Census 2010: Children = Diversity

With each new release from the 2010 Census, the details of Indiana's recent demographic shifts come into focus. In December 2010, we learned that the state added 400,000 new residents since 2000 to reach a total population of 6.48 million. This 6.6 percent growth rate far outpaced neighboring Illinois, Ohio and Michigan, yet was below the U.S. mark of 9.7 percent.

A subsequent data release showed that Indiana's population grew unevenly in terms of geography, race and ethnicity. The 10-county Indianapolis-Carmel metro area, for instance, accounted for nearly 60 percent of the state's total growth while many of the mid-sized communities that long formed much of Indiana's industrial backbone saw significant population decline. This is particularly the case through a large swath of north-central and east-central Indiana.

As for race and ethnicity, the state added more Hispanic residents (175,200) and black residents (76,700) than non-Hispanic whites (67,100). As a result, the non-Hispanic white population's share of the Indiana total dropped from 85.8 percent in 2000 to 81.5 percent in 2010.

The May 2011 release of Indiana's demographic profile sheds light on another key trend: Indiana is growing older.

This article will focus on Indiana's increasing diversity and its aging population. In particular, we will examine how the baby boom generation is leading to a "graying" of the population both in Indiana and nationally. We will also look at how minority populations are driving growth in Indiana's younger age groups. These trends promise to transform Indiana's population in the coming decades. So, while the data presented here look back over the last 10 years, they also offer a glimpse of Indiana's future.

Growing Older

Between 2000 and 2010, Indiana's median age jumped from 35.2 to 37.0. Despite this increase, the state remains comparatively young (see **Figure 1**). Indiana's 2010 median age is a shade higher than neighboring Illinois but is roughly two years younger than Michigan and Ohio and one year below the Kentucky mark. Indiana is also younger than the U.S. median age, which increased from 35.3 years in 2000 to 37.2 in 2010.

**Figure 1: Median Age by State, 2010**
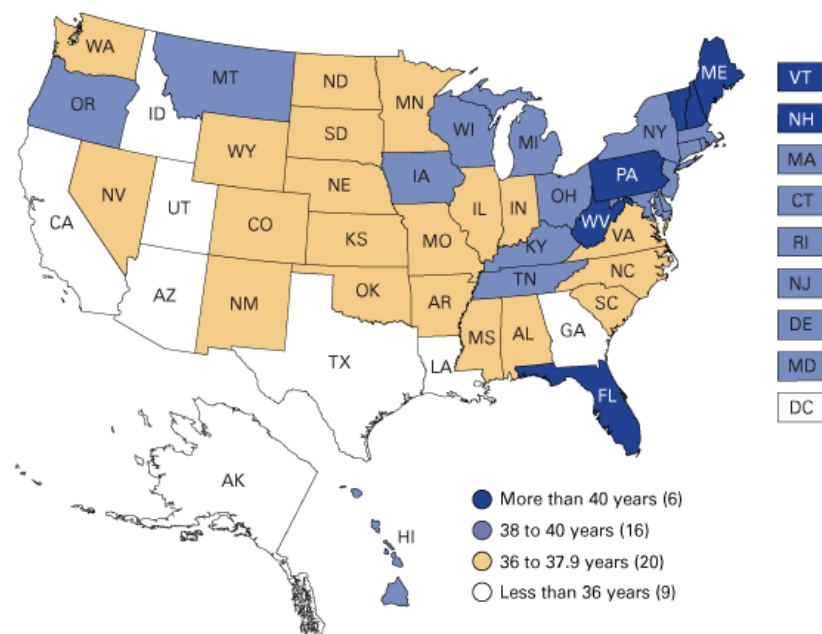
Source: IBRC, using Census Bureau data

Indiana's median age masks stark differences within the state. Many rural or mid-sized communities are aging rapidly while a few metropolitan areas remain relatively young as they attract young adults and families. Nearly two-thirds of Indiana counties have a median age above 39, led by Brown (46.7), Ohio (43.7), Pike (42.8), and Tipton (42.6) counties. At the other end of the spectrum, only 14 counties had a median age below the Indiana mark. Aside from communities with sizeable college student or Amish populations, the state's youngest counties are also some of its largest, including Marion (33.9), Elkhart (34.9), Allen (35.3), Hamilton (35.6) and Hendricks (36.7) counties. Regardless of whether they are relatively young or old, each county saw its median age increase over the decade with the exception of Daviess County.

The baby boom generation accounts for much of this aging trend. The number of Hoosiers between the ages of 45 and 64 (a grouping that contained all boomers in 2010) increased by 27 percent over the decade (see **Figure 2**). All Indiana counties saw an increase in this age group.

Figure 2: Percent Change in Indiana Population by Age Group, 2000 - 2010
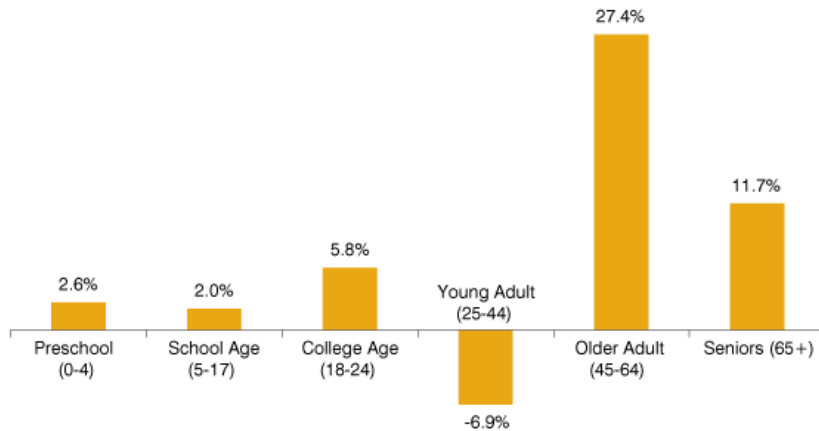
Source: IBRC, using Census Bureau data

Meanwhile, the state's young adult population (ages 25 to 44) declined 6.9 percent as boomers vacated this age group. Only 10 Indiana counties saw their young adult population grow in the past decade.

A decline in this age group is not unique to Indiana. Every state in the Northeast and the Midwest experienced a drop in its young adult population between 2000 and 2010. But in the South and the West, only Kentucky, West Virginia, Louisiana, Mississippi, Alabama and Montana saw this age group shrink.

More Children
Indiana bucked the broader regional trend by having an increase in the number of children (ages 0 to 17) in the state compared to Census 2000. The child population declined in every state in the Northeast and Midwest with the exception of Indiana, South Dakota, Nebraska and Kansas.

Although Indiana's child population increased between 2000 and 2010, much of this growth was concentrated in a handful of large metropolitan areas, college communities and counties with large Amish populations (see **Figure 3**). In all, 68 of Indiana's 92 counties saw their child population decline over the decade. This age group fell by 5 percent or more in 45 of these counties.

Figure 3: Percent Change in the Population Under Age 18 by County, 2010
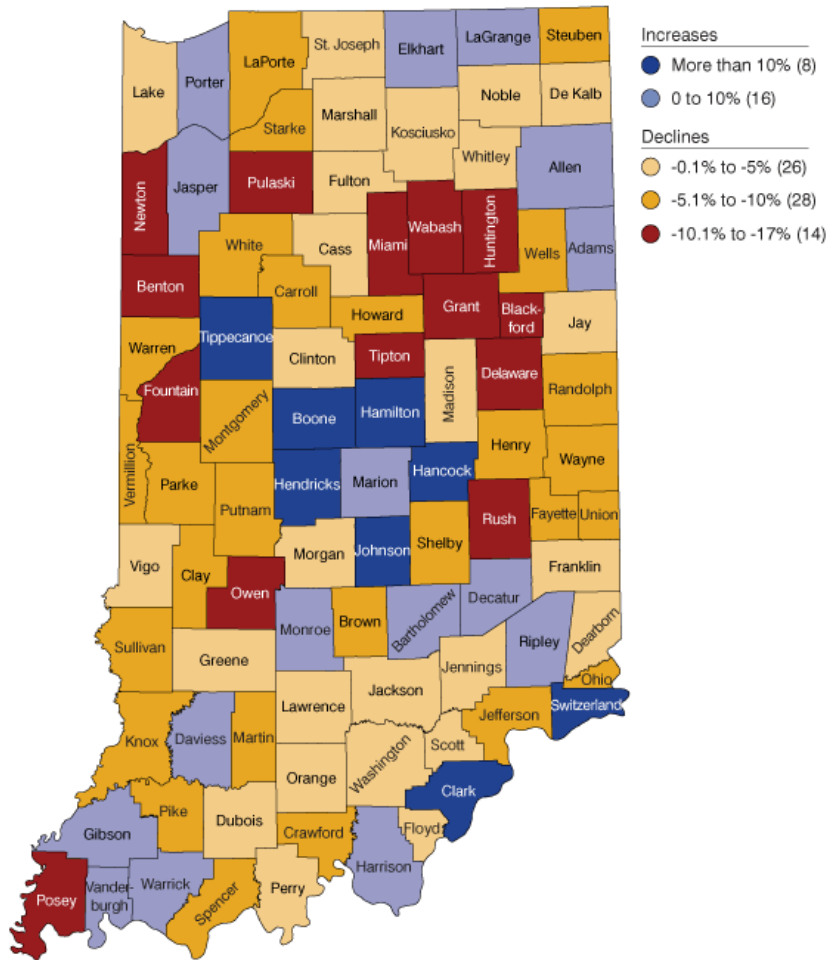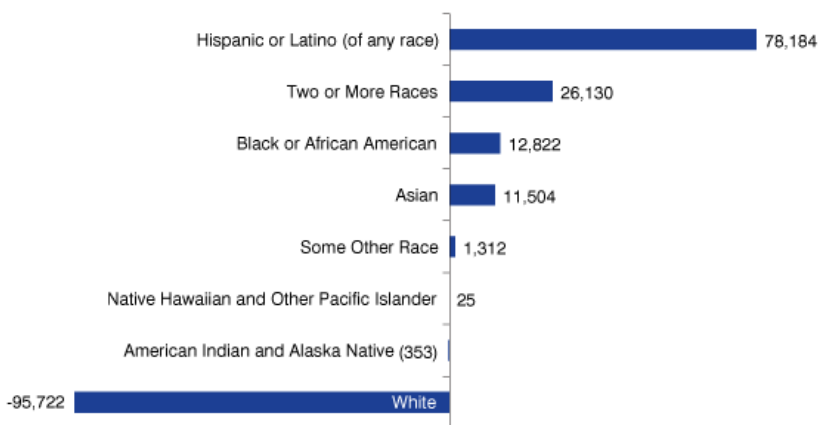
Source: IBRC, using Census Bureau data

Greater Diversity among Children

The nature of the growth within the state's child population underscores Indiana's growing racial and ethnic diversity.

Indiana's child population grew over the decade despite a 7.5 percent drop in the number of non-Hispanic white children. This rate of decline equates to 95,700 fewer non-Hispanic white children in 2010 (see **Figure 4**). However, the number of Hispanic children more than doubled over the same period and the multi-race and Asian child populations jumped by nearly 90 percent.

Figure 4: Change in Child Population Under 18 by Race and Ethnicity, 2000-2010
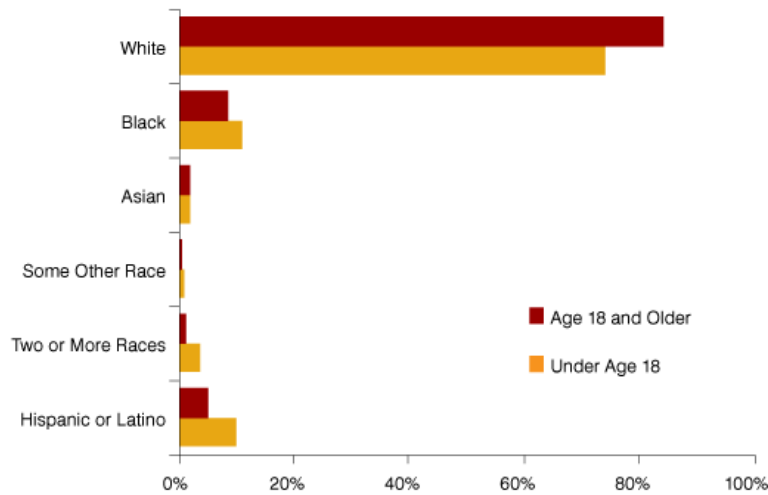

Note: Hispanic or Latino is an ethnicity not a race. Figures for race groups exclude Hispanic residents of that race.
Source: IBRC, using Census Bureau data

The number of black children in the state grew by 8 percent. All told, the state's minority child population increased by 129,600 between 2000 and 2010.

Because of its strong growth in the younger age groups, Hispanic residents now account for 9.6 percent of the total Indiana child population compared to 4.8 percent of the state's population age 18 or older (see **Figure 5**). By contrast, non-Hispanic white residents make up 73.9 percent of the state's population under 18 compared to 84 percent of the adult population. Indiana's black residents account for 10.9 percent of the child population and 8.3 percent of the adult population.

Figure 5: Share of Indiana Population by Age Group, Race and Ethnicity, 2010

Note: Hispanic or Latino is an ethnicity not a race. Figures for race groups exclude Hispanic residents of that race.
Source: IBRC, using Census Bureau data

The same trend is playing out across the country. Non-Hispanic whites make up 67 percent of the U.S. population over age 18 yet account for just 54 percent of the total child population. Meanwhile, the Hispanic share of the U.S. population jumps from 14 percent of all adults to 23 percent of children.

Learn More
The Census Bureau provides detailed demographic profiles down to the city/town and township levels. Complete data can be found at the **American FactFinder website**. The bureau will release data with greater age, sex, race and ethnicity detail later this summer. Visit STATS Indiana for easily accessible data extracts and more: **http://www.stats.indiana.edu/topic /census.asp**.

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Indiana Personal Income: The Recession Experience

How did per capita personal income (PCPI) change in Indiana counties during the recession?

First, let's get our bearings. Statewide, Indiana's PCPI stands at $34,022 as of 2009, the most current year available for county data. The counties with the five highest PCPIs in the state span the state from north (Porter), to central (Boone and Hamilton) to south (Dubois and Warrick). Boone County leads the way, with a PCPI of $48,870. An increase of 0.2 percent between 2007 and 2009 was enough for seventh place Warrick County to surpass Hancock and Floyd counties for a spot in the top five. **Table 1** provides details on these top five counties.

Table 1: Counties with the Highest PCPIs in 2009

County	2009	2007	Numeric Change	Percent Change
Boone	$48,870	$51,557	-$2,687	-5.2
Hamilton	45,556	49,038	-3,482	-7.1
Porter	41,110	41,981	-871	-2.1
Dubois	39,620	40,942	-1,322	-3.2
Warrick	39,237	39,163	74	0.2

Note: Values adjusted for inflation to 2009 dollars.
Source: IBRC, using Bureau of Economic Analysis data

At the other end of the spectrum, LaGrange County has the lowest PCPI in the state at $21,544, with Starke ($24,640), Miami ($25,934), Adams ($26,573) and Crawford ($26,932) counties rounding out the bottom five.

Before the recession, 19 counties had a PCPI higher than the Indiana average, and by 2009 that number grew to 23 of our 92 counties. Far fewer counties had a PCPI at or above that of the United States, with 5 counties in 2007 but only 3 counties by 2009 (see **Table 2**).

Table 2: Indiana Counties Relative to State and U.S. PCPI, 2007-2009

|	2007	2008	2009
Indiana PCPI	$34,996	$34,889	$34,022
Counties at or above Indiana PCPI	19	21	23
U.S. PCPI	$40,830	$40,529	$39,635
Counties at or above U.S. PCPI	5	5	3

Note: Values adjusted for inflation to 2009 dollars.
Source: IBRC, using Bureau of Economic Analysis data

After adjusting for inflation, 32 counties experienced increases in PCPI between 2007 and 2009 (see **Figure 1**). Eight counties had increases greater than $1,000, with Benton County at the top, gaining $3,446 over the recession period (or 10.1 percent).

Meanwhile, 25 counties had declines greater than $1,000, with the largest drop experienced in Elkhart with a $4,489 decline (or -13 percent).

Figure 1: Change in PCPI, 2007-2009
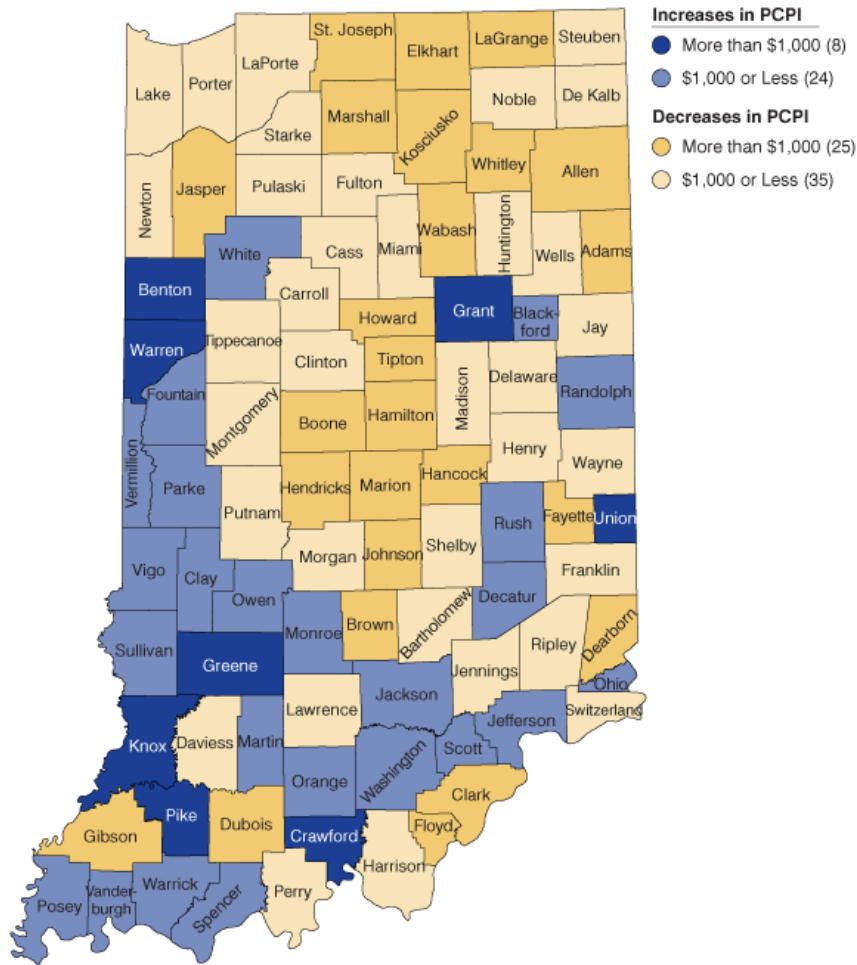
Note: Values adjusted for inflation to 2009 dollars.
Source: IBRC, using Bureau of Economic Analysis data

When considering percent changes, three counties had increases greater than 5 percent (Knox, Crawford and Benton), while 12 counties had losses exceeding 5 percent (see **Table 3**).

Table 3: Counties with PCPI Declines Exceeding 5 Percent, 2007-2009

Area	2009	2007	Numeric Change	Percent Change
Elkhart	$30,064	$34,553	-$4,489	-13.0
LaGrange	21,544	24,199	-2,655	-11.0
Adams	26,573	29,013	-2,440	-8.4
Howard	31,149	33,922	-2,773	-8.2
Hancock	38,606	41,882	-3,276	-7.8
Hamilton	45,556	49,038	-3,482	-7.1
Marshall	28,335	30,260	-1,925	-6.4
Tipton	34,432	36,529	-2,097	-5.7
Kosciusko	34,032	36,057	-2,025	-5.6
Brown	35,065	37,151	-2,086	-5.6
Boone	48,870	51,557	-2,687	-5.2
Floyd	37,733	39,795	-2,062	-5.2

Note: Values adjusted for inflation to 2009 dollars.
Source: IBRC, using Bureau of Economic Analysis data

These data illustrate that, while Indiana's PCPI only dropped 2.8 percent during the 2007-2009 time frame of the Great Recession, the impacts felt at the county level varied significantly. One-third of our counties experienced per capita income increases during the recession, even though the gains in these counties were not enough to offset deeper losses elsewhere. To dig further into these data, view the **Income Topic Page** on STATS Indiana.

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Jobs for Displaced Autoworkers

The auto industry has been under tremendous pressure in recent years, in terms of both structural and cyclical change. The tri-state region of Indiana, Michigan and Ohio lost more than 46 percent of its total auto industry employment between June 2006 and June 2009. This article identifies the workers most affected by these changes in the auto industry and previews new tools developed to help these displaced workers transition to new careers. This analysis was conducted by a research consortium of the Indiana, Michigan and Ohio Labor Market Information offices with funding from the U.S. Employment and Training Administration. For more information about the Driving Change project, visit **www.drivingworkforcechange.org/**.

Job Loss by Occupation

Table 1 presents the top 20 occupations that lost auto sector jobs in Indiana from 2006 to 2009. These data are for the transportation equipment manufacturing sub-sector plus the engine, turbine and power transmission equipment manufacturing industry (this is referred to as TEM-plus). The top two occupations with the greatest job reductions were team assemblers and assemblers and fabricators (all other), accounting for 22 percent of the observed job losses.

Given the ambiguity of the "all other" category, along with some evidence of jobs shifting from one of these categories to the other for the same employer, one may reasonably argue that a single occupation accounted for nearly a quarter of the industry job loss from 2006 to 2009. This consolidated job classification represents more than 13,000 dislocated workers in Indiana and more than 57,000 dislocated workers in the tri-state region of Indiana, Michigan and Ohio.

If O*NET occupational survey demographics for team assemblers also apply to assemblers and fabricators, more than 60 percent have only a high school education—a troubling statistic.

Table 1: Indiana Occupational Employment Loss in the Auto Sector, 2006 to 2009*

Occupation Code	Title	Loss	Industry Loss Rank	Percent of Auto-Related Loss
51-2092	Team Assemblers	-8,393	1	14%
51-2099	Assemblers and Fabricators, All Other	-4,851	2	8%
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	-3,862	3	7%
51-4121	Welders, Cutters, Solderers, and Brazers	-2,778	4	5%
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	-1,936	5	3%
53-7051	Industrial Truck and Tractor Operators	-1,803	6	3%
47-2111	Electricians	-1,710	7	3%
51-1011	First-Line Supervisors/Managers of Production and Operating Workers	-1,636	8	3%
49-9041	Industrial Machinery Mechanics	-1,508	9	3%
51-4199	Metal Workers and Plastic Workers, All Other	-1,500	10	3%
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	-1,479	11	3%
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	-1,422	12	2%
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	-1,403	13	2%
51-4111	Tool and Die Makers	-1,313	14	2%
51-4072	Molding, Coremaking, and Casting Machine Setters, Operators, and Tenders, Metal and Plastic	-1,298	15	2%
51-9199	Production Workers, All Other	-1,157	16	2%
51-9198	Helpers—Production Workers	-1,061	17	2%
43-5061	Production, Planning, and Expediting Clerks	-935	18	2%
53-7064	Packers and Packagers, Hand	-931	19	2%
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	-908	20	2%

* Auto sector defined as TEM-plus.
Note: Shaded rows indicate occupations whose workers have experienced extended unemployment.
Source: Indiana Department of Workforce Development, using QCEW and OES data

The shaded rows in **Table 1** indicate that autoworkers in these occupations have experienced long-term unemployment.[1] The fact that these are long-term claimants also implies that autoworkers in these occupations are having difficulty finding work in other industries. Either demand for labor in these occupations in other industries is also low—a plausible hypothesis given the massive economic downturn—or there are other structural obstacles that hinder a worker's transition from one industry to another. Increasing inter-industry labor flexibility by concentrating retooling and retraining resources on these 10 occupations could serve to maximize training dollar results.

Job Loss by Age and Sex

Figure 1 illustrates that job losses were not proportional across age and sex in Indiana. In terms of sheer numbers, male workers bore the brunt of the absolute job loss (with a loss of 36,300 jobs between 2006 and 2009, compared to a loss of 14,600 jobs for women). However, women experienced the larger decline on a percentage basis (-39 percent compared to -35 percent).

Figure 1: Indiana Auto Sector Employment Change by Age and Sex, 2006 to 2009*
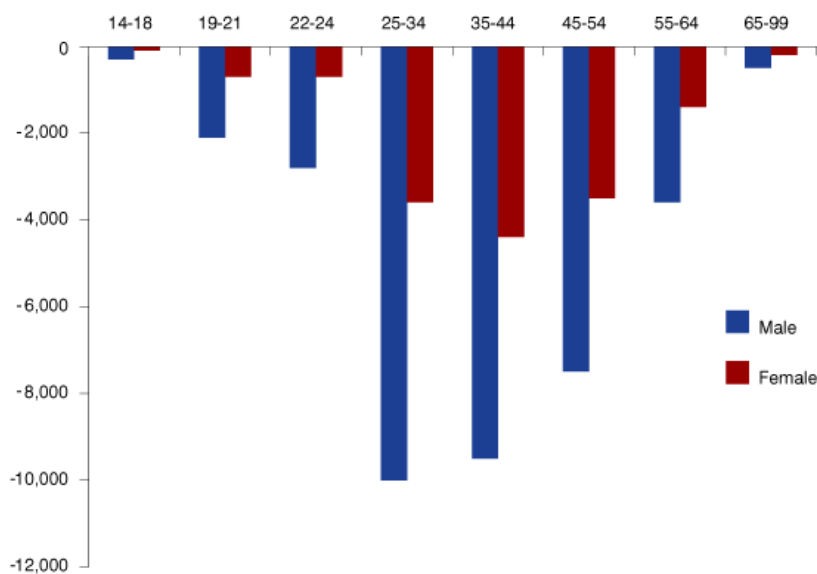
*Auto sector defined as TEM-plus. Data are based on the second quarter of each year.
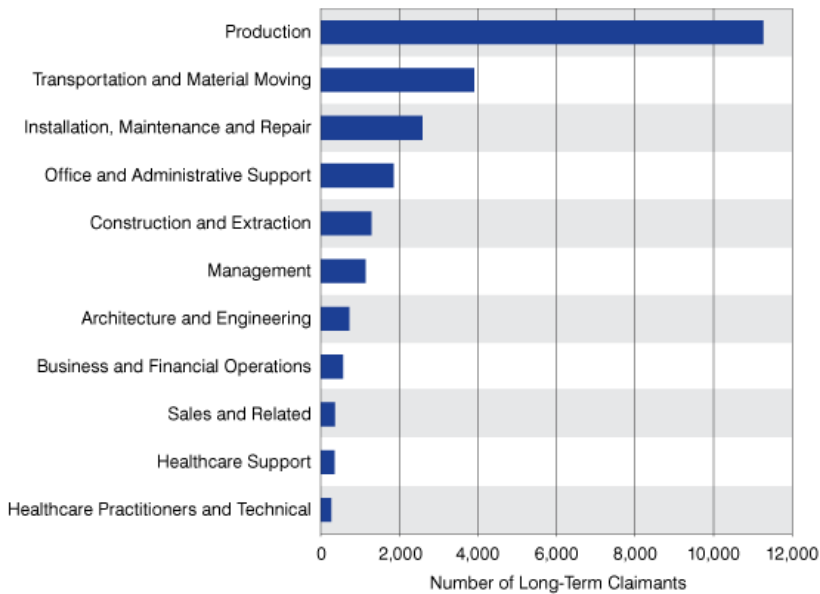Source: Indiana Department of Workforce Development, using Local Employment Dynamics data

The remaining auto sector workforce has become, on average, older and more male, a phenomena partially explained by job tenure.

Autoworkers Experiencing Long-Term Unemployment

Analyzing Indiana's long-term unemployment claimant data for the dislocated TEM-plus sector shows that 67 percent of the dislocated unemployed workforce is male. This is not surprising given that the overall workforce for this industry is roughly 75 percent male. Self-reported occupations for these workers are concentrated in production and transportation and material moving occupations, but span a wide gamut of broad occupational groups (see **Figure 2**).
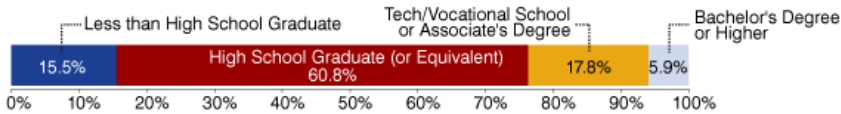
Figure 2: Long-Term Claimants by Broad Occupational Category, July 1, 2009 - June 30, 2010

Seventy-five percent of these displaced workers have a high-school education or less (see **Figure 3**).

Figure 3: Long-Term Claimants by Educational Attainment, July 1, 2009 - June 30, 2010

In addition, more than 47 percent are over the age of 45, as shown in **Figure 4**. Since many of these workers have not been inside a classroom for decades, retraining for an alternate career may pose a daunting challenge.

Figure 4: Long-Term Claimants by Age Group, July 1, 2009 - June 30, 2010
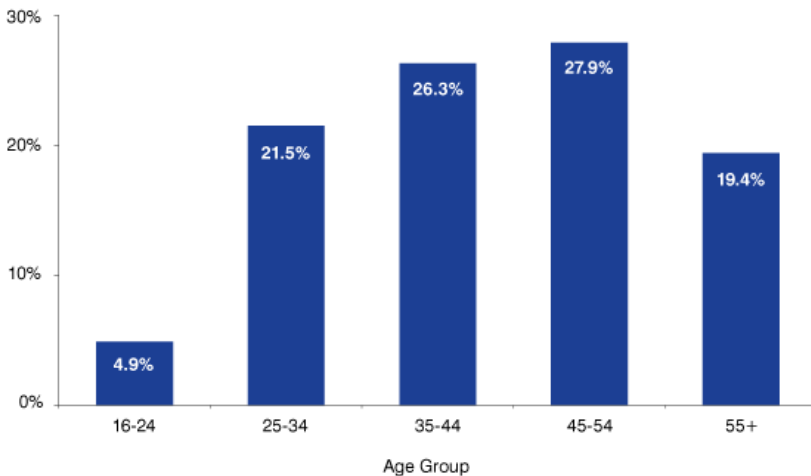
Finding Work

Auto production rebounded significantly in 2010 and many firms have seen profit margins return. Nonetheless, surveys conducted by the Driving Change research team indicated that management at automaker and supplier firms tend to be concerned about the rebound's permanence and hesitate to expand hiring or production at the rate of previous economic

recoveries.

Even though the auto sector is hiring again and has recalled some workers, the rate uptake is not at levels sufficient to rehire all those that lost their jobs. New tools to help these displaced workers find viable career alternatives have been developed by the Driving Change consortium.

1. First, a displaced worker can view a list of occupations similar to his or her previous job. These groundbreaking career pathway clusters group occupations into seven clusters based upon the similarities and differences of worker and job characteristics (not industries or functions). Not only are occupations in a given pathway cluster considered similar to one another in terms of their knowledge and skill requirements, but also in the degree to which worker traits such as "highly social" or "attentive to detail" make occupations more or less similar. Job transitions within a given cluster, therefore, would be easier than moving from one cluster to another.
2. Next, a worker can find out the relative difficulty or ease in closing the skills gap between a new occupation and his or her previous job. The "trip time" analysis looks at how long it would take to change from one occupation to another based on the amount of preparation (the education, training or apprenticeship time) required for the new job.
3. Finally, after a worker generates a set of suitable alternative occupations, he or she can match those occupations with technical, vocational and postsecondary educational programs in the region.

To learn more, all of the Driving Change research results and tools are available at **www.drivingworkforcechange.org**.

Notes

1. Long-term claimants are those who have been unemployed long enough to exhaust the "normal" unemployment insurance benefits and have continued to draw unemployment benefits via the Federal Emergency Unemployment Compensation program. Analysts selected an unduplicated cadre of claimants from Indiana's TEM-plus sector, who received unemployment benefits between July 1, 2009 and June 30, 2010.

Analysis conducted by the

- **Research & Analysis Division** of the Indiana Department of Workforce Development and
- **Timothy Slaper,** Director of Economic Analysis, Indiana Business Research Center, Indiana University Kelley School of Business

The Compactness of Indiana's New Legislative Districts

On May 10, 2011, the state's new legislative districts were signed into law. Compactness scores are a frequently used means to evaluate the appropriateness of district boundaries. The general thinking is that one is less likely to encounter gerrymandering if districts are compact. Since there is no one standard or ideal measure of compactness, this article analyzes four of the most common compactness measures and looks at how Indiana's districts stack up.

Compactness Measures

Compactness measures can be divided into two types: dispersion (measuring how far a district spreads out from its center) and indentation (measuring how smooth the boundaries are). In all cases, high scores indicate the most compact areas and low scores indicate the least compact areas.

Dispersion Measures

1. **Reock:** This method is quite simplistic: it is the ratio of the district's area to the area of the minimum spanning circle that can enclose it. Therefore, it consistently rates long, thin districts as the least compact.[1]
2. **Convex Hull:** This method calculates the ratio between the district's area to the area of the minimum convex bounding polygon that can enclose it (that polygon is often described as what one would get if wrapping a rubber band around the district). It "is essentially capturing the extent to which the boundaries of the district bypass some geographical areas to capture others."[2] Note: the convex hull areas were clipped to the state boundary so as not to artificially lower the scores for border districts.

Indentation Measures

1. **Polsby-Popper:** This method looks at the ratio of the district's area to the area of a circle with the same perimeter. For both this method and the following Schwartzberg method, "detailed coastal boundaries are likely to be assigned low compactness scores, even if the overall shape of the district is reasonably compact" due to the emphasis on the perimeter instead of the overall shape.[3]
2. **Schwartzberg:** This method is the ratio of the district's perimeter to the perimeter of a circle with the same area. (These scores were inverted for the sake of consistency with the other methods so that 100 is the most compact).

Results

Figure 1 shows the new congressional districts alongside the former ones. By and large, the congressional districts now follow county boundaries, with the exception of nine counties which are split into different districts (LaPorte, Kosciusko, Blackford, Morgan, Howard, Boone, Marion, Scott and Crawford).

Figure 1: Congressional Districts, 2001 and 2011
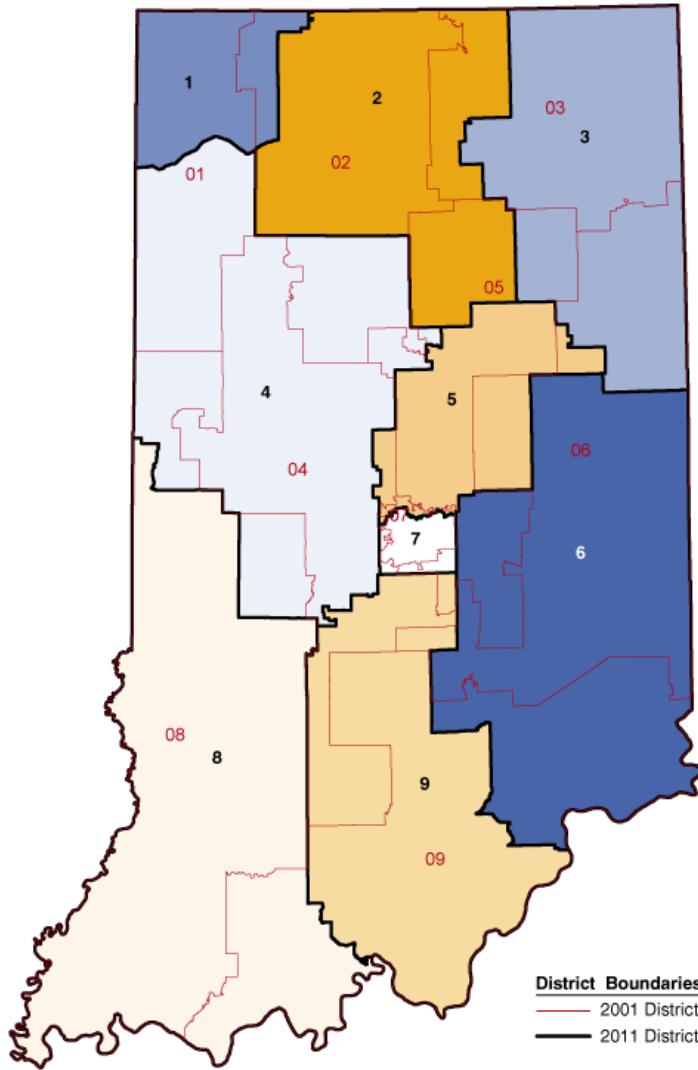
Source: IBRC, using Indiana Legislative Services Agency and U.S. Census Bureau data

Table 1 compares the compactness scores of Indiana's prior congressional districts with the newly created districts, showing that the new districts are more compact on average. While District 4 was the least compact district in the former system, District 8 now ranks lowest in the current system on three of the four measures. However, its scores are negatively impacted more by the jagged state boundaries rather than intentionally drawn boundaries.
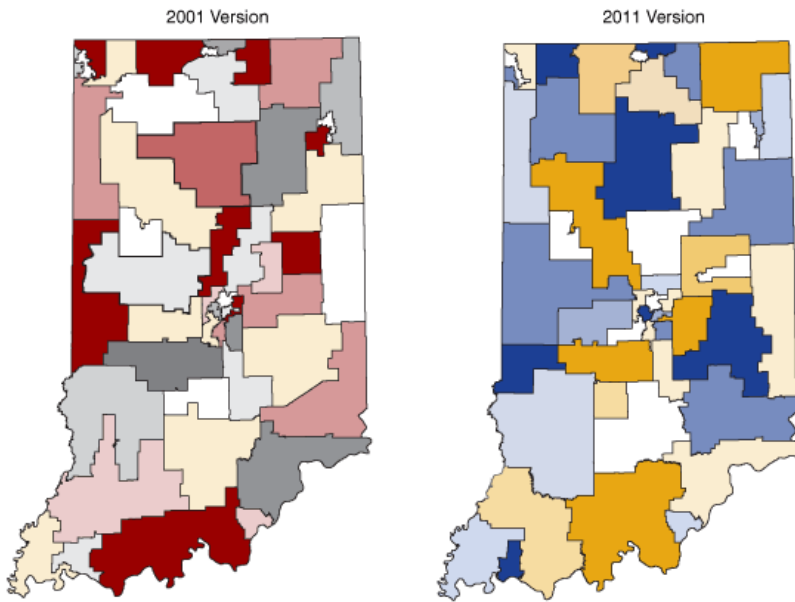
Table 1: Compactness Score Comparison for Indiana's New and Former Congressional Districts, 2001 and 2011

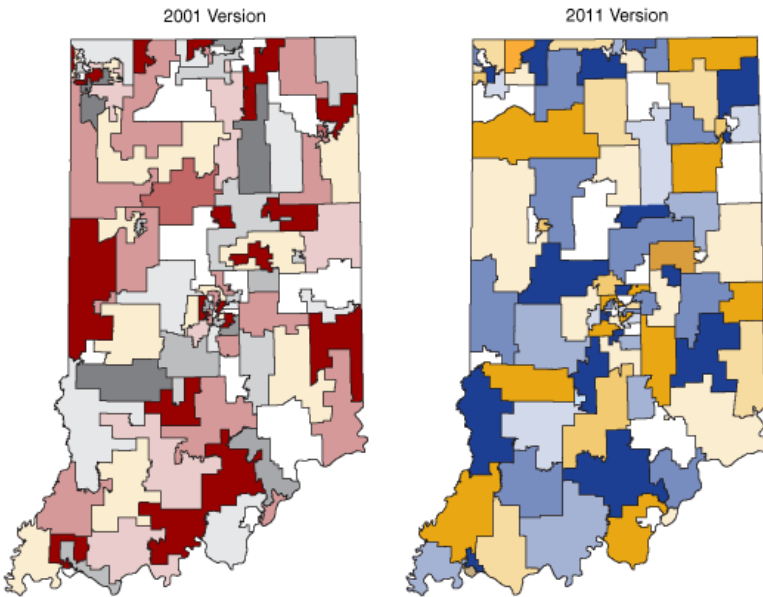|	Reock		Convex Hull		Polsby-Popper		Schwartzberg	
Name	New Districts	Old Districts	New Districts	Old Districts	New Districts	Old Districts	New Districts	Old Districts
District 1	47.0	35.3	87.7	**93.1**	**57.9**	49.4	**76.1**	70.3
District 2	57.8	46.6	82.6	79.9	46.9	33.4	68.5	57.8
District 3	44.9	**64.2**	89.8	93	51.7	**52**	71.9	**72.1**
District 4	47.2	20.7	81.8	56.5	42.4	15.7	65.1	39.6
District 5	44.1	29.8	77.6	66.4	34.8	16.4	59.0	40.6
District 6	48.9	31.4	89.7	73.5	46.7	23	68.4	47.9
District 7	**61.5**	53.6	**93.5**	78.4	51.2	18.4	71.6	42.9
District 8	32.4	24.6	85.5	86.9	21.0	18.8	45.9	43.4
District 9	42.4	33	82.4	79.8	35.7	22	59.8	46.9
Average	47.4	37.7	85.6	78.6	43.2	27.7	65.1	51.3

Figure 2 and **Figure 3** show how Indiana's General Assembly districts have changed.

Figure 2: Senate Districts, 2001 and 2011

Source: IBRC, using Indiana Legislative Services Agency and U.S. Census Bureau data

Figure 3: House Districts, 2001 and 2011

Source: IBRC, using Indiana Legislative Services Agency and U.S. Census Bureau data

The 100 house districts and the 50 senate districts are also more compact on average (see **Table 2**).

Table 2: Average Compactness Score Comparison for Indiana's New and Former General Assembly Districts, 2001 and 2011

Name	Reock	Convex Hull	Polsby-Popper	Schwartzberg

	New Districts	Old Districts	New Districts	Old Districts	New Districts	Old Districts	New Districts	Old Districts
Senate Average	43.8	40.2	80.3	77.5	38.5	33.8	61.4	57.1
House Average	43.8	36.9	79.5	71.4	36.5	26.8	59.8	50.7

Source: IBRC, using Indiana Legislative Services Agency and U.S. Census Bureau data

Summary

Based on these four common compactness measures, Indiana's new districts are now more compact than in the past. To learn more about the new districts, view maps and access demographic profiles, visit the **Redistricting topic page** on STATS Indiana.

Notes

1. Avencia Inc., "Redrawing the Map on Redistricting 2010: A National Study" (Avencia White Paper), 8.
2. Ibid., 10.
3. Ibid., 10.

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