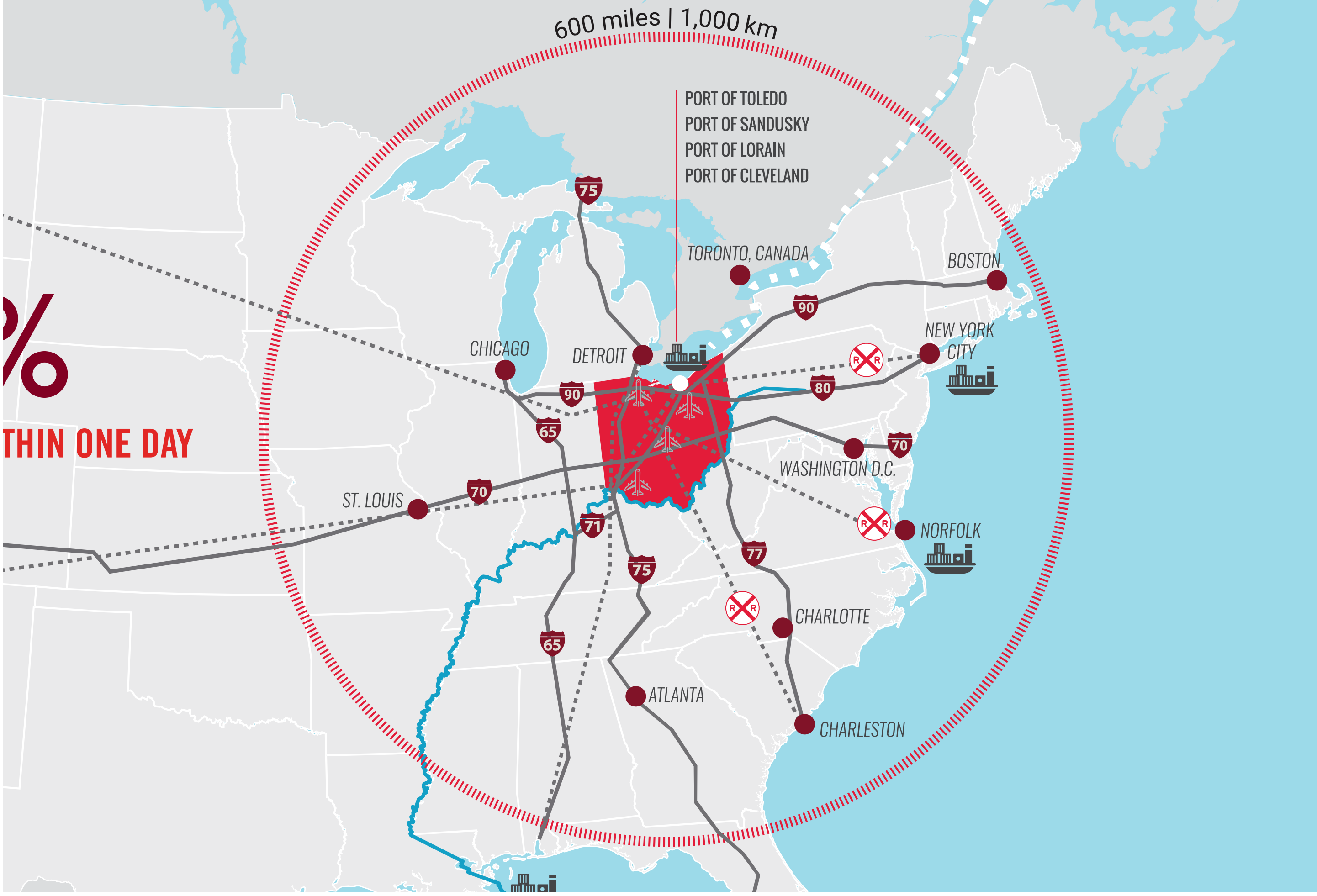
- Ohio Department of Transportation (ODOT) estimates the cost of maintaining conditions and level of service on its system of Ohio roads, highways, bridges and public transit systems is approximately $55 billion through 2040, but only $41 billion is anticipated to be available, leaving a shortfall of $14 billion;
- ODOT's construction investment in roads, highways and bridges increased from approximately $2 billion in 2017 to $2.35 billion in 2018, largely due to Ohio Turnpike bond proceeds, but investment is set to decrease to $1.85 billion in 2019, dropping to $1.7 billion in 2021;
- ODOT's Transportation Review Advisory Council (TRAC) oversees the selection of major projects to be constructed by ODOT and their draft 2018-2021 major new construction list includes 45 highway and bridge projects in Ohio at a total cost of $8.3 billion, of which $2.5 billion in federal, state and local funding is anticipated to be available through 2023, leaving approximately $5.8 billion unfunded; and
- State of Ohio only awards local transit agencies $40 M while Pennsylvania invests about $840 million a year in public transit, Minnesota, about $340 million a year and Michigan, $200 million a year.

Highway infrastructure is also an important measure of a region's ability to handle economic growth. The U.S. Federal Highway Administration's 2016 Urban Congestion Trends Report provides the current status of congestion and reliability in 52 of the largest metropolitan areas in the United States. This report also highlights relevant successful operational strategies and performance management approaches implemented by State and local transportation agencies. The graphic below provides 2015-to-2016 congestion trends from Federal Highway Administration's Urban Congestion Report (UCR). Overall, congestion has remained relatively flat, increasing by 3 minutes from 4:40 hours in 2015 to 4:43 hours in 2016. The national congestion measures across all 52 metropolitan statistical areas (MSAs) included in the UCR are mixed from 2015 to 2016. There is a slight increase in the time of congestion and average conditions, with a slight improvement in reliability across the nation in the 52 MSAs and e Columbus has moderate congestion challenges but Cincinnati and Cleveland have illustrated improvement in traffic challenges.



Multimodal infrastructure including highways, rail lines, water and air ports provide critical connections to global markets. Ohio benefits from a comprehensive transportation system that links it to global and regional markets and capitalizes on the state's strategic location.

Ohio's Multimodal Transportation Connections to Global Markets



Source: JobsOhio, Ohio Logistics Brochure

As the above graphic indicates, Ohio has a strong multimodal transportation system that supports the growth of the logistics and fulfillment center industry. In fact, Ohio is:

- Within 600 miles of 60% of the US and Canadian manufacturing and 70% of the OEMS;
- Home to the 4th largest interstate highway system;
- Home to 13 intermodals connect by the 4th largest network of railroads;
- Home to 4 dedicated air cargo terminals, more than any other Midwestern state;
- Home 209 ports and terminals along the Ohio River, Lake Erie and the only Midwestern state with a direct shipping route to Europe.[55]

From a site development standpoint, Ohio offers a robust selection of industrial and office locations across the state with the urban markets illustrating particular strength but lacking in industrial sites prepared to capitalize on the anticipated growth of the industrial marketplace driven by e-commerce.

Industrial Real Estate Market Comparison

Market	Average Asking Rent	Vacancy Rate	Absorption Rate
Cincinnati	$4.19	3.4%	527,862
Columbus	$3.56	3.91%	1,568,932
Cleveland	$4.68	5.5%	654,659
United States	$5.84	5.1%	63,000,000

Source: Jones Lang Lasalle

Ohio offers a competitive rental rate for industrial real estate. However, these rates only speak to the availability of Ohio's major urban markets. Ohio's rural markets are not adequately served by industrial sites prepared for development—particularly in Southeast and Eastern Ohio where the availability of sites prepared for development are sparse—even though they have access to reliable and low cost energy due to the shale development.

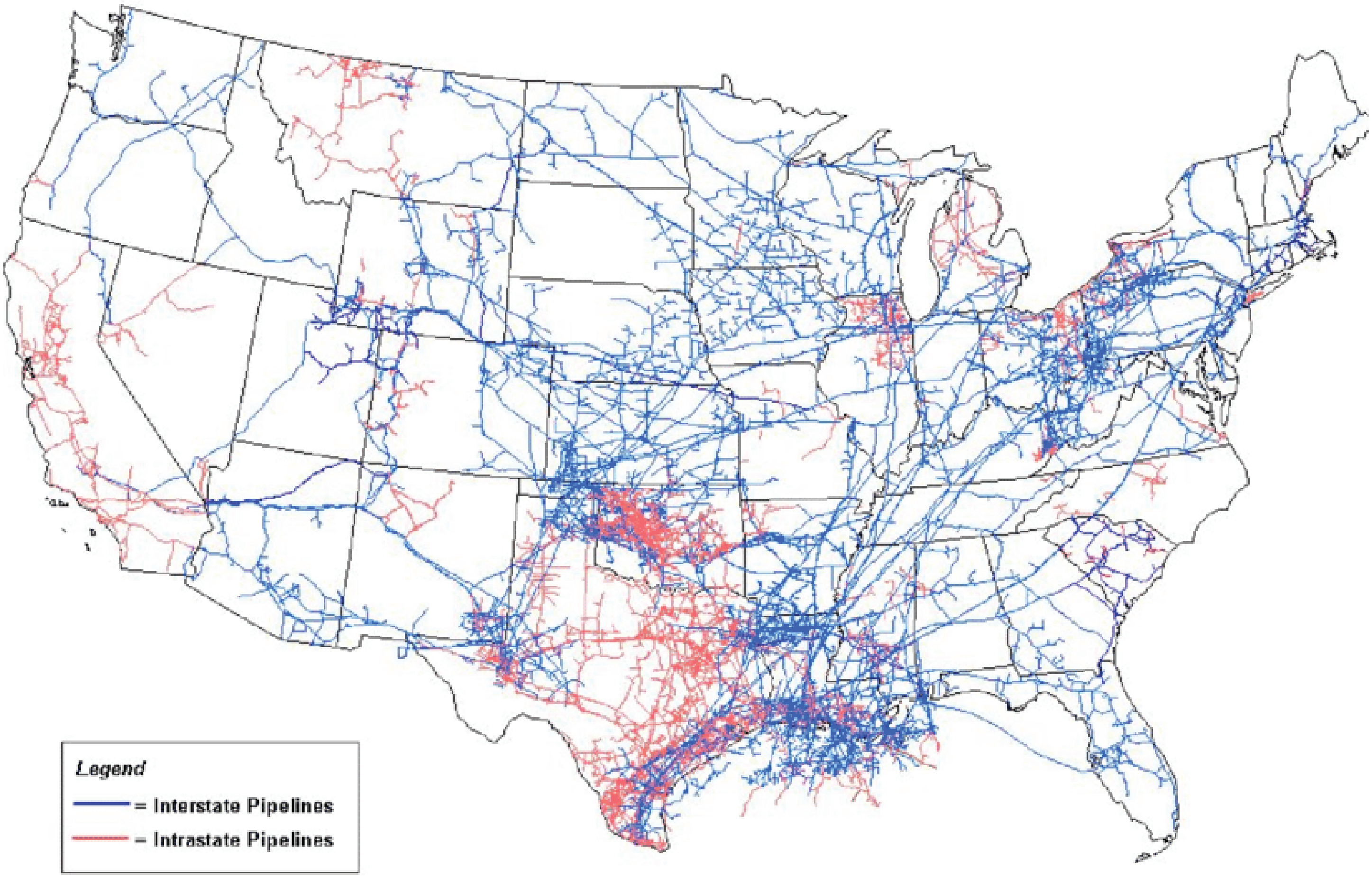
Office Real Estate Market Comparison

City	Office Square Feet	Office Vacancy Rate	Average Asking Rent	Construction	Absorption
Columbus	65,474,350	9.26%	$18.76	1,339,157	(50,658)
Raleigh	68,440,341	8.3%	$23.12	2,326,446	1,403,329

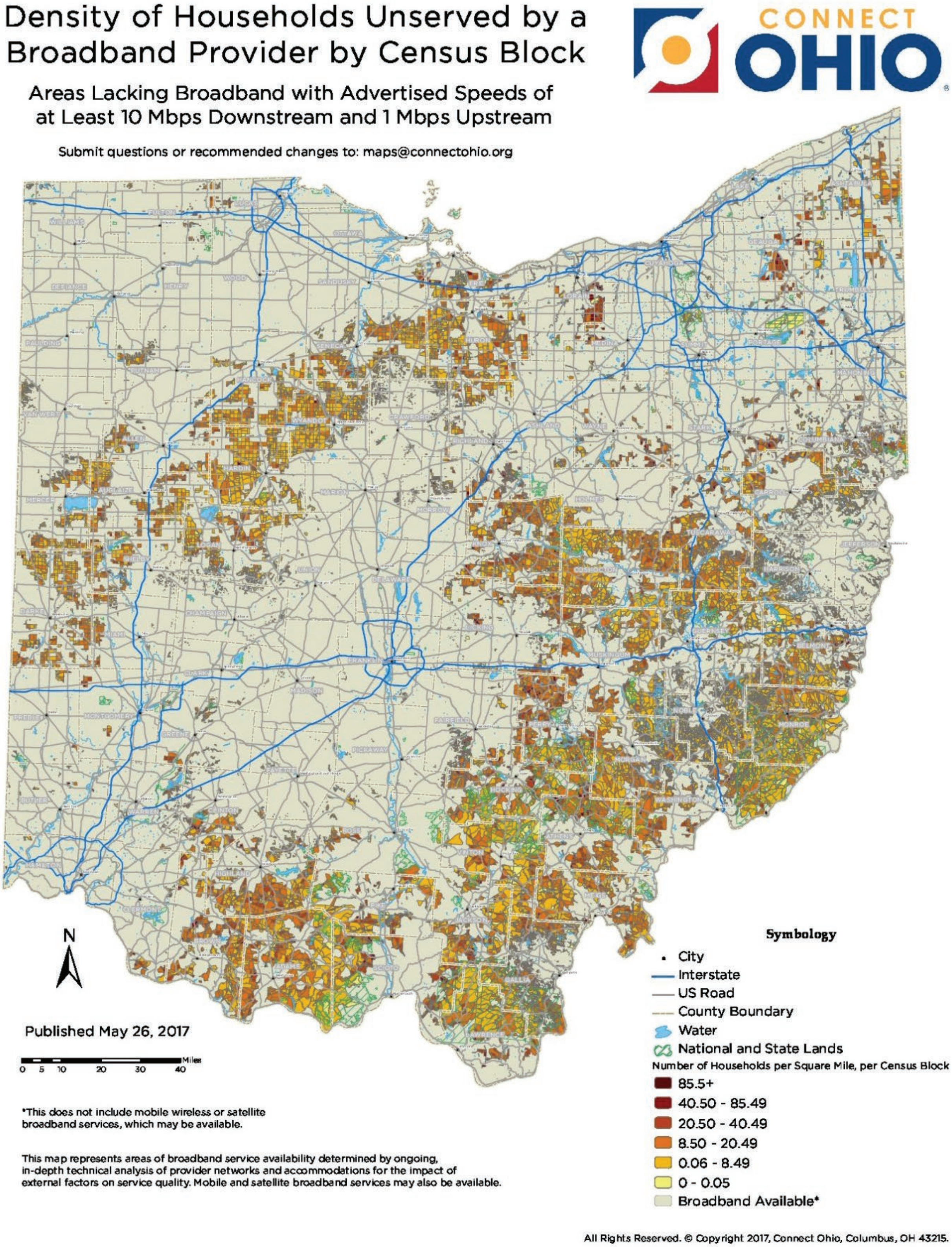
Source: Colliers International

Reflecting the recent growth in the regional economy, Raleigh has a substantially higher average asking rent for their office product compared to Columbus. With similar office vacancy rate, Columbus and Raleigh offer an interesting comparison. Raleigh also has more office product under construction but a longer absorption rate. However, a recent study of JobsOhio by McKinsey acknowledged that Ohio's lack of large-scale, development-ready sites is also cited as a key challenge, reported by companies as the most frequent explanation for why JobsOhio loses deals.[56]

The development of shale oil and natural gas makes Ohio a leader in the energy industry. Access to pipelines with natural gas are particularly attractive to industrial and data center and other energy intensive companies.



Access to broadband telecommunication services is critical to a region's ability to serve any company—not just high-tech ventures—as access to high-speed data service is as critical as water and sewer service. As the graphic below illustrates, Ohio's urban and suburban markets are well served by broadband services but the rural regions, particularly in the hilly terrain of Southeastern Ohio lack vital broadband services and infrastructure.

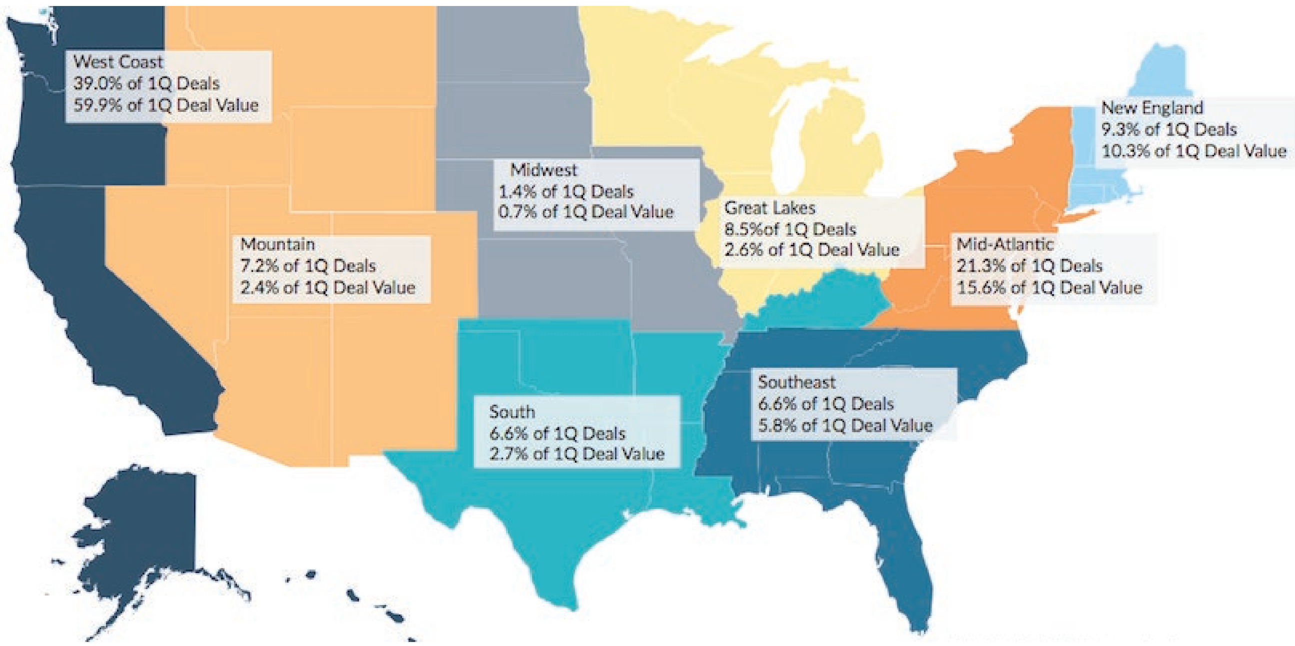


Access to venture capital is another critical piece of a state's economic infrastructure. As the table below illustrates the five West Coast states (Alaska, California, Hawaii, Oregon, and Washington) continue to dominate the VC landscape with approximately $17 billion invested over 751 deals in Q2 of 2018. However, the New York City MSA has seen an increase in its share of VC deals (12.8 percent through Q2 of 2018) – up from 11.4 percent for 2017, according to the 2Q 2018 PitchBook-NVCA Venture Monitor. These findings highlight the long-standing trend that the U.S. VC market remains concentrated on the coasts with approximately 71 percent of deals and nearly 88 percent of VC dollars going to the West Coast states, the Mid-Atlantic states, and the New England states.

Activity by Region

Deal value remains concentrated on coasts

2Q 2018 US VC deal activity by region



Cost Competitive Analysis

The business costs of a community impact its attractiveness for economic activity. Business Costs include the wage rates needed to be paid for workers in the relevant industry, home prices and other major expenses and transportation costs including lost time in traffic congestion.

Employee wage rates for a given industry have a substantial impact on the cost of doing business in a given market. Unless the company is engaged in an energy intensive industry, worker wages are the number one expense a company faces. Likely due to recent growth, small supply and skills required, information technology workers are highly paid and sought after. The average salary of an American worker is $17 an hour constituting $35,360 annually. For all the targeted regional markets, IT workers in those regions make more than double the average American salary.

Regional Benchmarking IT Worker Wages

Occupation code	Tampa	Indianapolis	Louisville	Detroit	Raleigh	Columbus	Cleveland	Cincinnati
Computer and Mathematical Occupations	$76,910	$77,600	$73,130	$82,950	$89,210	$88,700	$74,030	$80,760

Source: U.S. Bureau of Labor Statistics, Occupational Employment Statistics

As the table above illustrates, Raleigh and Columbus lead the payscale for information technology workers. Markets such as Cleveland and Cincinnati, Tampa, Indianapolis and Louisville operate with wages for IT workers below that of regional competitors, and Detroit's wage rates are likely influenced by the dominance of the large global automotive sector and its higher wage jobs.

From a logistics and distribution workforce standpoint, Ohio has a strong base of logistics and transportation workers. Central Ohio has a large base of logistics and transportation workers but also has the highest annual mean wage for these workers. Employment of transportation and material moving occupations is projected to grow 6% from 2016 to 2026, about as fast as the average for all occupations, adding 634,300 new jobs. Material moving workers are expected to be needed to move materials in nearly all sectors of the economy. Additionally, the economy depends on truck drivers to transport freight and keep supply chains moving.The national median annual wage for transportation and material moving occupations was $31,600 in May 2017, below the median for all occupations of $37,690.

Logistics/Distribution Workforce Wage & Jobs Regional Comparison

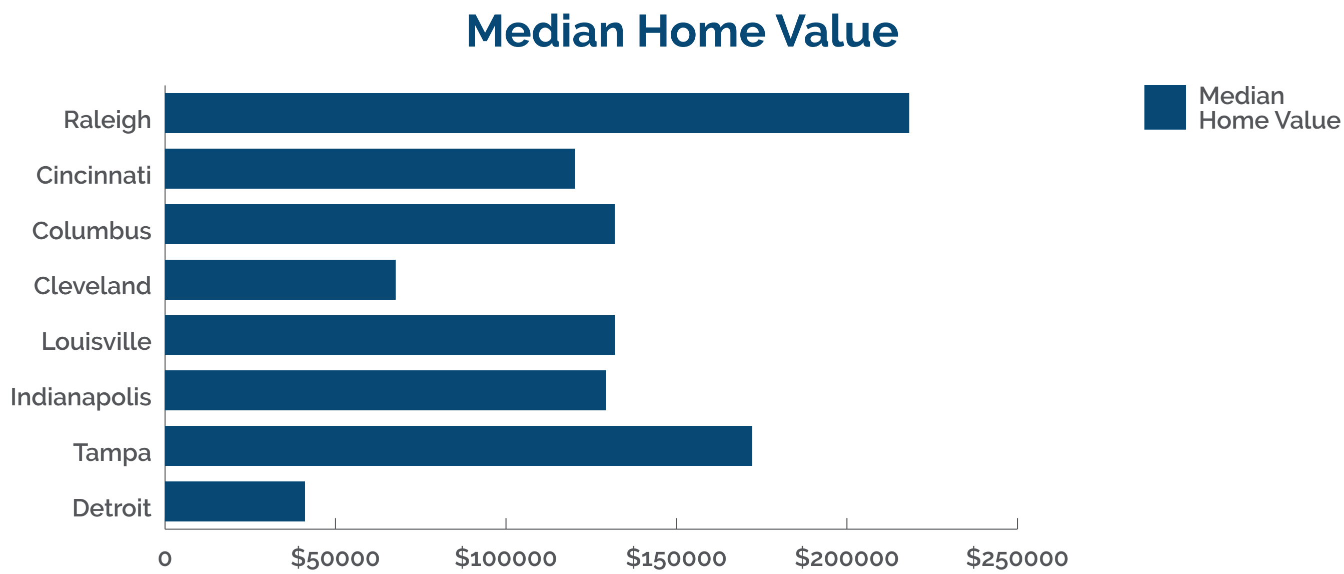
Region	Occupation	Annual mean wage	Employment
Cuyahoga County, OH	Transportation & Materials Moving	$52,653	19,583
Hamilton County, OH	Transportation & Materials Moving	$46,234	12,297
Franklin County, OH	Transportation & Materials Moving	$54,119	40204

Source: U.S. Bureau of Labor Statistics

Ohio's cost for workers in the transportation and material movers category is well above the national average and the wage for the average American workers.

The cost of housing is another important factor when a company is considering locating in a region. What looks like a high-salary for desparately needed skilled labor can be wiped away by million dollar average home prices, aka "Silicon Valley." The chart below outlining the median home value and median gross rent in competitive markets illustrates how the cost of housing the targeted regions.

Regional Benchmark Comparison for Housing Costs



Source: U.S. Census Bureau

Federal Tax Credits

Ohio has an opportunity to take advantage of several federal tax credit programs. Three prime examples include: Historic Preservation Tax Credit; New Market Tax Credit and Opportunity Zones.

Historic preservation nationally provided 2.4 M jobs and $138 B in investment from 1978-2016.[57] Rehab construction creates 50 percent more jobs than new build construction. Historic preservation is a tool local communities can choose to revive neighborhoods, enhance environmental quality and reduce infrastructure costs by promoting development in existing areas rather than sprawling out. It is estimated that historic preservation projects save 50-80 % in infrastructure costs compared to new suburban development. A 2011 Economic Impact Study of the Ohio Historic Tax Preservation Tax Credit illustrated strong benefits of the program for the Buckeye state. The study showed for every $1 M in tax credit allocated by the state $8 M of construction spending and 80 construction jobs are created. More importantly, $32M in total economic impact is created by this $1M in state investment. The redevelopment of historic properties in an urban, rural or suburban Central Business Districts create a unique opportunity to spur economic growth through the attraction of Millennials to live, work and play. Most established Central Business Districts are home to arts, museums, office and other historic properties primed for redevelopment opportunities and are essential for attracting Millennials much more focused on the quality of place than wage of a job. Ohio is full of potential historic redevelopment projects including:

- 48 Certified National Historic City Halls;
- 51 Certified National Historic Theaters;
- 59 Certified National Historic Courthouses
- 91 Certified National Historic College/University Buildings;
- 139 Certified National Historic Hotels;
- 179 Certified National Historic Museums; and
- 239 Certified National Historic Office Buildings.

Ohio's Historic Preservation Tax Credit creates an opportunity for redevelopment in urban and rural markets as nearly all county seats of government across the state have historic structures surrounding their courthouse square—often a historic theater in need of redevelopment dollars.

The federal New Market Tax Credit program offers historically, low-income communities experiencing a lack of investment, as evidenced by vacant commercial properties, outdated manufacturing facilities, and inadequate access to education and healthcare service providers, a chance for private sector investment. The federal New Market Tax Credit Program attracts private capital into low-income communities by permitting individual and corporate investors to receive a tax credit against their federal income tax in exchange for making equity investments in specialized financial intermediaries called Community Development Entities. The credit totals 39 percent of the original investment amount and is claimed over a period of seven years. Ohio also offers a state New Market Tax Credit program. The Ohio New Markets Tax Credit program provides an incentive for investors to fund businesses in low-income communities. These "new markets" are traditionally underserved by private sector capital. This lack of capital stifles entrepreneurs and impedes growth, despite promising opportunities for investment and business expansion. The Program awards tax credit allocation authority to Community Development Entities serving Ohio that serve as an intermediary between investors and projects. The Ohio Development Services Agency operate the state's New Market Tax Credit Program and have a $10 million in tax credit allocation for CDEs each year.

The recently passed federal tax bill allowed states to identify up to 25% of low-income, high-poverty census tracts to the U.S. Treasury, which made the final determination of "Opportunity Zones". These areas will be eligible for "Opportunity Funds" (not yet formed) to invest in economic development to receive a 10-year federal tax break.[58] Ohio recommended 320 census tracts (25% of 1,280 eligible tracts), its full allocation. All 73 counties, in which eligible tracts were submitted, have tracts designated by the U.S. Treasury.

Ohio Federal Opportunity Zones

Federal Opportunity Zones offer three tax incentives to investors:

1. A temporary tax deferral for capital gains reinvested in an Opportunity Fund-- the deferred gain is recognized on the earlier of the date on which the opportunity zone investment is sold or December 31, 2026.
2. A step-up in basis for capital gains reinvested in an Opportunity Fund-- the basis of the original investment is increased by 10% if the investment in the qualified opportunity zone fund is held by the taxpayer for at least 5 years, and by an additional 5% if held for at least 7 years, excluding up to 15% of the original gain from taxation.
3. A permanent exclusion from taxable income of capital gains from the sale or exchange of an investment in a qualified opportunity zone fund, if the investment is held for at least 10 years.

The US Treasury Department will certify who is a "Qualified Opportunity Fund" but the tax reform law defines this as a partnership or corporation formed for the purpose of making investments in businesses located in low-income communities designated as "Qualified Opportunity Zones." To gain the program benefits, an investor must invest proceeds from a sale or exchange of assets to an unrelated party into a Qualified Opportunity Fund within 180 days from the date of such sale or exchange. This investor may choose to reinvest only a portion of the proceeds from the original sale or exchange, in which case only a portion of the gain would be deferred. A Qualified Opportunity

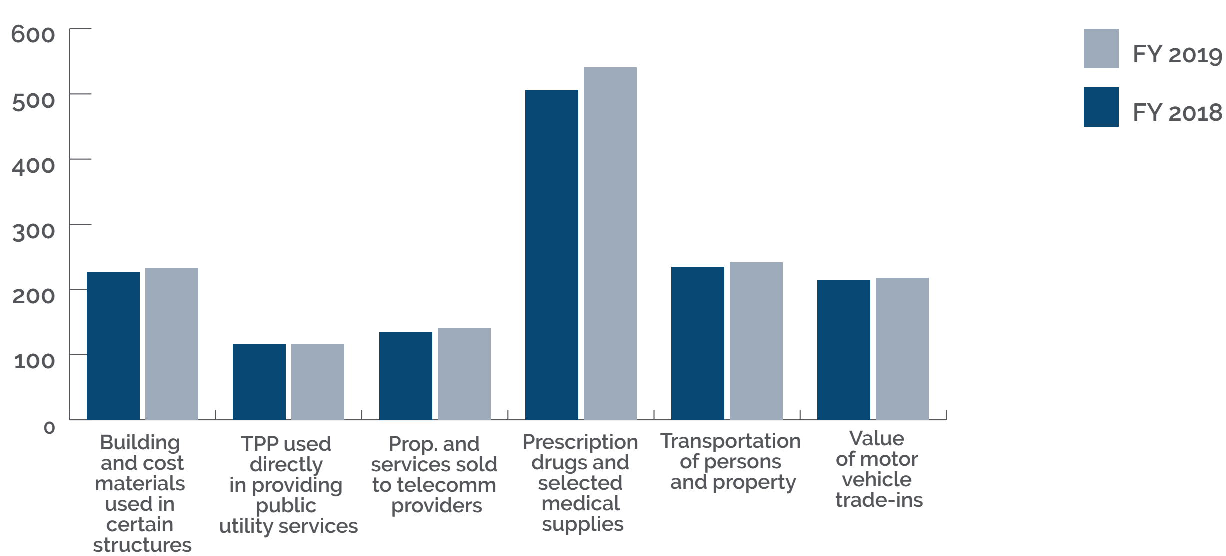
Fund is required to invest at least 90% of its assets in targeted businesses where substantially all of the tangible assets of each such business are used in a Qualified Opportunity Zone, and at least 50% of the gross income earned from each such business is from the active conduct of business in a Qualified Opportunity Zone. Opportunity Funds provide investors the chance to put that money to work rebuilding the low income communities.

State Tax Analysis

Taxes by the state and local government are a critical component of measuring the cost of doing business in a region. According to the Council of State Taxation, businesses paid $724.1B in total state and local taxes in FY2016.[59] Property tax revenue on real and personal property owned by businesses account for the largest share of total state and local business tax revenue, 38.4% or $278.1B in FY2016.[60] Business property tax revenue increased 4.5% in FY2016, and it is the fourth time since FY2009 that the growth rate has been substantially higher than 1%.[61] Of the $514.5 B of total property tax revenue, 54% ($278.1B) of the collections were taxes on business property.[62] General sales and use tax revenue derived from businesses on purchases of inputs, including capital equipment, totaled $153.9B, or 21.3% of all state and local business taxes which constitutes a 1.8% increase.[63] State and local corporate income tax revenue was $63.2 B in FY2016, a decrease of 5.6% from FY2015.[64] Employer contributions to unemployment insurance (unemployment taxes) were $43.1B in FY2016, a decrease of $2.8B or 6.1% from FY2015.[65]

With the growth in Ohio state government spending, the upcoming Fiscal Year (FY) 2020-22 operating budget is anticipated to be a challenge awaiting a new Governor and the 132nd Ohio General Assembly that will include a new Speaker of the Ohio House. A review of the state's exemption list for the sales tax is a worthy topic. Ohio sales tax exemptions and tax credits constitute $9B in lost revenue for the state. One example is coal tax exemption that costs the Ohio General Revenue Fund $73.4M in Fiscal Year 2018 and $74.3M in FY 2019. Another example is tax credit pertaining to tangible personal property used in agriculture and for the sales and installation of agricultural land tile and portable grain bins that is estimated to lower GRF revenues by $331.1M and $339.4M in FY 2018 and 2019. The tile and grain bin concession has a smaller impact at just over $1M in each of those years.

Select Ohio Tax Exemption Values (FY 2019&20 in Millions of Dollars



The manufacturing tax exemption is the largest tax break in the Ohio Revised Code leading to estimated deferred revenue from the General Revenue Fund totaling $2.210B and $2.299B respectively in FY 2018 and FY 2019. The packaging exemption led to GRF losses of $255M and $264M during those respective fiscal years. Ohio's 88 counties and their transit authorities incur over a $1B in lost tax revenue just based upon the manufacturing tax exemption over the FY 2019 and 2020 tax years. Other tax breaks on the committee's agenda included:

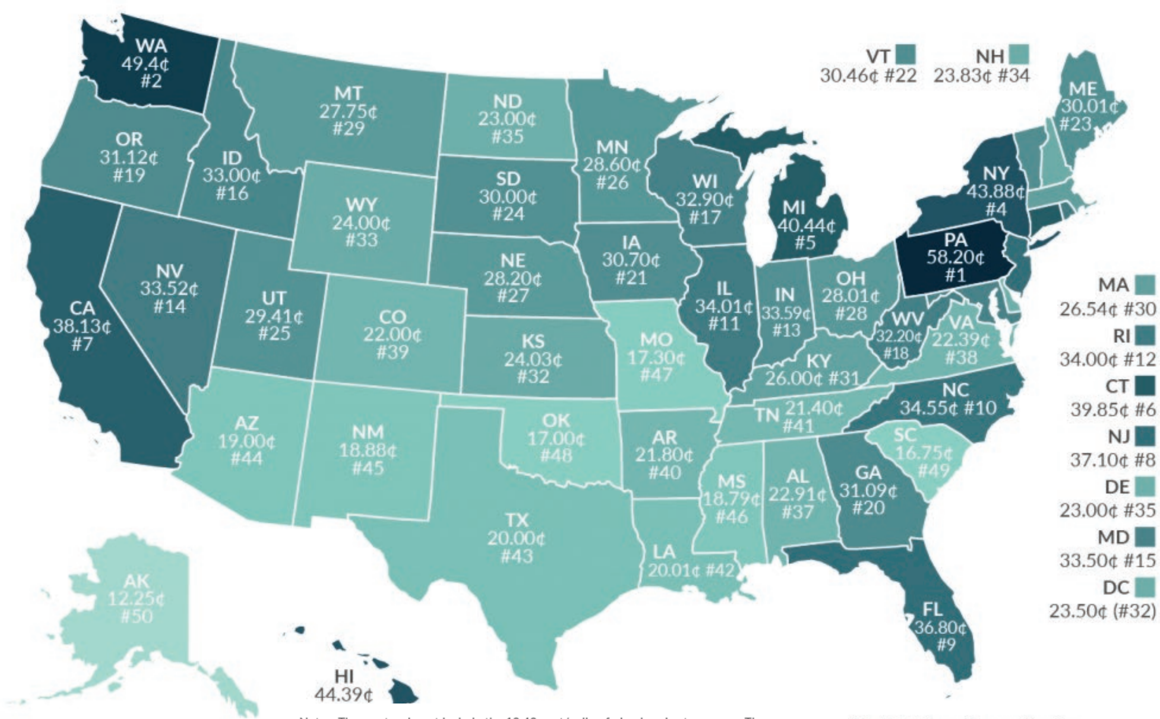
- Sales to churches and certain other nonprofits, which is expected to lead to GRF losses of $614M and county and transit authority losses of $150M in FY 2019;
- Sales to the state and any of its political subdivisions (with losses of $122M and $30M respectively); and
- Sales by churches and certain non-profits (losses of $47M and $11M respectively).

The next Governor and Ohio General Assembly will clearly focus on the use of the sales tax exemptions throughout the entire budget as revenue demands will be high, well beyond the structure of the current tax system.

The state of Ohio Motor Fuel Tax is 28 cents and it is derived from five different levies.[66] Distributions are made from the Ohio Department of Taxation monthly to every county and municipality from the Gasoline Excise Tax Fund and State and Local Government Highway Fund.[67] Townships also receive money from both of these funds.[68] Prior to the deposit into the Gasoline Excise Tax Fund and State and Local Government Highway Fund, certain percentages of revenue are deposited into four other funds.[69]

How High Are Gas Taxes in Your State?

Total State Taxes and Fees on Gasoline, as of January 2017 (cents per gallon)



Notes: These rates do not include the 18.40 cent/gallon federal excise tax on gas. The American Petroleum Institute (API) has developed a methodology for determining the average tax rate on a gallon of fuel. Rates may include any of the following: excise taxes, environmental fees, storage tank taxes, other fees or taxes, and general sales tax. In states where gasoline is subject to the general sales tax, or where the fuel tax is based on the average sale price, the average rate determined by API is sensitive to changes in the price of gasoline. States that fully or partially apply general sales taxes to gasoline are California, Connecticut, Georgia, Illinois, Indiana, Michigan, and New York. D.C.'s rank does not affect states' ranks, but the figure in parentheses indicates where it would rank if included.

Source: American Petroleum Institute.

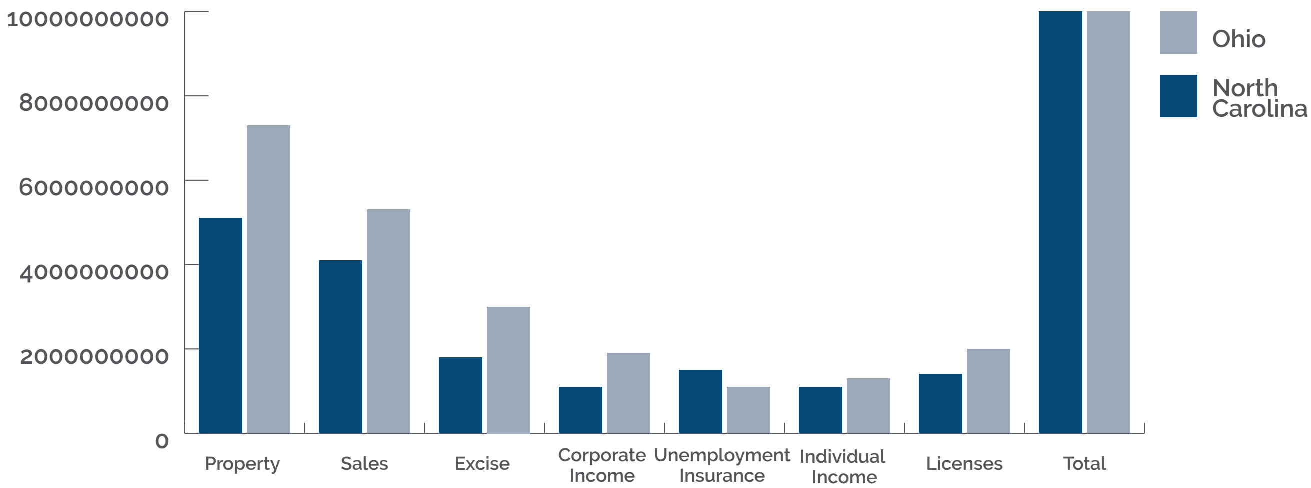
Total State Taxes/Fees on Gasoline

Lower — Higher

As the Tax Foundation table above illustrates, Ohio's motor fuel excise tax, aka gasoline tax, ranks 28th highest in the U.S. and is far below regional competitors and even major Southern state competitors such as North Carolina, Georgia and Florida.

Comparing Ohio and North Carolina offers an interesting model for examining how state taxes impact a corporate site location decision. North Carolina saw a 2.5% increase in their taxing of business from 2015 to 2016.[70] As the table below illustrates, North Carolina taxes businesses less than Ohio. While Ohio has a slightly larger economy and population, the local and state governments in Ohio tax businesses $6B more than North Carolina according to the Council on State Taxation.

North Carolina v. Ohio Business Tax Revenue Comparison



The state of North Carolina administers a wide range of taxes, including: Alcoholic Beverages Tax; Certain Machinery and Equipment Tax (1% Privilege Tax); Corporate Income Tax; Corporate Franchise Tax; Dry Cleaning Solvent Tax; Estate Tax; Estates and Trusts (Fiduciary); Individual Income Tax; Insurance Premium Tax; International Fuel Tax Agreement (IFTA) Tax; Motor Fuels Tax; Motor Vehicle Lease and Rental Tax; Partnerships; Privilege License Tax; Property Tax; Sales & Use Tax; Scrap Tire Disposal Tax; Severance Tax (Effective July 1, 2015); Solid Waste Disposal Tax; Tobacco Products; Unauthorized Substance Tax; White Goods Disposal Tax; and Withholding Tax.[71]

The state of Ohio and its local governments as a mature state have a substantial number of taxes applied to a wide range of activities. State of Ohio tax reform several years ago eliminated the state's corporate income tax and the tax applied to inventory that for decades was the bane of industry. These taxes were replaced with a gross receipts tax on all businesses with a very low rate applied to all business activity in the state. The state of Ohio has recently shifted to consumption taxes, primarily the Sales and Use Tax as the largest state government taxes. The Sales and Use Tax has replaced the state's personal Income Tax as the largest source of state government revenue. Ohio local governments and school districts have a substantial array of taxing mechanism not available in most states. Ohio municipalities operate in large part on a municipal income tax. Ohio counties are permitted to use a sales tax to fund transit and social services often through voter approved levies. All levels of local government benefit from property taxes in Ohio but the public school districts gain the vast majority of property tax funding from locally voted school levies but local governments, like the schools and county, receive substantial funding from the state of Ohio as well.

New state opportunities for tax revenue exist with the ability granted states to permit sports betting. The U.S. Supreme Court recently, in *Murphy v. National Collegiate Athletic Association,* held an act of Congress that prohibited sports betting in all states but Nevada was unconstitutional. This decision opens the door to sports betting in states like Ohio. However, the decision really leaves policy makers with four critical policy decision very much shaped by current Ohio law and the state Constitution.

Government revenue estimates are all over the place depending upon the source. The additional money sports gambling could bring is attractive given that most states are seeing constrained revenue growth. Other legal forms of betting -- such as casino gambling and betting on horse races -- are already a $28B industry in the United States. Adding sports betting could boost that by as much as $41.2B, which the American Gaming Association found would net state and local governments about $3.4B in taxes. The American Gaming Association's economic impact statement for allowing sports betting estimates Ohio would gain $ 19.0M in total with $ 13.4M in state revenue and $ 5.6M in the federal handle tax. Rhode Island estimated sport betting would net the state $24M. Of course, these are all revenue estimates and are likely to not meet actual revenue gained. Sports betting needs to be authorized by state statute no matter the state. Ohio policy makers will need not only to permit sports betting but to think about how sports betting will work—will it be limited to specific facilities, will on-line betting be permitted, or will it be connected to the recently enacted "sports fantasy" gaming industry legalized in Ohio with Sub. HB 132. Technology is impacting how people can bet on sports and the General Assembly will likely consider all these issues. How sports betting will be regulated in Ohio is the most challenging issue. Article XV of the Ohio Constitution expressly permits three types of gaming in Ohio- lotteries, charitable gaming and the operation of four specific casinos. The Ohio Lottery Commission regulates the state lottery. While not a regulator, the Ohio Attorney General enforces the state's charitable gaming law. The Ohio Casino Control Commission regulates the handful of state casinos. The Ohio Revised Code goes on to permit gaming (including slot machines) at Ohio horse racing tracks which are regulated by the Ohio Racing Commission. This does not count the fantasy sports industry who just passed their own legalization bill. All these versions of gaming could be natural venues to operate sports betting and many are regulated by different entities. Any of these organizations or a new one could regulate sports betting.

A direct comparison of a site in Raleigh and sites in Ohio offers insight into what a company would consider when undergoing a corporate site location review.

Select Ohio Communities Tax Comparison

Tax	Raleigh	Cincinnati	Cleveland	Columbus
State Corporate Income Tax	3%	None	None	None
State Corporate Franchise Tax	$1.50 per $1,000	.29 on gross receipts	.29 on gross receipts	.29 on gross receipts
State Personal Income Tax	Flat 4.59%	1.980% up to 4.997%	1.980% up to 4.997%	1.980% up to 4.997%
Municipal Income Tax	None	2.1%	2.5%	2.5%
County Sales Tax	7.25%	7%	8%	7.50%
Property Tax	.861%	2.296%	1.774%	2.029%

For the oil and natural gas industry, the rate of the severance tax is the "hot" political topic. Ohio is among many states considering an expansion of their oil and gas severance taxes. An Ohio General Assembly working group suggested a market-based "trigger" or slow phase-in of a tax increase depending on economic trends with an eye toward maintaining growth in the industry and also recommends uses of any potential revenue gains, such as assisting local governments with infrastructure needs and lowering income taxes. However, the Ohio General Assembly working group failed to recommend a specific severance tax rate increase Focusing on only the severance tax is a common mistake for states looking for energy company investments. Energy companies are also impacted by the overall state business tax system. As an example, while Texas has a relatively high severance tax that is the state's second largest revenue source, Texas has no income tax at the local or state level and the Lone Star State does not apply the severance tax until the well is a money maker.

Taxes in these energy rich states are not the only tax energy company's pay but they illustrate approaches multiple states have taken in this area. How much and what state and local governments' tax impacts the retention and attraction of energy-intensive companies. Taxing consumption over income promotes greater economic investment among heavy manufacturing companies that dominate the energy-intensive industry list. Comparing the tax policy of all 50 states is not productive as the focus needs to be on states gaining substantial local energy resources. Most of this multi-state comparison will center on Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Ohio, Pennsylvania, Texas and West Virginia and the taxes applied to energy companies in these energy rich states is provided in Appendix D.

The Council of State Taxation data is relevant for how a state taxes all industry but efforts to retain and attract energy-intensive companies will involve a deeper dive into state and local personal income taxes, business taxes, sales tax and property tax to meet their spending needs that impact energy-intensive companies. Seven states, Alaska, Florida, Nevada, South Dakota, Texas, Washington and Wyoming, recruit companies by not having an income tax. According to an Oklahoma Council of Public Affairs study, states without an income tax experience higher state domestic product growth as compared to states with a state income tax. Of the nine comparison states, Texas is the only one to not have a state or local income tax. However, Texas makes up for the lack of an income tax through a sales tax and a severance tax—the severance tax is actually the second largest source of revenue for the state of Texas.

Council of State Taxation Business Tax Burden (2016 Data) for Energy Rich States

State	Population	Business Tax Burden	Business Share of State & Local Taxes
Arkansas	2,994,079	$4,800,000,000	40.3%
Colorado	5,355,866	$12,100,000,000	46.0%
Louisiana	4,649,676	$8,700,000,000	48.0%
North Dakota	739,482	$3,400,000,000	69.3%
Oklahoma	3,878,051	$6,600,000,000	48.9%
Ohio	11,594,163	$22,000,000,000	40.4%
Pennsylvania	12,787,209	$29,600,000,000	48.4%
Texas	26,956,958	$68,500,000,000	61.5%
West Virginia	1,850,326	$3,600,000,000	48.6%

All the energy rich states impose some form of general business taxes. Arkansas, Colorado, Louisiana, North Dakota, Oklahoma, Pennsylvania, and West Virginia impose business income taxes similar to the federal corporate income tax. Texas imposes a "margins tax" based either on revenue or gross receipts after certain deductions and Ohio imposes a Commercial Activity Tax similar to a gross receipts tax according to the report produced for the Ohio 2020 Tax Policy Study Commission. Gross receipts taxes are friendly in general to manufacturers and less friendly to retailers and other companies with high revenues but low margins.

Ohio and all of the eight comparison states levy a tax on the sale of TPP and certain services (sales tax) and an accompanying tax at the same rate on the use of TPP and services purchased outside the state by a resident of the state/use tax according to the report produced for the Ohio 2020 Tax Policy Study Commission. Each of the states also allows local sales and use taxes in addition to the state rate. These taxes, absent specific exemption, would apply to the TPP and service purchases of oil and gas producers. According to the report produced for the Ohio 2020 Tax Policy Study Commission, Arkansas, Colorado, Texas, and West Virginia authorize local governments to levy property taxes against tangible personal property (TPP) or real property, including oil and gas reserves. However, three states, North Dakota, Oklahoma, and Pennsylvania, do not authorize the levy of property tax against either oil and gas reserves or TPP. The Buckeye state authorizes the levy of property tax against oil and gas reserves, but not general business TPP. Louisiana allows local property taxes to be levied against oil and gas TPP, but not against mineral rights.

The table below summarizes the taxes energy-intensive companies face in the nine energy rich states.

Critical Energy-intensive Company Tax Comparisons with Energy Rich States

State	Sales Tax in Largest City	Personal Income Tax	Business Tax	Property Tax
Arkansas	12.00%	.9-6.9%	Income- 1.0-6.5%	Local TPP
Colorado	10.00%	4.63%	Income- 4.63%	Local TPP
Louisiana	11.00%	2.0-6.0%	Income- 4.0-8.0%	Limited Local TPP
North Dakota	8.00%	1.22-3.22%	Income- 1.48-4.53%	No Local TPP
Oklahoma	11.00%	.5-5.25%	Income- 6.0%	No Local TPP
Ohio	8.00%	.495-4.997%	Gross Receipts- .26%	Limited TPP
Pennsylvania	8.00%	3.07%	Income- 9.99%	No Local TPP
Texas	8.25%	Zero	Gross Receipts- .5% Retail/1.0% Other	Local TPP
West Virginia	7.00%	3.0-6.5%	Income- 6.5%	Local TPP

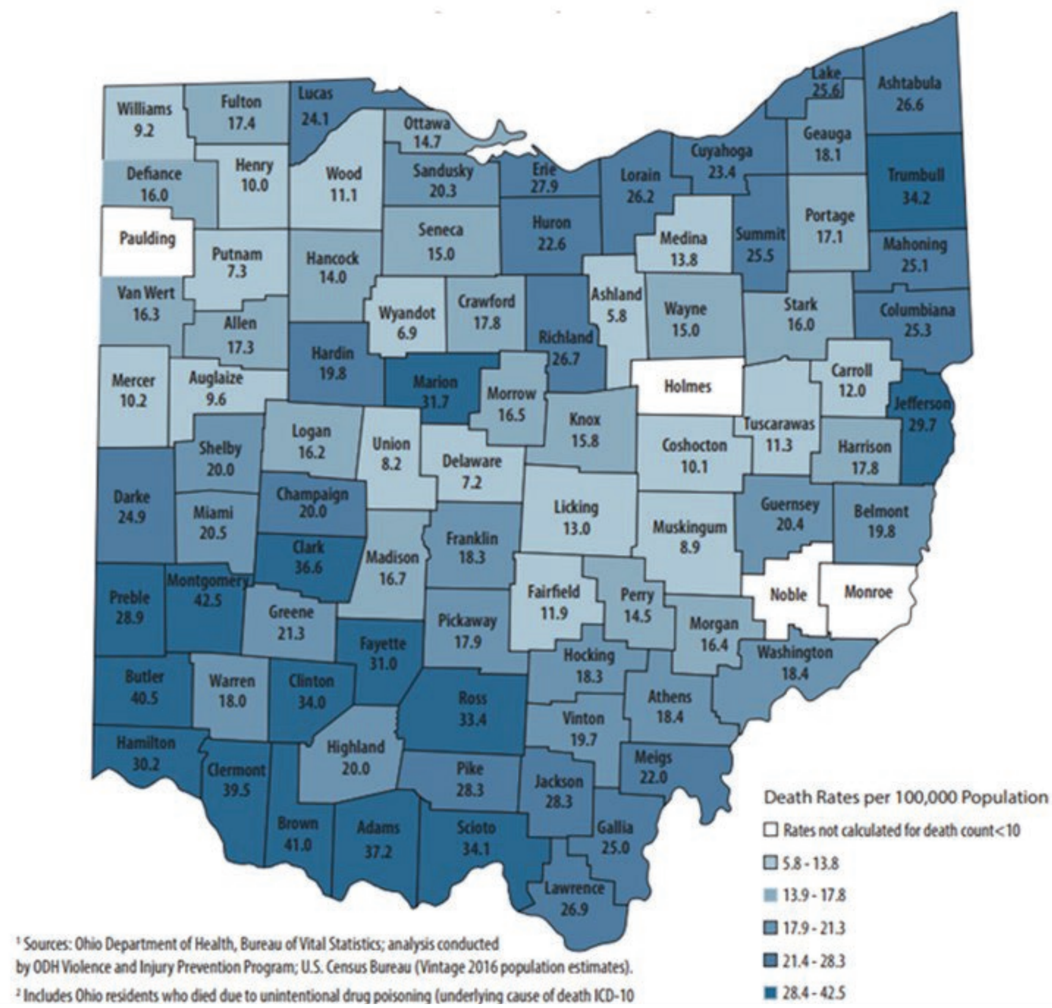
Source: Ohio General Assembly Joint Taxation Working Group

While tax policy is only one factor related to the recruitment of energy-intensive companies, it is clear the Lone Star State is a leader in pro-energy tax policy. Texas has nearly the lowest effective sales tax rate, no personal income tax rate, uses a gross receipts tax but does permit a local tangible personal property tax. However, the pro-energy Texas tax code apparently creates a burden on other industries as Texas has a high business tax burden compared to many other energy rich states. Maybe Texas figured something out—the way to become an energy giant is to create a tax policy that favors the energy industry.

Ohio Quality of Life- Opioid Epidemic

No issue is impacting the quality of life in Ohio community's more than the opioid epidemic. A recent Cleveland Federal Reserve Bank report made several critical key findings, including: drug overdoses are now the leading cause of death for Americans under 50.1 In the Fourth Federal Reserve District states of Kentucky, Ohio, Pennsylvania, and West Virginia; Opioid overdose deaths are occurring at rates that exceed the 2016 national average of 13.2 deaths per 100,000 people; Opioid overdose deaths in Kentucky, Ohio, and West Virginia are at least 1.5 times more frequent than the national average, and[72], if it were not for the state of West Virginia, Ohio would have the worst rate of opioid overdoses in the United States.[73] As the Ohio Department of Health map above illustrates, Ohio's opioid crisis is everywhere. Unlike past drug challenges, opioids is having an impact in nearly all 88 counties of Ohio and some of the hardest hit counties are small, rural communities.

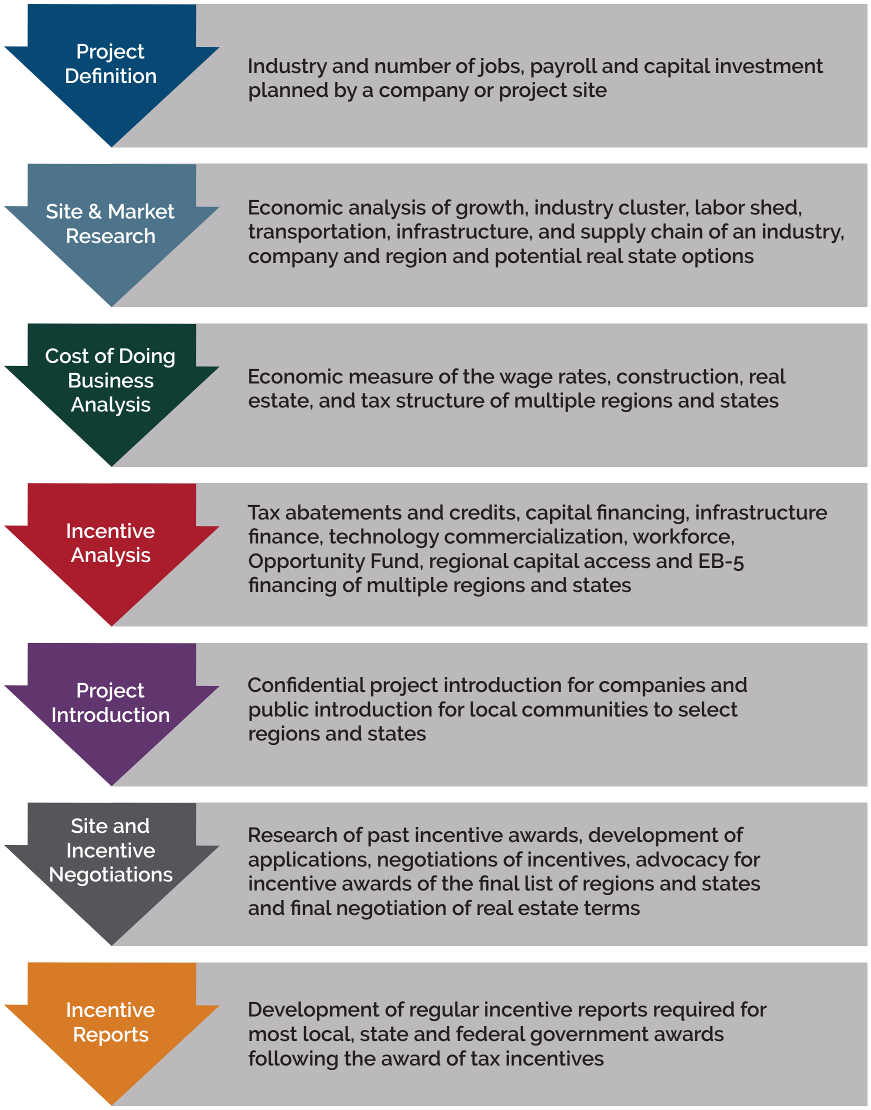
Figure 1. Average Age-Adjusted Unintentional Drug-Related Death Date Per 100,000 Population, By County, Ohio Residents, 2011-2016



Ohio's Economic Development Process

How Ohio operates economic development is a critical discussion point related to the success or failure of the state's economy. That discussion begins with understanding how a company decides where it is going to locate a facility through a multi-state corporate site location process.

Montrose Multi-State Corporate Site Location Process

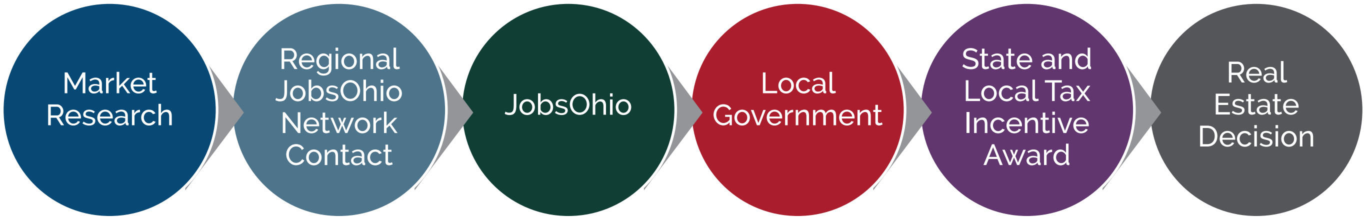


Ohio Corporate Site Location Tax Incentive Options

Companies will conduct substantial research to measure the economic success of a region and state to determine the chances that the company can grow market share, find workers, afford the costs for workers, taxes, and housing, and whether the sites under potential consideration have the infrastructure needed. Following that market analysis, companies seeking a corporate site location, will approach state and local economic development officials to determine if there is a suitable site for their project and what tax incentives are available to determine if that site is the best one for that company.

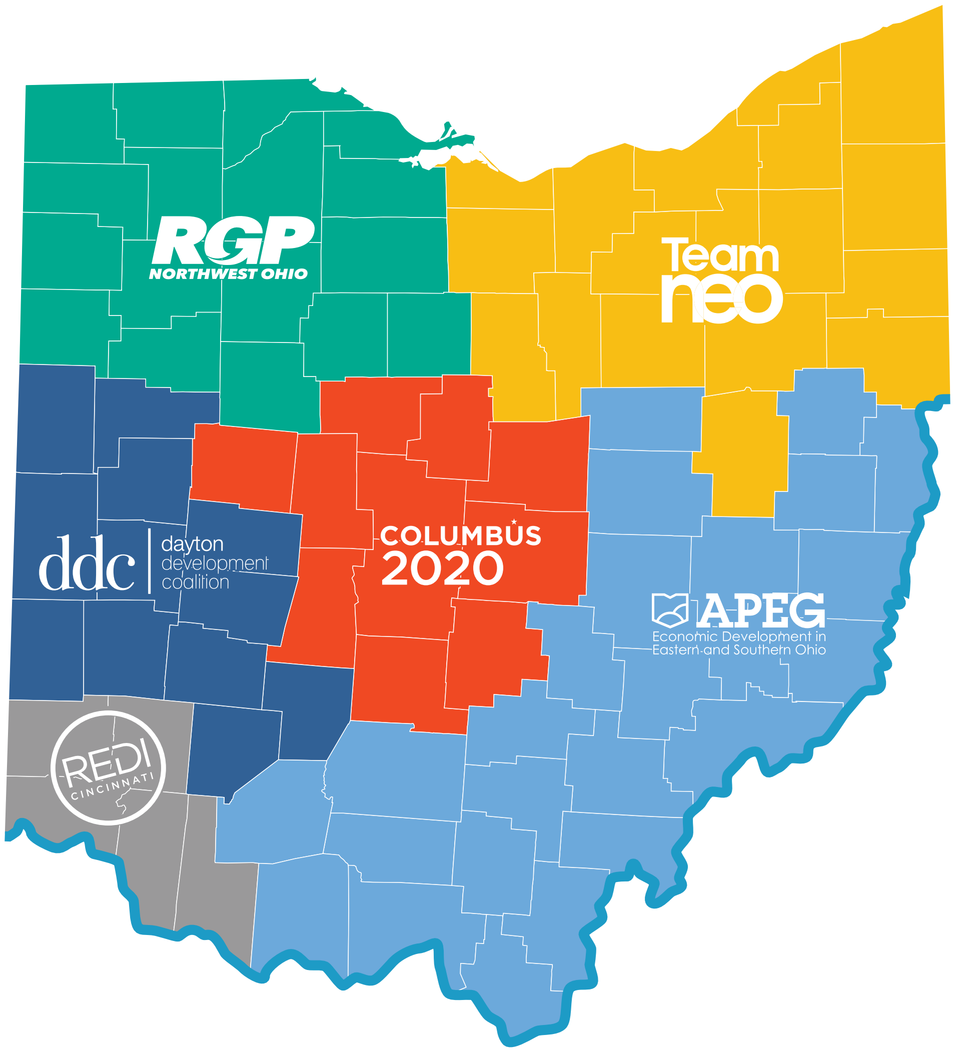
Understanding the players in the corporate site location process is critical. Property owners, neighbors, community leaders, private sector economic development leaders, and state and local public officials all are critical to success of a corporate site location matters. From an economic development incentive standpoint, most large regions operate with a public-private sector organization focused on economic development.

Ohio Corporate Site Location Process



JobsOhio is a private not-for-profit Ohio corporate created by state law for the purposes of promoting economic development in the state. JobsOhio, like Michigan, Florida and other states, puts the private sector with substantial public involvement at the forefront of economic development of the state of Ohio. JobsOhio has a board appointed by the Governor so they remain connected to the goals and aspirations of state government leaders. As a creature of state statute, abolishing JobsOhio would prove challenging as not only a Governor would have to choose to abolish JobsOhio, but the Ohio General Assembly would have to agree as well. Unlike other states who benefit from a private sector economic development group leading the jobs charge, JobsOhio is not dependent on state government revenues allocated on a regulate budget cycle. Instead, JobsOhio operates based upon their purchase of the $1.5B Ohio state liquor business which gives it a highly lucrative budget. The most recent audit of JobsOhio illustrates the organization has nearly $500,000,000 in assets[74]-- a large portion of this money is devoted to economic development programs and much of this funding is tied up in outstanding economic development incentive offers. JobsOhio's mission, as defined in its articles of incorporation, is to "drive job creation and new capital investment in Ohio through business attraction, retention and expansion efforts."[75]

JobsOhio operates a decentralized system of economic development in which regional six regional JobsOhio network partners located around the state serving as economic development marketing points of contact in large part funded partially by JobsOhio. As the graphic below illustrates, these six organizations are Columbus 2020, Toledo Regional Growth Partnership, Team NEO, Appalachian Partnership for Economic Growth, Dayton Development Coalition, and REDI Cincinnati.



The JobsOhio Network partners, unlike JobsOhio, do not have economic development incentives to award companies but instead work with JobsOhio to award state and JobsOhio's incentives and work with local governments that do have tax abatements, tax credits, grants, loans and public finance tools to support company and job creation. The Ohio Development Services Agency is a unit of state government Understanding the tax incentives Ohio offers is equally critical. The Ohio Development Services Agency operates several relevant economic development programs such as the Ohio Historic Preservation Tax Credit Program, Ohio New Market Tax Credit Program, and others.

Ohio Local Government Tax Incentives

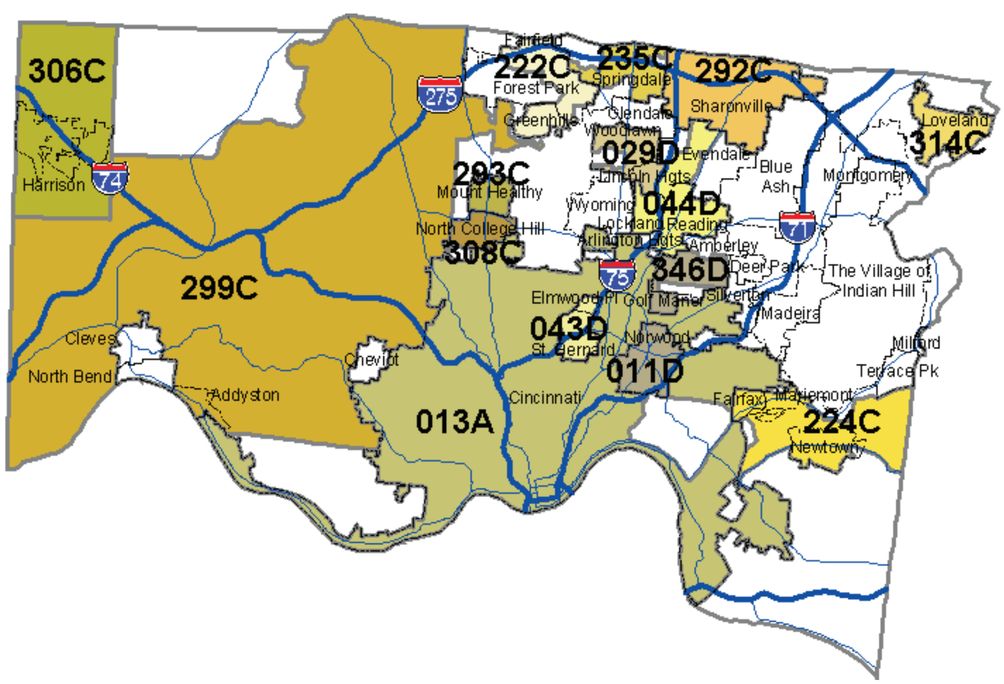
Local governments, JobsOhio and the Ohio Development Services Agency provide a wide range of economic development incentives including tax abatements, tax credits, grants and loans. Many communities utilize tax incentives to promote economic success. The availability of local tax incentives is critical in a state like Ohio that has a wide array of local government taxes on property, income and sales compared to like competitors. Ohio local government tax incentives include municipal income tax credits, Enterprise Zone (EZs) and/or Community Reinvestment (CRAs), and infrastructure funding through Tax Increment Financing (TIF).

OHIO LOCAL GOVERNMENT INCENTIVES

- **Tax Abatement for new capital investment**
- **Municipal Job Creation Tax Incentives**
- **Tax Increment Financing for infrastruture**

The CRA program provides real property tax exemptions for property owners who renovate existing or construct new buildings and is the prime economic development tool to promote downtown housing growth, and for industrial and commercial job creation projects. CRAs are areas of land in which property owners can receive tax incentives for investing in real property improvements. The program is delineated into two distinct categories, those created prior to July 1994 ("pre-1994") that permits 100% property tax abatements without school board approval and those created after the law changes went into effect after July 1994 which can provide up to 100% tax abatement only with school board approval. Ohio cities are also permitted to enact municipal income taxes but they also often create a municipal job creation tax credit that is a non-refundable tax credit calculated as a percentage of the city income withholdings for eligible new employees and applied toward the company's municipal tax liability. Companies may also be eligible for a property tax abatement through the state Enterprise Zone (EZ) program which is a designated area of land in which a business can receive a tax exemption related to eligible new investment in real property improvements. Enterprise Zones allow the cities to negotiate exemptions on new property tax from investment for up to seventy-five percent (75%) for up to ten (10) years. Eligible businesses must invest in new building construction and/or improvements to existing land and buildings.

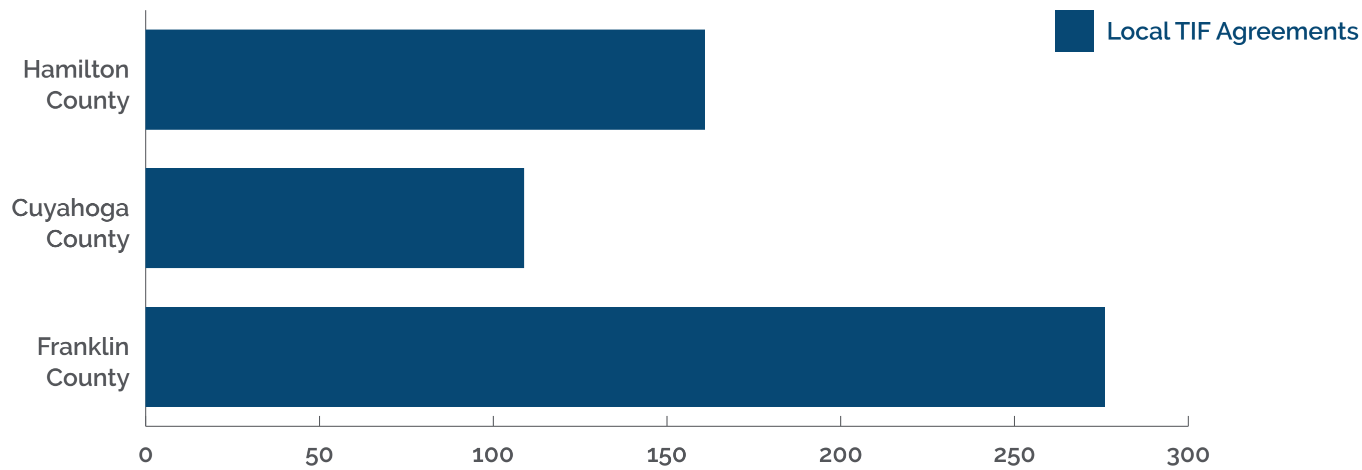
Hamilton County Enterprise Zones



As an example, the Hamilton County, Ohio map above illustrates where the EZs are in the Cincinnati region.

Tax Increment Financing districts (TIF) are another vital economic development incentive used across Ohio. A TIF is an economic development mechanism available to local governments in Ohio to finance public infrastructure improvements and, in certain circumstances, residential rehabilitation. TIFs are implemented at the local level and may be created by a township, municipality or county. Payments derived from the increased assessed value of any improvement to real property are directed towards a separate fund to finance the construction of public infrastructure defined within the TIF legislation. Local jurisdictions seeking to establish a TIF project must enact legislation that (a) designates the parcel(s) to be exempted from taxation, (b) declares improvements to private property within the specified area as serving a public purpose, (c) delineates the public infrastructure improvements to be made that will directly benefit the parcel and (d) specifies the equivalent funds to be created for those redirected monies. Only those public infrastructure improvements directly serving the increased demand arising from the real property improvements to the parcel(s) or an Incentive District are eligible for TIF financing.

Local TIF Agreements Ohio Major County Comparison



Local governments within Franklin County have entered into substantially more TIF agreements than their counter parts in Hamilton and Cuyahoga County.

Ohio cities also offer tax incentives to reduce the burden of their local taxes applied to business around income or net profits. Cincinnati offers companies a Job Creation Tax Credit for companies growing in the Queen City. A job creation tax credit (JCTC) is a tax credit provided to a company that commits to expand or relocate into the City of Cincinnati. Cincinnati will provide a credit against a company's net profits tax obligation for a commitment to create new full-time permanent employees and new payroll within the City for a future number of years. To qualify, the company must commit to create or relocate a minimum of 25 new full-time permanent jobs to the City within three years. In some circumstances, projects creating as few as 10 new, full-time, high-salary jobs may also be eligible (i.e., average of $100,000 salary per job). The program provides the tax credit against the net profits tax obligation of the business but is calculated on a percentage of new payroll taxes that are paid to the City from the new employees. The company will be asked to maintain the jobs within the City of Cincinnati (not necessarily at the same location) for the term of the JCTC plus an additional number of years. The additional number of years of commitment may be from +3 years to twice the length of the term of the credit years based on the underwriting for the project.

State of Ohio Tax Incentives

The state of Ohio offers a wide range of economic development incentives through JobsOhio funding as well as more limited opportunities through the Ohio Development Services Agency. Ohio's economic development incentive programs include:

- **JobsOhio Economic Development Grant** exists to promote economic development, business expansion and job creation by providing funding for eligible projects in the state of Ohio.
- **JobsOhio Growth Fund** provides capital for expansion projects to companies that have limited access to funding from conventional, private sources of financing. JobsOhio will consider loans to companies that are in the growth, established or expansion stage and that have generated revenue through a proven business plan.
- **JobsOhio Research and Development Center** Grant facilitates the creation of corporate R&D centers in Ohio to support the development and commercialization of emerging technologies and products.
- **JobsOhio Revitalization Program** focuses on helping rejuvenate sites in preparation for end-users that support job creation opportunities for Ohioans. The program, which includes both loans and grants, is available to public and private entities seeking to clean up and redevelop sites across Ohio.

STATE OF OHIO ECONOMIC DEVELOPMENT INCENTIVES

- **JobsOhio Grants & Loans**
  - Economic Development Grant
  - Growth Fund Loans
  - R&D Center Grants
  - Revitalization Program
  - Workforce Grants
  - Roadwork Grants
- **Ohio Job Creation Tax Credit**
- **Ohio Data Center Tax Credit**

- **JobsOhio Workforce Grant** promotes economic development, business expansion and job creation by providing funding to companies for employee development and training programs.
- **Ohio Roadwork Development (629) Funds** are available for public roadway improvements, including engineering and design costs. Funds are accessible for projects that create or retain jobs and primarily involve manufacturing, technology, research and development, corporate headquarters and distribution activity. Grants are provided to a local jurisdiction and require local participation. They can be used to reimburse accumulated costs.

- **Ohio Job Creation Tax Credit** is a refundable and performance-based tax credit calculated as a percent of created payroll and applied toward the company's commercial activity tax liability. Should the amount of the credit exceed the company's commercial activity tax liability for any given year, the difference is refunded. Companies creating at least 10 jobs (within three years) with a minimum annual payroll of $660,000 and that pay at least 150 percent of the federal minimum wage are eligible for the credit; however, they must apply for the credit before committing to a project. The Ohio Tax Credit Authority must approve applicants before hiring begins.
- **Ohio Data Center Tax Abatement** provides a sales-tax exemption rate and term that allow for partial or full sales tax exemption on the purchase of eligible data center equipment. Projects must meet minimum investment and payroll thresholds to be eligible. Final approval of the tax exemption is contingent upon the approval of the Ohio Tax Credit Authority.

Montrose Ohio Competitiveness Report Policy Recommendations

Ohio has illustrated impressive job growth over the eight last years, nearly recovering from the 2008 recession. However, growing global, regional and national competition for jobs and the industry transformation occurring based upon changes in e-commerce, automation, artificial intelligence and other economic trends illustrate Ohio needs to improve its competitive position. State policy and economic development operational changes are the most direct route to implement these strategies.

MONTROSE OHIO COMPETITIVENESS REPORT POLICY GOALS BY 2026

- **Add 1 M Net New People**
- **Invest $5 B of VC in Ohio early-stage companies**
- **Raise Per Capita Income by 30%**
- **Invest $14 B in new Ohio infrastructure projects**
- **Create 750,000 new jobs**

From a strategic standpoint, all of Ohio, urban, suburban and rural communities, need to grow at the pace of the Columbus region. If the rest of Ohio was growing and creating jobs like Columbus, Ohio's growth rate would be comparable to high growth markets like Texas, North Carolina and Florida. The stark economic reality for the Buckeye state is that it is not. Columbus added 361,000 jobs from 1990-2018. While Cincinnati added 245,000 over the same timeframe Cleveland only added 47,200 jobs—less than Akron and many other regions of the state actually lost jobs. Population growth outside of Columbus is even more of a concern. Ohio's 68 rural counties have lost 40,000 people from 2010 through 2016 and Columbus' MSA moved past Cleveland and is just behind Cincinnati. For Ohio to succeed, the growth in Columbus needs to continue but the other major metro and rural regions of the state need to grow at the same rate. Those outside of Columbus often argue the Capital City succeeds due to the location of state government and the Ohio State University but the overall job and population growth illustrate Central Ohio is growing well beyond what state government can provide.

Four key strategies supporting growth in Central Ohio offer important lessons for the rest of the state- availability of skilled workforce for the advanced services industry, leading logistics and transportation network, emerging tech sector and an aggressive use of economic development incentives to retain and attract companies.

With well over 500,000 college students statewide and a series of city-states spread to the four corners of the state, most regions of Ohio have a critical population base needed to build a 21st Century workforce, but the state and regions need to do a better job executing on workforce development strategies to capitalize on this opportunity. Ohio's economic development strategies need to focus as well on larger economic trends-- just because financial services jobs were a growth sector in the 1990s that does not mean with the advent of Artificial Intelligence any region will have as many workers in the insurance sector twenty years from now. Ohio needs to retain their current companies but also work strategically to grow emerging companies in hot new industries. Root Insurance is one such company. Ohio successfully retained this growing fin-tech company that is an insurance company without underwriters and a broker network. They provide auto insurance over a smart phone and plan to add 500 employees in the next three years after raising $80 M in venture capital. Ohio needs to be connected to another economic trend tied to e-commerce that will close many traditional shopping malls but create opportunities to develop fulfillment and distribution centers that employ thousands of people. Ohio's unique geographic position and transportation network positions the state well to capitalize on this growing market sector. Finally, Ohio needs to continue its use of local and state economic development incentives to address the Buckeye state's higher cost of doing business.

Columbus is succeeding because they lead the state in the use of economic development incentives, because they capitalize on their large pool of college students to provide a ready-made advanced services workforce, because they have used their venture capital base to grow tech companies, and because they benefit from a logistics strategy started in the 1980's with the re-use of the former Rickenbacker Air Force Base.

Grow Population- Add 1 M People

Maybe the most important public policy goal Ohio needs to focus on is growing its population base. If Ohio remains a slow-growth state it is doomed to economic challenges for decades. The large local government, schools, social services and infrastructure costs built up in once populated regions simply cannot be afforded anymore without population growth. More importantly, growing companies are attracted to growing markets that produce more revenue with often lower taxes. Ohio is fortunate to have a great asset in their effort to grow their population base and improve their skilled workforce base—its current population base.

To keep that population base Ohio has a great advantage its system of primary and secondary Education and higher education. The first strategy for improving Ohio's schools is to address the challenge of poverty in the state's urban and rural communities alike. Poverty impacts the performance of Ohio's system of Primary and Secondary Education schools in urban and rural communities alike.

Connection Between Poverty and Ohio School Performance

School District	City/County Poverty Rate	Graduation Rate
Cleveland Municipal School District	36%	74.6 %
New Lexington School District, Perry County	29%	87.1 %
Dublin City School District	2.7%	96.3%

In fact, the State of Ohio Board of Education seems to recognize this challenge by proposing a reduction on the reliance of high-stake accountability tests for Ohio students as a means to measure success.

Ohio has a system of community or charter schools that are permitted to operate primarily in challenged school districts. The states' charter schools that serve primarily urban students only receive state funding and do not have access to local property tax review. The state's traditional urban public schools spend over $20K per pupil. Ohio's charter schools and brick & mortar community schools that operate facilities in the 39 "challenged" districts gain funding for students through a $6000 per pupil deduct from traditional public districts that attend their schools.

2017 Ohio Community School Funding Disparity With Traditional Urban Public Schools

School	Total Per Pupil Revenue	Difference	Percentage of District Funding
Cleveland Municipal Schools	$21,215		
Puritas Community Middle	$9,168	$12,047	43.2%
Cleveland Arts & Social Sciences Academy	$10,946	$10,269	51.6%

The state school foundation formula includes Targeted Assistance funding for students in low property wealth communities to all public school districts including charter schools. The last state operating budget providing Targeted Assistance funding of $952.8M and $974.9M in FY 2018 and 2019 respectively constituting an 11.7% funding increase over the previous budget. The operating budget limited brick and mortar community schools to 25% of Targeted Assistance funding for eligible students even though they serve the same low property wealth communities as traditional urban public schools. The traditional urban public-school districts receive 100% of Targeted Assistance funding even though they operate with above average per pupil expenditures that often double the per pupil funding of most community schools. Addressing this inequity would be a step forward to better prepare Ohio's urban students for the workforce.

Addressing the urban schools crisis alone will not solve Ohio's population decline challenge. Ohio needs to address its low college graduation rate and at the same time retain the new batch of talent that arrives on college campus' each fall. Those from outside Columbus wonder why the region succeeds- the answer is twofold: 1. an aggressive use of tax incentives to retain and attract companies, and 2. over 100,000 college students providing a ready base of advanced services workers ready to enter the workforce every Spring. Fortunately, Ohio has a comprehensive system of higher education that covers all corners of the state with a range of college and university choices.

Urgent Need For More College Graduates

By 2025, **two-thirds** of Ohio jobs will require postsecondary certificate or degree.

2025 TARGET GOAL =

65% **Degree Attainment**

21% GAP

2025 AT CURRRENT RATE =

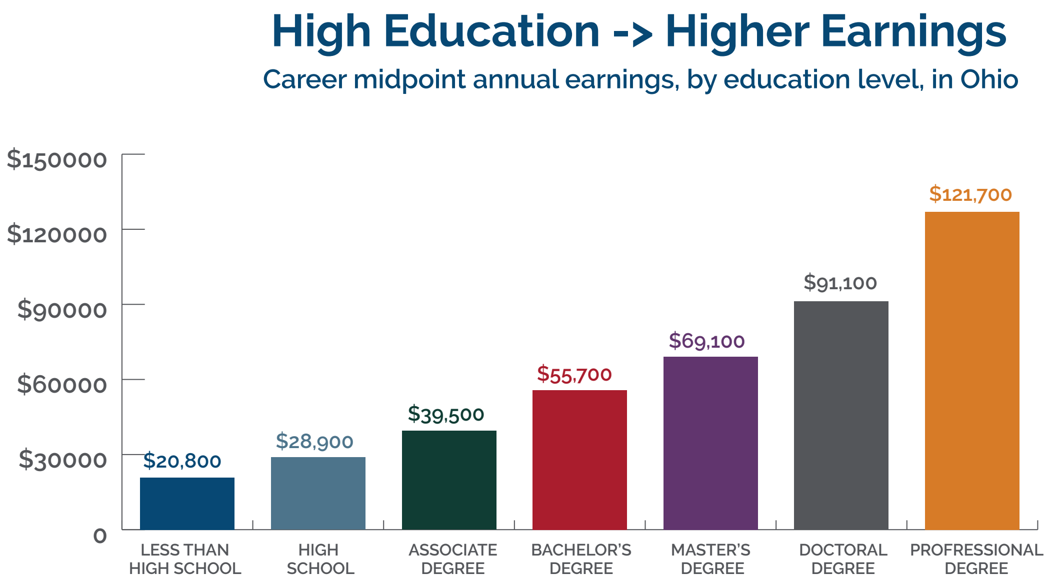
44% **Degree Attainment**

HOW BIG IS THE GAP?

Ohio needs about 1.3 million Ohioans with a degree or certificate by 2025.

Ohio benefits from a large and comprehensive system of higher education that is the key to not only growing its skilled workforce essential in an automated economy, but is also key to keeping the state's best and brightest after they graduate, and recruiting star students from other parts of the United States and the world. As the graphic above illustrates, recruiting more college graduates to the state of Ohio is needed to address a substantial workforce gap. Only 26% of Ohioans have a bachelor's degree- far below the national average and far below what the state will need to succeed in the Automation Economy.

Boosting Ohio's college and university enrollment will also address the weak income growth of the state's residents. As the table below illustrates, higher education levels lead to higher incomes. This will become even truer as automation and Artificial Intelligence eliminate more low skill retail, manufacturing, and even white collar positions.



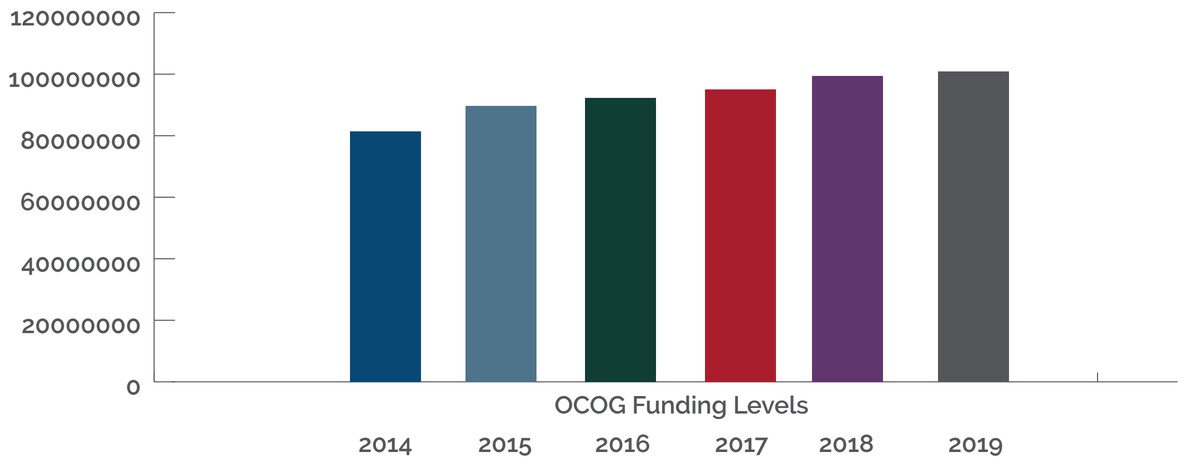
Not all the workforce news is bad for Ohio. According to the Ohio Department of Higher Education, the state of Ohio's public and private sector universities and colleges have over 500,000 students enrolled. Reports indicate that just 66% of the students attending an Ohio post-secondary educational institution remain in the state.[76] More importantly, according to the Georgetown Center on Education and the Workforce, 64 % of Ohio jobs in 2020 will require postsecondary degrees or credentials.[77] A Lumina Foundation report shows, however, that just 43.2 % of Ohio working-age adults have a post-secondary certificate or degree, which is slightly below the nation's overall post-secondary attainment rate of 45.3 %.[78] To produce the number of highly skilled workers by 2015 with post-secondary credentials required to meet the needs of employers, Ohio will have to produce an estimated 1.7 M more adults with high-quality postsecondary certificates or degrees.[79] The talent gap crisis has driven state leaders to establish Ohio Attainment Goal 2025, a formal statewide goal for education attainment. Make no mistake — it is an ambitious goal: 65 percent of Ohioans ages 25-64 will have a degree, certificate, or other post-secondary credential of value in the workforce by 2025. For Ohio to remain competitive, the state needs to educate and retain more post-secondary students.

LET'S CONNECT THE POLICY DOTS— OHIO IS DESPERATE FOR POPULATION GROWTH, HAS OVER 500,000 STUDENTS ENROLLED IN COLLEGES AND UNIVERSITIES BUT 66% OF THEM WILL LEAVE OHIO AND OHIO'S EMPLOYERS NEED MORE POST-SECONDARY EDUCATED WORKERS TO SURVIVE.

In order to grow Ohio's population, a new college/university scholarship program should be created available to all students attending a state university or community college. Increasing university enrollment can be accomplished by keeping Ohio's public colleges and university's affordable. Increased support for the state subsidy for Ohio's public higher education system provides the policy baseline for finding an affordable Ohio public college or university. Since Ohio moved to a performance-based model for funding Ohio's public higher education system, the number of degrees and certificates has grown by 20%. In a strange twist to Ohio's higher education funding formula, the net effect is that as more students graduate, per-student funding actually drops – in effect penalizing institutions for increasing the number of students they graduate. Ohio already is just over $1500 below the national average in state funding. This combination presents a situation that is not sustainable. The state should fully fund Ohio's performance-based funding formula and increase per-student funding for undergraduates by at least the Consumer Price Index.

Scholarships is another important tool to growing college and university enrollment. Ohio currently provides a limited, need based scholarship to Ohio higher education students through the Ohio College Opportunity Grant (OCOG) Program. As the chart below illustrates, OCOG spending is a very small percentage of the overall state of Ohio budget and has only been enjoying minimal increases in spending over the recent years—in fact, OCOG prior to the 2008 Recession had well over $200M in funding. More importantly, Ohio does not offer a merit based scholarship program as many other growing, primarily southern states. Any effort to recruit and retain new workers needs to focus on students from within and outside of Ohio who are willing to remain in the state following graduation. In addition, a new scholarship program is needed as OCOG does not even meet the funding needs of Ohio's needy students in their search to pay for their investment in higher education.

OCOG Scholarship Awards



Source: Ohio Office of Budget & Management

Growing states have used college scholarship programs as a means to not just create access to higher education for their residents but also to keep the best and brightest from leaving their state. Georgia's Helping Outstanding Pupils Educationally (HOPE) program has provided more than $9.4B of financial assistance for educational programs beyond high school. HOPE Scholarship is a merit-based award available to Georgia residents who have demonstrated academic achievement.[80] A Hope Scholarship recipient must graduate from high school with a minimum 3.0 grade point average as well as meet the academic rigor requirement.[81] Students must maintain a minimum 3.0 cumulative postsecondary grade point average to remain eligible for the scholarship.[82] The scholarship provides tuition assistance to students pursuing an undergraduate degree at a HOPE Scholarship eligible college or university in Georgia.[83] A seven-year limit exists for students first receiving the HOPE Scholarship during the 2011-2012 academic year (FY12) or later.[84]

North Carolina offers an ever more interesting example of higher education scholarship focused on retaining and attracting talent to the state. Established by the North Carolina General Assembly in 2011, the Forgivable Education Loans for Service provides financial assistance to qualified students enrolled in an approved education program and committed to working in critical employment shortage professions in North Carolina.[85] The focus for North Carolina is on in-demand occupations. North Carolina's program focuses on North Carolina residents with a high-grade point average, and provides up to $7000 in a forgivable loan.[86]

Ohio needs to not just keep students who are residents of the state but recruit the best and brightest from around the United States. The Ohio Scholars Program could provide $500M in scholarship funding for students attending an Ohio college or university. The scholarship would act as a forgivable loan and be focused on in-demand occupations as established by the Ohio Department of Higher Education. Ohio Scholars will be a merit based scholarship program and provide up to $10,000 annually for students to attend an Ohio college or university.

Grow Emerging Companies- Invest $5 B in VC in Ohio Early Stage Companies

Ohio needs to align its tax and budget policy to support not just existing industry but to grow the emerging companies of the future. According to VentureOhio, total VC investments in Ohio startups hit $373M in 2015, a 16% increase over 2014, and 167 startups received investment. The continued growth of Ohio based venture capital funds such as Drive Capital and others are spurring additional early stage start-up growth including the development of companies such as Root Insurance who was recently valued at $1 B. Ohio needs to promote the development of early stage companies more aggressively and set a big goal of gaining $5 B in venture capital investments in Ohio companies by 2026 These future-focused companies could be early stage start-ups or large tech companies that could be lured to Ohio to grow. Ohio's Third Frontier Program is a mature and successful program geared toward building an innovation economy. Rather than create a new version of the Third Frontier program to grow these tech based industries, Ohio should continue its current efforts with the Ohio Entrepreneurial Service (ESP) Provider program to support early-stage start-ups, enhance current funding for Ohio based venture capital access, and reauthorized the Ohio Technology Investment Tax Credit to spur growth in emerging industries. In essence, Ohio should capitalize on the development of a relatively large pool of regional venture capital firms and trust the market to develop companies in emerging industries.

OHIO EMERGING INDUSTRY GROWTH STRATEGY

- **Targeted industries**
- **ESP Centers**
- **Ohio VCs**
- **Ohio Technology Investment Tax Credit**
- **JobsOhio Research & Development Grants**

Which industries are likely to produce results is a critical decision facing Ohio when considering growing in the tech sector. The Ohio Chamber of Commerce Research Foundation suggests through a recent report that new industry targets for the state's technology based economic development be created that focus on the following:

- NextGen Manufacturing;
- Future Health;
- Smart Infrastructure; and
- Data Analytics.[87]

These industries appear to be worthy targets for future tech growth in the state of Ohio.

How to retain and attract these industries is the next important question. To support early stage start-up and larger tech company retention and attraction, Ohio should continue to support their entrepreneurship support system created by the ESP program and continue to prime the pump of regional VC firms and incentivize Ohio technology company investments through the state tax code.

The Third Frontier program created a series of regional ESPs to support the development and growth of early-stage tech companies. The goal of the ESP Program is to significantly increase the technology-based entrepreneurial commercialization outcomes and to focus the effort on strategic technology-based sectors that offer exceptional economic development prospects.[88] Each ESP represents a coordinated network of high-value services and assistance providers that is visible and easily accessible to technology-based entrepreneurs and small tech-based companies.[89] Each ESP provides an approach that tightly integrates sources of deal flow, entrepreneurial support, and capital to effectively grow the technology-based entrepreneurial commercialization outcomes.[90]

Ohio's network of venture capital firms is growing and making an impact on the Ohio economy. Venture capital is a type of investment most likely geared toward early-stage technology companies who earn a very high-return based upon the substantial risk connected with the investment. Having sources of venture capital in a region or state helps grow a technology based economy as most venture capital firm investors hope to have the companies they invest in nearby to help them succeed. According to a recent VentureOhio Report, Ohio venture capital investments were up 26% last year and 46% from the year before investing in 210 companies across the state. While Ohio is far behind Silicon Valley and Boston in venture capital investment, recent venture capital developments supported in part by the Ohio Third Frontier program are proving some solid results. However, the Ohio venture capital industry needs additional support and should receive the balance of the Third Frontier funding and more from the Ohio Development Services Agency to spur this important source of funding. In fact, the balance of funding from Ohio's now defunct 166 Direct Loan program should be transferred to the Ohio Third Frontier Commission to provide hundreds of millions of dollars in funding for Ohio based, venture capital firms.

Like it does with attraction and marketing efforts to targeted industries, JobsOhio and the JobsOhio Network need to actively work to attract venture capitalists to the state. Over the last decade Ohio has profited from its regional venture capital firms but it has also profited from firms like NCT Ventures and Drive Capital. The success of these venture capital firm can be replicated locating venture capitalists that are currently located on east and west coast to Ohio. JobsOhio and the JobsOhio Network should promote trade missions to the east and west coast aimed attracting these venture capitalists to Ohio. Drive Capital has been able to raise $500M in two funds in the last six years. It can do more to providing startup funding to early-stage technology companies if it has partners around it with the expertise in this arena. Additionally, the state can offer in-roads to large institutional funders in Ohio that may have an interest in investing some of their capital in venture capital firms.

The Ohio tax code needs to support the growth of the tech sector as well. The Ohio Technology Investment Tax Credit provided a tax credit for Ohio taxpayers that invest in small, Ohio-based technology companies. The amount of the tax credit was 25% (or 30% in some limited cases) of the amount invested by the taxpayer.[91] The maximum investment to which this credit may be applied was $250,000 (or $300,000).[92] The credit was claimed against personal income tax, corporate franchise tax, public utility excise tax or the dealers in intangibles tax.[93] If an investor is investing in an Encouraging Diversity Growth and Equity (EDGE) - qualified entity, or an entity in a "distressed county," the amount of tax credit was 30% and the maximum investment to which the credit can be applied is $300,000.[94] In 2010, $34.8 million in tax credits were issued for investments in the Ohio Technology Investment Tax Credit approved entities.[95] $35M should be allocated in the upcoming state of Ohio operating budget to support the Ohio Technology Investment Tax Credit Program.

Finally, the existing JobsOhio Research & Development (R&D) Center Grant program should be kept in total to support R&D growth among larger organizations. This program was created to facilitate new strategic corporate R&D centers in Ohio. Such R&D Centers will support the development and commercialization of emerging technologies and/or products that align with one or more of JobsOhio's targeted industries (Advanced Manufacturing, Aerospace & Aviation, Automotive, Healthcare, Financial Services, Food Processing, Information Technology, Logistics & Distribution and Shale Energy & Petrochemicals). Examples of projects could include, among other areas of focus, Additive Manufacturing (3-D Printing), Advanced Materials, Aeropropulsion, Autonomous Vehicles, Biomedical, Carbon Fiber, Cybersecurity, Data Analytics, Financial Technology (FinTech), Energy Storage/Fuel Cells, Internet of Things (IoT), Sensors and Unmanned Aerial Systems. For the purposes of the program, an "R&D Center" is defined as a newly created physical space dedicated to an area of innovation and/or broad platform technology that involves an upfront commitment by a corporation to developing and commercializing multiple products and innovations over a 10+ year life expectancy. An R&D Center could also include existing space that is re-purposed for a new R&D Center. R&D Center Grant decisions are based on a number of project factors, including but not limited to alignment with JobsOhio sector strategies, job creation, new payroll, and fixed-asset investment commitments, and project location. An Applicant's track record in successful R&D commercialization will also be an important consideration. An R&D Center Grant may provide funding for a portion of the costs related to a new center over 5 years. The R&D Center Grant program will had an initial total funding authorization of $50 million. R&D Center Grant funded activities are expected to create at least 5 new jobs, foster new technology-enabled products or services, and attract new technology-enabled companies to Ohio. To the extent that new production facilities result from commercialized products and services from a new Ohio R&D center, JobsOhio will require (prior to a Grant recipient's investment decision) notification of such planned facilities and the opportunity to present site alternatives to the Grant recipient. Applicants can include any corporation with a minimum of 5 years' operating history and annual revenue of greater than $10 million. The credit rating of each Applicant will be considered, along with other customary due diligence items. To be eligible to receive an R&D Center Grant, a center must represent at least $3 million in new cash investment by a corporation. Funds can be used for Qualified Research Expenses (QRE) and satisfy operational, equipment or facility needs related to:

- Industry-driven, value-added applied research;
- Software development; and,
- Developing technologies that can be commercialized by a corporation.
- Equipment purchased with JobsOhio funds, if any, must remain in Ohio throughout its useful life. Operational activity funded with JobsOhio funds, if any, must occur in Ohio.

The term of grant agreements will be up to five (5) years. Each year, the grant recipient is required to submit a status report detailing the overall progress of the R&D Center (including milestones, actual vs. budget) and the measurable economic impacts on Ohio. JobsOhio funds will be disbursed on a reimbursement basis, first with respect to fixed assets and second, with respect to non-fixed assets, in each case with supporting documentation required with respect to dollars invested. All awards under the R&D Center Grant program are subject to approval by the Chief Executive Officer (CEO).

Win at Workforce- Raise Per Capita Income by 30%

Raising Ohio's per capita income needs to happen and the best strategy to achieve this result is improving the state's workforce development strategies. Every region and state in America is facing a workforce challenge. Ohio is no different. However, Ohio's large pool of workers provides a strategic advantage of most other states. Ohio needs to capitalize on that strategic advantage by transforming its prime economic development tax credit to support workforce training, grow its customized training program, launch an occupational marketing campaign to train and certify workers in key industries and market that pool of skilled workers directly to companies and transform Ohio's welfare system to provide customized workforce training programs.

Ohio Workforce Training Tax Credit

Ohio's Job Creation Tax Credit has long been the state's prime economic development incentive program. The Job Creation Tax Credit is a refundable and performance-based tax credit calculated as a percent of created payroll and applied toward the company's commercial activity tax liability.[96] Should the amount of the credit exceed the company's commercial activity tax liability for any given year, the difference is refunded.[97] Companies creating at least 10 jobs (within three years) with a minimum annual payroll of $660,000 and that pay at least 150 percent of the federal minimum wage are eligible for the credit; however, they must apply for the credit before committing to a project.[98] The Ohio Tax Credit Authority must approve applicants before hiring begins.[99]

In the age of Automation, Ohio needs to shift its focus to encouraging companies to invest in their workers rather than just providing a refundable tax credit to qualifying companies under the Ohio JCTC. Iowa offers a workforce development tax credit known as the New Jobs Training (260E) Program. This one time, corporate income tax credit is an incentive to assist companies to provide training to employees and expand their workforce.[100] The maximum tax credit in 2018 is $1,794 per new employee, and the tax credit amount depends upon wages paid and the year in which the tax credit is first claimed.[101] Unused tax credits may be carried forward for up to 10 years.[102]

Ohio would be well served to transition its JCTC program into an Iowa modeled tax credit that incentivizes growing companies to invest in their people. The intent of the program would be to provide employers grant funding not only for the cost to train the employees but also for the payroll of those employees while they are in training. Like Iowa the cost of the program is paid for through the new payroll taxes that the employees are paying to the state. For existing and new employers that create a significant number of jobs, they would receive not only a workforce grant but a non-refundable Job Creation Tax Credit. Employers could use state supported training programs such as community colleges and four-year institutions, or could be reimbursed for using the company's own training program.

Ohio Career Works

JobsOhio should launch a branded workforce training program known as Ohio Career Works.

OHIO CAREER WORKS

- **Customized Workforce Training Program**
- **Occupational Marketing Campaign**
- **Training Centers**

Customized Workforce Training Program. JobsOhio should continue its strong start to build a customized workforce training program tied to potential company growth in Ohio. The JobsOhio Customized Workforce Training Program will develop a customized plan and workforce training grants for growing large and middle market companies in targeted industries who commit to expand job creation in Ohio for the initial worker recruitment, personalized screening, pre-employment training and, ultimately, client-specific training and funds training for information technology, maintenance, skilled trades, leadership skills, product knowledge, quality management and processes, safety training (industry specific), supervisory, technical processes, technical training, On-the-Job training, equipment, materials, and travel costs (domestic and international). Ineligible costs would be college degrees, consumables (such as pens, pencils, materials for practice welds), food, drinks and entertainment, General Equivalency Diploma (GED), infrastructure, soft skills, training which is reimbursed/required by other Public Agencies or Departments, OSHA – Regulatory, membership dues, license fees, and preparation time or travel time, profit-oriented courses.

Occupational Marketing. Working with Ohio's higher education community, fund and develop workforce training programs targeted to growing industry sectors to create a pool of skilled workers certified and ready to work. Occupational workforce marketing benefits a wide array of industries that are built around the same or similar occupations. Many cite the economic benefit of the large pool of engineers and the concentration of aerospace and defense industry firms to the success in Southern California. As aerospace and defense struggled, these engineers forced into unemployment found opportunities in innovative new companies. They built new sports ware and sports equipment and high-tech businesses. Occupational workforce marketing is a growing trend among regions and states because:

- Cheaper transportation and instant communication kill the challenges distance once created and regions are forced to specialize and focus on exporting goods and services as a means of economic survival;
- Natural resources are less important in economic development as the manufacturing base goes global and a region's workforce is the modern version of natural resources;
- Job commitment from the employer and employee waned in recent years forcing government into the role of workforce training developer as companies refuse to make the financial commitment in workers that are highly mobile;
- Twenty-First Century workplace demands higher skill sets;
- New firm creation is driven by the innovation of a highly skilled workforce; and
- Digital revolution permits workers great flexibility in workplace location.

The JobsOhio occupational workforce marketing campaign should focus on the state—in essence the JobsOhio targeted industries. These industries should have a workforce development program created that develops a pool of certified workers ready for company location from traditionally underemployed or unemployed Ohioans from all regions of the state. Once this pool of workers is certified and ready for employment, JobsOhio should launch a national marketing campaign promoting the program and Ohio's readiness for new job creation in these industries. Marketing efforts could include non-paid media coverage, advertisements in targeted industry publications, regional marketing at industry trade shows and social media campaigns to connect companies with the region via the Internet.

Training Centers. Modeled after a successful workforce development program in North Carolina, Ohio should transform its current welfare system and create a series of training centers to be administrated by Ohio's technical colleges, community colleges and university branch campus' to train underutilized workers in key industry sectors to prepare them for work tied to efforts to retain and attract incumbent Ohio companies. At no charge, Ohio Career Works Centers will provide companies with an extensive network of recruiters and recruiting tools. These experienced specialists leverage resources to more efficiently and effectively identify qualified applicants. Representatives will work with a company to develop a coordinated communications and outreach strategy, crafting job opportunity public announcements and press releases and identifying target media outlets. Company job openings can be posted online, making them available at the Ohio Career Works Centers at the state's technical and community college and university branch campus to support existing Ohio companies. These vacancy announcements can also automatically sent to community college and university career centers, ensuring the broadest possible qualified labor pool, and the center can produce an orientation and process overview video to be used during various recruitment activities, coordinate special events, including job fairs and on-campus recruiting, provide excellent access to targeted talent pools and offer the opportunity to preview the quality of that potential workforce, provide community orientation for those moving to the state and diversity and campus recruitment proposals, provide facilities and office equipment to conduct job fairs, applicant interviews, group orientation and training, recommendations regarding test selection and implementation, including: employment testing issues, test locators, medical exams, achievement tests, aptitude tests, personality tests, selection of non-biased and reliable tests, drug tests, polygraph testing and criminal background checks, working with a company's human resources team, certified job profilers can use nationally recognized work classification programs to create task lists, perform skills analysis and develop customized position descriptions, and provide pre-employment training to both the job candidate and the company. All incumbent Ohio companies would be eligible for these services.

Site Ohio- Create $14 B in new Infrastructure Funding

Ohio's infrastructure crisis is dramatic and it is the only issue worthy of considering a tax increase. Access to job ready sites is a critical piece of any economic development program. The roads, highways, bridges, rail lines, broadband, water, sewer and other infrastructure that turn an underutilized piece of real estate into a job producing piece of property has long been a priority of the local, state and federal government to support. To ensure Ohio remains a leader in infrastructure it is essential for the state to increase highway, transportation, transit, broadband and site development funded needed to succeed. To address the ODOT shortfall, capitalize on new opportunities and develop sites primed for high-job creation development, Ohio needs to create $14 B in new infrastructure funding over the next 8 years.

From a site development standpoint, Ohio is fortunate to have a range of public finance approaches in which local governments can develop infrastructure based upon a potential development project happening. Tax Increment Financing and Downtown Redevelopment Districts are just two of those approaches. The challenge with these programs is they can only work if increases in property taxes can be forecast and sold to the bond market based upon planned or existing capital investment. Developers of the land often need to make guarantees that they will fund these programs should the property tax revenues not meet the agreed to objectives.

Ohio infrastructure challenge must be addressed by state government to ensure the state keeps is globally respected transportation system, attracts you talent through a new generation of public transit, prepares sites for development by modifying slightly a current JobsOhio program, creates a new program to maximize the benefits for the new federal government Opportunity Zone program, create a new generation of rural industrial parks through a former Ohio Department of Development Rural Industrial Park Program, and capitalize on crowdfunding techniques to support place making and community development infrastructure needs in Ohio's smaller communities.

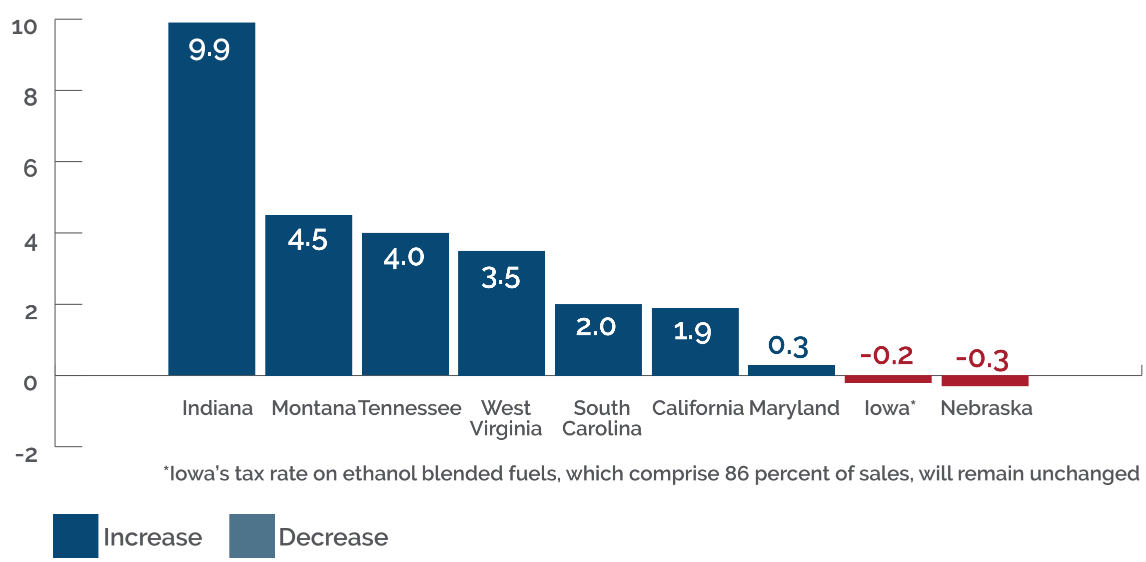
Site Ohio Development Strategies

SITE OHIO

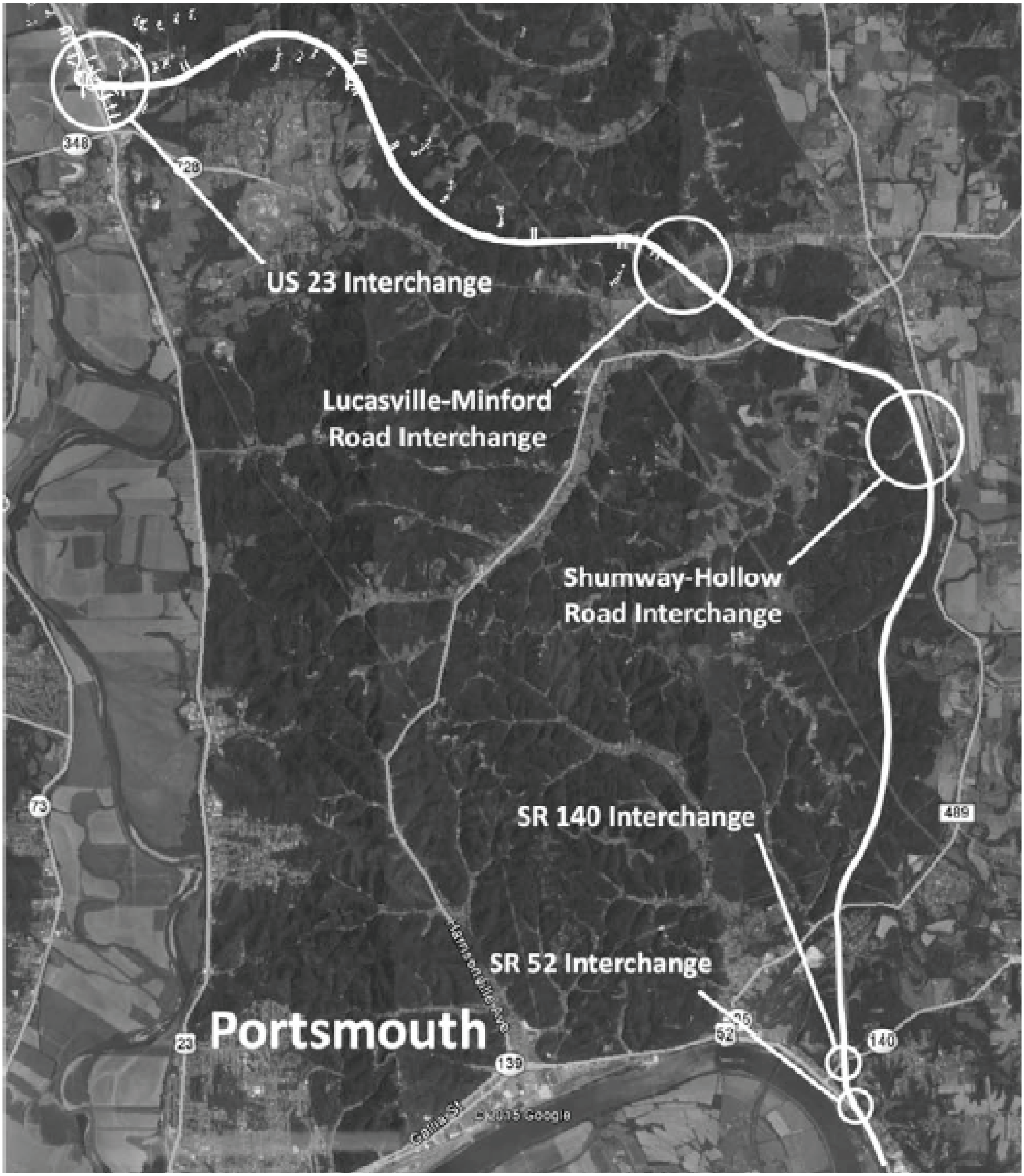
- **$14 B in New Infrastructure Funding Over 8 Years**
  - $ 400 M for Ohio Opportunity Fund Program
  - $ 600 M for JobsOhio Site Development Program
  - $ 400 M for Ohio Rural Industrial Park Program
  - $ 100 M Crowdfunding for Civic Infrastructure Program
  - $ 500 M Rural Broadband Program
  - $ 12 B from Ohio Motor Vehicle Fuel Tax/PPPs for roads, highway, bridges, aviation and mass transit

ODOT Funding. Ensuring ODOT has the funding its needs is essential for the success of the state. Funding for ODOT can only come from a couple sources: increasing the gasoline tax and/or developing additional public-private-partnerships to fund larger scale transportation projects. Due to a lack of Congressional action, Washington D.C. will not be the answer for Ohio's funding woes. As the chart below illustrates, other states have decided to increase their gasoline tax to meet the growing infrastructure challenge.

Gasoline Tax Changes Taking Effect July 1, 2017
(cents per gallon)



The Ohio Municipal League correctly calls for an increase in Ohio's motor vehicle fuel tax "to address growing backlog and evolving need for new state and local transportation infrastructure projects in a state with the 5th highest vehicle miles traveled in the United States and very low ratings of the condition of its transportation infrastructure."[103] The state's gasoline tax was last increased in 2005, from 26 cents to 28 cents, and most of it was set aside for spending on highways.[104] A 25-cent increase would generate $1.3 Billion a year in new road, highways, bridge and transit funding and provide the $12B needed to address the roads, highway and bridge crisis facing the state.[105]



Addressing the ODOT funding crisis with a gasoline tax will not solve the entire challenge—raising the gasoline tax by more than 10 cents would put Ohio at a competitive disadvantage. Thus, Ohio should aggressively pursue the development of transportation Public-Private-Partnerships (PPPs) to fund large scale, transportation projects. The Portsmouth Bypass is a $634 million, 16-mile, four-lane, limited-access highway around the City of Portsmouth in Scioto County in South Central Ohio.[106] The project will also provide a largely access controlled alternative to I-77 and I-75 for motorists making trips between southern Ohio and the Columbus region, saving over 70 miles on some trips.[107] The project is the first availability payment P3 concession in Ohio.[108] According to the project, public benefits include: correcting deficiencies in the existing system, improving regional mobility, enhancing the region's competitive advantage for businesses, and decreasing crash rates.[109] Designated as State Route 823, the project will improve regional mobility to provide travel time savings of up to 16 minutes per trip compared to the current route.[110] Given the rural nature of the County, this project and subsequent development could also have a material impact on the County's high unemployment rates.[111] The State estimates the financial structure, including the TIFIA loan, accelerates delivery of the project and benefits by 8 years.[112] The project is being delivered as an availability payment design-build-finance-operate-maintain (DBFOM) concession, and the term of the concession is expected to extend for 35 years.[113] The Portsmouth By-Pass illustrates Ohio can successfully use PPPs to fund infrastructure and they should focus on doing so more often.

Implement a Mass Transit Agenda. America is living in the Age of Re-urbanization. A new major demographic trend is impacting suburban and small town growth in all parts of the US—Millennials by the millions are flocking to large to mid-sized cities searching for mixed use, walkable communities. In fact, since 2011, large metropolitan cities are growing faster than their suburban counter parts. This seismic demographic shift creates substantial market opportunities for public and private sector organizations that serve urban centers. American re-urbanization creates substantial opportunities for growth for public transit agencies. Public transit, with smart public policy and funding decisions, stands to gain substantially from the re-urbanization of America. Public transit works best where the density of population makes the economics of transit more attractive. Economics is not just the cost of services but also the value of skipping long commute times behind the wheel of a car. American re-urbanization brings not only opportunities but threats to growing regions and states. Ohio local and state policymakers and public transit organizations need to take three steps to capitalize on the re-urbanization of America.

1. **More state funding should connect residential communities with job centers thru public transit.** The number one goal of public transit needs to be connecting residential communities with job centers. State government should be a partner in building this connection. According to the Ohio Department of Transportation, Ohio's 61 transit systems (27 urban and 34 rural) provide 112 million passenger trips annually. ODOT provides these public transit systems with $ 33 million annually in funding through three programs: Public Transit Assistance, Specialized Assistance and Technical Assistance Programs. Local communities are permitted to enact local "piggyback" sales taxes approved by voters for transit programs. According to a recent report, Ohio is far behind Michigan ($200 million), Minnesota ($340 million), and Pennsylvania ($840 million) in public transit spending. States looking to capture job growth and address the economic loss caused by growing traffic congestion need to recognize investing in public transit is as critical to a region's success as additional highway funding and should not only increase transit funding but create innovative programs to fund local workforce development strategies connecting workers with existing urban, suburban and rural job centers.

2. **Become a Smart City.** Urbanization is not the only economic trend impacting future growth and development. Automation and artificial intelligence are creating winners and losers among regions and states. While it is easy to focus on the job loss caused by automation, regions would be better off developing the billion dollar autonomous vehicle market or building a sensor network that not only helps create the next generation transportation network that can also support the provision of essential local government public services impacting safety, utility, street light and traffic management systems. Public transit systems need to lead the Smart City strategy by being innovators and offering new ride sharing services focused on a new generation of riders. Public transit needs to be about more than traditional buses and rail service but needs to focus on smart transportation systems directly tied to innovative and smart cities. Public transit's role in building a Smart City will require innovation when it comes to developing new modes of public transportation more attractive to a new generation of rider. Riders need to be connected to the Internet and be open to new, innovative technologies generated by the Internet of Things, and ride sharing, and bikes may need to be added to complement existing bus and rail service.

3. **Build Private Sector Partnerships through Transit Oriented Development.** The future success of public transit is not just tied to public funding and high-tech innovation. Building private sector partnerships is an important element to public transit's success. Public transit needs to build networks in partnership with a region's real estate development community. Creating a Transit Oriented Development land use strategy puts that partnership in the city code and creates incentives for development tied to transit—ensuring that the public transit system can connect with the riders looking for a way to work and play. A Transit Oriented Development creates communities with an average 2,000 feet walking distance to a transit stop and core commercial area. Transit Oriented Developments capitalize on and promote mixed-use developments within walking distance of residential areas and multimodal, interconnected transportation network through land use regulation by following urban design guidelines and encourages a more pedestrian and walkable community. Canton, Massachusetts created Transit Oriented Development zoning scheme and ensured residential developments were connected to transit. Failure to connect the boom in urban residential projects with transit illustrates a missed partnership opportunity with the private sector that will harm public transit for decades to come.

Public transit can be reborn through the re-urbanization of America but it won't happen without funding and smart strategies designed to build partnerships and connect riders with jobs.

Rural Broadband Access Program. To address Ohio's rural broadband access challenge a step in the right direction is the passage of current Ohio House Bill 281. HB 281 requires the Development Services Agency (DSA) to establish the Residential Broadband Expansion (RBE) Program to provide grants to municipal corporations and townships (project sponsors) to help fund projects that provide broadband to any residential area within their boundaries that is without broadband (eligible area).[114] It excludes as an eligible area, and thus from the RBE Program, any area that has received, or is designated to receive, any other state or federally funded grants that are designed to encourage broadband deployment.[115] The legislation specifies that the broadband funding gap for each project must be funded in order for a project to proceed, requires one-third of the broadband funding gap to be funded with RBE Program grants awarded by DSA and the remaining two-thirds to be funded with funds from a project sponsor and possibly the county in which the project is located in a proportion agreed to by the project sponsor and county, and permits a project sponsor and county to pay its share of the broadband funding gap through general revenue funds or other discretionary funds of, or property tax assessments made by, the municipal corporation, township, or county; contributions; or other grants not from any other state or federal broadband expansion fund.[116] HB 281 provides for a $2M cap for funding this program which is far too low a dollar amount to address this challenge and this total should be increased to $62.5M annually.

JobsOhio Site Development Program. In 2015, JobsOhio and JobsOhio Network Partners recognized that Ohio's available building and site inventory was low. Previously, speculative projects had been ineligible under the traditional JobsOhio programs. Thus, JobsOhio created the JO Site Redevelopment Pilot (SRP) Program to stimulate speculative projects thereby increasing Ohio sites and buildings inventory with $30 million committed in the first round. The SRP Program has up to $50 million, loan and grants combined, available for eligible projects through December 31, 2018 and a cap of $5 M for a loan/grant combination per project. The SRP Program may consider up to 50% of total project costs, and applicants must present a business, market and redevelopment plan (including pro forma and ROI). Only expenses incurred from effective date (application submittal) to Metric Evaluation Date are eligible with no look back permitted. Early goals of the SRP program include:

- stimulate construction of larger footprints of Class A office on urban redevelopment sites;
- rehabilitation of vacant and or blighted industrial buildings;
- demolition of vacant and or blighted structures to create shovel-ready sites;
- demolition of vacant and or blighted structures leading to new construction of industrial / warehouse properties; and
- Infrastructure investments to and on strategic redevelopment sites currently lacking service.

Early examples of SRP loans/grants include the Columbus Steel Castings project were funding was secured to clear, remediate and prepare this former steel mill into a site prepared for industrial development once again.

From a process standpoint, SRP loans/grants are recommended by a regional economic development groups (JobsOhio Network) and negotiated directly with JobsOhio once a recommendation and loan/grant award are made. Regions like Central Ohio have set additional criteria such as: must be a redevelopment project, not a greenfield site; project site does not require environmental contamination but must have had a prior use; a Phase I Environmental Assessment, and if recommended, Phase II must be complete and included with original project submission; site development - Light or heavy industrial projects are given priority; commercial properties are eligible however retail, medical, housing (non-economic base) must represent less than 20% of mix of uses; non-urban sites should be at least 20 contiguous acres; priority given to experienced developer (or partnership) with strong development and marketing expertise; resulting in no or very little intrastate job relocation.

Eligible costs for the SRP include:

- demolition;
- environmental remediation;
- environmental testing and lab fees(associated with ASTM or VAP compliance);
- building renovation;
- new building construction/Existing building expansion;
- site preparation;
- infrastructure;
- land acquisition (limited to up to 25% of reimbursable eligible costs);
- off-site infrastructure (within certain limits, i.e., extension of service line to site);
- asbestos and lead paint abatement;
- removal and disposal of universal and construction waste;
- real estate brokerage engagement; and
- site marketing cost not to exceed 15% of total project and not eligible for reimbursement.

In eligible costs include: signage, lighting and landscaping; environmental insurance or clearance; operational maintenance costs; furniture, fixtures and equipment; tenant improvements; machinery and equipment; relocation expenses; fines and costs from violations of law; contributions and donations to individuals; meals and entertainment; interest on borrowed money; servicing; rolling stock; taxes goods and services for personal use; lease and rental payments; travel expenses; retirement of bonds or other debt; contingency; real estate brokerage engagement (may be counted towards total project cost but not eligible for reimbursement via loan or grant); site marketing (may be counted towards total project cost but not eligible for reimbursement via loan or grant); temporary fencing, equipment rental and other related costs.

The JobsOhio SRP is a good start on a program that needs to become more widely available, applicable to redevelopment projects as well as Greenfield projects tied to energy intensive projects, fulfillment/ distribution center projects, and technology center projects with similar terms, eligibility, selection criteria and cost eligibility factors. The budget for the JobsOhio Site Development Program needs to be to twice its current amount and the loan aspect of the program needs to be eliminated.

A $50M annual budget for this JobsOhio program is the minimum that should exist. This funding would provide a needed boost to all areas of Ohio, rural, urban, suburban and ex-urban. The program should allow for more flexibility and creativity so that communities and developers can apply for the funds. Providing for grant funds rather than loans will allow these entities to complete projects and provide site and building inventory throughout the state not just those that have a brownfield site. The program should continue to fund speculative developments.

JOBSOHIO SITE DEVELOPMENT PROGRAM

- **Site preparation funding**
- **Up to $5 M in grants**
- **Redevelopment Sites**
- **Greenfield Sites if tied to Energy Intensive or Logistics/Distribution Sites**

Ohio Opportunity Fund Program. Ohio is fortunate to have over 300 census tracts certified by the US Treasury Department to be eligible for the capital gains tax reduction under the newly enacted federal government opportunity zone program. The reality is not all Opportunity Zones are born alike and local and state governments, economic development leaders and the property owners can all play a large role in making their site attractive to investors. As these Opportunity Fund sites wait for the final federal government regulations to be finalized by the U.S. Treasury Department, important steps need to be taken to maximize the benefit for their success.

1. **Site Plans.** Opportunity Zone owners and/or the communities promoting them need to develop a site infrastructure plan that includes not just the infrastructure and transportation study but also to review the likely industries to succeed at this site and how the infrastructure and transportation costs can be funded. The more "job ready" an Opportunity Zone site the more likely it has a strong chance of attracting investors.

2. **Tax Incentives.** Any Opportunity Zone site plan will include recommendations for the site to gain the needed tax incentives- abatements, credits, Tax Increment Financing, grants or loans needed for the site to succeed. Developers or community leaders need not wait for the final Treasury Department rules to be announced to advocate for the local government to place needed tax incentives at the site.

3. **Infrastructure Funding.** Another critical part of a site plan is the identification of the infrastructure needs and the sources of funding. Gaining the funding for an Opportunity Zone's necessary infrastructure and building the infrastructure is another site development step that does not need to wait for the final regulatory approvals.

4. **State Advocacy Agenda.** Early wins for the Opportunity Zone program will likely have state government leadership that works to align state government tax policy with the federal law in their state's Opportunity Zones. A suggested state advocacy agenda for Opportunity Zones could include:

5. **Opportunity Zone Council.** State government leaders need to coordinate the public and private sector partners interested in the success of Opportunity Zones into a state council where best practices and a common public policy agenda can be developed and advocated for.

6. **Opportunity Zone Summit.** State government leaders should convene all the owners and local governments interested in developing Opportunity Zones at an annual Opportunity Zone Summit to promote best practices and to build public and private support for developments in the Opportunity Zones.

7. **Advocacy Agenda.** Based upon the feedback of local communities and property owners and developers of Opportunity Zones, a public policy agenda to promote the use of Opportunity Zones should be created that can address:

   a. Common Tax Code. State capital gains taxes should be removed from all Opportunity Zones to maximize the financial attractiveness of the site.

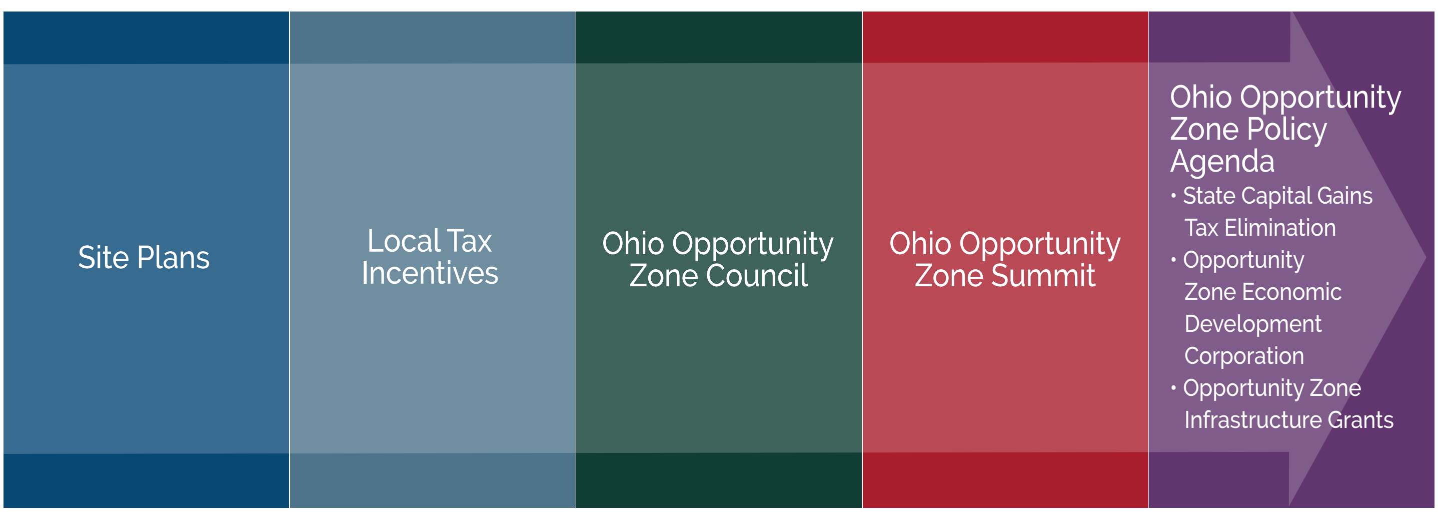
   b. Opportunity Zone Economic Development Corporation. A new not-for-profit economic development corporation could be permitted by state government that grants all the powers of an Ohio port authority to an organization formed to develop a federal government designated Opportunity Zone.

   c. Opportunity Zone Infrastructure Grants. Ohio Development Services Agency funding could be designated to support the infrastructure needed for Ohio Opportunity Zones based upon a transfer of the balance from the Ohio 166 Direct Loan Program.

   d. Opportunity Zone Program Support. Many rural communities will struggle to find the needed capital to start-up these funds and establish the required policies and procedures to effectively run the Opportunity Zone Fund. A grant fund should be established by transferring funds from the Ohio 166 Direct Loan program to fund program support for up to 25% of the costs of initial startup of the Opportunity Zone Funds.

A state of Ohio Development Services Agency program should be created to provide $50M annually in matching funds to support infrastructure development and program support in the state's Opportunity Fund zones.

OHIO OPPORTUNITY ZONE AGENDA



Ohio Rural Industrial Park Program

Ohio should reinstitute the Ohio Rural Industrial Park Program. The Ohio Rural Industrial Park Loan Fund, which was repealed in 2015 and has not received appropriations since FY 2010-2011 provided a loan and grant of up to $1M to communities to fund sites and buildings in Ohio's underserved areas. Ohio should create a $50 million grant and loan program to support the Rural Industrial Park Program. This program would provide funding for the Rural Industrial Park Loan Fund to be operated by the Director of Development Services. The Rural Industrial Park Loan Fund would allow eligible applicants to apply for loans, grants and loan guarantees for the development and improvement of buildings and industrial parks in underserved areas of Ohio. Generally, an applicant, as a condition of receiving assistance under the Program, must agree not to use jobs relocated from inside Ohio at a site that is developed or improved with Program. The agreement must be for a period of at least five years and be with a public sector entity.

Ohio Civic Infrastructure Program

Crowdfunding is not new. Crowdfunding raises small amounts of capital from a large number of people via short-lived Internet campaigns posted on websites known as platforms.[117] Crowdfunding is raising billions of dollars in typically small donations driven by a "social investment" platform where the Internet creates an opportunity for funding a range of business and civic activities. A 2014 study analyzed 1,224 civic campaigns on seven platforms, and found they raised $10.74 million collectively and, on average, $6,357 individually.[118] The median campaign fundraising goal was $8,000, and the median pledge was $62 for all 113,468 pledges reviewed.[119] Most funds were raised in the U.S., with projects based mainly in New York, California, Florida, Illinois, and Oregon.[120] The number of funders for the analyzed projects varied widely, from a few souls to well over 3,000 individuals.[121]

Following the initial wave of Crowdfunding efforts to promote company start-ups, civic projects began to benefit. Donation crowdfunding, a simple and innovative way to generate public interest and raise donations to revitalize or create public spaces, has recently become popular amongst groups looking to make local improvements.[122] Because it utilizes webbased donations, projects are accessible to anyone willing to make a donation, and this tool engages the public as each person plays a part in achieving community improvements, and instills community pride as residents become invested in their surroundings.[123]

Michigan is engaged in crowdfunding from a public-private-partnership model. Public Spaces Community Places is a collaborative effort of the Michigan Economic Development Corporation (MEDC), the Michigan Municipal League, and Patronicity where local residents can use crowdfunding to be part of the development of strategic projects in their communities and be backed with a matching grant from MEDC.[124] Patronicity uses donation crowdfunding exclusively within Michigan's vibrant communities. Projects in our traditional downtowns are aided by Public Spaces and Community Places, which assists the fundraising efforts of patrons.[125] With the incentive of a funding match from the MEDC if the financial goal is reached, the creative funding mechanism mobilizes community members to make individual contributions.[126] Potential projects must focus on the "activation of public spaces and community places."[127] Michigan's ability to attract and retain young, knowledge based talent—is greatly increased by taking advantage of unique, downtown place making assets in each of our communities, making this funding mechanism even more valuable.[128]

Michigan's Public Spaces Community Places program is available to projects located in Michigan communities which contain a traditional downtown.[129] Only local communities and nonprofit entities are eligible to apply, and applicants must be engaged in Michigan's Redevelopment Ready Communities program in order to be eligible for funding.[130] Michigan defines a "traditional downtown" as follows:

- A grouping of 20 or more contiguous commercial parcels containing buildings of historical or architectural significance;
- The area must have been zoned, planned or used for commercial development for more than 50 years;
- The area consists of primarily zero lotline development; and
- The area has a pedestrian-friendly infrastructure.[131]

MICHIGAN'S PUBLIC SPACES COMMUNITY PLACES PROGRAM

- **Traditional Downtown Projects focused on redevelopment**
- **Funding for**
  - Streetscape Beautification & Walkability
  - Public Plaza Development
  - Access to Public Amenities (Riverwalks, Canoe Livery, Pier Enhancements)
  - Farmer's Markets, Community Kitchens, PopUp Retail/Incubator Space (community or nonprofit)
  - Alley Rehabilitation
  - Park Enhancements
  - Bike Paths & NonMotorized Infrastructure
  - Bandshells & Amphitheaters
  - Community Theater Rehabilitation (community or nonprofit)
  - Public WiFi
  - Place Branding & Event Implementation
  - Any other project that activates public space or a community place
- **Project costs at least $10,000 and crowdfunding used to develop financing**
- **MEDC provides matching grant up to $50,000**
- **Since 2014, when the program started, Michigan has:**
  - 164 projects completed
  - $6.1M raised by communities for projects
  - $5.2M granted by MEDC
  - $38M total investment

Michigan projects are evaluated on a variety of factors, including, but not limited to: a defined and focused project; overall impact of the project on the community and place making efforts; local financial commitment and documented plan of how to attain the necessary match needed; current fundraising and marketing campaigns; project location (preference given to projects connecting to or located in a traditional downtown); and project start and completion date.[132] Preference will be given to projects that are able to initiate the project by the deadline (up to 60 days) of agreement and which have funding sources that allow the project to begin in that time period.[133] Projects with multiple funding sources will need to demonstrate that they will be able to begin the project in a timely manner, and a higher preference will be given to projects with an initial cash match.[134] The ROI for Michigan taxpayers have been impressive-- for each $1 they put into the program they are seeing $7.37 in impact.

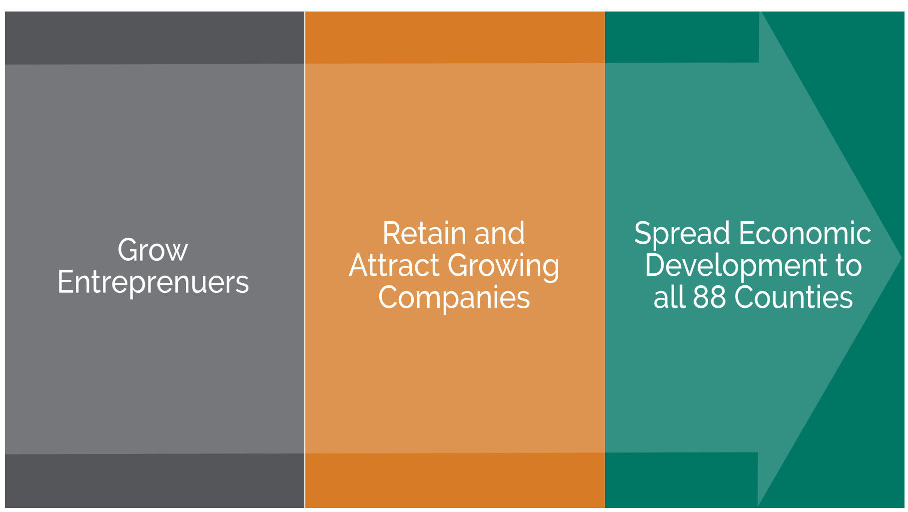
Ohio should launch the Ohio Civic Infrastructure Program modeled directly after the Michigan program to address in particular small town community development projects. This program should be operated by the Ohio Rural Infrastructure Authority and have $25M in project funding.

JobsOhio 2.0- Create 750,000 net, new jobs in Ohio

JobsOhio is a success at the marketing the state of Ohio with a strong focus on job creation and capital investment. However, the mission of JobsOhio must transform into a stronger community partner with a focus on policy, partnerships, and creativity. JobsOhio began on a notion that it could operate like an investment bank—making investment and reaping direct financial rewards. That notion ignores the role of state government in all fifty states, and nations and regions across the world where governments and public-private-partnerships work to correct market failures to support the retention and expansion of companies by marketing the economic benefits of locating in their state and providing incentives to capitalize on economic advantages and address economic disadvantages all with the goal of gaining high-wage jobs and spurring capital investment. Even the title of the top officer of JobsOhio- Chief Investment Officer illustrates the attitude that JobsOhio is an investment bank and not an economic development corporation. JobsOhio is funded by once state-owned liquor profits with a board appointed by the Governor of the state. Growing community challenges like opioids, a massive state transportation infrastructure lacking needed funding, a substantial skilled workforce gap, regions with an influx of reliable and affordable energy sources lacking job-ready sites, and a new federal government Opportunity Zone program demand that the state's private sector economic development organization with $500,000,000 in its bank account broaden its focus into more of an economic development organization.

JobsOhio 2.0 should focus on a broader mission that includes reorganizing along the lines of a future focused economic development organization, supporting the development of local economic development strategies, reorganizing around a broader marketing strategy and building on disruptive technologies, energy intensive business and fulfillment and distribution industries, focused more on partnerships with companies and communities, addressing key economic development incentives, and developing a public policy agenda aligned with critical economic development strengths and weaknesses.

JOBSOHIO 2.0 STRATEGIES



Go to Where the Jobs Are

JobsOhio should have a focus on where the high-wage jobs are. Just as Governor Jim Rhodes nearly forty years ago traveled to meet with Honda in Japan, Ohio's next Governor and JobsOhio should be active in promoting exports for Ohio companies but also recruiting companies to come to the Buckeye state. Ohio has long had foreign trade offices in large global markets and work with consultants in these markets to support exports and promote Foreign Direct Investment. Ohio's next step in promoting exports and Foreign Direct Investment should be to focus on domestic job centers like Silicon Valley in the tech markets and Houston in the energy markets by opening up offices in those regions to promote Ohio export related activities but also to promote recruitment of companies in these regions.

Focus on high-wage jobs and capital investment thru creative partnerships. JobsOhio success has largely come from its focus on corporate site location projects and the JobsOhio Network, the network of regional economic development organizations that provide project support, existing industry support, and market the regions in line with the strategies of JobsOhio. Those missions are critical to the state's economic success and JobsOhio should continue to operate these functions. The challenge that JobsOhio has faced to achieve even greater success is that it has functioned largely like an investment bank, not an economic development organization, thus ignoring one of the prime tenets of economic development, that the programs exist to fill gaps in the marketplace that are not being filled by the free market due to downside market risk. By shifting its fundamental focus from an economic development organization to an investment bank, JobsOhio has not always been seen as an economic development partner by communities and companies alike. JobsOhio should focus on its roots as an economic development organization and bring flexibility and creativity to its programs to fund projects throughout the state that will shift the economy in ways that the private sector cannot and will not do on its own. Additionally, JobsOhio should work with its partners in the public sector such as port authorities and community improvement corporations that in many cases have bonding capacity and capital to leverage JobsOhio funds and bring a project success. This is not a new concept the state of Ohio. Projects such as the Gateway in Cleveland or Rickenbacker in Columbus or Over-the-Rhine in Cincinnati would not have been possible were it not for the creativity and flexibility shown at the state and local levels.

Going forward, JobsOhio economic development incentives should be made in the existing targeted industries that have and will likely produce high-wage jobs in the future. JobsOhio should focus on economic development grants for larger economic development projects through the use of a state "closing" fund and the revitalization of challenging sites. JobsOhio should shift the focus of its loan programs to providing for more creativity and flexibility.

JobsOhio Economic Development Program. JobsOhio should devote substantial resources for the creation and operation of a state economic development closing fund, similar to the Texas Enterprise Fund, known as the Ohio Jobs Fund, awarding major grants to larger economic development projects that produce 250 jobs or more. The Ohio Jobs Fund should devote $100M annually to grants for major economic development projects in Ohio. Grant decisions should be based on a number of project factors, including but not limited to job creation, additional payroll, fixed-asset investment commitment, project return on investment, and project location over an agreed upon period of time for the creation and retention jobs. Most importantly, JobsOhio should change their current rule requiring a company be in existence for three years to receive a grant. JobsOhio should move into the business of supporting entrepreneurs and not just focus on large companies. JobsOhio should continue to set a wage floor based on multiple wage considerations and not provide incentives for retail and other population driven businesses. Ohio Economic Development Program will grant funds for fixed-asset and infrastructure investment by companies, which may include the following:

- Land;
- Building;
- Leasehold improvements;
- Machinery and equipment;
- Moving and relocation costs of machinery and equipment (freight shipping) related to the project;
- Infrastructure including utility, telecommunications, information technology, etc.
- Site development;
- Fees and material costs related to planning or feasibility studies;
- Engineering Services; and
- Software development.

Ineligible Costs include: bonds or other debt instruments issued by Grantee to finance completion of the site improvement project shall not be retired or otherwise serviced with grant funds; administrative costs (including salaries and travel expenses); rolling stock (defined as anything that has to be registered with a government entity and/or travels on a public right-a-way); contributions and donations by the Grantee to individuals or to other organizations; costs (fines, penalties, assessments) resulting from violation of or failure to comply with federal, state, and local laws and regulations; food, drinks and entertainment; goods and services for personal use by the Grantee's employees; long-term housing expenses; interest on borrowed money; organized fundraising; travel expenses; taxes from which the Grantee is normally exempt; and lease and rent payments.

JobsOhio Growth Fund Program. JobsOhio currently provides loans in a senior lending capacity to companies that have been in existence for at least 3 years, have positive revenues, and can show viability moving forward. The program works much like a loan from a bank in that it often requires personal guarantees, corporate guarantees, debt coverage ratios, and protective loan covenants. The challenge with the program in its current structure is its rigidity and proforma approach to loans; if a project does not fit within the bounds of the standard form/proforma of the JobsOhio requirements the projects are often rejected. Moving forward JobsOhio should consider making considerable changes to the program:

- eliminate the requirement that a company be in existence for three years to promote new company creation and the JobsOhio Growth Fund loan terms should be more flexible to allow for new company creation by start-up companies in high-growth industry targets. allow for mezzanine type funding of early stage companies;

- utilize the state's Ohio Enterprise Bond fund for larger projects allowing the capital markets to help determine a project's viability;

- leverage the five common bond funds that exist at port authorities in Ohio for larger projects that require a unique and creative approach;

- provide "gap" funding for projects;

- create an infrastructure guarantee program that will provide an extra layer of security to the capital markets for infrastructure projects funded at the local level;

- allow for more flexible loan terms such as delay in payment of principal and interest for urban redevelopment projects and rural industrial building projects; and
- create a revolving loan fund guarantee program for communities to tap into to expand local revolving loan funds.

JobsOhio Revitalization Program. JobsOhio should continue to operate the former Clean Ohio Fund Program but should discontinue the award of loans and utilize a grant only program alone the same criteria utilized by the Clean Ohio Fund to award grants. The Ohio Revitalization Grant Program should have a $50M annual budget, permit the funds to be used for a wide range of brownfield clean up and site development cost for underutilized sites. Currently, the JobsOhio Revitalization Program Loan and Grant Fund is designed to support the acceleration of redeveloping sites in Ohio. Primary focus is placed on projects where the cost of the redevelopment and remediation is more than the value of the land and a site cannot be competitively developed in the current marketplace. Priority is placed on projects that support near term job creation opportunities for Ohioans. Revitalization projects need to retain and/or create at least 20 jobs at a wage rate commensurate with the local market. Business, non-profits or local governments where the entity committing the jobs has signed an agreement such as a letter of intent, option, lease or holds title for the project site and has a specific business plan, financing plan and schedule for redevelopment and job creation to occur. An eligible site is an abandoned or under-utilized contiguous property where redevelopment for the immediate and primary purpose of job creation and retention are challenged by significant redevelopment constraints. Eligible costs for the program include: demolition; environmental remediation; building renovation; asbestos and lead paint abatement; removal and disposal of universal and construction waste; site preparation; infrastructure; and environmental testing and lab fees. For environmental remediation loans and grants a No Further Action letter issued by an Ohio Certified Professional is typically required for projects where long-term engineering controls are necessary on the site. In certain circumstances, JobsOhio may require a Covenant Not to Sue from the Ohio Environmental Protection Agency, depending on the project and site characteristics. Remediation grants will include funding for environmental assessment of up to $250,000 and remediation grants of $3,000,000. The project must demonstrate that job creation or retention is highly likely if environmental risks can be understood and addressed, and priority should be given to job creation and retention projects within JobsOhio targeted industry sectors. Business, non-profits or local governments where a potential end user has expressed clear interest in reuse of the project site. Clear interest could include a signed agreement such as a letter of intent, option, lease or holds the title for the project site and has a redevelopment plan that includes new job creation or retention of existing jobs. An eligible site for the program would be abandoned or under-utilized contiguous property where redevelopment for the immediate and primary purpose of job creation or retention are complicated by significant redevelopment challenges. An All Appropriate Inquiry (AAI) or OEPA Voluntary Action Program qualified Phase I Environmental Site Assessment has been completed for the site.

Recommended changes to the JobsOhio Revitalization Program should center on permitting the program funds to be used for the redeveloping of housing on underutilized or sites that need remediation. The availability of workforce housing is a critical issue for many communities and is a major economic development issue.

JOBSOHIO 2.0 INCENTIVE PROGRAMS

- **JobsOhio Go Ohio Program**
- **JobsOhio Economic Development Grant Program**
- **JobsOhio Growth Fund Program**
- **JobsOhio Career Works Program**
- **JobsOhio Research & Development Program**
- **JobsOhio Revitalization Program**
- **JobsOhio Site Development Program**

Advocacy agenda. JobsOhio should play a role in the creation and advocacy of a state public policy agenda to promote economic development in the state of Ohio through a competitive tax code, regulatory policy and spending priorities targeted to supporting investment by targeted industries, such as energy-intensive company and high-tech companies disrupting traditional industries. The advocacy agenda should include transforming the state's tax incentive programs to focus on workforce training investments, promoting overall tax policy that reduces the burden on Ohio business, aligning the state's tax code and incentive program with the federal government's Opportunity Zone's in Ohio, continues to address the opioid epidemic through distribution of state and federal funding to local governments for interdiction and treatment strategies, and increasing the state's gasoline tax to fund Ohio's highway infrastructure.

Go Ohio. Any business or organization succeeds based upon a well thought out business plan or strategy. Yet most local communities who spend billions of dollars in taxpayer dollars do so without a comprehensive economic development strategy. For Ohio to succeed, it must support the development of local community economic development strategies. In addition, the state should provide grants to communities to support the implementation of these business plans in an effort to support growth and job creation around the state. As a state rich with mature cities, townships and counties and a population base spread out all over Ohio, a prime economic development objective should be to improve the quality of place for these communities. As the vast majority of counties in Ohio are struggling to retain their jobs and workforce, the state of Ohio should help those communities fund a strategy and implement that strategy to address these regional challenges. Go Ohio should be created and operated by JobsOhio with $25M funded annually to competitively award grants to cities, townships or counties with a population of less than 200,000 seeking to improve their economy and the quality of life of their region. The Go Ohio program could be modeled in part after the Indiana Regional Cities Program. The Indiana Regional Cities Initiative helped communities across Indiana come together to transform their regions into nationally-recognized destinations to live, work and play.[135] Go Ohio will be a "place making strategy" that can help small to mid-sized Ohio cities, townships and counties develop an economic development strategy tied to retaining and attracting employers and population, gain the infrastructure needed to spur capital investment, and redevelop existing properties to spur office, commercial, retail and residential development. In 2015, the Indiana Regional Cities Initiative led seven Indiana regions to collaboratively create compelling strategic regional development plans that include more than 420 projects.[136] Because of the Indiana Regional Cities Initiative, 70% of the state's population now lives in a region with a bold and viable plan for transforming its future. Go Ohio will move a step forward by funding not just small to mid-sized community regional economic and community development plans but to provide up to $1,000,000 in individual grants to help implement those economic development strategies. JobsOhio funding should be allocated to assist Ohio communities to plan quality of life initiatives and then have them funded through competitive awards to address issues such as the opioid epidemic. Economic development is not possible in regions where rampant drug use has crushed the workforce and made crime the new employer in the community.

OHIO'S 88 COUNTY JOBS STRATEGY

- **Opportunity Zone Tax & Infrastructure Investments**
- **Economic Development Planning Grants**
- **Historic Preservation Tax Credit Allocation Formula**
- **Ohio Rural Infrastructure Authority**

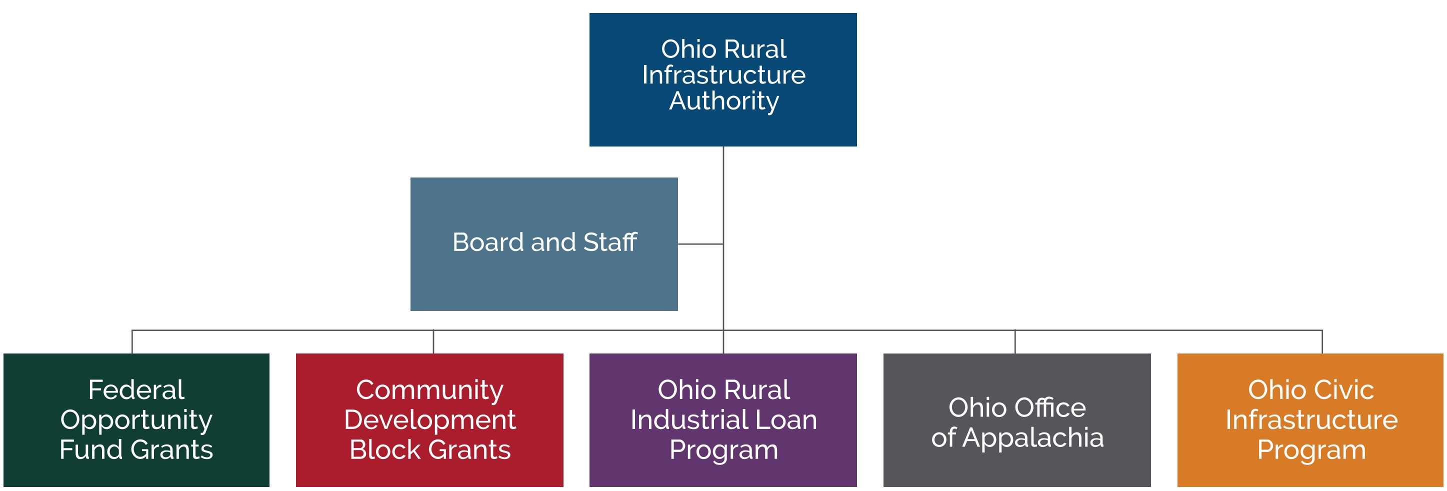
Ohio Opportunity Zone Program. Ohio's 319 federally designated Opportunity Grants are a prime opportunity and the Ohio Development Services Agency should create a program designed to provide targeted funding for these sites that provide funding for site planning and infrastructure development. Funding from the Ohio Development Services Agency totaling $50 M annually should be designated to support the 319 Ohio Opportunity Zones with the award in Ohio's rural communities made by the Ohio Rural Infrastructure Authority. Grants should be permitted to pay for site plans and infrastructure as defined by the Ohio Revised Code for TIFs. In addition, Ohio's tax code should be changed to remove the state capital gains tax from these federal Opportunity Zones to match the current federal tax code changes.

Ohio Economic Development Planning Grants. Ohio communities, like all local jurisdictions in the United States, spend billions of dollars on tax abatements, tax credits, public finance infrastructure tools and other forms of public dollars used for tax incentives. The vast majority of these communities spend these public resources without the benefit of a comprehensive economic development strategy. Ohio Enterprise Zone, Community Reinvestment Area, Job Creation Tax Credit, Historic Preservation Tax Credits and other economic development incentive programs should be amended to require the local communities to have in place a comprehensive economic development plan that identifies the high-wage industry targets, priority sites planned for development with infrastructure funding strategies, workforce development strategies and other core elements of a community's strategy to retain and attract high-wage jobs. The Ohio Development Services Agency and the Ohio Rural Infrastructure Authority should be allocated $10M collectively to provide matching grant funding for the creation of regional comprehensive economic development plans. Ohio Downtown Redevelopment District program requires an economic development plan and this state law requirement provides a strong basis for this urban redevelopment program to capitalize on.

Ohio Historic Preservation Tax Credits. Ohio's Historic Preservation Tax Credit program has devoted the vast majority of its recent funding to urban centers in Northeast Ohio. To address this inequity, Ohio should amend the state's Historic Preservation Tax Credit program to be modeled after the

Ohio Public Works Commission funding allocation that spreads the funding out across the state based upon a population formula. Major cities in Ohio should still receive the largest share of the funding but the small amount of resources for this highly popular program would be shared in a more equitable nature. However, rural communities would receive an allocation of this important redevelopment based tax credit serving as a magnet for developers who might not otherwise consider a rural community for an economic development investment. Additional criteria for changes to the Ohio Historic Preservation Tax Credit also include allocating a set percentage of funding for Ohio's historic theaters. Historic theaters are the centerpiece of large and small community Downtowns. However, current regulations administered by the Ohio Development Services Agency make the award of Ohio's Historic Preservation Tax Credit to these critical buildings very difficult. The Ohio Development Services Agency would remain the administrative body who would make the final Ohio Historic Preservation Tax Credit awards but they would be based upon a geographic formula and current, required historic preservation criteria.

Ohio Rural Infrastructure Authority. Ohio needs to dramatically change how it makes economic development investments in rural Ohio. The substantial population loss to Rural Ohio is destabilizing many of these communities. Modeled after North Carolina, Ohio should create the Ohio Rural Infrastructure Authority. Rural communities, unlike urban centers who have challenges but larger municipal budgets, face daunting challenges with few resources in which to address them. Urban centers benefit from large, regional port authorities that not only operate logistics centers and provide financing to growing companies and communities. The North Carolina Infrastructure Authority has clear statutory responsibilities worthy of review for Ohio. The North Carolina Infrastructure Authority is a private body with a board appointed by the Governor and General Assembly of North Carolina that awards grants to North Carolina's rural and at-risk counties for building reuse, Community Development Block Grants, utility grants, Appalachian Regional Commission, Economic Development Planning, Rural Grants and Programs, Main Street Program, and Industrial Development Bond Fund.[137] In 2018-19, the North Carolina Rural Investment Authority plans to make $54M in grants to rural communities.[138] To stem the de-population of rural communities and promote economic and community development, Ohio should create the Ohio Rural Infrastructure Authority and create a private statewide port authority with a board appointed by the Governor, Ohio House of Representatives and Ohio Senate of representatives from Ohio's rural counties.



Utilizing a statewide port authority model would also give this organization the ability to create a bond fund to provide additional infrastructure support and create a public-private-partnership to encourage community and economic development in Ohio's rural counties.

APPENDIX A
DEFINITION OF ECONOMIC INDICATORS

Gross Domestic Product (GDP) is the value of the goods and services produced by the nation's economy less the value of the goods and services used up in production and is equal to the sum of personal consumption expenditures, gross private domestic investment, net exports of goods and services, and government consumption expenditures and gross investment.

Consumer Price Index (CPI) is a measure of the average change in prices over time in a fixed market basket of goods and services based on prices of food, clothing, shelter, and fuels, transportation fares, charges for doctors' and dentists' services, drugs, and the other goods and services that people buy for day-to-day living collected each month in 87 urban areas across the country from about 6,000 housing units and approximately 24,000 retail establishments--department stores, supermarkets, hospitals, filling stations, and other types of stores and service establishments including all taxes directly associated with the purchase and use of items are included in the index.

Industry Cluster is a regional concentration of related industries in a particular location consisting of companies, suppliers, and service providers, as well as government agencies and other institutions that provide specialized training and education, information, research, and technical support enhance productivity and spur innovation by bringing together technology, information, specialized talent, competing companies, academic institution, and other organizations with close proximity, and the accompanying tight linkages, yield better market insights, more refined researches agendas, larger pools of specialized talent, and faster deployment of new knowledge.

Nonfarm business sector is a subset of the domestic economy and excludes the economic activities of the following: general government, private households, nonprofit organizations serving individuals, and farms that accounts for about 77 percent of the value of the GDP in 2000.

Personal Income is the income that persons receive in return for their provision of labor, land, and capital used in current production, plus current transfer receipts less contributions for government social insurance (domestic), personal income arising from current production consists of compensation of employees, proprietors' income with inventory valuation adjustment and capital consumption adjustment (CCAdj), rental income of persons with CCAdj, and personal income receipts on assets (personal interest income and personal dividend income).

Unemployment Rate is measured by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor is a measure of those Americans who are employed with jobs and those that are unemployed based upon those that have applied for federal government unemployment insurance and based upon a monthly survey called the Current Population Survey (CPS) to measure the extent of unemployment in the country.

APPENDIX B

OHIO COUNTY POPULATION GROWTH/LOSS COMPARISON URBAN V. RURAL

County	2017 Population	2010 Population	Gain or Loss	Percentage Gain or Loss	Urban or Rural
Adams	27,726	28,550	-824	-0.40%	Rural
Allen	103,198	106,331	-3,133	-0.41%	Rural
Ashland	53,628	53,139	489	0.13%	Rural
Ashtabula	97,807	101,497	-3,690	-0.51%	Rural
Athens	66,597	64,757	1,840	0.39%	Rural
Auglaize	45,778	45,949	-171	-0.05%	Rural
Belmont	68,029	70,400	-2,371	-0.47%	Rural
Brown	43,576	44,846	-1,270	-0.40%	Rural
Carroll	27,385	28,836	-1,451	-0.71%	Rural
Champaign	38,840	40,097	-1,257	-0.44%	Rural
Clark	134,557	138,333	-3,776	-0.38%	Rural
Clinton	42,009	42,040	-31	-0.01%	Rural
Columbiana	103,077	107,841	-4,764	-0.62%	Rural
Coshocton	36,544	36,901	-357	-0.13%	Rural
Crawford	41,746	43,784	-2,038	-0.66%	Rural
Darke	51,536	52,959	-1,423	-0.37%	Rural
Defiance	38,156	39,037	-881	-0.31%	Rural
Erie	74,817	77,079	-2,262	-0.41%	Rural
Fairfield	154,733	146,156	8,577	0.79%	Rural
Fayette	28,752	29,030	-278	-0.13%	Rural
Fulton	42,289	42,698	-409	-0.13%	Rural
Gallia	29,973	30,934	-961	-0.43%	Rural
Guernsey	39,093	40,087	-994	-0.35%	Rural
Hancock	75,754	74,782	972	0.18%	Rural
Hardin	31,364	32,058	-694	-0.30%	Rural
Harrison	15,216	15,864	-648	-0.57%	Rural
Henry	27,185	28,215	-1,030	-0.51%	Rural
Highland	42,971	43,589	-618	-0.20%	Rural
Hocking	28,474	29,380	-906	-0.43%	Rural
Holmes	43,957	42,366	1,591	0.51%	Rural
Huron	58,494	59,626	-1,132	-0.26%	Rural
Jackson	32,449	33,225	-776	-0.33%	Rural
Jefferson	66,359	69,709	-3,350	-0.68%	Rural
Knox	61,261	60,921	340	0.08%	Rural
Lawrence	60,249	62,450	-2,201	-0.49%	Rural

County	2017 Population	2010 Population	Gain or Loss	Percentage Gain or Loss	Urban or Rural
Licking	173,448	166,492	6,956	0.57%	Rural
Logan	45,325	45,858	-533	-0.16%	Rural
Madison	44,036	43,435	601	0.19%	Rural
Marion	64,967	66,501	-1,534	-0.32%	Rural
Meigs	23,080	23,770	-690	-0.41%	Rural
Mercer	40,873	40,814	59	0.02%	Rural
Miami	105,122	102,506	2,616	0.35%	Rural
Monroe	13,946	14,642	-696	-0.67%	Rural
Morgan	14,709	15,054	-345	-0.32%	Rural
Morrow	34,994	34,827	167	0.07%	Rural
Muskingum	86,149	86,074	75	0.01%	Rural
Noble	14,406	14,645	-239	-0.23%	Rural
Ottawa	40,657	41,428	-771	-0.26%	Rural
Paulding	18,845	19,614	-769	-0.55%	Rural
Perry	36,024	36,058	-34	-0.01%	Rural
Pickaway	57,830	55,698	2,132	0.52%	Rural
Pike	28,270	28,709	-439	-0.21%	Rural
Portage	162,277	161,419	858	0.07%	Rural
Preble	41,120	42,270	-1,150	-0.38%	Rural
Putnam	33,878	34,499	-621	-0.25%	Rural
Richland	120,589	124,475	-3,886	-0.44%	Rural
Ross	77,313	78,064	-751	-0.13%	Rural
Sandusky	59,195	60,944	-1,749	-0.40%	Rural
Scioto	75,929	79,499	-3,570	-0.63%	Rural
Seneca	55,243	56,745	-1,502	-0.37%	Rural
Shelby	48,759	49,423	-664	-0.19%	Rural
Tuscarawas	92,297	92,582	-285	-0.04%	Rural
Van Wert	28,217	28,744	-527	-0.25%	Rural
Vinton	13,092	13,435	-343	-0.36%	Rural
Washington	60,418	61,778	-1,360	-0.31%	Rural
Wayne	116,038	114,520	1,518	0.18%	Rural
Williams	36,784	37,642	-858	-0.32%	Rural
Wyandot	22,029	22,615	-586	-0.36%	Rural
Butler	380,604	368,130	12,474	0.46%	Urban
Clermont	204,214	197,363	6,851	0.47%	Urban
Cuyahoga	1,248,514	1,280,122	-31,608	-0.34%	Urban
Delaware	200,464	174,214	26,250	1.95%	Urban
Franklin	1,291,981	1,163,414	128,567	1.46%	Urban
Geauga	93,918	93,389	529	0.08%	Urban

County	2017 Population	2010 Population	Gain or Loss	Percentage Gain or Loss	Urban or Rural
Greene	166,752	161,573	5,179	0.44%	Urban
Hamilton	813,822	802,374	11,448	0.20%	Urban
Lake	230,117	230,041	76	0.00%	Urban
Lorain	307,924	301,356	6,568	0.30%	Urban
Lucas	430,887	441,815	-10,928	-0.34%	Urban
Mahoning	229,796	238,823	-9,027	-0.53%	Urban
Medina	178,371	172,332	6,039	0.48%	Urban
Montgomery	531,542	535,153	-3,611	-0.09%	Urban
Stark	372,542	375,586	-3,044	-0.11%	Urban
Summit	541,228	541,781	-553	-0.01%	Urban
Trumbull	200,380	210,312	-9,932	-0.67%	Urban
Union	56,741	52,300	4,441	1.13%	Urban
Warren	228,882	212,693	16,189	1.02%	Urban
Wood	130,492	125,488	5,004	0.54%	Urban

APPENDIX C
NORTH CAROLINA AND OHIO BUSINESS TAXES

Relevant North Carolina State & Local Taxes[139]

Tax	Source	Rate
Corporate Income Tax	State	C corporations 3% in 2017 Reduced to 2.5% in 2019 Of the 44 states that levy a corporate income tax, North Carolina has the lowest rate.
Corporate Franchise Tax	State	General Business Corporates $1.50 per $1,000 determined by either: a) Net worth apportioned to North Carolina; b) 55% of appraised value of property in the state subject to local taxation; or c) Book value of real and tangible personal property in the state less accumulated depreciation for tax purposes. For an S Corporation, the tax rate is $200 for the first $1 million dollars of the corporation's tax base and $1.50 per $1,000 of the largest tax base that exceeds $1 million.
Income Tax	State	Flat on income at 4.59% in 2017 which was reduced to 5.25% in 2019 Flat Rate Standard Deduction- The standard deduction is $17,500 ($20,000 in 2019) for married couples, $14,000 ($15,000 in 2019) for head of households, and $8,750 ($10,000 in 2019) for single taxpayers and those married filing separately.
Unemployment Insurance	State	1.0% (first 2 years) - New Employer Tax Rate 0.060% - Minimum Tax Rate 5.76% - Maximum Tax Rate $23,100 - Taxable Wage Base (per employee)
Motor Fuel Tax	State State-Local	.35 cents per gallon of gasoline Wake County, NC 7.25% on sales except groceries
Property Tax	Raleigh	.4253 per $100 value in property tax

Relevant State of Ohio Business Taxes

Ohio Tax	Tax Description
Corporate income tax	No Ohio income tax imposed on C corporations
Corporate "net worth" or "franchise" tax	Ohio does not impose a "net worth" or "corporation franchise" tax
Commercial activity tax ("CAT")	A gross receipts tax that is Imposed on taxable gross receipts (purchases from Ohio purchasers) at a rate of .0026 (.26%) and CAT applies to C corporations and to all other business entities, including S-corporations, limited liability companies, partnerships, etc.
Pass-through entity tax	Pass-through entity tax is captures Ohio personal income tax of Ohio residents and non-residents that own pass-through entities doing business in Ohio
Personal income tax	Rates vary from 1.980% up to 4.997% on income that is not "business income." First $125,000 of "business income" is not taxed for a single filer (and the first $250,000 of "business income" is not taxed for a married filing jointly filer). "Business income" greater than those amounts is taxed at a flat rate of 3%
Sales and Use tax	State rate is 5.75%, but counties and transit authorities may impose "piggyback" taxes with several exemptions totally billions in savings
Municipal Income Tax on Entities	Cities and villages in Ohio may impose a municipal "net profits" tax, which is effectively a net income tax on entities, which is an apportioned tax, based on property, payroll and sales. Rates vary, but rates can be as high as 3%
Municipal Income Tax on Employee Wages	Cities and villages in Ohio may impose a municipal income tax on wages paid to employees. Rates vary, but rates can be as high as 3%
Real estate tax	Counties, school districts, townships, libraries, and other local entities receive real estate taxes levied with an effective tax anywhere from about 1% of the fair market value of the property, to up to about 4%.

Source: Zaino, Hall & Farrin, LLC

APPENDIX D

EIGHT STATE COMPARISON OF SEVERANCE TAX RATES, BASES AND INCENTIVES

State	Severance Tax Rates & Bases	Incentives
Arkansas	5% of the market value of the oil at the point of severance and the owner of a well that produces fewer than ten barrels of oil per day pays a reduced 4% rate on oil from that well with separate levies totaling 2.05¢ per barrel of oil are levied for the benefit of the Arkansas Museum of Natural Resources	Deduct costs incurred dehydrating, treating, compressing, and delivering natural gas, an oil or gas well that disposes of salt brine produced in the production of the oil or gas by means of an approved underground saltwater disposal system is allowed a severance tax credit equal to the operator's costs in maintaining the underground disposal system, up to $370,000
Colorado	Basis of gross income attributable to the sale of oil and gas depending upon the producer's annual gross income and ranges from 2% (annual gross income under $25,000) to 5% (annual gross income of $300,000 and over) plus an additional charge on the market value of oil and gas produced at the wellhead to fund enforcement actions not to exceed 1.7 mills	Authorizes a credit against the severance tax equal to 87.5% of ad valorem tax, i.e., property tax, assessed or paid by leasehold and royalty interests
Louisiana	Levies a severance tax on oil and condensate equals 12.5% of "gross value" which is the greater of (1) the gross receipts received from the first purchaser, less charges for trucking, barging, and pipeline fees, and (2) the posted field price and a tax on natural gas solids and liquids are levied at a rate of 15.8¢ per Mcf of gas, which results from applying a gas price index adjustment to a base minimum rate of 7¢.56	Production of oil or natural gas from a horizontal well is exempt from the tax for the earlier of the first two years of the well's production or the date that "payout" of the well is achieved, i.e., the date a sufficient quantity of oil or natural gas, based on market prices, is obtained to recover the producer's costs of drilling the well and is reduced and eventually eliminated if the price of oil or natural gas increases to certain thresholds

State	Severance Tax Rates & Bases	Incentives
North Dakota	Levies a gross production tax on oil which equals 5% of the gross value of the oil at the wellhead and an oil extraction tax which is currently 6.5% of the gross value of oil at the wellhead. Beginning in 2016, the oil extraction tax rate becomes 5% of the gross value of oil, unless the price of oil exceeds $90 per barrel plus an inflation factor, in which case the rate will increase to 6%	If the price of oil dips below a trigger price, currently $52.59 per barrel, a 4% reduced rate applies, and, until July 1, 2015, if the oil price exceeded the trigger price, the first 75,000 barrels or first $4.5 million of gross value of oil from a horizontal well was subject to a reduced 2% rate
Oklahoma	Levies a gross production tax on oil and gas for wells producing on or after July 1, 2015 of 2% on the gross value of severed oil and gas for the first three years of a well's production, with a 7% rate applying thereafter, and, if the sale price of the oil or gas does not reflect the prevailing price for similar gas or oil, the Oklahoma Tax Commission may require the producer to pay the tax on the basis of the prevailing price of oil or gas from the same field and if the sale is between related entities and not done at arm's length, then gross value equals the prevailing price of oil and gas produced in the county, as calculated by the Commission. A petroleum excise tax equal to 0.095% of the gross value of severed natural gas and oil is charged with rate decrease of 0.085% scheduled for July 1, 2016	Oklahoma allows gas producers to deduct their marketing costs associated with moving the gas from a well to market from the gross production tax base, and, for wells producing on or after July 1, 2015, Oklahoma imposes a 2% rate on the gross value of severed oil and gas for the first three years of a well's production

State	Severance Tax Rates & Bases	Incentives
Texas	Levies a severance tax on oil and condensate ("oil production tax") equal to the greater of 4.6% of the market value of oil or condensate or 4.6¢ for each barrel of oil or condensate produced, imposes a regulatory oilfield clean-up fee of 0.675¢ per barrel of oil produced, a severance tax on gas and all liquid hydrocarbons that are not condensate ("gas production tax") equals 7.5% of the market value of gas or liquids produced, and an oilfield clean-up fee of 1/15 of 1¢ per Mcf of gas produced	The market value of gas is reduced by costs incurred by the producer to compress, dehydrate, sweeten, or deliver the gas, for the gas production tax, Texas offers a temporary rate reduction for wells extracting gas designated by the Texas Railroad Commission or the Federal Energy Regulatory Commission as a high-cost gas, which currently includes gas produced from shale formations, the reduction is calculated by subtracting from the 7.5% rate the product of that rate times the ratio of drilling and completion costs incurred for the well to twice the median drilling and completion costs for high-cost wells completed during the preceding fiscal year, but the rate may not be reduced below zero, the reduced rate applies for the lesser of ten years beginning on the first day of production, or until the cumulative value of the tax reduction equals 50% of the drilling and completion costs incurred for the well.
Ohio	A general severance tax is imposed at 10¢ per barrel of oil and 2.5¢ per 1,000 cubic feet (Mcf) of natural gas, and the cost recovery assessment is imposed at 10¢ per barrel of oil and 0.5¢ per Mcf of natural gas	
West Virginia	Levies a severance tax on oil and natural gas at a rate of 5% of the gross value of the natural gas or oil with the gross value of natural gas and oil equals the product's local market value, with deduction for processing costs necessary to obtain commercially marketable or usable oil or gas and an additional tax on natural gas in the amount of 47¢ per Mcf for the purpose of reducing the state's Workers' Compensation debt.	Provides an annual credit of $500 for each severance taxpayer and exempts natural gas and oil extracted from low-producing wells.

Source: Ohio General Assembly Tax Working Group

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