

# Migration in Minnesota

By John Fraser Hart and Mark B. Lindberg

**Abstract:** Population change in Minnesota between 2000 and 2010 resulted from a reshuffling of people who lived here in 2000 or children who were born over those 10 years, because the state had a modest net gain by in-migration of only approximately 56,000 people (a mere 1% of its population) during the decade. Hennepin and Ramsey Counties actually lost nearly 100,000 net out-migrants to other counties, mainly those in the perimetropolitan-suburban ring and in the lakeshore resort and retirement areas of north-central Minnesota. The prairie counties west and south of Interstate 94 continued to lose out-migrants, as they have for half a century.

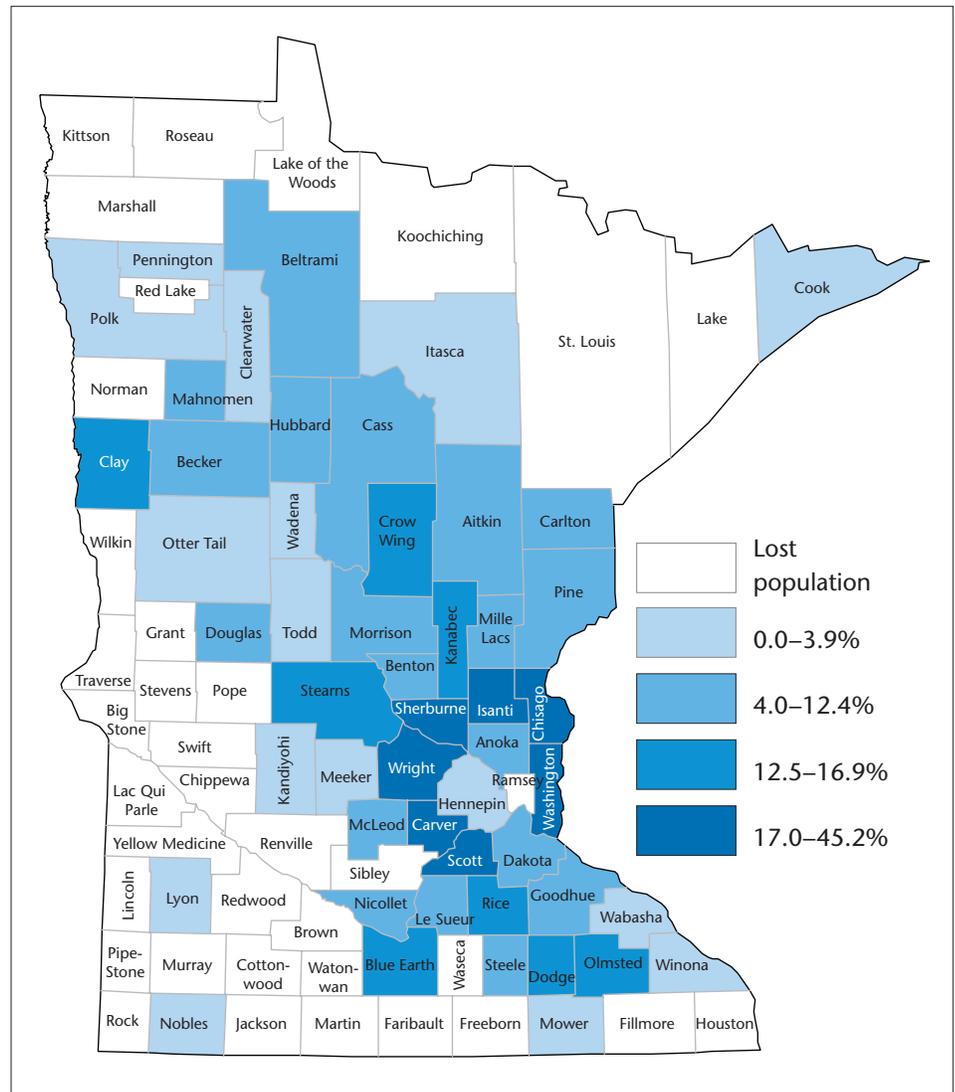
People are born, they move, they die: these simple facts explain all population change. The migration of people played a major role in the way populations grew or declined in Minnesota's counties between 2000 and 2010. We have used data on natural increase of population and cohort-survival ratios to gain more detailed insight into these changes.

The decennial U.S. Census of 2010, on whose data we have largely based our analyses, reported that the counties that grew most rapidly from 2000 to 2010 were in a perimetropolitan ring of suburbs around the Twin Cities (Figure 1). Counties with smaller metropolitan centers (Moorhead, St. Cloud, Rochester) and larger cities (Mankato, Brainerd) grew almost as rapidly. Mankato and Rochester were the apices of a triangle of growth counties south of the Twin Cities, and Brainerd was the metropolis for a cluster of growth counties in the lakeshore resort and retirement area of north-central Minnesota. Conversely, many counties in the northern tier and in the prairie areas of western and southern Minnesota actually lost population, as did Ramsey County in the metropolitan core; in the same timeframe, Hennepin County barely held its own.

## Natural Increase in Population and Migration Patterns

We used the natural-increase technique to calculate the net number of people

Figure 1. Percentage Increase in Population by County, 2000–2010



who migrated to and from Minnesota and to and from each of its counties. The natural increase is defined as the surplus of births over deaths. In the years from 2000 through 2009, for example, 703,879 children were born to residents of Minnesota and 375,881 residents of the state died, for a natural increase of 327,998 persons (Table 1).

Between 2000 and 2009, the number of births in Minnesota jumped by more than 50,000 over the preceding decade, after having dropped by more than 17,000 in the 1990s. This increase may be attributable in part to the state's

ability to attract in-migrants (who come from other states) as well as immigrants (who come from other countries). Many of these newcomers speak a different language, have a different cultural heritage, and have higher birth rates than native-born Minnesotans. The state will continue to depend on these newcomers to maintain the growth of its population, as it always has.

The decadal number of deaths in the state during the 2000s continued to increase slightly as it did in previous decades, and it can be expected to increase dramatically in the next decade,

when the baby boomers who were born during the late 1940s and 1950s begin to turn 65. The state's natural increase during the 2000s rose to its 1980s levels, but that too can be expected to drop dramatically as the number of deaths increases.

The counties with the highest rates of natural increase during the 2000s were in the metropolitan belts from St. Cloud through the Twin Cities to Rochester (Figure 2), and the surrounding counties also had respectable rates. Rates in the northwestern and southeastern parts of the state were low, however, and the number of deaths actually exceeded the number of births in many counties in the southwestern and northeastern parts of the state. These counties actually suffered a natural decrease of population, and their demographic outlook is bleak.

The natural increase (or decrease) is the population change that would have occurred if no migration had taken place. In order to estimate migration, we subtracted the natural increase from the change that actually did occur in order to calculate the net number of people who moved into and out of the state and each county during the decade. Between 2000 and 2010, for example, the population of Minnesota grew from 4,919,479 to 5,303,925, for an increase of 384,446 persons (Table 2).

The difference between the total increase of 384,446 persons and the natural increase of 327,998 persons can only be explained by a net migration of 56,448 persons into the state from other states and countries during the 2000s (Table 2). The total number of persons who moved into Minnesota obviously was much larger, but their numbers were offset by persons who moved out of the state. The 2000s were a reversion toward the 1980s, when the state lost nearly 30,000 net out-migrants, and a decline from the 1990s, when the state welcomed more than a quarter of a million net new in-migrants.

In summary, net population change in Minnesota counties between 2000 and 2010 resulted primarily from a reshuffling of people who were already residents, rather than from an influx of new people. The perimetropolitan-ring counties and the lakeshore resort and retirement counties attracted the greatest numbers of migrants during the 2000s (Figure 3), with the more sparsely populated lakeshore counties having the greatest rates of increase (Figure 4).

**Table 1. Natural Population Increase in Minnesota by Decade (Number of Persons)**

	1980–1989	1990–1999	2000–2009
<b>Births</b>	669,819	652,150	703,879
<b>Deaths</b>	341,001	364,854	375,881
<b>Natural increase</b>	328,818	287,296	327,998

Source: Unpublished data from the Minnesota State Demographic Center.

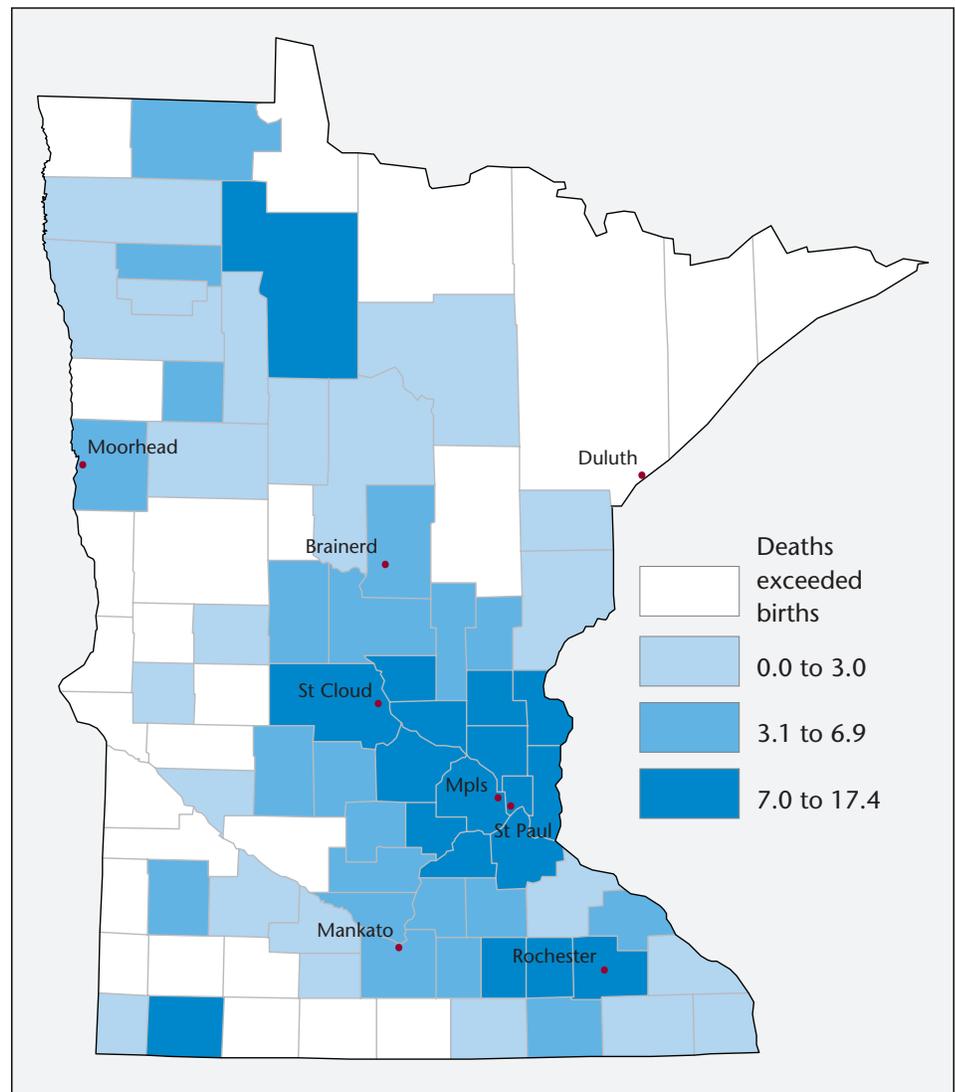
**Table 2. Population Change in Minnesota by Decade (Number of Persons)**

	1980–1989	1990–1999	2000–2009
<b>Population in last year of decade</b>	4,375,099	4,919,479	5,303,925
<b>Population in first year of decade</b>	4,075,970	4,375,099	4,919,479
<b>Population increase</b>	299,129	544,380	384,446
<b>Natural increase</b>	328,818	287,296	327,998
<b>Net number of migrants</b>	-29,689	257,084	56,448

Source: Table 1 and U.S. Census data.

Note: The natural increase is defined as the surplus of births over deaths.

**Figure 2. Natural Increase in Population by County, 2000–2010, per 100 Persons in 2000**



Loss by out-migration was more widespread; more than half of the counties in Minnesota actually lost migrants during the 2000s, exacerbating a trend of depopulation that has persisted for more than half a century.

Perhaps the most striking aspect of the migration maps is the high net out-migration from the two metropolitan core counties: Hennepin County lost slightly more than 50,000 persons, and Ramsey County lost just under 40,000 residents. If we only examined the natural increases in our analyses of population changes in Minnesota counties (as illustrated in Figure 2), the high rates of natural increase in these two counties neatly camouflaged their high net out-migration rates. Although in-migrants to these two counties

had high birth rates, young and early middle-aged couples decamped from these counties to the suburban-ring counties, and older residents retired to their winterized lakeshore cottages. In simplest terms, population change in Minnesota counties during the 2000s can be attributed to migration from the aging metropolitan-core counties to the perimetropolitan-ring counties and the lakeshore counties.

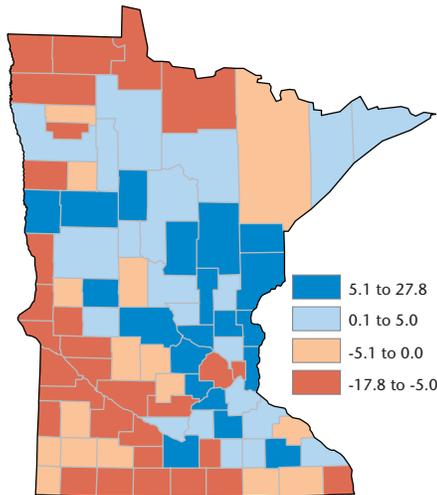
### Cohort-Survival Ratio Analysis

We used cohort-survival ratios to further analyze migration in and out of Minnesota counties. Cohort-survival ratios provide insights into the ways in which life-phase changes influence population change. An age cohort consists of all persons born during a five-year

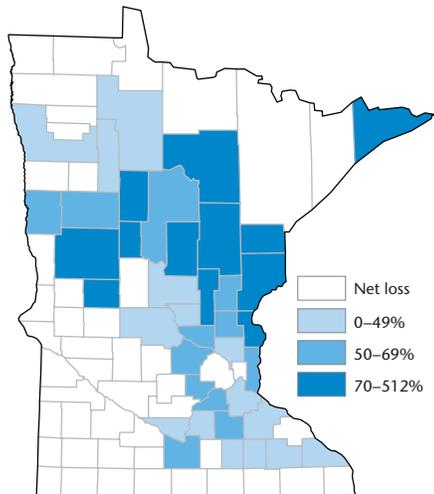
period. Its members are 10 years older when a census is taken 10 years later. The number of people in any given cohort can change only if people of that age enter or leave the area, whether by migration or by death. Death is not a significant factor in population change below the age of 65, so we may assume that changes in the numbers of people in younger age cohorts result almost entirely from migration.

Numbers from Hennepin County illustrate cohort-survival ratio analysis (Table 3). Each row in the table shows the number of people in the same age cohort in 2010 and in 2000. The first column lists age cohorts in five-year categories, the second column lists the number of people in each cohort in 2010, and the third column lists the

**Figure 3. Migrants by County, 2000–2010, per 100 Persons in 2000**



**Figure 4. Migrants by County as a Percentage of Population Growth, 2000–2010**



**Table 3. Cohort-Survival Numbers and Ratios for Hennepin County, 2000 and 2010**

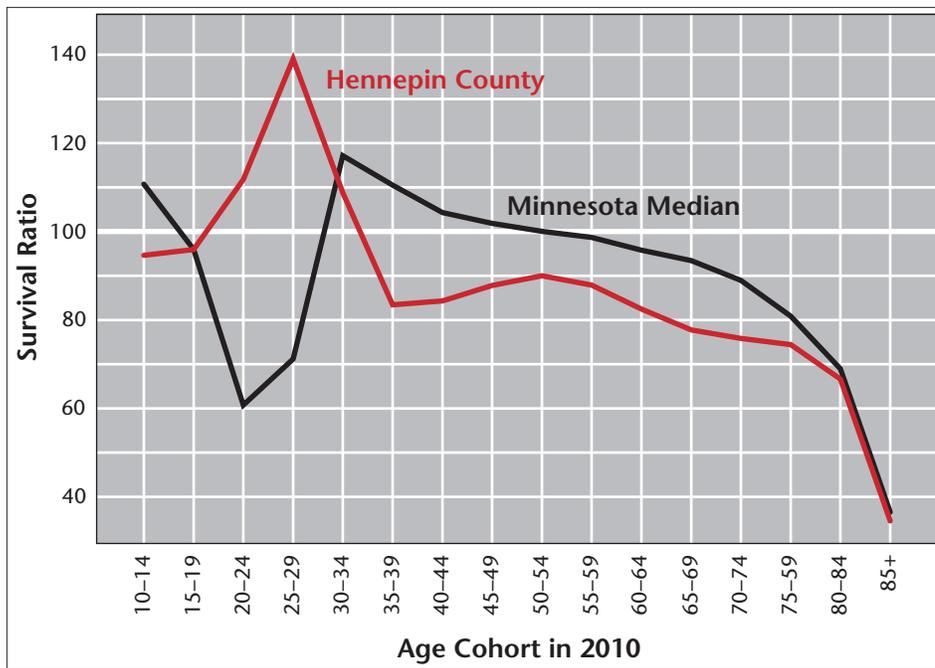
Age Cohort in 2010	Number of Persons in the Cohort			Survival Ratio*
	In 2010	In 2000	Change	
0–4	76,236			
5–9	72,409	(165,026) <sup>†</sup>	(–16,381) <sup>†</sup>	
10–14	69,438	73,261	–3,823	95
15–19	72,672	75,780	–3,108	96
20–24	84,231	75,109	+9,122	112
25–29	100,913	75,755	+28,158	133
30–34	86,610	79,364	+7,246	109
35–39	76,196	91,279	–15,083	83
40–44	78,108	92,581	–14,473	84
45–49	85,932	97,178	–11,246	88
50–54	85,198	94,694	–9,496	90
55–59	74,853	85,297	–10,444	88
60–64	58,905	70,771	–11,866	83
65–69	38,680	49,386	–10,706	78
70–74	27,836	36,387	–8,551	76
75–79	22,626	30,310	–7,684	75
80–84	19,850	29,427	–9,577	67
85+	21,822	62,621	–40,799	35

Source: U.S. Census data.

\* Survival ratio for the decade is calculated by dividing the 2010 population by the 2000 population and multiplying by 100. A ratio above 100 indicates net in-migration of that cohort, and a ratio below 100 indicates net out-migration of that cohort.

<sup>†</sup>We used the number of births in Hennepin County between 2000 and 2009 as a surrogate for the cohorts that had not been born in 2000 (shown in parentheses). The (–16,381) value represents the difference between the 2000–2009 number of births figure and the sum of the 2010 0–4 and 5–9 age-cohort values.

**Figure 5. Survival-Ratio Profiles for Age Cohorts in Hennepin County and the Median County in Minnesota, 2000–2010**



Note: The survival ratio is the number of people in an age cohort at the end of the decade divided by the number of people in the same cohort at the beginning of the decade, multiplied by 100. A ratio above 100 indicates net in-migration of that cohort, and a ratio below 100 indicates net out-migration of that cohort.

number of people in that same cohort in 2000, when they were 10 years younger; it begins with the 10–14 age cohort, because people aged 0–4 and 5–9 had not been born in 2000. The fourth column in Table 3 shows how the number of people in each cohort changed during the decade from 2000 to 2010. For example, the 25–29 age cohort in 2010 gained 28,158 people, a clear indication of net in-migration, but the 15–19 age cohort lost 3,108 people, an indication of net out-migration. The fifth column lists the net survival ratio for the decade. A cohort-survival ratio greater than 100 indicates net in-migration of people in that age cohort, and a ratio less than 100 indicates net out-migration of people in that cohort. Therefore, the 25–29 age cohort had a survival ratio of 139, indicating substantial in-migration, but the survival ratio of 96 for the 15–19 age cohort shows slight out-migration.

Cohort-survival data indicated that Hennepin County still lured young people during the 2000s. The county had high in-migration ratios for the cohorts between 20 and 34, but high out-migration ratios for all other cohorts (Table 3). Death was an increasingly important form of out-migration in the older age cohorts, but we could not adjust survival ratios to account for deaths, because even though we do

know the total number of deaths in the county during the decade, we cannot allocate them to specific age cohorts.

We cannot calculate survival ratios for the 0–4 and 5–9 age cohorts, because these children had not been born when the U.S. Census was taken in 2000, but we do know the total number of births between 2000 and 2009 in Hennepin County (shown in parentheses). These two youngest cohorts seem to have enjoyed in-migration, which patently was related to the in-migration of their parents in the cohorts between ages 20 and 34.

We next compared the survival ratios for Hennepin County with the survival ratios for the median Minnesota county for each age cohort (Figure 5).<sup>1</sup> The 10–14 cohort had a ratio of 95, which rose to 96 for the 15–19 cohort, then soared to 112 for the 20–24 cohort and 139 for the 25–29 cohort, but after the age of 34, out-migration became dominant. Then we added statewide context to this graph by plotting the profile of the survival ratio for the median county in Minnesota for each age cohort (Figure 5). For each cohort we ranked the ratios for all counties,

<sup>1</sup> For each cohort, we ranked the cohort-survival ratios for all counties, from highest to lowest, and identified the median, which is the middle value in this array.

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The composite median county had in-migration in the two youngest age cohorts, massive out-migration in the 20–24 and 25–29 age cohorts, and the greatest in-migration in the 30–34 age cohort. In-migration then slowly tapered off until the age of 69, after which death began to take its toll. This pattern of migration is closely related to changes in life phase. For Hennepin County, conversely, younger people moved into the county, but people above age 35 moved out to the suburbs with their children or retired to their winterized cottage on the lake.

Most Minnesotans make their first major migration when they graduate from high school and go off to college, enter military service, or head for the city. One of the oldest clichés in outstate Minnesota is that the usual high-school graduation present is a suitcase, because teenagers expect to leave when they finish high school. Cohort-survival data indicate that roughly one-third of the state’s 20–24 and 25–29 year-olds troop off to college, and roughly one-fifth of those who left will eventually straggle back with their young families (Figure 5).

Between 2000 and 2010, Minnesota counties with four-year colleges had massive net in-migration of the college-level cohort aged 20–24 (Figure 6). Noncollege counties with cities of 10,000 or more did a slightly better job of retaining members of this cohort, but most other counties lost one-third to more than one-half, and the counties on the western side of the state lost especially heavily.

We might posit that most Minnesota counties lend their young people to one of the “college counties” for four years or so, and then struggle mightily with the challenge of trying to lure them back home again. During the 2000s, they were moderately successful, because most counties had gratifying rates of in-migration of the 30–34 age cohort, and most of those that lost were college counties that lost 30–34 year-olds who had been 20–24 year-old students in 2000 (Figure 7). The heaviest rates of 30–34 age cohort in-migration were in the suburban ring around the Twin Cities. The lakeshore counties of north-central Minnesota attracted fewer numbers of this cohort, but they did attract them, because young people are needed to serve the

*(continued on page 21)*

older people who had retired to their winterized cottages.

Between 2000 and 2010, the people in the cohorts aged between 30 and 59 initially moved to the suburbs (Figures 5 and 7), settled down and raised families, with little subsequent migration until they reached retirement age (Figure 5). These individuals brought their children with them, based on the large influxes of 10–14 year-olds into the suburban ring and the lakeshore counties (who presumably did not make this move on their own) (Figure 8).

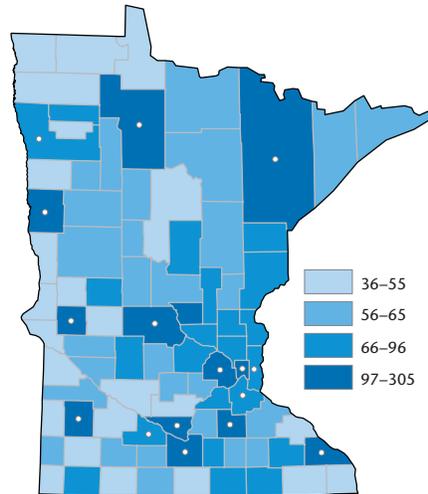
The in-migration of young couples with children, who presumably would move only to areas where jobs were available, indicates that the economy of north-central Minnesota lakeshore resort and retirement counties has matured and stabilized, and it is served by an intriguing new kind of metropolis that seems to be emerging north of Brainerd.<sup>2</sup>

The continuing migration of people in the 60–64 and 65–69 age cohorts into these lakeshore counties is noteworthy, and is indicative of people continuing to winterize their cottages and turn them into permanent retirement residences (Figures 9 and 10).

Cohort-survival ratio profiles for a core Twin Cities county (Ramsey), a suburban-ring county (Washington), and a central Minnesota retirement county (Aitkin) show how migration reflects changes in life phase (Figure 11). Ramsey recruited 20-year-olds, lost 30-year-olds (and their children) heavily, and older cohorts less heavily until the age of 65, when death became a significant factor. Suburban Washington was nearly the mirror image of Ramsey, with huge in-migration of 30–34 year-olds (with their children), and then a slow shift from in- to out-migration after the age of 54. Aitkin lost more than one-third of its 20-year-olds, but enjoyed substantial in-migration of all cohorts between the ages of 30 and 70. The huge in-migration of the cohorts between the ages of 55 and 69 reflects people who were retiring to their winterized cottages, and the earlier humps for the 30–44 and 10–14 age cohorts reflect in-migration of young couples (and their children) who moved to Aitkin County to haul the garbage, put in the docks, maintain the properties, and otherwise serve the elderly retirees.

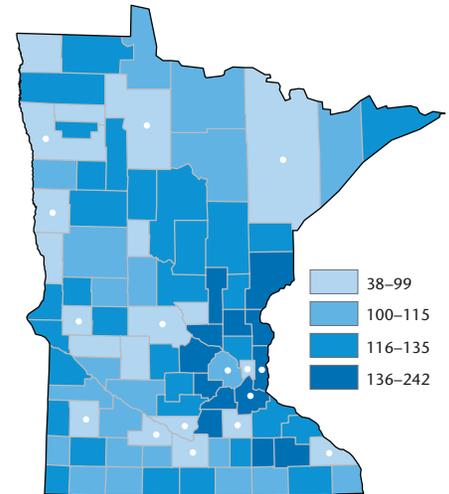
<sup>2</sup> J.F. Hart and A.J. Weaver, "The Brainerd Lakes Area: A New Kind of Metropolis," *Focus on Geography* 53,2 (2010): 41–49.

**Figure 6. Survival Ratios by County for Age Cohort 20–24 in 2010**



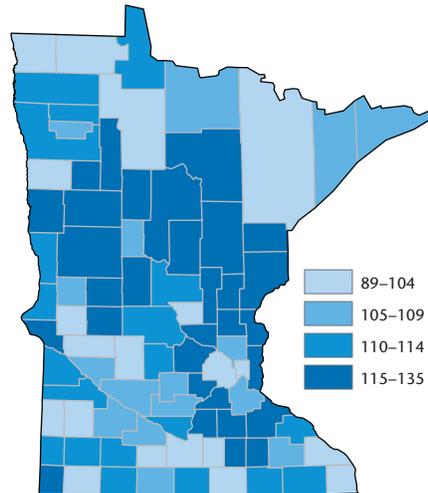
Note: White dots denote counties with four-year colleges.

**Figure 7. Survival Ratios by County for Age Cohort 30–34 in 2010**

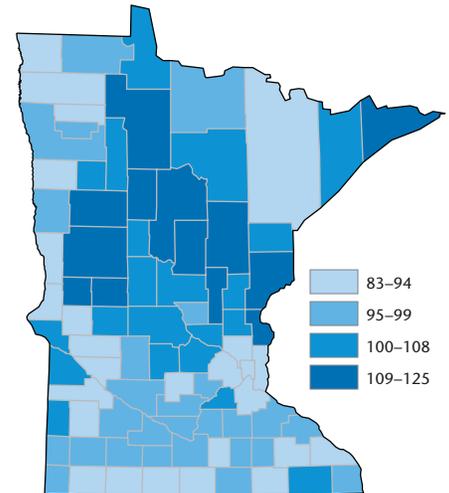


Note: White dots denote counties with four-year colleges.

**Figure 8. Survival Ratios by County for Age Cohort 10–14 in 2010**



**Figure 9. Survival Ratios by County for Age Cohort 60–64 in 2010**



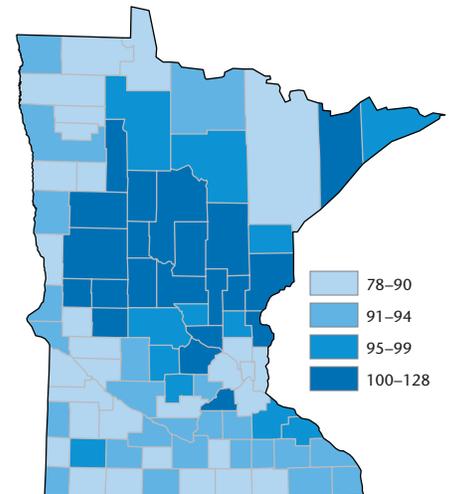
### Conclusion

Population change in Minnesota counties between 2000 and 2010 resulted from a reshuffling of people who already lived in the state in 2000 or were born here over those 10 years, because the state had a modest net in-migration of only approximately 56,000 people during the decade.

In that decade, the two metropolitan-core counties, Hennepin and Ramsey, were prime magnets for young people between the ages of 20 and 34, but leaked out-migrants in older cohorts. They lost nearly 100,000 net out-migrants to other Minnesota counties, but their high birth rates camouflaged this loss.

People between the ages of 30 and 40 migrated to suburbs in the

**Figure 10. Survival Ratios by County for Age Cohort 65–69 in 2010**

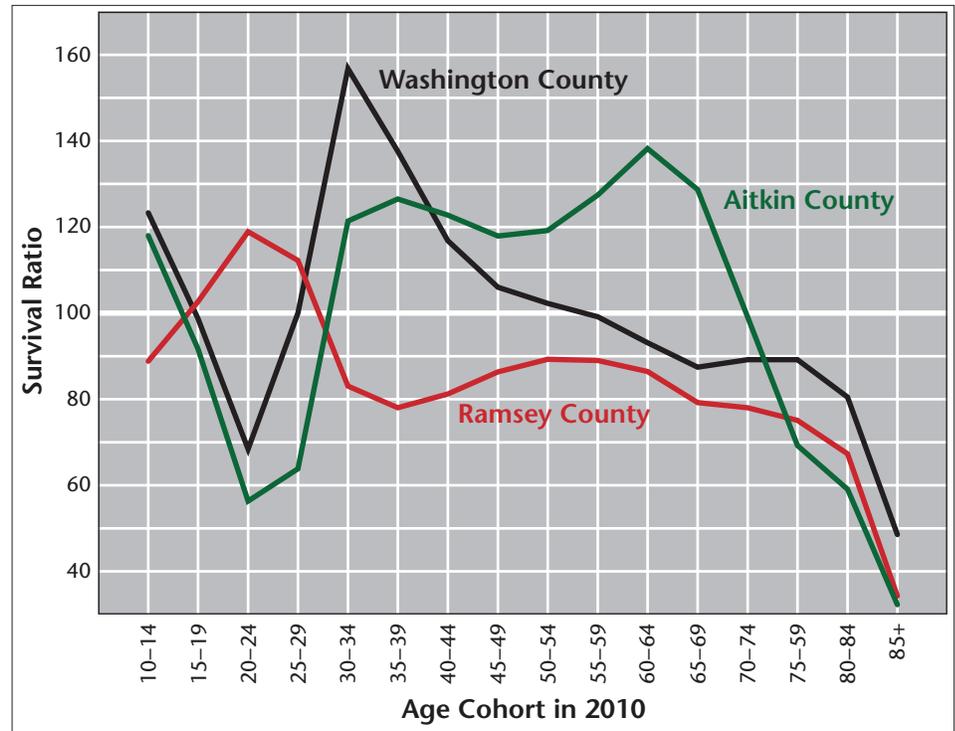


perimetropolitan-ring counties as they got married and started to raise families, and stayed there until they neared retirement age, when many migrated to winterized cottages in the lakeshore resort and retirement counties of north-central Minnesota.

The teeming perimetropolitan-ring counties had a substantial surplus of births over deaths, but the lakeshore counties had low or even negative rates of natural increase, and the growth of their population depended on their ability to recruit retired folks and the young families who tended to their needs. More than half of the state's counties, including many in the northern tier and in the prairie counties south and west of Interstate 94, are demographically challenged. They had more deaths than births during the 2000s, and their natural rate of decrease was aggravated by their loss of young people, who leave when they reach college age and have not been enticed back.

Many of the prairie counties still are dominated by farming, whose labor requirements are shrinking as farming is becoming more efficient. These counties have created few alternative employment opportunities that would enable them to retain their own people, much less to attract anyone new. The population of these counties continued to shrivel slowly during the 2000s, as it had for more than half a century, and these counties' inability to attract new

**Figure 11. Survival-Ratio Profiles for Age Cohorts in Ramsey, Washington, and Aitkin Counties, 2000–2010**



in-migrants makes their demographic prognosis grim.

One must question the wisdom of continuing to invest private and public resources in areas that continue to lose their population. Should public policy strive to stimulate population growth in these areas, or should we allow them to continue to wither away?

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