



*Rural Minnesota Journal 2012*

*Who Lives in Rural Minnesota:*

*A Region in Transition*

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## **Who Lives in Minnesota? The 2010 Census Shows How Our State is Changing**

**by Ben Winchester**

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The United States Census Bureau has been a source of consistent and reliable data about our communities since its beginning. Conducted every ten years since 1790, the Decennial Census provides a basis to describe changes we see in population and housing characteristics. This article summarizes the demographic findings of the 2010 Census and examines population shifts across the state, with a focus on rural areas.

The state continues to shift racially, ethnically, and geographically. While recreational areas continue to grow, the southwestern portions of the state again experienced overall population loss. Still, these trends among generations are becoming more complex as certain regional centers have now risen to create a new urbanity across rural Minnesota, driven largely by the successful migration and growth in the Hispanic population. Our small towns look different as Baby Boomers retire, middle-age newcomers move to rural places, and the population becomes more diverse.

The data presented in this article will be examined, when applicable, using the ruralplex regions described in the inaugural issue of the *Rural Minnesota Journal* in an article by Tom Gillaspay and Tom Stinson<sup>1</sup> and seen in Figure 1. These regions are based on geography, geology, settlement, and economic patterns.

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<sup>1</sup> Stinson, Thomas and R. Thomas Gillaspay. 2006. Spatially Separated Neighborhoods and Ruralplexes. *Rural Minnesota Journal*. Vol (1): 11-17.

## American Community Survey vs. Decennial Census

Before we begin looking at the 2010 Census data, we should have a short discussion on data collection and how this Census differs from all previous Censuses.

Recent changes in Census Bureau practices for data collection create grim news for rural areas.

Historically, the Decennial Census (DC) collected data in two ways. The “long form” collected in-depth information from a sample of one in six households in the United States. It asked deep questions about income, poverty, education, occupation, employment, home values, and housing characteristics. All other households received the “short form,” which collects basic data about age, race, ethnicity, sex, and household structure.

The decennial Census created challenges, however, for policy makers, who at the end of each decade had to use Census data at least ten years old. As technology made more frequent data collection easier, the Census Bureau decided to continue using the short form but drop the long form and replace it with the American Community Survey (ACS). The ACS was developed to gather continuous samples every month rather than every ten years. The 2010 DC is the first that does not include the “long-form” data.

While the ACS will provide a dramatic improvement in informing decisions in populated areas, it creates shortcomings in the availability of data for rural areas. For places with more than 65,000 residents, the ACS provides updates every year. For those between 20,000 and 65,000, the ACS will provide data every three years, and for those under 20,000, data will be released every five years.

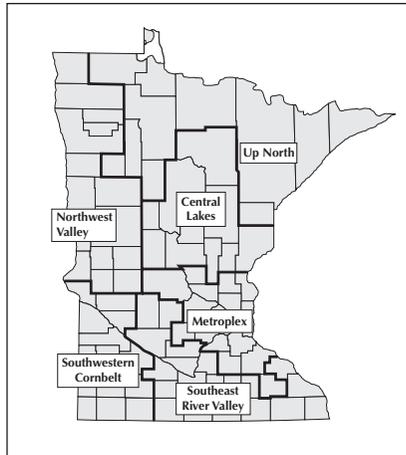


Figure 1: Minnesota's "Plex" regions.

Estimates in the ACS regarding small geographies (under 20,000 population), therefore, are not based on data every year (point in time). They are an estimate of the characteristic over a five-year period (rolling average). The first five-year data, released in 2010, provides estimates for the 2005-2009 period.

This changes the precision with which we can describe rural data. For example, one can no longer say, "The average household income for X county was \$34,000 in 2005." Rather, one would say "the average household income in X county is estimated to have been \$34,000 *over the period* of 2005-2009." To understand change over time, this period's estimate would then be compared with the five-year ACS release the next year of 2006-2010 data.

Another impact of the changes in methodology is the use of smaller sample sizes. The ACS uses smaller sample sizes than the long form did, which is why ACS estimates are accompanied by *margins of error* (MOE). The MOE provides a value that is both added and subtracted from the estimate, between which we expect to find the *true value*. In other words, as the MOE increases, the true value will fall into a wider range of possible numbers than estimates based on the long form, and this issue will be magnified as the size of the population being looked at decreases (see Table 1). Unfortunately, in rural Minnesota, margins of error are even more pronounced. One study found that for small geographies it would take 6-12 years for the ACS to approach the accuracy of the DC long form. Because of the time lag in instituting the ACS approach, it may be 16 to 22 years from the release of the 2010 Census before data points collected in smaller communities for ACS estimates will be considered as accurate as the same 2000 numbers collected with the long form.

These margins of error cannot be ignored, especially in rural places, where small numbers can make big differences for decision makers. For example, if the estimated population of a place is 10,000 with a margin of error of +/- 500, then with 90% confidence we believe the true population falls between 9,500 and 10,500. Table 1 provides an example, from Otter Tail County, of how this margin of error increases with smaller geographies.

**Table 1: Population estimates and margins of error in the American Community Survey.**

	<b>2010 Population</b>	<b>Age 65+</b>	<b>Age 65+ Margin of Error</b>
Otter Tail County	57,303	11,427	+/- 28
Pelican Rapids	2,464	306	+/- 54
Deer Creek	328	74	+/- 23

Source: U.S. Census Bureau; Decennial Census/American Community Survey.

Imagine that you are planning to build a senior housing facility in Pelican Rapids, and you are estimating the number of beds that could be filled. Using ACS data you only know the number of seniors in Pelican Rapids is somewhere between 252 and 360. This disparity makes business planning more of a risk. The Census Bureau recommends extreme caution when using data where the MOE exceeds 10% of the estimate, also known as the Coefficient of Variation (CV). In this case the CV is 18% (54 divided by 306), indicating we would need to use extreme caution when using this estimate.

There are other cautions as we move forward in this new rural data decade.

- ACS period data should only be compared with ACS period data of the same period. Do not compare the one-year estimates with the five-year estimates.
- There are only a few comparisons that can be drawn between ACS estimates and DC counts because they use different methodologies.
- Not all of the ACS questions are exactly the same as the DC long form question.

Currently, there are no alternative sources to which rural areas can turn for more precise data. Policy makers in rural areas may choose to develop alternative methods that obtain reliable local counts. Like many government functions, the accumulation of Census data may be devolving.

We should emphasize, however, that the issues that apply to the ACS estimates do not apply to the short-form questions

from the Decennial Census. Rather than using estimates, these questions are answered by counting the entire population. Therefore, problems only arise when the data becomes too old.

### Population change

The first data point of interest within the 2010 Census data is total population. Table 2 provides both 2000 and 2010 summaries by ruralplex region. Overall, 50 of the 87 counties in Minnesota gained population between 2000 and 2010, down from 62 between 1990 and 2000.

The 7.8% population increase in Minnesota ranks Minnesota 21st in the nation in percentage increase, slightly lower than the national rate of 9.7%. Across the state, the fastest growing counties were Scott (45.2%), Wright (38.6%), Sherburne (37.4%), Chisago (31.1%) and Carver (29.7%). The fastest growing counties not in a Metropolitan Statistical Area were Mille Lacs (16.9%), Crow Wing (13.4%), Pine (12.1%) and Hubbard (11.2%).

The counties experiencing the greatest loss were Swift (-18.2%), Kittson and Traverse (-13.9%), Yellow Medicine (-13.5%), and Lake of the Woods (-10.5%). Swift County population changes continue to challenge demographers and local decision makers as the closing of a private prison in the county accounted for a majority of their loss this past decade. The prison opened between the 1990 and 2000 Censuses,

**Table 2: Population change, 2000-2010.**

<b>Region</b>	<b>2000</b>	<b>2010</b>	<b>Change</b>	<b>Percent Change</b>
Central Lakes	275,249	296,349	21,100	7.7
Metroplex	3,296,206	3,634,786	338,580	10.3
Northwest Valley	282,193	292,150	9,957	3.5
Southeast River Valley	538,824	552,682	13,858	2.6
Southwestern Cornbelt	171,728	164,341	-7,387	-4.3
Up North	355,279	363,617	8,338	2.3
Grand Total	4,919,479	5,303,925	384,446	7.8

leading to significant population gains due to the increase in inmate populations.

The patterns of population change appear to be very similar during the past two decades (Figure 2). The suburban ring surrounding the Twin Cities metropolitan core saw the largest gains in the state. There is also growth from the Twin Cities along the Interstate 94 corridor to the northwest as well as south to Rochester. The recreational areas around Brainerd and Bemidji continue to see increases, as well as secondary recreational markets to their east and west.

For the second time in 40 years, Ramsey County lost population. The last time this happened was during the decade of 1970-1980, during which Hennepin County population also declined. Nationally, and even internationally, many core metropolitan areas have been experiencing population losses as preferences for low-density living gain steam,<sup>2</sup> benefiting suburbs and rural areas.

Population losses continue in the southwestern portion of the state, as well the western border counties (aside from the Moorhead/Grand Forks areas). The counties of Blue Earth (Mankato, 14.4% gain), Lyon (Marshall, 1.7% gain), and Kandiyohi (Willmar, 2.5% gain), with their larger regional centers, are becoming hubs for an ever-increasing population.

While overall this may paint a picture of rural decline, the number of people living in rural areas has increased again this last decade from 1.39 million to 1.43 million. This growth rate of just under 3% is lower than the urban growth rate, however, resulting in a decline in the relative percentage of people living in rural areas, from 28.2% in 2000 to 26.9% in 2010. Aside from a small dip between 1980 and 1990, rural populations in Minnesota have grown in every decade since 1970.

The rural population would be even higher if six counties had not been reclassified from rural to urban. As people choose to live outside the core metropolitan areas, and as mid-size cities grow larger, we can identify formerly rural places. The rural-urban continuum code developed by the

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<sup>2</sup> Cox, Wendell. 2012. *Staying the Same: Urbanization in America*. Retrieved on May 1, 2012, from <http://www.newgeography.com/content/002799-staying-same-urbanization-america>.

Figure 2: Percent gain or loss in population, 1990-2000 and 2000-2010.

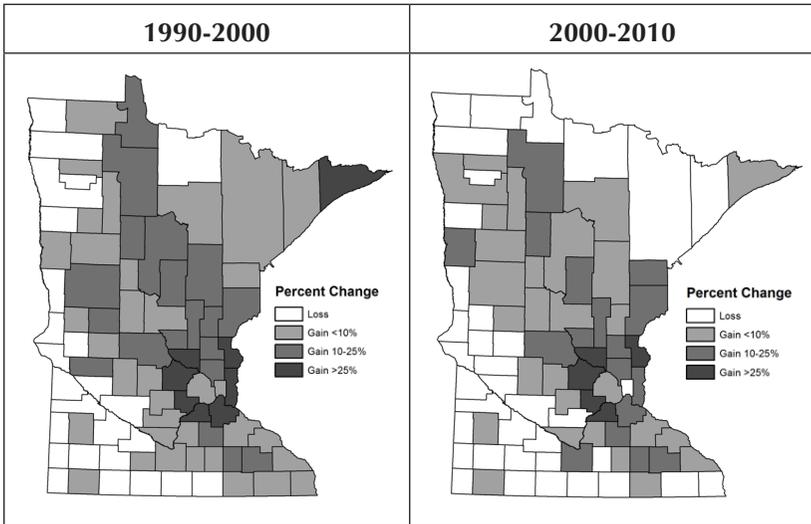


Figure 3: The 2010 Census showed many counties in Minnesota to be at their minimum or maximum populations since 1900.

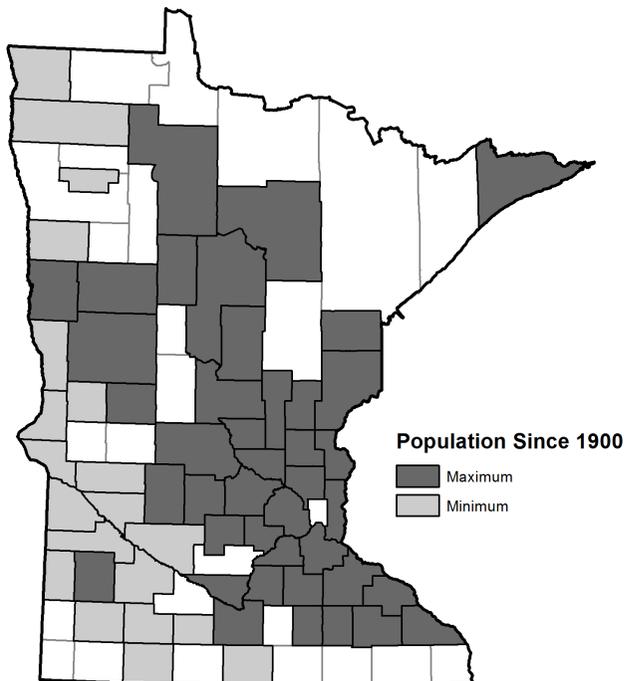


Figure 4: Percent of population in rural areas, 1970-2010.

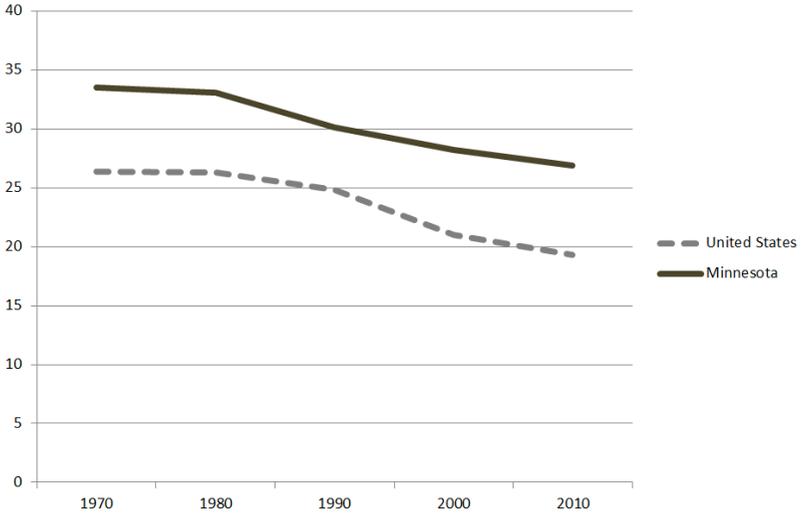
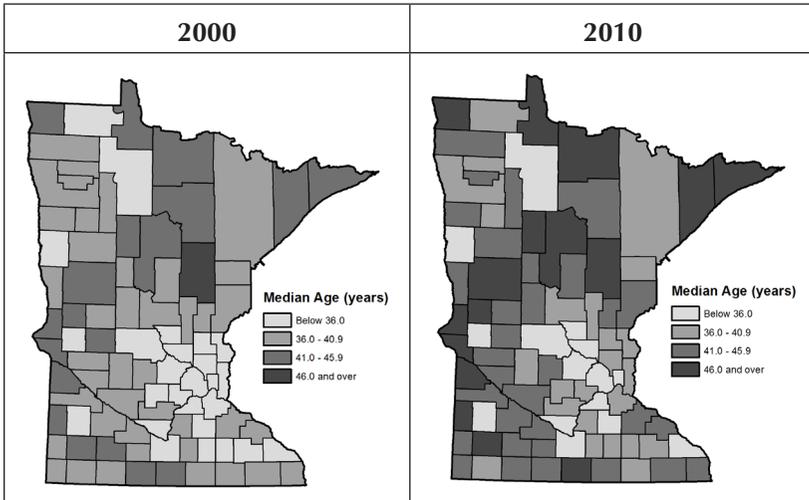


Figure 5: Median age, 2000 and 2010.



USDA's Economic Research Service has reclassified since 1970 the counties of Carlton, Dodge, Houston, Isanti, Polk, and Wabasha to urban status, which shifts over 165,000 in population away from rural and into urban counts. The Metropolitan Statistical Areas classification, developed by the Census Bureau, reclassifies counties as population shifts across the county, which recently resulted in Blue Earth and Nicollet counties being classified as an MSA.

### **Age distributions**

There are a variety of ways to examine age distributions. One of the most common is median age. The maps in Figure 5 display the median age of each county, using a consistent legend between the two decades to show the differences between the decades.

As expected, the metropolitan areas across the state are home to the youngest populations. We find the college and university counties of Blue Earth, Clay, Winona, Beltrami, and Stearns have the lowest median ages. The highest median ages are found in the recreational areas of north-central Minnesota and in portions of west-central Minnesota, with Aitkin, Cook, Lac qui Parle, Lake of the Woods, and Big Stone counties having the highest median ages in the state.

The population pyramids displayed in Figure 6 show that the state population is becoming more stationary, marked by unchanging fertility and mortality rates. This pyramid displays a noticeable bump of Baby Boomers between the age of 45 and 64. The oldest Boomers have begun entering the retirement phase and will greatly influence demographic, economic, and housing characteristics for the next two decades.

There are complex dynamics at work even within age group cohorts. As discussed in "The Glass Half-Full,"<sup>3</sup> rural areas are losing youth as they graduate from high school, yet at the same time people age 30-49 are moving away from core metropolitan areas to more low-density living situations. This

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<sup>3</sup> Winchester, Benjamin; Spanier, Tobias; and Art Nash. 2011. The glass half full: A new view of rural Minnesota. *Rural Minnesota Journal*. 6:1-30.

Figure 6: Population pyramids, 2000 and 2010.

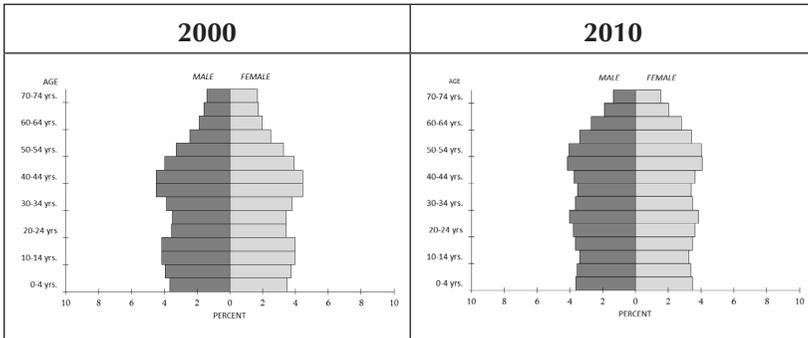
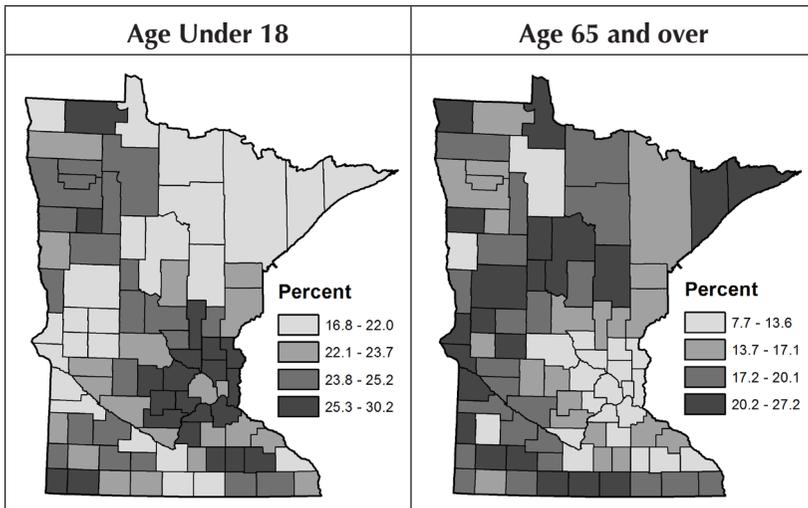


Figure 7: Percentage of the population under 18 and 65 and older, by county.



migration includes both suburban and rural environments that benefit from this “brain gain” of educated, skilled, and experienced individuals.

*Dependency ratio*

Dependency ratios are the proportion of the population that are considered dependents—youth age 0-14 and seniors over the age of 65—as opposed to those who are able to work (age 15-64). The U.S. dependency ratio is 49%, meaning for

**Table 3: Population by race and ethnicity, 2000-2010.**

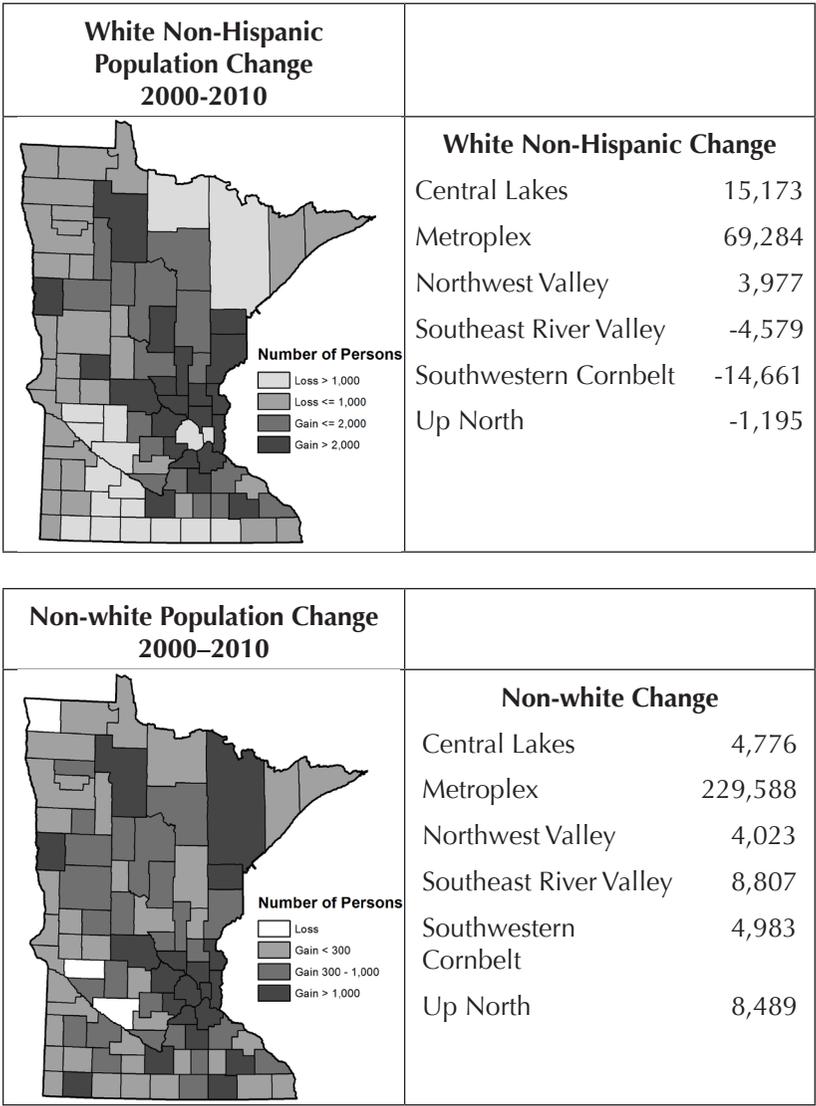
	<b>2000</b>	<b>2010</b>	<b>Change</b>	<b>Percent Change</b>
Total	4,919,492	5,303,925	384,433	7.8%
American Indian and Alaska Native	54,967	60,916	5,949	10.8%
Asian	141,968	214,234	72,266	50.9%
Black or African American	171,731	274,412	102,681	59.8%
Native Hawaiian or Pacific Islander	1,979	2,156	177	8.9%
Other Race	65,810	103,000	37,190	56.5%
White	4,400,282	4,524,062	123,780	2.8%
Hispanic (can be of any race)	143,382	250,258	106,876	74.50%

every 100 workers there are 49 dependents to be supported. In Minnesota, the dependency ratio declined from 51% in 2000 to 49% in 2010. This decline is not expected to last as the Baby Boom population begins to move out of the working-eligible and into the dependent category. The Hispanic population has a ratio of 60%, due to the high number of youth. This is a large jump from the 2000 ratio of 56%.

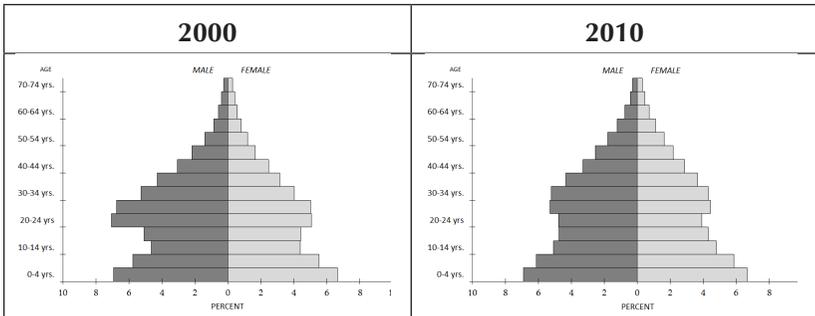
### **Race and ethnicity**

Minnesota is in the lowest quartile of states that are home to racial and ethnic minority populations, with 83.3% white, 95.3% non-Hispanic, and 83.1% white non-Hispanic. Still, non-white populations accounted for 68% of Minnesota's total population growth from 2000 to 2010, up from 50% between 1990 and 2000.

Figure 8: Comparison of change in the white non-Hispanic population and the non-white population.



**Figure 9: Hispanic population pyramid, 2000 and 2010.**



As noted above, two of every three people responsible for the population increase in Minnesota are non-white. There is variation across ruralplex regions, however. The Southwestern Cornbelt and Southeast River Valley experienced an exchange of white and non-white populations. While not as dramatic, the Up North region is also losing white population while gaining large numbers of non-white persons.

Nationally, growth in the Hispanic population accounted for more than half of the total population increase. The story looks slightly different in Minnesota, where the Hispanic population accounted for just over a quarter of population gains. However, the percentage of Minnesota's Hispanic population grew more than any other race or ethnicity.

The Hispanic population pyramid (Figure 9) is significantly younger than the statewide pyramid we saw earlier in Figure 6. The large number of children accounts for rapid growth in the Hispanic population in Minnesota. We see that the somewhat male-heavy pyramid of the 1990s (the bars on the left are larger than the bars on the right) are now becoming more equal. Yet males still outnumber females 111 to 100, due to the early migration of males seeking employment, successfully, which has resulted in families migrating to the state.

Outside of metropolitan areas, the Hispanic population is somewhat concentrated in micropolitan centers, and many rural counties are home to fewer than 250 Hispanic persons. At the same time, there are no counties in which the Hispanic population decreased between 2000 and 2010. Because of the

Figure 10: Hispanic population.

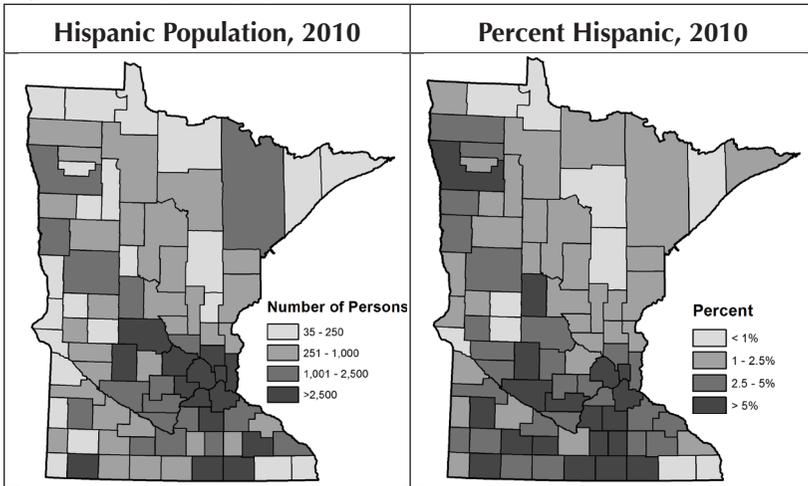
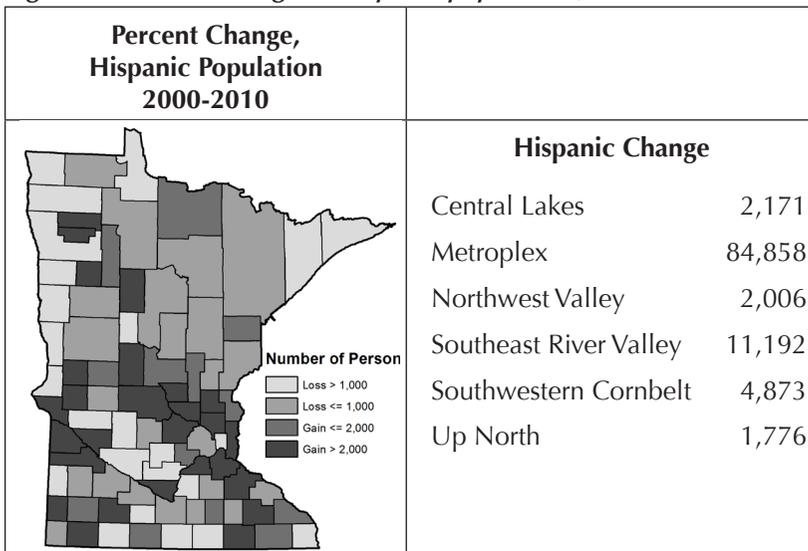


Figure 11: Percent change in Hispanic population, 2000-2010.



small population sizes of counties in the southern part of the state, changes in small numbers can lead to large percentage increases.

A recent study released by the Pew Hispanic Center shows the net migration of the Hispanic population from Mexico appears to have fallen to zero and, in some places,

**Table 4: Households by type.**

	Number		Percent		Percent Change
	2000	2010	2000	2010	2000-10
Total Households	1,895,127	2,087,227			10.1
Total Household, with Children	658,565	658,591	34.8	31.6	0.0
Married Couple Families	1,018,245	1,060,509	53.7	50.8	4.2
Married Couple Families, Children	477,615	443,212	33.0	21.2	-7.2
Male Householder, No Wife	68,114	89,707	3.6	4.3	31.7
Male Household, No Wife, Children	40,710	48,844	2.1	2.3	20.0
Female Householder, No Husband	168,782	198,799	8.9	9.5	17.8
Female Householder, No Husband, Children	111,371	123,714	5.9	5.9	11.1
Nonfamily Households	639,986	738,212	34.8	35.4	15.3

begun to reverse. Primary factors responsible for this include “weakened U.S. job and housing construction markets, heightened border enforcement, a rise in deportations, the growing dangers associated with illegal border crossings, the long-term decline in Mexico’s birth rates and broader economic conditions in Mexico.”<sup>4</sup>

<sup>4</sup> Passel, Jeffrey; Cohn, D’Vera; and Ana Gonzalez-Barrera. 2012. Net Migration from Mexico Falls to Zero—and Perhaps Less. Pew Hispanic Center, Pew Research Center.

**Table 5: Households with children under age 18, by region.**

	<b>Total Households</b>	<b>Number with Children</b>	<b>Percent with Children</b>
Central Lakes	120,546	34,143	28.3%
Metrolplex	1,409,951	466,329	33.1%
Northwest Valley	119,231	33,776	28.3%
Southeast River Valley	219,329	64,624	29.5%
Southwestern Cornbelt	67,519	19,199	28.4%
Up North	150,651	40,520	26.9%

**Household structure**

This section examines characteristics within household types. The average household size fell slightly from 2.52 in 2000 to 2.48 in 2010.

The number of households increased by 10.1% (or 192,100) between 2000 and 2010, yet those with children saw a quite unremarkable increase of just 26 households across the entire state. Compared with the 7.8% growth in population, this would indicate that household size is decreasing. Married couple households compose just one-half of all households, continuing that decline. Growth was also seen in male-headed households without a wife present—both with and without children.

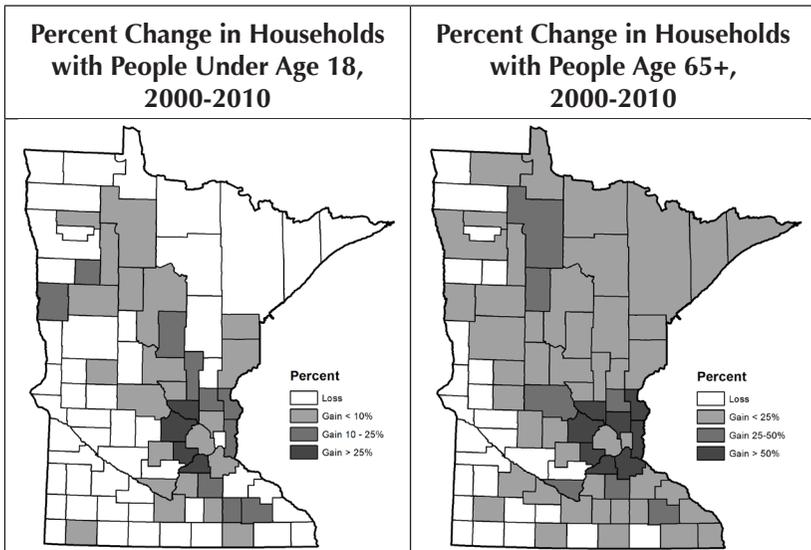
One-third of households in the Metrolplex include children, the highest among areas of the state. The remainder of the state is consistently around 29%, with the exception of the Up North region where just over one in four households have children.

While just one in five households in the Metrolplex contains individuals age 65 and over, this figure rises to nearly one in three in the Central Lakes and the Southwestern Cornbelt regions. These numbers are expected to rise as the Baby Boomers age.

Across the state, 51 of the 87 counties (59%) experienced losses in the percent of households with children under the

**Table 6: Households with individuals 65 years and over, by region.**

	<b>Total Households</b>	<b>Number with Age 65+</b>	<b>Percent with Age 65+</b>
Central Lakes	120,546	37,463	31.1%
Metroplex	1,409,951	282,617	20.0%
Northwest Valley	119,231	34,848	29.2%
Southeast River Valley	219,329	59,533	27.1%
Southwestern Cornbelt	67,519	20,930	31.0%
Up North	150,651	41,053	27.3%

**Figure 12: Percent change in households with people under age 18 and 65 and older.**

age of 18, which can lead to shrinking school enrollments in elementary schools. The largest gains are found in the suburban ring and in the north-central part of the state. In the southwest part of the state, where a larger relative percentage of the population is composed of those over the age of 65, we find some movement to regional centers and away from the lower-density counties. As Baby Boomers begin making

Figure 13: Housing units.

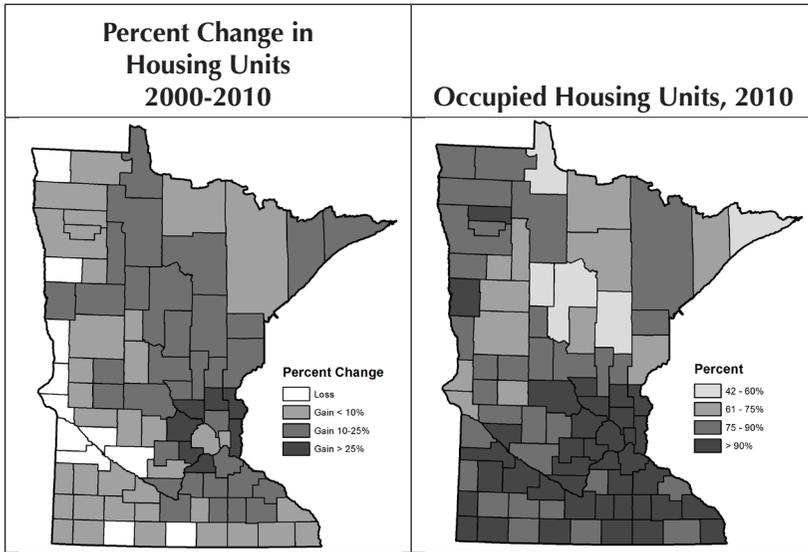


Table 7: Total housing units, 2000–2010.

	2000	2010	Percent Change
Central Lakes	158,235	181,599	14.8
Metroplex	1,297,217	1,504,017	15.9
Northwest Valley	138,106	151,005	9.3
Southeast River Valley	222,303	240,758	8.3
Southwestern Cornbelt	74,926	75,839	1.2
Up North	175,159	193,983	10.7

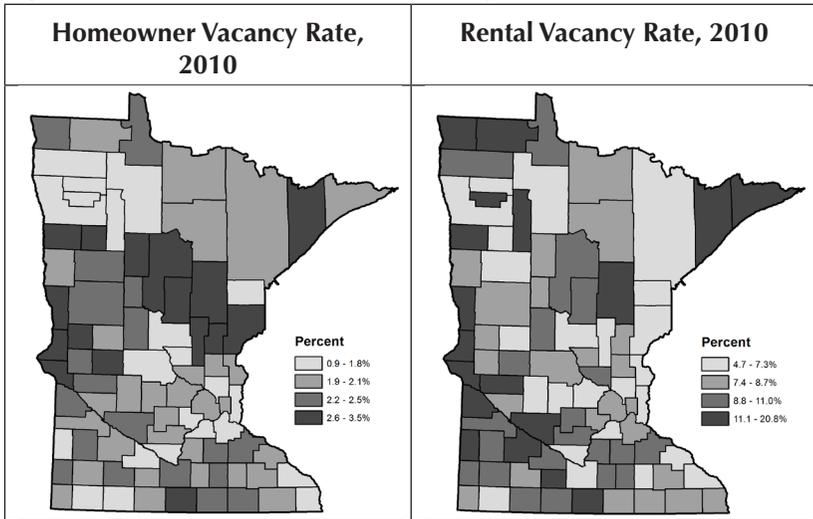
alternative housing arrangements, we may witness an increase in the available supply of housing as the overall number of occupied households declines.

### Housing

This section details housing changes seen in the last decade.

The suburban ring of the Metroplex and the Central Lakes areas witnessed the greatest percentage change in housing

*Figure 14: Homeowner and rental vacancy rates.*



units in the last decade. This growth probably took place in the first half of the 2000s, before the economic decline and mortgage crisis began to negatively impact home values and migration rates.

The vacancy rate of the Up North region can be attributed to the high number of seasonal properties. However, vacancies caused by the mortgage turmoil at the end of the decade are also influencing those rates. The rental vacancy rate is found to be higher in the southwest and western portions of rural Minnesota. Here we also witness overall population declines, which slows demand for rental properties.

### Summary

Rural Minnesota population trends are becoming more complex. Population losses continue across the western border counties and the southwestern portion of the state, caused by the migration of young people and the movement of people of retirement age toward more densely populated areas. The Baby Boom generation is greatly influencing the demographics, causing a rise in the relative percentage of seniors living in rural places. As this generation retires over the next 15 years, their absence will be apparent in housing, labor force, and leadership of our small towns.

A key finding here is the gain of the minority populations across rural communities. As we see in the population pyramids, the Hispanic population is poised to be the primary driver of growth as both in-migration and fertility rates are high. So while the overall numbers may be relatively small (making up less than 5%-10% of the overall population), in the regional centers we see quite large overall numbers due to the presence of food processing and manufacturing jobs that Hispanic workers favor. The success of the Hispanic population in seeking out and acquiring employment during the 1990s has resulted in family growth in the 2000s.

We find both growth and decline in rural Minnesota, as we have seen over the past 40 years. The rural population continues to increase overall, yet it is primarily in the areas surrounding urban areas, near regional centers, and in the high-amenity parts of the state. The highest levels of growth are driven by the non-white populations.

At the household level, the trend away from married-couple households continues, and will fall out of the majority of households early in the next decade if the trend continues. The retirement of the Baby Boom generation will have a significant impact on housing, leadership, and businesses across the state. This paper serves as a starting point toward understanding broad changes reflected by the new Census data. While there are complexities behind nearly each indicator examined here, there is just not space to do so, and I encourage all interested parties to dig deeper.