2. Iowa's Transit Context

To plan for Iowa's future, we need to understand both the past and present. This chapter will provide an overview of trends that directly impact transit in Iowa. This understanding will help determine the goals and strategies that the Iowa DOT can utilize to meet the transit needs of today and tomorrow.

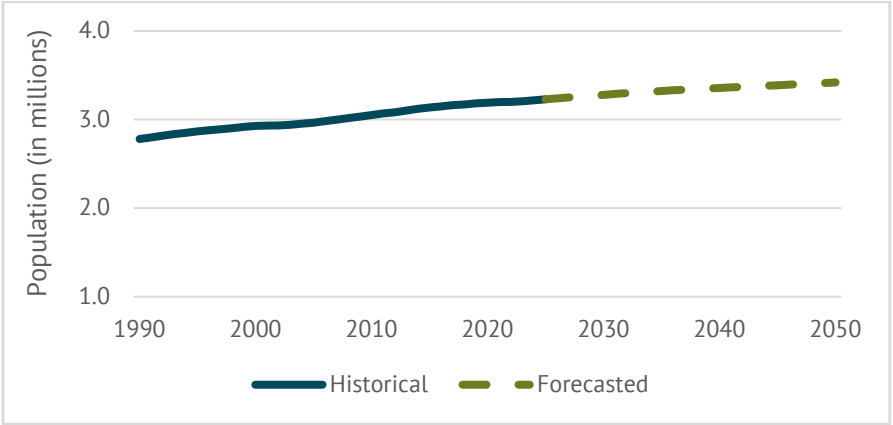
2.1 Demographic Trends

Iowa's population is growing at a slow pace

Iowa's population has remained relatively stable since 1990, growing from 2.7 million people to 3.2 million people in 2023. It is projected that Iowa's population will steadily increase for the foreseeable future, reaching approximately 3.4 million in 2050.

However, Iowa's population growth rate is slowing. Historic census data shows the growth rate is expected to keep declining over the next several decades. By 2050, it is projected to be less than 0.2 percent. Based on the state's 2050 projected population of 3.4 million, growth of 0.2 percent would result in less than 3,500 additional people per year.

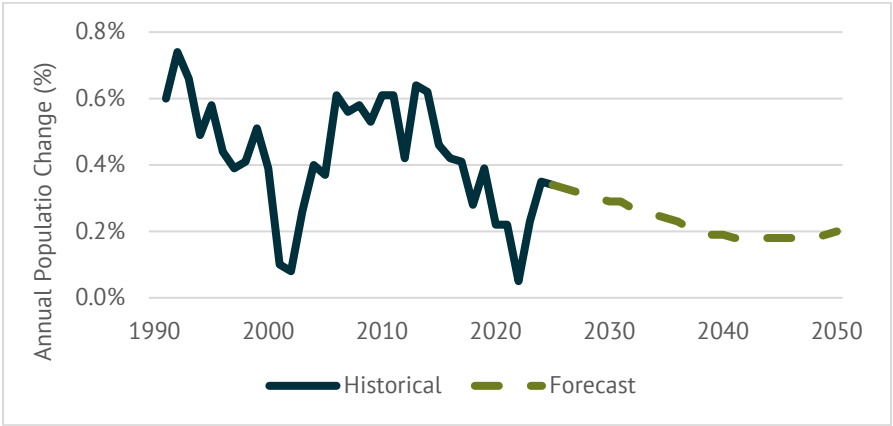
Figure 2.1: Iowa Population, 1990-2050



See Appendix B for chart data

Sources: US Census Bureau, Decennial Censuses; Woods and Poole Economics Inc.

Figure 2.2: Iowa annual population change (%), 1990-2050



See Appendix B for chart data

Sources: US Census Bureau, Decennial Censuses; Woods and Poole Economics Inc.

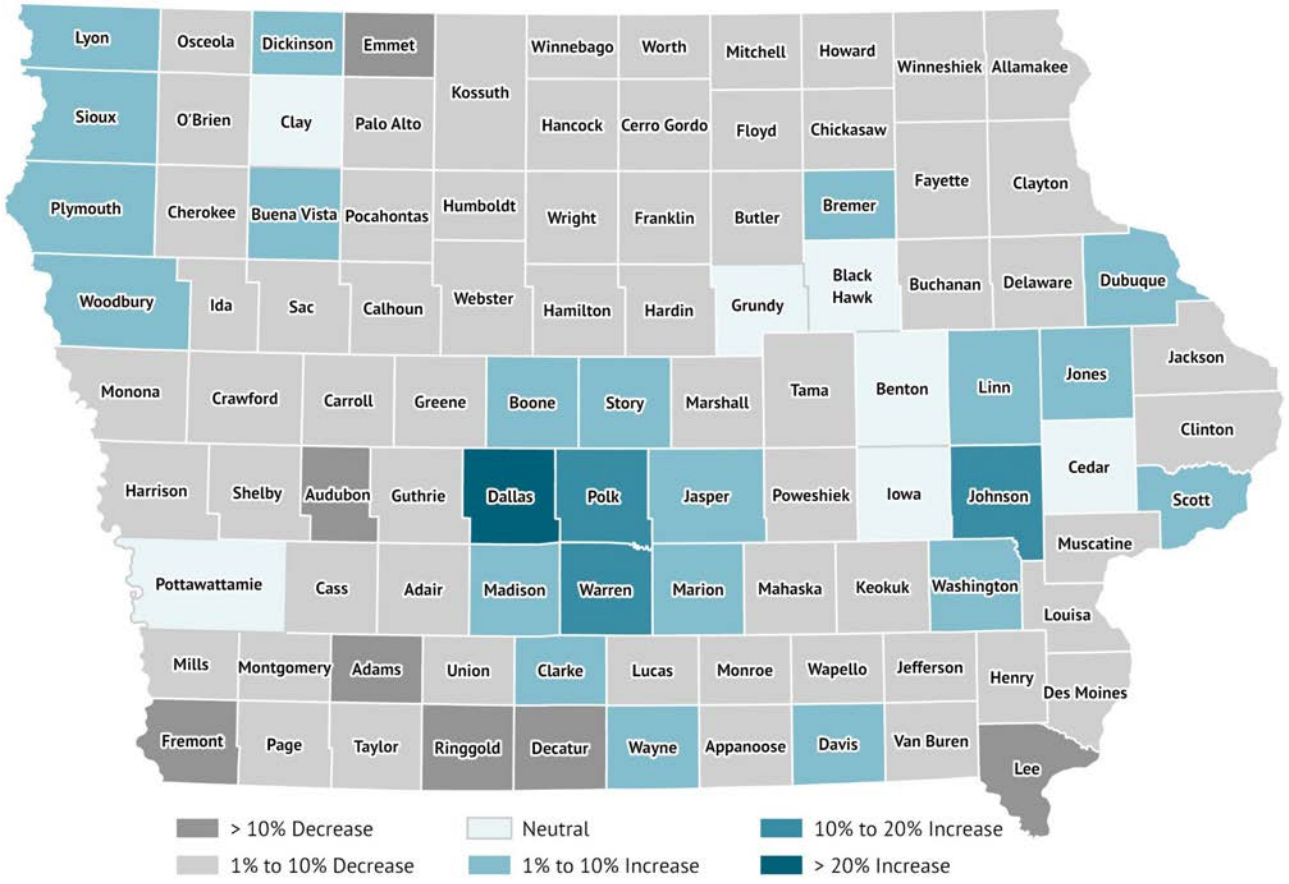
Iowa's population growth is not uniform throughout the state

Growth rates vary significantly across the state. Between 2010 and 2023, 24 of Iowa's 99 counties grew by at least one percent, and 68 counties declined by at least one percent. Typically, county population growth took place within or nearby metropolitan areas, with rural counties experiencing the population decline.

Iowa's population is urbanizing

Iowa's population is continuing to migrate towards the state's nine metropolitan areas, which each have a population of at least 50,000 people. The highest growth rates were counties in and surrounding both the Des Moines and Iowa City metro areas. As Iowa's population is forecasted to grow and consolidate in denser urban areas, it is critical to prepare for long-term impacts on existing urban public transportation systems.

Figure 2.3: County population change (%), 2010-2023



See Appendix A for mapping data

Sources: US Census Bureau, American Community Survey Five Year Estimates; Woods and Poole Economics Inc.

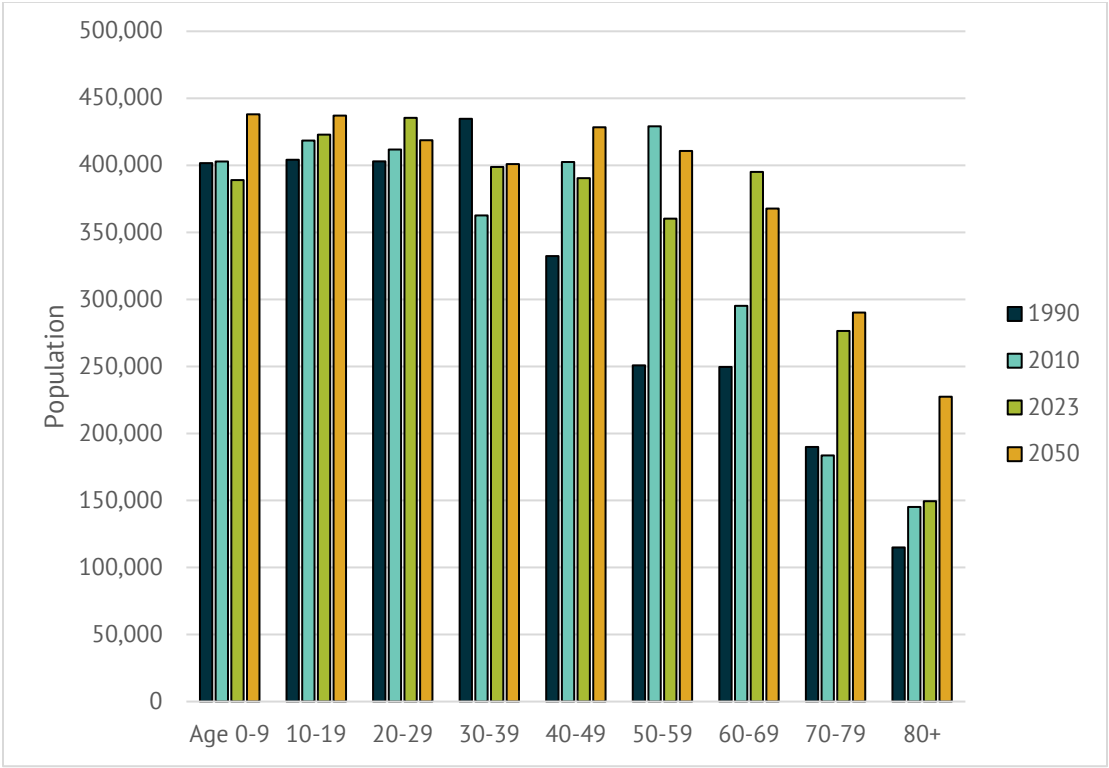
Iowa's population is undergoing generational shifts

Iowa's median age has increased from 30 years old in 1980 to 38.5 years old in 2023 and is forecasted to plateau between 39 and 40 through 2050. Populations under age 50 are projected to see little to no growth, while nearly all age groups over 50 are expected to grow significantly.

Older residents have specific transportation needs that differ from younger residents. Trends suggest that rural areas of the state have higher median ages than urban areas. As Iowa continues to grow, improving and expanding public transport options is necessary to help meet the needs of older residents. Some examples of ways to enhance public transportation for all ages, and particularly older residents, include:

- Larger, easy-to-read print on signs, bus route maps, and transit information
- Vehicles equipped with wheelchair lifts
- Alternative ways to contact ride dispatch services besides online applications
- Americans with Disabilities Act (ADA) accessible bus stops and well-maintained connecting sidewalks
- Improved transit options and coordination between transit providers and human service agencies
- Increasing rural funding and reducing administrative burdens

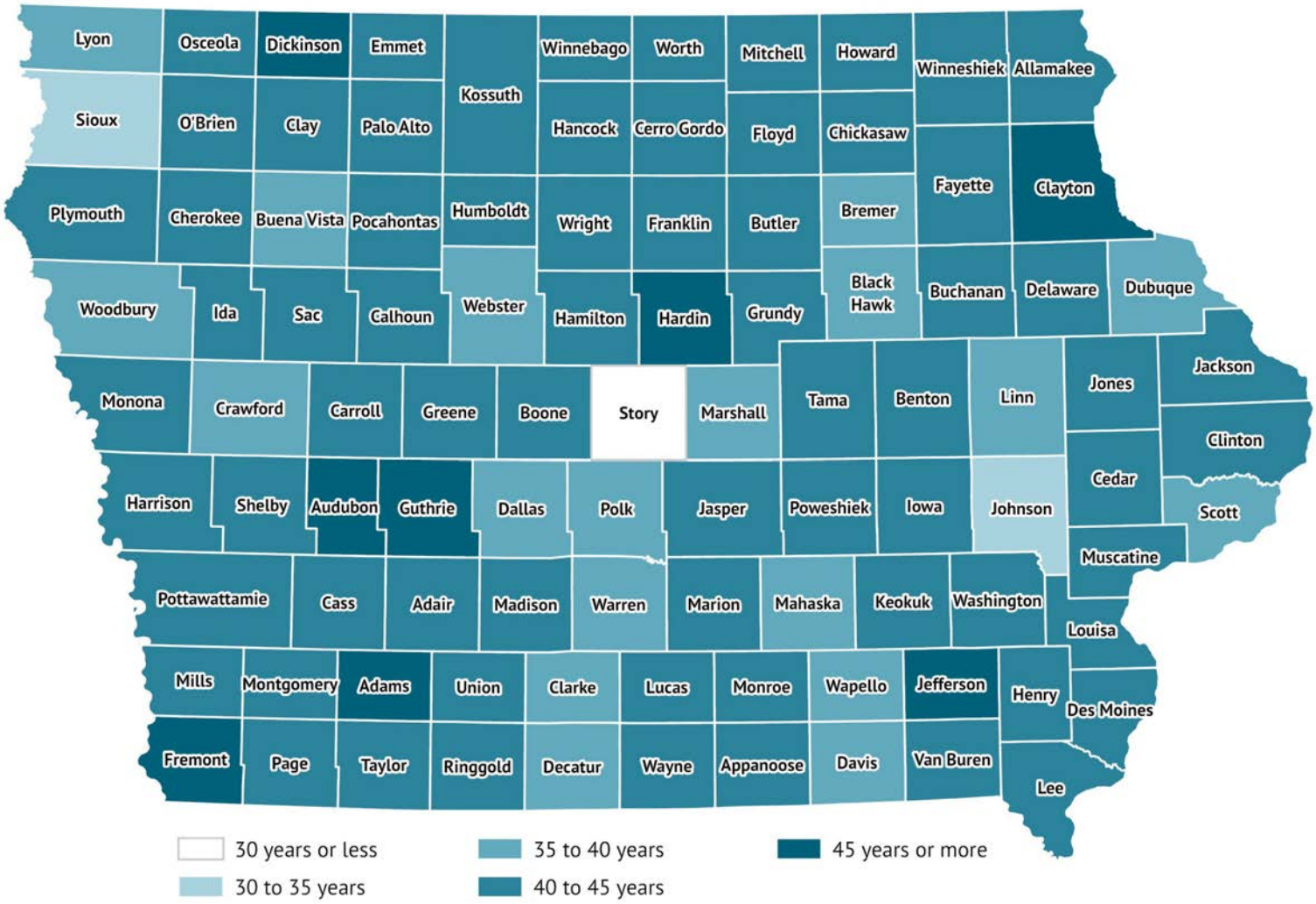
Figure 2.4: Historical and forecasted population by age for Iowa



See Appendix B for chart data

Sources: US Census Bureau, American Community Survey Five Year Estimates; Woods and Poole Economics Inc.

Figure 2.5: County average age, 2023



See Appendix A for mapping data

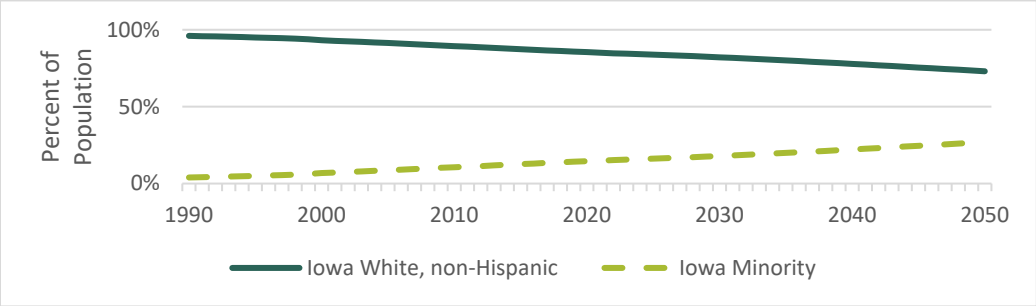
Source: US Census Bureau, American Community Survey Five Year Estimates

Iowa's minority population continues to grow

Iowa continues to become more diverse, with a growing racial and ethnic minority population. Minorities accounted for 15.9 percent of Iowa's 2023 population, compared to less than 4 percent in 1990. By 2050, racial and ethnic minorities in Iowa are projected to account for almost 25 percent of the state's total population. However, this is far less than the national average. Forecasted data projects that the minority population of the United States will equal the White, non-Hispanic population by 2045.

Understanding the transportation needs of Iowa's minority population is important. Minority groups in Iowa tend to have lower median household incomes and are more likely to use transportation other than personal vehicles for work. As the minority population increases, the need to support people with Limited English Proficiency (LEP) will also increase. Approximately 3.2 percent of Iowa's population speaks English less than "very well." To accommodate LEP individuals, the state's transportation system could translate bus route maps and schedules, provide training for transit drivers on communicating with non-English speakers, invest in translation or interpretative services for transit assistance, host websites for LEP resources, and offer interpretation services at public meetings.

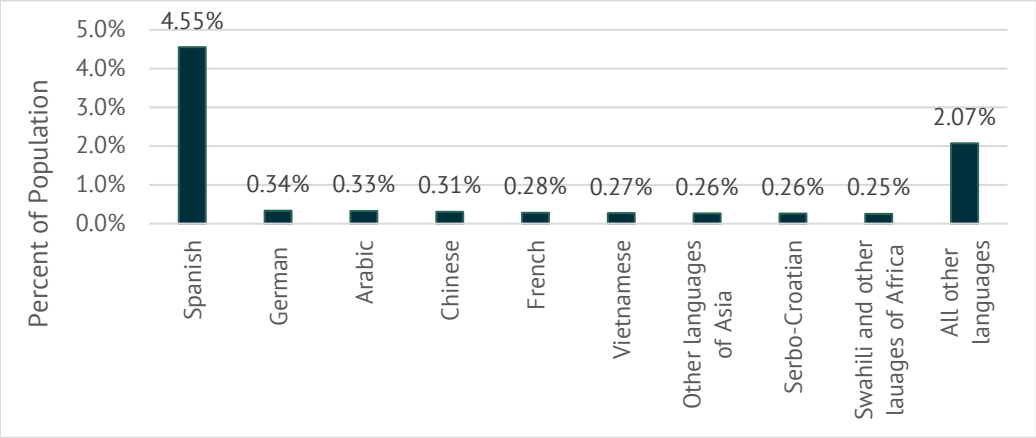
Figure 2.6: Iowa White, non-Hispanic and minority population (%), 1990-2050



See Appendix B for chart data

Source: Woods and Poole Economics Inc.

Figure 2.7: Iowa's population that speak non-English languages (%), 2023

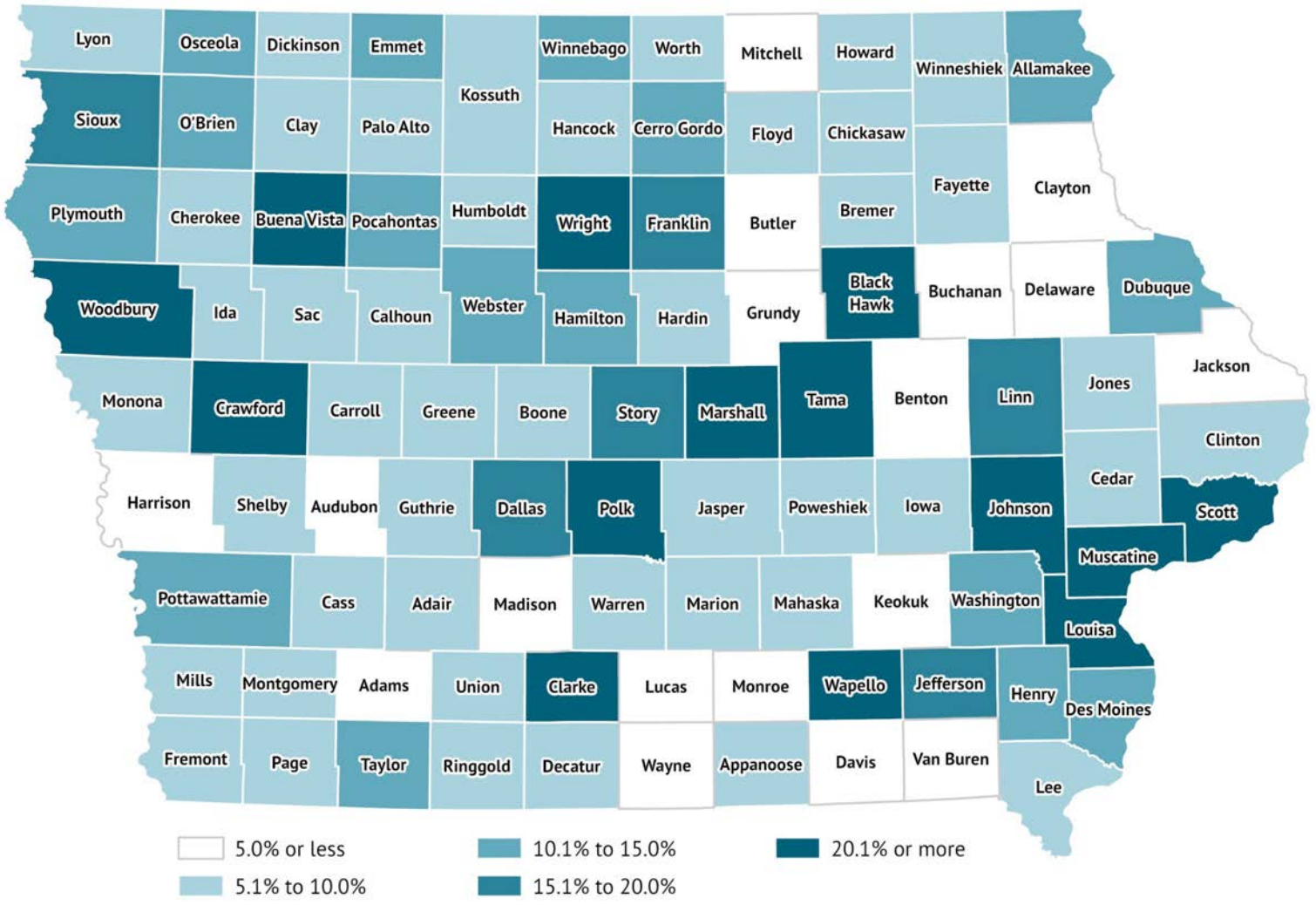


See Appendix B for chart data

Source: US Census Bureau, American Community Survey Five Year Estimates

Chinese includes Mandarin and Cantonese; Thai, Lao includes other Tai-Kadai languages; French includes Cajun; All other languages include over 30 additional languages spoken in Iowa

Figure 2.8: Minority population by county (%), 2023



See Appendix A for mapping data

Source: US Census Bureau, American Community Survey Five Year Estimates

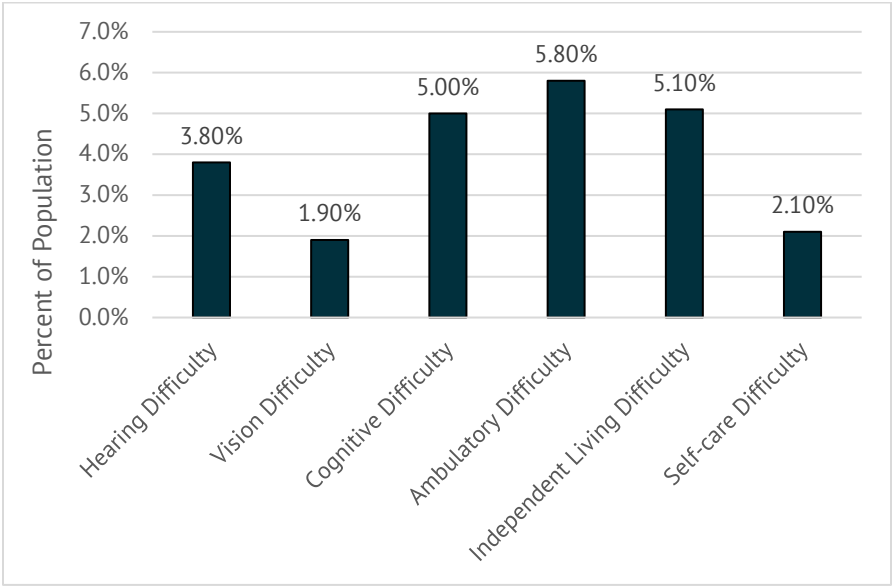
Iowa's transit system needs to be accessible

According to 2023 estimates by the US Census Bureau's American Community Survey, roughly 12.4 percent of Iowa's population experiences some sort of disability. In other words, about 1 in 9 Iowans are more likely to need access to transportation alternatives. Incorporating Americans with Disabilities Act (ADA) design elements helps ensure that Iowa's transit infrastructure serves the needs of all Iowans.

Implications for public transit – demographic trends

- Increased population in and around metropolitan areas and suburbs may create capacity issues and present challenges to optimizing fixed route transit services.
- Local jurisdictions with decreasing population will experience additional strain on already tight transportation budgets. This proves to be a greater strain in rural areas where there already exists challenges in providing service.
- Improvements can be made to transit facilities, bus stops, buses, transit service, and communication efforts to help meet the mobility needs of all transit riders, including riders with disabilities, older riders, and non-English speaking riders.
- It is important that all Iowans, including minority, low-income, and disabled populations, have access to employment and services in both urban and rural areas.

Figure 2.9: Iowa's population that lives with a disability (%), by type, 2023



See Appendix B for chart data

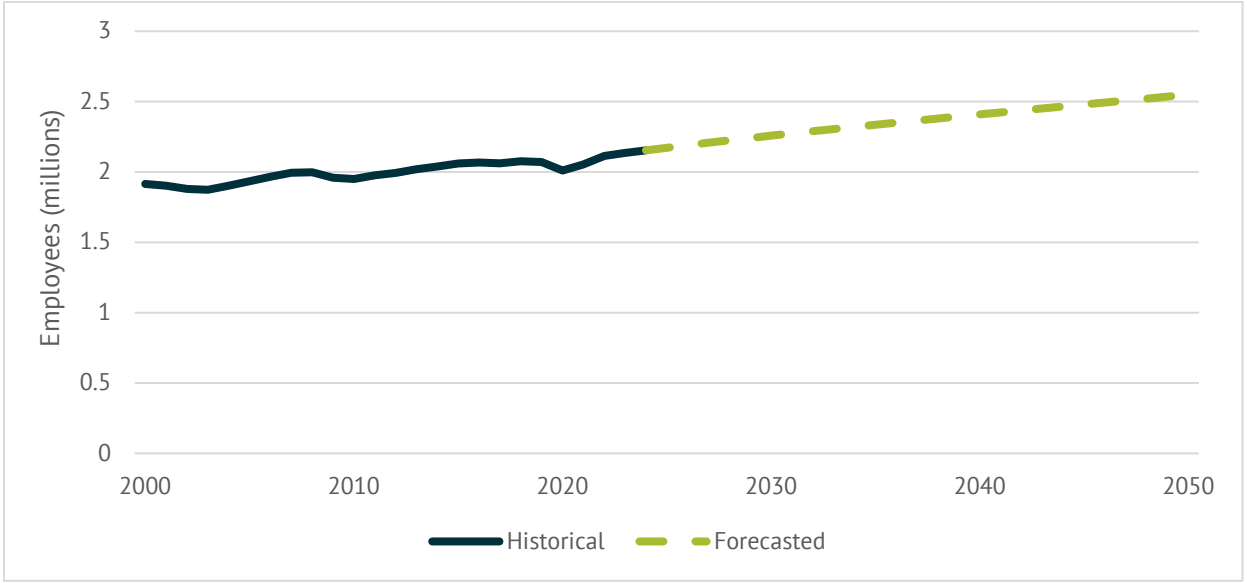
Source: US Census Bureau, American Community Survey Five Year Estimates

2.2 Economic Trends

Total employment in Iowa is expected to increase slowly

Over the past 25 years, total employment in Iowa has increased, from 1.9 million to 2.1 million workers, roughly an average of one percent per year. Iowa's employment is expected to continue to experience slow but steady growth, increasing to 2.5 million workers in 2050, resulting in a roughly 18 percent increase in workforce.

Figure 2.10: Iowa Employment, 2000-2050



See Appendix B for chart data

Source: Woods and Poole Economics Inc.

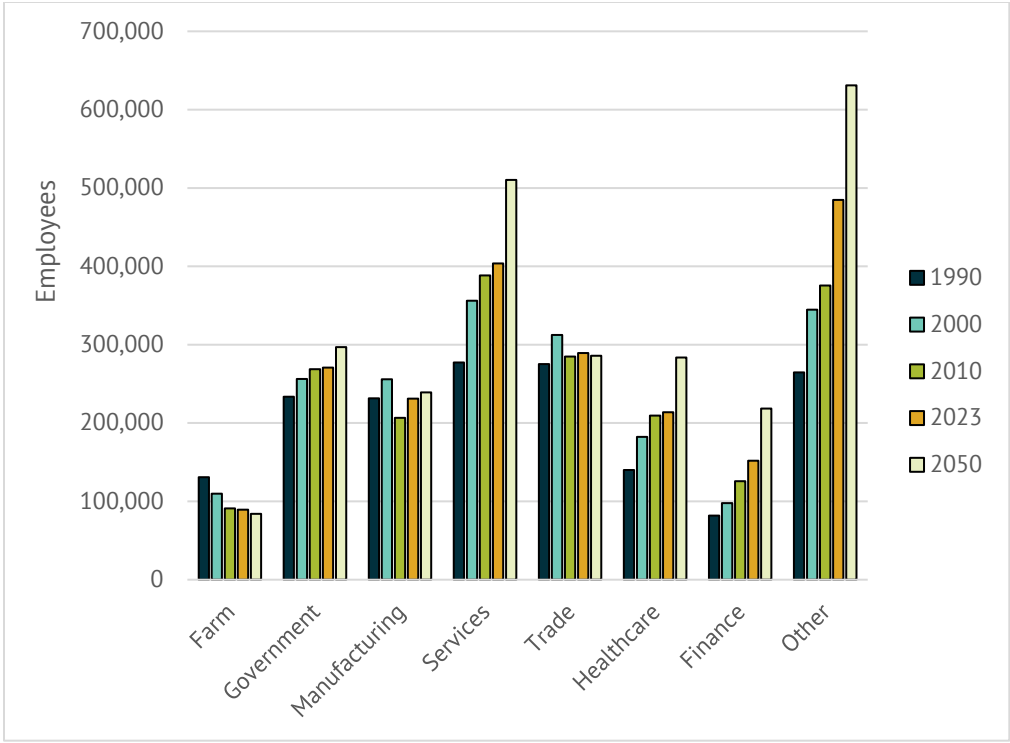
Iowa's employment sectors continue to change

Traditionally, farming and manufacturing have been two of the primary employment sectors in Iowa. Since 1990, the farm sector has decreased by more than 50,000 jobs, which represents a decline of 32 percent in total farm employment in Iowa. This trend is projected to continue and flatten out, with this sector settling at about 83,000 jobs through 2050. Other non-traditional sectors are projected to grow through 2050. These sectors include healthcare, finance and insurance, services (professional, educational, administrative, arts, etc.), and other (real estate, professional and technical services, etc.) Almost all of these non-traditional sectors tend to be based in urban areas.

Iowa's employment growth is not uniform throughout the state

Areas of employment growth and decline vary around the state. Between 2000 and 2023, 38 of Iowa's 99 counties saw an increase in the number of jobs available by one percent or more, four counties remained unchanged, and 57 counties declined by one percent or more. While there was growth in various locations across Iowa, the largest increases in employment were in the counties surrounding Des Moines, Iowa City, and Sioux Falls, South Dakota which includes counties in northwest Iowa.

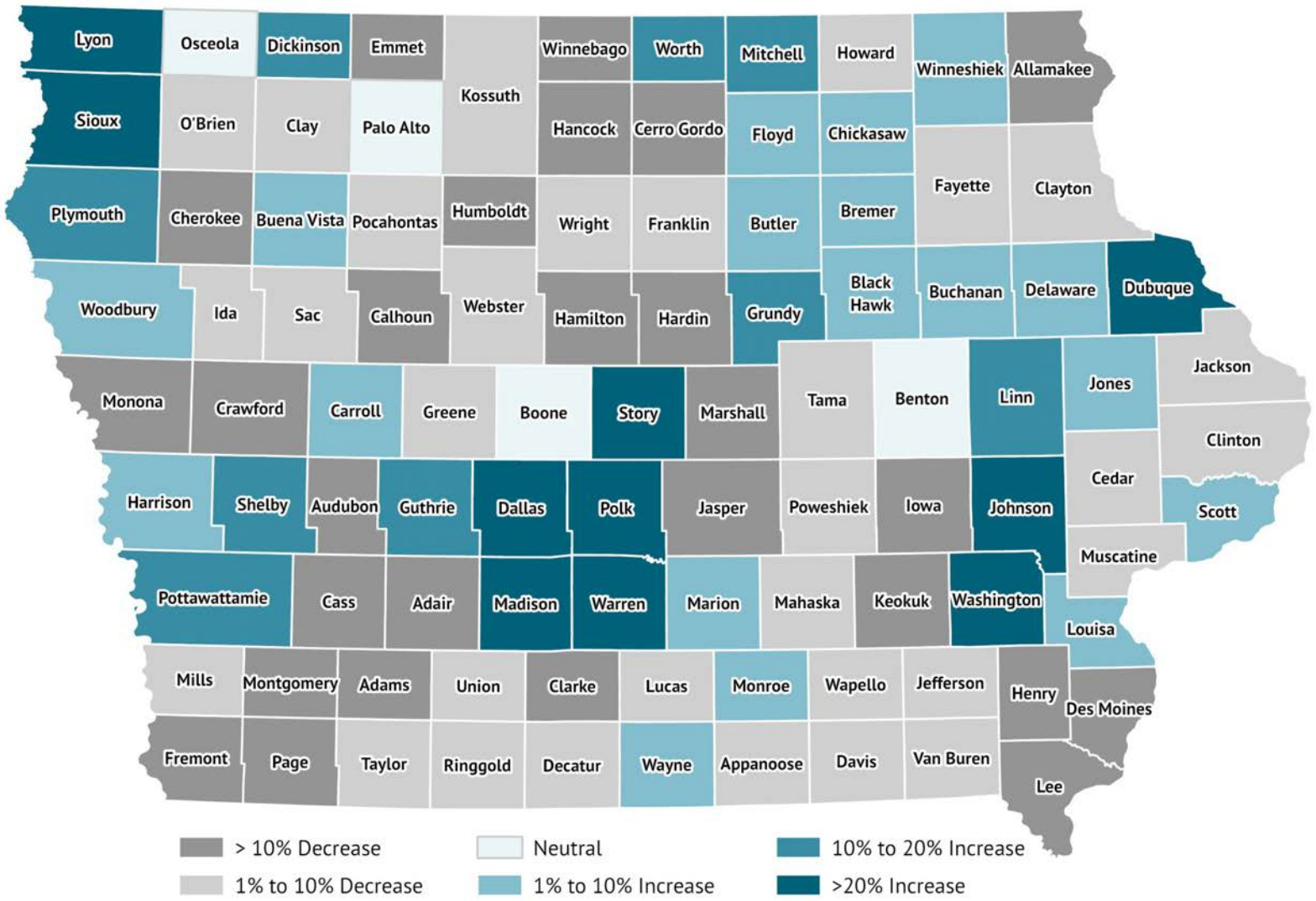
Figure 2.11: Iowa employment, by sector, 1990-2050



See Appendix B for chart data

Source: Woods and Poole Economics Inc.

Figure 2.12: County employment change (%), 2000-2023



See Appendix A for mapping data

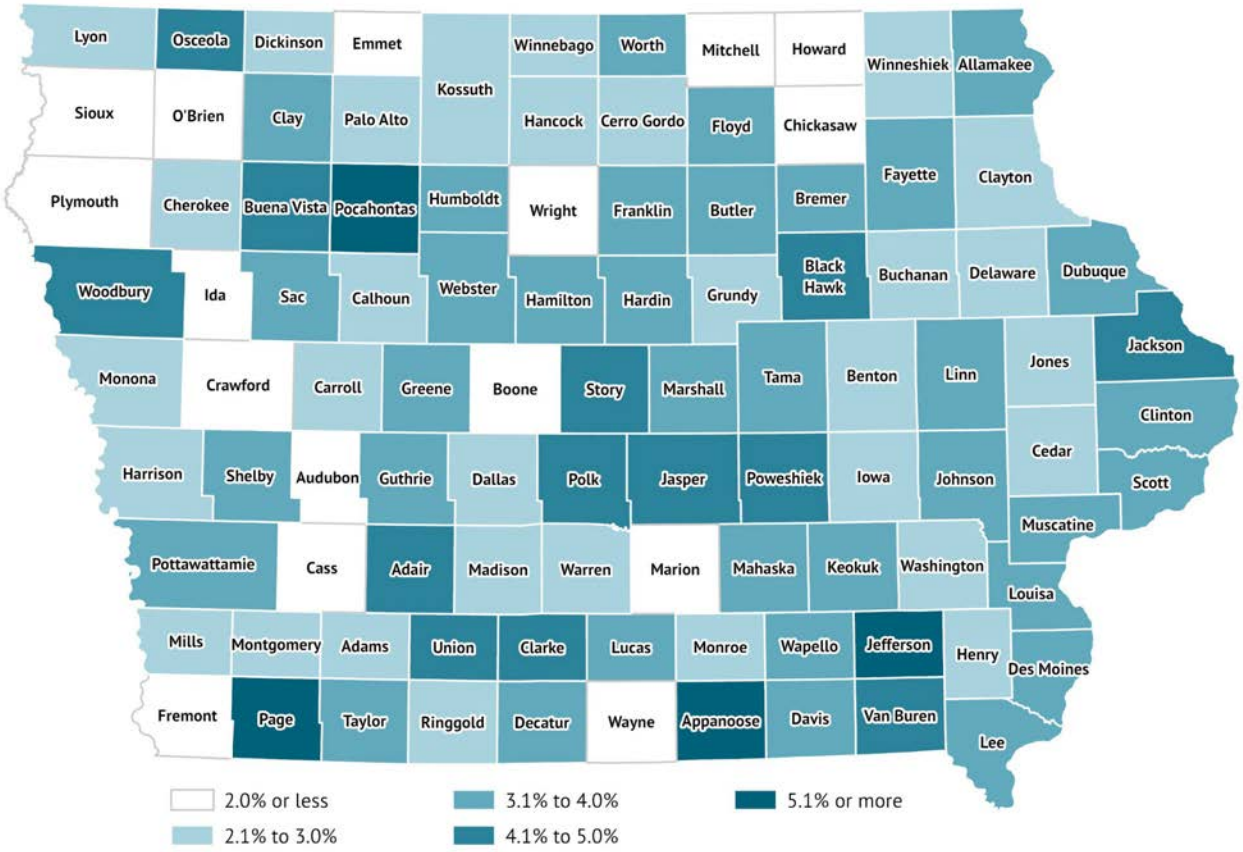
Source: Woods and Poole Economics Inc.

Iowa's unemployment is among the lowest in the nation

The unemployment rate is defined by the U.S. Census Bureau as the number representing unemployed people as a percentage of the civilian labor force. The civilian labor force includes all people who are employed or unemployed, as well as members of the armed forces. As of 2023, Iowa's unemployment rate was 3.7 percent, closely matching the national average of 3.6 percent. Iowa is ranked 21st in the nation for having lower unemployment rates.

Some of the counties with the highest unemployment rates across the state are in more rural areas, but that is also where some of the counties with the lowest unemployment rates are as well. In order to best serve individuals struggling with access to employment in their areas, it is essential to find meaningful access to transportation alternatives for both rural areas and urban centers in order to connect to potential new employment opportunities.

Figure 2.13: Iowa unemployment rates by county (%), 2023



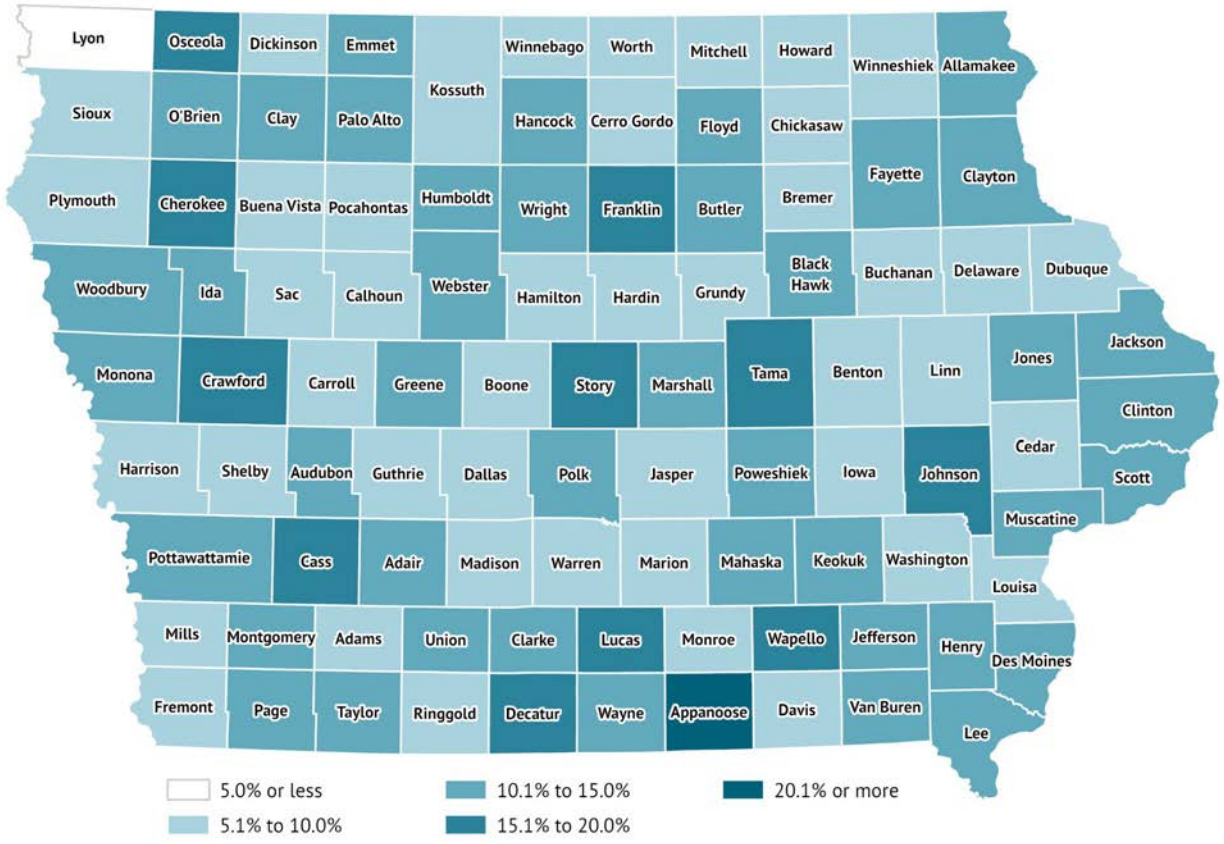
See Appendix A for mapping data

Source: US Census Bureau, American Community Survey Five Year Estimates

Iowans are living in poverty

The U.S. Census Bureau measures poverty by comparing household income to family income thresholds, varying with family size and composition. If a household's total income is below the family threshold, then that household is considered to be in poverty. While the income thresholds used to determine poverty do not change based on geographic location, inflation and the consumer price index are factored in. According to U.S. Census 2023 estimates, nearly 11 percent of Iowans live in poverty—that's approximately 1 in every 9 residents.

Figure 2.14: County population below poverty level (%), 2023



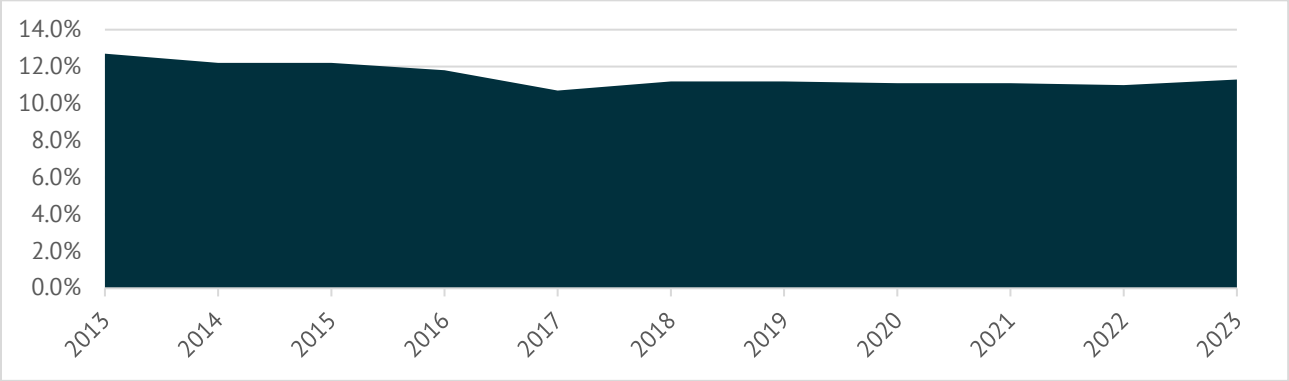
See Appendix A for mapping data

Source: US Census Bureau, American Community Survey Five Year Estimates

Poverty trends

While poverty rates vary across the state, it is equally important to understand how these rates are changing over time. Figure 2.15 shows the statewide average percentage of Iowans living beneath the poverty level over the past decade. While Iowa saw a steady decline in poverty rates prior to 2017, levels have remained relatively stagnant since 2018, averaging around 11.2 percent. As the overall population of Iowa is expected to grow, seeing this stagnant rate would suggest that we will have more individuals living underneath the poverty level in the coming years. It is also important to ensure these populations have meaningful access to affordable transportation alternatives, as services that are unaffordable ultimately fail to meet their needs.

Figure 2.15: Iowans living beneath the poverty level (%), 2013-2023



See Appendix B for chart data

Source: US Census Bureau, American Community Survey Five Year Estimates

Implications for public transit – economic trends

- Employment opportunities are available across urban and rural regions but are migrating towards the metropolitan areas.
- With unemployment throughout the state and uneven population growth between urban and rural areas, there will be an increased need for employers to access pools of employees that live further away.
- The total number of Iowans living beneath the poverty level is expected to rise — more people will need meaningful access to traditional, affordable transportation alternatives (i.e, public transportation).
- Public transit is more expensive to provide in rural areas than urban areas. As the demand for transportation alternatives in rural areas continues to grow, so will the need to identify more rural transit resources.

2.3 Passenger Trends

Iowans are traveling more, but passenger travel is not uniform across all modes of transportation

Since 1990, travel across all passenger modes (aviation, highway, passenger rail, and public transit) in Iowa increased steadily from 1990 to 2020. However, in 2020, each mode of travel saw a statistically significant decrease due to the COVID-19 pandemic. Since then, each mode has been steadily increasing, gradually approaching pre-pandemic levels. The two most common modes of travel are highway (measured by passenger vehicle miles traveled (VMT)) and public transit. However, the two modes that are seeing the steadiest growth are highway and aviation.

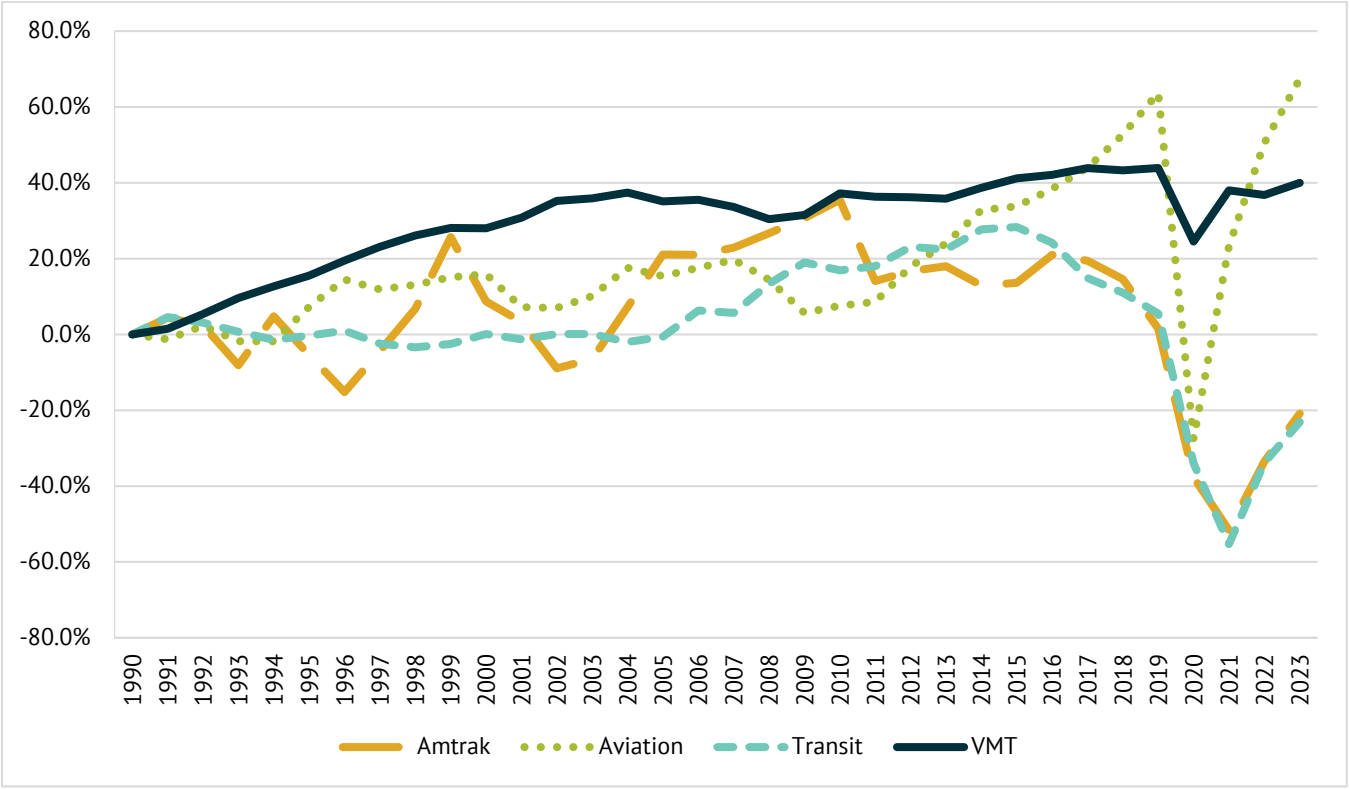
Table 2.1: Iowa passenger transportation trends, 1990-2023

Travel Modes	1990	2000	2010	2018	2020	2023
Amtrak rides	50,719	55,146	68,744	58,119	31,601	40,132
Aviation enplanements	1,363,840	1,581,217	1,468,158	2,082,586	987,527	2,282,885
Passenger VMT*	20,418,000,000	26,128,000,000	28,004,000,000	29,255,000,000	25,576,000,000	28,779,000,000
Public transit rides	22,417,065	22,449,367	26,208,453	24,887,393	19,028,255	17,341,472

**Passenger VMT includes passenger cars, light trucks, vans, sport utility vehicles (SUVs), motorcycles, and buses over all road systems*

Source: Iowa DOT, Amtrak, FAA

Figure 2.16: Iowa passenger travel trend growth rates by mode (%), 1990-2023



See Appendix B for chart data

Source: Iowa DOT, Amtrak, FAA

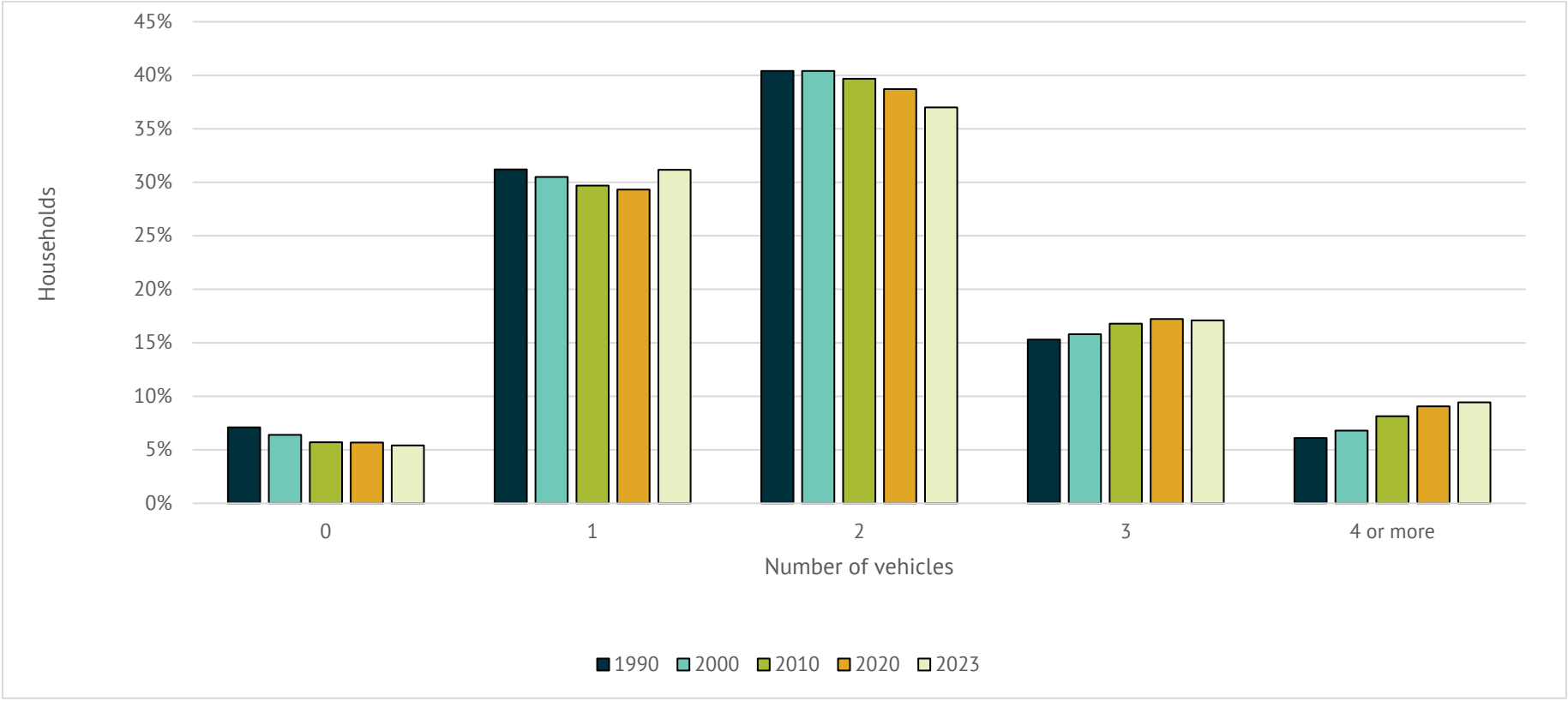
Aviation enplanements in Iowa increased by roughly 67 percent between 1990 and 2023, similar to the national average. While aviation saw the sharpest decline during the COVID-19 pandemic, it also experienced the most dramatic recovery, surpassing pre-pandemic levels. Amtrak and public transit usage also dropped significantly during the pandemic, reaching record lows. Although neither has fully returned to pre-pandemic levels of ridership, both continue to grow at a rapid rate.

Passenger VMT and public transit have seen the most stable growth in Iowa since 1990. Passenger VMT has increased by 40 percent and was the least affected by COVID-related travel restrictions, though it still remains slightly below its pre-pandemic peak.

The number of vehicles per household has increased

Over the past several decades, there has been little change to the number of vehicles per household, most having one or two vehicles – representing about 70 percent of households. However, a historical trend shows that the number of households that have zero, one, or two cars is decreasing, while the number of households that have three or four or more cars is increasing, suggesting an overall shift toward more vehicles per household overall.

Figure 2.17: Number of vehicles available per household in Iowa, 1990-2023



See Appendix B for chart data

Sources: US Census Bureau, American Community Survey Five-Year Estimates

Most Iowans drive to work alone

The overwhelming majority of Iowans continue to drive to work alone rather than carpool, bike, or walk. Over the past 30 years, those numbers have remained mostly consistent, with one noticeable exception. Between 2020 and 2023, there was a large uptick in individuals working from home, which can be attributed to the COVID-19 pandemic. The rise in remote work led to a decrease in nearly all other commuting modes, with individual drivers being impacted the most, although the current trends suggest there is a return to office.

Table 2.2: Iowan's mode of transportation to work, 1990-2023

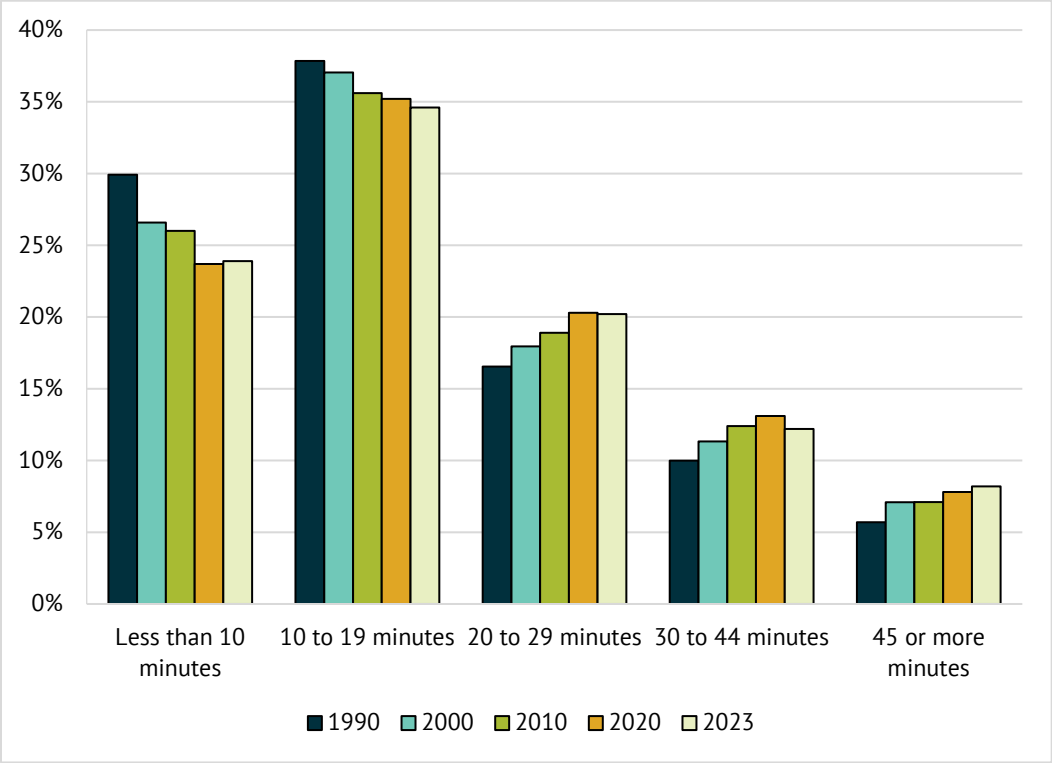
Commuting Method	1990	2000	2010	2020	2023
Drove alone	73.4%	78.6%	78.7%	80.2%	76.7%
Carpool	11.9%	10.8%	10.3%	8.0%	7.9%
Public transportation	1.2%	1.1%	1.0%	0.9%	0.7%
Bicycle	0.3%	0.4%	0.5%	0.4%	0.3%
Walk	5.8%	4.0%	3.8%	3.1%	2.9%
Other (includes motorcycle and taxi)	0.7%	0.6%	0.8%	0.9%	1.0%
Worked at home	6.7%	4.7%	4.8%	6.4%	10.4%

Sources: US Census Bureau, American Community Survey Five-Year Estimates

Average travel time to work has increased, but Iowans continue to have one of the lowest average commute times nationally

Average travel time to work for Iowans has been increasing over the past 30 years, and this trend will likely continue. Commutes under 19 minutes have been steadily decreasing, and all commutes longer than 20 minutes have been increasing. The average travel time to work for Iowans is 19 minutes, much lower than the national average of 26.9 minutes. More Iowans are commuting to locations outside their county of residence, which may help explain the increased travel times. With jobs also continuing to migrate toward Iowa's metropolitan areas, commuting has taken on more of a role to support the labor force necessary for these areas.

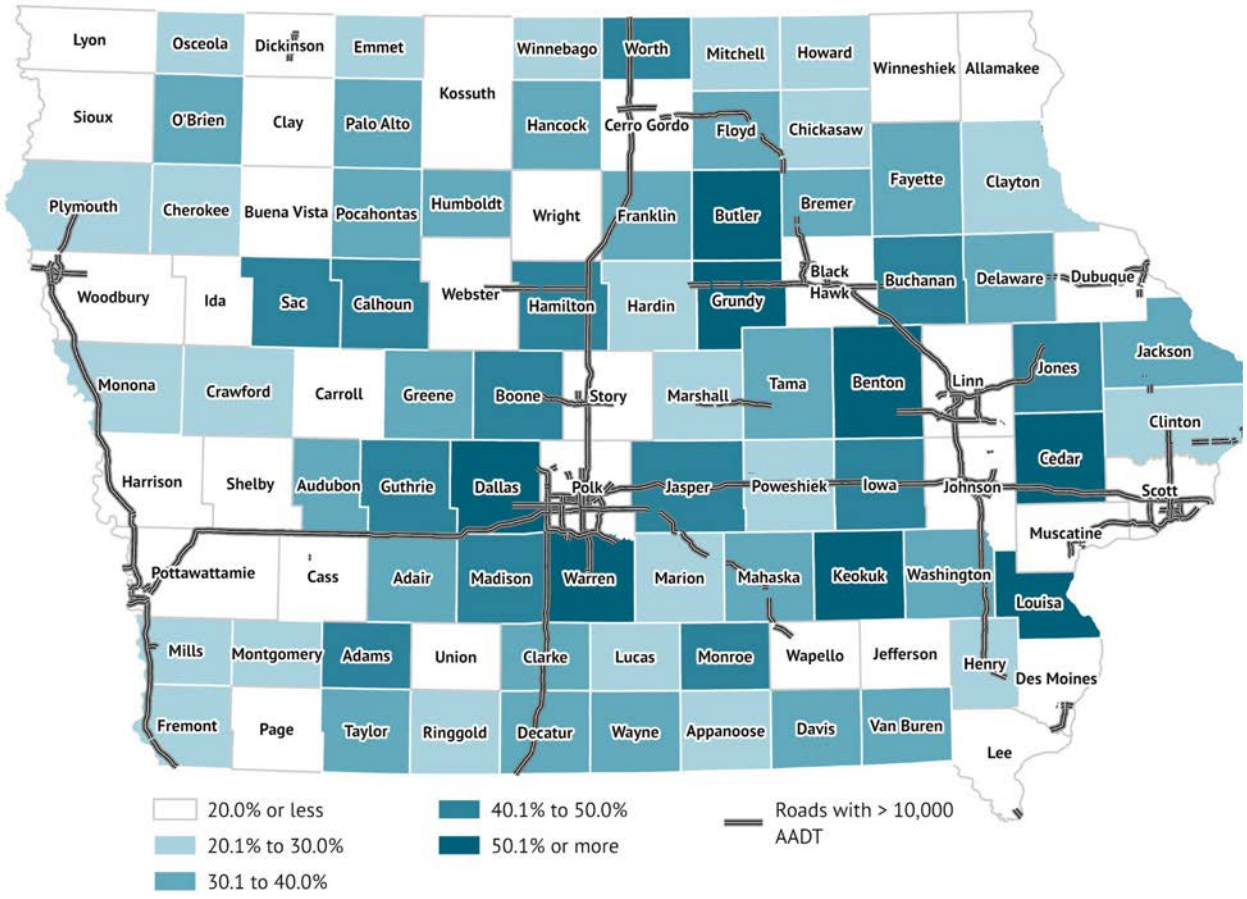
Figure 2.18: Travel time to work in Iowa, 1990-2023



See Appendix B for chart data

Sources: US Census Bureau, American Community Survey Five-Year Estimates

Figure 2.19: Commuting trends of passenger AADT on primary highways, and percent of workforce leaving county of residence, 2023



See Appendix A for mapping data

Sources: US Census Bureau, American Community Survey Five Year Estimates; Iowa DOT

Implications for public transit – passenger trends

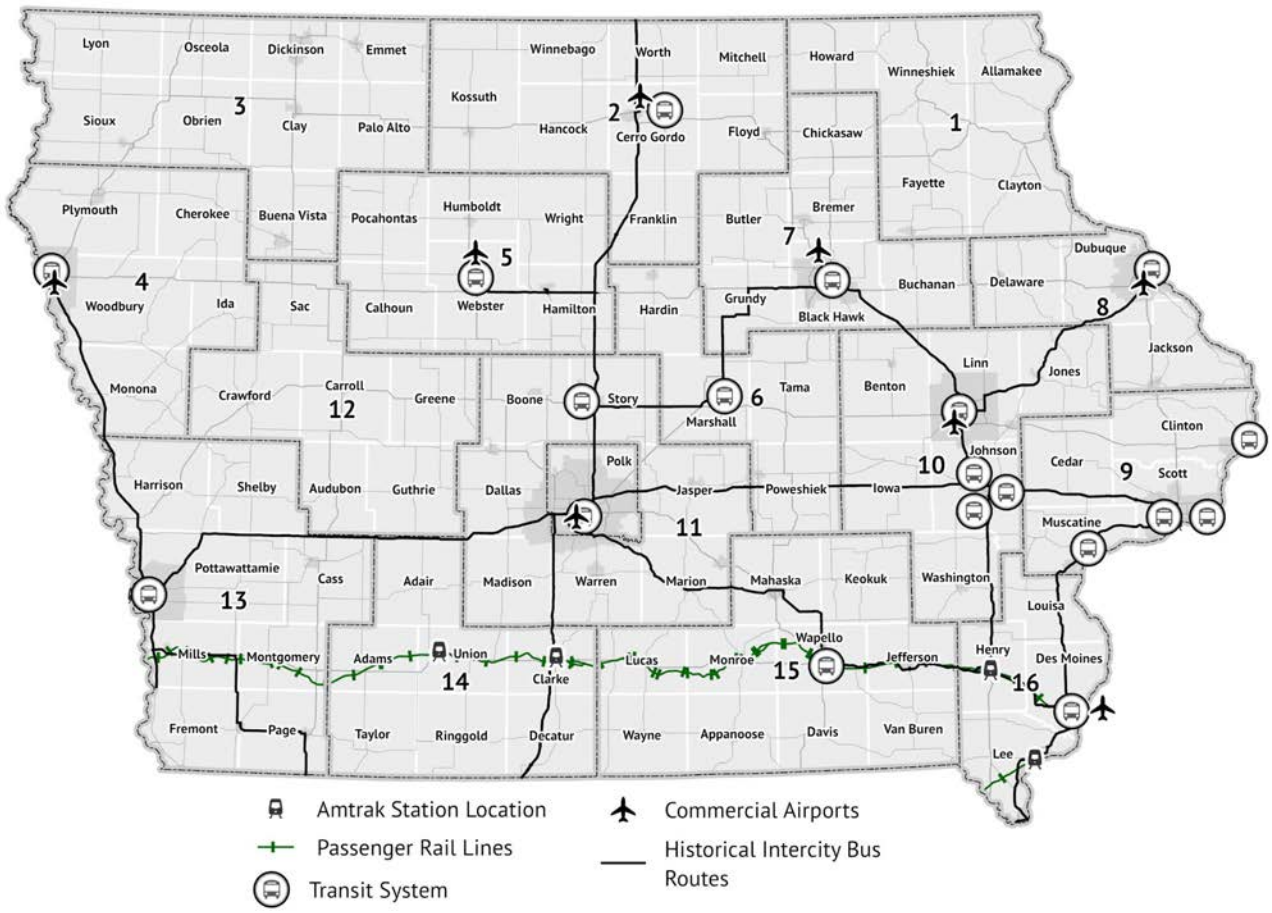
- Travel across all passenger modes has increased nearly 22 percent since 1990, while Iowa's population has only grown by 14 percent. Investments in all passenger modes are necessary to ensure mobility options for Iowans.
- Driving to work alone continues to be the most common mode choice for commuters by far. Meanwhile, other modes of transportation usage have stayed the same or slightly decreased, including biking, walking, and carpooling. Working from home has seen a sharp increase, which is impacting solo commuters the most.
- More Iowans are choosing to live over 20 minutes away from their place of work, creating more opportunities for regional transit services while posing challenges for extending local fixed route transit service into suburban areas.

2.4 System and Travel Characteristics

Passenger transportation comes in many forms and many times it takes the shape of multiple modes of transportation combined for a passenger to get from their origin to their destination. Some of these modes include public transit, passenger rail, commercial air service, and intercity bus routes. The following sections describes some of the primary passenger transportation options that exist within Iowa.

Understanding the unique characteristics of these transportation systems helps us better plan for incorporating their use within the context of creating and maintaining a robust, efficient, and effective multimodal passenger transportation system in Iowa.

Figure 2.20: Iowa passenger transportation services



Source: Iowa DOT

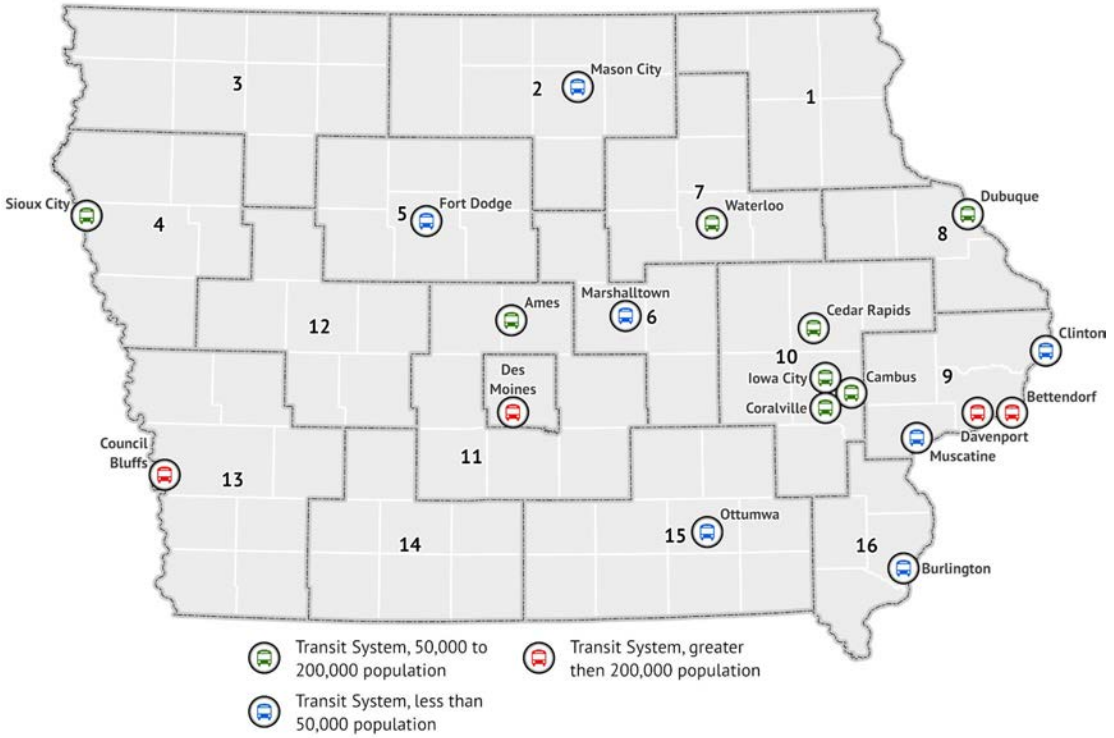
Public Transit

Iowa's public transit system provides many benefits to its residents, fulfilling a key alternative transportation role. In general, transit users in Iowa include commuters, elderly residents, low-income residents, college students, disabled residents, and youth. However, especially in metropolitan areas, public transit provides people a transportation alternative for economic, practical, or environmental reasons.

Public transit services positively impact both Iowa's economy and population. From 1985 through 2023, transit ridership in Iowa has been in flux from 23.8 million annual rides to 17.3 million annual rides, with a significant drop in 2020 due to the COVID-19 pandemic. Ridership is expected to continue increasing in the future as Iowa's population base ages and as more people embrace alternative transportation options.

There are 35 public transit systems in Iowa, which are classified by size. Urban areas with populations 50,000 and greater are designated as Large Urban systems, urban areas with less than 50,000 population are designated as Small Urban systems, and rural areas outside the urban systems are designated as regional systems.

Figure 2.21: Iowa's public transit agencies



Source: Iowa DOT

Large Urban Transit Agencies

- Ames Transit Agency/CyRide
- City of Bettendorf
- University of Iowa, Cambus
- Cedar Rapids Transit
- Coralville Transit System
- City of Council Bluffs
- Davenport Public Transit (CitiBus)
- Des Moines Area Regional Transit Authority (DART)
- City of Dubuque, The Jule
- Iowa City Transit
- Sioux City Transit System
- Metropolitan Transit Authority of Black Hawk County

Small Urban Transit Agencies

- Burlington Urban Service
- City of Clinton, Municipal Transit Administration
- City of Fort Dodge (DART)
- Marshalltown Municipal Transit
- City of Mason City
- City of Muscatine
- Ottumwa Transit

Regional Transit Agencies

- Region 1: EARL Public Transit
- Region 2: Region 2 Transit
- Region 3: Regional Transit Authority/RIDES
- Region 4: Siouxland Regional Transit System
- Region 5: MIDAS Council of Governments
- Region 6: Region Six Resource Partners/PeopleRides
- Region 7: Iowa Northland Regional Transit Commission (OnBoard Public Transit)
- Region 8: Region 8 Regional Transit Authority
- Region 9: River Bend Transit
- Region 10: CorridorRides
- Region 11: Heart of Iowa Regional Transit Agency
- Region 12: Western Iowa Transit System
- Region 13: Southwest Iowa Transit Agency
- Region 14: Southern Iowa Trolley
- Region 15: 10-15 Regional Transit Agency
- Region 16: Southeast Iowa Bus (SEIBUS)

Other Passenger Travel Options

Intercity Bus

Intercity bus service is an extremely valuable transportation resource for Iowa's residents who do not drive or choose not to drive. This service allows them to reach destinations across the country. Routes and stops for Iowa's three intercity bus carriers are shown on Figure 2.20. Intercity bus services include stops at non-urbanized locations and make meaningful connections to nationwide networks. As of 2016, 15 percent of state's federal non-urbanized (5311) transit funding must be used for support of intercity bus services, unless the Governor certifies this need has been met).

Eligible participants for the Intercity Bus Program include private intercity bus companies, companies wishing to start intercity bus service, public transit agencies either operating or proposing to operate intercity bus services, or local communities wishing to support intercity bus connections to their community.

Iowa's Intercity Bus Program has two components in priority order:

- Iowa based operating support
- Support for intercity bus capital improvements (over the road coaches, vertical infrastructure, vehicle renovations/improvements, ADA improvements to vehicles and facilities)

Passenger Rail

Iowa is served by two Amtrak passenger rail routes that provide long-distance service between Chicago and two California destination—Los Angeles and the San Francisco Bay Area—with stops at six stations across the state. Currently, there is no intercity corridor service or commuter rail service provided in the state, either by Amtrak or by other operators. There are two tourist or heritage railroads offering excursion trips in the state. As metropolitan areas throughout Iowa continue to grow, the need to invest in a diverse network of passenger transportation options that will accommodate this growth will remain an important consideration. The area also has numerous opportunities to provide connections to intercity bus providers from passenger rail facilities. For example, if Amtrak service reaches Moline, Illinois, some interline connections to destinations in Iowa could be pursued.

The two Amtrak routes in Iowa are the California Zephyr from Chicago, Illinois to Oakland, California, and the Southwest Chief from Chicago to Los Angeles, California. The California Zephyr operates over the BNSF tracks in southern Iowa providing daily service in both directions. Stations in Iowa include Burlington, Mount Pleasant, Ottumwa, Osceola, and Creston. The Southwest Chief also operates daily in both directions over the BNSF tracks in extreme southeast Iowa with one stop in Fort Madison. Figure 2.22 shows current service and routes where service is being planned or considered for study.

Nationwide, passenger rail ridership on Amtrak increased from 20.8 million in 1985 to 28.6 million in 2023. However, this increase has not been mirrored in Iowa, where the number of passengers getting on and off trains (boardings and alightings) at Amtrak stations has remained relatively unchanged since 1985. Just over 40,132 passengers boarded and alighted at the six Iowa Amtrak stations. Of these, approximately 11,300 boardings and alightings were at the Osceola Station (located south of Des Moines) and approximately 8,400 boardings and alightings were at the Mount Pleasant Station (located south of Iowa City). Projections indicate boarding and alightings at existing Amtrak stations in Iowa will rise to approximately 62,000 by 2040, an increase of just above 8 percent over the 26-year period.

While these two lines are a tremendous asset for the state, there is concern that most of Iowa's largest communities do not have convenient passenger rail connections to major regional cities such as Chicago, Omaha, Minneapolis, or Kansas City. The Iowa DOT's 10-Year Strategic Passenger Rail Plan envisions a network that provides service connecting Iowans to major cities, regional destinations, and many other communities not currently served by commercial air service or passenger rail. At this point, there are no plans for changes in the frequency or routes of Amtrak services in Iowa. That noted, Iowa DOT is working on various fronts on potential new passenger rail corridor services and facilities supported at least in part by federal funding sources.

Figure 2.22: Passenger rail routes in Iowa

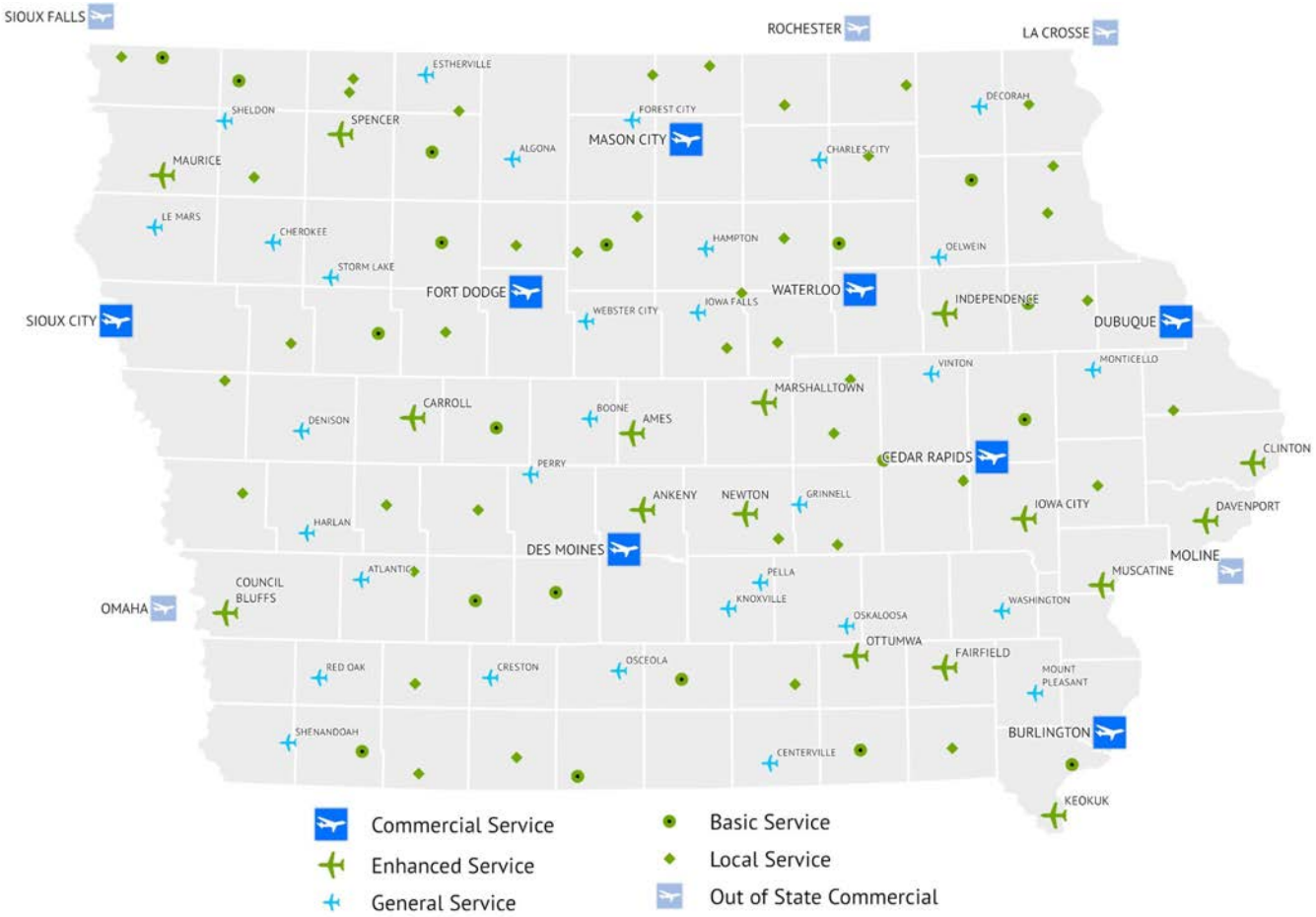
Source: Iowa DOT

Aviation

Iowa's air transportation system plays a critical role in the economic development of the state and the quality of life for Iowans, providing an essential travel option for business and leisure. Airports are key transportation centers and economic catalysts, moving people and goods quickly and efficiently.

The Federal Aviation Administration (FAA) lists more than 3,700 aircraft and 5,500 pilots in the state. With more than 1 million annual aircraft operations conducted at 107 publicly owned airports, the aviation system provides a valuable transportation mode to meet the needs of businesses, residents, and visitors.

Figure 2.23: Iowa airports by role and bordering commercial airports

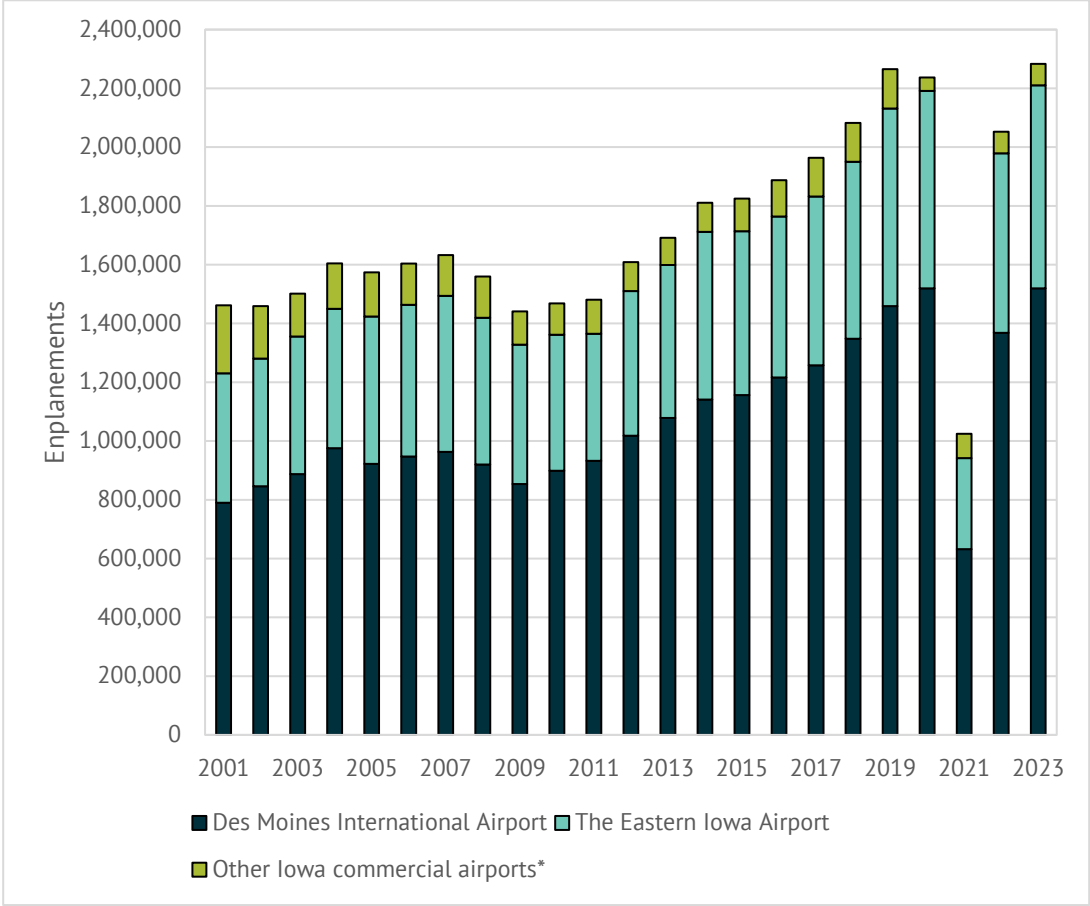


Source: Iowa DOT

Iowa's commercial service and general aviation airports provide access for many different types of aviation system users. More than 2.2 million people are boarded (enplanements) on commercial aircraft and nearly 98,000 tons of cargo are shipped from Iowa's eight commercial service airports each year. General aviation accounts for most aircraft operations in Iowa and includes uses for agriculture, business, charter, flight instruction, law enforcement, medical transport, and recreational activities.

Except for a slight decline during 2008-2011 and a massive dip during 2020-2021, enplanements at Iowa's commercial service airports have been growing. Forecasts suggest passenger traffic will experience annual increases of 2 percent over the next 20 years. During the same period, general aviation activity is expected to see modest increases in both based aircraft and operations.

Figure 2.24: Enplanements at Iowa's commercial service airports, 2001-2023



See Appendix B for chart data

**This includes Dubuque Regional, Fort Dodge Regional, Mason City Municipal, Sioux Gateway, Southeast Iowa Regional, and Waterloo Regional Airports*

Source: FAA

Transportation Network Companies (TNC)

One area of influence on public transit ridership is the use of paid rideshare applications such as Uber, Lyft, Via, or Spare, otherwise known as Transportation Network Companies (TNCs). These services involve people, who may have otherwise taken public transit or used another mode of transportation, paying to ride in private passenger vehicles. These services are considered "paid rideshares" or for-hire passenger transportation provided by rideshare companies. Iowa defines a rideshare company as a corporation, partnership, sole proprietorship, or other entity that operates in this state and uses a digital network (an on-line enabled app, internet site, or system offered by a rideshare company) to connect riders to drivers who use their personal vehicles to provide prearranged rides for a fare.

The ride hailing service Lyft began offering service to all of Iowa starting in August 2017. Lyft originally began service in Ames, Cedar Rapids, Davenport, Des Moines, Dubuque, Iowa City, Sioux City and Waterloo earlier in 2017 before expanding service to the rest of the state. Lyft notes that availability of drivers will impact service in rural areas. Via is currently providing paratransit service for Council Bluffs.

In January 2019, Uber announced that its paid rideshare service was available across the entire state of Iowa. While exact average wait times are not available, it is expected that with fewer or potentially no drivers available in some areas, service levels will differ considerably, particularly between urban and rural regions.

Automated Vehicles (AV)

Another area of unknown influence on public transit service and ridership is the advancement of automated vehicles (AV). Vehicles that are fully autonomous could potentially operate without the need for a driver, which could revolutionize passenger travel. Many organizations have attempted to forecast AV adoption rates to estimate how many autonomous vehicles could be on the road in the near and distant future. Due to the multitude of unknowns and variable factors, forecasted AV adoption rates has decreased and most expect a negligible portion of the overall fleet of vehicles to have AV technology in the near future.

For this Plan, the potential benefits of AV to mobility are especially important, as they could have the most direct impact on passenger transportation services. From a technical standpoint, the FTA has begun studying how to incorporate autonomous vehicles into transit fleets by evaluating the capability of existing technology and the ability to retrofit new automated technology into buses. While some existing technology will work well with future AV uses, it was found that the configuration of most braking systems will not be sufficient or at least very difficult for automated technology to leverage unless costly upgrades are made. It was noted, however, that hybrid and electric buses have a different type of braking system that perform better as an AV.

From an operations standpoint, the American Public Transportation Association (APTA) is investigating types of transit service that would most likely be the earliest adopters of autonomous technology. Among those services, low-speed autonomous shuttles are seen as having potential to replace large buses that service low demand routes with infrequent schedules. First mile/last services are another area where smaller AV transit vehicles could provide rides. According to U.S. DOT research conducted in 2018, of the dozen AV shuttle pilot test projects, all of them utilized electric vehicles with capacities between 10 and 15 transit riders, although most of the testing was limited to closed courses and routes due to safety concerns.

As far as the overall impact of AV on public transit ridership, a study by researchers from North Carolina Department of Transportation and the University of Tennessee found that AVs will likely result in a net decrease in public transit ridership. While they acknowledged that much more research still needs to be done, they concluded that this ridership decrease will be due to factors such as extra comfort and privacy of AVs compared to public transit and the relative utility of AVs. It was also noted that micro-mobility services such as shared AVs and microtransit AVs could attract riders from transitional public transit services. Additionally, once full automation has been achieved, populations who otherwise could not drive, such as the disabled, elderly, and unlicensed individuals, could potentially transition from public transit to AV usage. However, it remains unclear when full automation will become a reality, with many projections placing widespread adoption well into the future.

Shared Systems (Bike, Scooter, etc.)

Most shared or electric bicycle (eBike) and scooter services, whether docked at a rack or undocked, are managed at the local jurisdictional level. As such, each location will individually determine if such mobility options are warranted, have sufficient demand from the public, and meet statutory requirements designated for the local area.

Bike shares in Council Bluffs and Des Moines have proved to be positive partnerships for shared systems. The Des Moines Bike Collective is one of the longest lasting bike shares and currently is based in the DART building.

Currently there are three Iowa communities that either have electric scooters or are in the process of considering them. In September of 2019, after amending city code earlier in April, Cedar Rapids formed an agreement with VeoRide to operate and maintain both bike and scooter sharing in the city consisting of 30 scooters and 150 bikes. The electric scooters have a 28-mile range and can reach 12 miles per hour. Likewise, Iowa City also changed its city code to handle electric scooters and bikes the same as non-electric/motorized versions, contracting with Gotcha Mobility to implement dockless bike sharing facilities in the city.

In addition to Cedar Rapids and Iowa City, Des Moines is also exploring allowing electric scooters within its jurisdiction. Des Moines already has an extensive bike share fleet, so the scooters would be an augmentation of that service. If communities continue to incorporate these types of shared systems, they could have varying effects on public transit, from serving as an alternative mode for transit riders to helping to provide last-mile connections to transit riders.

Other shared transportation options

Other technological transportation innovations that could affect public transit include transportation subscription services, where an individual pays for access to multiple modes of transportation to serve their needs at any time (e.g., rental cars, bike, vanpool, passenger rail pass, etc.), or paying a monthly fee for the access rather than owning a personal vehicle or waiting to ride the bus. Third party van pools, such as Enterprise, also serve a vital role in Iowa's transit system.

Free alternative transportation options include arranging for carpools or vanpools using the Iowa Rideshare ridematching system that helps to quickly and securely find viable commute options, including carpool partners, vanpool routes, transit routes, cycling buddies, and more. Since its inception in late 2016, more than 5,000 unique users have registered with Iowa Rideshare, resulting in over 2,500 connections between multiple commuters and carpools. Additionally, DART offers its own vanpool program with connections available through the Iowa Rideshare site. To date, DART's fleet of nearly 60 vans have performed over 3,000 additional commuter trips. The Iowa Statewide Park and Ride System further supports carpooling and ridesharing by providing free parking for commuters throughout the state, which can be utilized by commuters connecting through Iowa Rideshare or any carpooling commuter in the state, free of charge.

Iowa Rideshare App: https://iowarideshare.org/

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