RICHMOND INDICATORS
A Community and Economic Benchmark Report

OCTOBER 2009

Report prepared by the Indiana Business Research Center
at the Indiana University Kelley School of Business

October 5, 2009

Dear Friends,

The Indiana University East School of Business and Economics and the Wayne County
Foundation have partnered with the Indiana Business Research Center (IBRC) at Indiana
University's Kelley School of Business to provide the following report on the Richmond area
community and economic indicators.

As we all know, these are challenging economic times. This study introduces both a
statewide peer comparison and identifies and tracks other peer counties across the country
with similar characteristics to Wayne County. By using these comparisons, we can see
where we are both gaining and losing ground. More data will likely not solve some of our
pressing issues, but the development of more consistent tracking measures over time may
help us make better informed choices about our future.

The Business and Economics Research Center (BERC) under the sponsorship of the Indiana
University East School of Business and Economics, in collaboration with other
organizational and community partners, will generate and maintain information and data on a
number of these economic indicators over time.

We look forward to continued discussions about how we can continue to advance and
develop the economic richness and quality of life in our region.

Sincerely,

Nasser H. Paydar, Ph.D.
Chancellor

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Executive Summary

The Wayne County Foundation and Indiana University East partnered with the Indiana Business Research Center (IBRC) at Indiana University's Kelley School of Business to prepare a report on Richmond area community and economic indicators. This report provides a detailed account of the Richmond area by examining local demographic, housing, education, employment and income characteristics. The analysis also compares Richmond's performance on several key indicators to that of a peer set of similar communities from around the nation and the state (see **Figure 1** and **Figure 2** for peer group maps).

Most indicators imply room for progress in the Richmond area economy. For instance, Wayne County's per capita personal income (PCPI) has consistently lost ground to the U.S. average. The county's 2007 PCPI of $28,900 was only 75 percent of the nation's $38,600. Furthermore, Richmond's annual PCPI growth was among the lowest of its national and state peers. On the positive side, a dollar does go further in Richmond than in many other areas. Richmond was considered to have the most affordable single-family housing of the national peer set. Other key findings include:

- **Richmond's economy is in transition.** Manufacturing has been the cornerstone of Richmond's economy, yet this sector shed nearly 1,300 jobs between 2001 and 2007. These losses are cushioned, somewhat, by employment gains in some service-oriented sectors. Over this period, the health care and social assistance sector added 670 jobs while the administrative and waste management services sector expanded by 590 jobs. All told, however, the county lost nearly 1,500 jobs from 2001 and 2007.

- **Manufacturing remains Richmond's key sector.** Despite the manufacturing employment losses, this sector still accounts for one of every five jobs in the county. Only two national peers have a higher share of total employment dedicated to manufacturing. Adding to the importance of this sector, Wayne County's typical manufacturing job pays $7,500 more annually than the average wage for all jobs in the county.

- **Richmond is specialized in several manufacturing industries.** The share of county employment in 2007 dedicated to primary metal production was six times greater than that of the nation. The Richmond area is also highly specialized in the manufacture of furniture and plastics and rubber products with shares of total employment four and five times greater, respectively, than the United States. Wayne County's largest manufacturing industries as measured by employment are plastics and rubber products, fabricated metal products, primary metals, and food.

- **Wages in Richmond lag state and national averages.** Wayne County's average wage per job in 2007 was $5,000 below the Indiana average and $12,000 under the U.S. mark. Only wages in the administrative and waste management, transportation and warehousing, and utilities sectors matched or exceeded the Indiana average in the same sectors. Wages in Richmond have outpaced inflation recently as the typical worker earned $1,200 more, in real (inflation-adjusted) terms, than they did in 2001.

- **The costs of doing business in Richmond are low.** Driven primarily by low labor costs, the costs of doing business in Wayne County are roughly 25 percent lower than the national average. Richmond's costs of doing business were the third-lowest of the national peer set.

- **Richmond has lost population in recent years.** Lagging wages and employment losses have contributed to steady population decline this decade. Census population estimates indicate that Wayne County has lost 3,300 residents in this decade. The county's 4.6 percent drop in population between 2000 and 2008 was the sharpest decline of the national peer set.

- **Research indicates that Richmond has a strong stock of social capital.** A study conducted by researchers at Penn State University showed that Wayne County's stock of social capital was above the national average and ranked third-highest among national peers in 2005. A healthy stock of social capital suggests that Richmond has a high degree community cohesion produced by a large number of social networks present in the area. This stock of social capital could be a key asset for the community as it pursues a strategy for economic growth.

Why Benchmark Richmond?

A report of this type can be useful in several ways. First, it provides Richmond area residents with easy access to information from a variety data sources. Presenting this information in a single report removes obstacles to identifying Richmond's strengths and weaknesses. Second, many Richmond residents may have already formed opinions on what they believe to be the community's strengths and weaknesses, at least in a general sense. The analysis that follows is valuable in that it presents data from reliable sources that can either confirm or refute long-held assumptions.

While these outcomes are important, it is hoped that this exercise will have a more significant impact. This report aims to serve as a platform from which Richmond's policy makers, community organizations, business leaders and the general public can build a consensus for community and economic development. Richmond would benefit from setting goals to address shortcomings identified in this report. More important, the community could define action steps that leverage Richmond's strengths to achieve these goals. Subsequent benchmark reports would gauge whether the action steps are having their intended effect.

The bullet points above and the analysis that follows demonstrate that the Richmond area faces challenges. It is also evident that the community has some of the critical assets it will need to meet these challenges. Richmond's business-friendly environment, affordable living, quality post-secondary educational opportunities and deep well of social capital can bolster local economic development efforts. It is the goal of this report to help create momentum toward a common agenda for Richmond's prosperity.

Richmond Peers

As mentioned previously, one way in which Richmond is evaluated is by comparing its performance to that of two sets of peer communities. One set consists of similar communities from around the nation while the other comprises Indiana peers exclusively. The IBRC selected 10 communities from around the country that are comparable to Richmond based on demographic, income and industry employment characteristics. The determination of national peers was based on 1997 data (chosen because it is 10 years prior to most of the data presented in this report). This retrospective approach allows comparison of Wayne County's socioeconomic trends against those of communities it was similar to a decade earlier but which may now be on divergent paths, some leading to relative prosperity and others that may exemplify challenges to growth. The selection of Indiana peers was based on prior discussions and interviews with more than two dozen Richmond community leaders. See the appendix for a full description of the peer selection process.

Figure 1: U.S. Peer Group

Source: Indiana Business Research Center, August 2009
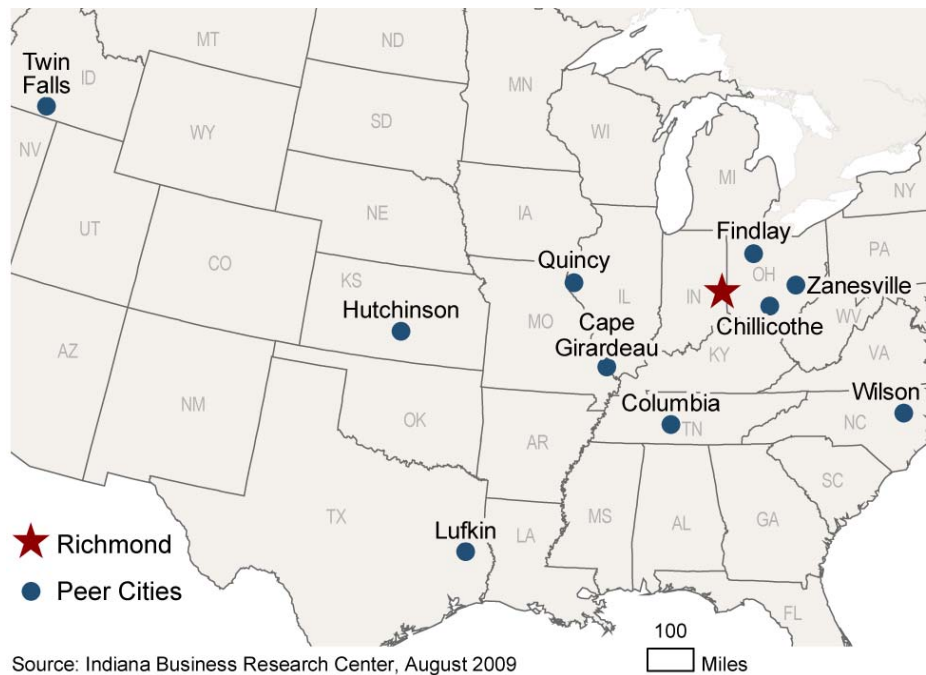
Figure 2: Indiana Peer Group
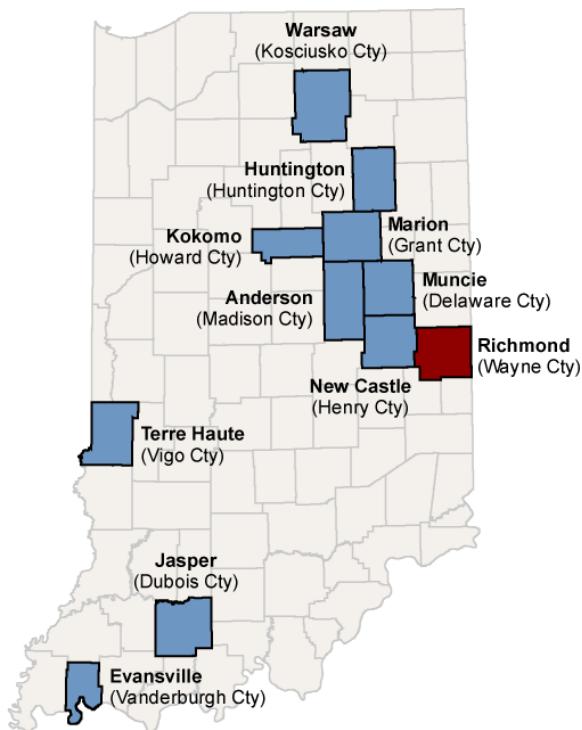
Source: Indiana Business Research Center, August 2009

One note before proceeding with the report. Cities the size of Richmond and its peers tend to dominate their county's economy. Drawing a line at the city limits does not always provide a complete picture of a community. Additionally, there is greater availability of detailed economic data at the county level. For these reasons, all peer-comparison data presented in this report will be at the county level. However, for the sake of simplicity and familiarity in comparing Richmond to its peers, each county will generally be referenced by the name of its largest city.

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Population

The City of Richmond's population was estimated at 36,733 in 2008, making it Indiana's 23rd largest city. This figure is down nearly 2,450 residents from Richmond's year 2000 census count, a 6.3 percent decline.

Wayne County has lost population in recent years as well. The 2008 estimate of 67,795 is 3,300 residents below the 2000 census count. These population trends are not unique to Wayne County. As **Table 1** shows, each county in Richmond's immediate vicinity has lost population this decade. Wayne County's numeric population loss was the largest in the region but three Indiana counties—Randolph, Rush and Fayette—lost population at a greater rate.

Table 1: Population Change, Richmond Region, 2000 to 2008

County	2008 Population	2000 Population	Population Change 2000-2008	Percent Change 2000-2008
Wayne, IN	**67,795**	**71,097**	**-3,302**	**-4.6%**
Randolph, IN	25,801	27,401	-1,600	-5.8%
Henry, IN	47,162	48,508	-1,346	-2.8%
Fayette, IN	24,265	25,588	-1,323	-5.2%
Darke, OH	52,027	53,309	-1,282	-2.4%
Rush, IN	17,297	18,261	-964	-5.3%
Preble, OH	41,643	42,337	-694	-1.6%
Union, IN	7,157	7,349	-192	-2.6%
Mercer, OH	40,818	40,924	-106	-0.3%
Total	**323,965**	**334,774**	**-10,809**	**-3.2%**

Source: U.S. Census Bureau, Vintage 2008 Population Estimates

Figure 3 presents Wayne County's population distribution by age and sex and compares it to Indiana. The contrast in population pyramids demonstrates that Wayne County's population is considerably older. For instance, 17 percent of Wayne County's population was age 65 or above in 2008 compared to 13 percent for Indiana. By contrast, the population under the age of 35 accounted for 43 percent of Wayne County's total compared to 48 percent for the state. Baby boomers (defined here as age 45 to 59) comprised 21 percent of the 2008 population in both Wayne County and Indiana.

These differing age distributions result in a 2008 median age for Wayne County (40.5) that was nearly four years older than that of Indiana's (36.7). The gap in median age has widened notably this decade as the marks for Wayne County and Indiana in 2000 were 37.7 and 35.3, respectively.

Figure 3: Population Distribution by Age and Sex, Wayne County and Indiana, 2008
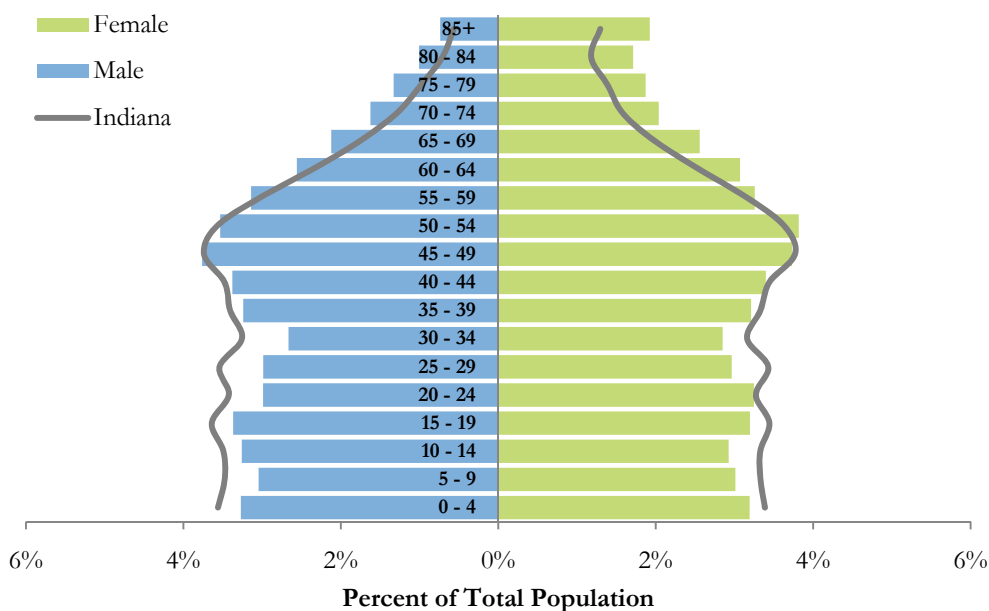
This comparatively rapid rate of aging is most likely due to a steady migration of young adults and families away from Wayne County in recent years. **Figure 4** highlights the annual components of population change for Wayne County. Populations change through two forces: natural increase (births minus deaths) and migration. Wayne County has seen consistent annual population loss and net out-migration this decade. The effects of the net out-migration are blunted somewhat by positive annual natural increase.

Figure 4: Components of Population Change, Wayne County, 2000 to 2008
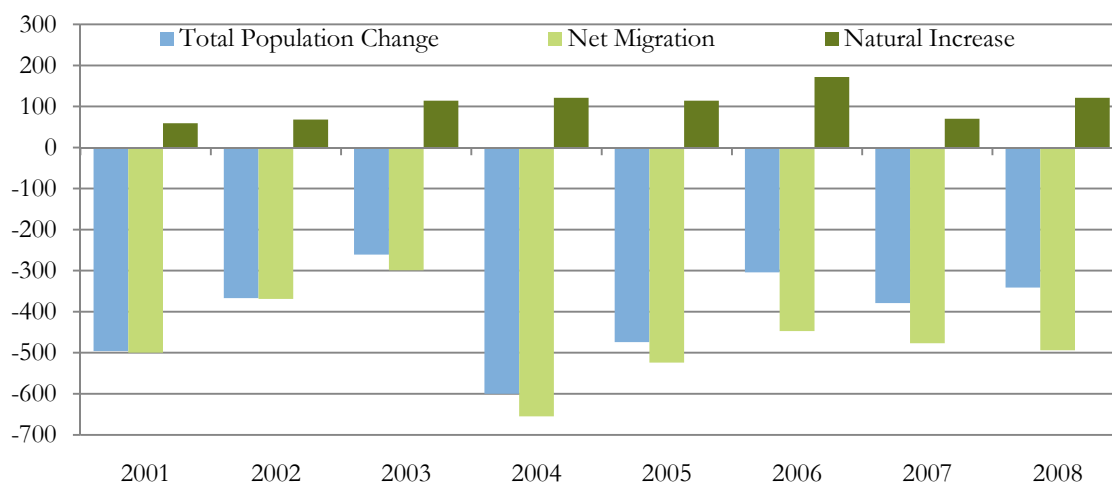
Population losses in Wayne County, though substantial in recent years, are expected to level off over the next two decades. As seen in **Table 2**, Wayne County's population is projected to be 66,900 in 2030. This mark would translate into the loss of nearly 900 residents from the 2008 population estimate. The largest shifts seen in the county will reflect the transition of the baby boom generation from the "older adult" to the "senior" populations. All told, the number of Wayne County residents that are age 65 or above is expected to increase by 34 percent and will account for 23 percent of the county's total population by 2030. Fewer residents are expected in all other age groups.

Table 2: Population Projections by Age, Wayne County, 2008 to 2030

	2008 Population	2030 Population	Projected Change: 2008-2030	Percent Change
Total	67,795	66,915	-880	-1.3%
Preschool (0 to 4)	4,381	4,085	-296	-6.8%
School Age (5 to 19)	12,751	12,045	-706	-5.5%
College Age (20 to 24)	4,227	3,367	-860	-20.3%
Young Adult (25 to 44)	16,743	16,595	-148	-0.9%
Older Adult (45 to 64)	18,218	15,461	-2,757	-15.1%
Seniors (65 plus)	11,475	15,362	3,887	33.9%

Source: Indiana Business Research Center

Ninety-two percent of Wayne County's population in 2008 identified itself as white (see **Figure 5**). The county's largest minority group is the black population which accounts for 5.2 percent of the total followed by residents that claim more than one race at 1.7 percent. Between 2000 and 2008, the share of Wayne County's residents of any race that were of Hispanic origin increased from 1.4 percent to 2.1 percent.

Figure 5: Wayne County Population by Race, 2008

- White
- Black
- Multi-race
- Asian
- American Indian & Alaska Natives
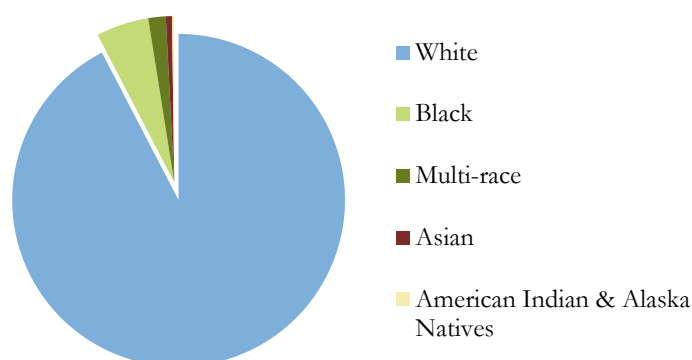
Source: U.S. Census Bureau, Vintage 2008 Population Estimates

Richmond in Perspective: Population Change

Among the communities selected for the national peer set, Richmond has the ninth largest population (see **Figure 6**). Richmond ranks sixth in terms of minorities as a share of the population with 7.7 percent of the total. The southern communities of the peer set had the largest minority population led by Wilson, NC at 41.1 percent of the total followed by Lufkin, TX (17.0 percent) and Columbia, TN (14.8 percent).

Richmond joins Quincy, IL and Hutchinson, KS as the three peer communities that have lost population since 2000. Richmond's -4.6 percent rate of change is the largest decline among the peers. Columbia, TN (17.6 percent) and Twin Falls, ID (15.6 percent) have registered the greatest rates of population growth.

Figure 6: Population by Race and Population Change, U.S. Peers, 2008
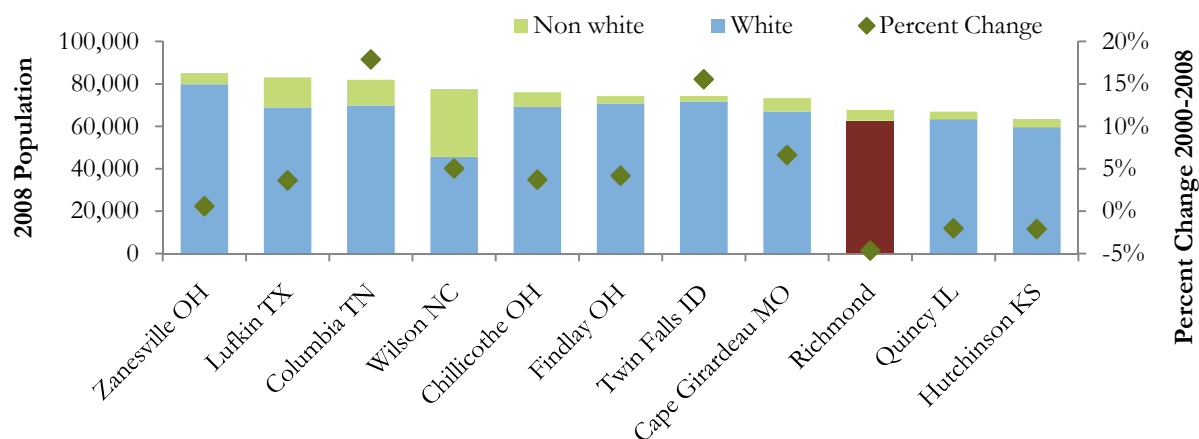
Source: U.S. Census Bureau, Vintage 2008 Population Estimates

Six of the 11 Indiana peers lost population this decade with Marion claiming the largest rate of decline followed by Richmond (see **Figure 7**). Jasper, Warsaw and Evansville were the fastest growing communities.

Figure 7: Population by Race and Population Change, Indiana Peers, 2008

Source: U.S. Census Bureau, Vintage 2008 Population Estimates

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Housing

At 71 percent, Wayne County's rate of homeownership in 2007 was well above that of the United States and is comparable to the Indiana mark (see **Figure 8**). Wayne County's 2007 median value of owner-occupied homes, as determined by the U.S. Census Bureau, was $95,300. This figure is considerably lower than Indiana's median home value of $122,900 and is less than half the U.S. mark of $194,300.

Figure 8: Housing Tenure, 2007

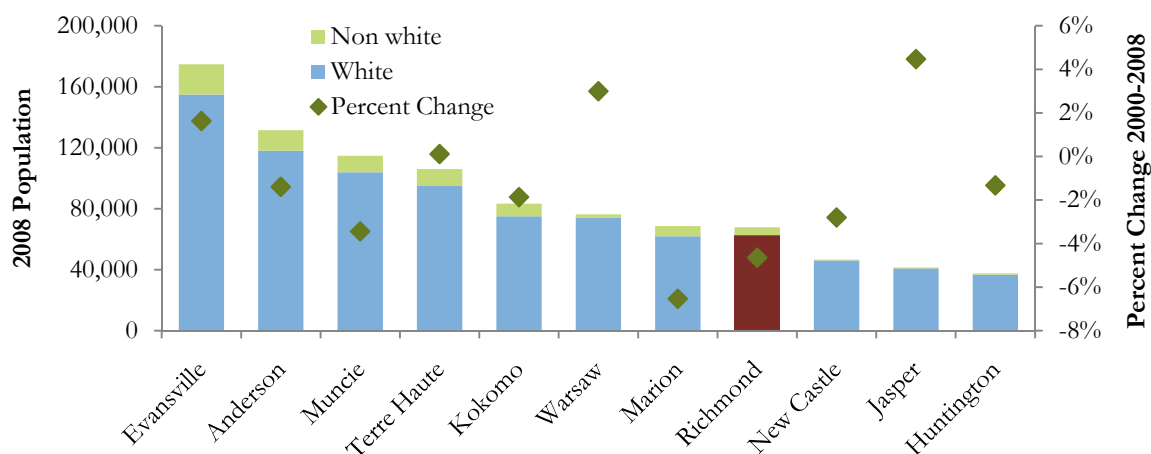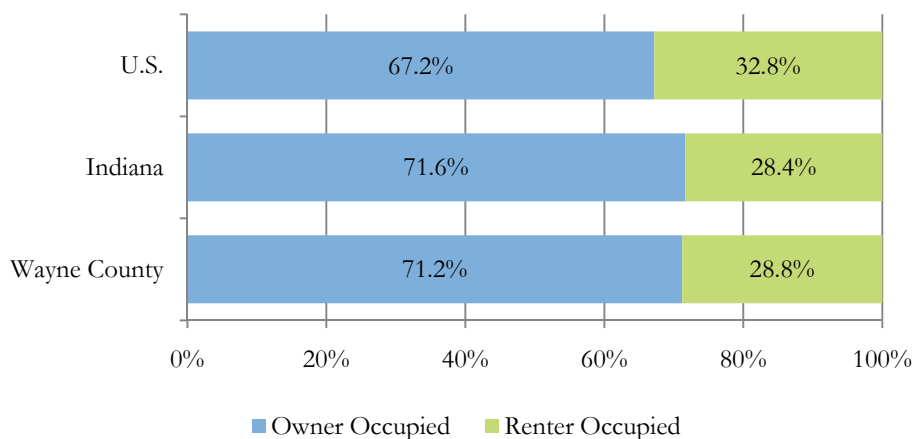Source: U.S. Census Bureau, 2007 American Community Survey

Concurrent with the onset of the of the sub-prime mortgage crisis, the number of existing homes sold in 2008 in Wayne County dropped to 740, which was 110 below the 2007 tally and the fewest sold since 1992. As **Figure 9** illustrates, Wayne County home sales this decade have consistently hovered near 800 per year with the exception of 2004 when 940 units were sold. The mid 1990's saw substantially higher annual home sales. The average annual number of homes sold between 1993 and 1998 was 1,122 compared to 824 between 1999 and 2008—a difference of nearly 300 per year.

The issuing of residential building permits has followed a similar trend. The mid 1990's saw a relatively high number of building permits peaking at 415 in 1998 before a precipitous drop in 1999. The lowest annual numbers of residential permits over this period were seen in the last several years with roughly 85 issued in 2006 and 2007 and 54 in 2008. Again, this should come as no surprise given the current housing landscape.

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Figure 9: Existing Home Sales and Residential Building Permits, Wayne County, 1990 to 2008
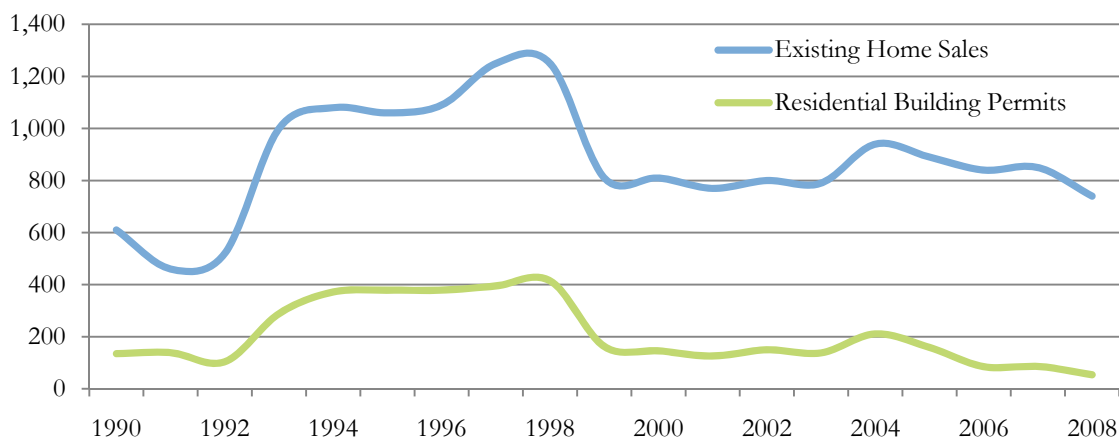
Richmond in Perspective: Home Value and Affordability

The 2007 median home value for each national peer was well below the U.S. mark of $194,300. Twin Falls, ID and Columbia, TN have the highest home values, each registering above $135,000 (see **Figure 10**). Richmond is one of four peer communities whose median home value is below $100,000.

An analysis of home values is more meaningful when considered along with the typical incomes in a given area. Moody's Economy.com combines these factors in its single-family housing affordability index, an index value based on annual median existing home sales price (not the median value of housing stock), median family income, and the effective interest rates. Index values are calibrated to 100 meaning that in a community with a value of 100, the typical family income is just enough to qualify for an 80 percent mortgage on the median priced home. The higher the index value, the more affordable is the housing. See the appendix for a more complete description of the Moody's Economy.com housing affordability index.

According to this measure, housing in Richmond is the most affordable of any of the national peers with an index value of 246. This index value can be interpreted to mean that, in 2007, Richmond's median family income was roughly two-and-a-half times the income needed to qualify for a mortgage on the median priced home. Moody's Economy.com lists Richmond's 2007 median existing home sale price at $86,200 and the median family income for 2007 was $52,300 according to the U.S. Census Bureau's American Community Survey.

The Ohio communities of Zanesville, Findlay and Chillicothe were the next most affordable areas among the peers. Twin Falls, ID and Wilson, NC had the lowest index values.

Figure 10: Median Home Value and Housing Affordability Index, U.S. Peers, 2007
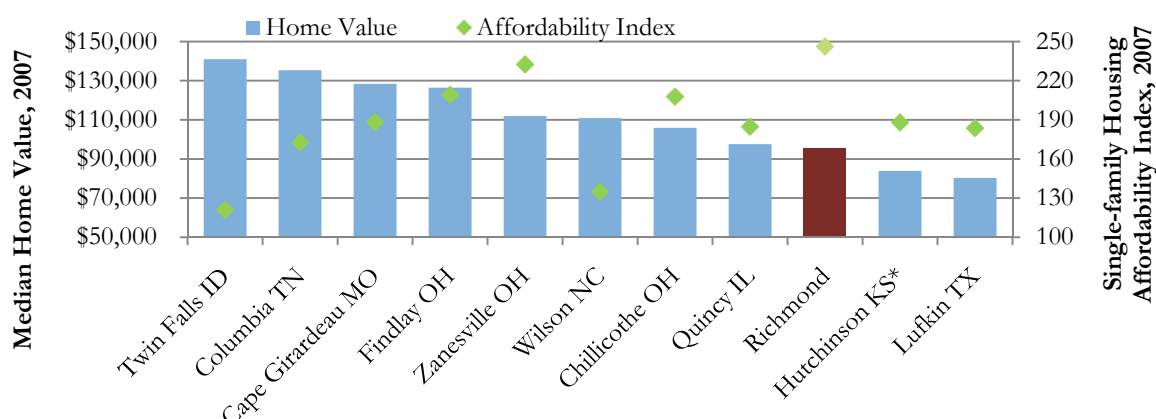
Figure 11 presents the median home values and the affordability index for the Indiana peer set. Only Warsaw had a home value greater than the Indiana median of $122,900. Richmond's home value was the fourth lowest in this group, ahead of Muncie, Terre Haute and Marion.

Housing in all Indiana peer communities is considered affordable, according to the Economy.com index. Warsaw had the lowest index value at 204 meaning that median family income was twice what is needed to qualify for a mortgage on the median priced home. Richmond's housing affordability is similar to that of Muncie, Anderson and Huntington. Housing is considered to be more affordable in Evansville, Terre Haute and Marion.

Figure 11: Median Home Value and Housing Affordability Index, Indiana Peers, 2007
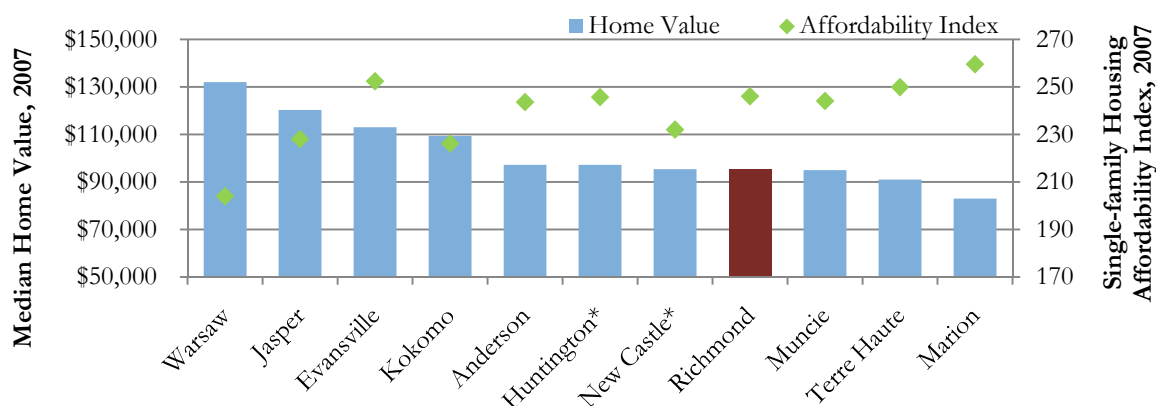
Education

According to the 2000 Census, 13.7 percent of all Wayne County adults age 25 or older had attained a bachelor's or higher degree. This ranked 38th out of the state's 92 counties, but it was well below the overall Indiana level of 19.4 percent. In 2000, 78.1 percent of Wayne County's population age 25 or above held a high school diploma or higher, ranking 74th in the state.

Wayne County's rate of educational attainment has improved modestly in this decade. Census Bureau data collected between 2005 and 2007 show that 14.5 percent of the area's adult population now have a bachelor's degree or higher. As **Figure 12** shows, when the adult population is examined by age group, Wayne County's baby boom cohort has the area's highest rate of bachelor's degree attainment (19.2 percent). Meanwhile, the county's younger (under-45) age groups have attainment levels that are below the average for the entire adult population. One note of caution on the following graph, the differences in attainment for the total population compared to that of the 25 to 34 and 35 to 44 age groups in Richmond are not statistically significant. The attainment pattern outlined below may not be completely accurate.

Figure 12: Educational Attainment by Age Group for Adults Age 25 and Above, B.A. or Higher, 2005 to 2007
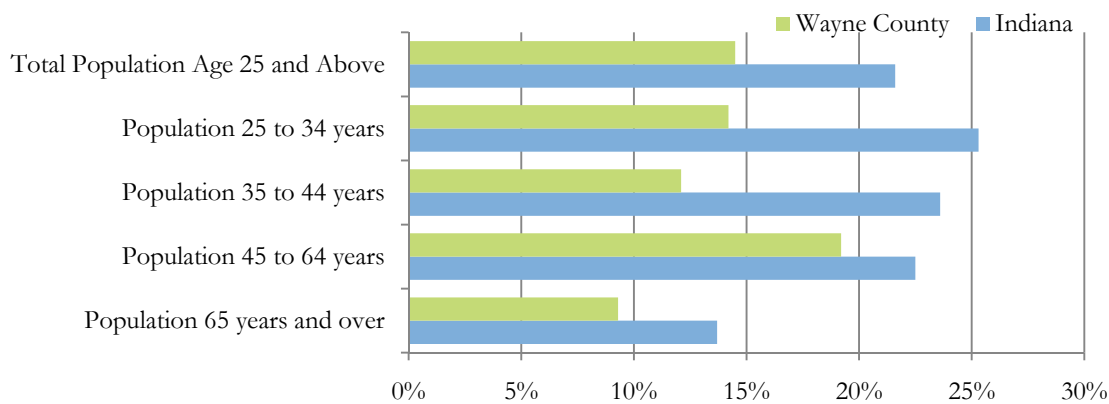
Note: The differences educational attainment estimates between the total population and the 25 to 34 and 35 to 44 age groups are not statistically significant at a 90 percent confidence level.
Source: U.S. Census Bureau, 2007 American Community Survey

Wayne County's low level of attainment for adults age 25 to 44 does not mean that the area's residents are less likely to pursue higher education than are residents elsewhere in Indiana. Rather, this pattern of attainment by age may mean that the county is having difficulty keeping or attracting educated young adults.

Figure 13 indicates that 83 percent of Wayne County's high school graduates between 2005 and 2007 planned to pursue some type of higher education. This is the same share reported by all of Indiana's graduates over this period, although Wayne County graduates are a bit more inclined to pursue two-year and vocational degrees than are graduates statewide. Of the 1,860 total graduates over this period, 57 percent expected to head to a four-year institution, 16 percent to a two-year, and nine percent to a vocational school. At 13 percent, a smaller share of Wayne county graduates had other plans, such as entering the labor force directly, than did all Indiana graduates.

Figure 13: Intentions of Wayne County High School Graduates, 2005 to 2007
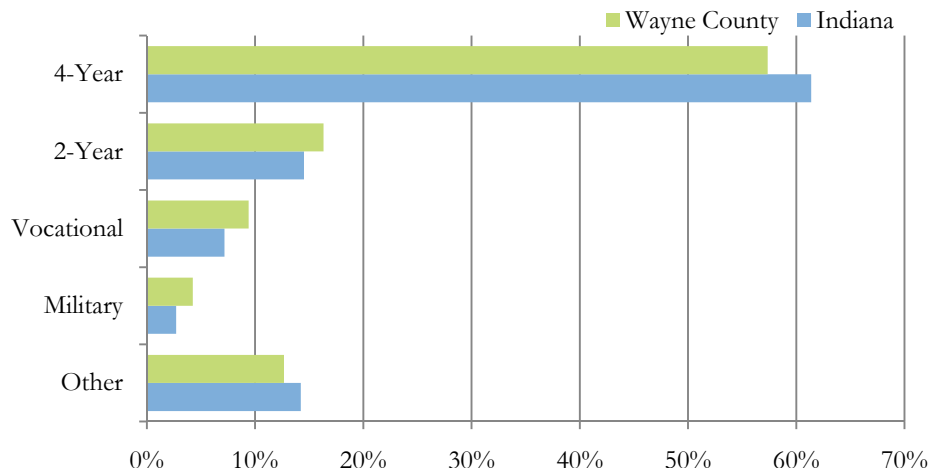
Source: Indiana Department of Education

Richmond in Perspective: Educational Attainment

Figure 14 compares the U.S. Census Bureau's three-year educational attainment estimates (2005-2007) to attainment figures from the 1990 census. No national peer had a rate of adult residents with a bachelor's degree or higher above the national average of 27 percent over the 2005 to 2007 period. Cape Girardeau, MO, Findlay, OH and Quincy, IL had the highest marks for the peer set and were the only communities to have attainment levels above 20 percent. Richmond ranked ninth in the peer comparison ahead of Zanesville, OH and Chillicothe, OH. Between 1990 and the 2005 to 2007 period, Richmond's B.A. attainment rate increased by 3.2 percentage points, the sixth largest increase among the peers. Quincy, IL and Cape Girardeau, MO each saw increases above 6 percentage points.

Figure 14: Educational Attainment for Adults Age 25 and Above, B.A. or Higher, U.S. Peers, 2005 to 2007
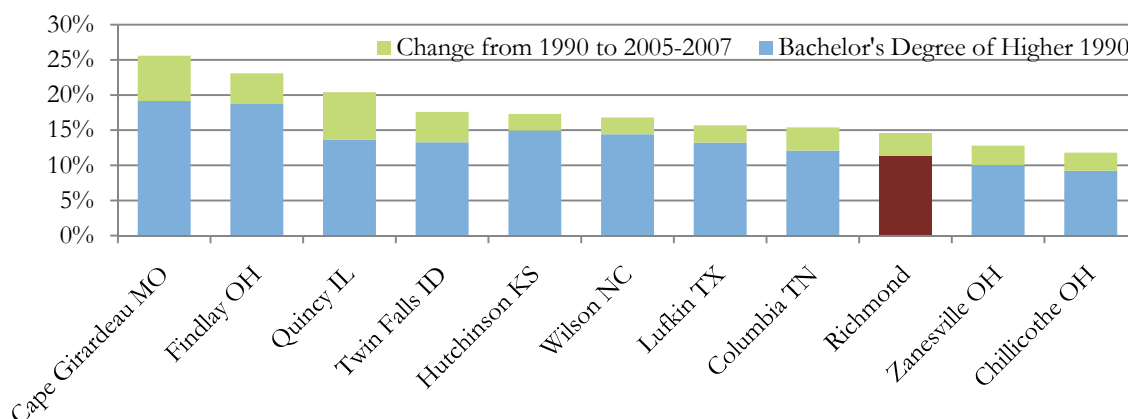
Note: The differences in 2005-2007 educational attainment estimates for Richmond compared to Lufkin, TX; Columbia, TN; and Zanesville, OH are not statistically significant at a 90 percent confidence level.

Source: U.S. Census Bureau, 2007 American Community Survey and 1990 Decennial Census

None of the Indiana peers had bachelor's or higher attainment levels higher than the nation. Only Terre Haute and Muncie—homes to two of Indiana's larger public universities—had attainment levels above Indiana's 21.6 percent. Richmond ranked 10th out of the Indiana peers ahead of only New Castle (see **Figure 15**). Furthermore, Richmond's percentage point increase since 1990 was the smallest of the Indiana peers.

Figure 15: Educational Attainment for Adults Age 25+, B.A. or Higher, Indiana Peers 2005 to 2007
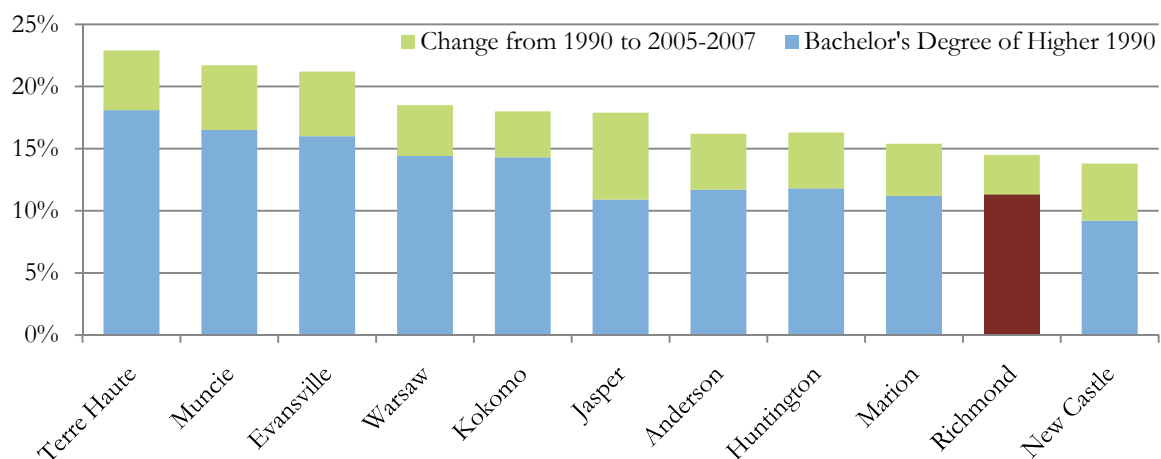
Note: The differences in 2005-2007 educational attainment estimates for Richmond compared to Anderson, Huntington, Marion and New Castle are not statistically significant at a 90 percent confidence level.
Source: U.S. Census Bureau, 2007 American Community Survey and 1990 Decennial Census

Employment

Wayne County had an average of 32,914 payroll jobs in 2007 (see **Table 3**). There were nearly 1,500 fewer jobs in 2007 than in 2001, a 4 percent decline. More than one of every five jobs in Wayne County in 2007 was in manufacturing, while nearly half of all jobs were concentrated in only three sectors: manufacturing, health care and social assistance, and retail trade. Other sectors that employed more than 2,000 people are administrative and waste management services, accommodation and food service, and educational services.

Table 3: Wayne County Employment by Sector, 2007

	2007 Employment	% of Total	Change from 2001	% Change from 2001
Total	**32,914**	**100.0%**	**-1,459**	**-4.2%**
Manufacturing	7,100	21.6%	-1,252	-15.0%
Health Care and Social Assistance	4,602	14.0%	668	17.0%
Retail Trade	4,051	12.3%	-653	-13.9%
Admin. & Waste Mgmt. Services	3,021	9.2%	591	24.3%
Accommodation and Food Services	2,837	8.6%	112	4.1%
Educational Services	2,469	7.5%	188	8.3%
Public Administration	1,169	3.6%	-194	-14.2%
Transportation and Warehousing	961	2.9%	-288	-23.1%
Finance and Insurance	941	2.9%	-19	-2.0%
Wholesale Trade	937	2.8%	-230	-19.7%
Construction	854	2.6%	-219	-20.4%
Other Services (except Public Admin.)	700	2.1%	-184	-20.9%
Information	525	1.6%	28	5.6%
Real Estate and Rental and Leasing	316	1.0%	6	1.9%
Arts, Entertainment, and Recreation	177	0.5%	-70	-28.3%
Agriculture, Forestry, Fishing and Hunting	146	0.4%	17	13.0%
Utilities	59	0.2%	22	59.2%
Mining	27	0.1%	6	26.2%

Note: Data for professional, scientific and technical services, as well as management of companies and enterprises, were not available due to Bureau of Labor Statistics non-disclosure requirements.
Source: Bureau of Labor Statistics

Two of the county's three largest sectors have lost jobs since 2001, led by manufacturing which was down 1,250 jobs by 2007. Retail trade employment declined by 653 jobs over the period, a 14 percent decrease. As **Figure 16** shows, the largest employment gain occurred in the health care and social service sector, which expanded by 670 jobs, followed by administrative and waste management services with 590 jobs. The latter sector is defined as firms that perform routine support activities for the day-to-day operation of other organizations. Example activities include office administration, hiring and placing of personnel, security, cleaning and waste disposal.

Figure 16: Largest Wayne County Employment Gainers and Losers

Employment Change, 2001-2007

The annual employment data examined thus far run through 2007 but we know that much has changed since then. **Figure 17** details employment change in Wayne County through the present economic downturn compared to Indiana and the nation. Keep in mind that these employment data are not seasonally adjusted, so some of the variability reflects routine seasonal shifts. However, it is evident that the recession has had a greater negative impact on employment in Wayne County than it has statewide or nationally.

There were 29,700 jobs in Wayne County in June 2009 compared to 32,700 jobs a year earlier. The year-over-year loss of 3,000 jobs equates to a 9.1 percent decline in employment in just one year. Over that same period, employment in Indiana and the United States declined 5.7 percent and 4.0 percent, respectively.

Figure 17: Monthly Employment Change, January 2008 to June 2009 (not seasonally adjusted)
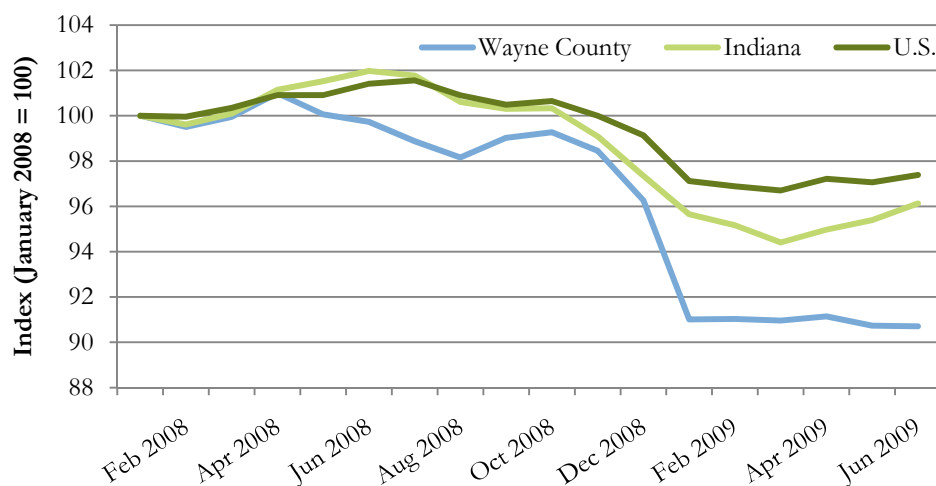
Richmond in Perspective: Employment

Wayne County's 9.1 percent employment decline from June 2008 to June 2009 was the second-most severe drop among the national peers (see **Figure 18**). Columbia, TN lost over 4,000 jobs which represent an 11.6 percent drop. Twin Falls, ID saw a gain of 660 jobs over the year while Cape Girardeau, MO; Lufkin, TX; and Zanesville, OH each had a rate of decline smaller than the U.S. average.

Figure 18: Employment Change, U.S. Peers, June 2008 to June 2009
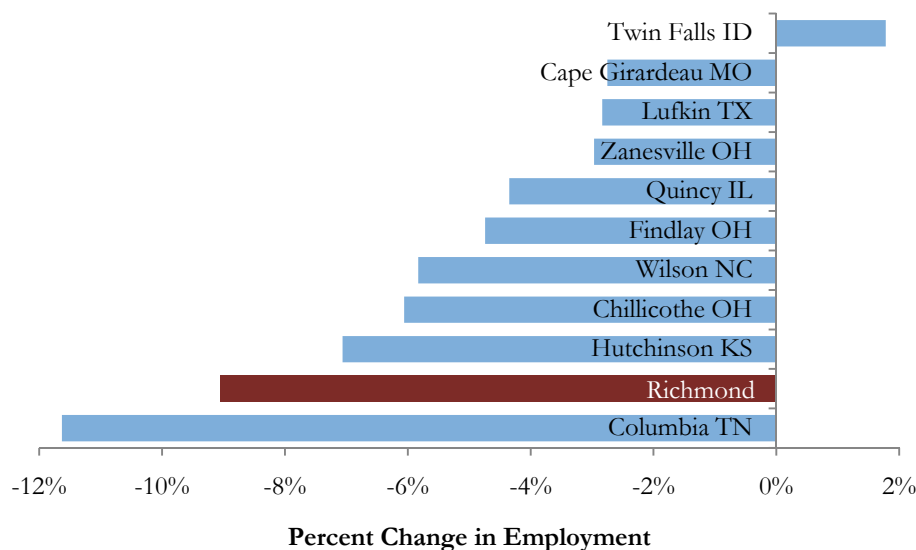
Source: Bureau of Labor Statistics

The national peer set exhibited a range of unemployment rates in 2008 with six communities at or below the U.S. mark of 5.8 percent and five communities above. Twin Falls, ID and Hutchinson, KS had the lowest unemployment rates in 2008, each around 4 percent (see **Figure 19)**. Richmond's rate of 6.8 percent placed it about mid-pack. Chillicothe, OH; Wilson, NC; and Zanesville, OH had the highest unemployment rates in 2008 with each 8 percent or higher.

Unemployment rates are up across the nation in 2009. In June 2009 (the most current data available at the time of this writing) the U.S. unemployment rate was up to 9.7 percent. Six peers, including Richmond at 12 percent, were above that mark. As we saw earlier, Columbia, TN has been particularly hard-hit in the current recession as its unemployment rate was above 17 percent in June. Twin Falls, ID and Hutchinson, KS remain the peer communities with the lowest unemployment rates with June figures of 5.8 percent and 6.4 percent, respectively.

Figure 19: Unemployment Rates, U.S. Peers, 2008 Average and June 2009
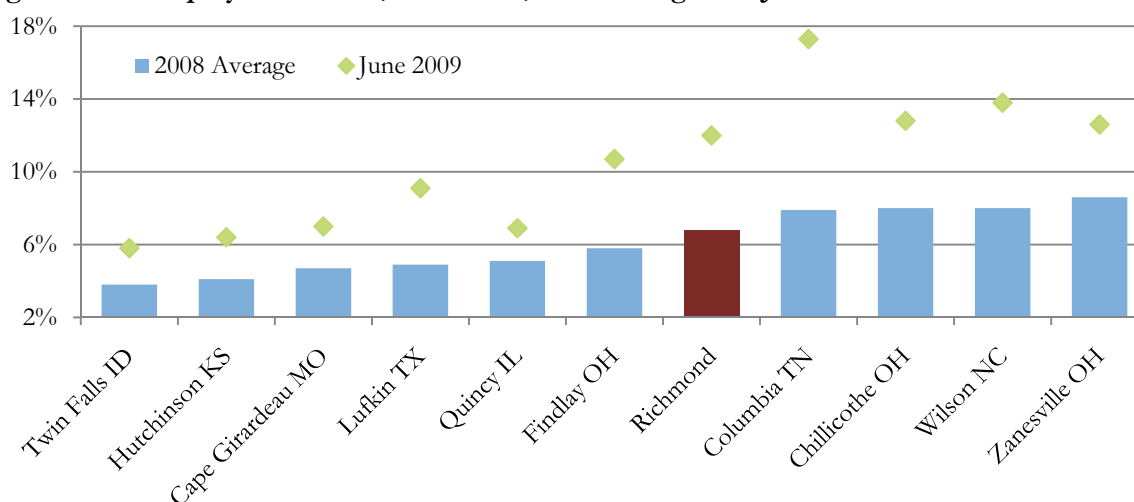
Figure 20 shows that Richmond holds a similar position in the Indiana peer comparison. Richmond's 2008 rate was above Indiana's 5.9 percent but below Anderson, New Castle, Marion and Kokomo. Jasper stands out with its 3.8 percent unemployed in 2008.

Indiana's unemployment rate was up to 10.6 percent in June 2009. At 12 percent, Richmond trailed the state and six of its peers. Kokomo unemployment had jumped dramatically to 20 percent in June—the highest mark in Indiana and twice the national rate. This spike was due primarily to the temporary idling of production facilities in the auto industry.

It is interesting to note that among Indiana peers, only Jasper and Evansville had unemployment rates below the United States in both the 2008 average and June 2009.

Figure 20: Unemployment Rates, Indiana Peers, 2008 Average and June 2009
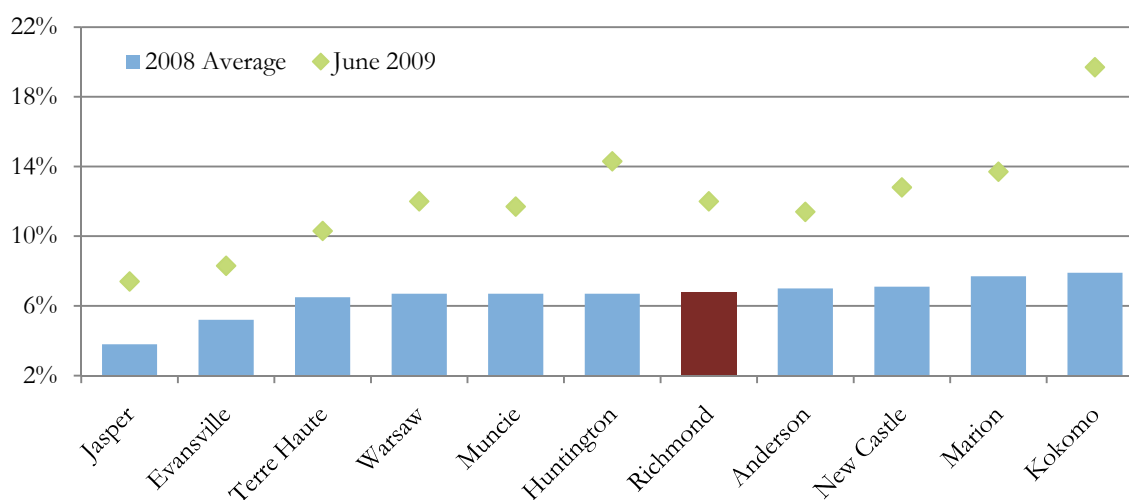
Industry

As we saw previously, nearly 22 percent of Wayne County's jobs are in manufacturing. This reliance on manufacturing employment is common in Indiana, which led all states in 2007 with 19 percent of total employment in this sector. Manufacturing accounted for 10 percent of employment nationally.

Wayne County's largest manufacturing industry is plastics and rubber production (see **Figure 21**). This industry supported 1,000 jobs accounting for 14 percent of all Wayne County manufacturing employment in 2007. The 850 jobs in fabricated metal production represent 12 percent of the county's manufacturing employment. Other top production industries were primary metals and food which supported 700 jobs apiece (10 percent). Roughly half of food production employment in the county was involved in the manufacture of food for animals in 2007.

A useful way to examine which industries in a local economy represent a particular strength is to calculate location quotients (LQ). An LQ is a measure of industry concentration which, in this analysis, calculates the ratio of an industry's share of total employment locally to that same industry's share nationally. For example, comparing Wayne County's 22 percent of total employment in manufacturing to the U.S. rate of 10 percent yields an LQ of 2.2 in Wayne County for manufacturing overall. The national average always equals 1 and an LQ above 1 indicates that a county is more specialized than the nation in that industry. In addition to manufacturing, Wayne County was specialized (though not as highly) in four other sectors including administrative and waste management services (LQ=1.5) and health care and social services (LQ=1.1).

Figure 21 indicates that several of Wayne County's manufacturing industries are highly specialized, led by primary metal products with an LQ of 6.4. Other manufacturing industries with LQs above 3 are plastics and rubber products at 5.4, furniture and related products at 4.0 and miscellaneous manufacturing at 3.4.

Figure 21: Employment and Location Quotients for Wayne County's Top Manufacturing Industries, 2007

Outside of manufacturing, Wayne County has few industries with exceptionally high LQs. **Figure 22** shows that many of Wayne County's non-manufacturing industries with the highest LQs are in retail, health care and social services, and transportation. Air transportation was Wayne Counties only non-manufacturing industry in 2007 with an LQ above 2 yet the industry provided slightly fewer than 300 jobs. Gasoline stations, general merchandise stores, and motor vehicle and parts dealers had the next highest LQs of non-manufacturing industries.

Figure 22: Wayne County Non-Manufacturing Industries with Highest Location Quotients, 2007
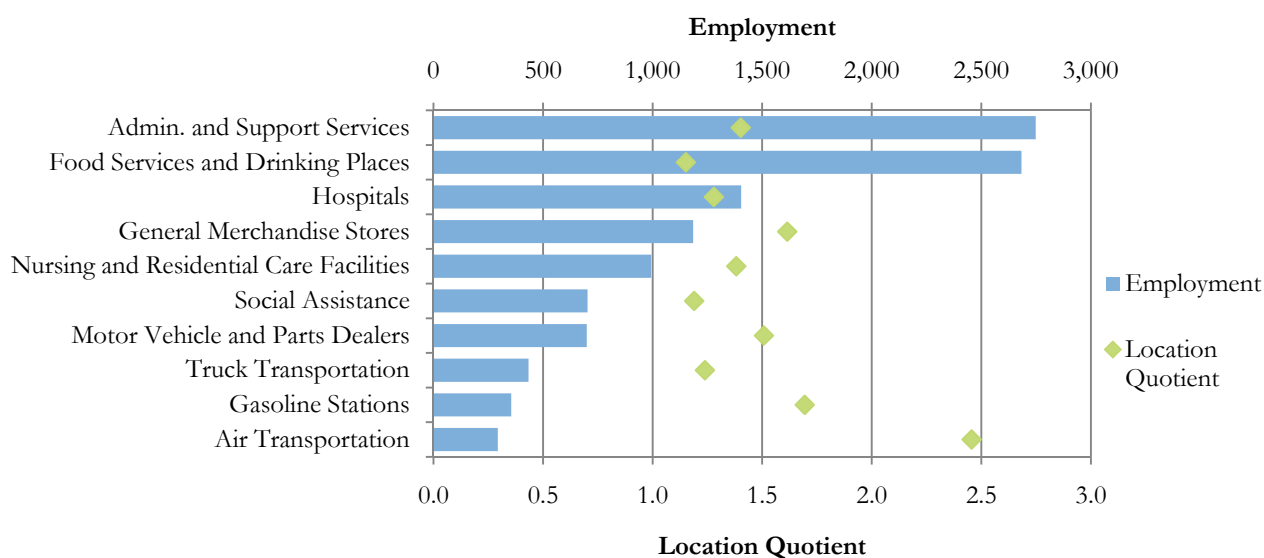
Source: Moody's Economy.com

Richmond in Perspective: Industry Diversity

Only two national peers—Findlay, OH and Wilson, NC—have a greater share of total employment in manufacturing than does Richmond. Despite this fact, **Figure 23** suggests that Richmond has one of the more diverse industry mixes among the national peer set as measured by the distribution of county employment across industries.

Industry diversity is defined in this analysis by a measure known as the Hachman Index. This index compares the employment by industry profile of study regions (e.g., Wayne County and its peers) to that of a reference region (e.g., the United States, which has a greater variety of industries than does any smaller region within it). A study region is considered more diverse when its distribution of employment across industries is similar to the reference region. Hachman Index values fall between 0 and 1 with a value of 1 indicating that the study region's distribution is identical to that of the reference region. The index was calculated with employment levels across 85 industry sectors (i.e., the three-digit NAICS level).There are pros and cons associated with a diverse industry mix. It is often asserted that diverse local economies may be less susceptible to the negative effects of economic downturns, yet specialized local economies are often characterized by higher incomes.

Figure 23 compares the Richmond area to its U.S. peers in terms of manufacturing's employment share and industry diversity. Richmond ranked in the top four for both measures.

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Figure 23: Industry Diversity Index and Manufacturing's Share of All Jobs, U.S. Peers, 2007
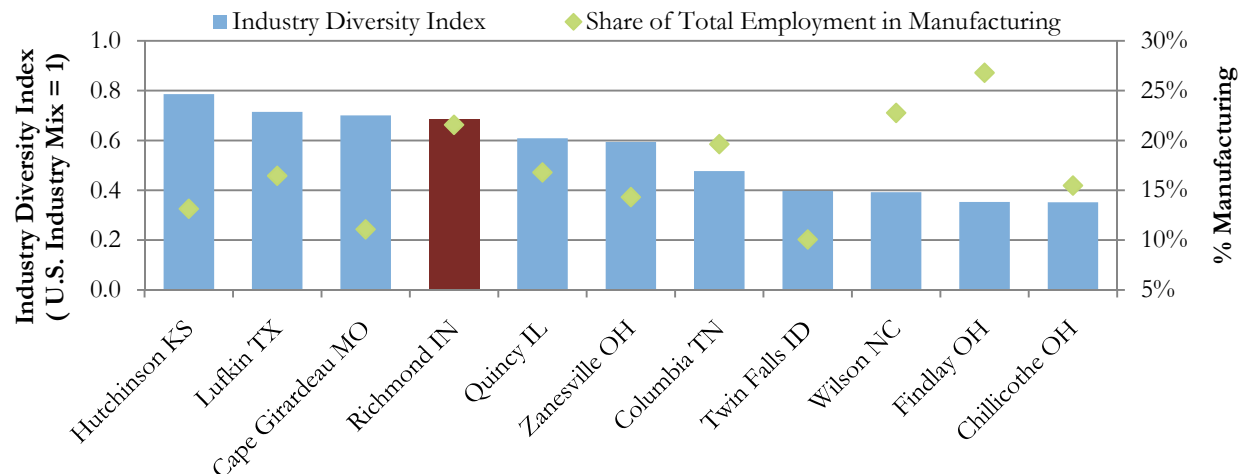
Richmond's index value similarly ranks in the top half of the state peer group. Jasper, Warsaw and Kokomo have the lowest index values owing to their high concentration of manufacturing employment. These three communities also help to demonstrate the trade-offs associated with economic diversity discussed earlier. Of the Indiana peer set, they had three of the top four per capita personal incomes in 2007 (see **Figure 29**). However, Kokomo—with low industry diversity and its manufacturing employment heavily concentrated in the auto industry—has been particularly hard-hit by the current recession and had Indiana's highest unemployment rate in June 2009 (19.7 percent).

Figure 24: Industry Diversity Index and Manufacturing's Share of All Jobs, Indiana Peers, 2007

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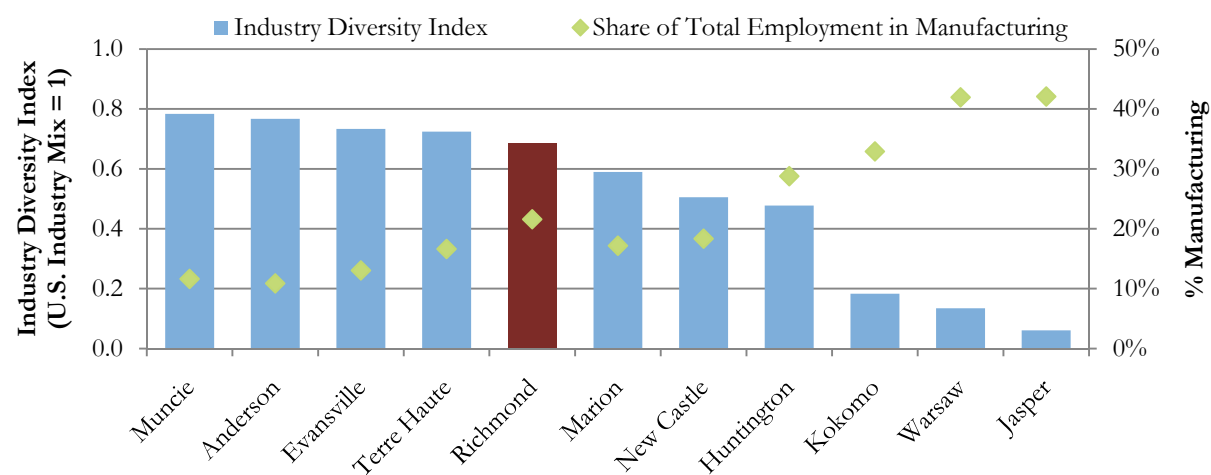
Income and Wages

Wayne County had an average wage per job of $32,627 in 2007, up $5,000 from 2001, a 19 percent increase. Of the sectors for which data are available, utilities and mining offered the county's highest wages yet these sectors combined to account for only 0.3 percent of the county's total employment. Wayne County's two largest sectors, manufacturing ($40,100) and health care and social assistance ($36,800), each had an average wage well above the county average for all jobs.

Table 4: Wayne County Average Wage per Job by Sector, 2007

	Average Wage per Job, 2007	Wayne Co. as a % of Indiana Avg. Wage, 2007	Average Wage per Job, 2001	$ Change, 2001-2007
Utilities	$67,905	99.5%	$44,728	$23,177
Mining	$44,610	77.8%	$34,458	$10,152
Wholesale Trade	$40,560	78.9%	$33,421	$7,139
Manufacturing	$40,101	78.4%	$34,862	$5,239
Admin. and Waste Mgmt. Services	$39,227	157.3%	$23,891	$15,336
Transportation and Warehousing	$39,192	100.7%	$34,324	$4,868
Finance and Insurance	$37,279	70.8%	$30,404	$6,875
Health Care and Social Assistance	$36,803	96.7%	$31,270	$5,533
Construction	$35,583	79.5%	$31,041	$4,542
Public Administration	$33,284	88.0%	$28,426	$4,858
Information	$32,730	77.2%	$28,409	$4,321
Total Employment	**$32,627**	**86.9%**	**$27,390**	**$5,237**
Educational Services	$30,037	86.0%	$28,971	$1,066
Real Estate, Rental, Leasing	$24,078	73.8%	$24,394	-$316
Agriculture, Forestry, Fishing, Hunting	$22,977	82.0%	$16,151	$6,826
Retail Trade	$21,402	94.8%	$17,725	$3,677
Other Services (except Public Admin.)	$18,678	75.1%	$18,732	-$54
Arts, Entertainment, and Recreation	$12,609	43.2%	$10,662	$1,947
Accommodation and Food Service	$11,259	90.4%	$10,380	$879
Professional, Scientific and Tech. Servs.	D*	-	$30,952	-
Management of Companies	D*	-	$54,874	-

*Data not available due to Bureau of Labor Statistics non-disclosure requirements.
Source: Bureau of Labor Statistics

Wayne County wages did not stack up well against state and national averages in 2007. Wayne County's average wage for all jobs was nearly $5,000 below the Indiana average and roughly $12,000 below the U.S. mark. **Table 4** shows that only the utilities, transportation and warehousing, and administrative and waste management services sectors pay at or above the state average for the same sectors. The administrative and waste management sector has been an area of strength for Wayne County. This sector accounts for 9 percent of all jobs in the county, employment has grown by 24 percent since 2001, the average wage is one and one-half times greater than the state average, and the wage has increased by $15,300 in this decade.

Figure 25 indicates that Wayne County wages have outpaced inflation in this decade. When wages are converted to 2007 dollars, the typical Wayne County worker earned $1,200 more in 2007 than in 2001. Inflation-adjusted wages were up $1,100 in Indiana and $2,100 nationally. U.S. wages are adjusted using the Bureau of Labor Statistics' Consumer Price Index (CPI) for the nation while the Midwest-specific CPI is used for Indiana and Wayne County.

Figure 25: Average Real Wage per Job, 2001 to 2007
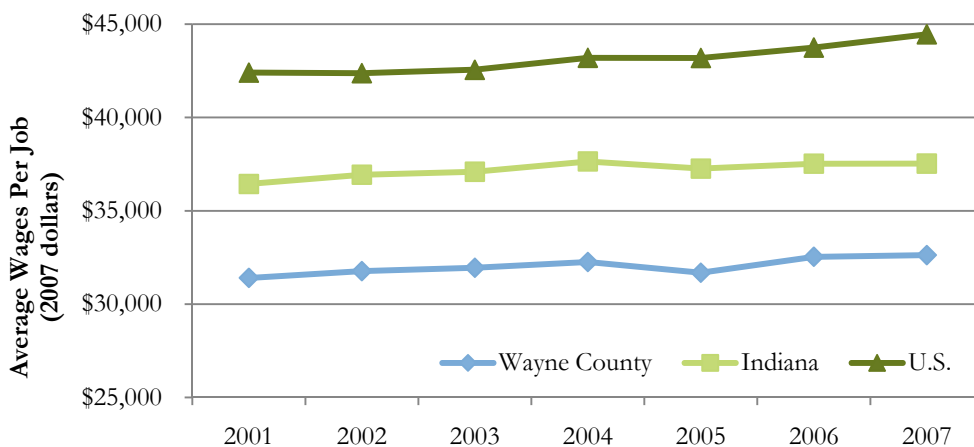
Source: Bureau of Labor Statistics

Real manufacturing wages have not shown similar growth. Wayne County's average real manufacturing wage is virtually the same as it was in 2001 and is $2,400 below the 2003 mark (see **Figure 26**). As a result, the gap between the average real manufacturing wage in Wayne County and the nation has grown from $10,400 in 2001 to $13,400 in 2007.

Figure 26: Average Real Wage per Manufacturing Job, 2001 to 2007
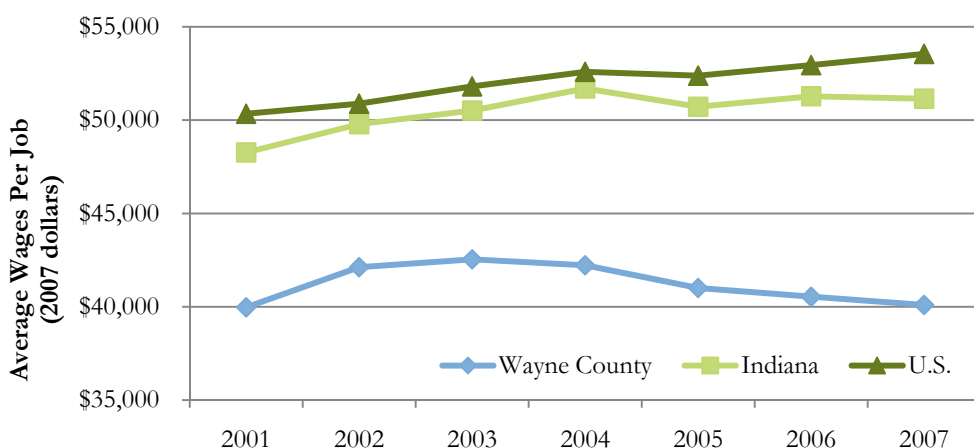
Source: Bureau of Labor Statistics

Per capita personal income (PCPI) is a broader measure than wages, also including money received by individuals from investments, government payments such as social security and welfare benefits, and proprietors' income. **Figure 27** details Wayne County's PCPI as a percent of the U.S. average since 1969. Wayne County PCPI has consistently lost ground to the U.S. over the last 40 years. The county's PCPI was nearly equal to the nation (97 percent) in 1969 but it has dropped to just 75 percent of the U.S. mark in 2007. The widening of this gap has been particularly sharp in recent years as Wayne County's PCPI as a percent of the U.S. in 2007 was 6 percentage points below where it was in 2004. Comparing Wayne County to Indiana on this measure, we see a similar trend between the two, yet the trajectory of Wayne County's decline has been more severe. The substantial loss of high-wage manufacturing jobs is one key factor underlying this trend.

Figure 27: Wayne County Per Capita Personal Income as a Percent of the Nation, 1969 to 2007
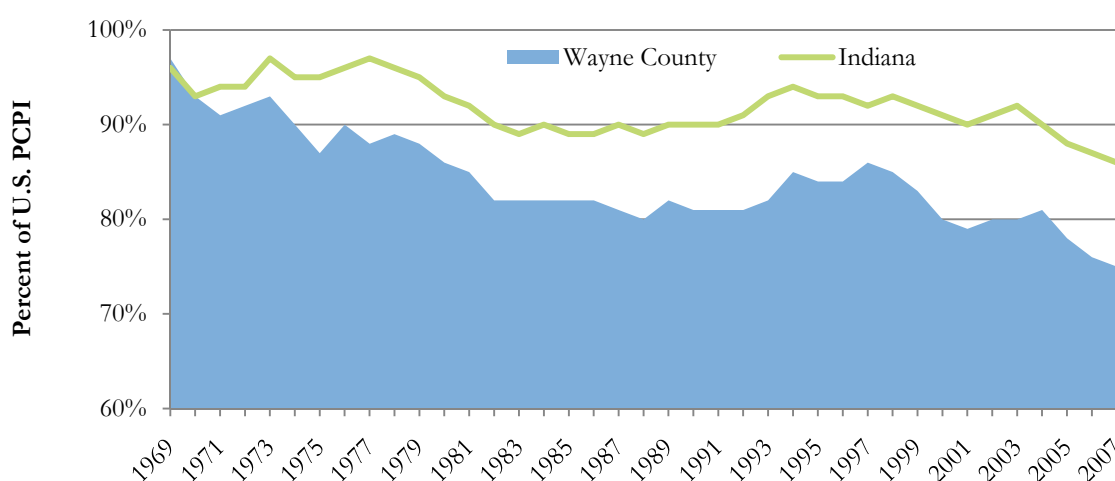
Source: Bureau of Economic Analysis

Richmond in Perspective: Per Capita Personal Income

Richmond's 2007 PCPI of $28,900 ranked seventh among the 11 peers (see **Figure 28**). The 2007 PCPIs of the peer group ranged from $34,100 in Findlay, OH to $26,400 in Chillicothe, OH. Each of the communities in this comparison had a PCPI well below the U.S. average of $38,600.

Richmond's 2007 PCPI is up from $21,700 in 1997, a 2.9 percent average annual rate of growth. This rate is among the slowest in the peer group ahead of only Hutchinson, KS (2.7 percent) and Columbia, TN (2.2 percent). The PCPI in Lufkin, TX grew at a 5.2 percent annual rate over this period to lead all peers.

Figure 28: PCPI and the 10-year Growth Rate in PCPI, U.S. Peers, 2007

Jasper, Evansville and Warsaw each had 2007 PCPIs at or above $35,000 to lead the Indiana peer set. These three communities are the only peers above the Indiana average of $33,200. As with the U.S. peers, Richmond's PCPI ranked seventh in the Indiana comparison, ahead of Terre Haute, New Castle, Muncie and Marion.

Figure 29: PCPI and the 10-year Growth Rate in PCPI, Indiana Peers, 2007
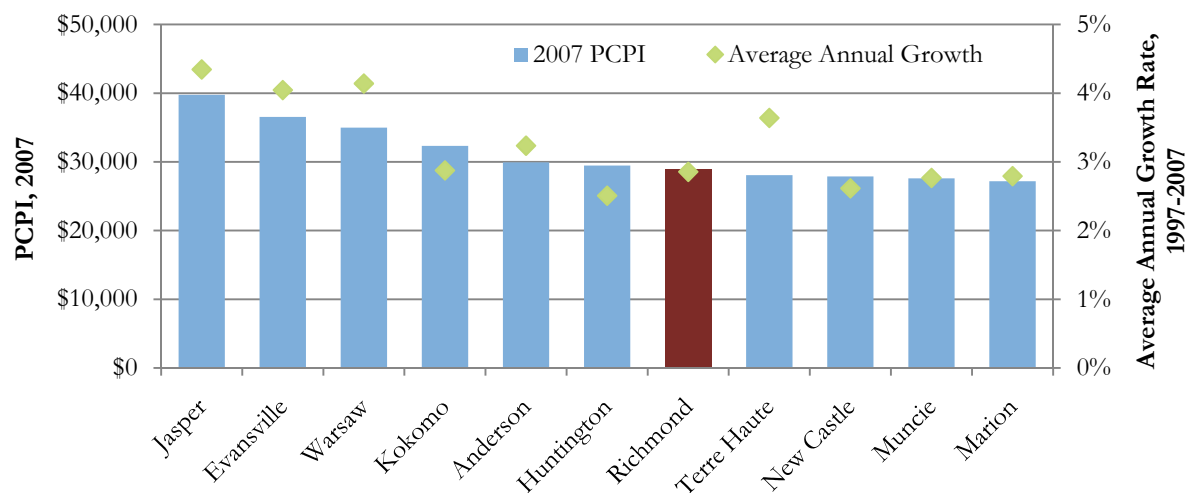
Other Indicators

Cost of Doing Business

Figure 30 highlights the relative cost of doing business in each of the national peer communities.[1] In this measure, Richmond has the third lowest cost of doing business, higher than only Hutchinson, KS and Twin Falls, ID. Richmond's index value of 72 can be interpreted to mean that the costs of doing business in the county are 28 percent lower than the U.S. average, which is equal to 100. Findlay, OH and Columbia, TN had the highest index values yet business costs are relatively low for all peer communities compared to the nation.

Richmond's position is driven primarily by its low average wage per job. This variable accounts for half of the index formulation. The county's 2007 average wage of $32,627 was $12,000 below the U.S. average and ranked as the sixth lowest of the national peers. Richmond also had low values for electricity rates and median home sale price (a proxy variable for office and industrial rents).

Figure 30: Cost of Doing Business Index, 2007
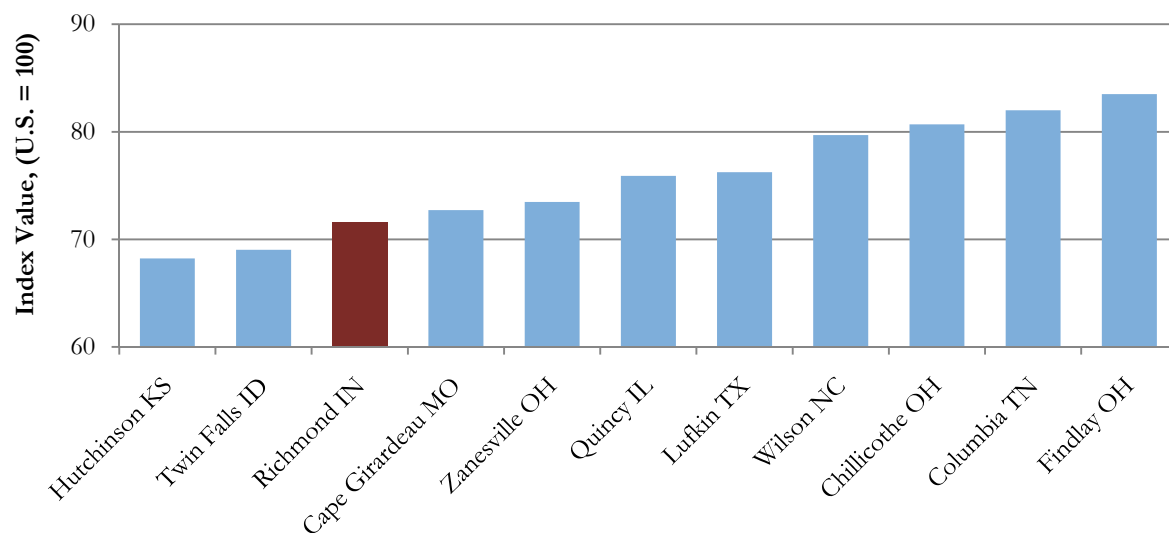
Source: IBRC using data from Moody's Economy.com, Bureau of Economic Analysis, U.S. Census Bureau and the U.S. Energy Information Administration. IBRC County-level index is adapted from the Milken Institute's index for states.

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[1] Developing a representative cost of doing business index at the county level is a challenge due to limited sources of data. IBRC researchers made several assumptions in order to develop an index for the cost of doing business for Richmond and its peers. See the appendix for a full description of this index.

Social Capital

The concept of social capital describes the level of connectivity and cohesion that that is present in a community. The theory follows that connectivity and cohesion are heightened by a greater presence of, and participation in, social networks such as civic organizations, recreational clubs, religious groups, labor unions and the like. Greater degrees of participation in these social networks are thought to foster trust and reciprocal support among community members that enable them to solve their own problems as a community. Many researchers believe that there is a relationship between social capital and strong political institutions, reduced social ills and economic growth.

Figure 31 presents index values of social capital stock created by researchers at Penn State University. Richmond's stock of social capital in 2005 is estimated to be above the national average and ranked as the third highest of the national peer set, behind only Quincy, IL and Cape Girardeau, MO. There appears to be a geographic influence on this measurement of social capital as only Midwestern peers, with the exception of Chillicothe, OH, had above average index values while peers from the south and the west scored below average. The social capital index presented in **Figure 31** is constructed largely by counting the number of social network-type establishments per 10,000 residents in each county (i.e., civic organizations, sports clubs, religious organizations, professional organizations, etc.). Other index variables include the percentage of eligible voters that voted in presidential elections, response rate to the decennial census and the number of nonprofit organizations.

Richmond's position among its national peers can be attributed to a strong showing in several of the individual components of the index. For instance, Richmond ranked first out of the peer set in the measure of civic and social organizations; political organizations; professional organizations; and sports clubs, managers and promoters. Richmond ranked second in physical fitness facilities and ranked third in labor organizations and number of nonprofit organizations. Keep in mind that the relationship between the index values presented here and the purported benefits of social capital is theoretical. The index values, in many instances, may not fully reflect the nature of a community's social networks.

Figure 31: Social Capital Index, 2005
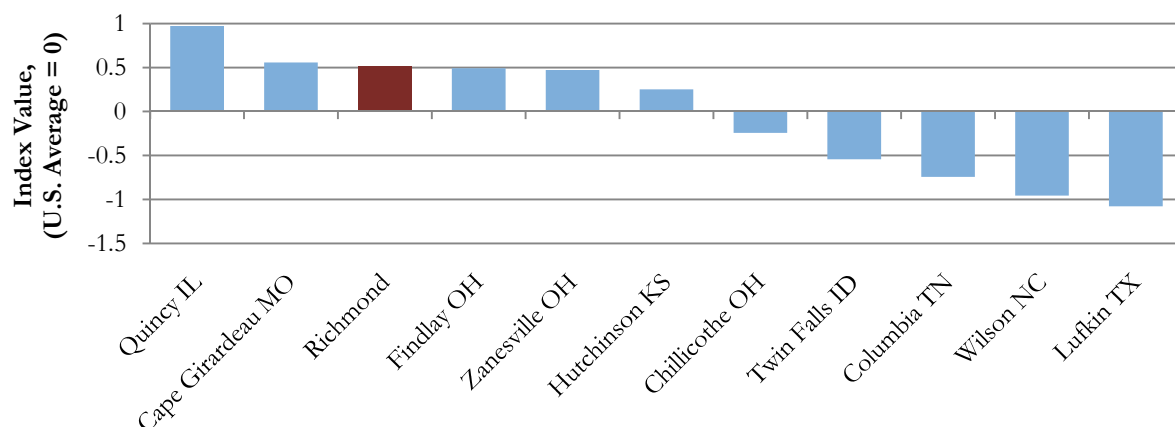
Source: Rupasingha, Anil and Stephan J. Goetz, "US County-Level Social Capital Data, 1990-2005." The Northeast Regional Center for Rural Development, Penn State University, University Park, PA, 2008. http://nercrd.psu.edu/Social_Capital/index.html

Innovation

None of the peer communities feature a local economy that would be widely regarded as innovative. **Figure 32** shows innovation index values for Richmond and its national peers. The index value of 100 is equal to the U.S. average.

The county-level innovation index presented here was developed by IBRC researchers in a study conducted for the U.S. Economic Development Administration.[2] The index is a composite of a variety of data variables that measure both the inputs to innovation as well as its outputs. The inputs, which can also be thought of as the local capacity for innovation, include measures such as venture capital, broadband penetration, investments in R&D and educational attainment. Outputs can be viewed as the local performance on measures believed to be the byproduct of innovative economies. These measures include employment in high-technology firms, growth in output per worker, and creation of patents, to name a few. A more complete description of the innovation index is found in the appendix.

Richmond ranks in the bottom half of the national peer set. The index score for Findlay, OH stands out among the peers but is still well below the U.S. average. Chillicothe, OH and Zanesville, OH had the lowest scores.

The inputs to innovation are further divided into sub-indexes titled human capital and economic dynamism. These sub-indexes are also individually indexed with a value of 100 again representing the national average. Richmond registered a human capital index value of 73 and an economic dynamism mark of 84. These values ranked ninth and fifth among the peers, respectively. Two output sub-indexes are productivity & employment and economic well-being. For both these areas Richmond had index values below 90, ranking fifth and eleventh, respectively.

Figure 32: Innovation Index

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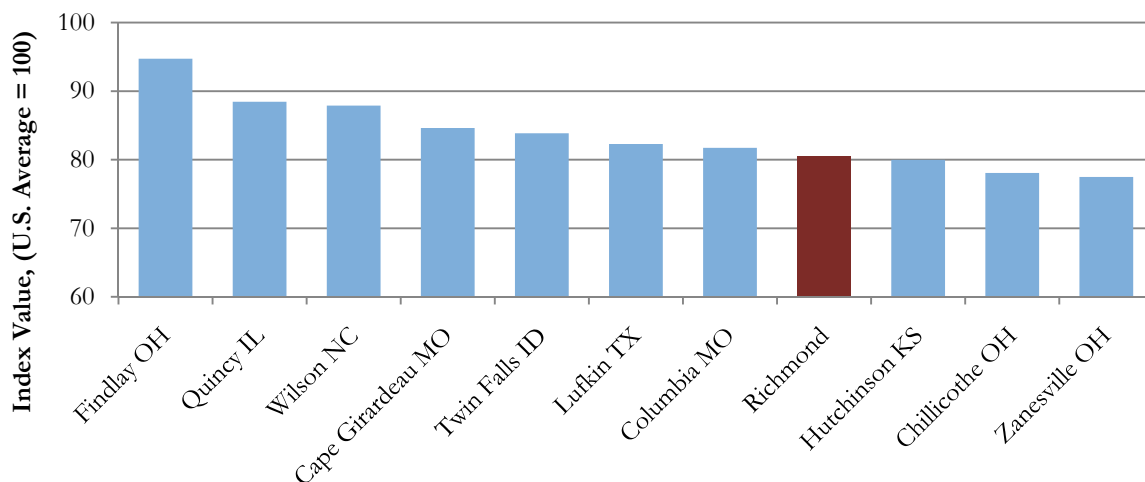
[2] The report, titled *Crossing the Next Frontier: Information and Analytics Linking Regional Competitiveness to Investment in a Knowledge-Based Economy*, is not yet published as of September 2009. This report and an associated website will be published in fall 2009.

Commuting Patterns

With in-commuters (5,005) outnumbering out-commuters (3,978), Wayne County was a net importer of labor in 2007. Only 22 of Indiana's 92 counties were net importers of labor in 2007. Wayne County's 1,027 net in-commuters was the 15th highest mark in the state, indicating that the Richmond area is an important employment hub for east-central Indiana. In total, out-of-county commuters account for 11 percent of Wayne County's total workforce.

Twenty percent of Wayne County's non-resident workforce comes from Randolph County while another 20 percent of in-commuters live in Ohio (see **Figure 33**). Fayette and Union counties are the next largest sources of in-commuters, accounting for 17 percent and 14 percent of the total, respectively.

In terms of out-commuting, more than one-quarter of Wayne County residents employed outside the county travel to Ohio for work. An additional nine percent of out-commuters work in Marion County (Indianapolis). In total, 8.8 percent of Wayne County's resident labor force commutes outside the county for work.

Figure 33: Wayne County Commuting Patterns, 2007
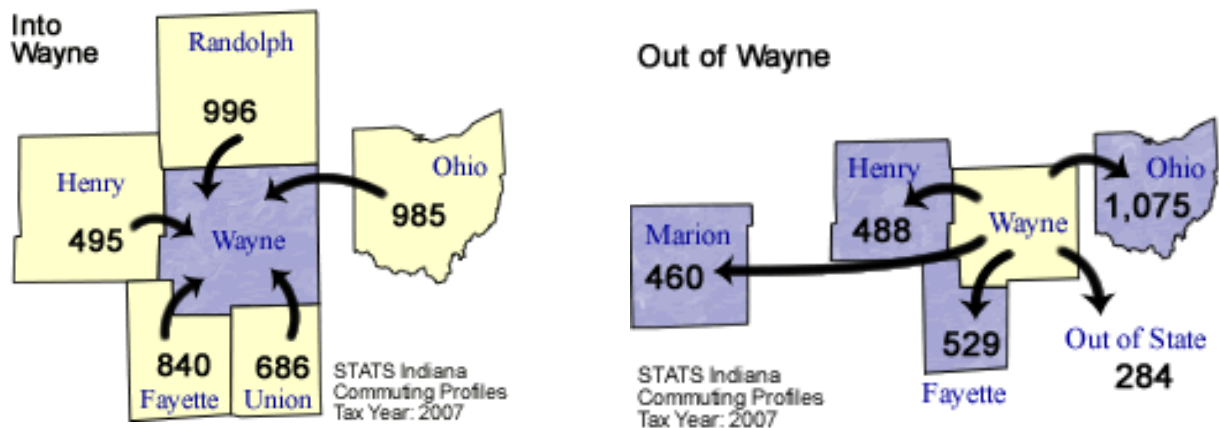
Data from the 2000 Census show that six national peers had a higher share of their workforce supplied by out-of-county commuters than did Richmond. Out-of-county commuters accounted for more than one-quarter of the workforce in Maury, TN; Hancock, OH; Wilson, NC and Cape Girardeau, MO in 2000. Comparison of communities on this measure can be difficult to interpret. On one hand, being a regional magnet for employment would seem to be a positive indicator for the strength of a local economy. However, a high rate of in-commuters may also suggest that workers find their county of employment to be a less than desirable place to live for one reason or another. Each community or region is different, and the forces that influence commuting patterns will vary.

Conclusion

The findings in this report signal the need for progress in the Richmond area. Wayne County's educational attainment levels and incomes are well below state and national averages and rank low among its peers. Furthermore, the county has lost jobs and population at a steady rate in recent years.

Amid these troubling indicators, there are reasons for optimism. Wayne County has several key ingredients to aid in an economic turnaround. The costs of doing business in the Richmond area are low and housing is affordable. The county is home to strong postsecondary educational institutions, such as IU East, Ivy Tech, Earlham College and Purdue University's College of Technology. Better than four out of five recent high school graduates in the county planned to pursue some type of higher education, the same rate as the state. And the relatively high stock of social capital suggests a spirit of cooperation and civic engagement needed to affect progress in Richmond.

Furthermore, Richmond has several growth industries. Most notable are health care and administrative services which combine to account for nearly one-quarter of Wayne County's employment and have added roughly 1,300 jobs since 2001. Health care employment, in particular, will almost certainly continue to expand in the Richmond area, as it will across the country.

Manufacturing holds promise as well. It is true that Richmond, like much of the Midwest, has shed many manufacturing jobs in recent years. However, this industry still accounts for one of every five jobs in the area and pays relatively high wages. Furthermore, Richmond is highly specialized in several sub-industries such as metal production, plastics and rubber products, and furniture. Two of Richmond's most successful in-state peers—Warsaw and Jasper—are spurred by strong industry clusters in medical supplies and wood products, respectively. There could be opportunities to develop similar manufacturing clusters in Richmond

This report is a useful resource with which Richmond area residents and leaders can assess the community's strengths and weaknesses. It is recommended that a local entity continue to track these indicators to determine if progress is being made and Richmond's competitive position is improving, keeping in mind that the process of tracking indicators is most useful when those indicators are linked to specific goals and action plans.

To that end, this report aims to serve as a platform from which the community can take steps to plan for economic growth. One useful step could be to closely examine Richmond's more successful peers to determine if any specific practices enacted in these communities could be applied locally. For instance, can leaders in Lufkin, TX point to any policies or strategic decisions that have contributed to their high rate of per capita personal income growth? Can Richmond's leaders learn lessons from their counterparts in Jasper or Warsaw about creating an environment where strong industry clusters can be developed? There are many examples of successful community and economic development, and this type of detailed benchmarking need not be limited to the peer communities in this report. This exercise of investigating successful communities would lay the groundwork for the truly important process of defining and implementing a strategy for Richmond's prosperity.

In closing, this report demonstrates that there is room for improvement in a number of areas and that the community has some of the tools needed to initiate those improvements. What is required is a coordinated and sustained effort to address the area's weaknesses and capitalize on its strengths.

Appendix

Peer Selection Summary

U.S. Peers: IBRC selected 10 counties that were similar to Wayne County in terms of population size, personal income and industry mix in 1997. This retrospective approach allows our analysis to benchmark Wayne County socioeconomic trends against communities it was similar to recently but which may now be on divergent paths. Identifying those communities that have most prospered since 1997 may spur subsequent research to determine why some communities have outperformed Wayne County. Such a group might serve as "role models" for the Richmond area; that is, those places that were previously like Richmond but that have since advanced further may offer insights into how Richmond could stimulate its own prosperity. IBRC used three steps to develop this peer set.

Step 1: Richmond/Wayne County is considered a micropolitan statistical area (micro) by the U.S. Office of Management and Budget. Micros are characterized as urban areas that have a core city with a population between 10,000 and 49,999. Micros are not within the economic sphere of a larger metropolitan area (as defined by labor commuting patterns). There are currently 578 micros and these areas served as the initial filter in determining Wayne County's peer set.

Step 2: These 578 counties were sorted by their total population in 1997 and narrowed down to the 123 counties whose population was then between 57,000 and 87,000. These population parameters are roughly 15,000 above and below Wayne County's 1997 population of 71,923.

Step 3: These remaining 123 counties were then compared to Wayne County by their 1997 per capita personal income as well as the percent of total employment in manufacturing, trade and transportation, professional services and financial activities. These sectors were selected because they tend to be basic industries meaning that they tend to serve a regional, national or global market.

From these data points, empirical analysis was performed to determine which counties were most similar to Wayne County. IBRC focused on the 30 counties determined to be most similar and relied on judgment to arrive at the final peer set of 10 counties. The most common reason for a similar county to not be included was that it had a relatively small population for its primary city (i.e., population less than 20,000). Other reasons for excluding counties are that some were part of a larger "Combined Statistical Area," meaning that the county is adjacent to a metro area and some counties had distinguishing characteristics not shared by Wayne County, such as the presence of a major university or a coastline.

Indiana Peers: Richmond was also compared to 10 Indiana peers. The selection of these peers was based on prior discussions and interviews with more than two dozen Richmond community leaders. These Indiana cities are Anderson, Evansville, Huntington, Kokomo, Jasper, Marion, Muncie, New Castle, Terre Haute and Warsaw. Although some of the cities are substantially larger than Richmond, interviewed leaders felt that they warranted inclusion in the set of cities Richmond might emulate ("aspirational peers").

Housing Affordability Index Methodology

The housing affordability index is designed to measure the degree to which a "typical" middle income family can afford the mortgage payments on the typical home.

To interpret the index, a value of 100 means that the typical family has just enough income to qualify for an 80 percent mortgage on a median price home. The higher the index, the more affordable the housing.

Calculation of affordability indices is dependent on several published data sources and assumptions. The primary building block is the median existing house sales price published by the National Association of Realtors (NAR). The NAR price estimates are available for the nation, Census regions, and approximately 132 metropolitan areas. Economy.com estimates home prices for counties and states, in addition to the metropolitan areas not published by the NAR.

Published median family income data for the United States, regions, states, metropolitan and county areas are used to determine the income available for a home purchase. Since the Census Bureau publishes median family income for metropolitan and county areas on a decennial basis, Economy.com estimates the intercensal years.

The affordability indices use the state-level "effective" interest rates released on an annual basis by the Federal Housing Finance Board. Effective rates are higher than contract rates because they include fees and charges (points) amortized over the typical seven-year life of a mortgage.

A 20 percent down payment is assumed, being a standard of the housing industry. This implies a loan amount of 80 percent of the median sales price. Economy.com assumes a maturity of 30 years. Economy.com assumes a 25 percent coverage ratio, which is the proportion of minimum qualifying family income allocated to the monthly payment.

Source: Economy.com Data Services

Cost of Doing Business Discussion

Determining the costs of doing business in a given location can be a challenge. This is particularly true at small geographic levels such as counties due to a lack of the types of data often used to calculate cost of business indexes. To our knowledge, no one produces a county-level cost of doing business index but there are several entities that produce this information at the state or MSA level. IBRC researchers evaluated indexes from the Milken Institute and Moody's Economy.com and finally settled on the Milken Institute approach for estimating county-level costs.

The Milken methodology calculates an index from five variables (index weights are in parenthesis); average wage per job (50 percent), tax burden (15 percent), commercial and industrial electricity costs (15 percent), industrial rent costs (10 percent) and commercial rent costs (10 percent). All these variables are available at the state level but not all can be found at the county level.

IBRC researchers used the following variables to adapt the Milken approach; county average wage per job, state-level tax burden (total state and local tax revenue / total personal income), state-level commercial and industrial electricity costs and county-level median existing home sale price (proxy variable for industrial and

commercial rent costs). These variables received the same weights as described above, with the home sale price accounting for 20 percent of the index since it represents both the industrial and commercial rent costs.

IBRC researchers had to take liberties with several indicators, with the use of the home sale price proxy variable being the most problematic. Certainly, residential and commercial costs are influenced by different forces, yet IBRC researchers felt it important to have a variable that reflected local variation in property costs. We take a measure of confidence in this proxy variable since a comparison of state-level median home sale price and industrial and commercial rent costs indicate that these measures are strongly correlated. A state-level comparison of the 2007 median home sales price from Moody's Economy.com to a composite of 2007 industrial and commercial rent costs from the Milken index yielded a 0.82 correlation coefficient.

State-level values for tax burden and electricity costs are applied to counties. This means that the three Ohio counties in the peer group, for instance, each have identical values for these two variables. This is an imperfect solution, but it at least recognizes the different costs in each county's larger region. The state-level tax burden variable may well be a more appropriate measure than a local value since most states utilize a different balance of state vs. local taxes to support revenues.

Average wage per job data are available at the county level. Therefore, the county average wage per job value used in IBRC's index is directly analogous to the state values used in the Milken index. This variable drives the ultimate index values given that it accounts for half of the calculation.

Innovation Index Overview

The ability of a regional economy to innovate drives healthy growth, but innovation is a complex concept. How can you measure innovation in order to improve it? This index provides leaders and practitioners with the first tool you can use to compare your region's innovation performance with that of the United States, a state, or other regions.

A word of caution is in order: measuring regional innovation can be tricky. As with any complex process, a better understanding is gained by taking multiple perspectives. So, for example, when you describe the weather, you do not simply use one measurement, such as temperature. The weather is usually described from a variety of perspectives. In addition to temperature, you might want to know whether it is cloudy or sunny, whether it is humid or dry, how strong the wind is blowing and in which direction. A composite of all of these measures, provides a better understanding of the weather.

So it is with innovation. No single measure will do. Innovation must be viewed from a variety of perspectives. First, the innovation index comprises two broad categories: inputs to innovation, which measure innovation capacity, and outputs of innovation, which measure the results. Within each large class, the index provides additional detail and individual measures that collectively make up the broad categories.

So, for example, economic dynamics play an important "input" role in innovation. Economic dynamics captures a variety of indicators and data: venture capital, broadband penetration, investments in R&D, and business formation. Human capital is also vital to innovation. Therefore, the index provides different perspectives to evaluate a region's human capital.

Innovation is not only about inputs, however. A region's economy must translate these inputs into productive outcomes: employment in high-technology firms, greater output per worker, the creation of patents, to name

a few. By examining the output indicators, you can explore how well your economy converts innovation inputs into performance. Because the index is not dealing with simple linear relationships, however, there is no direct cause-and-effect connection between inputs and outputs.

The innovation index is part of a larger study titled *Crossing the Next Frontier: Information and Analytics Linking Regional Competitiveness to Investment in a Knowledge-Based Economy.* This study, sponsored by the U.S. Economic Development Administration, is a collaboration of the IBRC; the Purdue Center for Regional Development; Strategic Development Group, Inc.; the RUPRI Center for Regional Competitiveness; and Economic Modeling Specialists, Inc. The study, along with an interactive website containing innovation data for every county in the nation, will be available in the fall 2009 at www.statsamerica.org/innovation.

Innovation Index Variables

Inputs to Innovation		Innovation Outputs	
Human Capital	**Economic Dynamics**	**Productivity & Employment**	**Economic Well-Being**
• Mid-Aged Population Growth Rate, 1997 to 2006 • Percent of Population Ages 25-64 with Some College or an Associate's Degree, 2000 • Percent of Population Ages 25-64 with a Bachelor's Degree, 2000 • Average High-Tech Employment Share, 1997 To 2006 • Technology-Based Knowledge Occupations Share, 2007	• Average Venture Capital Investment per $10,000 GDP, 2000 to 2006 • Average Private Research & Development per $1,000 Compensation, 1997 To 2006 • Broadband Density, 2007 • Change in Broadband Density, 2000 to 2007 • Average Establishment Churn, 1999 to 2004 • Average Small Establishments per 10,000 Workers, 1997 to 2006 • Average Large Establishments per 10,000 Workers, 1997 to 2006	• Job Growth to Population Growth Ratio, 1997 to 2006 • Change in High-Tech Employment Share, 1997 to 2006 • Average Annual Rate of Change in GDP ($ Current) per Worker, 1997 to 2006 • Gross Domestic Product ($ Current) per Worker, 2006 • Average Patents per 1,000 Workers, 1997 to 2006	• Average Poverty Rate, 2003 to 2005, inverse • Average Unemployment Rate, 2005 to 2007, inverse • Average Net Internal Migration Rate, 2000 to 2006 • Change in Per Capita Personal Income, 1997 to 2006 • Change in Wage and Salary Compensation per Worker, 1997 to 2006 • Change in Proprietors Income per Proprietor, 1997 to 2006