

MINNESOTA GO

Planning Minnesota's
Transportation Future

URBAN AND RURAL POPULATION TREND ANALYSIS

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SUMMARY

In 2020, U.S. Census Bureau conducted the Decennial Census. Detailed urban-rural classification data from the 2020 Census has not yet been released. This trend will be updated as the data is made available.

Minnesota is home to a growing urban population. More than 80% of Minnesota residents live in an urban area. The U.S. Census Bureau defines an urban area as a place with a population of 2,500 people or more. Currently, they are proposing to revise the urban area definitions for the 2020 Census.¹ Urbanization has been a long-running trend within the state. This trend is likely to continue in the future. This paper analyzes Minnesota's growing population, how population trends have diverged across rural and urban portions of the state, and the impacts these trends have on transportation.

In 2010, Minnesota's population was almost 5.3 million people and 73% lived in an urban area. Urban areas have been growing faster compared to rural areas. By 2016, more than 80% of Minnesota's population lived in urban areas. Urban area populations have consistently shown strong population growth. This trend has been steady for over 100 years. However, since 1960, Minnesota's population living in rural areas have largely remained flat. Minnesota state demographic projections show this continuing through at least 2040. In 2040, the state's population is expected to reach over six million people.

The seven-county metro area has been the biggest driver of urban area population growth. In 1950, the seven-county metro area made up 30% of the state's population. As of 2020, the seven-county metro area is projected to make up 63% of the state's population—more than doubling the metro area's proportion of the population in 70 years. Strong growth in the area is expected to continue through 2040 with Scott County expected to grow at a rate above 30%. In nominal terms, more than 350,000 additional people are expected to call the seven-county metro area home by 2040 compared to 2020. More than 70% of the state's population growth is projected to be in the seven-county metro area over the next 20 years.

While large- and medium-sized urban areas have been the leading driver of population growth in Minnesota, many rural communities and a few cities have had either stable or declining populations. From 2000 through 2010, many rural counties in southwest and northern Minnesota lost population. This includes St. Louis County and Duluth, which until recently was losing population due to the loss of industrial jobs. Many counties that lost population over the last two decades are expected to reverse this trend moving forward. However, approximately half of all Minnesota counties, predominately rural counties, are projected to continue losing population through 2050.²

URBAN & RURAL POPULATION

Detailed urban-rural classification data from the 2020 Census has not yet been released, but information will be updated as the data is made available.

¹ Sheleen Dumas, "Urban Areas for the 2020 Census-Proposed Criteria," Federal Register, February 16, 2021, <https://www.federalregister.gov/documents/2021/02/19/2021-03412/urban-areas-for-the-2020-census-proposed-criteria>.

² "Long-Term Population Projections for Minnesota," (Minnesota State Demographic Center, 2020).

The 2010 Decennial Census found that the growth in the United States' urban population centers outpaced the rest of the nation by 20%. As of 2010, nearly 81% of the U.S. population resided in an urban area – densely developed residential, commercial and other nonresidential areas – up from 79% in 2000.³

Similar to the rest of the country, Minnesota is becoming increasingly urban. While the percentage of Minnesotans living in the seven-county metro area is growing, so too is the percentage of Minnesotans living in Greater Minnesota's cities and towns, leading to a larger urban population statewide. In 2010, nearly 73% of Minnesotans lived in urban areas, making it the 28th-most-urban state out of the 50 states, District of Columbia and Puerto Rico.⁴ Urban populations have only increased in Minnesota since 2010. As of 2016, 81% of residents lived in urban areas, including those categorized as small urban areas with between 2,500 and 50,000 people.⁵

BACKGROUND

Prior to discussing how Minnesota's population distribution has changed and is likely to continue changing in the future, it is important to discuss what exactly makes a place "urban". A variety of government organizations offer different definitions of an urban area, often making it difficult to understand what constitutes an urban community. Beyond population-based definitions, the character, feel, context of a place or mindset of community members may make the smallest of towns feel like an urban space – adding further complexity to the debate. This paper focuses on measurable aspects, including historic population data and future projections for population growth to offer insights into where Minnesotans are living and how MnDOT should focus on serving the state's population.

WHAT IS AN URBAN AREA?

According to the Federal Highway Administration (FHWA), the definitions of urban and rural areas are as follows: "urban areas are considered to have dense development patterns, while rural areas are considered to have sparse development patterns."⁶ Like many federal agencies, the FHWA uses the urban and rural distinction to determine funding eligibility for their programs. As allowed by law, the FHWA developed its own definitions of urban and rural separate from those of the U.S. Census Bureau. The FHWA population threshold for an urban area is 5,000, compared to the U.S. Census Bureau threshold of 2,500.⁷ The differences between the two sets of definitions are summarized in Figure 1.

³ "Growth in Urban Population Outpaces Rest of Nation, Census Bureau Reports," Newsroom Archive (U.S. Census Bureau, March 26, 2012), https://www.census.gov/newsroom/releases/archives/2010_census/cb12-50.html.

⁴ "Minnesota: 2010 Population and Housing Unit Counts," (U.S. Census Bureau, 2012).

⁵ U.S. Census Bureau; American Community Survey, 2016 American Community Survey 1-Year Estimates, S0101; generated by MnDOT using data.census.gov (accessed June 15, 2021).

⁶ "Highway Functional Classification Concepts, Criteria and Procedures: Section 6. Urban Boundaries," Planning Processes: Statewide Transportation Planning (U.S. Department of Transportation/Federal Highway Administration, April 20, 2018), https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section06.cfm.

⁷ [23 U.S.C. 101\(a\)\(33\)](#)

Figure 1: Urban area types defined by population range

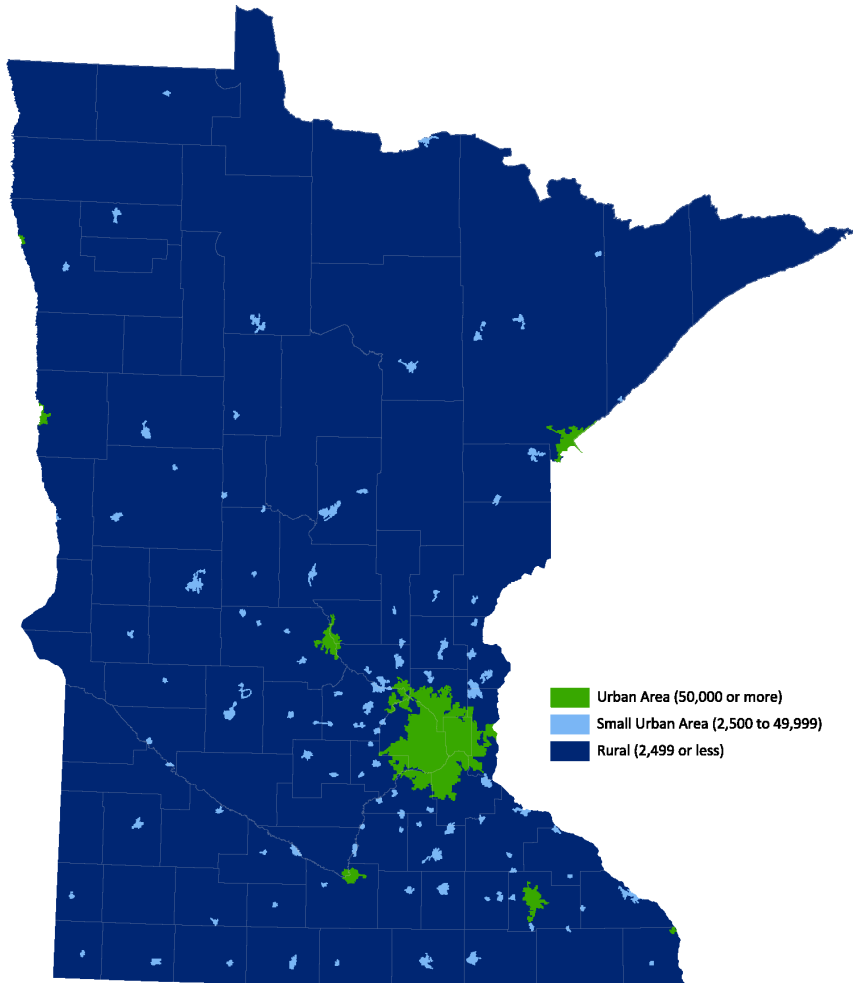
Population of place	Urban or rural (Census)	Community type (Census)	Urban or rural (FHWA)	Community type (FHWA)
Less than 2,500	Rural	Rural area	Rural	Rural area
Greater than 2,500	Urban	Urban area	Not applicable	Not applicable
2,500 – 49,999	Urban	Urban cluster	Not applicable	Not applicable
Less than 5,000	Not applicable	Not applicable	Rural	Rural area
5,000 to 49,000	Urban	Urban cluster	Urban	Small urban area
50,000 or more	Urban	Urbanized area	Urban	Urbanized area

After each Decennial Census, federal transportation legislation allows states to adjust the Census urban boundaries (at the FHWA threshold of 5,000 and above) for transportation planning purposes. Per the FHWA, Adjusted Urban Area Boundary is defined as “A Census-defined urban area boundary that has been adjusted (expanded) by a State DOT and approved by FHWA to include additional territory.”⁸ The only requirement in this process is that the adjusted area includes the entirety of the urban area as determined by the Census.⁹ As defined by FHWA, over two-thirds of Minnesota’s population lives in an urbanized area of over 5,000 residents. In alphabetical order, these urbanized areas include Duluth, East Grand Forks, La Crescent, Mankato/North Mankato, Minneapolis/St. Paul, Moorhead, Rochester and St. Cloud. Figure 2 depicts the locations of the urbanized areas and the small urban areas in Minnesota.

⁸ Federal Highway Administration, “Highway Performance Monitoring System Field Manual,” Office of Highway Policy Information, March 2012, https://deldot.gov/Publications/reports/hpms/pdfs/2011/HPMSFieldManual_062812.pdf.

⁹ “Urbanized and Nonurbanized Safety Target Setting: Final Report,” Safety U.S. Department of Transportation/Federal Highway Administration, February 1, 2017, <https://safety.fhwa.dot.gov/hsip/spm/fhwasa15067/chap3.cfm>.

Figure 2: Minnesota urbanized areas and small urban areas, 2010



The U.S. Census Bureau has proposed revising the urban area definitions for the 2020 Census.¹⁰ The new methodology for determining urban areas would be primarily based on a housing unit density measure of 385 housing units per square mile. The use of housing unit density will more accurately account for areas with substantial concentrations of housing but may have smaller average persons per housing unit or seasonal fluctuations in population. The minimum threshold to designate an area urban will also change from 2,500 population to a minimum of 4,000 housing units or 10,000 minimum population. This change in the minimum threshold will bring the U.S. Census Bureau in line with other federal agencies.

¹⁰ Sheleen Dumas, "Urban Areas for the 2020 Census-Proposed Criteria," Federal Register, February 16, 2021, <https://www.federalregister.gov/documents/2021/02/19/2021-03412/urban-areas-for-the-2020-census-proposed-criteria>.

MINNESOTA'S GRADUAL URBANIZATION

HISTORIC POPULATION TRENDS

Over the past century, the number of Minnesotans living in rural areas has remained relatively consistent, while the number of Minnesotans living in urban areas has grown. Figure 3 illustrates historical and projected trends for the total population of Minnesota from 1900 through 2040. These include populations in the seven-county metro area and Greater Minnesota by urban and rural settings, as defined by the U.S. Census.¹¹ Note metro area population includes people living in rural areas within the seven counties. The 2020, 2030 and 2040 population estimates are from Minnesota's State Demographic Center. Population growth in the seven-county metro area has led Minnesota's overall population higher, now making up more than 60% of the state's population. Population in both the rural and Greater Minnesota urban communities have stayed relatively steady or slightly declined since the 1950s and 1960s.

Figure 3: Minnesota's population distribution, 1900 to 2040 (projected)¹²

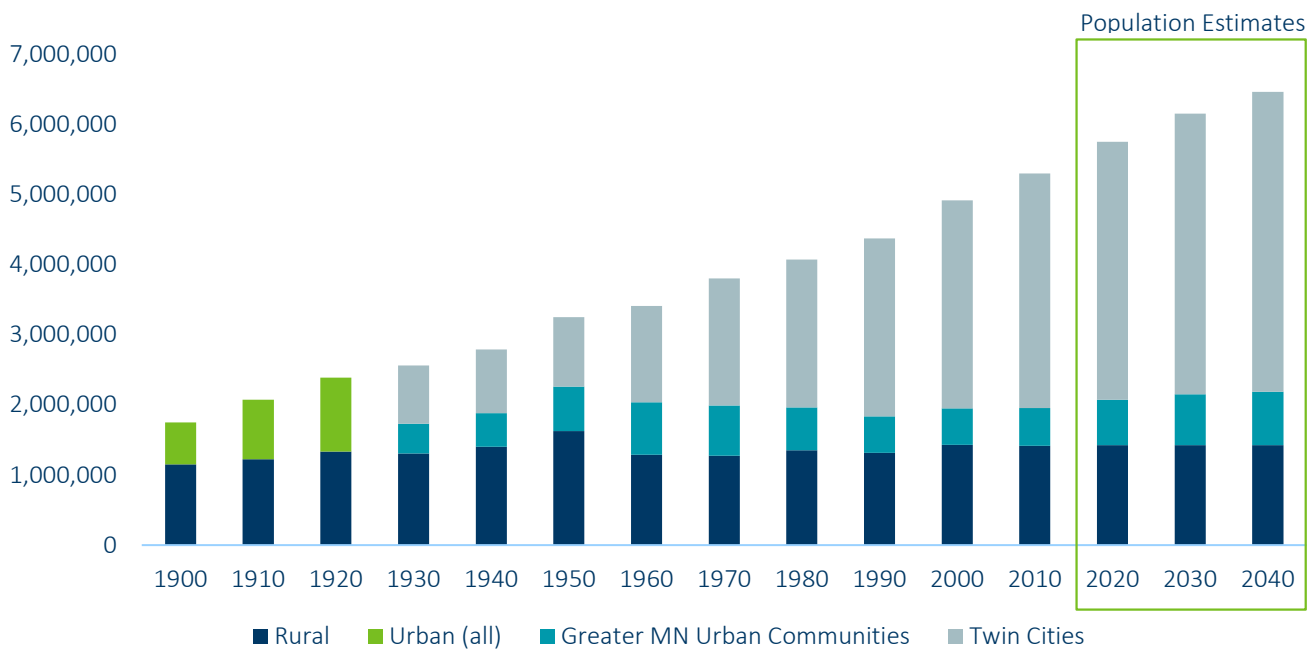


Figure 3 illustrates how the population growth patterns have occurred in rural and urban areas of the state. The figure also shows projected population growth across the urban and rural categories through 2040. The projections are from 2010, but in the decade since, urban populations have grown at a faster pace than these projections predicted. In fact, the state's overall urban population today is already higher than the predicted 2040 urban population projections. It is important to note that as of February 2021, the Minnesota State Demographic Center recognizes a slower rate of population growth attributed to changing assumptions of the various

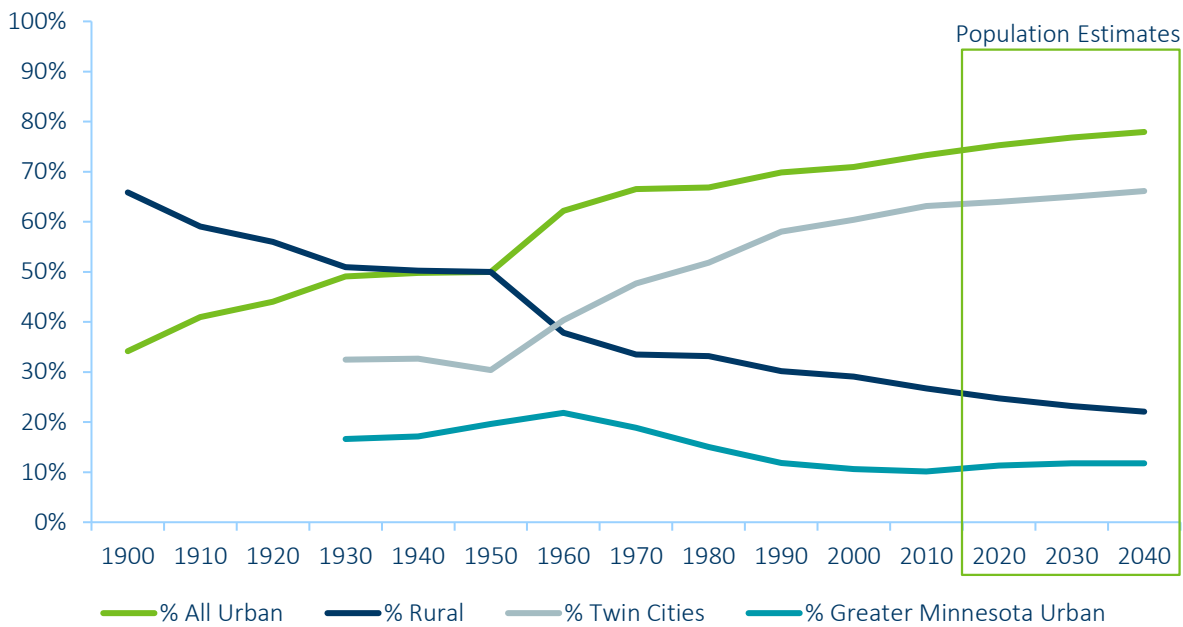
¹¹ Communities with populations greater than 2,500 people were considered urban for the purpose of Figure 5. 2,500 is the U.S. Census Bureau's threshold for urban areas. FHWA threshold is 5,000 for urban area, <https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>.

¹² U.S. Census Bureau, Historical Decennial Census data, Table H2; Minnesota State Demographic Center, "Long-Term Population Projections for Minnesota," February 2021, <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>.

components of change. The most important of these components is the recent decline in rates of international migration.

Since the state’s population has steadily increased, the consistent number of rural residents means that there is a decline in the share of people living in rural areas. Conversely, Minnesota’s urban population has steadily grown since 1900, ultimately making up a larger percentage of the state’s total population compared to the rural population around 1950. Greater Minnesota’s urban population is projected to grow over the next 20 years, while the seven-county metro area population is projected to grow the most over that same timeframe. Both Figure 3 and Figure 4 demonstrate an ongoing trend of more Minnesotans living in urban areas throughout the state.

Figure 4: Percentage of Minnesota’s total population living in urban and rural areas, 1900 to 2040 (projected)¹³



CURRENT POPULATION

Full results from the 2020 Census are not available at the time of this writing. The information included in this Current Population section is based on the 2020 Census, supplemented with 2010 Census data. Data in this section will be updated when information is available.

According to the 2020 Census data, Minnesota has a total population of 5,706,494, a total population increase of 7.6% since 2010 Census. The fastest growing counties in the state between 2010 and 2020 were Carver (17.4% increase), Scott (16.2% increase), Wright (13.3% increase), Olmsted (12.9% increase) and Washington (12.4% increase).¹⁴

13 U.S. Census Bureau, Historical Decennial Census data, Table H2; Minnesota State Demographic Center, “Long-Term Population Projections for Minnesota,” February 2021, <https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/>.

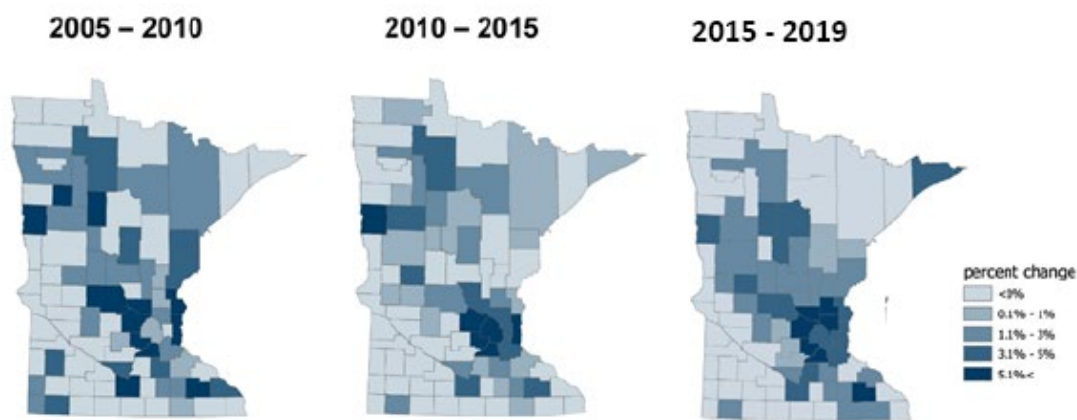
14 U.S. Census Bureau, “2020 Population and Housing State Data,” August 12, 2021,

<https://www.census.gov/library/visualizations/interactive/2020-population-and-housing-state-data.html>

As of 2010, 73% of Minnesotans lived in an urban area with 2,500 or more people and 58% lived in an urbanized area with 5,000 or more people.¹⁵ Additionally, there were 111 urban areas in Minnesota using the U.S. Census Bureau definition (population of 2,500 or more), 59 of which qualified as an urban area using the FHWA definition (population of 5,000 or more). Of these, eight are urbanized areas (population of 50,000 or more). The City of Mankato is the most recent area to join this classification as of the 2010 Census. For transportation purposes this is important to note because once an area reaches a population of 50,000 the area must form a metropolitan planning organization (MPO).¹⁶ Once the organization is formed, the MPO receives federal planning funds as a subrecipient to MnDOT. With this funding, an MPO has additional capacity to plan and meet future travel demands placed on a local transportation system. It is important to note that the U.S. Census Bureau has proposed revising the urban area definitions for the 2020 Census.¹⁷ The minimum threshold to designate an area urban will change from 2,500 population to a minimum of 4,000 housing units or 10,000 minimum population.

Between 2005 and 2010, growth in central Minnesota slowed; growth picked up again after 2010. Between 2010 and 2019, Minnesota’s population grew 7.1%.¹⁸ There was a shift in population growth around the turn of the decade as large areas of the Greater Minnesota region reversed their population loss. Strong growth continues to occur on the suburban fringe of the seven-county metro area. As shown in the maps in Figure 5, the ring of counties around Hennepin and Ramsey and the core of the seven-county metro area grew at a significantly faster rate than the rest of the state.

Figure 5: Percent change in county population: 2005 to 2010, 2010 to 2015 and 2015 to 2019



POPULATION PROJECTIONS

The state demographer estimates that most of Minnesota’s counties will lose population in the next 30 years. These counties are predominately rural in nature. The five counties with the largest projected decline by 2053 in

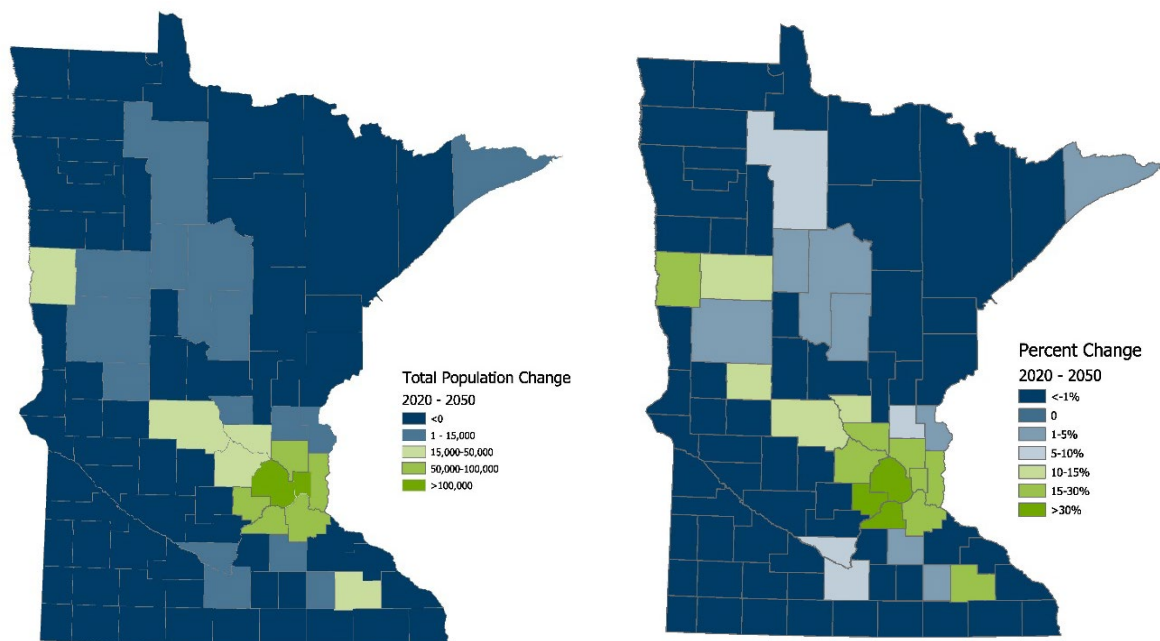
¹⁵ Percent Urban and Rural by State, (2010), distributed by U.S. Census Bureau, https://www2.census.gov/geo/docs/reference/ua/PctUrbanRural_State.xls. 16 23 CFR 450. 16 23 CFR 450.

¹⁷ Sheleen Dumas, “Urban Areas for the 2020 Census-Proposed Criteria,” Federal Register, February 16, 2021, <https://www.federalregister.gov/documents/2021/02/19/2021-03412/urban-areas-for-the-2020-census-proposed-criteria>.

¹⁸ Minnesota State Demographic Center, “Our Estimates,” Department of Administration, date accessed November 22, 2021, <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>.

in numerical order include Saint Louis, Winona, McLeod, Freeborn and Martin.¹⁹ Figure 6 shows the projected rates of population growth for Minnesota counties over a 30-year period, from 2020 through 2050. A handful of counties – Anoka, Becker, Carver, Clay, Dakota, Douglas, Hennepin, Olmsted, Ramsey, Scott, Sherburn, Stearns, Washington and Wright – mostly concentrated around the seven-county metro area, will experience the strongest population gains.²⁰ Population growth trends are also seen along the Interstate-94 corridor toward the Fargo-Moorhead area. Four counties along this corridor will experience double digit growth, Stearns, Becker, Douglas and Benton.²¹ In addition, most counties with higher rates of growth (10% and higher) include urbanized areas with populations of 50,000 or more. For instance, Blue Earth, Nicollet, Olmsted and Dodge counties will increase as they are the locations of Mankato and Rochester; both communities are over 50,000 in population. Another trend is counties that are rich in natural features such as lakes are expected to grow. This includes counties around Brainerd and Bemidji and a county near Lake Superior. Given the strong historical trend of Minnesota’s population becoming more urbanized, it is fair to project that Minnesota’s population growth will continue to occur predominately in urban areas. This continued steady urbanization in Minnesota is projected to lead to population decline in two-thirds of its counties by 2053.

Figure 6: Projected total population and percent change by county, 2020 to 2050²²



State officials should continue to pay attention to how smaller communities around Minnesota grow, and whether they see an influx of residents from surrounding rural areas or from other states. Figure 6 also shows counties that should be planning for significant growth in population over the next 30 years and which counties

¹⁹ Minnesota State Demographic Center “Long Term Population Projections for Minnesota,” October 2020, https://mn.gov/admin/assets/Long-Term-Population-Projections-for-Minnesota-dec2020_tcm36-457300.pdf.

²⁰ “Long-Term Population Projections for Minnesota,” (Minnesota State Demographic Center, 2020).

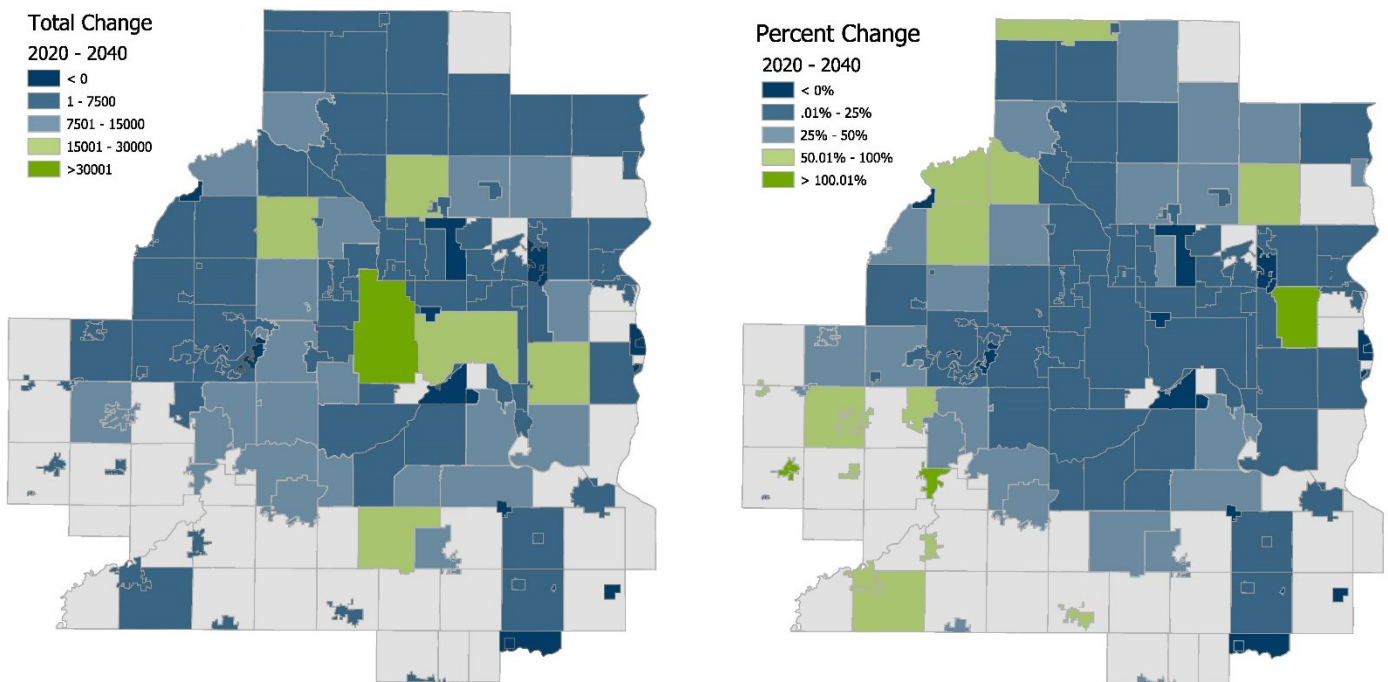
²¹ Minnesota State Demographic Center “Long Term Population Projections for Minnesota,” October 2020, https://mn.gov/admin/assets/Long-Term-Population-Projections-for-Minnesota-dec2020_tcm36-457300.pdf.

²² “Our Estimates,” Minnesota State Demographic Center, August 2020, <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>.

should be planning for population declines over the same time frame. Counties such as St. Louis County, home to Duluth, will have to plan for continued declines in population. Other counties, such as Itasca, Aitkin and Carlton, which experienced steady growth over the last two decades are projected to reverse their growth trends and experience declines in population through 2050.

As previously stated, the seven-county metro area will experience some of the strongest population growth in the state through 2053. The seven-county metro area is projected to gain 924,000 residents, while greater Minnesota will shrink by approximately 27,000 during this time.²³ Figure 7 shows the anticipated population growth for each city within the seven-county metro area. Most cities in the region are expected to experience a population growth rate up to 25%. A handful of jurisdictions on the periphery of the region are anticipated to grow at rates above 25%, with several expected to double or triple in population through 2040. In absolute terms, Minneapolis is expected to have the newest residents by 2040 with more than 30,000 new residents. Saint Paul, Blaine, Maple Grove, Lakeville and Woodbury are all expected to grow by between 15,000 and 30,000 new residents over the same timeframe.

Figure 7: Total projected change and percent change in population by city in the seven-county metro area, 2020 to 2040²⁴



URBAN LAND COVER

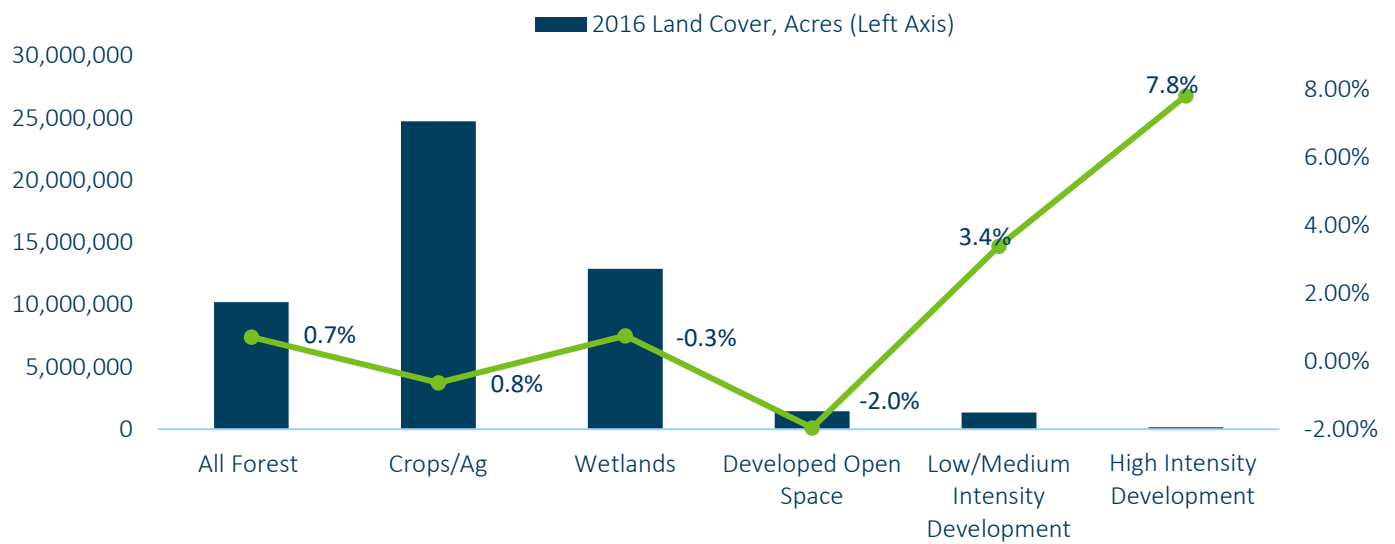
An important parallel consideration to where people live in Minnesota is how those choices affect land development. The National Land Cover Database (NCLD) has catalogued changes in land use every five years using

²³ Minnesota State Demographic Center “Long Term Population Projections for Minnesota,” October 2020, https://mn.gov/admin/assets/Long-Term-Population-Projections-for-Minnesota-dec2020_tcm36-457300.pdf.

²⁴ Ibid.

data collected from Landsat satellites. These satellites use infrared imaging to determine surface permeability. Urban land uses have low permeability, i.e., surfaces like concrete and asphalt, which leads to greater levels of water run-off, urban heat island effects and other environmental impacts. By measuring surface permeability, it is possible to measure urban area development over specific time periods. Four different categories of urban land cover are included in the NCLD: developed open space (large lot single-family homes & parks), low intensity development (single-family housing), medium intensity development (single-family housing) and high intensity development (apartments, row houses, commercial/industrial).²⁵ The change in urban land cover across Minnesota can be estimated by comparing the data from each data set (2001 and 2011) and is displayed in Figure 8.

Figure 8: Nominal change in land cover, 2011 to 2016²⁶



Agricultural lands still make up the largest land cover in Minnesota, followed by wetlands and forests. These three land covers making up 88% of the state as of 2016. Developed lands, including developed open lands such as parks and golf courses, make up 5.45% of land cover as of 2016. As Minnesota urbanizes, forests and croplands are the primary land covers being impacted by urban development. Changes to overall land cover are relatively small, so even as Minnesota lost approximately 28,624 acres of developed open space between 2011 and 2016, this represents minimal change of only a 2.0% decrease in developed open space. Similarly, developed land increases appear small on a nominal basis, between 2011 and 2016, but by percentage terms low and medium intensity development increased by 3.4% and high intensity development increased by 7.8% in only five years.

Continual increases in low and medium intensity development suggest that most of the urbanization occurring in Minnesota continues to be the traditional suburban styles featuring single-family homes on larger lots, or other land uses that do not result in full coverage of lots with impermeable surfaces. This has significant implications for transportation planning as the predominant mode of travel for low and medium intensity development is using personal motor vehicles. Continued development of this character will have impacts on the state's transportation

²⁵ "National Land Cover Database," Earth Resources Observation and Science (EROS) Center (U.S. Geological Survey), accessed May 24, 2021, https://www.usgs.gov/centers/eros/science/national-land-cover-database?qt-science_center_objects=0#qt-science_center_objects.
²⁶ Ibid.

system and will require new transportation infrastructure to serve it and increased Travel Demand Management measures or incentives help alleviate demand. Additionally, expansion beyond traditionally urban areas has the potential to impact transportation facilities like airports that were previously removed from the urban fabric.

There was a minimal decrease in wetlands in Minnesota as of 2016. Minnesota Department of Natural Resources data from 2009-2014 has shown wetland loss has been largely halted since the previous estimates from the 1980s and 1990s.²⁷ Many wetlands are man-made and do not provide the same level of ecological benefits that naturally occurring wetlands do. More information can be found in the [Water Quality Trend Analysis](#).

Urban areas often have more multimodal transportation needs than rural areas due to of several factors, including lower rates of car ownership, higher levels of congestion, denser land use patterns and availability of non-automobile transportation options. More information on this topic, including the differences between Minnesota’s urban and rural areas, can be found in the [Transportation Behavior Trend Analysis](#).

RELATED TRENDS

- [Aging Population](#)
- [Climate Change](#)
- [Demographic Trends](#)
- [Race and Transportation](#)
- [Transportation Behavior](#)
- [Water Quality](#)

Minnesota's vision for transportation is known as Minnesota GO. The aim is that the multimodal transportation system maximizes the health of people, the environment and our economy. A transportation vision for generations, Minnesota GO guides a comprehensive planning effort for all people using the transportation system and for all modes of travel. Learn more at [MinnesotaGO.org](#).

REVISION HISTORY

Date	Summary of revisions
December 2015	Original paper.
May 2022	Updated to reflect new data and information.

²⁷ “National Wetland Inventory for Minnesota.” Minnesota Geospatial Commons, May 23, 2019. <https://gisdata.mn.gov/dataset/water-nat-wetlands-inv-2009-2014>.