WestVriginiaUniversity,
COLLEGE OF BUSINESS AND ECONOMICS
Bureau of Business and Economic Research

## Population Trends in West Virginia through 2030

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## Executive summary

In this report we examine how population trends in West Virginia are likely to evolve through 2030. Key findings of this research are as follows:

## Overview

- In contrast to the relatively healthy population growth enjoyed through most of the 2000s, West Virginia's population is expected to begin a sustained decline around 2016.
- Overall, we expect the state to lose nearly 19,500 people (or 1.05 percent) between 2010 and 2030.
- We expect that this population loss will result primarily from natural population decline in which births fall short of deaths as the population ages.
- While natural population decline is highly likely, much uncertainty exists around population migration patterns in the coming decades. While we expect that any future gains from net migration will be outweighed by natural population decline, our forecast related to migration growth is not certain. Public and business policies have the potential to affect migration patterns and positive shocks - such as the development of an ethane cracking facility in the state - have the potential to significantly improve migration patterns.


## Aging

- West Virginia's population is expected to age at a rate that exceeds that of the nation. Overall, the share of the state's population that is over age 65 is expected to grow to 22.9 percent, up from 16.0 percent in 2010. Correspondingly, the share of the state's population that is of prime working age (age 25-44) is expected to decline to 23.3 percent by 2030, down from 24.7 percent in 2010.


## Regional Population Change

- The state is expected to continue to see a shift in its population toward its northcentral and north-east regions in coming years. We expect population growth in 11 counties in coming years. Among these, three-Berkeley, Jefferson, and Monongalia-are each expected to add more than 10,000 residents between 2010 and 2030. Forty-four of the state's 55 counties are expected to lose population between 2010 and 2030 at varying rates.


## Congressional Apportionment

- There is a strong probability that West Virginia will lose one seat in the US House of Representatives in the upcoming reapportionment in 2020. This would leave the state with two seats, down from three currently and down from six before 1950.


## 1 Introduction and Overview

In this report we examine how population trends in West Virginia are likely to evolve through the year 2030. Our report begins with an analysis of the state's overall likely population change over the next 15 years and the underlying drivers of population change: natural population change (births minus deaths), as well as in- and out-migration. Next we consider the age distribution of the state's population and how the distribution of residents is likely to shift across counties and regions within the state. The report closes with an examination of the possibility that population growth in West Virginia versus the nation as a whole may result in the loss of one of the state's three seats in the US House of Representatives in the upcoming reapportionment in 2020.

In contrast to West Virginia's relatively healthy population growth rate since around 2001, the state's population actually declined from mid-2012 through mid-2013, representing the first annual decline in over a decade. While we expect the overall population to be stagnant over the next one or two years, we do expect the onset of sustained population declines beginning around 2016 and lasting through at least 2030. Overall, we expect the state to lose nearly 19,500 residents between 2010 and 2030. This loss will be driven primarily by the continued increase of natural population decline, which most likely will out-number gains from net migration. While we are confident that natural population change will result in sustained population losses as births fall short of deaths in coming years, it should be noted, however, that there exists a great deal of uncertainty surrounding how migration patterns into and out of the state will unfold over coming years. Public and business policies have the potential to alter migration patterns.

This report also examines likely change in the age distribution of the state's population. While an overall aging of the population is expected to continue in the US, we estimate that West Virginia will age at an even faster rate than the nation as a whole. Overall, we expect that the share of the state's population that is over the age of 65 to increase to approximately 22.9 percent in 2030 from 16.0 percent in 2010 . In a similar pattern, the share of the state's population that is of prime working age (age 20-44) will decline to 23.3 percent in 2030 from 24.7 percent in 2010. Overall, West Virginia will remain one of the oldest states in the US, which stands in sharp contrast to mid- $20^{\text {th }}$ century when the Mountain State was one of the youngest states in the nation.

We also expect a continued shift in the distribution of population within the state. Overall, we expect 44 of the state's 55 counties to experience an overall population decline between 2010 and 2030, with a significant amount of variation in the extent of the decline. Among the 11 counties where population growth is expected, three are expected to add more than 10,000 residents over the period. Generally, the existing trend of a shift in the state's population toward the north-central and north-eastern parts of the state is expected to continue.

The population trends that we examine will likely affect socio-economic outcomes in the state in important ways: These trends could alter the types of public goods and services demanded,
including the demand for K-12 education; alter the size and composition of the state's workforce in important ways, which could affect business location decisions; affect tax revenue collections and shift the state's political landscape.

West Virginia's leaders should recognize these evolving population trends so that they can better anticipate coming challenges and opportunities. As the workforce shrinks, policymakers may consider policies such as coordinating efforts to provide incentives for people to work and to work longer; offering policy incentives for businesses to create more jobs; developing network systems that better connect businesses and potential workers; and the like. Businesses may respond to these changes by shifting their focus to the products and services that will grow in demand as the state's population changes. Recognizing these patterns might also bring attention to ways to increase the number of college graduates either by increasing graduation rates, attracting more out-of-state college students to study in the state, or perhaps working to foster immigration opportunities from abroad.

## 2 West Virginia's Total Population and Components of Population Change

Figure 1 illustrates total population in West Virginia and in the US over the long-run. As illustrated, population in the state grew at a healthy pace during the first half of the $20^{\text {th }}$ century--doubling over the period--and reached a high of 2 million around 1950. The state's population then declined substantially from around 1950 through 1970, losing more than 250 thousand residents over the period. This decline was largely due to the increased mechanization of coal production, which considerably reduced the demand for miners. This decline came at a time when the nation's population was growing rapidly, largely due to the "Baby Boom." Population in the Mountain State rebounded briefly during the 1970s, but then declined again through the 1980s. Population in the state has exhibited stability, comparatively speaking, since around 1990, but with some increase over the period. Population in the state grew by 0.8 percent in total over the decade of the 1990s, and then accelerated in the 2000s to yield total growth of 2.5 percent over the decade. The growth over the 2000 s amounts to roughly 4,500 people per year. Population growth in the US overall has shown a steadier pattern over the long-run.

In contrast to the growth experienced during the 1990s and 2000s, population growth has now stopped in West Virginia. According to the US Census Bureau estimates, population in the state fell by 0.1 percent between mid-2012 and mid-2013. ${ }^{1}$ This loss roughly erased gains made in 2011 and 2012, leaving the state's mid-2013 population of 1,854,304 statistically indistinguishable from its 2010 level. Despite the recent small decline in population, our projection calls for West Virginia's population to grow slightly over the next two years.

[^0]Figure 1: West Virginia and US Population, 1900 to 2030


Sources: US Census Bureau; author's calculations.

We do expect sustained population losses to begin in the second half of this decade. Between 2015 and 2020, we expect the state to experience modest population decline of around 0.02 percent annually, or around 340 people per year. This downtrend will accelerate after 2020 through at least 2030. Overall we project the state's 2030 population to be 1,833,536, which represents a loss of nearly 19,500 people between 2010 and 2030.

The US overall is expected to continue to enjoy population growth through 2030. ${ }^{2}$ By 2020, the US total population is expected to increase to 333.8 million, and then to 358.5 million in 2030, up from 308.7 million in 2010. Overall, between 2010 and 2030 the US total population will increase by 16.1 percent or nearly 50 million, representing an average annual increase of approximately 0.7 percent over the 20 year period.

Two fundamental components drive overall population change: natural change (births minus deaths) and net migration (in-migration minus out-migration). In Figure 2, we illustrate these trends in West Virginia over the past two decades. As illustrated, natural population growth diminished over the 1990s such that it was virtually zero for most of the 2000s. Since 2009, natural population growth has been negative, meaning that deaths now outnumber births in

[^1]the state. Births fell short of deaths in the state by 1,016 in 2013. Despite slight improvement in the rate of natural population decline in 2013 over the previous year, an overall natural population decline is expected to continue for some time and even accelerate as the state's population continues to age.

Figure 2: Components of West Virginia Population Growth, 1991-2013


19911992199319941995199619971998199920002001200220032004200520062007200820092010201120122013

Sources: 1991-2011 births and deaths data are from WV Department of Health and Human Resources. The 2012 and 2013 births and deaths data and net-migration data are from the US Census Bureau.

Net migration into the state has been the most significant and the most volatile component of overall population change. As illustrated, following a sharp increase in net migration after the 1991 recession, the state received more in-migrants than out-migrants overall during the first half of the 1990s. However, in the mid-1990s the state began to see fewer in-migrants compared to out-migrants, resulting in fairly small population declines for a few years during the late-1990s. The pendulum swung in the opposite direction sharply around the 2001 recession, resulting in a shift in the net migration figure of more than 10,000 people in one year - moving to positive net migration of around 5,000 people in 2002 from negative net migration of around 5,000 the previous year. Positive net migration flows continued through the 2000s, and rose noticeably around the 2007-2009 recession.

Strong positive net migration from 2002 through around 2007 was not broadly distributed throughout the state and can be almost entirely explained by movement into the state's

Eastern Panhandle, namely Berkeley and Jefferson counties. These two counties have long had strong connections to employment centers in Northern Virginia, suburban Maryland and the District of Columbia. This connection intensified during the housing boom years as people were able to purchase homes they would not otherwise be able to afford in higher-priced areas, yet keep relatively high-paying jobs in Northern Virginia or Downtown Washington.

However, net migration flows into Berkeley and Jefferson counties shrank significantly beginning in 2007 as the region's housing market began to falter and the greater Washington, DC job market started to weaken. Interestingly, this occurred just as net migration into the state as a whole accelerated through 2010. While the state was in recession during 2009 and early 2010, job losses in the state were milder in comparison to the rest of the nation, thereby relieving pressure for current residents to leave the state looking for work and also providing an incentive for others to move into the state. However, as the national economic recovery started to gain some traction in 2011, these push and pull forces for out- and in-migration weakened and net migration flows into the state started to shrink and eventually turned negative in 2013. This marked the first net outflow of migrants from the state since 2001.

While the forecast expects that in the long run any gains from net-migration will be outnumbered by natural population decline, it should be noted that, given the volatility in overall net migration, this forecast related to net migration is the least certain. Figure 3 suggests that net migration is affected not only by what happens in the state economy, but also by the relative strength between the state economy and the US economy.

In general, both West Virginia in- and out-migration decline after US economic recessions and rise back up after the US economy starts recovering. West Virginia out-migration seems to respond well to fluctuations of job growth in the US, in which it increases and decreases following the increase and the decrease of US job growth, respectively. On the other hand, but with few exceptions, West Virginia in-migration seems to respond well to job growth in the state--it rises when job growth in the state increases, and vice versa. The forecast expects that as the US economy continues to recover, the state's out-migration will increase as West Virginians move to find jobs outside of the state. This weighs on the state's net-migration, which partly explains why net-migration dropped significantly in 2011 and 2012, and even turned negative in 2013. The forecast expects that the rush of finding jobs outside of the sate will diminish in the following years, reducing out-migration. At the same time, in-migration is expected to rise slightly following continued recovery in the state economy. In the end, both trends will help net-migration to slowly rise back up and turn positive in the next two years. Eventually, however, as population continues to age, negative natural changes will out-number any gains from net migration, precipating a long-run population decline.

Figure 3: Job-Growth and In- and Out-Migration


## 3 West Virginia's Population by Age

West Virginia is expected to remain among the oldest states in the nation in 2030. The share of the state's population that is 65 years and older will rise to 22.9 percent by 2030 , up from 16.0 in 2010. This compares to the expectation that 20.3 percent of the national population will be age 65 and older by 2030. The state's share of population below 45 years old will decline to 52.6 percent, well below the national average of 57.1 percent (see Figure 4). This trend marks a substantial shift in the state's age distribution since the mid- $20^{\text {th }}$ century. In 1950, the year in which the state population reached its peak, West Virginia was among the youngest in the nation, posting a median age of 26.3 years, significantly below the national figure of 30.2 years.

Figure 4: Share of Population Ages 25-44 and Over Age 65, 1900-2030


Sources: U.S. Census Bureau and authors' calculations

Within West Virginia, population growth between 2010 and 2030 is expected to vary across age group, gender, and region. Our estimate of a population decline of 19,500 between 2010 and 2030 is the result of a combination of increases in the older age groups and declines in the younger age groups. Total population in all age groups below 65 years old, except in the 20 to 24 age range, will decline. The population 25 to 64 years of age, which represents the majority of the adult working-age population, is projected to see the biggest decrease, 12.3 percent or nearly 123,000 people. A drop of this magnitude has the potential to create a major shakeup in the state's labor market because businesses may find it increasingly difficult to hire the workers they need. Similarly, the population below 20 years old, which largely represents the K-12 school-aged population, is expected to decline by 4.6 percent, or by more than 20,300 people, during the same period. This decline will reinforce the existing problem of falling enrollments faced by many school systems in West Virginia.

While younger cohorts will shrink, the 20 to 24 year-old population is expected to remain stable at about 60,000 people. This trend could serve as a potential supply of skilled labor and also help to alleviate the effects of retiring Baby Boomers. It is important to note that part of this growth will likely be driven by out-of-state students pursuing a college education in West Virginia. Data show that the share of students enrolled in West Virginia public colleges and universities from outside of the state increased from 25.2 percent in 2009 to 28.2 percent in 2013. This increase will also help generate more demand for goods and services produced in the state. On the other hand, these out-of-state students are more likely to move outside of West Virginia upon graduation. For that reason, more coordinated efforts may be needed to provide incentives to keep college students in the state after graduation.

Figure 5: West Virginia Population by Age, 2010 vs. 2030


Sources: US Census Bureau; authors' calculations.

Total population aged 65 years or older is expected to rise by more than 41 percent between 2010 and 2030, an increase of nearly 123,300 people. About 93 percent of this increase comes from the aging Baby Boomer population.

Such a massive increase of the elderly population is expected to have a significant impact on the provision of public services. Increased spending on Medicaid, disability benefits, retiree medical insurance, retiree pensions, etc., is likely to strain the state's budget. These heightened demands for spending would take place when the state is facing potentially sluggish growth in tax revenue due to a shrinking working-age population.

## 4 West Virginia Population by County and Region

West Virginia's population growth between 2010 and 2030 varies widely by county. In Figure 6 we report the expected change in population by county in percentage terms; in Figure 7 we report the expected change in absolute terms. Eleven counties are expected to add residents between 2010 and 2030. The majority of these counties are expected to add fewer than 10,000 residents but three--Berkeley, Jefferson, and Monongalia--are expected to add more than 10,000 residents each during the outlook period and should grow at rate of at least 1 percent per year through 2030. Monongalia County is expected to grow the fastest at 1.4 percent per year, followed by Berkeley County at 1.3 percent, and Jefferson County at 1.0 percent. The eight remaining counties are expected to register gains anywhere between slight increases up to 0.7 percent.

We expect 44 counties to experience a population decline between 2010 and 2030. This represents a substantial change from the 31 counties that experienced a population decline over the 2000-2010 time period. The counties with the largest population declines tend to be in the southern part of the state as well as in the Northern Panhandle. We expect relatively large absolute population losses in Kanawha and Harrison counties, as illustrated in Figure 7, but these are small in percentage terms given the large number of residents already living in these counties. Our projections also call for relatively large population losses in Wood County, given the status quo. However, sources of upside potential (and downside risk) do exist for many counties due to unforeseen improvements (deteriorations) in local economic conditions. For example, construction of an ethane cracking facility that is currently under consideration in Wood County could improve the area's outlook considerably and prompt increased inmigration. ${ }^{3}$

[^2]Figure 6: 2010-2030 Population Growth by County, Percentage Growth


Source: Authors' calculations.

Figure 7: 2010-2030 Population Growth by County, Absolute Growth


Source: Authors' calculations.

In Figure 8 we illustrate the broader shift in the state's population across regions within the state according to our projections. As illustrated, Southern West Virginia and the Northern Panhandle will suffer the largest losses in terms of their share of the state's population. Central West Virginia, the Metro Valley, and the Potomac Highlands will decline slightly as a share of the state's total population. These losses will correspond to a growing share of the state's population in Mountaineer Country and in the Eastern Panhandle.

Figure 8: West Virginia Population Distribution by Region, 2000 and $2030^{4}$


Sources: US Census Bureau and author's calculations.

## 5 West Virginia's Representation in the US House of Representatives

One consequence of West Virginia's expected decline as a share of national population is an increased risk of the state losing one of its three seats in the US House of Representatives (House). The 435 seats for the House are apportioned based on each state's share of the national population. Since population growth varies among states, these seats are reapportioned among the states periodically, with faster-growing states acquiring additional seats at the expense of slower-growing states.

Since West Virginia's population growth rate has been below the national average since at least 1950, it is not surprising that the state lost one seat in 1950, a second in 1970, and a third in 1990. Since 1990, growth has remained below the national average. In addition, as discussed above, our projection calls for the state's population to begin a sustained decline in coming years. Given this projection, in conjunction with expected continued growth in the US population, West Virginia faces the risk of losing an additional House seat in 2020.

[^3]In 2020, the state population is projected to be $1,857,795$. Adding West Virginia residents living overseas (approximately 0.4 percent of the state's population) yields a West Virginia apportionment population of $1,864,509$. According to the US Census Bureau's most recent projection, US population is projected to be 333.9 million in 2020. Subtracting the population of Washington, DC and adding the number of Americans living overseas yield a US apportionment population of 334.2 million. It follows that each of the 435 seats in the US House of Representatives in 2020 will represent 768,264 residents on average.

In order to estimate the number of House seats that will be apportioned to each state in 2020, we simply divide a given state's population by 768,264 . While there are a few additional complicating factors, in most cases this process will successfully predict the number of seats each state will receive. For instance, using this process, West Virginia would have received 3.1 seats in 1990, 2.8 seats in 2000, and 2.6 in 2010. These numbers all round to three, which is the number of seats that West Virginia actually received. However, based on our estimates, this figure falls to 2.43 seats in 2020, which now rounds to two. ${ }^{5}$ This suggests that West Virginia has a higher likelihood of being awarded only two Congressional seats in 2020, down from three currently.

This result is by no means certain as this simple methodology does not capture all of the potential issues that must be considered ${ }^{6}$, and indeed, exceptions to this methodology have occurred in previous apportionments. Using this approach, in 2000 California and North Carolina would have received 52.45 and 12.47 seats, respectively, yet California was apportioned 53 seats and North Carolina received 15. In 2010, Rhode Island mathematically earned 1.48 seats, but was apportioned two seats instead of one. There is also a chance that our projections underestimate the West Virginia population and/or overestimate the US population in 2020, either of which would reduce the risk of the state losing a seat.

[^4]
## Estimation Methodology

These projections use the cohort component model in which each population cohort (defined by age and gender) is projected forward according to age-gender-specific survival and migration rates. The cohort of a newly-born population is computed by applying the age-gender-specific birth rates to the existing female population and female in-migrants. People living in group quarters (dorms, prisons, etc.) are assumed to maintain a constant age and gender distribution and to remain relatively constant or exhibit their own growth pattern. This projection uses records of births and deaths as well as population changes between 2000 and 2010 to gauge migration rates after 2010. Projection numbers are benchmarked to the most recent US Census Bureau's population estimates available.

| Appendix 1. 2014 WV Population Projection by Age and Gender |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Gender \& Age | Actual |  | Forecast |  |  |  |
|  | 2000 | 2010 | 2015 | 2020 | 2025 | 2030 |
| TOTAL |  |  |  |  |  |  |
| 0-19 | 454,715 | 439,213 | 431,136 | 427,041 | 422,750 | 418,862 |
| 20-24 | 120,109 | 117,204 | 121,466 | 116,868 | 117,648 | 117,791 |
| 25-44 | 501,343 | 458,192 | 445,436 | 438,242 | 431,796 | 427,753 |
| 45-64 | 455,282 | 540,981 | 527,404 | 501,925 | 471,218 | 448,428 |
| 65+ | 276,895 | 297,404 | 334,071 | 373,719 | 406,728 | 420,701 |
| Total | 1,808,344 | 1,852,994 | 1,859,513 | 1,857,795 | 1,850,140 | 1,833,536 |
| MALE |  |  |  |  |  |  |
| 0-19 | 233,475 | 225,132 | 220,321 | 218,411 | 215,894 | 213,712 |
| 20-24 | 60,701 | 59,925 | 62,352 | 59,113 | 60,153 | 60,041 |
| 25-44 | 247,940 | 231,723 | 225,951 | 223,079 | 219,548 | 217,668 |
| 45-64 | 224,516 | 267,140 | 260,499 | 248,988 | 235,426 | 225,428 |
| 65+ | 112,538 | 129,666 | 149,417 | 169,106 | 184,371 | 189,724 |
| Total Male | 879,170 | 913,586 | 918,539 | 918,698 | 915,392 | 906,574 |
| FEMALE |  |  |  |  |  |  |
| 0-19 | 221,240 | 214,081 | 210,815 | 208,630 | 206,856 | 205,150 |
| 20-24 | 59,408 | 57,279 | 59,114 | 57,755 | 57,495 | 57,750 |
| 25-44 | 253,403 | 226,469 | 219,485 | 215,163 | 212,248 | 210,085 |
| 45-64 | 230,766 | 273,841 | 266,905 | 252,937 | 235,792 | 223,000 |
| 65+ | 164,357 | 167,738 | 184,655 | 204,613 | 222,357 | 230,977 |
| Total Female | 929,174 | 939,408 | 940,974 | 939,098 | 934,747 | 926,961 |

Appendix 2. Summary of 2014 WV Population Projection by County

| County | 4/1/2000 | 4/1/2010 | 7/1/2015 | 7/1/2020 | 7/1/2025 | 7/1/2030 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| West Virginia | 1,808,344 | 1,852,994 | 1,859,513 | 1,857,795 | 1,850,140 | 1,833,536 |
| Barbour | 15,557 | 16,589 | 16,617 | 16,566 | 16,413 | 16,129 |
| Berkeley | 75,905 | 104,169 | 112,289 | 120,240 | 128,196 | 136,015 |
| Boone | 25,535 | 24,629 | 24,117 | 23,421 | 22,527 | 21,481 |
| Braxton | 14,702 | 14,523 | 14,379 | 14,113 | 13,733 | 13,223 |
| Brooke | 25,447 | 24,069 | 23,298 | 22,580 | 21,885 | 21,103 |
| Cabell | 96,784 | 96,319 | 97,668 | 98,679 | 99,433 | 99,753 |
| Calhoun | 7,582 | 7,627 | 7,582 | 7,481 | 7,362 | 7,218 |
| Clay | 10,330 | 9,386 | 9,223 | 9,039 | 8,851 | 8,643 |
| Doddridge | 7,403 | 8,202 | 8,398 | 8,600 | 8,771 | 8,862 |
| Fayette | 47,579 | 46,039 | 45,386 | 44,611 | 43,751 | 42,795 |
| Gilmer | 7,160 | 8,693 | 8,620 | 8,584 | 8,503 | 8,309 |
| Grant | 11,299 | 11,937 | 11,918 | 11,881 | 11,803 | 11,671 |
| Greenbrier | 34,453 | 35,480 | 35,828 | 35,868 | 35,670 | 35,247 |
| Hampshire | 20,203 | 23,964 | 23,313 | 22,615 | 21,820 | 20,809 |
| Hancock | 32,667 | 30,676 | 29,861 | 29,019 | 28,154 | 27,215 |
| Hardy | 12,669 | 14,025 | 14,093 | 14,131 | 14,125 | 13,972 |
| Harrison | 68,652 | 69,099 | 68,447 | 67,486 | 66,161 | 64,311 |
| Jackson | 28,000 | 29,211 | 29,044 | 28,904 | 28,682 | 28,305 |
| Jefferson | 42,190 | 53,498 | 56,568 | 59,552 | 62,463 | 65,144 |
| Kanawha | 200,073 | 193,063 | 191,680 | 189,173 | 186,023 | 182,156 |
| Lewis | 16,919 | 16,372 | 16,149 | 15,802 | 15,321 | 14,726 |
| Lincoln | 22,108 | 21,720 | 21,493 | 21,054 | 20,403 | 19,607 |
| Logan | 37,710 | 36,743 | 35,293 | 33,430 | 31,400 | 29,233 |
| McDowell | 27,329 | 22,113 | 20,656 | 19,155 | 17,561 | 15,976 |
| Marion | 56,598 | 56,418 | 56,958 | 57,071 | 56,989 | 56,536 |
| Marshall | 35,519 | 33,107 | 32,001 | 30,783 | 29,486 | 28,056 |
| Mason | 25,957 | 27,324 | 27,310 | 27,298 | 27,211 | 27,029 |
| Mercer | 62,980 | 62,264 | 61,665 | 61,117 | 60,431 | 59,454 |
| Mineral | 27,078 | 28,212 | 27,931 | 27,687 | 27,546 | 27,226 |
| Mingo | 28,253 | 26,839 | 25,791 | 24,544 | 23,153 | 21,620 |
| Monongalia | 81,866 | 96,189 | 103,751 | 110,909 | 119,273 | 128,098 |
| Monroe | 14,583 | 13,502 | 13,479 | 13,351 | 13,064 | 12,574 |
| Morgan | 14,943 | 17,541 | 17,579 | 17,611 | 17,599 | 17,459 |
| Nicholas | 26,562 | 26,233 | 26,173 | 25,878 | 25,304 | 24,485 |
| Ohio | 47,427 | 44,443 | 43,624 | 42,616 | 41,503 | 40,200 |
| Pendleton | 8,196 | 7,695 | 7,395 | 7,034 | 6,613 | 6,149 |
| Pleasants | 7,514 | 7,605 | 7,552 | 7,676 | 7,761 | 7,746 |
| Pocahontas | 9,131 | 8,719 | 8,466 | 8,122 | 7,684 | 7,170 |
| Preston | 29,334 | 33,520 | 35,054 | 36,335 | 37,379 | 38,065 |
| Putnam | 51,589 | 55,486 | 56,922 | 57,668 | 57,894 | 57,726 |
| Raleigh | 79,220 | 78,859 | 78,644 | 78,028 | 77,072 | 75,813 |
| Randolph | 28,262 | 29,405 | 29,893 | 30,134 | 30,084 | 29,740 |
| Ritchie | 10,343 | 10,449 | 10,074 | 9,714 | 9,204 | 8,515 |
| Roane | 15,446 | 14,926 | 14,538 | 14,029 | 13,447 | 12,799 |
| Summers | 12,999 | 13,927 | 13,883 | 13,756 | 13,540 | 13,256 |
| Taylor | 16,089 | 16,895 | 16,951 | 16,900 | 16,740 | 16,494 |
| Tucker | 7,321 | 7,141 | 7,022 | 6,845 | 6,605 | 6,276 |
| Tyler | 9,592 | 9,208 | 8,931 | 8,595 | 8,237 | 7,831 |
| Upshur | 23,404 | 24,254 | 24,941 | 24,908 | 24,697 | 24,201 |
| Wayne | 42,903 | 42,481 | 41,263 | 40,461 | 39,461 | 38,324 |
| Webster | 9,719 | 9,154 | 8,930 | 8,624 | 8,232 | 7,795 |
| Wetzel | 17,693 | 16,583 | 16,019 | 15,334 | 14,559 | 13,671 |
| Wirt | 5,873 | 5,717 | 5,836 | 5,929 | 6,092 | 6,226 |
| Wood | 87,986 | 86,956 | 86,024 | 84,914 | 83,496 | 81,554 |
| Wyoming | 25,708 | 23,796 | 22,997 | 21,944 | 20,771 | 19,542 |

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[^0]:    1 "Annual Estimates of the Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2013," December 2013, US Census Bureau.

[^1]:    ${ }^{2}$ US Census Bureau.

[^2]:    ${ }^{3}$ See Appendix 2 for a full listing of our population projections for each West Virginia county through 2030.

[^3]:    ${ }^{4}$ Regions are defined to be the following counties: Southern WV-Boone, Fayette, Greenbrier, Lincoln, Logan, McDowell, Mercer, Mingo, Monroe, Raleigh, Summers, Wayne, Wyoming; Northern Panhandle - Brooke, Hancock, Ohio, Marshall, Tyler, Wetzel; Central WV-Braxton, Calhoun, Clay, Jackson, Lewis, Gilmer, Nicholas, Pleasants, Ritchie, Roane, Upshur, Webster, Wirt, Wood; Metro Valley-Cabell, Kanawha, Mason, Putnam; Potomac HighlandsGrant, Hardy, Hampshire, Mineral, Pendleton, Pocahontas, Randolph, Tucker; Mountaineer Country-Barbour, Doddridge, Harrison, Marion, Monongalia, Preston, Taylor; Eastern Panhandle-Berkeley, Jefferson, Morgan.

[^4]:    ${ }^{5}$ Resulted from dividing 1,864,509 by 768,264.
    ${ }^{6}$ For instance, each state receives at least one seat no matter how small its population, and simple rounding issues can result in actual apportionments to deviate from what this approach would predict.

