



In order to plan for Iowa's future, it is important to understand where we have been and where we are now. This chapter provides an overview of many of the key demographic and economic trends that have affected Iowa and how they are projected to evolve in the future. An understanding of the characteristics that make Iowa's people and economy unique will help in determining the strategies and policies that the Iowa DOT can pursue to ensure Iowa's transportation system can meet the needs of today and the future.

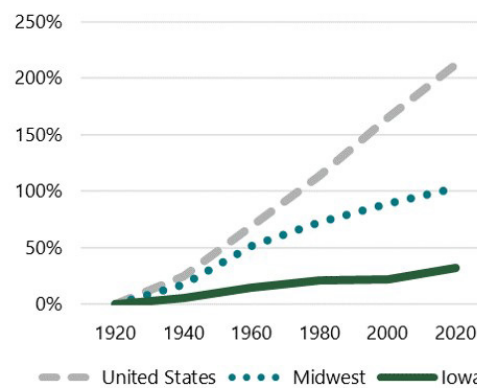
POPULATION		
1990	2020	2050
2.8 MILLION	3.2 MILLION	3.4 MILLION

2.1 Demographic Trends

Iowa's population continues to grow, but at a slow pace

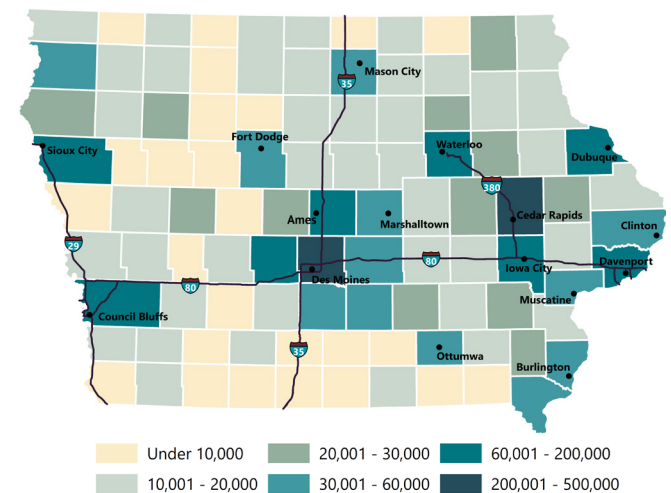
Iowa's population has grown slowly over time. Figure 2.1 shows the magnitude of change for Iowa, the Midwest, and the U.S. over the past 100 years, and how much less Iowa has grown relative to the broader region and country. Iowa's 2020 population was 3,190,369, which is just under 1% of the nation's population; much of this population is concentrated in relatively few counties, as shown in Figure 2.2. Iowa did grow by 4.7% from 2010-2020, which is higher than the Midwest rate of 3.1% but lower than the national rate of 7.4%. Long-term projections have decreased over time. Iowa's 2050 population is projected to be 3.4 million, which is only 6.0% growth from 2020. Slow growth could make it more difficult for transportation revenues to keep up with the growing maintenance and operation needs of the state's transportation system.

Figure 2.1:
Population growth indexed to 1920



Source: U.S. Census Bureau Decennial Censuses

Figure 2.2: Iowa's population by county, 2020



Source: U.S. Census Bureau Decennial Census

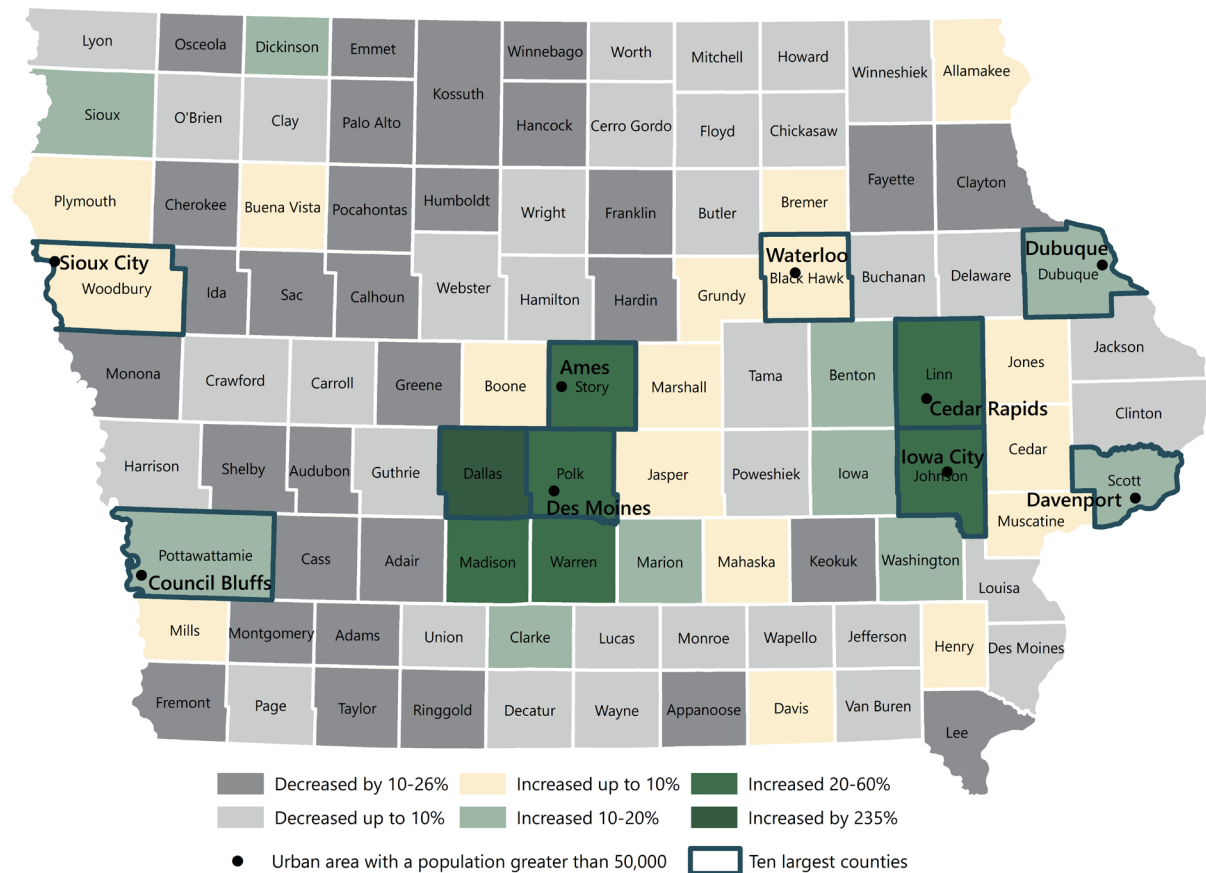
PERCENT LIVING IN TEN LARGEST COUNTIES

1990	2020	2050
45.4%	52.7%	57.4%

Where Iowans live and where the population is growing varies across the state

In the last 30 years, Iowa's overall population has grown, but 63 out of 99 Iowa counties have lost population. The largest percentage increase occurred in Dallas County, which grew by over 200%; the largest percentage decrease was in Pocahontas County, which declined by more than 25%. Iowa's population has become increasingly urbanized and population growth has primarily been concentrated around the state's nine metropolitan areas, noted on Figure 2.3. The state's ten largest counties are also noted; since 2011, more than half the state's population has been located in these counties, and that percentage is anticipated to continue to increase. For rural cities and counties with declining population, the loss in local revenue can exacerbate increasing transportation maintenance needs.

Figure 2.3: County population change, 1990-2020



Source: U.S. Census Bureau Decennial Censuses

The U.S. Census Bureau designates urban areas based on a population threshold of 2,500. For transportation planning purposes, the Federal Highway Administration (FHWA) defines urban areas as those designated by the U.S. Census Bureau that have a population of 5,000 or more. Urbanized areas are U.S. Census Bureau-designated urban areas with a population of 50,000 or more. Urbanized areas may include many cities, but are referred to in this plan by the name of the principal Iowa city. Iowa's urban areas based on the 2010 Census are shown in Figure 2.4.

The percent of the population living in incorporated cities overall and in communities that would be defined as urban or urbanized areas has increased steadily over time, from 58% in 1930 to 81% in 2020. This is shown in Figure 2.5. This trend is expected to continue, further concentrating Iowa's population in cities and urban areas.

Figure 2.4: Iowa's urban areas for transportation planning based on 2010 Census

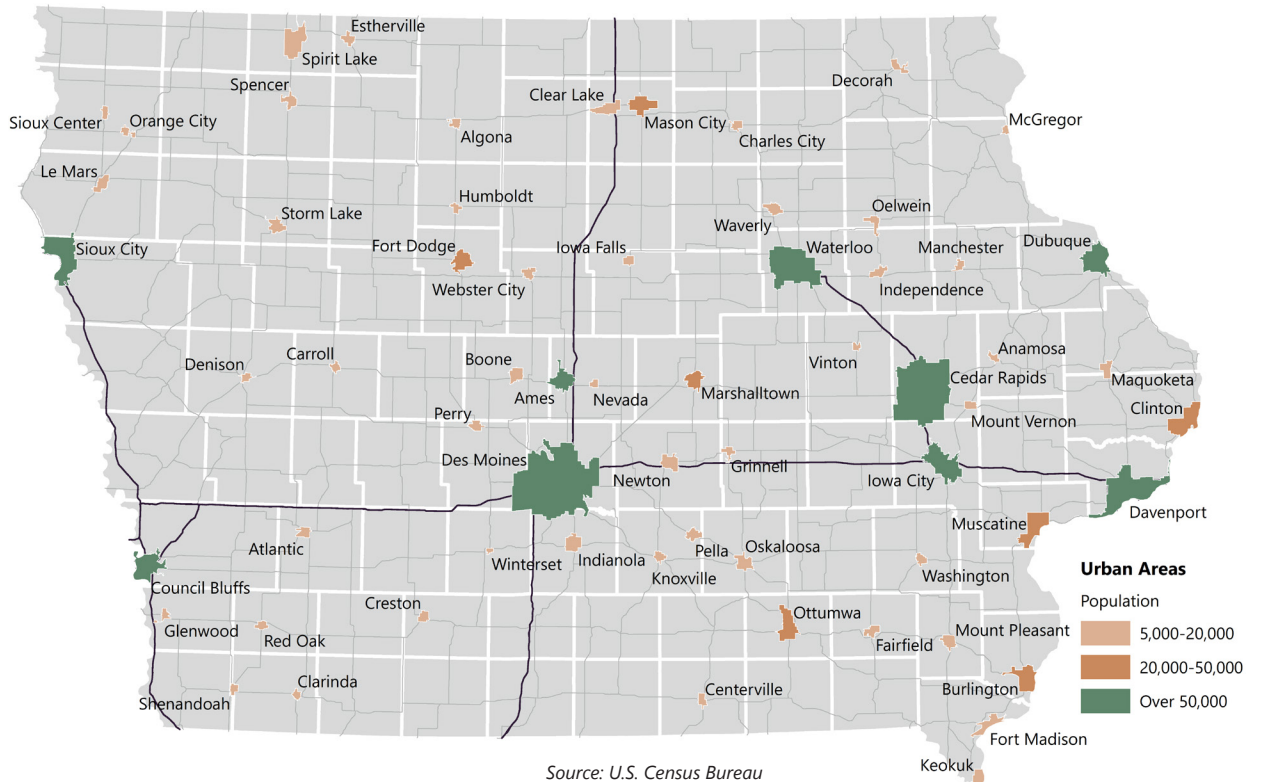
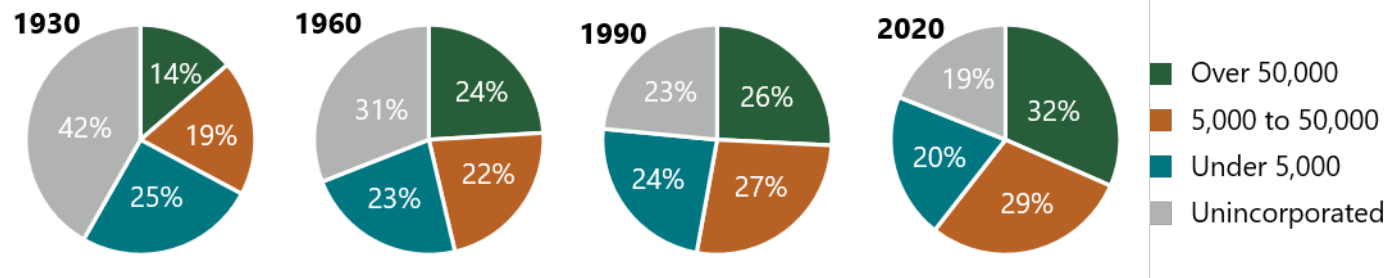


Figure 2.5: Percent of population living in various sizes of cities



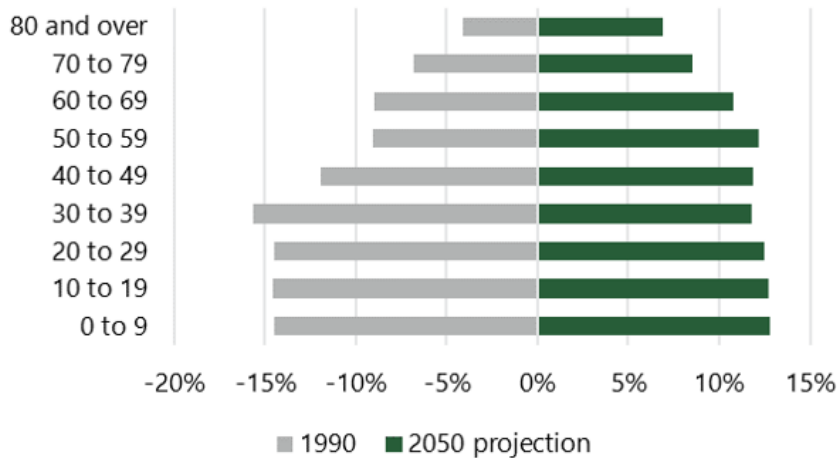
Source: U.S. Census Bureau Decennial Censuses

Iowa's population is aging overall

The percent of Iowa's population that is 65 and older continues to increase, but not as quickly as some other states. Iowa had been in the top ten states for percent of population 65 and older, but is now ranked 16th. The percent of the population that is 19 and younger has dropped over the past few decades but is anticipated to stay relatively stable in the future.

The aging population is evident in Figure 2.6, which shows a population pyramid of Iowa's population 30 years ago compared to the forecasted population in 2050, where the population will become more evenly divided among age groups. While the state is aging overall, in generational terms, the largest percentage of the population is made up of Generation Z and the following generation – those born since 1997 (see Figure 2.7). By the horizon year of this plan, the majority of Iowa's population will be Generation Z and the following generations – most of which are individuals that have not yet been born.

Figure 2.6: Iowa population by age group, 1990 and projected 2050

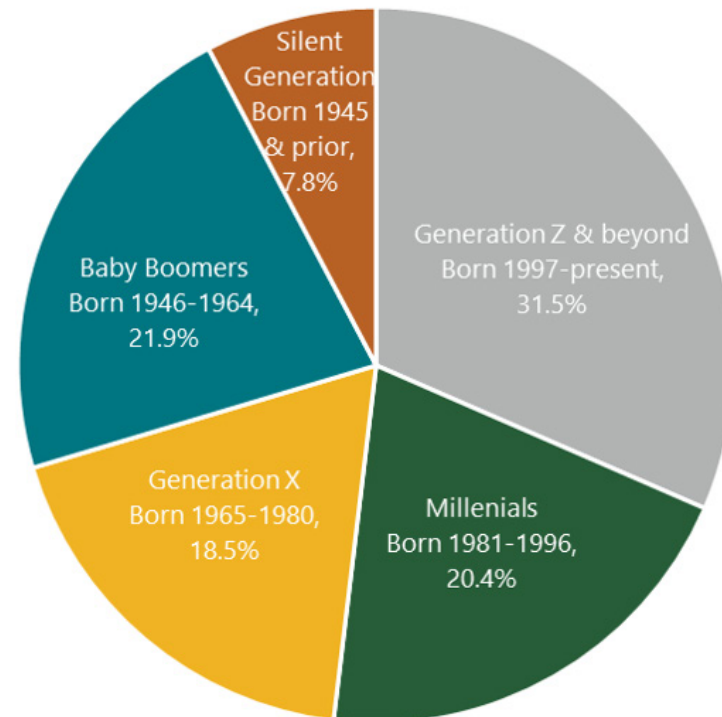


Source: Woods and Poole Economics, Inc.

PERCENT 65 AND OLDER			PERCENT 19 AND YOUNGER		
1990	2020	2050	1990	2020	2050
15.4%	18.0%	20.7%	29.0%	25.8%	25.5%

The aging population requires special considerations in transportation planning, from providing infrastructure that is more accommodating to older drivers to providing other modal options. At the same time, younger generations have shown an increased interest in non-driving options, including other modes, use of shared mobility services, and micromobility options.

Figure 2.7: Iowa population in 2020 by generation



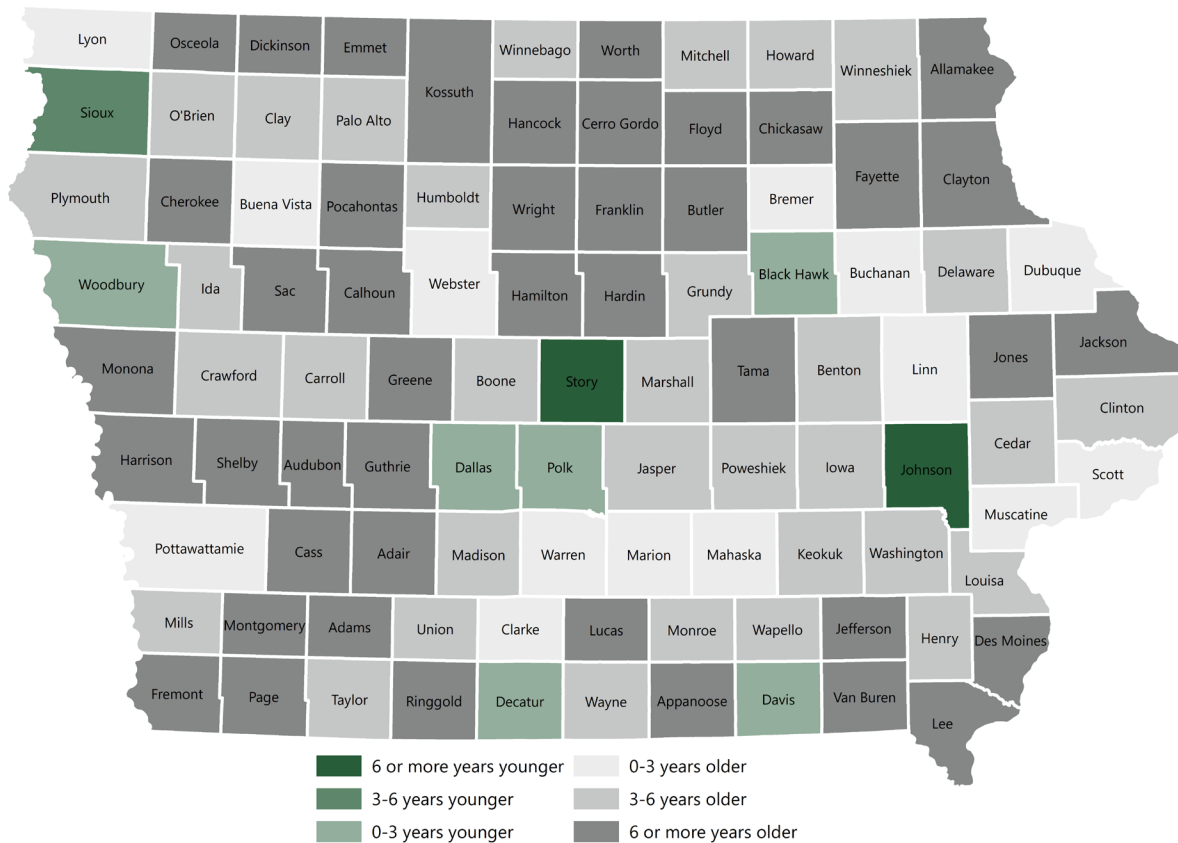
Source: Woods and Poole Economics, Inc.

Iowa's population is not aging evenly

Iowa's median age has increased steadily over time to 38.2 in 2020, on par with the national median age of 38.1. The age of the population varies both geographically and by racial and ethnic groups, as shown in Figures 2.8 and 2.9. Rural areas tend to be older and metropolitan areas tend to be younger. Rural areas tend to have less transportation options in general, and as the population continues to age this could exacerbate mobility challenges. When median age is categorized by racial or ethnic group, White individuals have the highest median age and all minority groups have lower median ages.

MEDIAN AGE		
1990	2020	2050
34.1	38.2	40.2

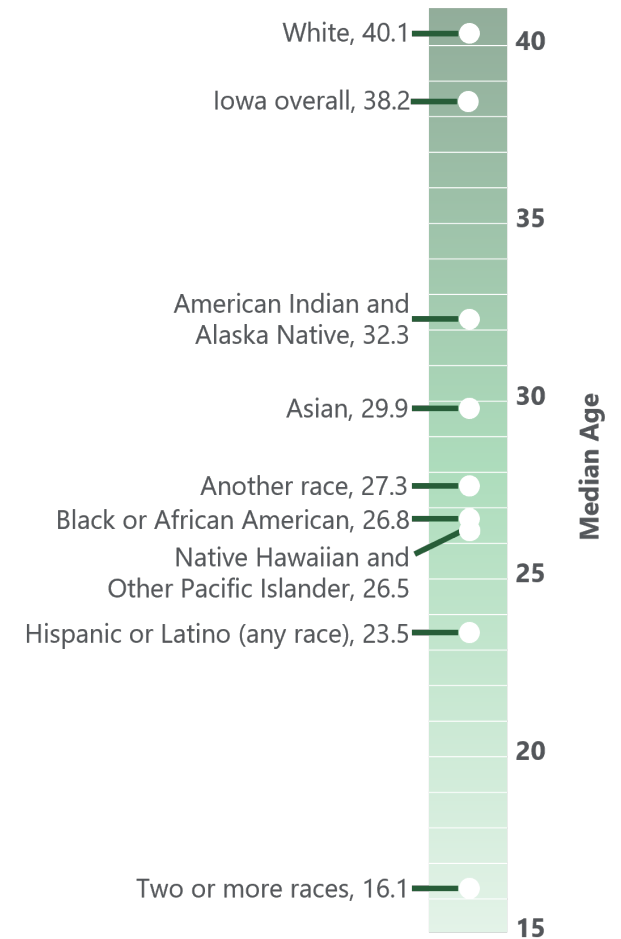
Figure 2.8: Median age by county



When compared to the statewide median age of 38.2

Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

Figure 2.9: Median age in Iowa by race and ethnicity



Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

Iowa is becoming more diverse

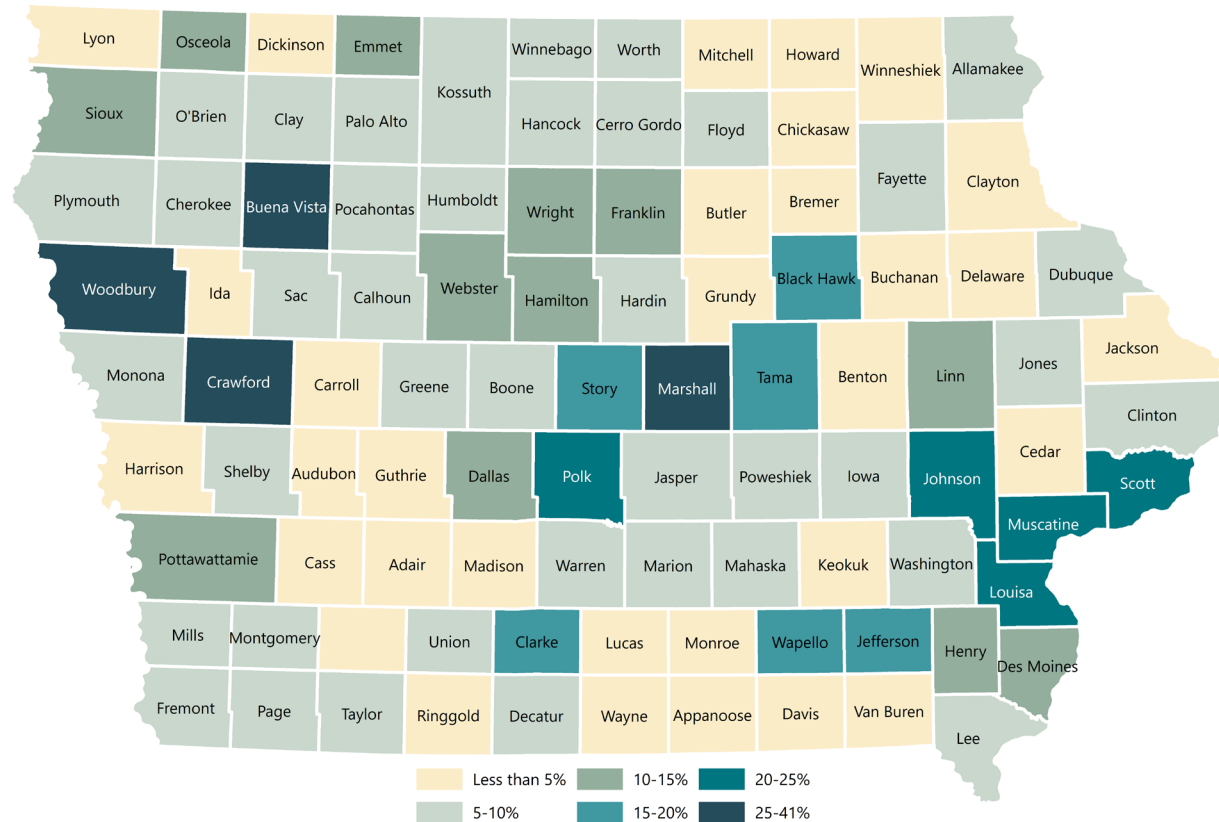
Iowa continues to grow more diverse, with increasing percentages of minority individuals, shown in Figure 2.10. This trend will continue into the future, with more than one in four Iowans projected to be a non-White race and/or Hispanic or Latino by 2050. However, this is much lower than the nation overall, where more than half the population will be non-White by 2050.

English is the dominant language in Iowa, and is the sole language of 91.7% of the population. Almost 5% of the population speaks at least one other language as well as English. The remaining 3.4% of the population has limited English proficiency and may need additional consideration or accommodation to fully use the transportation system. Of the dozens of other languages spoken in Iowa, Spanish accounts for over half of the individuals who do not speak English at home. Other top languages include Chinese, German, Arabic, Vietnamese, and Serbo-Croatian.

PERCENT MINORITY

1990	2020	2050
4.0%	14.4%	26.4%

Figure 2.10: Percent of the population that is a racial minority and/or Hispanic or Latino



The map is based on U.S. Census Bureau categorizations.

Races include White, Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Another Race, or Two or More Races.

Ethnicity is Hispanic or Latino, or not Hispanic or Latino.

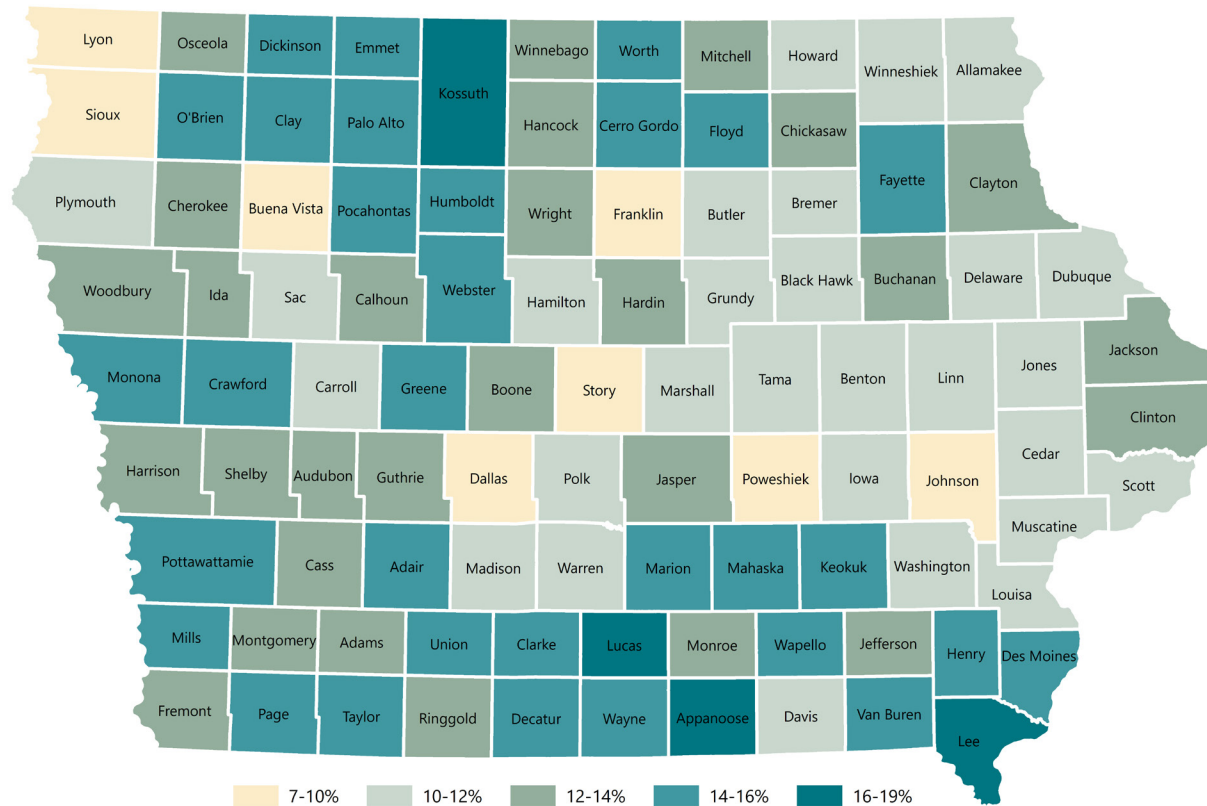
For the purposes of this discussion, minority means all population that is one or more race other than White and/or is Hispanic or Latino.

Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

A significant number of lowans have one or more disabilities

More than one in ten lowans has at least one type of disability, which may impact their ability to fully use the transportation system. As shown in Figure 2.11, in some counties close to one in five individuals have one or more disabilities, representing a sizeable portion of the population. Table 2.1 provides the definitions for the different types of disabilities as well as the percentage of Iowa's population with a particular disability.

Figure 2.11: Percent of the population with one or more disabilities



Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

Table 2.1: Definitions of disabilities and percent of Iowa's population with a disability

Type	Definition	Percent in Iowa
Hearing	Deaf or having serious difficulty hearing	3.5% of total population
Vision	Blind or having serious difficulty seeing, even when wearing glasses	1.8% of total population
Cognitive	Because of a physical, mental, or emotional problem, having difficulty remembering, concentrating, or making decisions	4.6% of those 5 and older
Ambulatory	Having serious difficulty walking or climbing stairs	5.8% of those 5 and older
Self-care	Having difficulty bathing or dressing	2.1% of those 5 and older
Independent living	Because of a physical, mental, or emotional problem, having difficulty doing errands alone such as visiting a doctor's office or shopping	4.8% of those 18 and older
Overall	At least one of the above disabilities	11.7% of total population

Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

2.2 Economic Trends

Iowa's total employment continues to increase

Iowa's employment has grown steadily over time. Figures 2.12 and 2.13 show the magnitude of change for Iowa and the U.S. over the past 50 years, and how jobs in Iowa have increased more slowly than the nation as a whole. The annual change in the number of jobs can vary substantially, but overall has shown a positive but decreasing trend. Figure 2.14 provides a snapshot of the location of jobs in Iowa in 2020. These include part-time and self-employed jobs, which may be part of the reason the number of jobs in the state is growing more quickly than Iowa's population.

JOB

1990	2020	2050
1.6 MILLION	2.1 MILLION	2.6 MILLION

Figure 2.12: Employment growth indexed to 1970

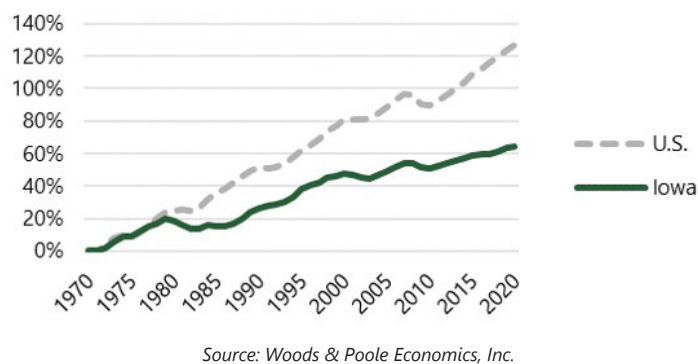


Figure 2.13: Annual change in number of jobs

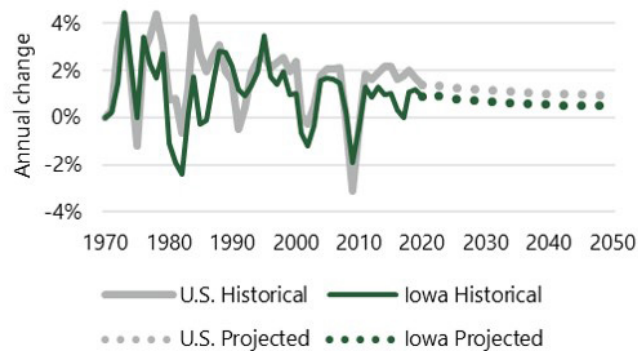
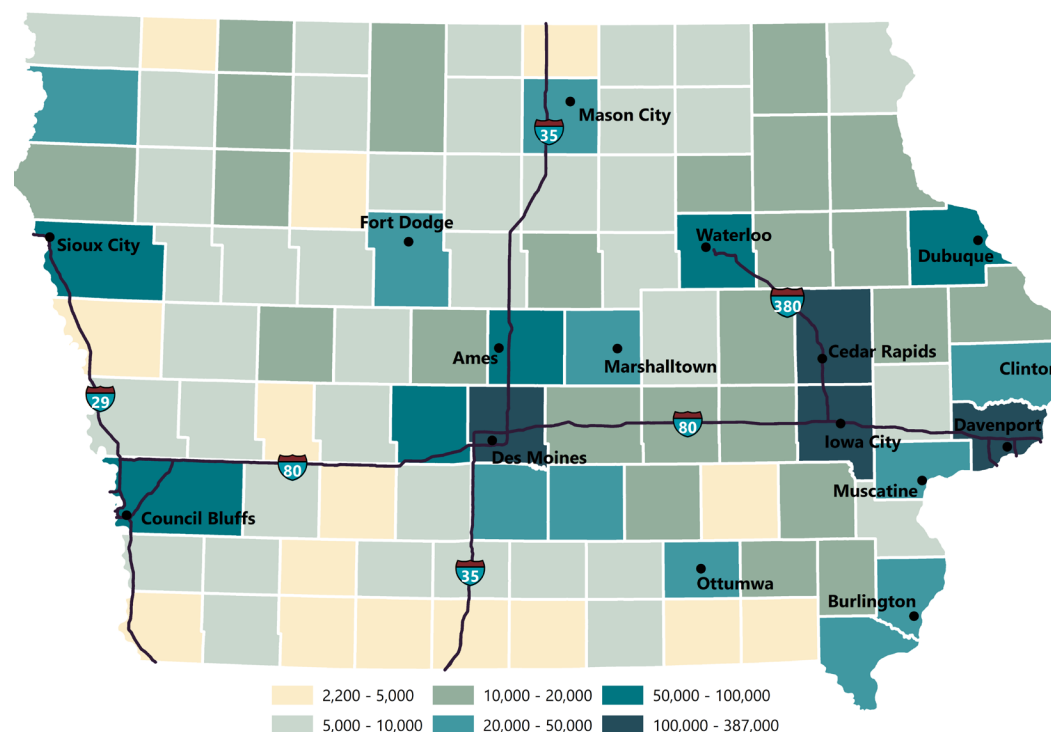


Figure 2.14: Number of jobs per county, 2020



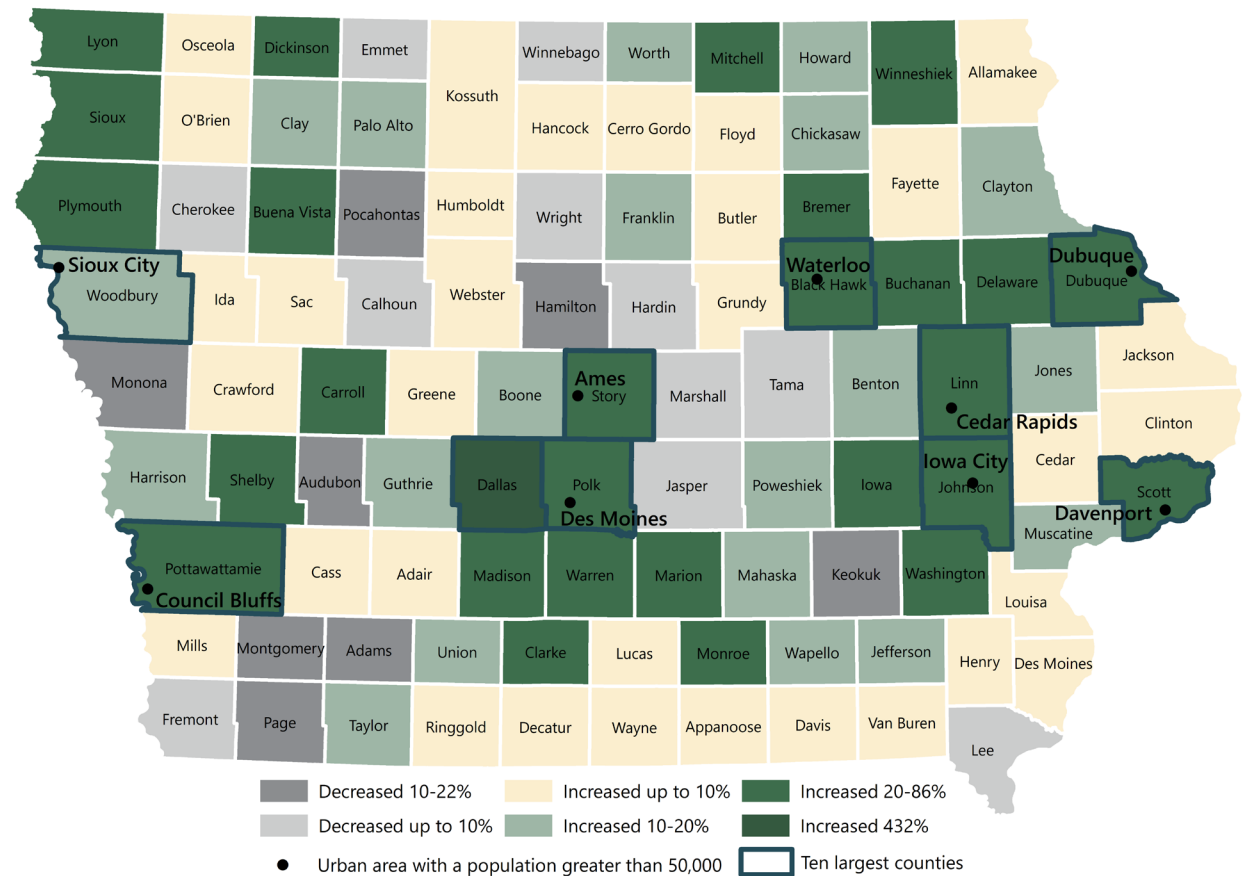
PERCENT OF JOBS IN TEN LARGEST COUNTIES

1990	2020	2050
50.4%	56.8%	60.7%

Where lowans work and where jobs are being added varies across the state

Figure 2.15: County employment change, 1990-2020

In the last 30 years, jobs in Iowa have increased steadily. While fewer counties lost jobs compared to population, there were still declines in the number of jobs for 19 out of 99 Iowa counties. Similar to population, the densest employment growth has primarily been concentrated around the state's nine metropolitan areas, noted on Figure 2.15. Dallas County had the highest percentage increase during this time, over 400%; Adams County declined the most, with a decrease of over 21%. Also, similar to population, over half of Iowa's jobs are concentrated in just ten counties. Where people live and work can have significant impacts for the transportation system, as commuters have varying needs for infrastructure and services throughout the state.

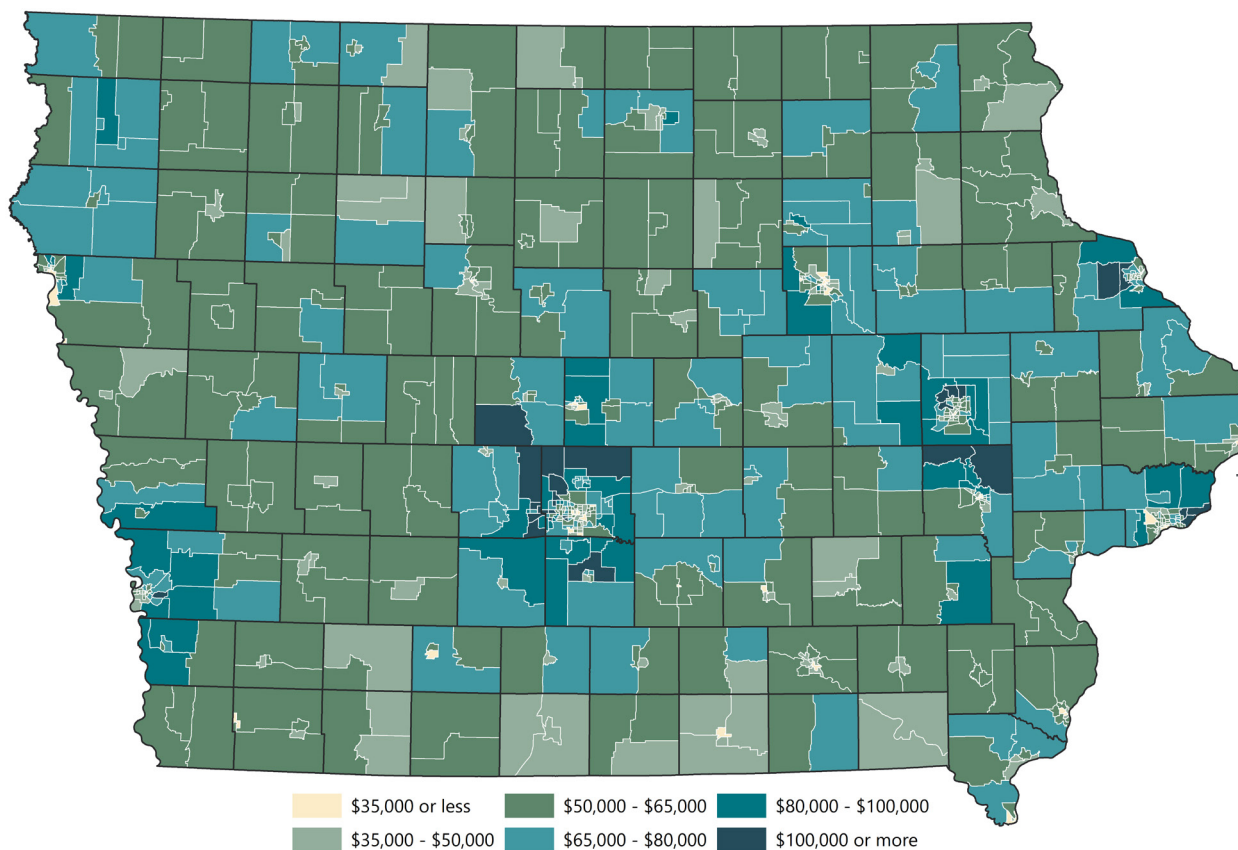


Source: Woods and Poole Economics, Inc.

Iowa's median household income is increasing, but varies considerably

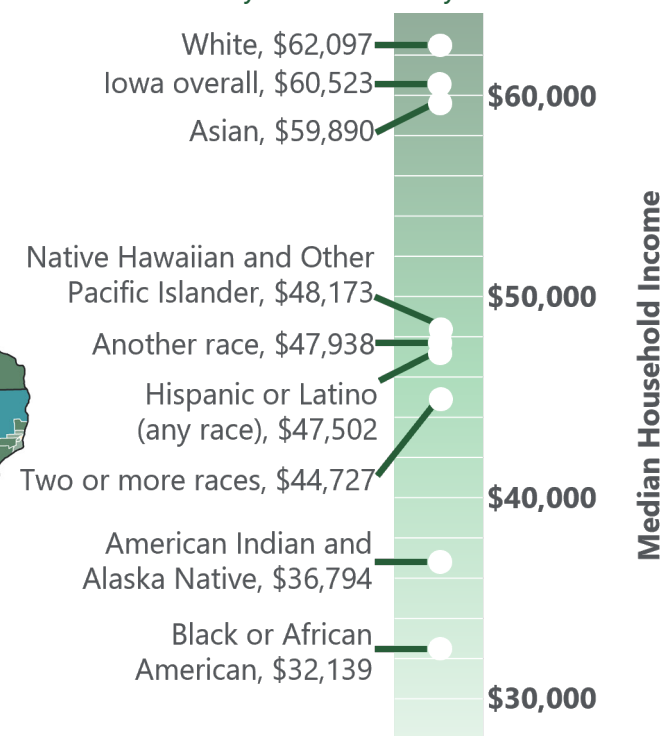
Among Iowa's households, the median income is currently \$60,523, slightly less than the national median income of \$62,843. While the statewide median household income has been increasing over time, it varies considerably for different areas of the state and for different racial and ethnic groups, as shown in Figures 2.16 and 2.17. In general, the areas with the highest median household income are in or surrounding the state's metropolitan areas, though the core areas of most metropolitan areas tend to have lower median household incomes. Median household income varies substantially by race and ethnicity, with the median household income for Black households being just over half the median income for White households. Areas with lower incomes likely have an increased need for transportation infrastructure and services for modes besides driving.

Figure 2.16: Median household income by census tract



Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

Figure 2.17: Median household income in Iowa by race and ethnicity



Source: U.S. Census Bureau 2015-2019 American Community Survey Estimates

Iowa's traditional employment sectors have changed

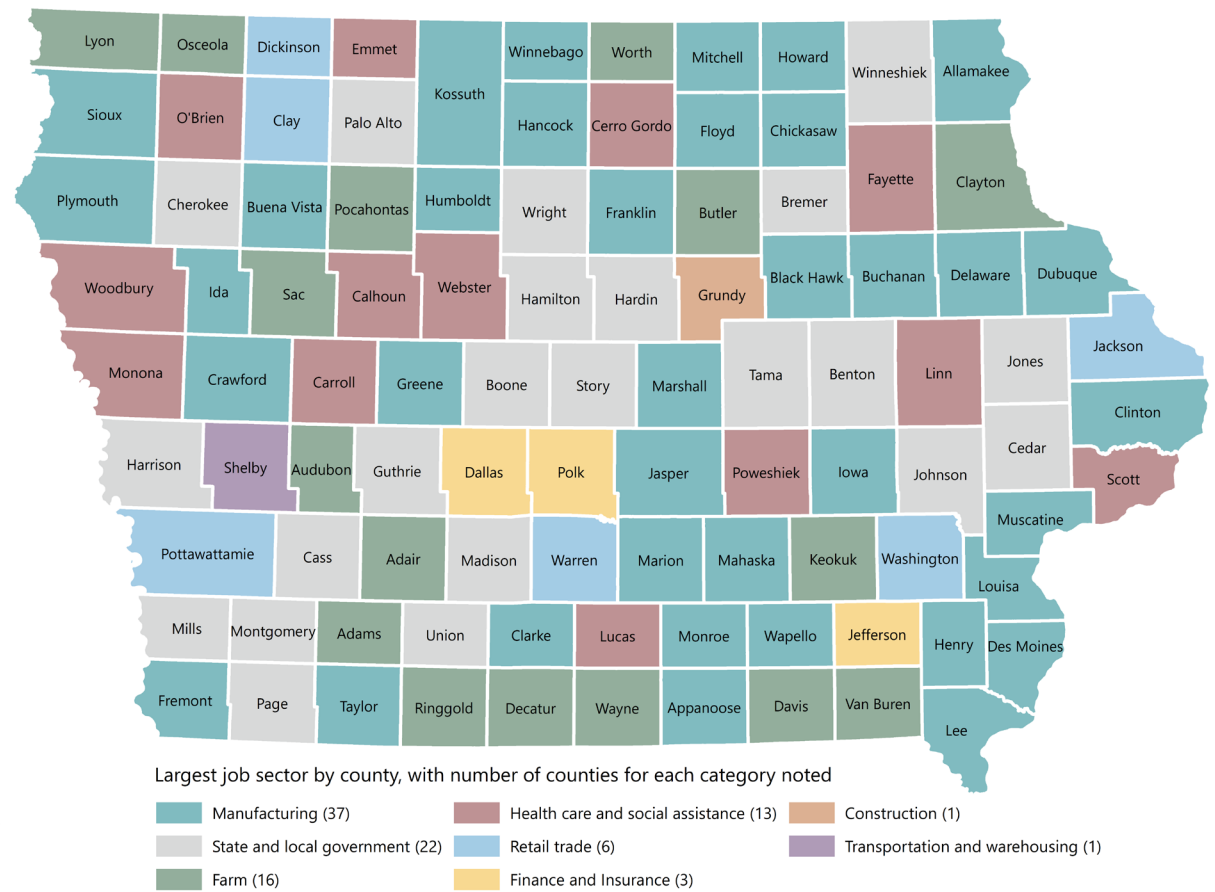
Traditionally, farming and manufacturing have been two of the primary employment sectors in Iowa. Technological advancements and economic diversification have changed this in recent years, as shown in Figure 2.18. Since 1990, the farm sector has decreased by more than 40,000 jobs, which represents a decline of 33 percent in total farm employment in Iowa. The number of manufacturing jobs is about the same in 2020 as it was in 1990, but manufacturing's share of jobs has decreased as other categories have increased. Despite these trends, farm and manufacturing jobs remain critical to the state, and account for the largest percentage of jobs in 53 of Iowa's counties (see Figure 2.19). These industries can also have a major impact on the transportation system, as heavy trucks and equipment can cause operational and maintenance issues for the roadway system.

Figure 2.18: Jobs by sector, 1990, 2020, and 2050



Source: Woods & Poole Economics, Inc.

Figure 2.19: Largest job sector by county, 2020



Source: Woods & Poole Economics, Inc.

Iowa's gross domestic product continues to increase

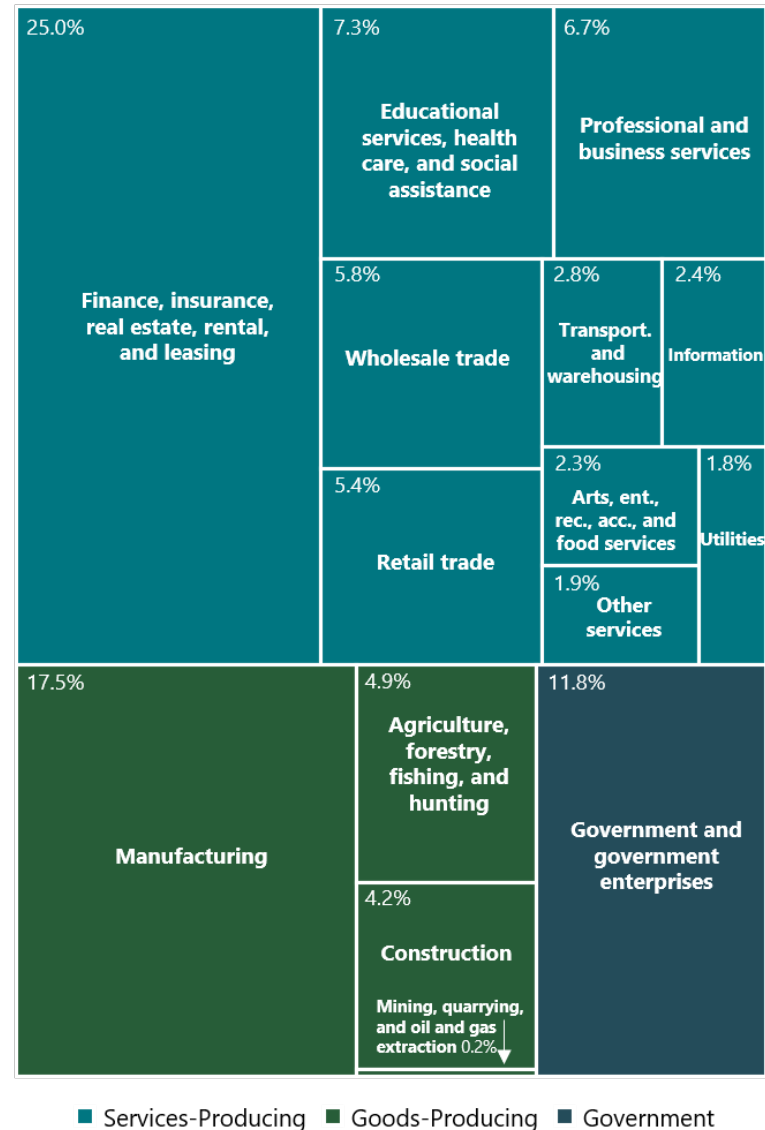
Gross domestic product (GDP) is the total market value of all goods and services produced in the economy. In 2000, Iowa's GDP was \$93 billion; by 2020, Iowa's current-dollar GDP had grown by 107% to \$193 billion and ranked 30th among states. The real-dollar GDP growth during this time, which accounts for inflation by using constant 2012 dollars, was 38.5%, or less than 2% per year. However, as shown in Figure 2.20, some industries have seen significant growth in real GDP since 2000, including agriculture, information, professional and business services, and finance and real estate. The current breakdown of Iowa's GDP is 61.4% private services-producing, 26.8% private goods-producing, and 11.8% government; the proportions by industry are detailed on Figure 2.21. While the goods-producing sectors are forecast to continue to make up a smaller percentage of Iowa jobs over time, they will continue to have significant transportation infrastructure needs related to moving raw materials and finished products.

Figure 2.20: Change in real GDP by industry from 2000-2020

181%	Agriculture, forestry, fishing and hunting
100%	Information
86%	Professional and business services
77%	Finance, insurance, real estate, rental, and leasing
35%	Wholesale trade
29%	Educational services, health care, and social assistance
27%	Manufacturing
21%	Retail trade
11%	Government and government enterprises
9%	Transportation and warehousing
5%	Utilities
-7%	Construction
-17%	Arts, entertainment, recreation, accommodation, and food services
-28%	Other services (except government and government enterprises)
-29%	Mining, quarrying, and oil and gas extraction

Source: U.S. Bureau of Economic Analysis

Figure 2.21: Iowa's 2020 GDP by industry

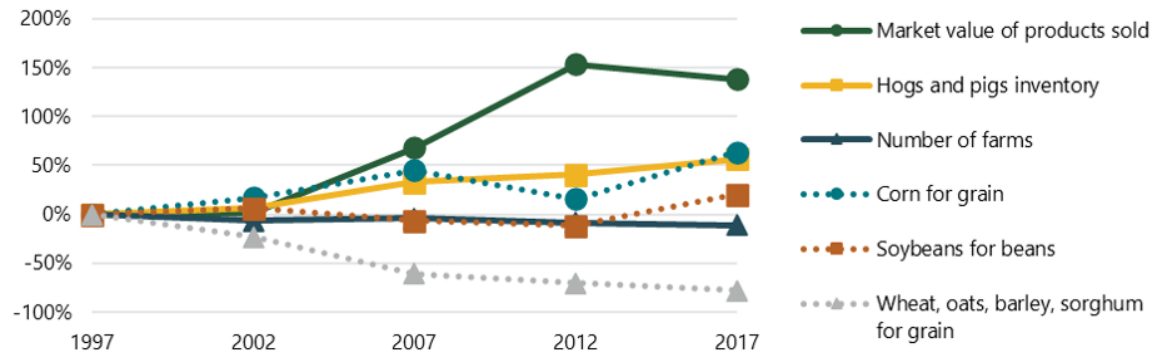


Source: U.S. Bureau of Economic Analysis

Agricultural output continues to be critical to the state

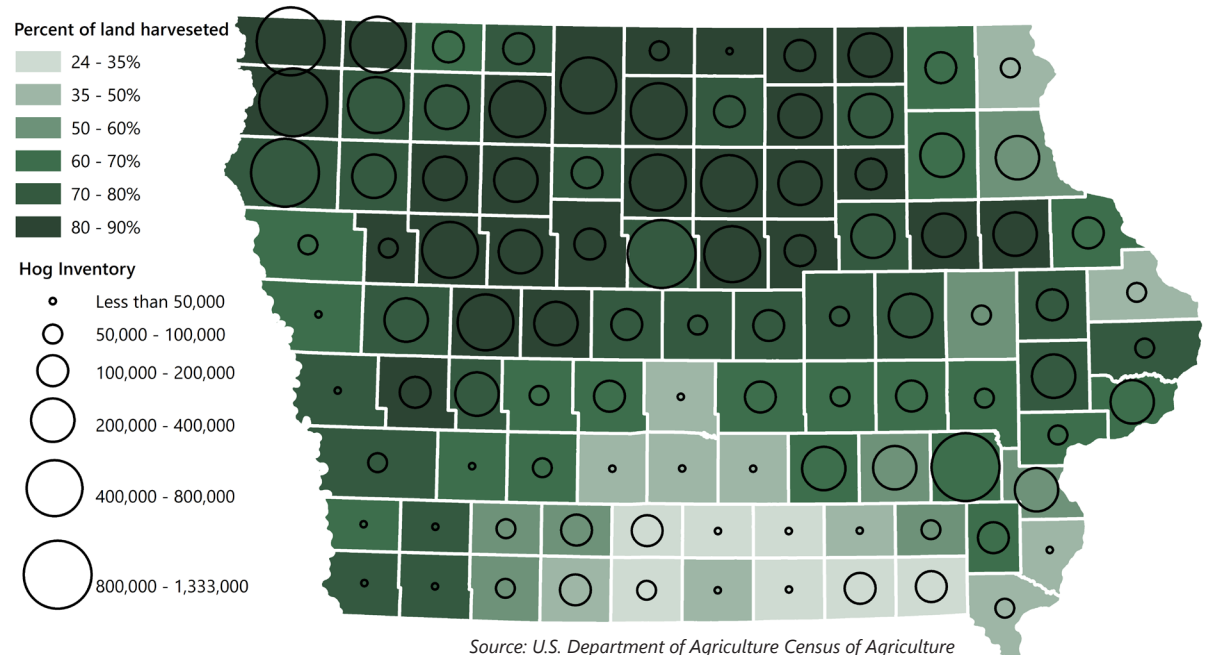
While the farm sector continues to decrease in terms of employment and the number of farms, the value of Iowa's agricultural output continues to increase. In 2017, 86% of Iowa's land area was part of farms, and 68% of the state's land area was harvested cropland. Figure 2.22 shows that during the past couple decades, overall farm output and products such as corn, soybeans, and hogs have increased, while production of other grains has decreased. As shown in Figure 2.23, the patterns of crop and animal production in Iowa reflect the natural geography of the state, with flatter northern Iowa having larger percentages of land used for crops. This also correlates to larger numbers of hog inventories, likely being fed via the area's corn crops, which are also helping to fuel ethanol production. Growth in agricultural output has a corresponding impact on Iowa's transportation system as products are moved to in-state, interstate, and overseas markets via multiple modes. This highlights the need for sustained investment not only in the roadway system, but in rail facilities, intermodal facilities, and lock and dam infrastructure.

Figure 2.22: Percent change for selected agricultural items, 1997-2017



Source: U.S. Department of Agriculture Census of Agriculture

Figure 2.23: Percent of land harvested and hog inventory by county, 2017



Source: U.S. Department of Agriculture Census of Agriculture