

An aerial photograph of a city. In the foreground, a multi-lane asphalt bridge with a metal railing spans across a dark, rocky riverbed. Below the bridge is a large, vibrant green field with a winding concrete path on the left side. To the right of the field is a modern, multi-story brick and stone building with a sign that reads 'HURTS DOUBT CO'. The background shows a dense urban area with various buildings, streets, and trees with autumn foliage. The sky is clear and bright.

Chapter 2

MPO Profile

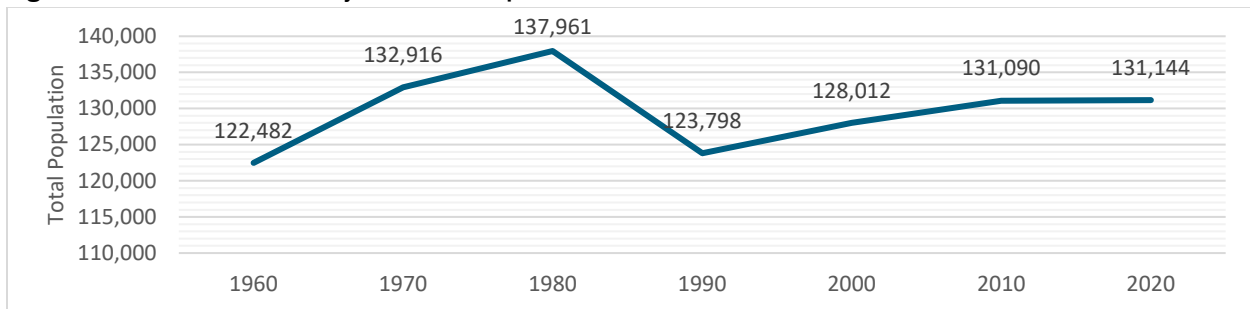
Chapter 2 – MPO Profile

An understanding of the characteristics of the community is necessary to properly maintain the existing transportation system and plan for future needs, challenges, and opportunities. It is important to review existing conditions and anticipated trends of demographic and economic characteristics, as these elements directly affect the volume and type of transportation taking place and the infrastructure required to meet its demand. This chapter provides an overview of existing characteristics influencing travel in the area and the anticipated population and employment growth that will affect transportation needs over the next 25 years. Data used are often at the county level since most of the population reside in the MPO boundary.

Population

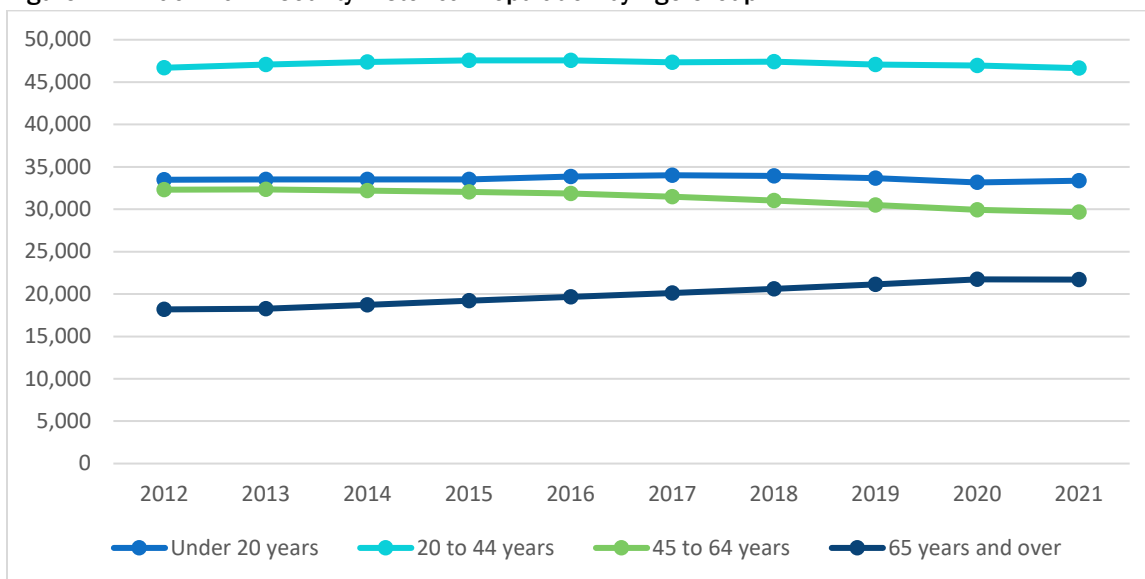
Over the past 60 years, the population of the region has fluctuated in size. Figure 2.1 shows historical population estimates for Black Hawk County from 1960 to 2010. The area’s population experienced a sharp decrease following the economic recession of the 1980s, which has a detrimental effect on agriculture and manufacturing in the area. Since 1990 the county’s population has experienced minimal growth (245 persons per year). Figures 2.2 and 2.3 show the historical population for Black Hawk County by age group and median age, and Map 2.1 shows the total population per Census block.

Figure 2.1: Black Hawk County Historical Population



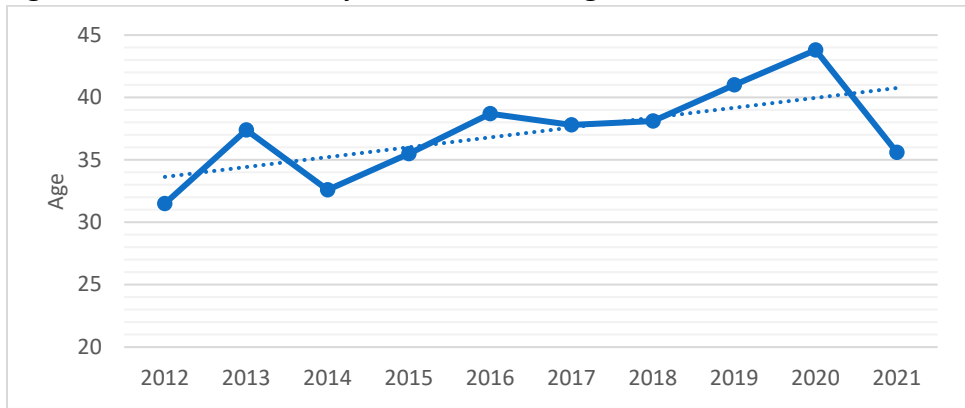
Source: U.S. Census Bureau, Decennial Census, 1960 to 2020

Figure 2.2: Black Hawk County Historical Population by Age Group



Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2012-2021

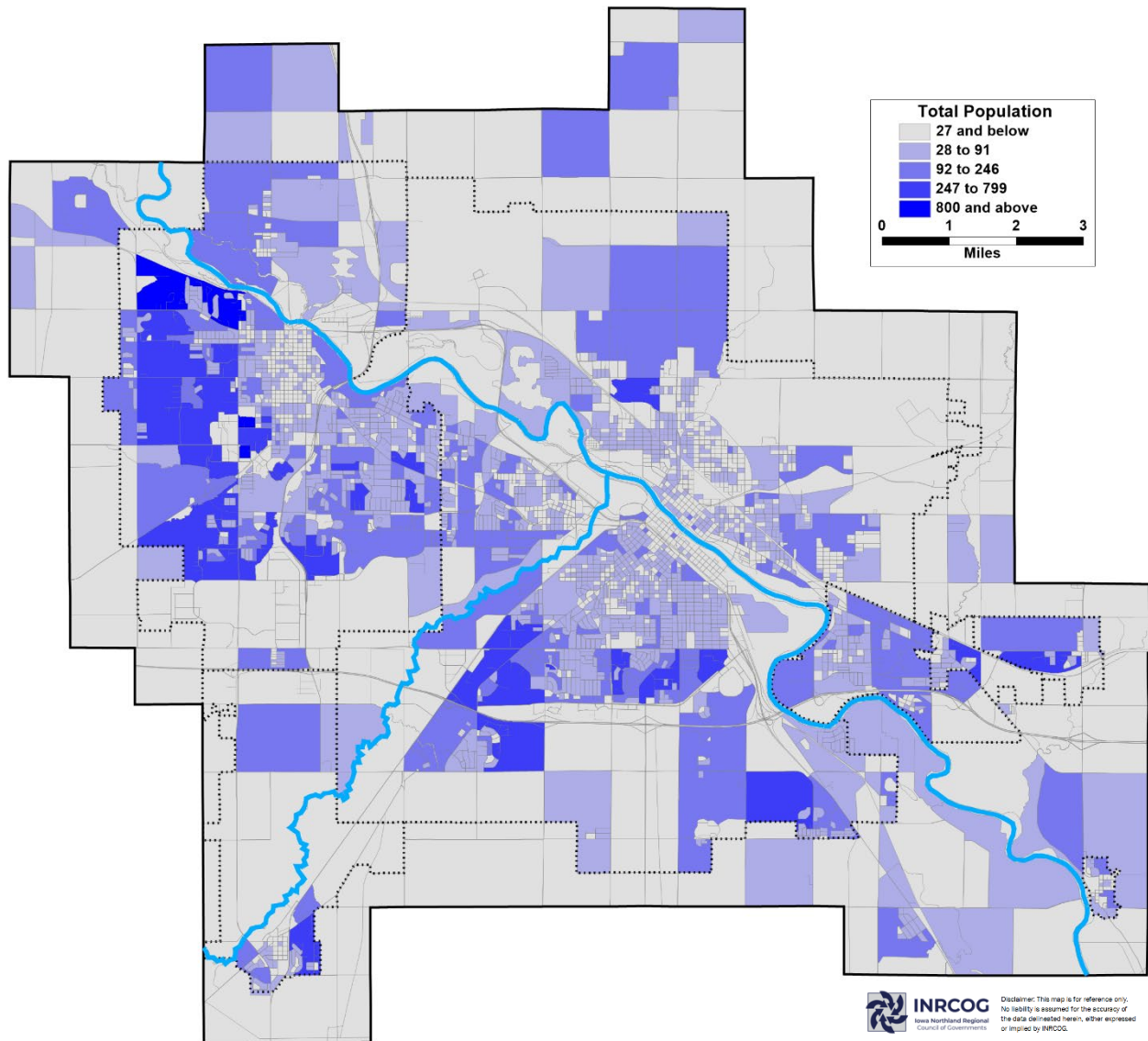
Figure 2.3: Black Hawk County Historical Median Age



Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2012-2021

Map 2.1: Total Population by Census Block

Source: U.S. Census Bureau, Decennial Census, 2020

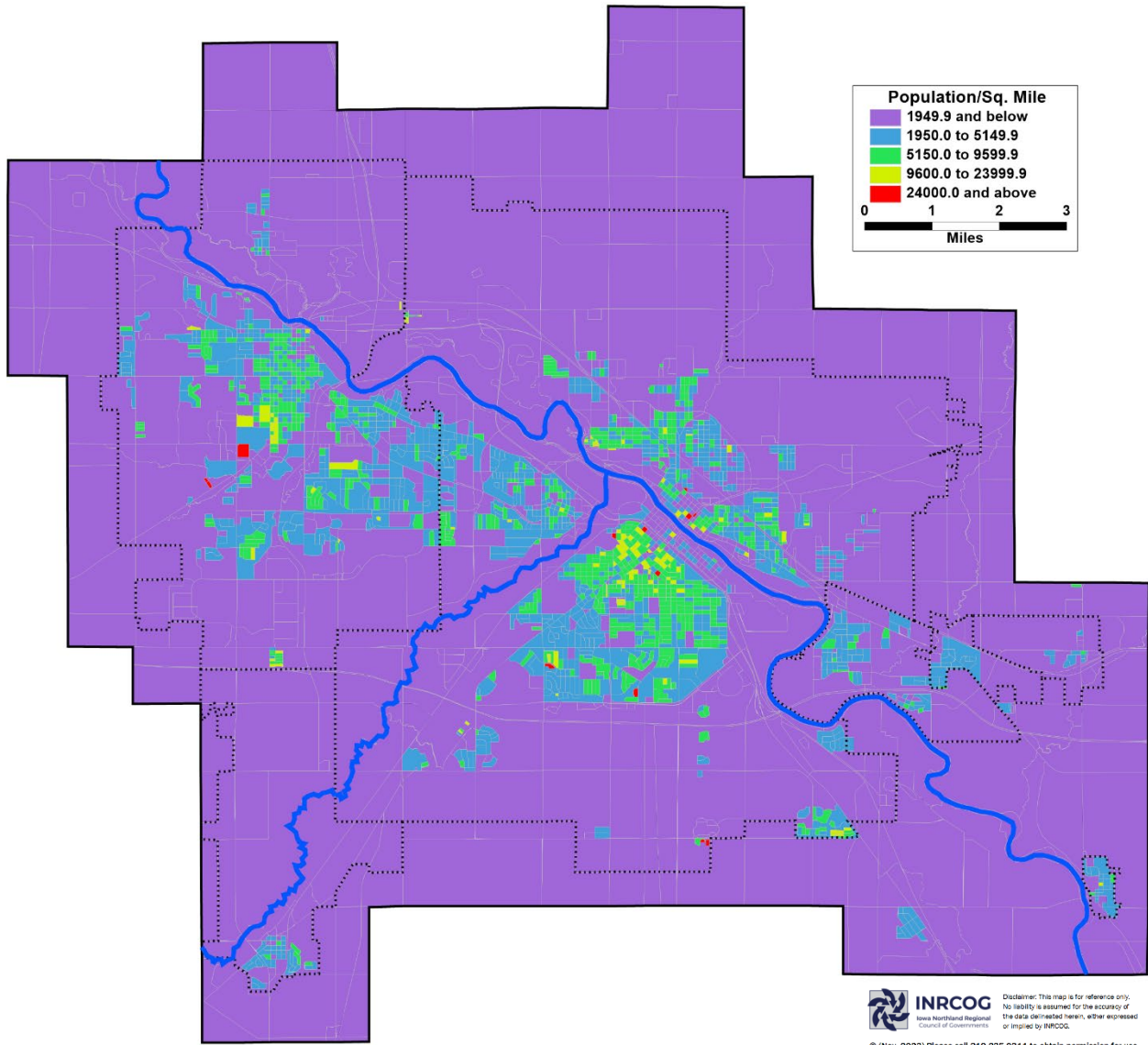


Population Density

Areas containing higher population densities are likely to produce more vehicle trips. Map 2.2 shows the population density in the metropolitan area in 2020. The areas with the greatest population densities tend to be centered near the University of Northern Iowa, central Waterloo, and along major arterial corridors.

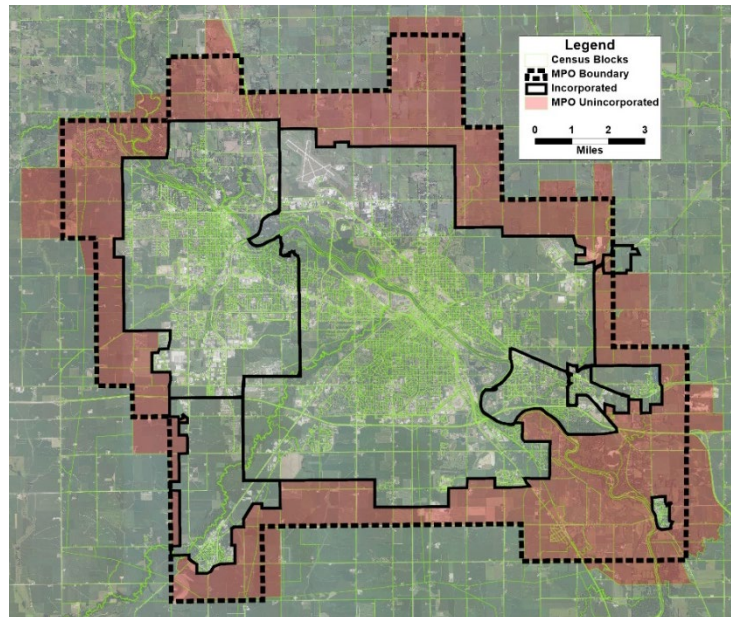
Map 2.2: Population Per Square Mile by Census Block

Source: U.S. Census Bureau, Decennial Census, 2020



Population Projections

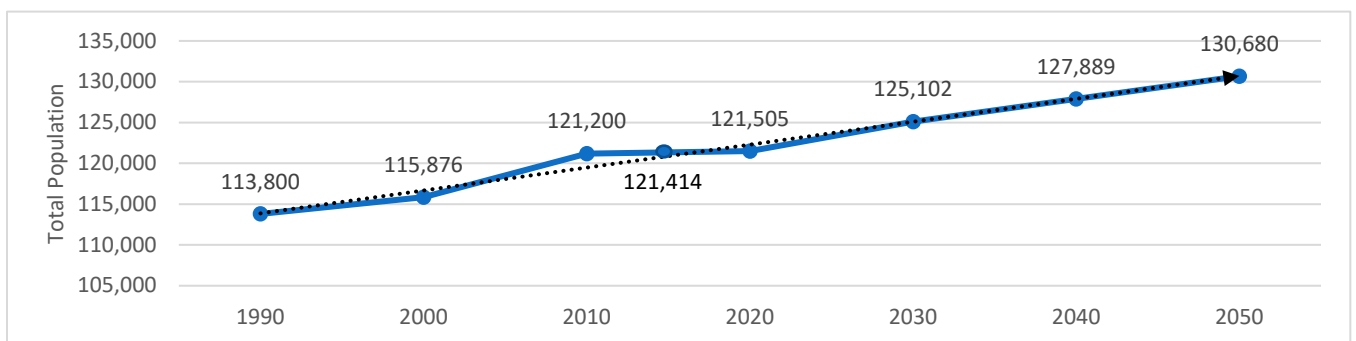
The MPO growth rate was calculated using U.S. Census Bureau Decennial Census data from 1990 to 2020. Broad economic events including the post-war boom in the 1950s and the farm crisis in the 1980s make data from earlier time frames difficult to rely on. Linear projections from 1990 to 2020 provide a more up-to-date picture of the area's growth. Additional GIS analysis was used to estimate the population who live in the unincorporated portions of the MPO area. To calculate the MPO unincorporated population, Census blocks outside of incorporated boundaries and inside of the MPO boundary were selected. For consistency, Census blocks located on the MPOU boundary were included. There are an estimated 3,749 people in the MPO unincorporated area in 2020.



There are an estimated 121,505 people in the MPO area in 2020. Linear projections from 2010 to 2020 were used to calculate the MPO population in the base year 2017. There were an estimated 121,414 people in the MPO area in the base year 2017. This value is projected to increase by 9,266 for a total of 130,680 people in the horizon year 2050.

Table 2.1: Population Projection Control Total

		1990	2000	2010	2017 (Base)	2020	2030	2040	2050	2017- 2050
1990-2020 Linear	Waterloo	66,814	67,781	68,406	67,642	67,314	68,110	68,323	68,535	893
	Cedar Falls	33,894	35,020	39,260	40,277	40,713	43,396	45,866	48,336	8,059
	Evansdale	4,685	4,606	4,751	4,618	4,561	4,594	4,571	4,549	-69
	Hudson	2,013	2,065	2,282	2,467	2,546	2,681	2,862	3,044	577
	Elk Run Heights	1,087	1,070	1,117	1,083	1,069	1,084	1,083	1,083	0
	Raymond	615	576	788	768	759	846	910	974	206
	Gilbertville	749	758	712	769	794	776	784	793	24
	Unincorp.	3,943	3,972	3,884	3,790	3,749	3,617	3,489	3,366	-424
MPO Total	113,800	115,876	121,200	121,414	121,505	125,102	127,889	130,680	9,266	



The Travel Demand Model (TDM) relies on data from economic activity to predict transportation decisions and trip generation. In residential areas, the number of housing units determines trip-making potential. Black Hawk County parcel data was used to calculate the number of housing units in the base year 2017. This methodology was found to be reliable in accurately pinpointing existing housing units. Parcel processing resulted in an estimated 52,710 housing units in 2017. To determine projected housing units, the 2050 population projections were divided by each jurisdiction's average household size (2017 population/2017 housing units). The number of housing units is projected to increase by 3,718 over the base year 2017.

Table 2.2: Housing Unit Control Totals

	2017 Population	2017 Housing Units	Average Household Size	2050 Population	2050 Housing Units	Housing Units 2017-2050
Waterloo	67,642	30,963	2.1846	68,535	31,372	409
Cedar Falls	40,277	15,989	2.5191	48,336	19,188	3,199
Evansdale	4,618	2,050	2.2531	4,549	2,019	-31
Hudson	2,467	953	2.5884	3,044	1,176	223
Elk Run Heights	1,083	464	2.3341	1,083	464	0
Raymond	768	326	2.3527	974	414	88
Gilbertville	769	349	2.2028	793	360	11
Unincorp.	3,790	1,616	2.3456	3,366	1,435	-181
MPO Total	121,414	52,710		130,680	56,428	3,718

The last step was to distribute each jurisdiction's projected change in housing units to the Traffic Analysis Zones (TAZ). Growth areas for housing were not anticipated to change drastically from what was projected in the 2045 Long-Range Transportation Plan. Accordingly, each jurisdiction's projected change in housing units was distributed in a comparable proportion to the previous plan. Adjustments were made to account for recent and impending developments. Projected decreases in housing units were not incorporated into the travel demand model. Map 2.3 shows the projected change in housing units from 2017 to 2050.

Housing Characteristics

Table 2.3 provides a housing profile for Black Hawk County. Approximately 40% of households have either one or no vehicles available. While the number of vehicles per household has increased over time, a substantial percentage of households have no vehicles available (7.6%). These households are more likely to depend on carpooling, public transit, walking, or bicycling to get to and from their destinations.

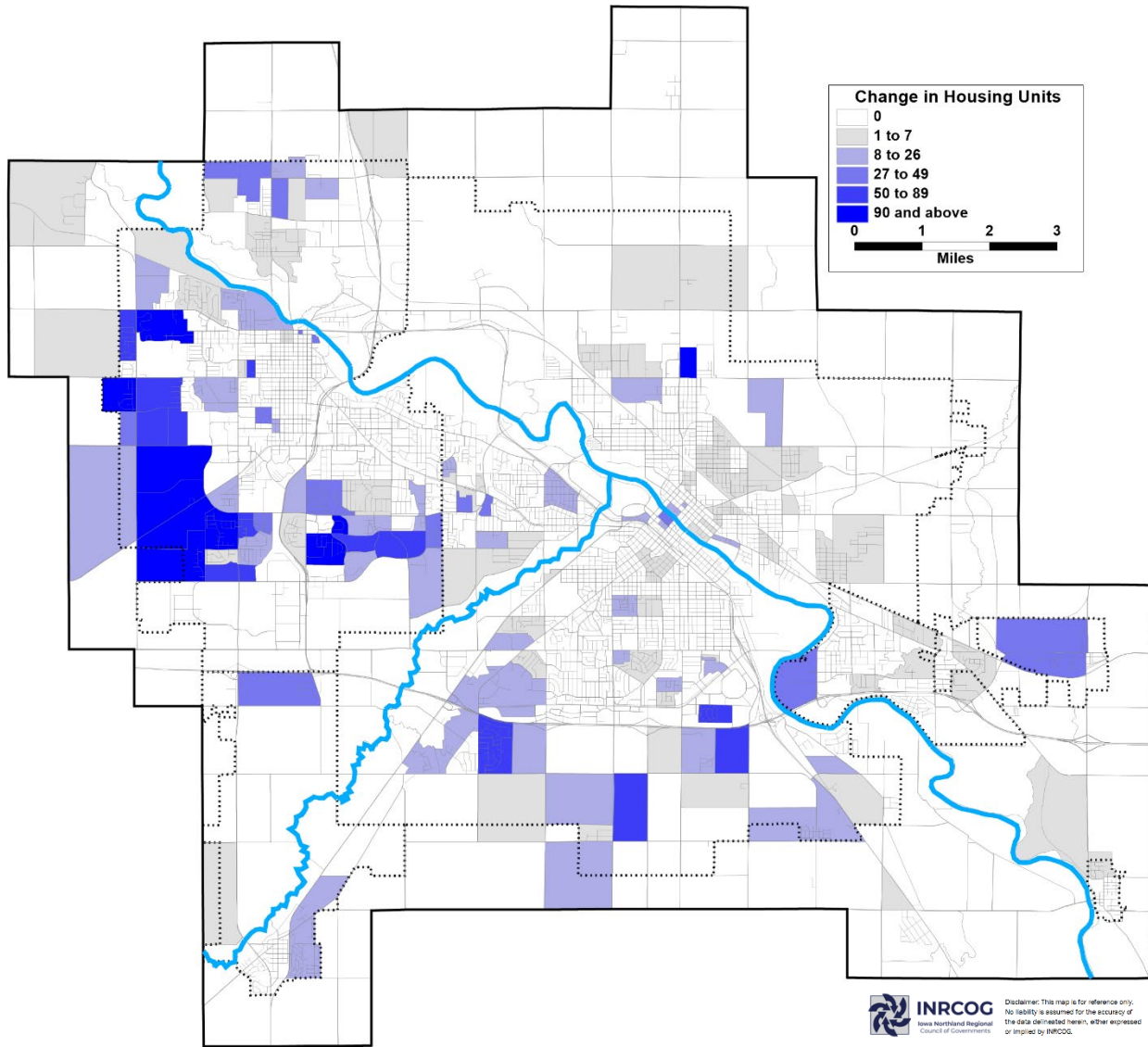
Table 2.3: Selected Housing Characteristics for Black Hawk County

	Black Hawk County	Margin of Error
Housing Occupancy		
Homeowner vacancy rate	1.4	±0.5
Rental vacancy rate	5.2	±1.5
Housing Tenure		
Owner-occupied housing units	66.3%	±2.5
Renter-occupied housing units	33.7%	±2.5
Year Structure Built		
2000 or later	14.4%	±1.6
1960 to 1999	44.1%	±3.5
1959 or earlier	41.5%	±2.7
Vehicles Available		
No vehicle available	7.6%	±0.8
1 vehicle available	31.9%	±1.2
2 or more vehicles available	60.5%	±2.8

Sources: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

Map 2.3: Projected Change in Housing Units, 2017 to 2050, by TAZ

Source: Black Hawk County MPO 2050 Travel Demand Model



Disclaimer: This map is for reference only. No liability is assumed for the accuracy of the data presented herein, whether expressed or implied by INRCOG.

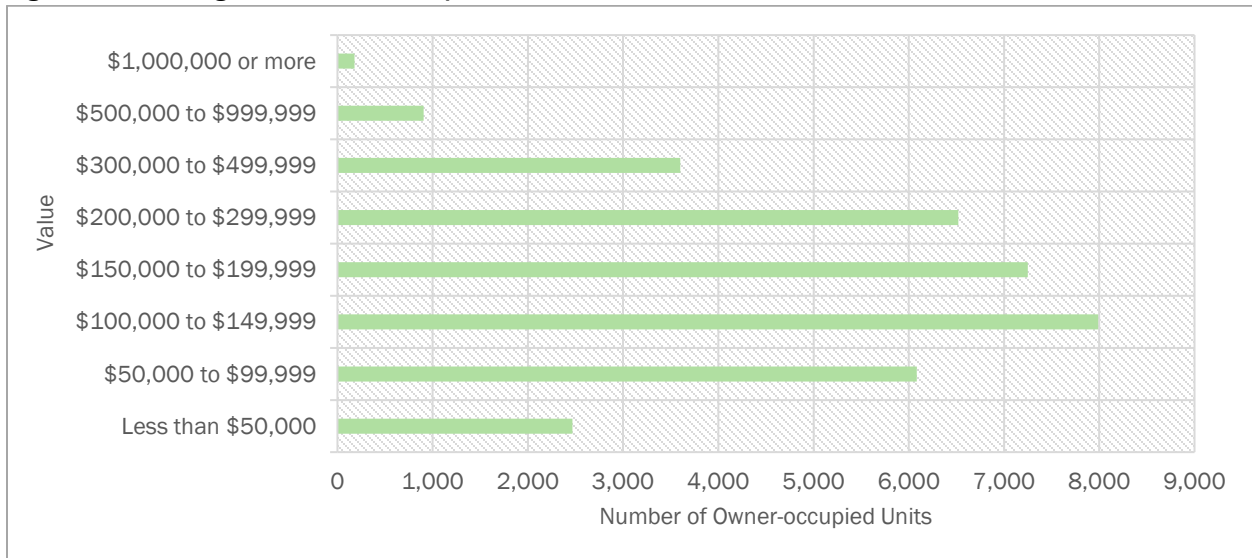
© (Nov. 2023) Please call 319-235-0311 to obtain permission for use.

Housing Value

The cost of housing and the cost of transportation are two large factors in determining where people choose to live. Metropolitan area workers are faced with the advantages and disadvantages of living in the metropolitan area or living in a smaller community or rural area outside of it. The median owner-occupied home value in Black Hawk County is \$155,400 and there is a wide range in housing value within the county (Figure 2.4).



Figure 2.4: Housing Value, Owner-occupied Units

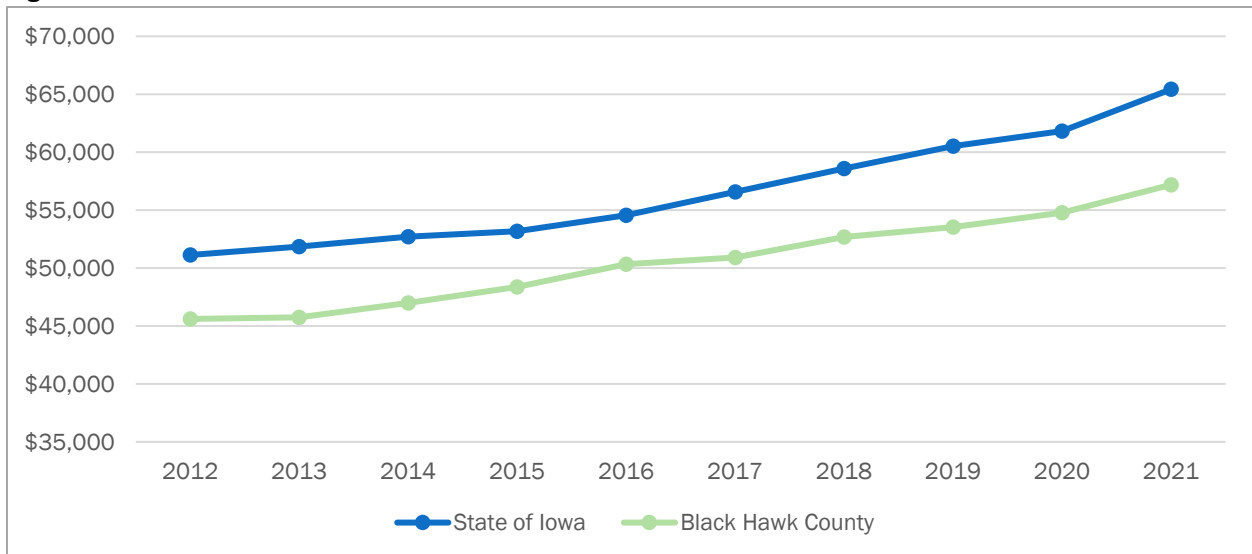


Sources: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

Household Income

According to the FHWA Livability Initiative, transportation is the second largest expense for most households after housing. Households living in auto-dependent locations spend 25% of their income on transportation costs. Housing that is affordable and located closer to employment, shopping, restaurants, and other destinations can reduce household transportation costs to nine percent of household income. Figure 2.5 compares the median household income for Black Hawk County and the State of Iowa.

Figure 2.5: Median Household Income



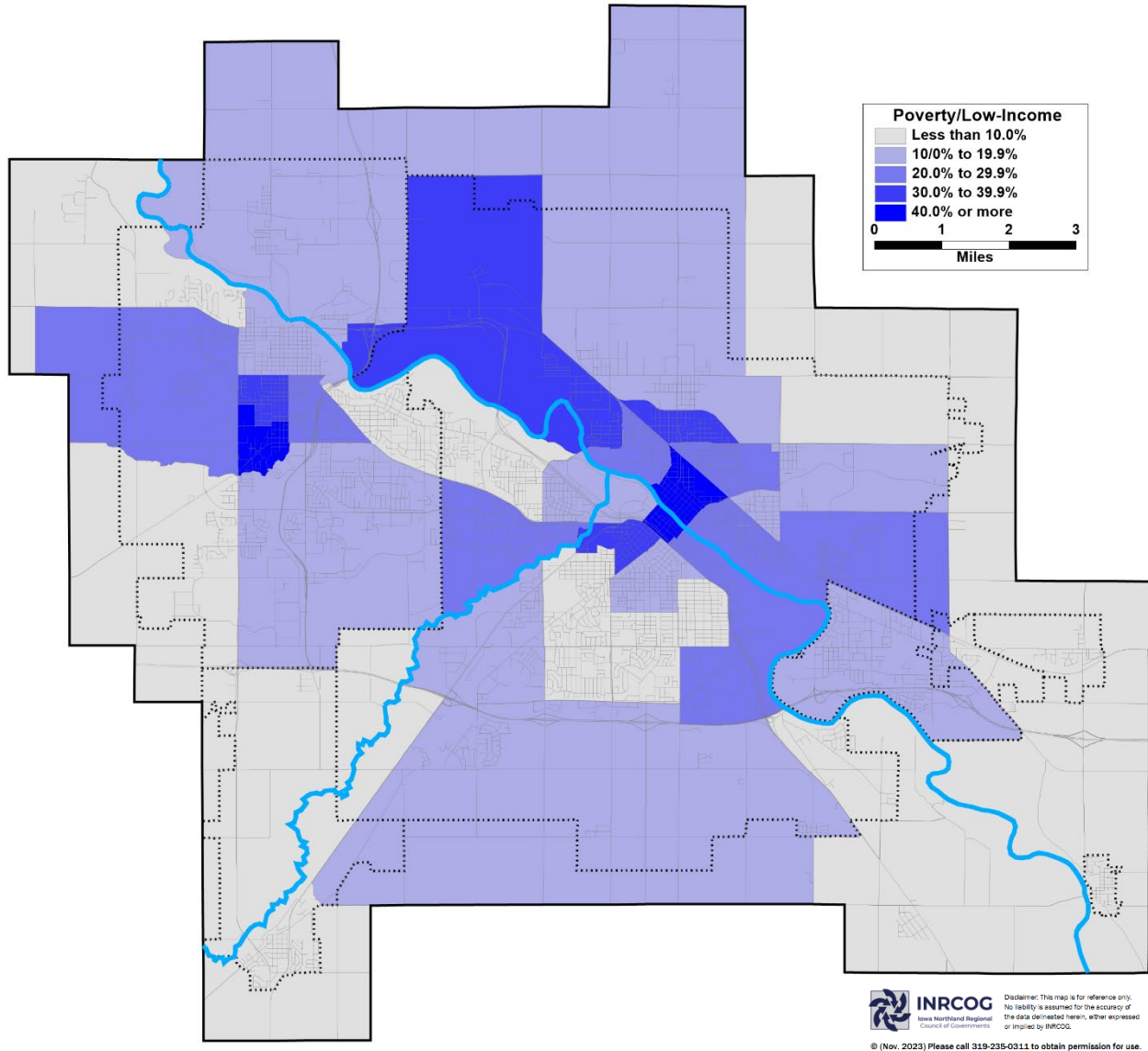
Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2012-2021

Poverty/Low Income

According to the U.S. Census Bureau, people and families are classified as being in poverty if their income is less than their poverty threshold. Approximately 15.0% of the population within Black Hawk County is below the poverty level. Map 2.4 shows the percentage of the population that is below the poverty level by Census tract.

Map 2.4: Poverty/Low-Income by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



Average Housing and Transportation Costs

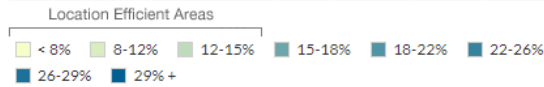
Traditional measures of housing affordability do not consider transportation costs. According to the Center for Neighborhood Technology, a household's second-largest expenditure is typically transportation costs. Compact and dynamic neighborhoods with walkable streets and high access to jobs, transit, and a wide variety of businesses can be more efficient, affordable, and sustainable. Figure 2.6 illustrates the average housing and transportation costs as a percentage of household income.

Figure 2.6: Housing and Transportation Fact Sheet, Black Hawk County

Source: Center for Neighborhood Technology, Housing and Transportation Facts Sheet

The statistics below are modeled for the Regional Typical Household. Income: \$57,495 Commuters: 1.17 Household Size: 2.41 (Waterloo-Cedar Falls, IA)

Map of Transportation Costs % Income



Location Efficiency Metrics

Places that are compact, close to jobs and services, with a variety of transportation choices, allow people to spend less time, energy, and money on transportation.

1%

Percent of location efficient neighborhoods

Neighborhood Characteristic Scores (1-10)

As compared to neighborhoods in all 955 U.S. regions in the Index

Job Access

5

Moderate access to jobs

AllTransit Performance Score

2

Car-dependent with limited access to public transportation

Compact Neighborhood

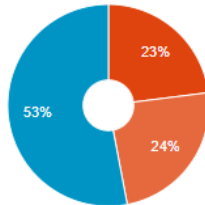
1.4

Very low density and limited walkability

Average Housing + Transportation Costs % Income

Factoring in both housing *and* transportation costs provides a more comprehensive way of thinking about the cost of housing and true affordability.

- Housing
- Transportation
- Remaining Income



Transportation Costs

In dispersed areas, people need to own more vehicles and rely upon driving them farther distances which also drives up the cost of living.



\$13,770

Annual Transportation Costs



1.83

Autos Per Household



18,793

Average Household VMT



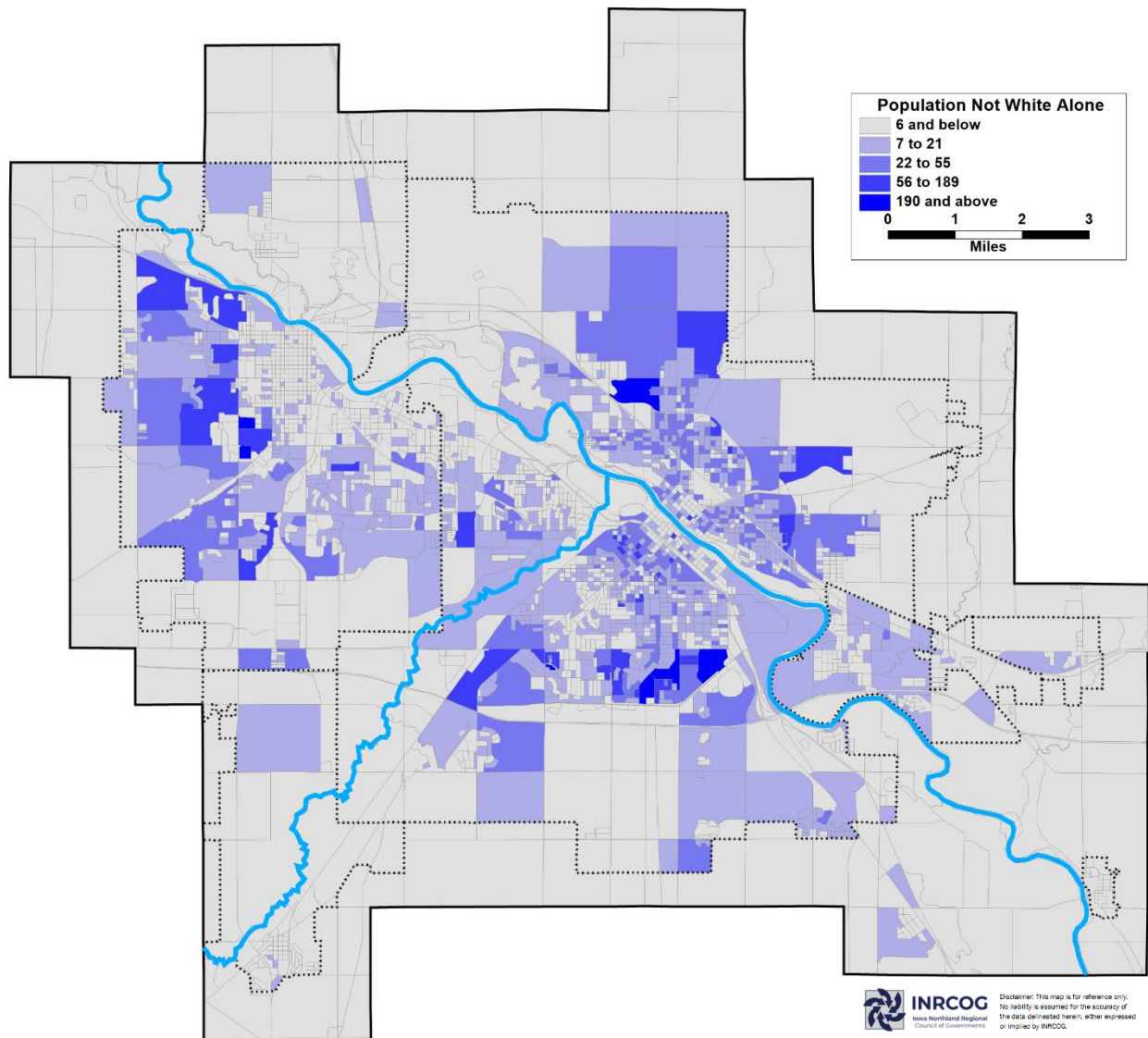
Racial and Ethnic Minorities

For the purposes of this plan, Racial and Ethnic Minorities are defined as individuals that do not identify as White alone. Under this definition, the estimated Minority population accounts for 21.6% of the total population in Black Hawk County. Waterloo is the metropolitan area's most diverse city, though significant minority populations are found in other MPO cities as well. The area continues to experience new-comer populations. These populations may present special challenges and opportunities for transportation planning. Map 2.5 shows the number of persons that do not identify as White alone by Census block, and Map 2.6 shows the percent of the population that is foreign born by Census tract.



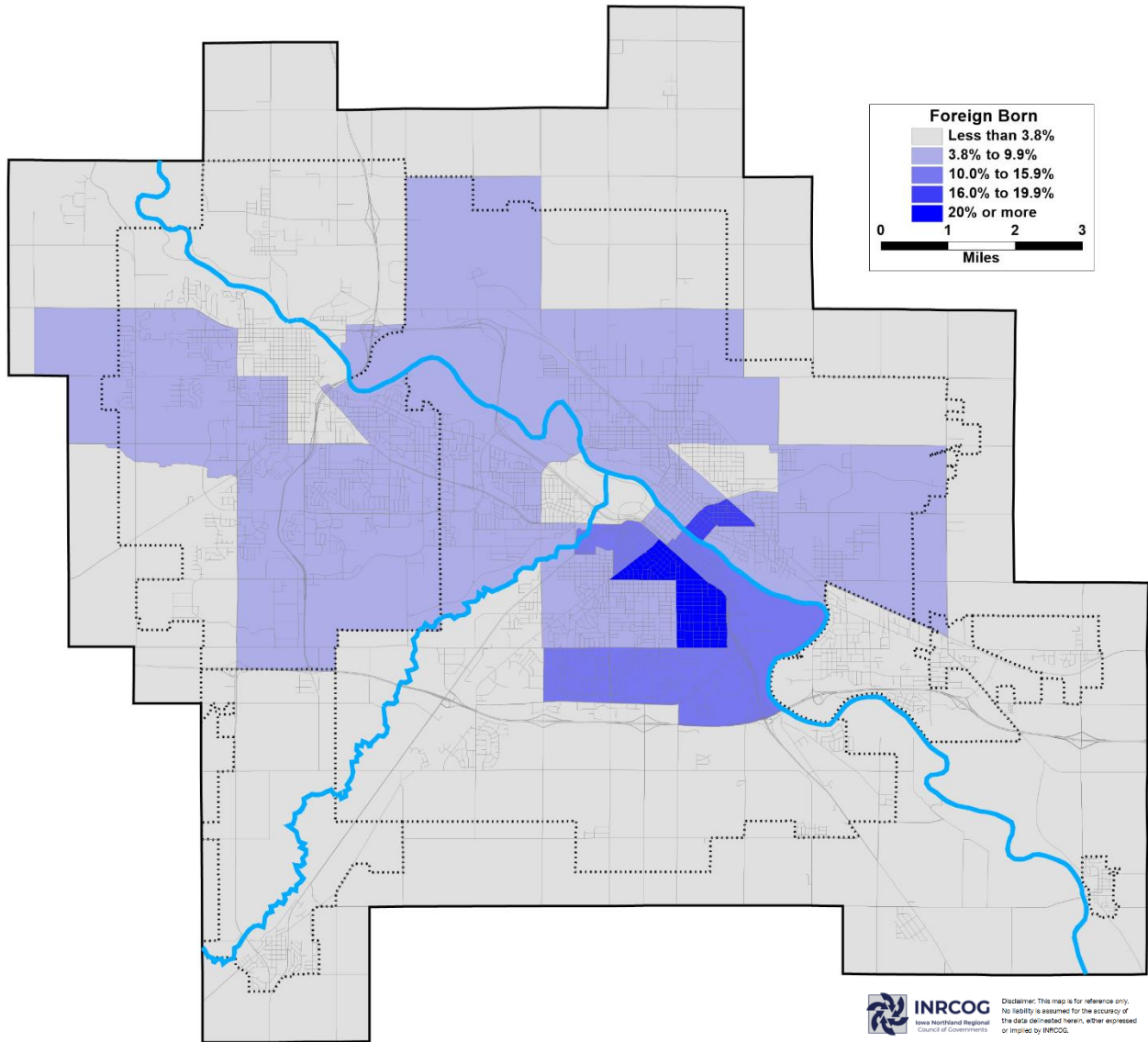
Map 2.5: Racial and Ethnic Minorities by Census Block

Source: U.S. Census Bureau, Decennial Census, 2020



Map 2.6: Foreign Born Population by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

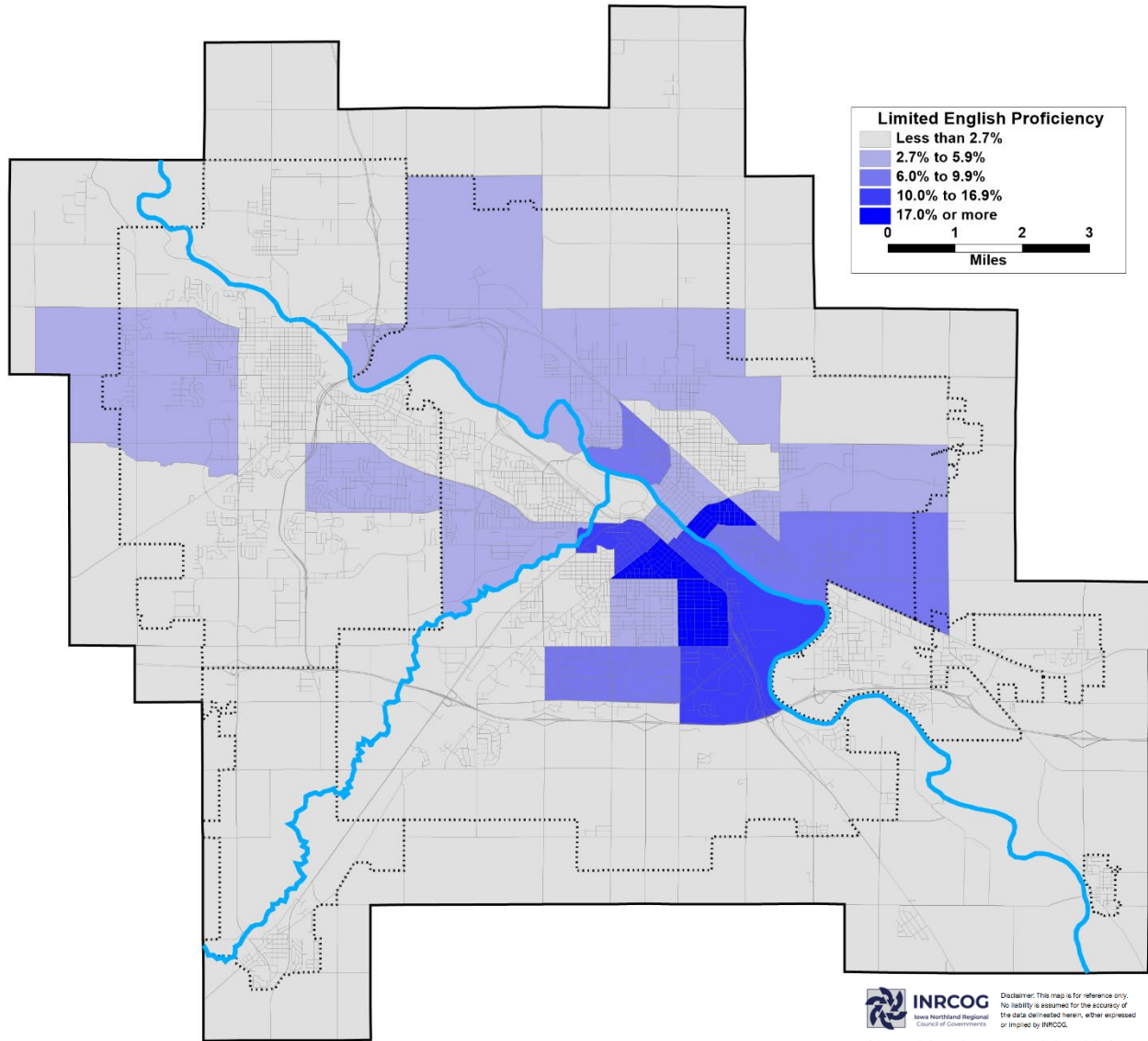


Limited English Proficiency (LEP)

The U.S. Department of Justice defines LEP persons as, “Individuals who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English...” Approximately 3.8% of the population 5 years of age and older within Black Hawk County are considered LEP individuals. Map 2.7 shows the percentage of the population that is considered LEP by Census tract

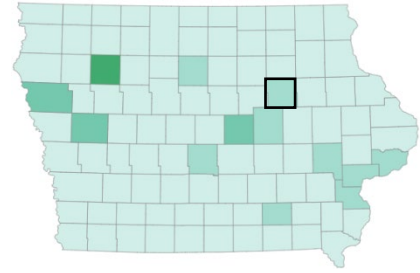
Map 2.7: Limited English Proficiency by Census Tract

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



Ethnic Diversity Index

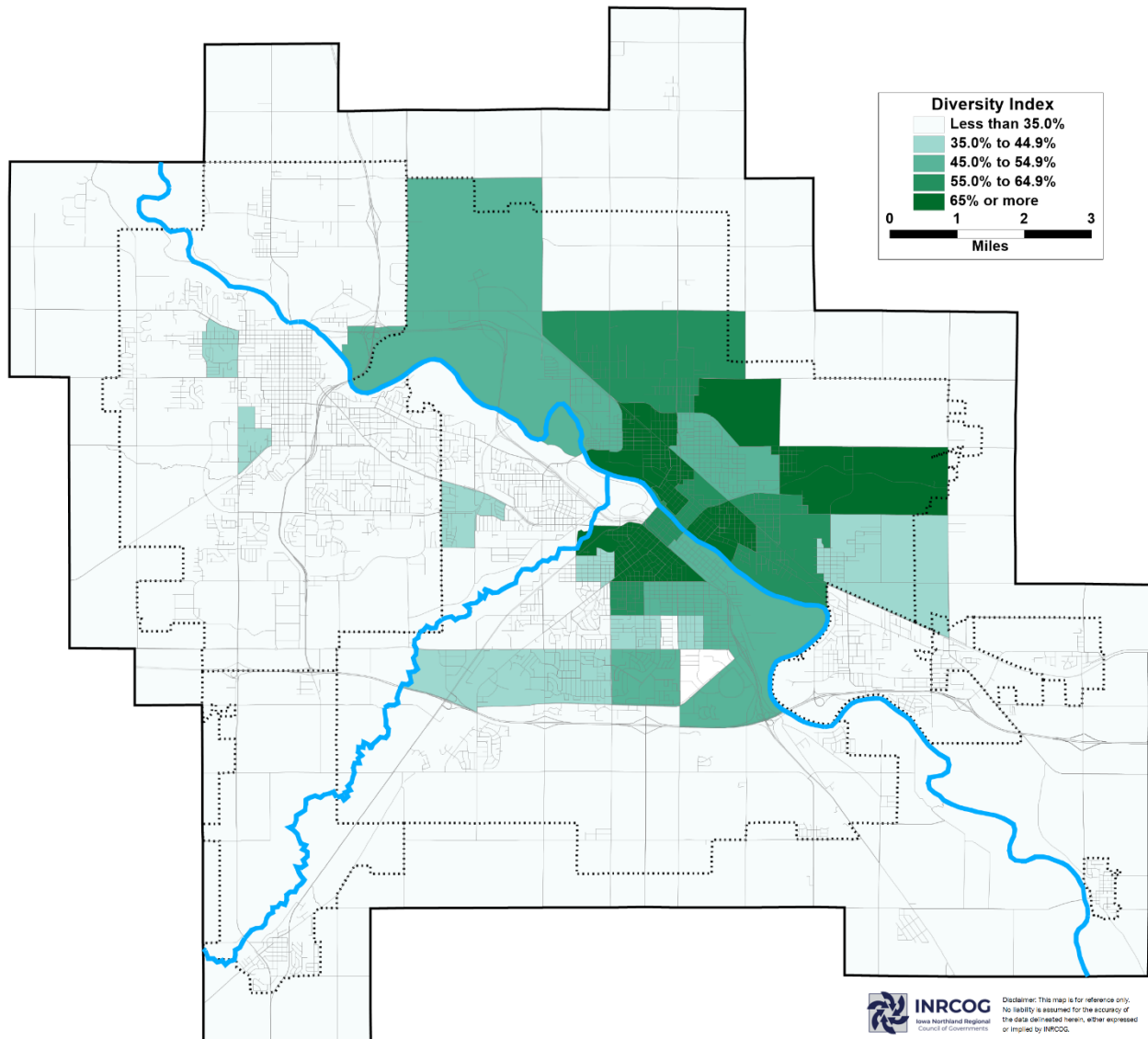
According to the U.S. Census Bureau, the overall racial and ethnic diversity of the country has increased since 2010. The U.S. Census Bureau uses a Diversity Index (DI) to measure the probability that two people chosen at random will be from different racial and ethnic groups. The DI is bounded between 0% and 100%. A value closer to 100% indicates that much of the population has different racial and ethnic characteristics. Map 2.8 shows the DI for the metropolitan area by Census block group. For comparison, Iowa and Black Hawk County have DI of 30.8% and 39.0%, respectively. Black Hawk County has the ninth highest Diversity Index in the state.



<https://www.census.gov/library/visualizations/interactive/racial-and-ethnic-diversity-in-the-united-states-2010-and-2020-census.html>

Map 2.8: Ethnic Diversity Index by Census Block Group

Source: U.S. Census Bureau, Decennial Census, 2020



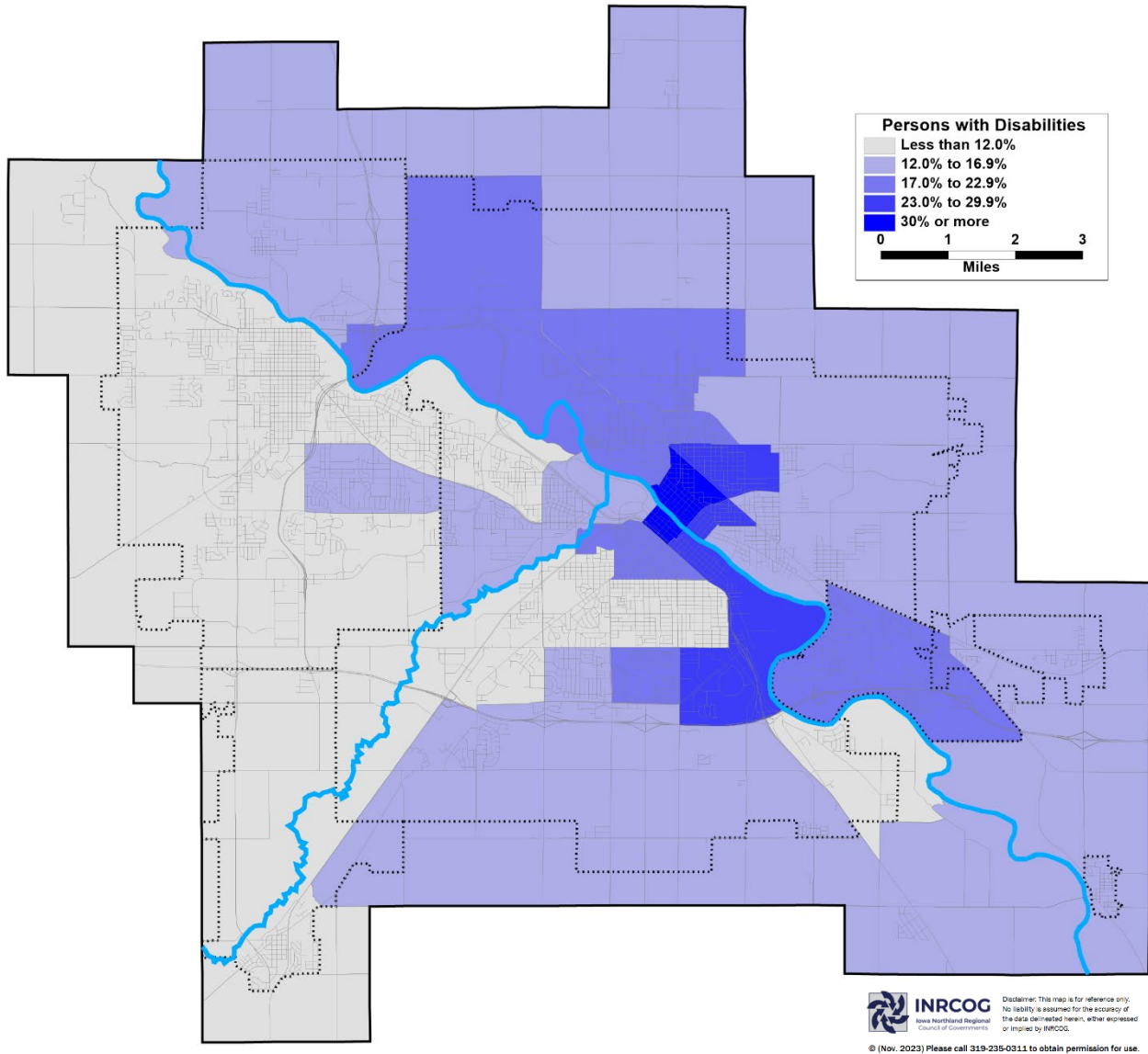
 **INRCOG** Iowa Northland Regional Council of Governments
Disclaimer: This map is for reference only. No liability is assumed for the accuracy of the data presented herein, either expressed or implied by INRCOG.
© (Nov. 2023) Please call 319-235-0311 to obtain permission for use.

Persons with Disabilities

To capture a variety of characteristics that encompass the definition of disability, the U.S. Census Bureau American Community Survey identifies serious difficulty with four basic areas of functioning – hearing, vision, cognition, and ambulation (movement); difficulty bathing and dressing; and difficulty performing errands such as shopping. Approximately 13.6% of the total civilian noninstitutionalized population within Black Hawk County have at least one disability. Map 2.9 shows the percentage of the population with disabilities by Census tract.

Map 2.9: Persons with Disabilities

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



Jobs

The number of jobs in the Black Hawk County metropolitan area has gradually increased over the past decade. According to the U.S. Census Bureau, there are approximately 75,000 jobs in the MPO area in 2019, an increase of 3,300 jobs from 2010. Map 2.10 shows the number of jobs and jobs per square mile, and Figure 2.7 shows the job counts by North American Industry Classification System (NAICS) industry sector.

Map 2.10: Jobs and Jobs per Square Mile

Source: U.S. Census Bureau, OnTheMap, 2019

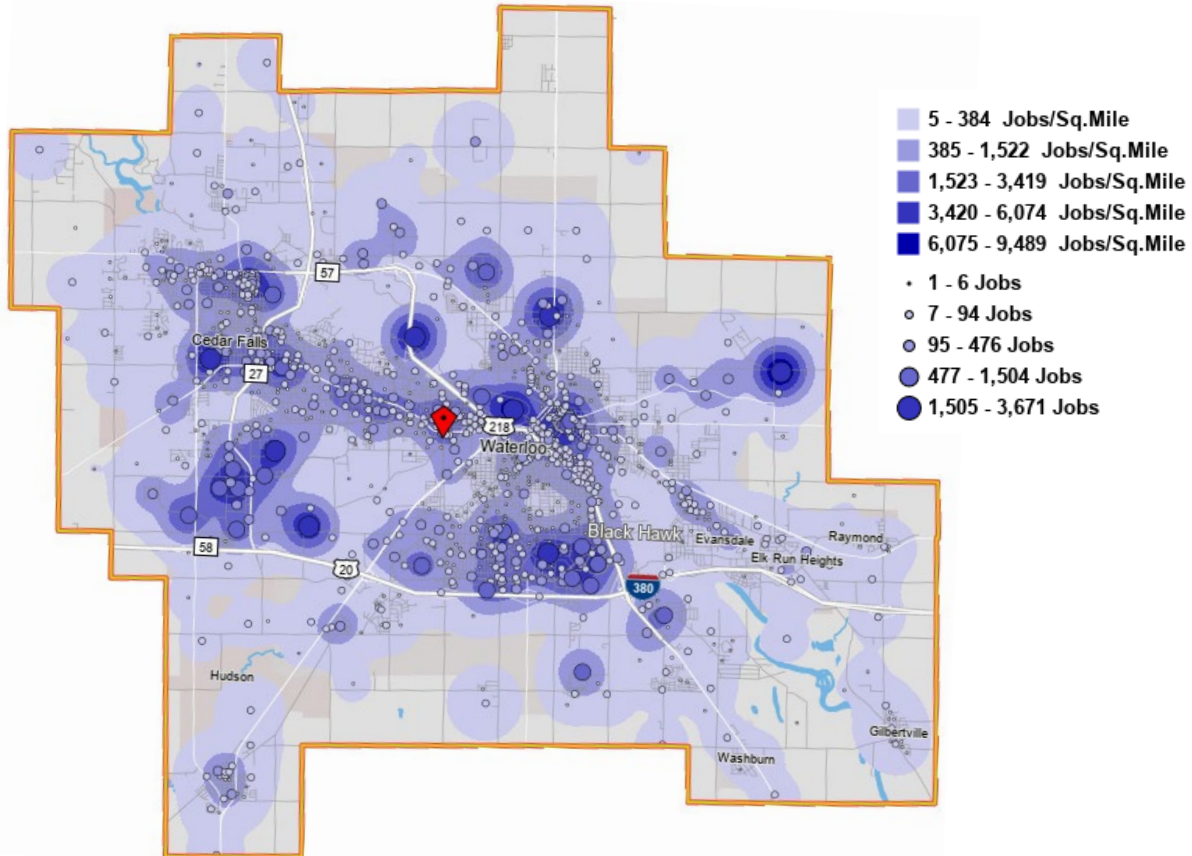
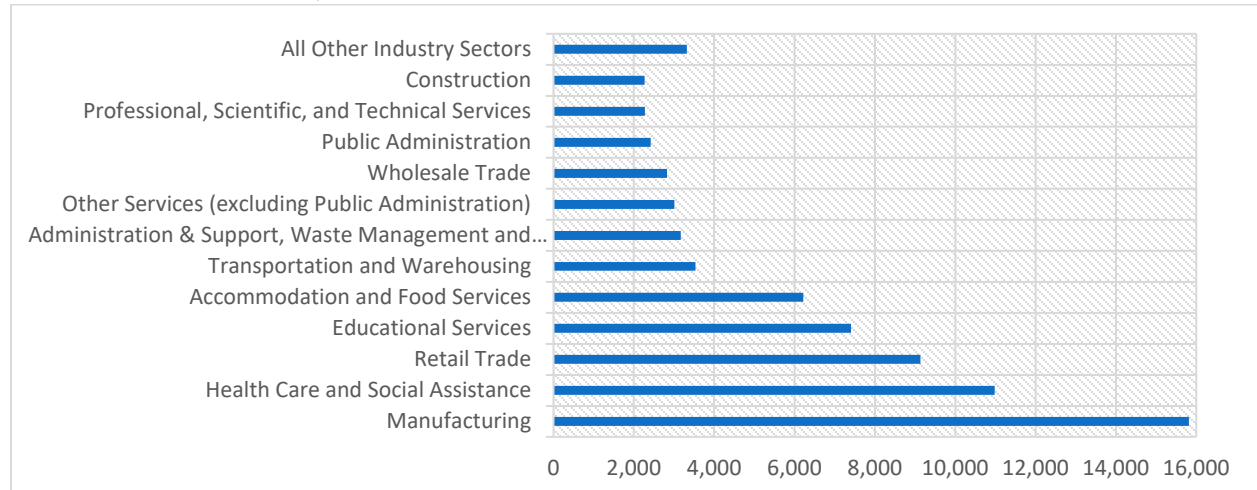


Figure 2.7: Jobs by NAICS Industry Sector

Source: U.S. Census Bureau, OnTheMap, 2019



Major Employers

Table 2.4 lists the major employers in the metropolitan area. Of these top employers, manufacturing, education, and health care are the top three industries by number of employees.

Table 2.4: Top 20 Major Employers

Source: Grow Cedar Valley, 2022/2023 Cedar Valley Fact Sheet

Company	Industry	Approximate Employees
John Deere	Manufacturing	5,000
UnityPoint Health	Health Care	3,162
Tyson Fresh Meats	Food Processing	3,000
MercyOne	Health Care	2,597
Waterloo Community Schools	Education	1,900
Target Distribution Centers	Distribution	1,800
University of Northern Iowa	Education	1,650
VGM Group	Diversified	1,400
Hy-Vee Food Stores	Grocery	1,256
Western Home Communities	Health Care/Housing	891
Cedar Falls Community Schools	Education	879
Bertch Cabinet Manufacturing	Manufacturing	725
Veridian Credit Union	Financial	626
Omega Cabinetry	Manufacturing	550
LSB/LSBX	Financial	500
Peterson Contractors, Inc	Construction	500
Viking Pump	Manufacturing	491
Martin Brothers Distribution	Distribution	450
Cedar Valley Medical Specialists	Health Care	405
CBE Companies, Inc	Financial	400

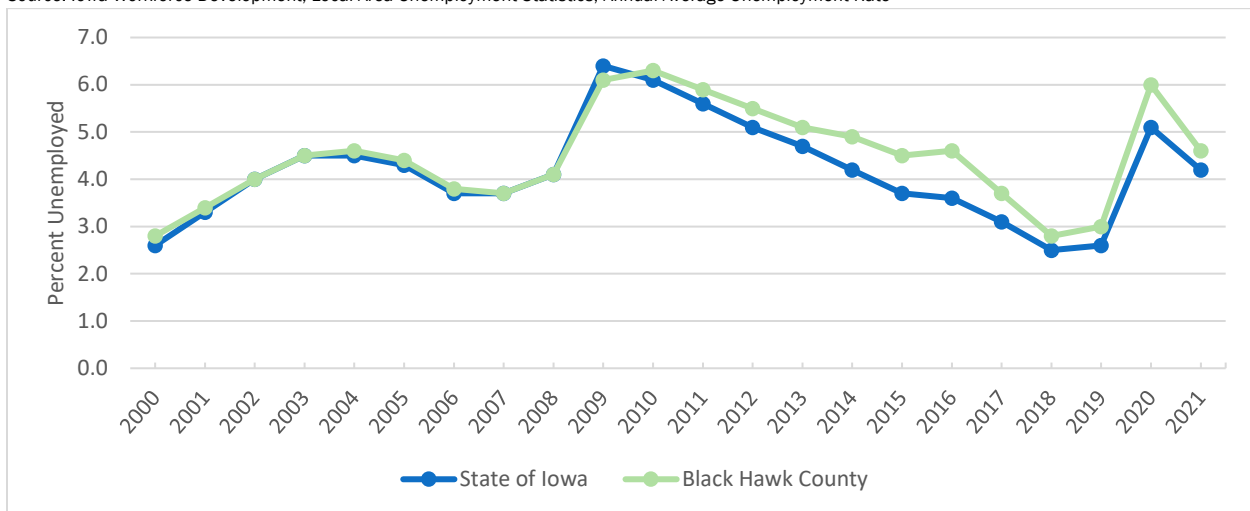


Unemployment

Figure 2.8 shows the unemployment rate for Black Hawk County over the past 25 years, along with the statewide average. Since 2000, Black Hawk County and the state have had similar unemployment rates.

Figure 2.8: Unemployment Rate

Source: Iowa Workforce Development, Local Area Unemployment Statistics, Annual Average Unemployment Rate

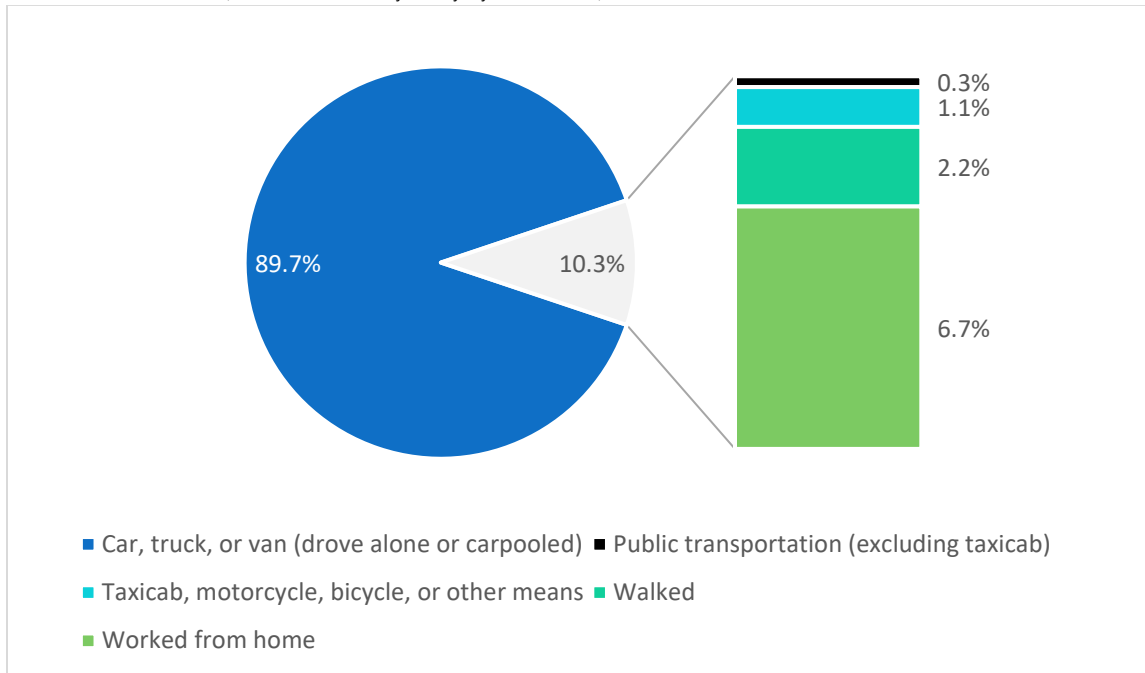


Mode of Transportation to Work

The metropolitan area remains an auto-oriented community. Approximately 90 percent of residents utilize an automobile for travel to work (Figure 2.9). Walking is the next highest mode of transportation to work outside of the home. The number of people working from home is on the rise, not dissimilar to the rest of the nation. In 2021, 6.7% of people worked from home, an increase of 4.2 percent since 2010.

Figure 2.9: Mode of Transportation to Work

Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021

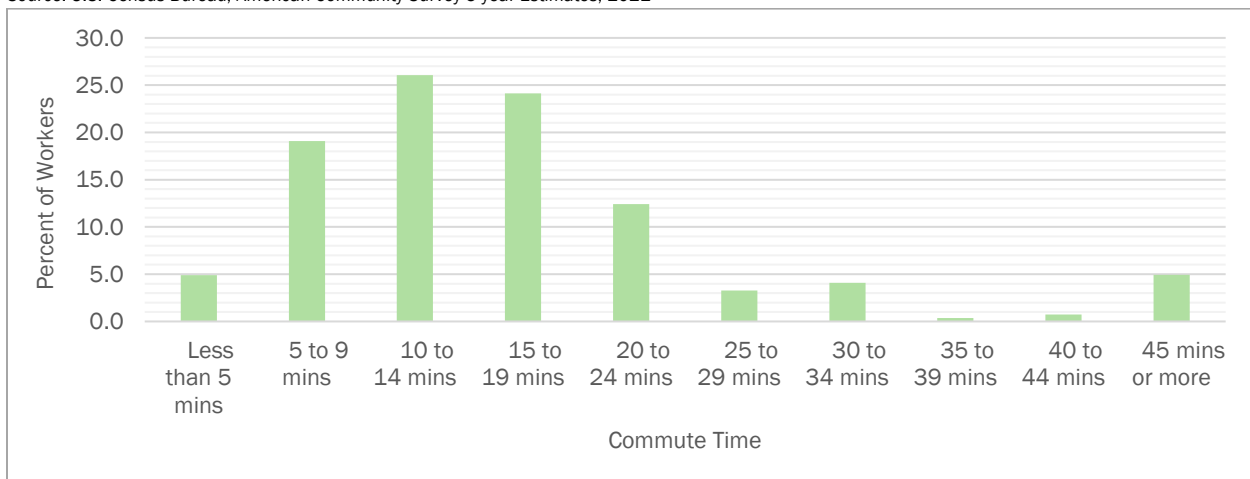


Commute to Work

Like other smaller metropolitan areas, most work trips are short in time; 90 percent of workers in Black Hawk County have travel times less than 30 minutes. For comparison, 83 percent of workers in Linn County have travel times of less than 30 minutes.

Figure 2.10: Commute Time to Work

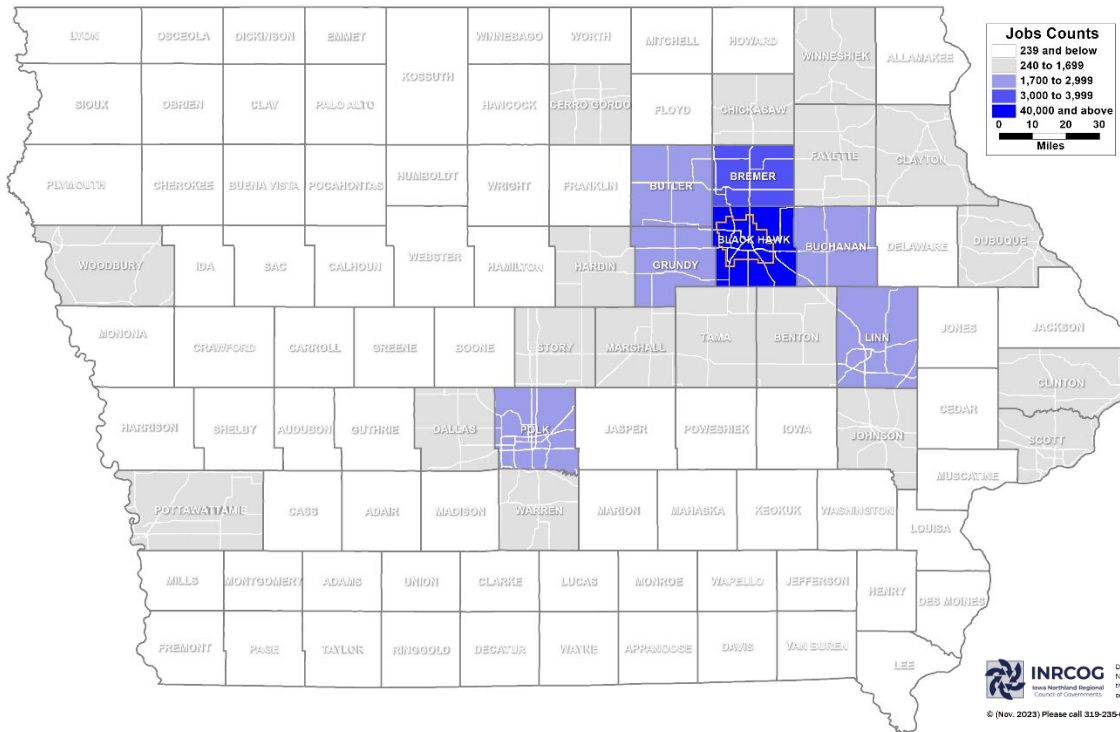
Source: U.S. Census Bureau, American Community Survey 5-year Estimates, 2021



Map 2.11 shows the job counts by counties for workers employed in the MPO area in 2019 (i.e., where do people that work in the metropolitan area live). Of the 75,000 workers employed in the metropolitan area, approximately 57.7% live in Black Hawk County, followed by Bremer County (5.3%) and Polk County (3.3%). Map 2.12 illustrates the movement of workers commuting in and out of the metropolitan area.

Map 2.11: Job Counts by Counties for Workers Living in the MPO Area

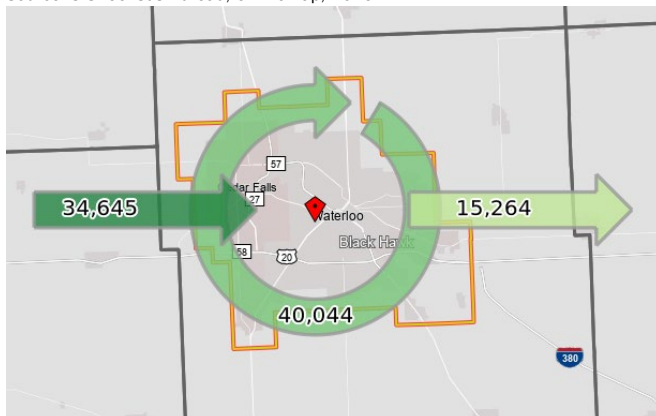
Source: U.S. Census Bureau, OnTheMap, 2019



County	Count	Share (%)	County	Count	Share (%)
Black Hawk	43,103	57.7	Butler	1,726	2.3
Bremer	3,950	5.3	Tama	1,049	1.4
Polk	2,434	3.3	Johnson	938	1.3
Buchanan	2,141	2.9	Scott	877	1.2
Linn	2,019	2.7	All Other Counties	14,466	19.4
Grundy	1,983	2.7			

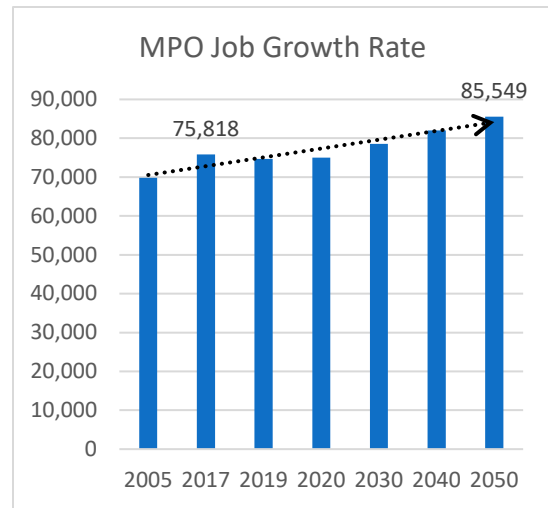
Map 2.12: Inflow/Outflow of Jobs in the MPO Area

Source: U.S. Census Bureau, OnTheMap, 2019



Employment Projections

In addition to projecting how many people are expected to live in the metropolitan area in the future and where additional housing is likely to develop, it is important to forecast future jobs. Identifying the rate that the MPO area is growing was the first step used to determine the area's employment projections. The MPO job growth rate was calculated using U.S. Census Bureau OnTheMap data from 2005 to 2019. Figures from this timeframe provide a more up-to-date picture of the area's growth. To calculate the MPO unincorporated jobs, a shapefile of the MPO boundary was imported to OnTheMap. This enabled calculating the total number of jobs within the MPO boundary. The sum of jobs in the incorporated areas was then subtracted from this total, providing a total number of jobs in the MPO unincorporated area.



Linear projections from 2005 to 2019 were used to forecast the number of jobs in the incorporated areas, and linear projections from 2011 to 2019 were used to forecast the number of jobs in the unincorporated areas. There were an estimated 75,818 jobs in the MPO area in the base year 2017. This value is projected to increase by 9,731 for a total of 85,549 jobs in the horizon year 2050.

The average of each jurisdiction's share of the total jobs from 2011 to 2019 was applied to the MPO total job growth rate projections. Data for smaller incorporated areas and the unincorporated area show small year-to-year anomalies. Using the average share of the total jobs reduces the effects of these anomalies, better reflecting trends within the metropolitan area.

Table 2.5: Average Jurisdictional Share of Total Jobs

	2011	2012	2013	2014	2015	2016	2017	2018	2019	Avg
Waterloo	66.79%	67.42%	68.67%	67.70%	66.32%	65.11%	64.38%	64.36%	64.10%	66.10%
Cedar Falls	29.95%	29.16%	28.09%	29.09%	30.43%	31.56%	32.33%	32.36%	32.44%	30.60%
Evansdale	1.10%	1.14%	1.24%	1.15%	1.16%	1.23%	1.22%	1.26%	1.27%	1.20%
Hudson	1.05%	0.99%	1.01%	0.98%	1.00%	1.03%	0.97%	0.95%	1.00%	1.00%
Elk Run Heights	0.40%	0.45%	0.34%	0.41%	0.41%	0.44%	0.44%	0.37%	0.40%	0.41%
Raymond	0.07%	0.08%	0.07%	0.03%	0.09%	0.07%	0.06%	0.08%	0.07%	0.07%
Gilbertville	0.18%	0.13%	0.12%	0.11%	0.11%	0.14%	0.15%	0.16%	0.15%	0.14%
Unincorporated	0.45%	0.63%	0.46%	0.53%	0.47%	0.42%	0.45%	0.45%	0.57%	0.49%

Table 2.6: Employment Projection Control Totals

	2017	2020	2030	2040	2050	2017-2050
Waterloo	48,815	49,596	51,912	54,228	56,544	7,729
Cedar Falls	24,512	22,962	24,035	25,107	26,179	1,667
Evansdale	928	899	941	983	1,025	97
Hudson	733	749	784	819	854	121
Elk Run Heights	330	305	319	333	348	18
Raymond	49	52	54	56	59	10
Gilbertville	112	105	110	115	119	7
Unincorporated	339	370	387	404	422	83
Total	75,818	75,037	78,541	82,045	85,549	9,731

The next step was to distribute each jurisdiction’s projected change in jobs to the TAZs. Largely speaking, employment growth areas were not anticipated to change drastically from what was forecasted in the 2045 Long-Range Transportation Plan. Accordingly, each jurisdiction’s forecasted change in jobs was distributed in a comparable proportion to the previous plan. Adjustments were made to account for recent and impending developments. Map 2.13 shows the projected change in jobs from 2017 to 2050.

Map 2.13: Projected Change in Jobs, 2017 to 2050, by TAZ

Source: Black Hawk County MPO 2050 Travel Demand Model

