



# Brown County Redevelopment Analysis

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## Requirements Elicitation

Brown County – like many other counties in Indiana – lacks the information necessary to shape economic development policy. In consultation with the Brown County Redevelopment Commission<sup>1</sup>, we have identified requirements for this report. The most important output is the creation of a County Financial Decision and Support Model, which can assess county-level conditions and calculate any expected financing gap over time.

Additionally, we will assess the data availability for Brown County and identify gaps in data availability, or recommend potential collection methods for the future. This data must be adequate in identifying trends and assessing financing needs for Brown County. Our information needs include data on population and economic trends, as well as county receipts and disbursement values over time.

The Brown County Redevelopment Commission is considering a number of potential development plans designed to attract young families, increase the resident and working population, and preserve the culture and integrity of Brown County. Our analysis will evaluate recent demographic, economic, and financial trends, and provide the insight necessary to guide future economic development activities.

## Introduction

Brown County, Indiana is a well-known tourist destination in Southern Indiana. The Hoosier National Forest and the Yellowwood State Forest, combined with the Brown County State Park makes up 65%<sup>2</sup> of the county's land. In addition to the tourism generated by these

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<sup>1</sup> The BCRDC consists of President Dave Redding, Vice President Jim Shultz, Secretary Tina Bedey, Tim Clark, and Keith Baker. <http://browncounty-in.gov/BoardsCommittees/CountyRedevelopment.aspx> Retrieved 4 April, 2017

<sup>2</sup> Caldwell, D. (2006, September 22). Going for the Simple Life, in the Hills of Indiana. *The New York Times*. Retrieved April 20, 2017, from <http://www.nytimes.com/2006/09/22/realestate/22havens.html>

parks, Nashville, Indiana<sup>3</sup> is another popular destination for local shopping, artistry, and food. The natural beauty and charm of the Brown County community makes it a popular destination for in-state and out-of-state visitors. This natural beauty is also a point of pride for county residents, and its preservation has been an essential component of development and county planning.

#### *Tax Structure Overview*

These appeals of the Brown County have also influenced the residency trends over time. The area has become a popular destination for individuals looking for the ideal Midwest location to retire. In addition to these draws, the county tax structure is also influential. In a way, it is appealing through its low property tax rates, which will be reviewed in this report. Adversely, high income tax rates provide a disincentive for younger professionals to reside in the area.

#### *Population Challenges*

Brown County is experiencing an increasingly aged population and a decreasing young population. Enrollment at Brown County Schools Corporation has decreased since 2013 and is expected to continue decreasing unless action is taken to entice younger families to make their home in Brown County. By increasing the population of working professional within the ages of 25 and 40, the county would increase its tax base for collections of county-level income and property taxes.

#### *Housing Challenges*

Because of the destination aspect of the Brown County community, there is a high demand for properties. This demand has increased market values of homes and rental properties available for sale. The median market value of homes in Brown County in 2015 was \$171,186

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<sup>3</sup> Nashville is the county seat for Brown County, and has the largest share of the county population.

which exceeds the state median value of \$131,000. For the area, this price is on the higher end of the budgets of the young individuals and families that currently live in the area. The fiscal necessity of some individuals to rent instead of purchase their own home leads to a decrease in property tax revenue.

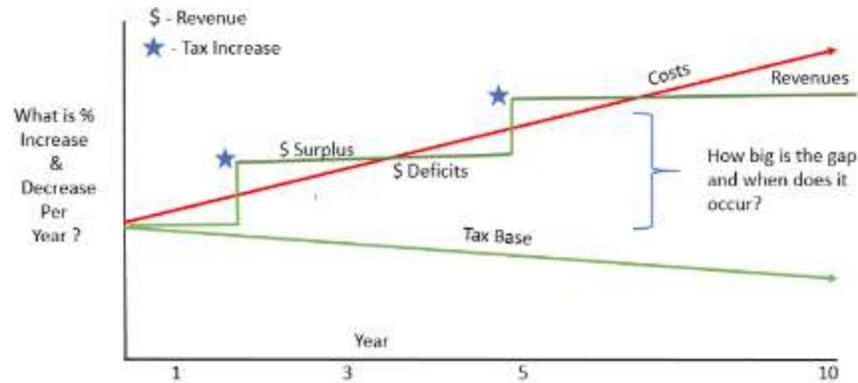
Further exacerbating the housing challenges are Brown County's low property tax rates. This has incentivized wealthier individuals to purchase second homes in the county but still spend a majority of their time outside of the county. Additionally, the low property tax rates have caused some to live in the county but work in neighboring counties. This is due to Brown County's high income tax rates. In turn, Brown County is earning revenue from homeowners but losing income tax revenue from those in the workforce. Finally, the low property tax rates drive up market prices on homes, making it more difficult for lower and median income individuals to afford becoming homeowners.

### *Financial Model Review*

Because of the challenges reviewed in this introduction, Brown County is facing a unique situation summarized here:

- County population is aging and declining overall, decreasing the tax base.
- Property values are high relative to median income, and are expected to increase.
- The tax structure of low property tax rates and high income tax rates in addition to the current property and population situation results in decreasing revenues that are unable to cover the costs if the county government continues to operate at the current level.

Figure 1 on the following page was provided by Tim Clark of the Redevelopment Commission. It demonstrates the points discussed above.



*Figure 1*

These trends contributed to by the tax structure, amongst other factors, have consequences for the local county government. There are additional cultural challenges in policies regarding development and overall policy change, as the community is reluctant to support action that will impact the character of the Brown County.

It is because of the consequences already experienced and those that are expected that Brown County Redevelopment Commission contacted Indiana University's School of Public and Environmental Affairs to provide assistance in their approach to redevelopment plans for the future. The following sections review community vitality statistics important to Brown County leadership as they move forward, a review of the data that was used in the analysis of trends of revenues, costs, and populations. This data is also used in a succeeding section regarding future analysis and the prediction of results for actions like development options and tax rate changes. The final section provides recommendations for the County to consider in securing financial health of their community.

### **CVI Overview**

In collaboration with the Office of Community and Rural Affairs, the Brown County Redevelopment Commission has adopted the use of community vitality indicators. These indicators are further described on OCRA's website homepage.

*“Healthy communities share certain characteristics and these characteristics provide CVIs that Indiana communities can benchmark to gauge their vibrancy. These characteristics should guide community discussions and plans should be developed to encourage them.”<sup>4</sup>*

The community vitality indicators include assessed value, per capita income, population growth, educational attainment rate, and public school enrollment. A preferred economic development plan will improve CVIs according to community need and preference. For the purposes of this report, each community vitality indicator is defined below:

<b>CVI</b>	<b>Definition</b>
<b>Assessed Value</b>	The total dollar value assigned to all real property and improvements and personal property subject to taxation.
<b>Per Capita Income</b>	This is the mean money income received in the past 12 months computed for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years old and over in a geographic area by the total population in that area.
<b>Population Growth</b>	Population growth is the change in the population, resulting from a surplus (or deficit) of births over deaths and the balance of migrants entering and leaving a geographic area.
<b>Educational Attainment Rate</b>	This measures changes in the educational status of each community by age and by level of education completed.
<b>Public School Enrollment</b>	This is the total number of children (k-12) enrolled in public schools in a geographic area.

## Data Overview

Historical data collected for this report came from several sources, archives, and integrated databases. The state of Indiana houses data related to the community vitality indicators on STATS Indiana<sup>5</sup>, which is Indiana’s official digital data center. This dataset is not capable of

<sup>4</sup> Office of Community and Rural Affairs. [www.in.gov/ocra/cpi.htm](http://www.in.gov/ocra/cpi.htm) Retrieved Feb 18, 2017

<sup>5</sup> STATS Indiana. <http://www.stats.indiana.edu/index.asp> Retrieved Feb 18, 2017.

producing comprehensive reports of historical time-series data, rather, the user must request individual data points for a single year, and repeat for subsequent years in order to collect time-series information.

Additional financial data and historical information regarding Brown County's local government operations are found in the Department of Local Government Finances website.<sup>6</sup> Budget orders from 2007 to 2017 are archived for all Indiana counties, and include line-item budgets for several county-level units and their operations. We can also generate reports through Gateway, which is a data collection and transparency portal supported by the State of Indiana and Indiana University.<sup>7</sup> Reports from the DLGF and Gateway provide relevant reporting of county-level data, but were inflexible and did not report transparent methodology of definitions of the report components.

Because budget and receipts reports are not presented as historical time-series data it is challenging to compare trends between government units, and required considerable data management efforts to reflect broad trends in spending and taxation for the counties in our report. Lacking accessible trend data, we found generating predictions and analyses to be a cumbersome process.

## **Trend Analysis**

### *Total Receipts and Disbursements*

Total receipts as shown in the figure below, include tax revenues, intergovernmental transfers, and other fee revenue.<sup>8</sup> The percent changes have shown decreasing trends, with 2016

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<sup>6</sup> Indiana Department of Local Government Finance. <http://in.gov/dlgf/> Retrieved Feb 18, 2017.

<sup>7</sup> Indiana Gateway for Government Units. [https://gateway.ifionline.org/report\\_builder/default.aspx](https://gateway.ifionline.org/report_builder/default.aspx) Retrieved on March 20, 2017.

<sup>8</sup> Ibid.

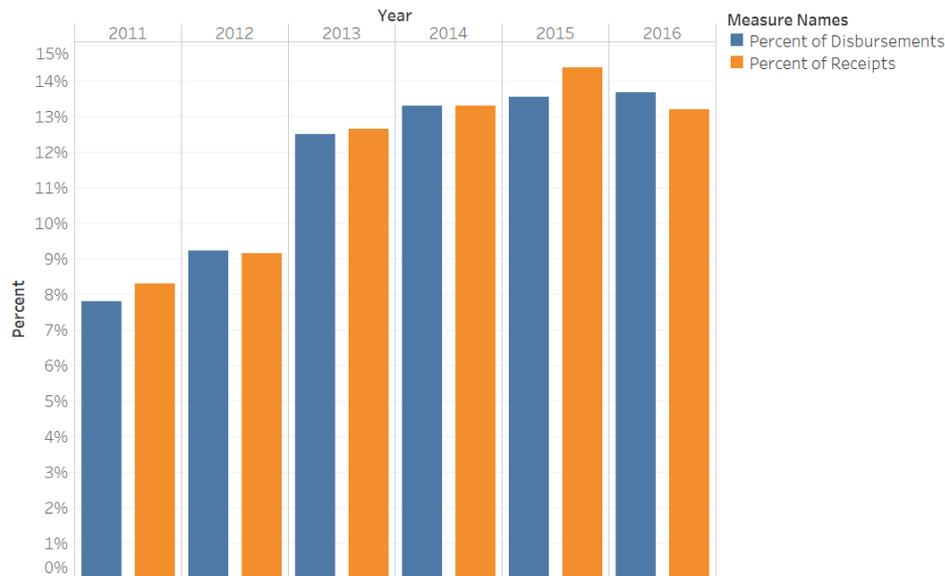
being the exception. As the county has experienced consistent decreases in receipts, there has been a decrease overall in disbursements since 2011.

Year	Total Receipts	Percent Change	Total Disbursements	Percent Change
2011	\$44,837,448.46		\$47,603,443.59	
2012	\$44,047,566.87	-1.76%	\$43,665,441.87	-8.27%
2013	\$43,313,847.36	-1.67%	\$43,819,654.82	0.35%
2014	\$40,071,467.72	-7.49%	\$40,030,962.85	-8.65%
2015	\$39,770,670.86	-0.75%	\$42,183,091.64	5.38%
2016	\$42,070,971.74	5.78%	\$40,647,356.89	-3.64%

Table 1 (2016 USD)

Property tax revenue has increased as a share of receipts and disbursements, demonstrating that Brown County is increasing dependence on this source of revenue with an already low tax rate.

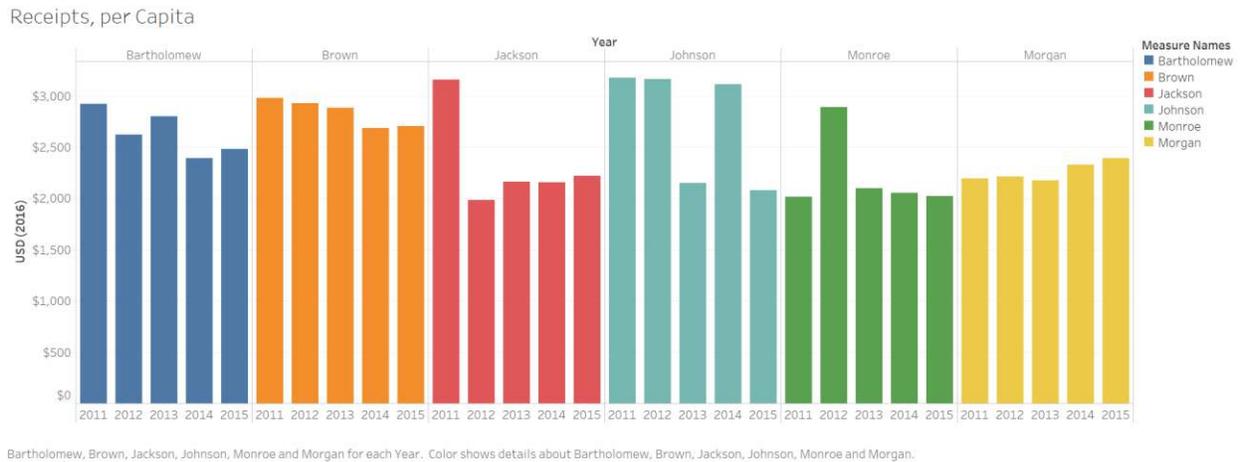
Property Tax Revenue, as a Share of Receipts and Disbursements



Percent of Disbursements and Percent of Receipts for each Year. Color shows details about Percent of Disbursements and Percent of Receipts.

Figure 2

On average, Brown County has higher receipts per capita than its neighboring counties. Receipts per capita are a reflection of the costs per capita. Each county attempts to match receipts to disbursements as closely as possible. Brown County's relatively small population must support a large network of infrastructure and emergency services, which are stretched by a flourishing tourism industry.



*Figure 3*

### *Comparing Property Tax Rates Across Neighboring Counties*

The State of Indiana has imposed a 1.0 property tax cap for homestead properties, 2.0% for other residential and agricultural land, and 3.0% for other real and personal property.<sup>9</sup> Even when this is taken into consideration, Brown County has a comparatively low property tax rate, when compared to neighboring counties. Figure 4 shows the average property tax rate of Brown and surrounding counties from 2010 to 2015. Although all counties shown have a relatively low property tax rate for the State of Indiana, Brown County is the lowest, on average, at 0.96%.

<sup>9</sup> Indiana Department of Local Government Finance <http://www.in.gov/dlgf/8527.htm>. Retrieved on April 20, 2017.

Average Property Tax Rate by County (2010-2015)

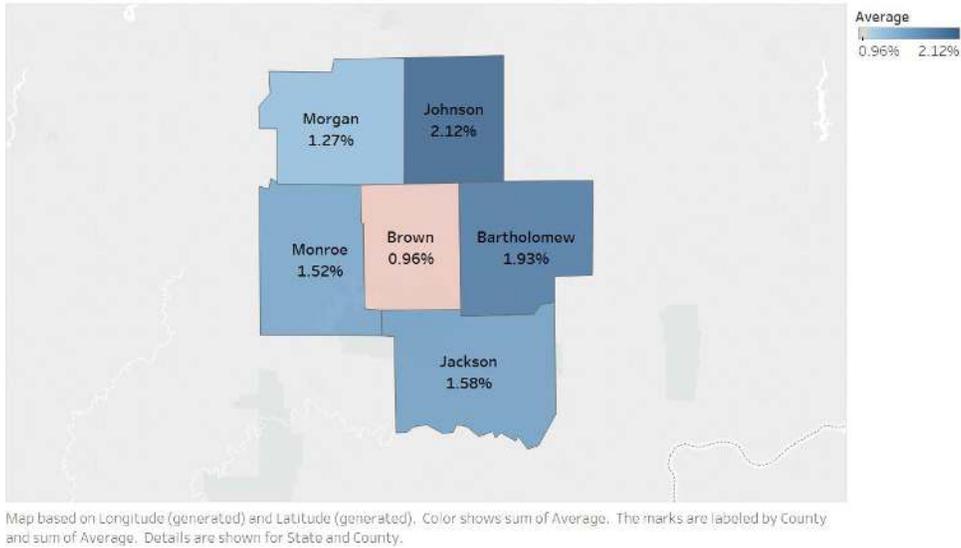


Figure 4

This relationship of lower property tax rates for all has remained true over time. When looking at the trends of property tax rates, by county, from 2011-2015, Brown County has consistently implemented the lowest rate (see Figure 5).

Historical Property Tax Rate, by County

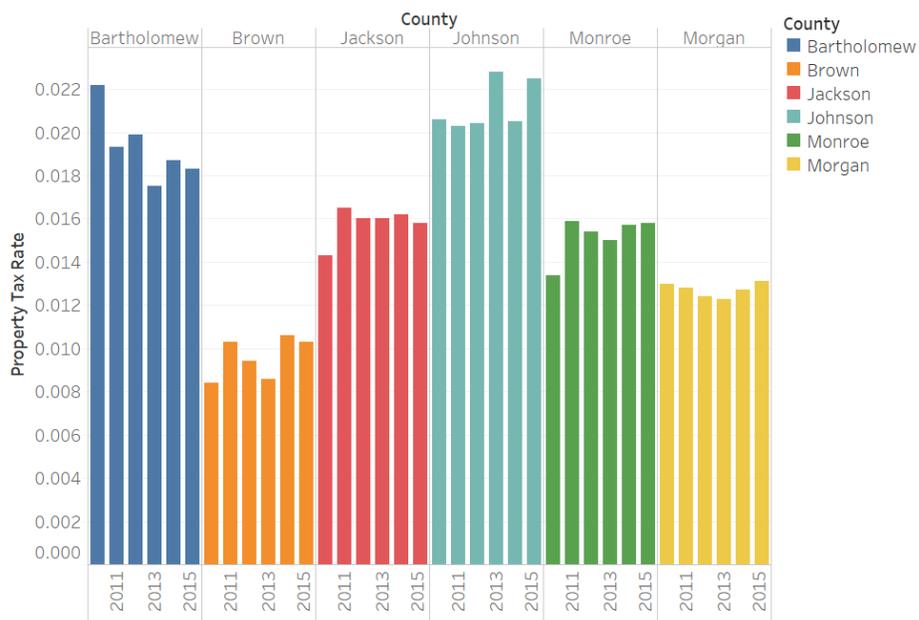


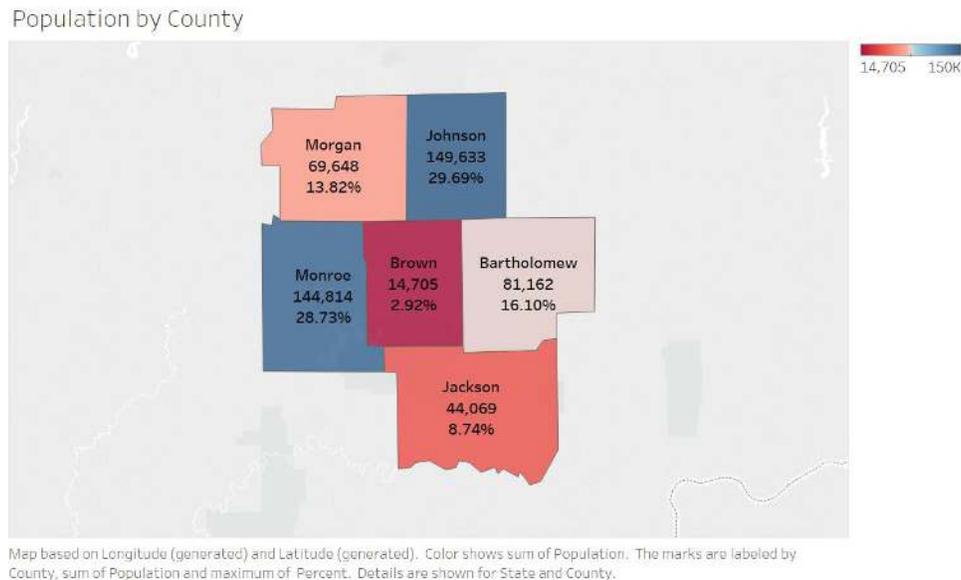
Figure 5

## Population Considerations

Brown County has a relatively small population, averaging about 15,000 people. This potentially impacts the county's ability to raise sufficient revenue to fund county services through income and property taxes.

### *An Overview of Brown County's Population*

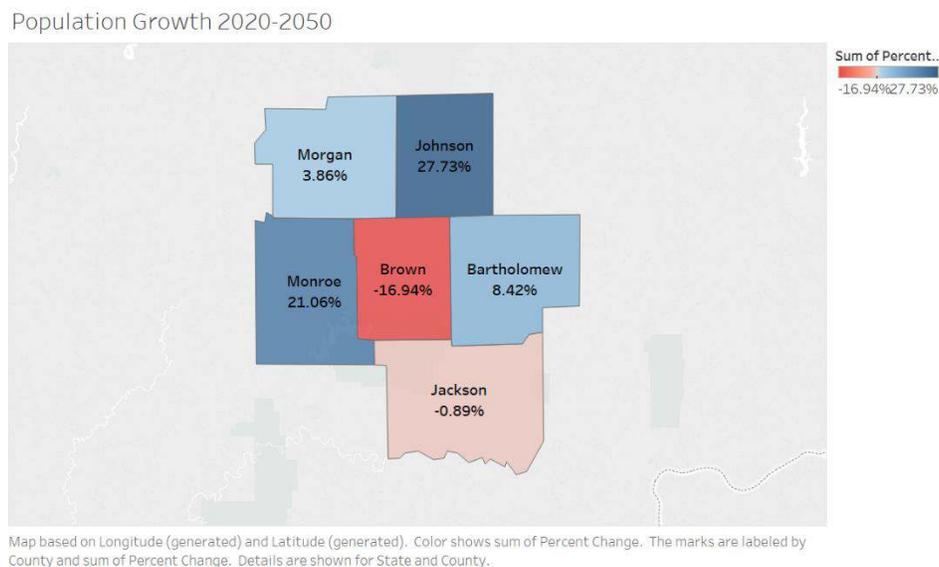
Brown County has a much smaller population when compared to all of its neighboring counties (see Figure 6). If all six counties were to be considered a single geographical entity, Brown County would represent 2.92% of the population for this six-county entity. It should be noted that Monroe County, 28.73% of the total population, hosts Indiana University Bloomington, where its student population can be counted in census data.



*Figure 6*

When taken in conjunction with 65% of Brown County's land being tax exempt, this small population exacerbates the issue of low property tax revenue, as well as affecting local income taxes, in comparison to other counties. Data from STATS Indiana projected the

population of the State's counties from 2020 to 2050. Brown County was the only one of the six counties in the region to see a significant decrease in its population over the 30 year period: 16.94 percent (see Figure 7). All other counties are projected to grow in population size with the exception of Jackson County that sees a slight decrease. Given that Brown County already has a small population, the forecasted decrease will lead to lower tax revenue and potentially the inability to offer certain county services. Brown County must implement strategic plans to promote population growth, or at the very least maintain population levels.



*Figure 7*

### *Brown County's Labor Force*

Approximately half of Brown County's population is considered a part of the labor force, defined as "the people [who] are working or seeking work and reside in the particular county or region." (Indiana Department of Workforce Development). From 2011 to 2015, the population incrementally fell from 15,064 to 14,705, a 2.38% decrease overall (See Table 2). The labor force during this same time period slightly fluctuated, ultimately going from 7,430 in 2011 to 7,482 in 2015. However, the unemployment rate fell from 9.2% to 4.7% over these six years.

This seems to indicate that residents of Brown County found employment over the course of five years, even when factoring in the slight decrease in population.

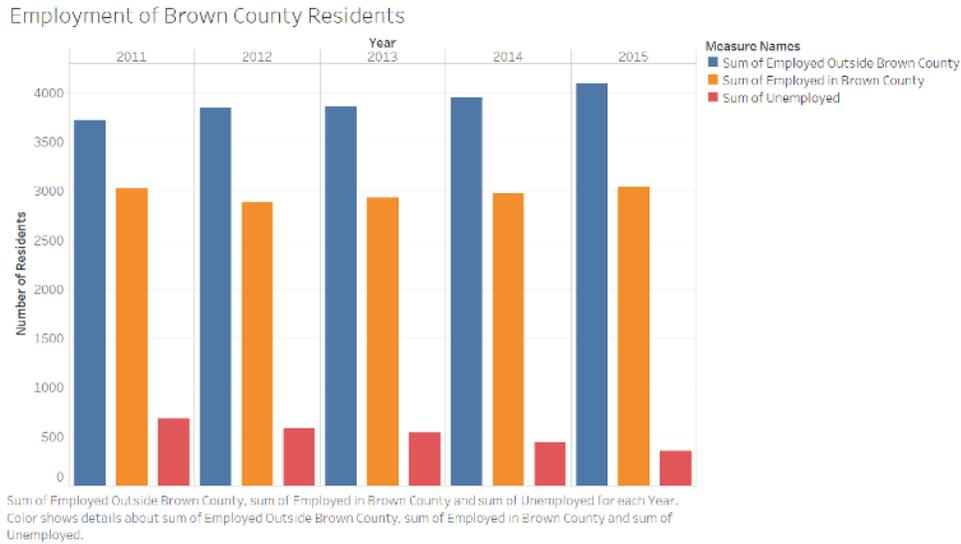
<b>Table 2:</b>			
<b>Year</b>	<b>Population</b>	<b>Labor Force</b>	<b>Unemployment Rate</b>
<b>2011</b>	<b>15,064</b>	<b>7,430</b>	<b>9.2%</b>
<b>2012</b>	<b>15,054</b>	<b>7,326</b>	<b>8.0%</b>
<b>2013</b>	<b>15,029</b>	<b>7,328</b>	<b>7.4%</b>
<b>2014</b>	<b>14,932</b>	<b>7,360</b>	<b>6.0%</b>
<b>2015</b>	<b>14,705</b>	<b>7,482</b>	<b>4.7%</b>

If the labor force includes those who are working as well as those who are seeking work, the number of those unemployed, i.e. those who are seeking work, can be calculated by multiplying the unemployment rate by the labor force, for each year (see Table 3). Additional county level information yield information of those employed in Brown County. Based on the assumption that those employed in the county also reside in Brown County<sup>10</sup>, and therefore make up the labor force, there is a considerable amount of the population who must work outside of the County. For example, a person may reside in Brown County but travel to Monroe County for their job at Indiana University Bloomington. Further, the number of those employed outside of Brown County has seen a faster increase than those who are employed in Brown County from 2011 to 2015.

<b>Table 3:</b>			
<b>Year</b>	<b>Employed in Brown County</b>	<b>Unemployed</b>	<b>Employed Outside Brown County</b>
<b>2011</b>	<b>3,024</b>	<b>684</b>	<b>3,722</b>

<sup>10</sup> There are employees who do commute from outside counties into Brown County. Although historical data was not readily available, in 2015, 194 people commuted from Monroe County, 116 from Bartholomew County, 111 from Johnson County, 78 from Morgan County, and 44 from Marion County (Indiana Department of Revenue).

<b>2012</b>	<b>2,889</b>	<b>586</b>	<b>3,851</b>
<b>2013</b>	<b>2,932</b>	<b>543</b>	<b>3,853</b>
<b>2014</b>	<b>2,976</b>	<b>439</b>	<b>3,945</b>
<b>2015</b>	<b>3,036</b>	<b>354</b>	<b>4,092</b>



*Figure 8*

### *Brown County Income Distribution Over Time*

Between 1999 and 2014, Brown County has experienced a shift in income distribution, where many residents have climbed to a higher income bracket (Table 4 and 5 in the appendix). Per capita personal income, adjusted for inflation, has gradually increased over this duration as well.<sup>11</sup> According to the IT-40 Tax Returns<sup>12</sup>, the total number of returns filed with income in the first and second income brackets has decreased, while the largest percentage increases have been within the fourth, fifth, and third brackets, respectively.

<sup>11</sup> STATS Indiana. [http://www.stats.indiana.edu/dms4/new\\_dpage.asp?profile\\_id=339&output\\_mode=1](http://www.stats.indiana.edu/dms4/new_dpage.asp?profile_id=339&output_mode=1) Retrieved April 12, 2017.

<sup>12</sup> Ibid.

This shift in income distribution, however, is misleading. In 1999 almost 59.5% of Brown County's 7,093 tax returns reported an income under \$30,000. In 2014 that number dropped to 52.51%, but still indicates that the majority of the county is in the lowest income bracket. Personal income per return has increased from \$37,874 in 1999 to \$51,172 in 2014, which is an increase of 35.1%. Because the Local Option Income Tax is a flat rate, this increase in personal income per return does not result in a proportionately large increase in LOIT revenue for Brown County.

*An Analysis of the County Adjusted Gross Income Tax (CAGIT)*

Brown County levies 3 main categories of income tax: the County Adjusted Gross Income Tax (CAGIT), the County Economic Development Income Tax (CEDIT), and the Local Option Income Tax (LOIT). From information obtained from the State of Indiana, historical data from 2011 to 2014 was used to analyze the distribution of income in Brown County, the distribution of burden for these income taxes, and whether or not these taxes are progressive, regressive, or proportional. An analysis of the CAGIT is used for this report, as it is illustrative of the methodology and generally representative of the other two types of income taxes that Brown County levies.

An indicator called the Suits Index factors in the distribution of income, as shown in Tables 4 and 5 above and the distribution of burden of the CAGIT on taxpayers in order to determine the regressivity or progressivity of the tax. The distribution of the income was calculated by dividing the total income within each of the seven income brackets by the total income earned in Brown County. The distribution of the burden was calculated by multiplying the number of tax returns filed by income brackets by the revenue from the CAGIT for 2011 and 2014 (\$5,504,751 and \$6,111,941, respectively). Finally the Suits Index was calculated. If the

Index results in less than 0, the tax is considered regressive. If it is greater than 0, it is considered progressive. If it results in 0 exactly, it is considered proportional. For 2011, the Suits Index for the CAGIT is -0.42505. In 2014, the Suits Index is -0.49368. Therefore, over the period of 2011 to 2014, for when all required information was available, the CAGIT became more regressive, meaning the tax burden fell more on lower income individuals. The CEDIT and LOIT and their structural similarity to the CAGIT, these too are regressive. Given that the income distribution is skewed towards lower income individuals, future income tax policies should take this into consideration.

Using the information above, an analysis of regressivity was completed in terms of County Adjusted Gross Income Taxes (CAGIT). Brown County has received average CAGIT revenues of \$5,891,601 within the past six years, with an average percent increase of 3.83%. The percent of returns was used to determine the burden of the CAGIT.

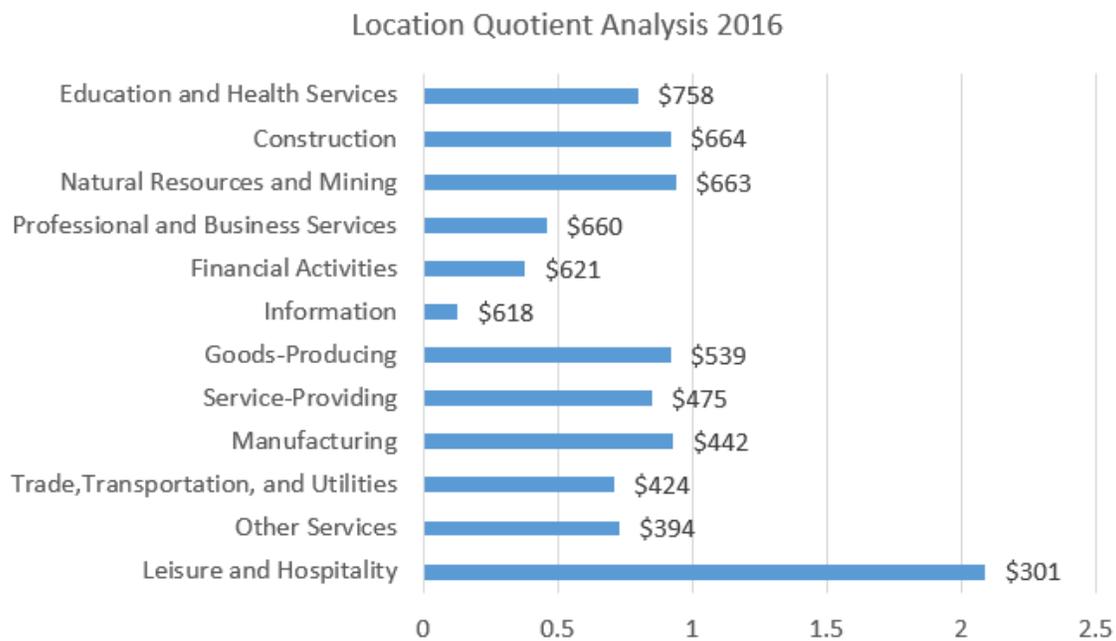
Due to the population decline in Brown County and the number of residents working in other counties, the receipts from the LOIT will decrease along with the population. This will further stress the burden of generating revenue on other sources, such as property taxes.

#### *Expanding the Tax Base: Location Quotient Analysis*

In consideration of the tax structure, it is evident that expanding the tax base should be a significant area of focus for the county. One way to expand the tax base is to support the diversification of the business industries housed in the county. Understanding which industries are not as prevalent in the county, but are associated with higher wages, would be an asset in developing economic development strategies. Location quotient analysis is a method of producing this information.

“Location Quotients (LQs) are ratios that allow an area's distribution of employment by industry to be compared to a reference or base area's distribution.”<sup>13</sup> These metrics can be used to show an area’s economic strengths and economic weaknesses. In addition to the LQ provided by the Bureau of Labor Statistics, the county average weekly wage per industry is given.

Brown County’s leisure and hospitality industry had the highest ratio (2.09), almost double of those of other industries. It also has the lowest associated average wage per week of \$301.<sup>14</sup> The figure below shows the county’s LQs for the year 2016 and its associated average wages. This information is the basis for recommendations regarding expanding the tax base via economic development.



*Figure 8*

## Recommendations

### *A Centralized Data Source*

<sup>13</sup> United States Department of Labor Bureau of Labor Statistics. <https://www.bls.gov/help/def/lq.htm>. Retrieved April 24, 2017.

<sup>14</sup> Ibid.

Data collection at the state-level can be improved on a number of fronts. While a moderate volume of information is available, most available data is not provided in such a way that can allow for timely or accurate decision-making. Multiple data sources were used for this report, many with nuances that made the interpreting the data cumbersome or difficult to define. Thus, it is important to consider the effect of this on the analysis presented in this report.

Establishing a centralized data portal for county-level tax, budget, and population information would be most conducive for decisions regarding tax policy and would support transparency efforts. The variety of data sources that are available often provided information that differed across sources, hindering sound analysis. For the analysis that was completed, there were a number of assumptions that were required to formulate conclusions.

The State of Indiana should establish an online database available to citizens to increase accessibility to financial information. Specifically, tax rate information would be helpful in assessing impacts of tax rate changes and impacts of policy modifications.

### *Redevelopment Considerations*

As discussed throughout the report, the county desires to expand its tax base by combatting the declining population trends and to provide affordable housing and career opportunities in Brown County. We have provided information regarding population forecasts and trends show a decrease in overall population and an increase in the age of the county's citizens. Both of these trends will contribute to fiscal challenges if the county continues to operate under its current policies and the County will be unable to provide adequate services to its constituency.

While we do not recommend specific tax policy modifications here, we do recommend that Brown County implement measures to expand its tax base. This would include expanding

the market to be more accessible to homeowners, attracting new businesses, and incentivizing high income earners to live and work in the county. Implementing policies that will facilitate economic growth and diversification will provide more opportunities beyond the food service, accommodations, and tourism industry while continuing to support these already significant industries. Using the location quotient analysis, we recommend that the county take steps to attract businesses in education and healthcare, information and networks, and business and professional services. These industries have room for growth and high associated average wages, providing a larger base for income tax administration. Incentives attracting businesses and workers will contribute to the long-term solution Brown County requires.

More family-centered community development strategies could be implemented as well to appeal to younger families. This can also increase community buy-in regarding new development opportunities and cultural change. Bringing stability to this age group will ensure a steady tax base over time.

If, in the future, tax structure changes are made, it will be important to consider the impacts of these changes in terms of the progress of prior development strategies. With diversification of the tax base, tax rate changes should be implemented in a way that does not harm potential progress already made in expanding the tax base.

In conclusion, this report acts as a decision-making support tool in hopes of providing further information to the stakeholders in Brown County's efforts towards long-term growth and financial sustainability. The Brown County Redevelopment Commission should continue its use of data to drive decisions that will lead to effective change for their community.

**Appendix A – Additional Income and Tax Return Information**

<b>Table 4: 1999 Income</b>	<b># of IT-40 Returns</b>	<b>% of Total Returns</b>	<b>Federal Adjusted Income</b>	<b>% of Total Income</b>
<b>\$0 to \$30,000</b>	4,218	59.47%	\$60,297,896	22.45%
<b>\$30,000 to \$50,000</b>	1,300	18.33%	\$58,560,157	21.80%
<b>\$50,000 to \$100,000</b>	1,269	17.89%	\$93,863,096	34.94%
<b>\$100,000 to \$250,000</b>	265	3.74%	\$37,218,016	13.85%
<b>\$250,000 to \$500,000</b>	30	0.42%	\$10,714,822	3.99%
<b>\$500,000 to \$1,000,000</b>	9	0.13%	\$5,597,957	2.08%
<b>\$1,000,000+</b>	-	-	-	-
<b>Total</b>	<b>7,093</b>	<b>100%</b>	<b>\$268,642,883</b>	<b>100%</b>

<b>Table 5: 2014 Income</b>	<b># of IT-40 Returns</b>	<b>% of Total Returns</b>	<b>Federal Adjusted Income</b>	<b>% of Total Income</b>
<b>\$0 to \$30,000</b>	3,584	52.51%	\$52,525,427	15.04%
<b>\$30,000 to \$50,000</b>	1,135	16.63%	\$54,669,667	15.65%
<b>\$50,000 to \$100,000</b>	1,441	21.11%	\$115,630,969	33.11%
<b>\$100,000 to \$250,000</b>	601	8.81%	\$87,457,393	25.04%
<b>\$250,000 to \$500,000</b>	45	0.66%	\$14,283,433	4.09%

<b>\$500,000 to \$1,000,000</b>	10	0.15%	\$7,405,116	2.12%
<b>\$1,000,000+</b>	9	0.13%	\$17,279,952	4.95%
<b>Total</b>	<b>6,825</b>	<b>100%</b>	<b>\$349,251,957</b>	<b>100%</b>

## Appendix B - Assumptions and Notes

### *Notes*

Data is not consistently available for all metrics over a set period of time. For example, some information is available from 2010 to 2016, while other information may be available from 2011 to 2015. Some information went back even further, to 1900. This varying range of available data limited some of the analyses that otherwise could have provided better depiction of trends.

### *Cash and Investments*

#### Assumption

- This analysis defined receipts as a county's total revenue sources
- This analysis defined disbursements as a county's total expenditures, including intergovernmental transfers
- This analysis assumed all original data is provided in nominal dollars, not real dollars. Data was converted to real dollars for the purposes of trend analyses.

#### Notes

- When considering nominal dollars, there are many incidents where the End Cash and Inventory Balance, as of December 31 does not equal the Beginning Cash and Inventory Balance, as of January 1. There were only 6 incidents where these numbers were equal. 2 incidents were off by less than \$1.00 (Jackson County between 2014 and 2015 and Morgan County between 2014 and 2015). This could be due to human error when entering the data. All other inconsistencies are off from hundreds to millions of dollars. It is possible that certain disbursements were made between January 1 and December 31 of the previous year, but any disbursements should already be included in the line item budget.

### *Property Tax Rates*

#### Notes

- At the time of this analysis, data was available from 2000 to 2016 for all counties. The exception is for Brown County from 2004 to 2008.

### *Education Attainment*

#### Notes

- Education attainment for those with some college education (labeled "College, No Degree" in the data set), Associate's degree, Bachelor's Degree, and Graduate or Professional Degree is not available before 1990.
- There is a variable called "Population 25 and over." Calculations confirm that this measure the population over the age of 25 who have at least some education, measured by "Less than 9<sup>th</sup> Grade" to "Graduate or Professional Degree."

## *Population Growth*

### Notes

- Historical total population is available from 1900 to 2015. Projected population is also provided, but also breaks down the total population projection into six different age groups. Historical data of these age groups was not available.

### *County Assessed Value*

In general, the adjusted net value is calculated by:

$$\text{Real Est Net AV} + \text{Bus PP Net AV} - \text{AV TIF Real Est} - \text{AV TIF PP} - \text{AV Withholding}$$

These are the variable names from associated Excel file entitled *Brown County Master Workbook*. However, there are 10 instances where this equation did not equal the Adjusted Net Value that is entered in the data set from Gateway Indiana. 2 of these inconsistencies could be due to human error in the data entry. Bartholomew County's 2015 data is off by \$2; Monroe County's 2013 data is off by \$30. All other inconsistencies are off by millions to billions of dollars.

For Bartholomew County's 2016 data, the equation appears to be modified to:

$$\text{Real Est Net AV} + \text{Bus PP Net AV} - \text{AV TIF Real Est} - \text{AV TIF PP} - \text{AV Withholding} - \text{Net AV Homestead}$$

This is the only incident in the data set where this modified equation yields the Adjusted Net Value that is entered in the data set. This equation can be used to lessen the magnitude of Bartholomew County's 2017 data inconsistency; however when modified, it is still off by \$4,089,003,851.

Five of the remaining six inconsistencies are all from 2017 for Brown, Jackson, Johnson, Monroe, and Morgan Counties. This could be due to a change in the calculation of adjusted net value that includes data not provided in Gateway Indiana. The final inconsistency is Monroe County's 2012 data. The cause for the inconsistency in formulating the adjusted net value could not be readily identified.