

2015 CEDS - SWOT Analysis

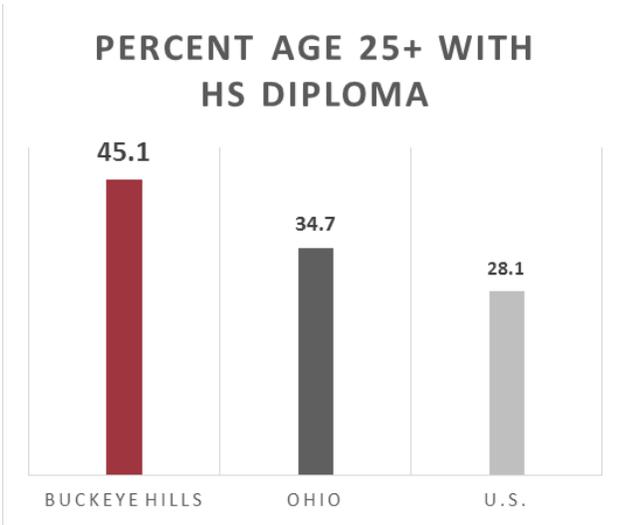
The purpose of this document is to provide a general analysis of the regional economy of the Buckeye Hills region and most specifically the strengths, weaknesses, opportunities, and threats that exist. The purpose of this analysis is to provide a general understanding of the regional economy, and the factors that are contributing to the successes and challenges facing the district.

Strengths

The Buckeye Hills region has historically been regionally competitive in the following areas:

- High School Educational Attainment
- Post-Secondary Institutions
- Manufacturing
- Natural Resource/Energy Production
- Regional Collaboration and Cooperation

High School Educational Attainment – The Buckeye Hills region is home to 29 public school districts. These school districts are producing high school graduates at levels that exceed national averages for corresponding time periods. According to 5 year ACS estimates from 2009 to 2013, the Buckeye Hills region has 45.1% of individuals 25 and older possessing High School diplomas, which is nearly 11% greater than the state average and 17% greater than the national average. Educational attainment is a great indicator of competitive advantage for the region. This high level of High School graduation by students in the region provides an excellent basis for future successes.



Post-Secondary Institutions – The Buckeye Hills region is home to four institutions of higher education, and one branch campus of an institution located outside of the region. Together these institutions are a crucial resource to the region providing many benefits; quality post-secondary education for local students, centers of innovation, workforce training partners, and high value employers that provide excellent wages and benefits for workers. According to the most recent Quarterly Census of Employment and Wages (QCEW) information available from

Stats America, this cluster employs 4,825 workers and generates over \$232 million in wages. These values represent over 7% of all workers and 9.4% of all wages generated by all industries in the region.

35

Patents Obtained By Ohio University 2009 - 2013

To illustrate how important these bodies are to the capacity for innovation in the region, Ohio University secured 35 patents between 2009 and 2013, more than any other organization in the region during that time. Proctor and Gamble was second during this period with 29. (Clustermapping.us)

Manufacturing – The regional economy of the eight county region continues to be driven by manufacturing and companies participating in the manufacturing supply chain. This despite the fact that the manufacturing sector has by far experienced the largest losses in employment between 2007 and 2013 (-2,752 positions). According to 2012 data from Stats America, the Buckeye Hills region has the following industry clusters with establishment location quotients over 1:

Primary Metal Manufacturing	4.11
Electrical Equipment Appliance & Component Manufacturing	1.82
Transportation Equipment Manufacturing	1.68
Machinery Manufacturing	1.23
Computer & Electronic Product Manufacturing	1.20
Fabricated Metal Product Manufacturing	1.12

The six industry clusters noted above generated over \$99 million in wages, and employed 1,740 workers according to QCEW data. These represent 4.02% and 2.54% respectively of regional totals for wages and employment. Of specific note is the Primary Metal Manufacturing cluster, which has an establishment location quotient of 4.11 and an employment location quotient of 5.95. These are extremely high values which have simple meaning; the Primary Metal Manufacturing cluster has a concentration of establishments in the Buckeye Hills region that is over four times higher than the national average, while the concentration of employment is nearly six times higher than the national average.

Natural Resource/ Energy Production – The Appalachian Region of the United States has always been a net exporter of natural resources and energy to the rest of the country, and the Buckeye Hills region of southeastern Ohio is no different. Historically home to rich resources of timber and coal, southeastern Ohio has also recently become a major player in national natural gas and oil production activities. Some experts believe the natural gas and oil resources found in this part of the country may be some of the most expansive in the world. As of July 2015 there were 44 Marcellus and 1,955 Utica wells permitted in the region. The number of permitted wells, especially Utica, is expected to grow. Between August 2014 and July 2015, 527 new wells were permitted.

According to Clustermapping.us, Ohio has the seventh largest coal mining employment in the country, and fourteenth largest Oil and Gas Production employment.

The Energy (Fossil & Renewable) industry cluster employs over 4,300 workers in the region, and annually generates over \$265 million in wages. (Stats America – QECW) These totals are 6.35% and 10.67% of the regional totals for those categories respectively.

Regional Collaboration and Cooperation – Buckeye Hills has a history of nearly fifty years of regional collaboration and working on behalf of local governments in southeastern Ohio. This history of cooperation has led to a very positive working relationship with governments and local officials across the district both working with Buckeye Hills, and working with each other. Generally speaking, community and government officials are aware of their counterparts in other communities in the region, and in many cases may know them or have cooperated with them in some manner in the past. The accessibility of local officials and representatives from local agencies is one of the key strengths of the Buckeye Hills region. This accessibility leads to greater interaction with constituents and residents, as well as providing opportunities for collaboration with colleagues on projects and initiatives that may benefit not only a local area, but the region as a whole.

Weaknesses

The Buckeye Hills region has traditionally faced difficulty in the following areas:

Workforce Challenges
Post-Secondary Achievement
Economic Diversification
Housing Supply
Geographic Limitations

Workforce Challenges – The Buckeye Hills region possesses a workforce that makes up only 1.99 percent of the civilian labor force in the state, and that workforce is not expected to grow significantly between 2015 and 2040. The workforce of the region has historically been engaged in several primary industries; health care, manufacturing, construction, retail trade, and accommodation/food services. Most recently, new opportunities are arising in the oil and gas industries, and those industries that support them. With all this being said, there are serious concerns about the workforce in the district among business leaders and economic development leaders alike. Of primary concern is substance abuse, and the ability for available, applicable, and skilled individuals to pass required drug tests prior to employment. This is a national workforce issue, but rings especially true in the Buckeye Hills region, as numerous members of the CEDS committee and other colleagues have cited this as a major deterrent to success for some local companies.

Also of concern is the lack of general employability and professionalism among some members of the workforce which leads to chronic underemployment. While employers are

communicating concerns about substance issues, they are also relating to Buckeye Hills staff concerns about general employability; appropriate dress, tardiness, work ethic, as well as transportation challenges. Addressing these issues is a major challenge for organizations across the region, and a weakness in the economic development efforts in the district.

Post-Secondary Achievement – While the Buckeye Hills region boasts a higher than average population of individuals 25 and over that hold a high school diploma, the region is lagging behind in achievement of college and advanced degrees. According to ACS 5 year estimates from 2009 – 2013, Buckeye Hills residents achieved Bachelor’s degrees at a level 7.6% lower than the state average and 9.8% lower than the nation. The region is also achieving advanced degrees at levels lower than the state and the nation; 3.8% and 5.3% respectively. If you remove Athens County from this measurement (the home of Ohio University), this gap grows even further; 5.2% behind the state and 6.7% behind the nation.

Without highly educated residents, and students achieving advanced degrees, achieving high levels of regional innovation and advancement could be a challenge. According to the regional innovation index provide by Stats America, the region is behind the U.S. in high tech employment share and technology based knowledge occupations. In order to close this gap the region needs to educate and retain greater levels of students who achieve advanced degrees.

Economic Diversification – According to 2013 information provided by Ohio Department of Job and Family Services, there were 51,941 private sector jobs recorded in the eight county region. Of those jobs, nearly 66% were in the following five categories; manufacturing, construction, retail trade, health care, and accommodation/food services. In two counties, Athens and Hocking, these sectors make up over 70% of the private sector jobs recorded in 2013. Traditionally the counties in the region have been heavily invested in one of these primary industries as the main source of employment and wages for citizens. This leaves these areas vulnerable to shifts in market and employment conditions which are not under local control. When these events take place, local labor markets are generally devastated.

41%

**Of All Private Sector Jobs
in Athens County are Retail
or Food Service and
Accommodation**

1 in 5

**Monroe County Workers
Affected by Ormet Closure**

A prime example of this was the closure of the Ormet Aluminum during late 2013. As the primary employer and largest tax contributor, when this company decided to close, nearly all residents and businesses in the county felt the impact. 700 workers were laid off in this event, which was nearly 20% of the private sector workforce in Monroe County. Much of that impact is still lingering today. In order for the

Buckeye Hills region to grow and thrive, efforts must be made to diversify the portfolio of industry present in the district in order to avoid major downturns and negative consequences of any potential closures or reductions in force.

Housing Supply – Local officials, economic development representatives, and the CEDS committee have expressed concern that the limited housing stock available in the eight county area may be stifling economic development opportunities. Of the eight counties in the district, Noble, Monroe, Morgan, and Meigs are ranked 80th or worse in the state based on housing unit counts (88th, 86th, 85th, and 81st respectively). Committee members expressed concern about this challenge because local officials hold relatively few resources that can impact this situation. Members also related perspective about the state and quality of local housing stock – which they felt was very basic. Members also perceived a lack of political impetus needed to encourage and support housing development across the region. There is also concern that oil and gas workers who make significantly higher wages than workers in other industries may unnecessarily cause a hike in rental fees for existing local residents. This situation could cause a short term homeless situation for low income families who rent, and has been documented in other rural areas where shale gas development activities rapidly escalated.

In order to attract and retain workers that can benefit local industries and strengthen the regional workforce, there must be available, affordable housing of sufficient quality. Without this, workers may choose to live outside the region, or not work in the area at all.

Geographic Limitations – The Buckeye Hills region is located in the heart of the Appalachian region of Ohio, filled with mountains, rivers, and varying geography. While this geography makes for beautiful scenery, it provides serious challenges to economic development efforts. The varying geography types and changes in elevation create an environment of increased costs for infrastructure development. Typical projects for water and sewer generally increase in price due to additional pumping, delivery, and treatment costs associated with remote communities and locations of interest. The extension of other utilities (gas, broadband, etc.) in to the rural areas of the Buckeye Hills region also face similar challenges.

The geographic features present in the district also present impediments in developing available sites for economic development. Many members of the CEDS committee and other local economic development officials have described the challenges of finding available land that is relatively flat, and elevated out of known floodplain and floodway areas. Many of the areas that fit this description are already controlled or are previously disturbed/developed. Significant portions of the region where economic development is most likely to happen (cities, villages, and county seats) face limitations of developing outside of known floodplain areas. As described earlier, many of the more vibrant economic communities in the district are in the immediate proximity of active waterways.

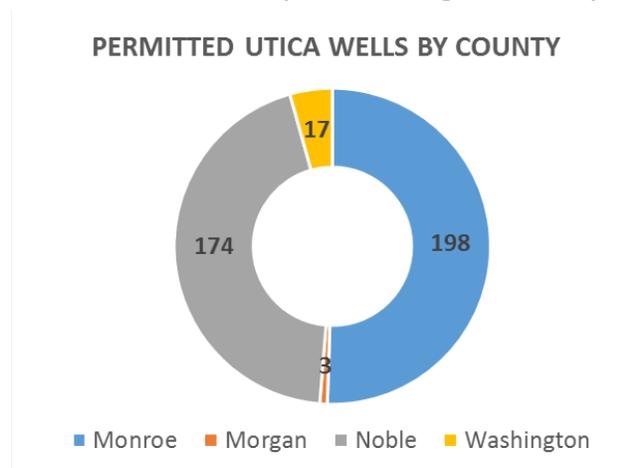
Opportunities

The Buckeye Hills region is poised to benefit from capitalizing on the following opportunities:

- Growing Oil and Gas Industry
- Growing Chemical industry
- Maritime and Rail Improvements
- Community Colleges and Technical Schools

Growing Oil and Gas Industry – During the past five years, it has become clear that southeastern Ohio is home to a significant reserve of crude oil and natural gas held deep underground in the Utica Shale Formation, and to a lesser extent the Marcellus Shale Formation. The exploration and extraction processes that have taken place to access these resources in the region have brought significant economic benefits to member counties. As of July 2015 there were 392 permitted Utica wells in the Buckeye Hills region. These wells not only present direct economic benefits, but also secondary benefits from companies that are started, or growing as a result of this activity. According to industry occupation employment projections provided by

+527
Permitted Marcellus Wells
in Ohio
August 2014 - July 2015



the United States Department of Labor, the oil and gas extraction industry is expected to see an 18% increase in employment between 2012 and 2022. The single highest position of expected growth in this analysis is petroleum engineer, with an anticipated increase of 39.1%. The Buckeye Hills district is home to Marietta College, which boasts one of the most successful and popular undergraduate petroleum engineering programs in the country.

Growing Chemical Industry – The Buckeye Hills region is home to a historically strong chemical and metal manufacturing cluster. Members of the CEDS committee, and local economic development professionals feel that the chemical industry is uniquely positioned to benefit from developments in the ethane/ethylene supply chain being developed as a result of shale gas exploration activities in the area. The Buckeye Hills region is home to companies that can provide feed stock materials to ethylene and ethane processing facilities, as well as industries that can utilize the processed materials to make derivative, value added products.

A recently funded Ethane Cracker Supply Chain Study completed in partnership between Buckeye Hills and the Mid-Ohio Valley Regional Council in Parkersburg West Virginia illustrated industry sectors participating in the supply chain that are already present in the region, as well

as primary targets for attraction to the region. This information will allow community leaders to specifically target opportunities for development that have the highest chance for success based on the research that has been completed.

Ethylene Supply Chain - Industries With Strong Presence in the BHHVRDD Region		
NAICS	Industry	2014 Jobs
325211	Plastics Material and Resin Manufacturing	779
326199	All Other Plastics Product Manufacturing	150
213112	Support Activities for Oil and Gas Operations	382
484121	General Freight Trucking, Long Distance, Truckload	554
211111	Crude Petroleum and Natural Gas Extraction	272
493110	General Warehousing and Storage	136
213111	Drilling Oil and Gas Wells	351
484110	General Freight Trucking, Local	270
484220	Specialized Freight (except Used Goods) Trucking, Local	228
484230	Specialized Freight (except Used Goods) Trucking, Long Distance	260
Total Jobs - Current		3382

Ethylene Supply Chain - Primary Targets for Attraction		
NAICS	Industry Segment	Industry
32511	Chemical Manufacturing	Petrochemical Manufacturing
32519	Chemical Manufacturing	Organic Chemical Manufacturing
32521	Chemical Manufacturing	Plastics & Resin Manufacturing
32552	Chemical Manufacturing	Adhesive Manufacturing
42469	Chemical Manufacturing	Chemical Wholesaling
32611	Plastics Manufacturing	Plastic Film, Sheet & Bag Manufacturing
32612	Plastics Manufacturing	Plastic Pipe & Parts Manufacturing
32613	Plastics Manufacturing	Laminated Plastic Manufacturing
32616	Plastics Manufacturing	Plastic Bottle Manufacturing
32619	Plastics Manufacturing	Miscellaneous Plastics Products
42461	Plastics Manufacturing	Plastics Wholesaling

At least two major ethylene/ethane processing facilities are being planned for location in the Buckeye Hills region, or very close to the borders. These facilities, should they come to fruition, could create thousands of construction jobs, hundreds of permanent jobs, as well as support other businesses and retail operations that will start as a result. These facilities represent a major opportunity for the region, the likes of which have not been seen for decades.

Threats

The Buckeye Hills region is facing the following threats in the future:

Aging and Deteriorating Infrastructure

World Oil Market

Aging Workforce

Natural Disasters

Aging and Deteriorating Infrastructure – As described earlier, installing and maintaining infrastructure of all types in rural Ohio is typically more expensive due to geographic challenges that must be addressed. However the rural nature of the communities in the area make the dependence on that infrastructure high. This infrastructure is the lifeblood of economic and community development for the region. Without it, southeast Ohio could not compete with neighboring regions, the state, or the nation.

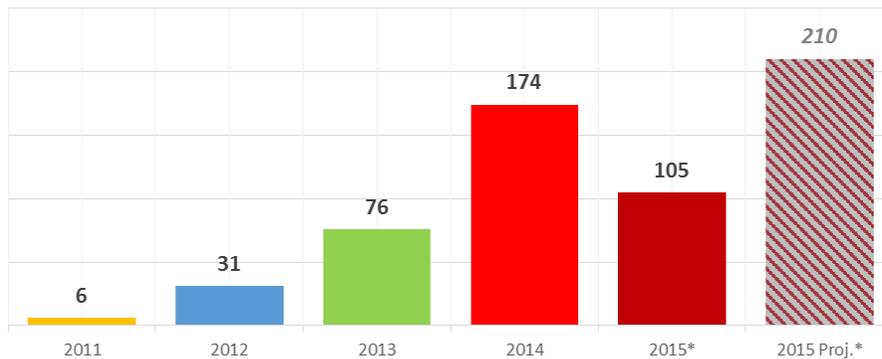
During spring 2014, Buckeye Hills completed a basic infrastructure analysis to help communicate the unmet needs of southeastern Ohio. At the time of that report, over the past five years, Buckeye Hills had received 304 requests from local communities for infrastructure funding in two major grant programs. Of those requests, 174 were funded, leaving 212 unfunded – a critical need of over \$59 million in projects for the region. The average request was for \$219,000 with an average project cost of \$853,000. Basic calculations of unmet transportation infrastructure needs in one major funding program was over \$198 million as of 2012. It can be assumed that those needs continue to grow one year later, while the infrastructure those unfunded projects sought to support continues to deteriorate, leaving rural communities with difficult challenges in competing for economic development opportunities.

48%
**Percent of Buckeye Hills
Municipalities That Have
Not Requested Any Funds
From GOA or OPWC in the
Past Five Years**

World Oil Market Fluctuation – As the oil and gas industry has become increasingly important to the economic success of the Buckeye Hills region, it has become increasingly clear how turbulent the industry can be. While the region already has experience with volatility in other natural resource and commodity markets, the global nature of the oil market in particular has had impacts on the progression of shale gas development in the region.

The chart in this section illustrates the number of permitted Utica wells in the Buckeye Hills region between 2011 and 2015 to date, and estimated. It is clear to see that there was a steady increase between 2011 and 2014 with values increasing exponentially; a five fold increase between 2011 and 2012, more than doubling between 2012 and 2013; more than doubling

BUCKEYE HILLS UTICA WELL PERMITS BY YEAR



again between 2013 and 2014. Permit numbers through June 2015 indicate that the pace of development has significantly slowed compared to the recent pace. Representatives from within the industry

have stated that low crude oil prices have stifled the shale development process, which is evident in the permitting information. According to the U.S. Energy Information Administration, landed crude oil prices had been slowly declining between 2011 and 2013, staying around the \$100 mark. The 2014 average was down to \$88 a barrel, and current prices as of April 2015 are approximately \$50 per barrel. These low prices and intense international competition provide threats to the continued progress of shale development in the region.

Natural Disasters – The Buckeye Hills region is historically prone to two types of natural disasters; flooding and strong seasonal storms.



Unfortunately, residents and businesses in the region have extensive experience preparing for, weathering, and recovering from flooding events. The eight county region was settled and developed around the notion of maritime commerce on the Ohio

River, and its tributaries. Naturally, settlements organized around the most advantageous locations on the rivers, and these settlements came to be many of our cities and villages that still exist today. Unfortunately these communities have suffered repeated and serious damage from flooding events in the past, and many of them continue to be at risk today.

Buckeye Hills communities have also been historically susceptible to very strong seasonal storms that produce extremely strong winds across the region. One such storm struck the region in summer 2012 causing wide spread power outages that lasted days. While this did raise awareness of the fragility of the regional electric distribution network, and increase the necessity of backup power options; most residents and businesses are still susceptible to damages and outages as a result of these types of storms.

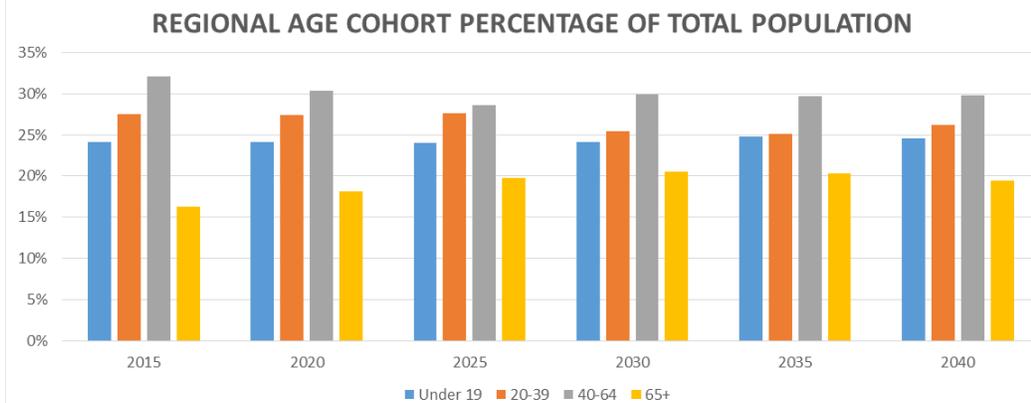
These natural disasters pose challenges to economic development efforts, especially the risk of flooding. It is of paramount importance that available economic development sites be located

outside of floodplain areas. In the Buckeye Hills region, many of the most desirable site locations and available buildings that are in proximity to other businesses, support services, and customers, are located in areas in or near floodplains.

Also posing a threat to the residents of the region is the Biggert Waters Flood Insurance Reform Act of 2012. This act proposes to raise FEMA flood insurance rates to full risk rates (unlike discount and prorated/grandfather rates which many policy holders currently have), and removes existing subsidies, which would leave policies utterly unaffordable for many businesses and homeowners in the region. These changes would also seriously hamper efforts to buy and or sell properties in designated risk areas. Numerous meetings, hearings, and discussions have been held throughout the region to consider options for revising current rate maps, rate increase schedules, and other facets of the legislation. The Homeowner Flood Insurance Affordability Act of 2014 posed some immediate relief to the situation, but if a long term solution is not reached, this could pose a very serious threat to the regional economy and to communities in the Buckeye Hills region.

Aging Workforce - The Buckeye Hills region is home to a generally aging population, which naturally means that the workforce is composed of generally older workers as well. According to information published by the Ohio Development Services Agency, the 65+ age cohort is expected to grow by 21% between 2010 and 2040. This age cohort is not expected to decrease in total until

2030. While this issue is not unique to the Buckeye Hills region, local officials and members of the CEDS



committee are concerned that the shrinking population coupled with the corresponding reduction of eligible participants in the regional workforce will create difficulties for the industries of the area. The concern is that there will not be enough qualified and eligible workers to replace the workers that will be exiting the workforce in the coming years, especially in the applied trade and skilled labor fields. If the trend of shrinking workforce, and growing employment opportunities (per 2014 Ohio DSA employment analysis and projections) in the region does take place, the gap that is created will most likely be filled by workers from outside the Buckeye Hills region.