

North Dakota's Changing Demographics: Implications for Transportation

Spring 2010 Transportation Seminar Series

March 11, 2010

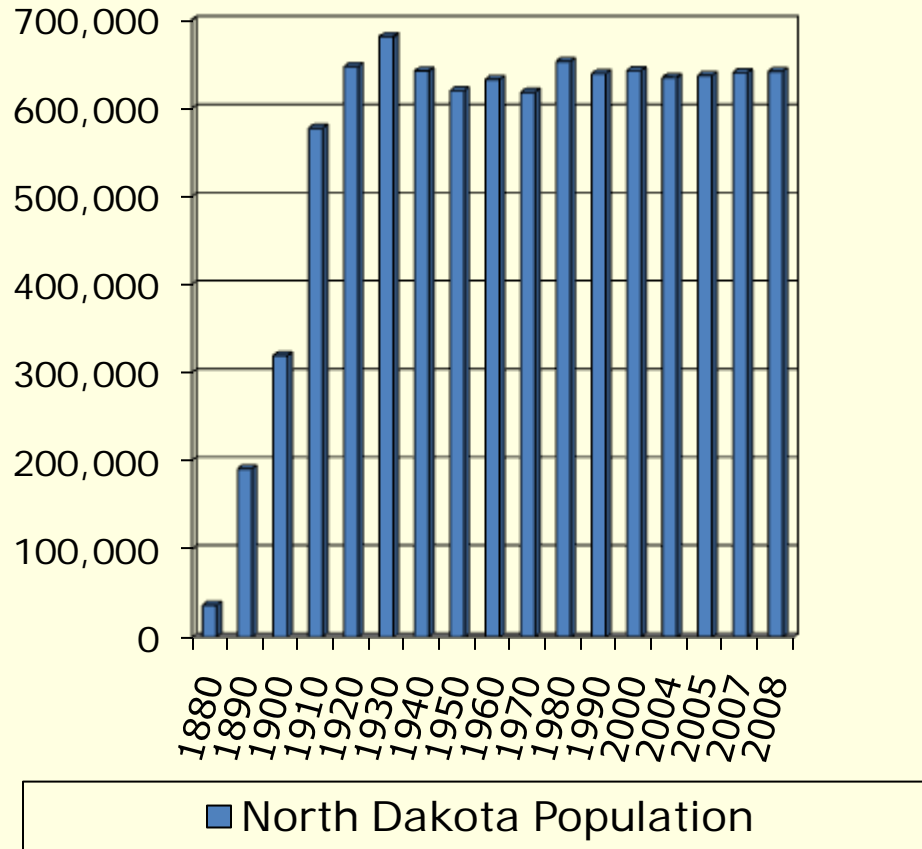
Dr. Richard Rathge
Professor and Director
North Dakota State Data Center

Presentation Objective:

1. To present an overview of historical shifts in population dynamics in North Dakota.
2. To examine main drivers of population dynamics within North Dakota.
3. To discuss the interface between population dynamics and transportation issues.

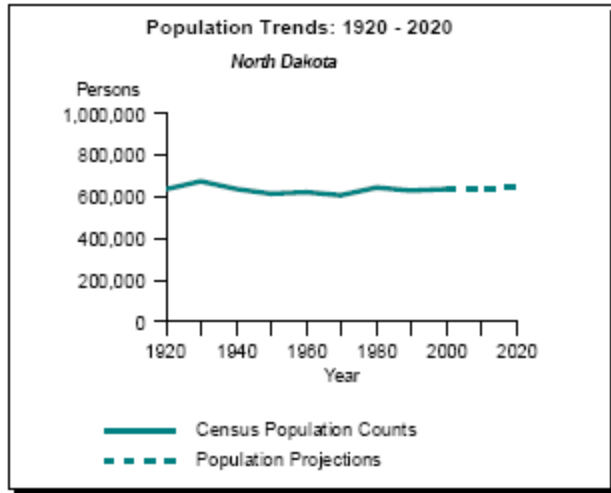
Population

- North Dakota's population peaked in 1930 at 680,845.
- The July 1, 2008 population estimate for North Dakota totaled 641,481, an increase of 3,577 persons from 2007.



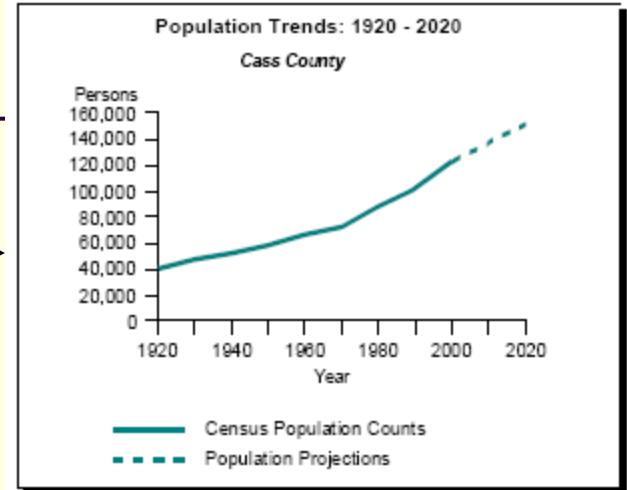
Source: U.S. Census Bureau, Decennial Census and the Population Estimates Branch, <http://www.census.gov/popest/estimates.php>

North Dakota

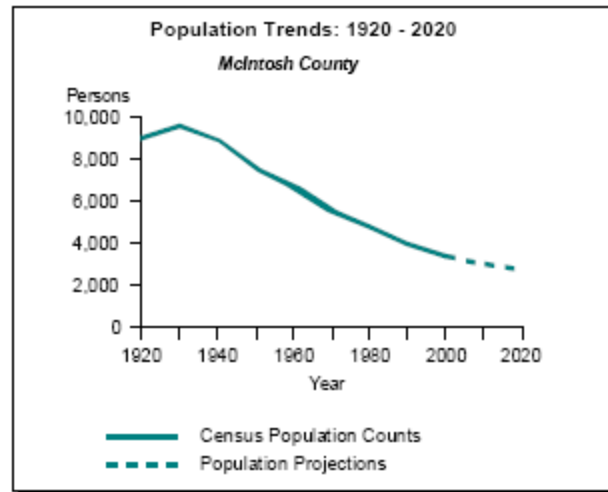


4 similar counties →

Cass County

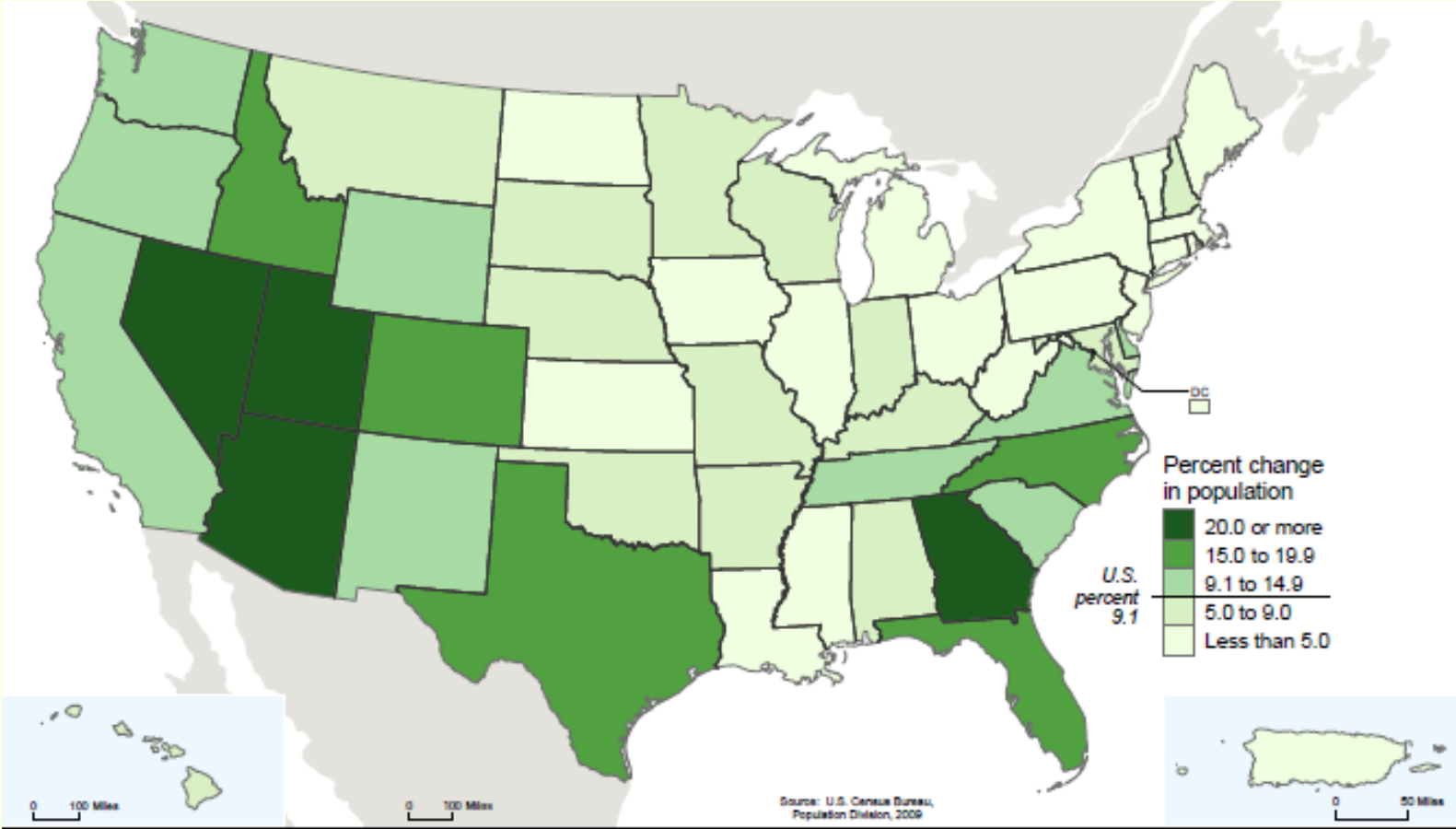


McIntosh County



← 40 similar counties

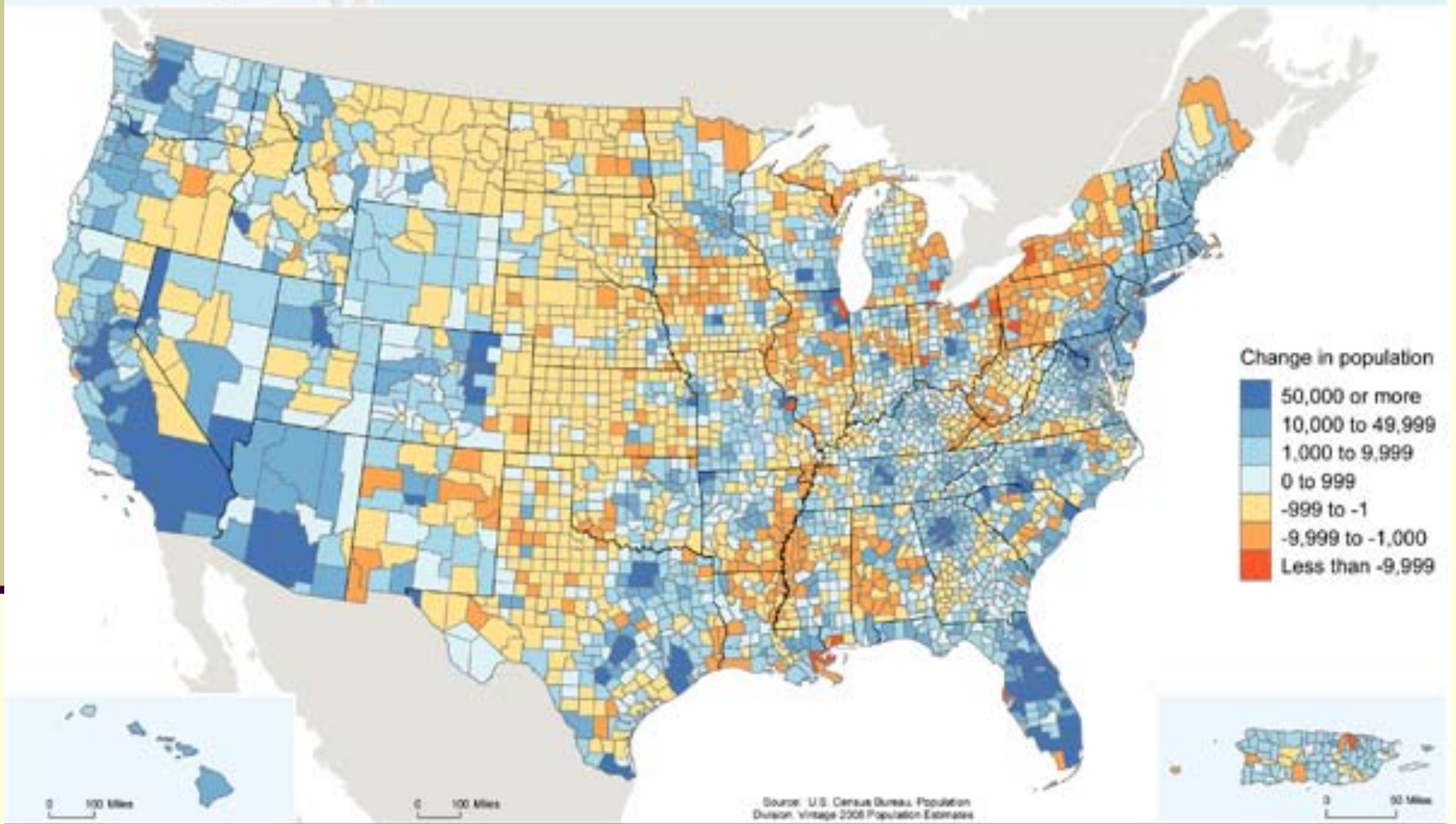
Percent Population Change by State, 2000 to 2009



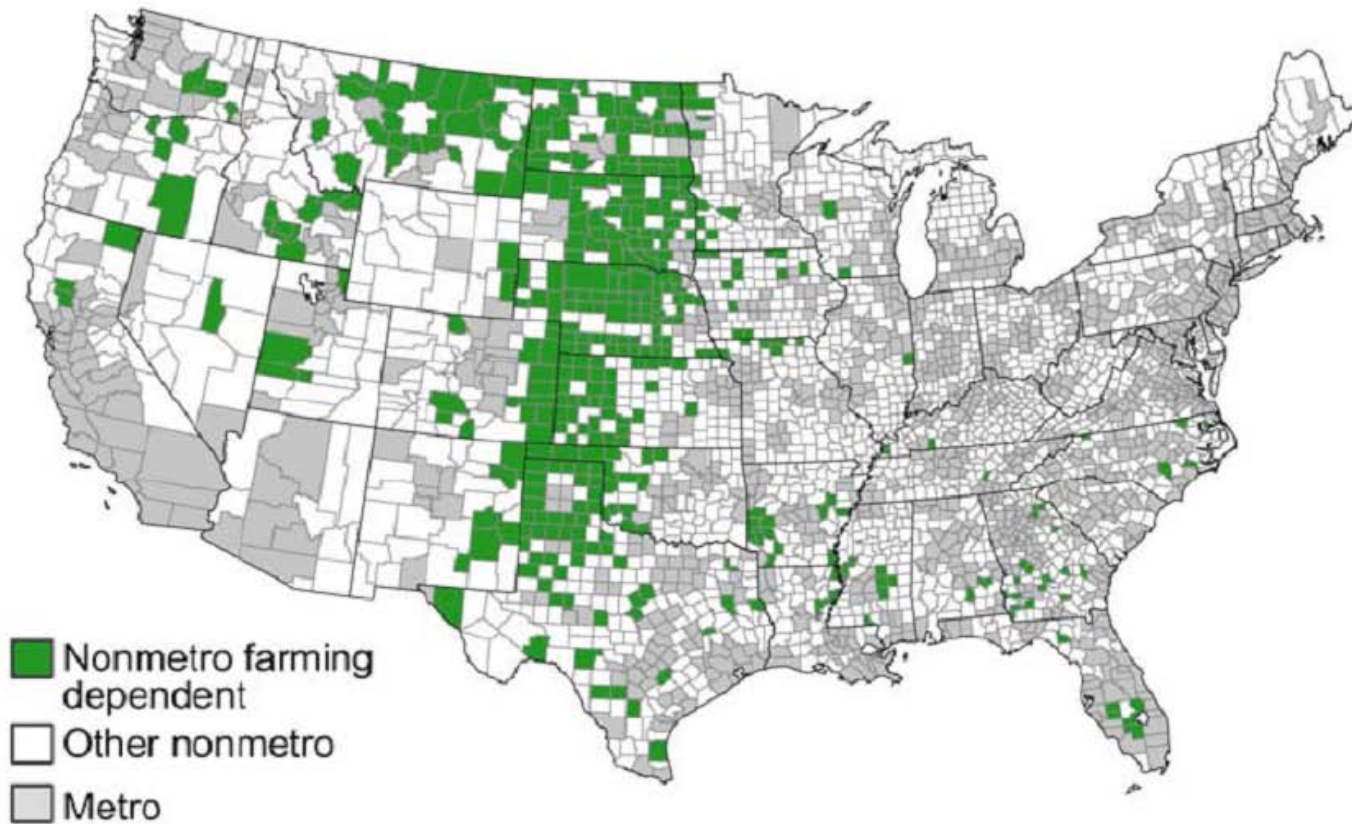
Source: US Census Bureau

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March 2010

Numeric Change in Population for Counties and Puerto Rico Municipios: April 1, 2000 to July 1, 2008



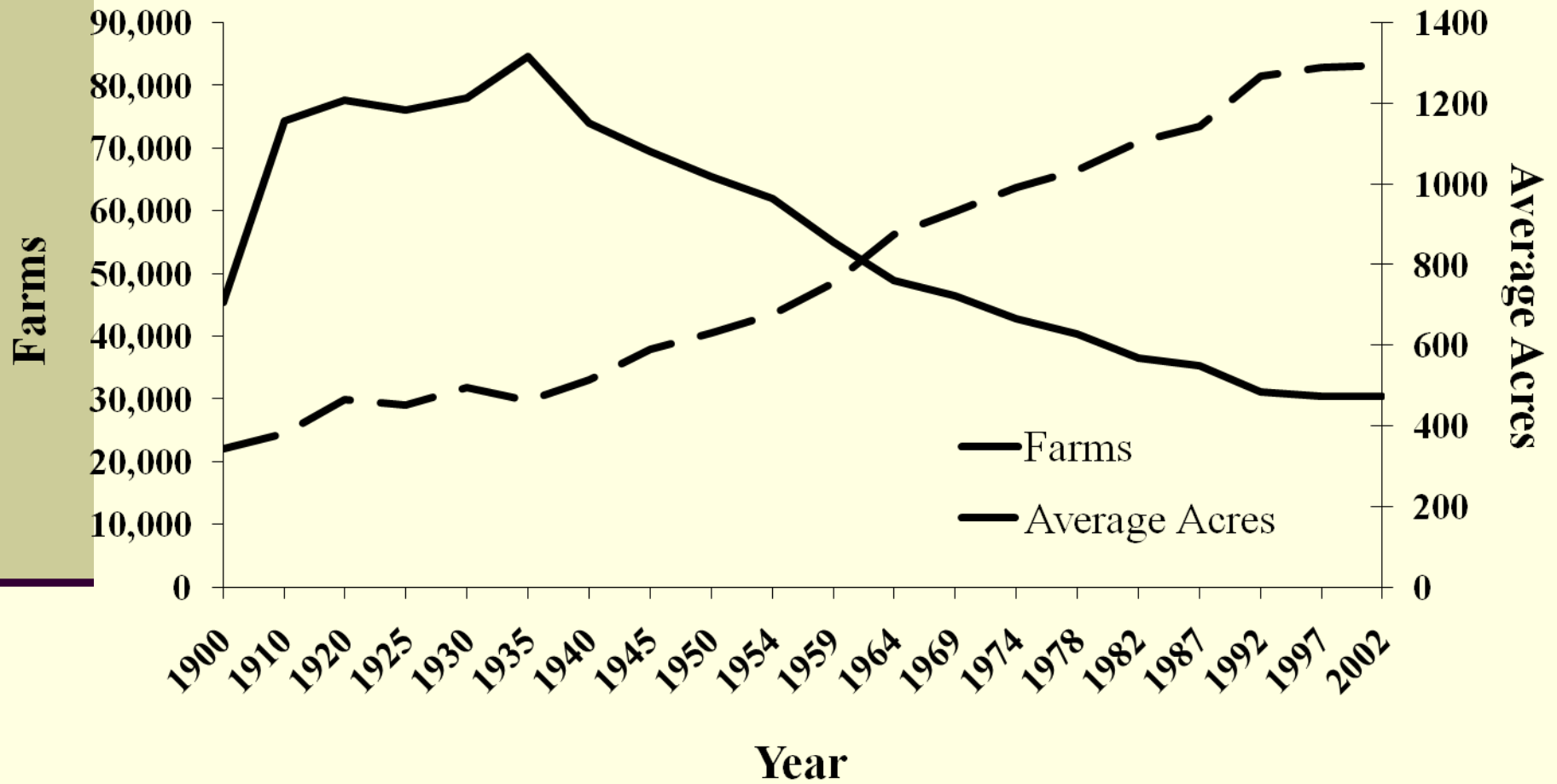
Nonmetro farming-dependent counties, 2000



Source: Farming-dependent counties are defined by ERS. Metro/nonmetro status is based on the Office of Management and Budget (OMB) June 2003 classification.

From USDA, ERS, 2007 Farm Bill Theme Papers, Rural Development, July 2006

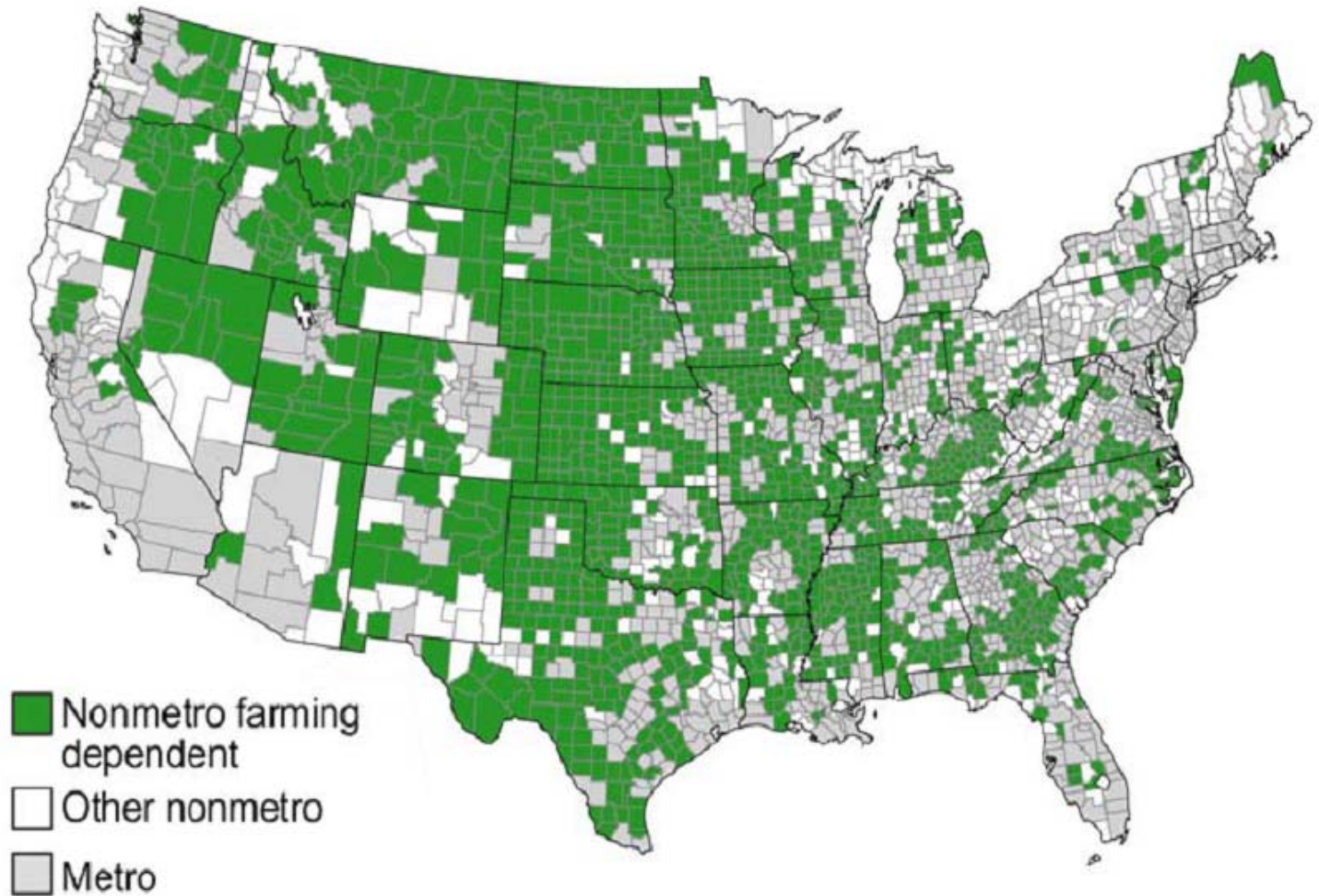
Number and Average Size of N.D. Farms, 1900-2002



Source: U.S. Bureau of the Census, Census of Agriculture, various years.

Prepared by the North Dakota State Data Center
March 2010

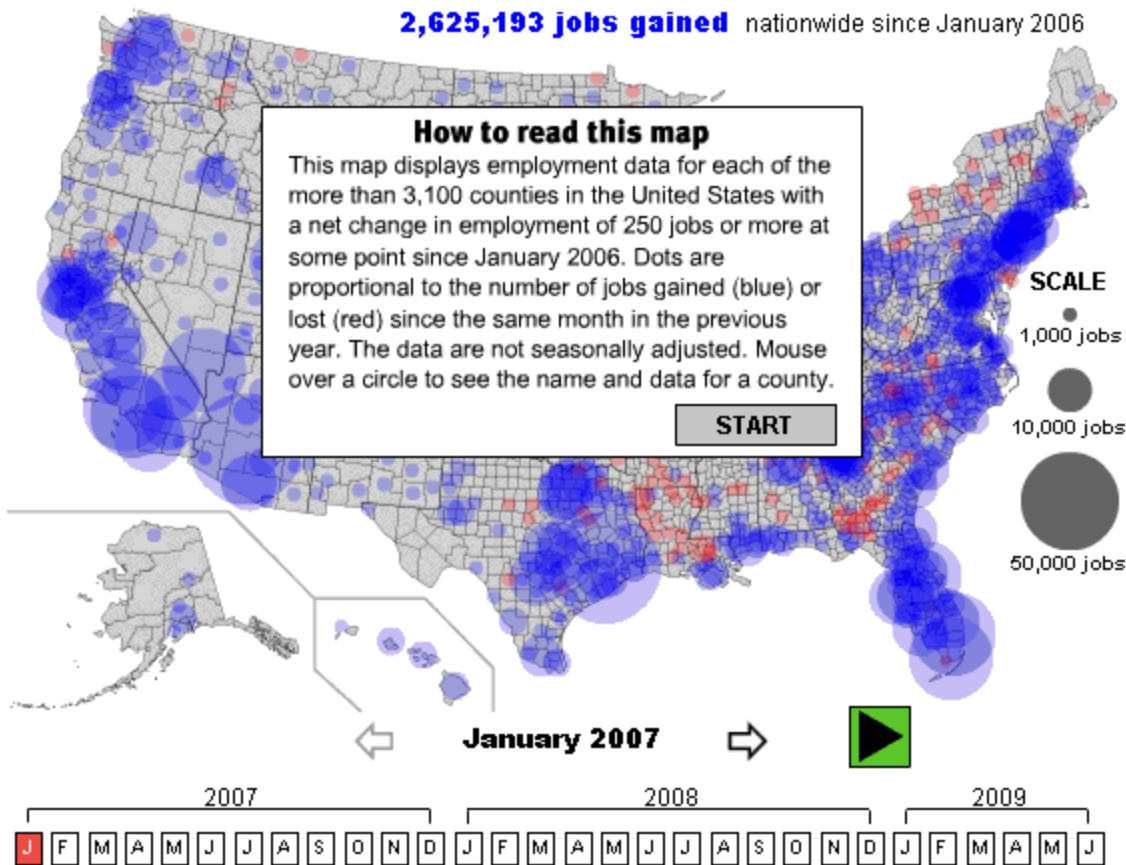
Farm Dependent Counties, 1950



From USDA, ERS, 2007 Farm Bill Theme Papers, Rural Development, July 2006

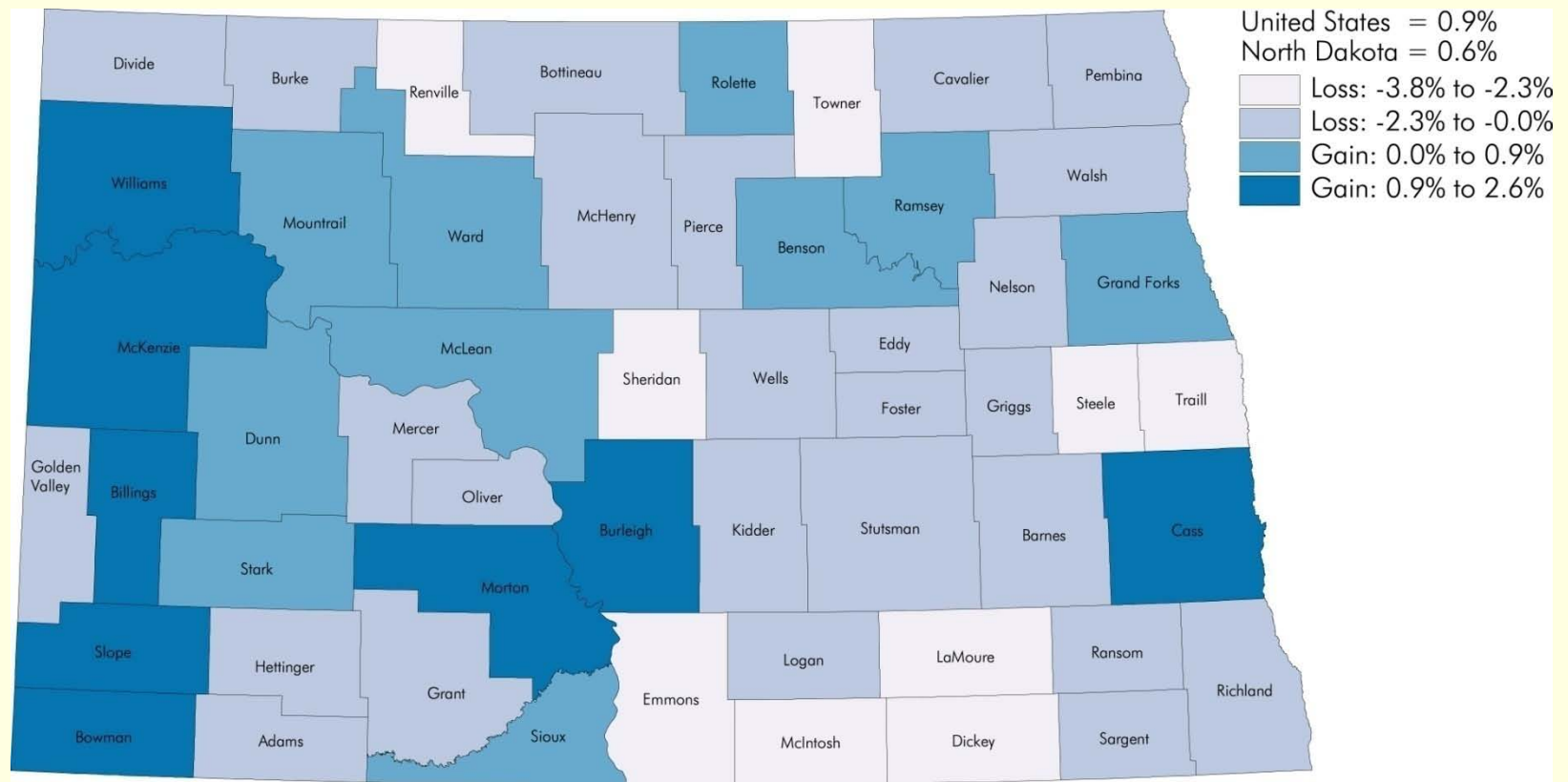
Change in Jobs between January 2007 and June 2009

Click the green play button to see an animation of the data or use the arrows or the calendar to freeze on a particular month. Mouse over a circle on the map to see the name and data for that county. A **blue** dot represents job gains while **red** indicates losses. The bigger the dot, the bigger the gains or losses.



SOURCE: Local Area Unemployment Statistics from the Bureau of Labor Statistics

Percent Change in Total Population Estimates for North Dakota by County: July 1, 2007 to July 1, 2008



Key Demographic Drivers

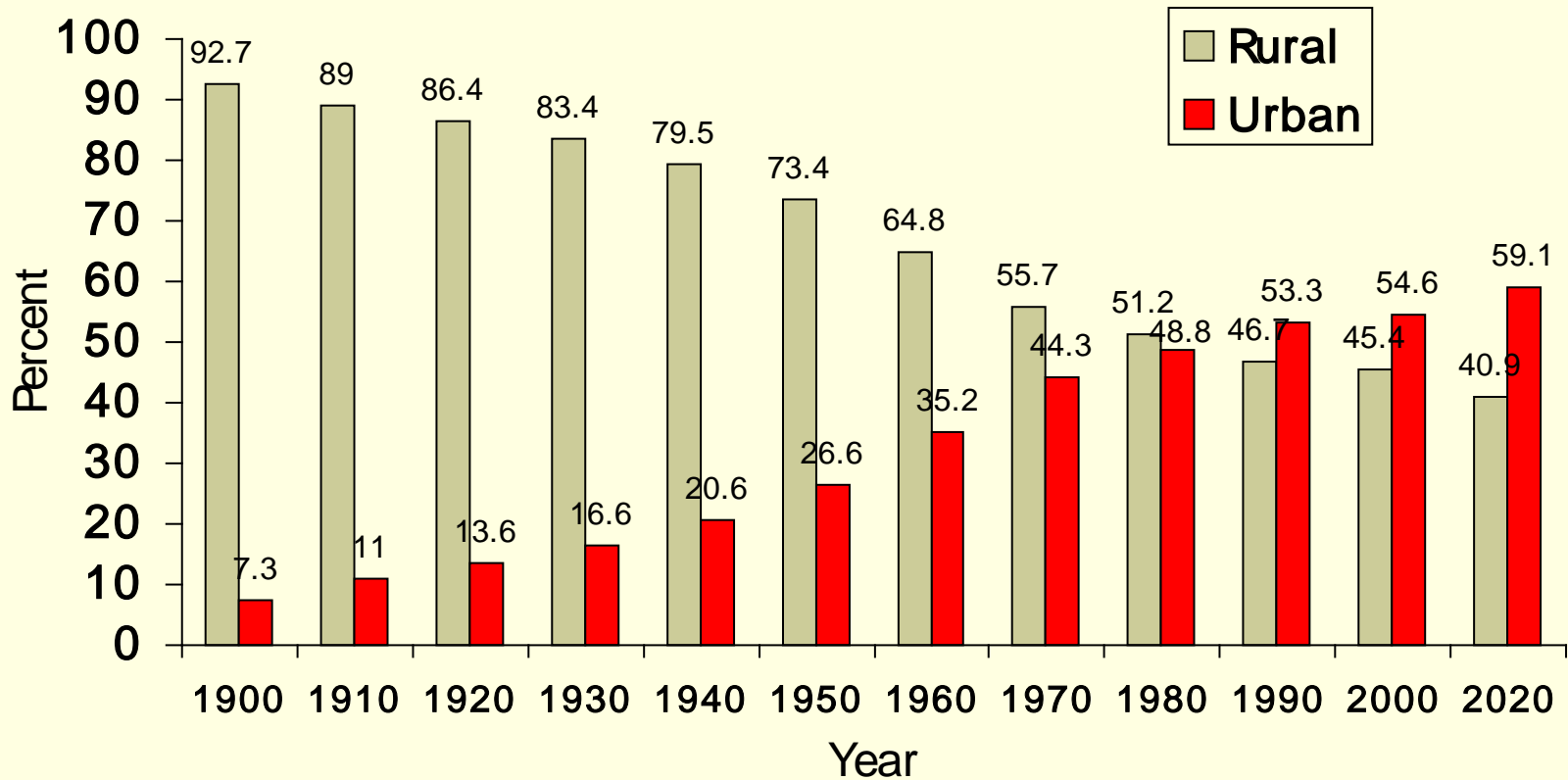
1. Population consolidation
2. Rapidly shifting age distribution
3. Shifting household composition

Key Demographic Drivers

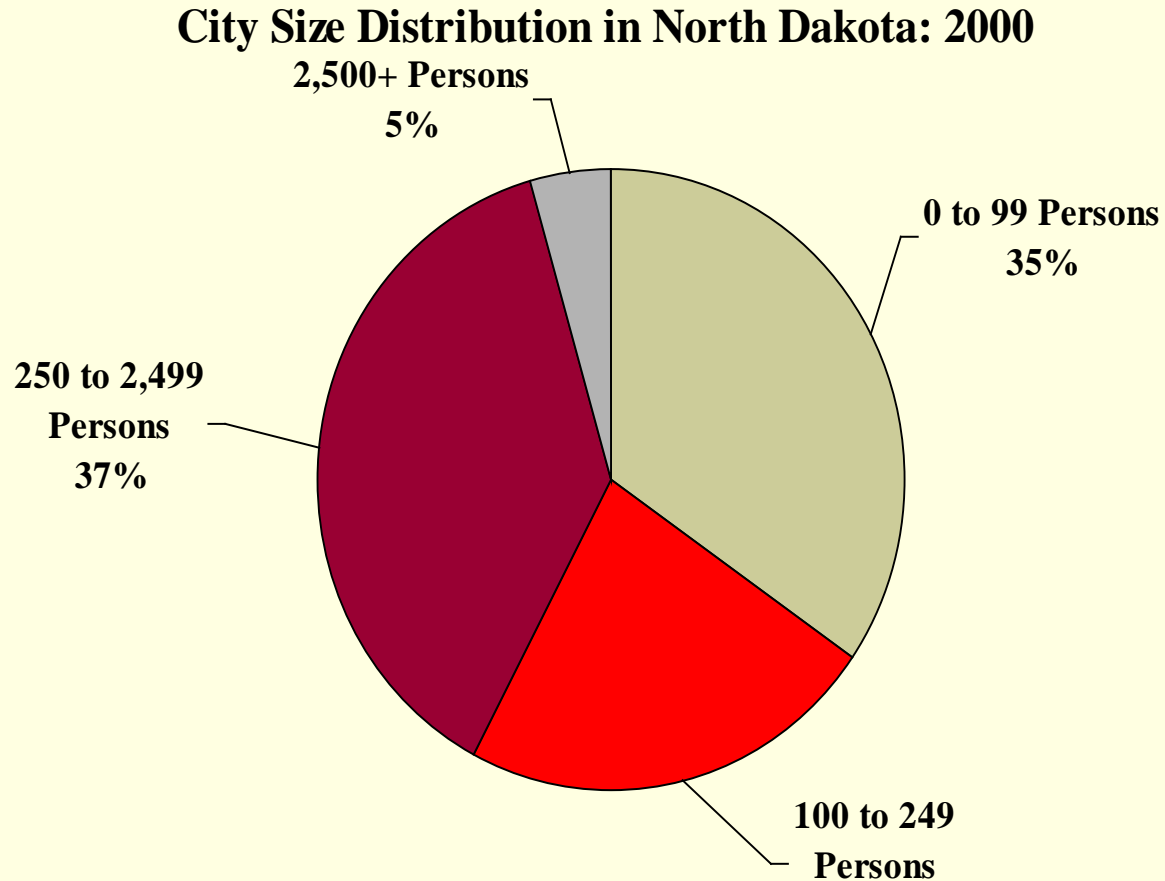
1. Population Consolidation

N.D. Rural-Urban Population Distribution, 1900-2020

Source: U.S. Bureau of the Census, Decennial Censuses.



North Dakota City Size: 2000



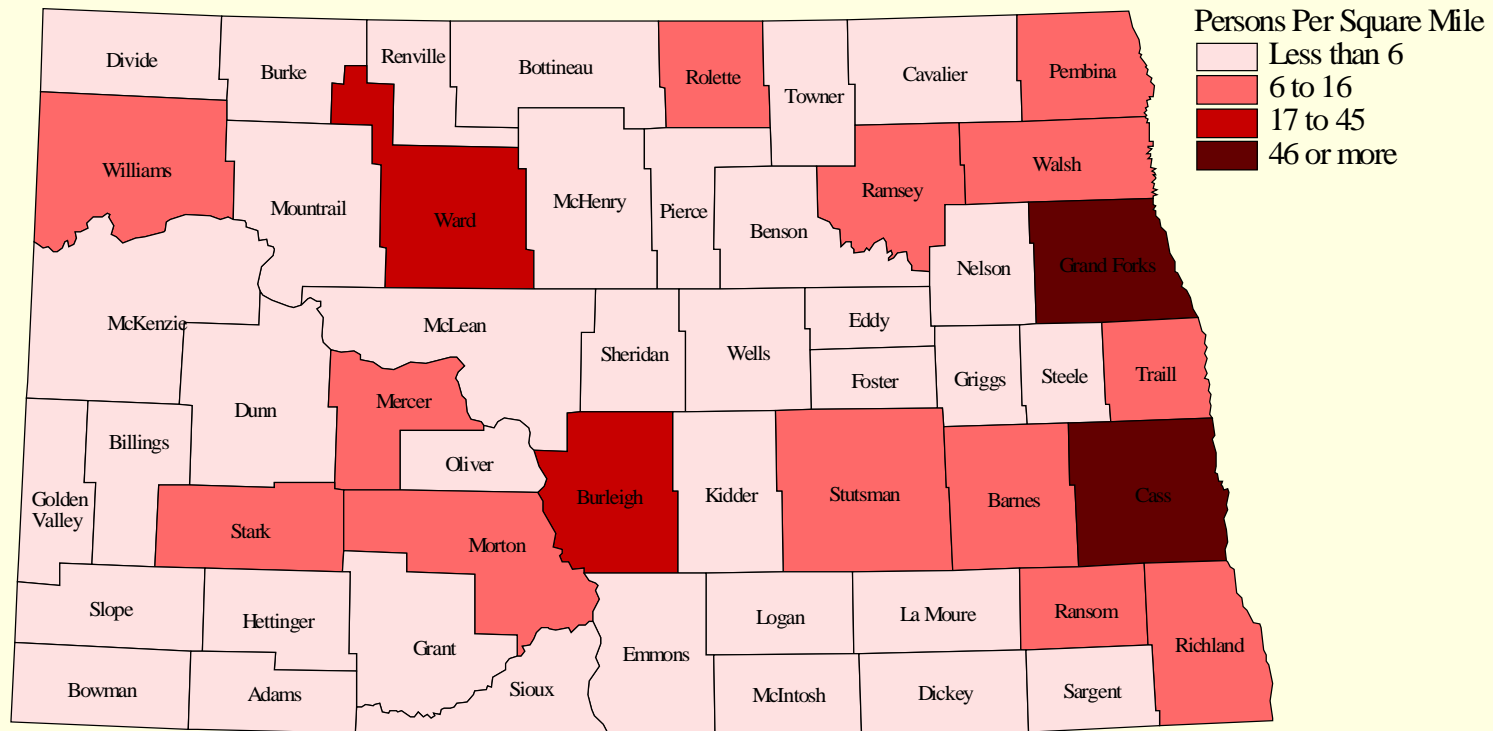
Source: U.S. Census Bureau, Census 2000. Prepared by the North Dakota State Data Center
March 2010

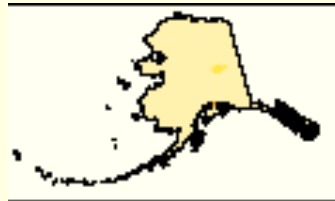
Chart taken from the May 2002 Issue of the *Population Bulletin*, published monthly by the North Dakota State Data Center (Vol. 18, No. 5).

Population Density

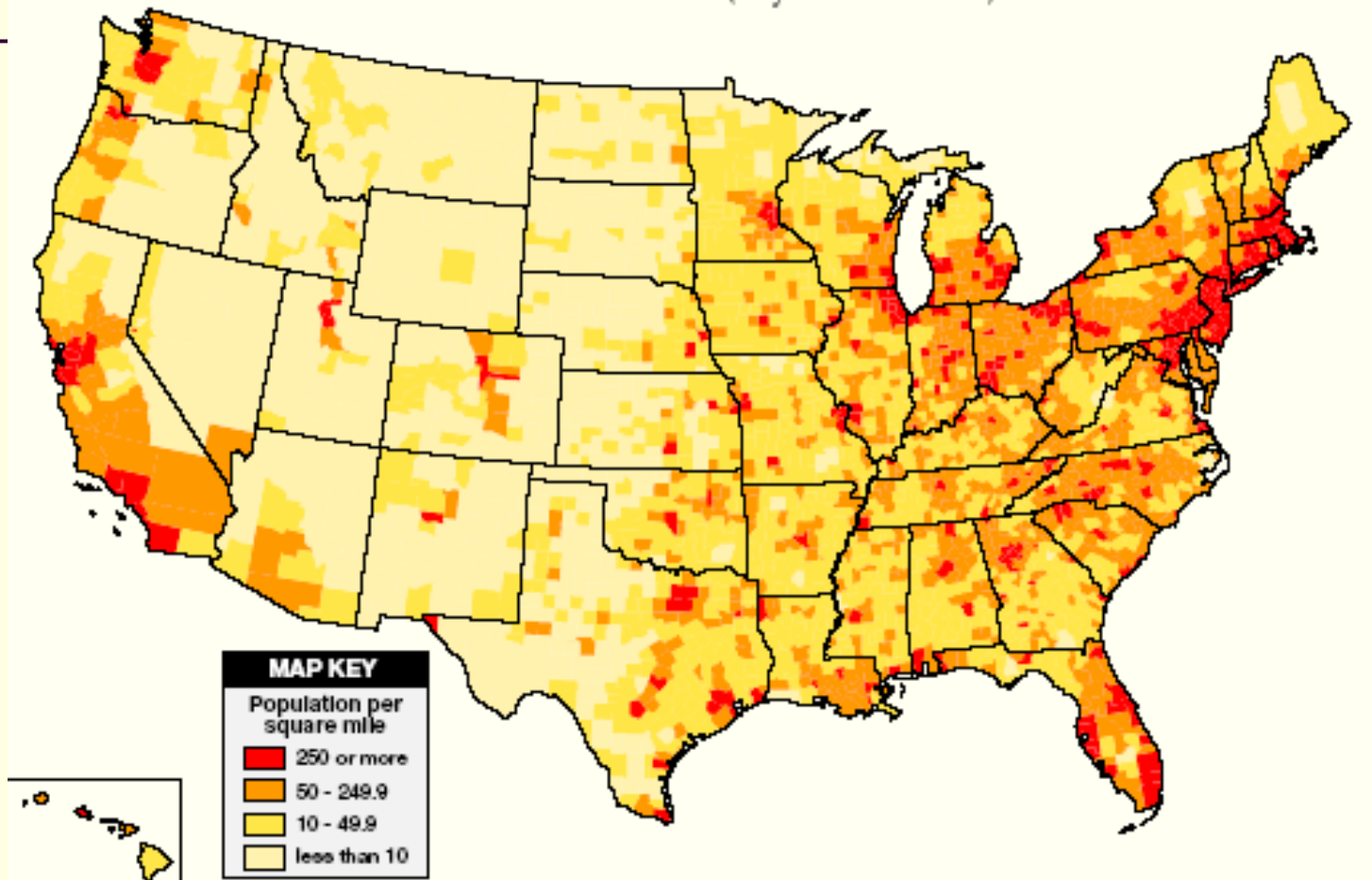
Population Density in North Dakota by County: 2000

Source: U.S. Census Bureau, Census 2000.

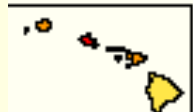




U.S. Population Density (By Counties)



MAP KEY	
Population per square mile	
Red	250 or more
Orange	50 - 249.9
Yellow	10 - 49.9
Light Yellow	less than 10

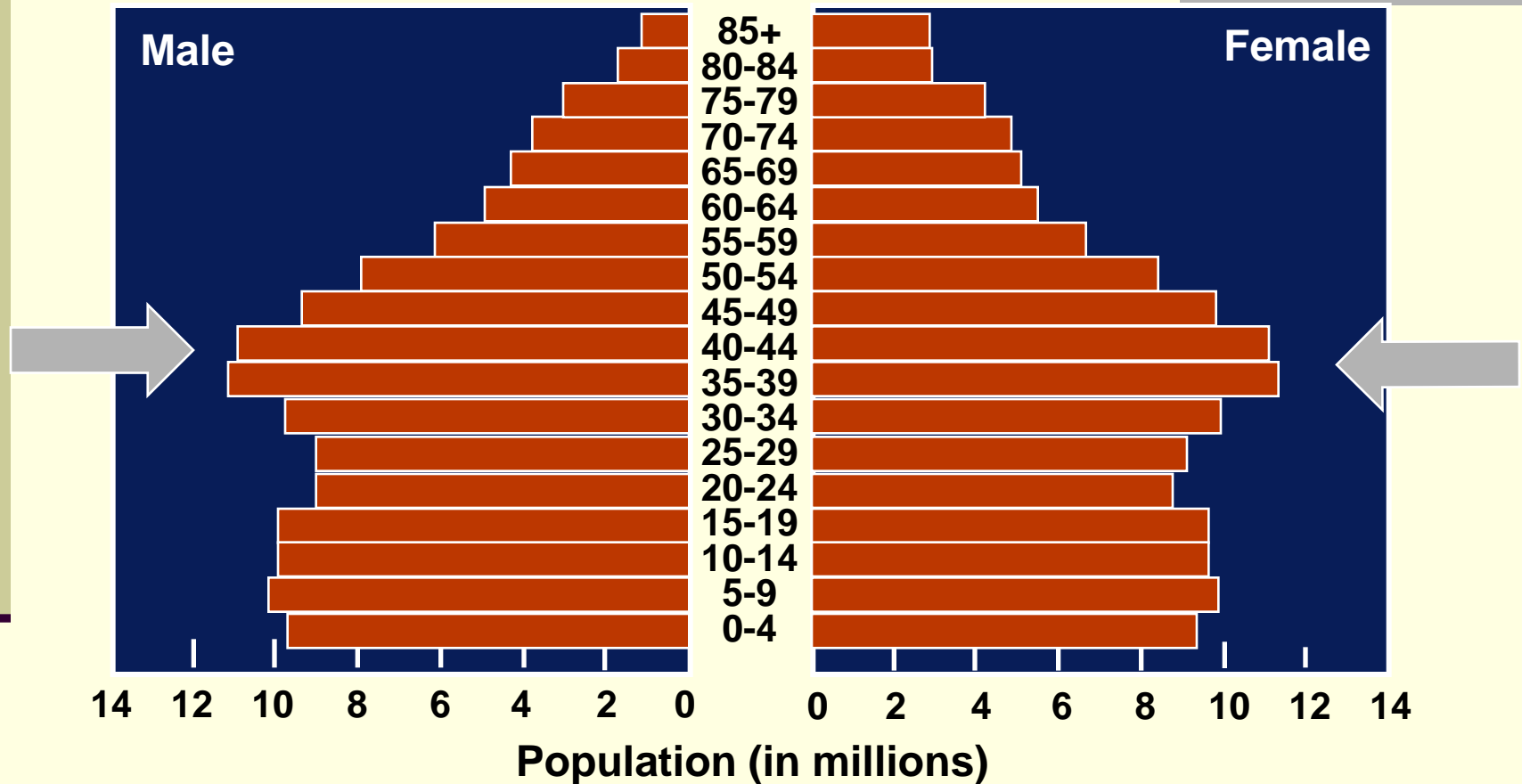


Key Demographic Drivers

2. Shifting age distribution

A Maturing Age Distribution, 2000

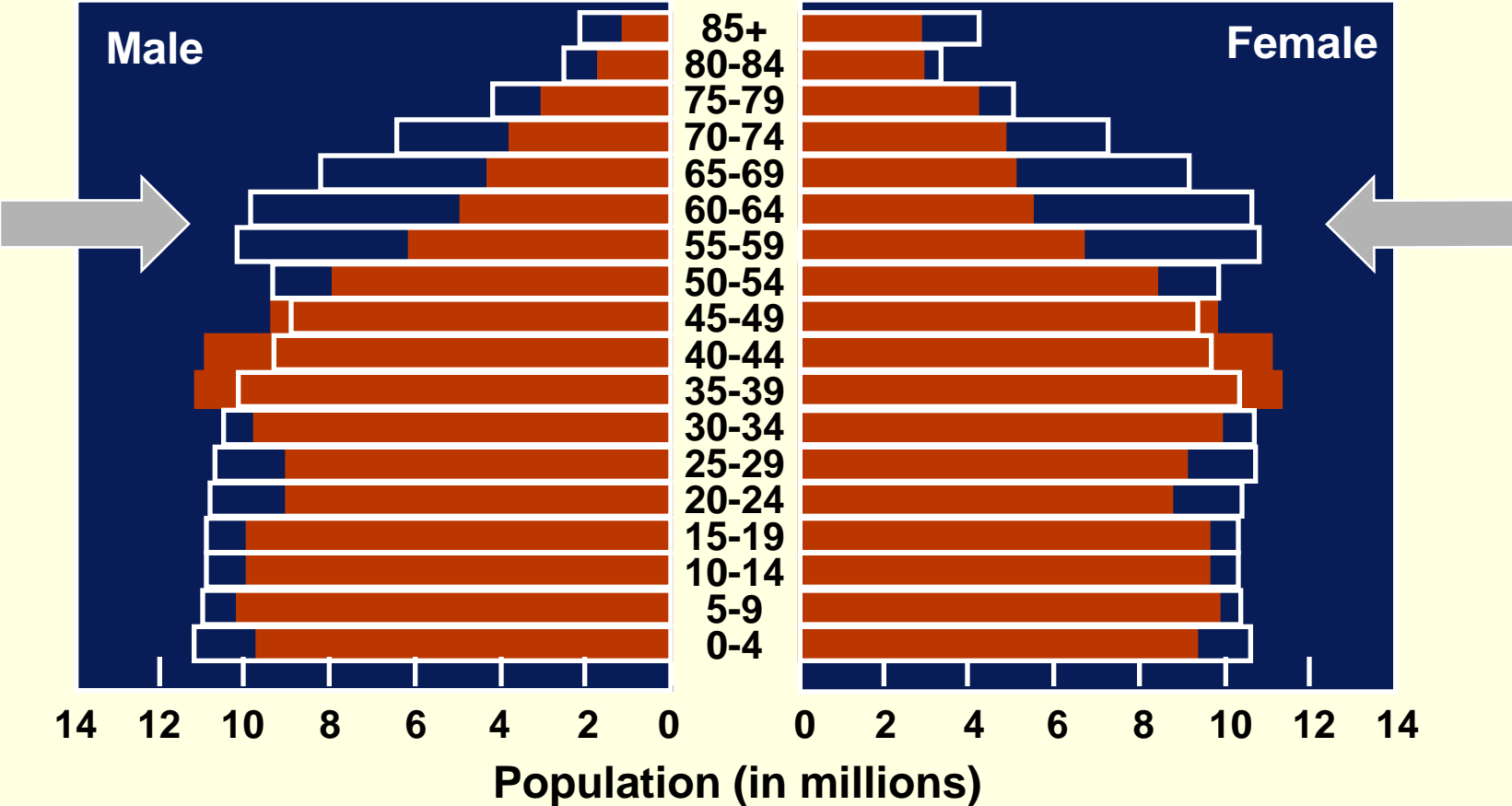
(National data)



Source: U.S. Census Bureau, *International Data Base*.

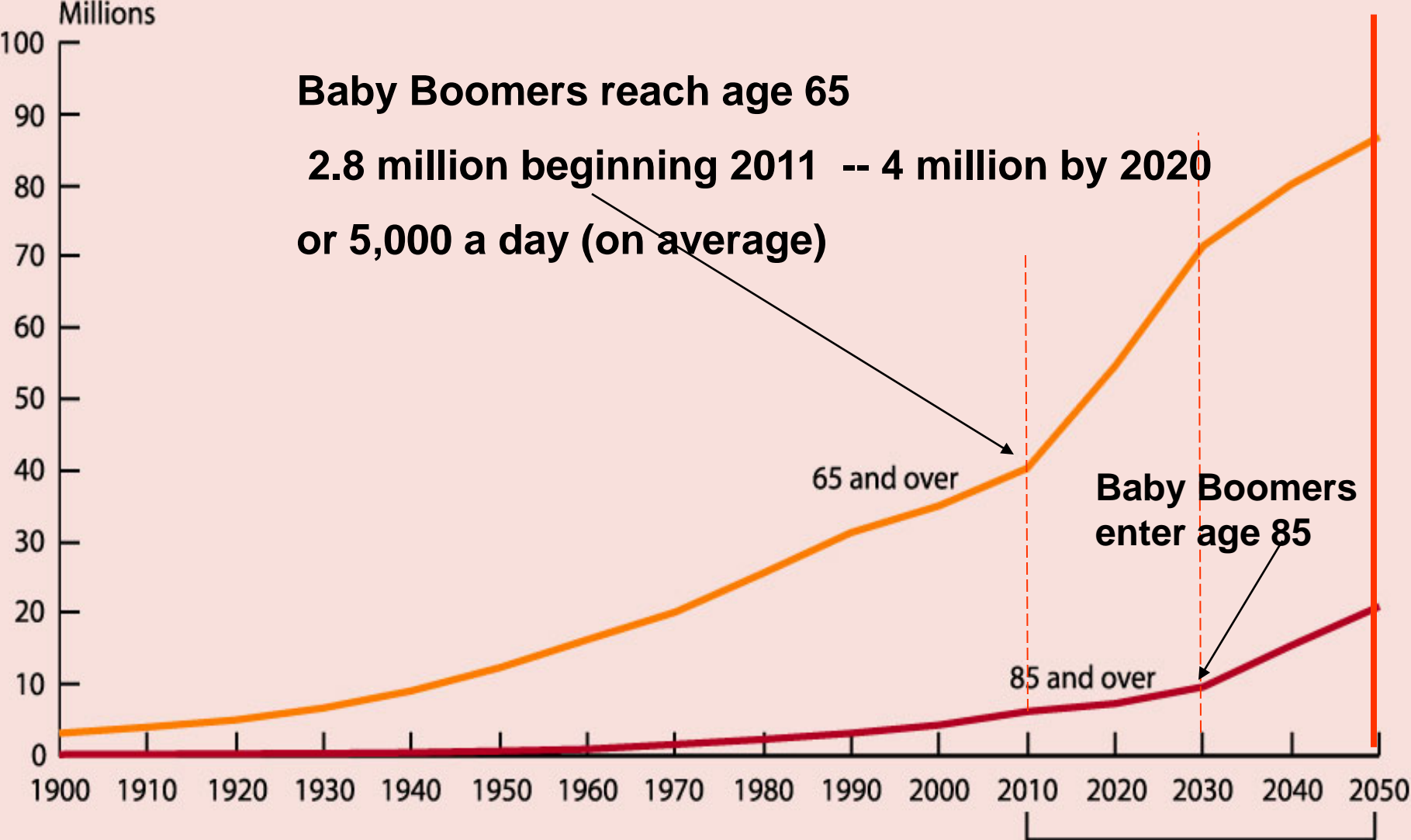
Prepared by the North Dakota State Data Center
March 2010

A Maturing Age Distribution, 2020



Source: U.S. Census Bureau, *International Data Base*.

Number of people age 65 and over, by age group, selected years 1900-2000 and projected 2010-2050



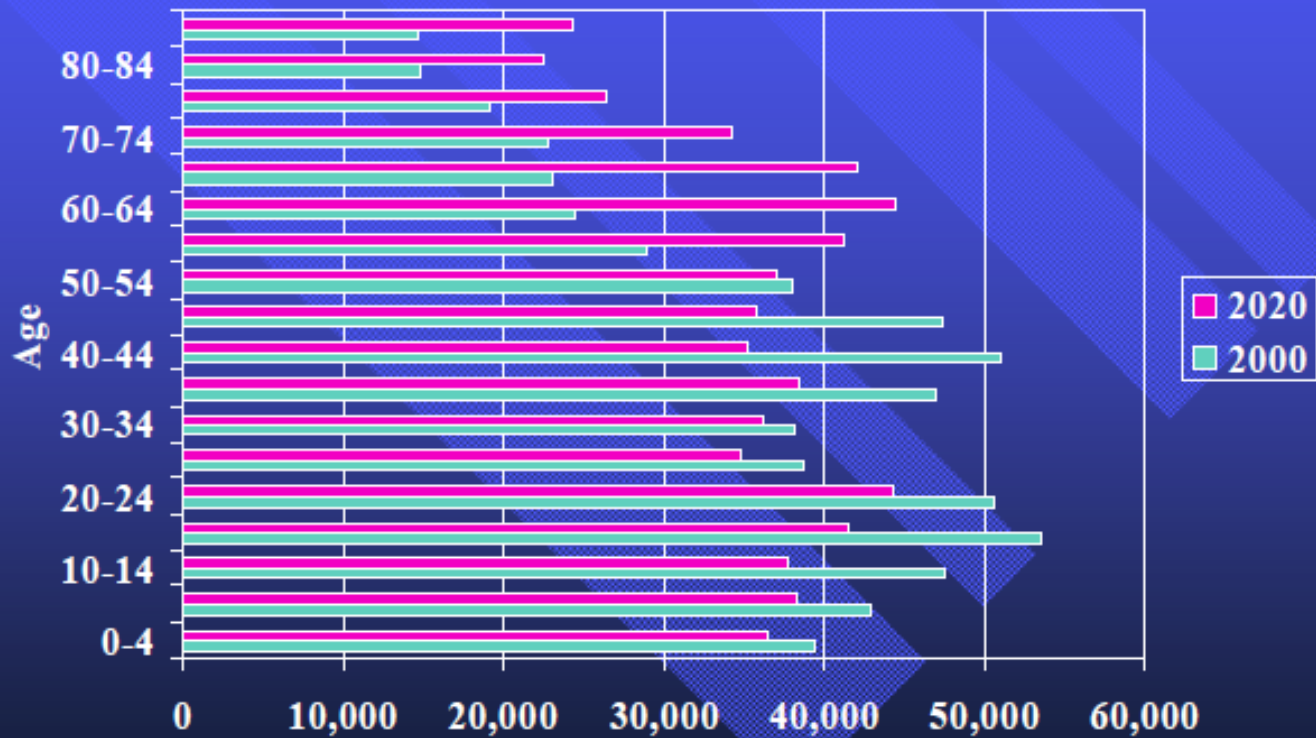
Baby Boomers reach age 65
2.8 million beginning 2011 -- 4 million by 2020
or 5,000 a day (on average)

Baby Boomers enter age 85

Note: Data for 2010-2050 are projections of the population.
 Reference population: These data refer to the resident population.
 Source: U.S. Census Bureau, Decennial Census and Projections.

North Dakota

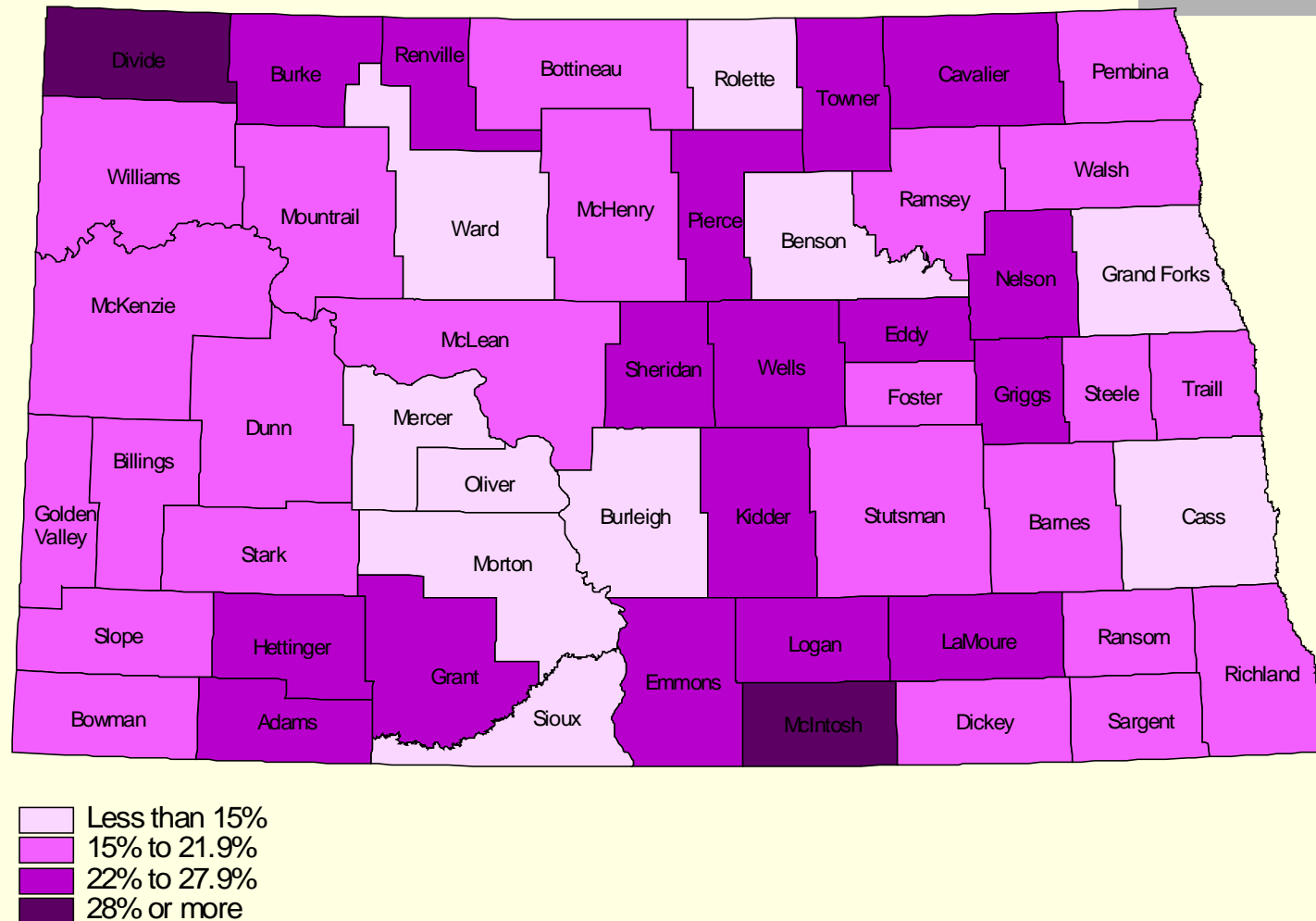
Population by Age, 2000 and 2020 (Projected)



Source: North Dakota State Data Center

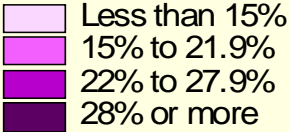
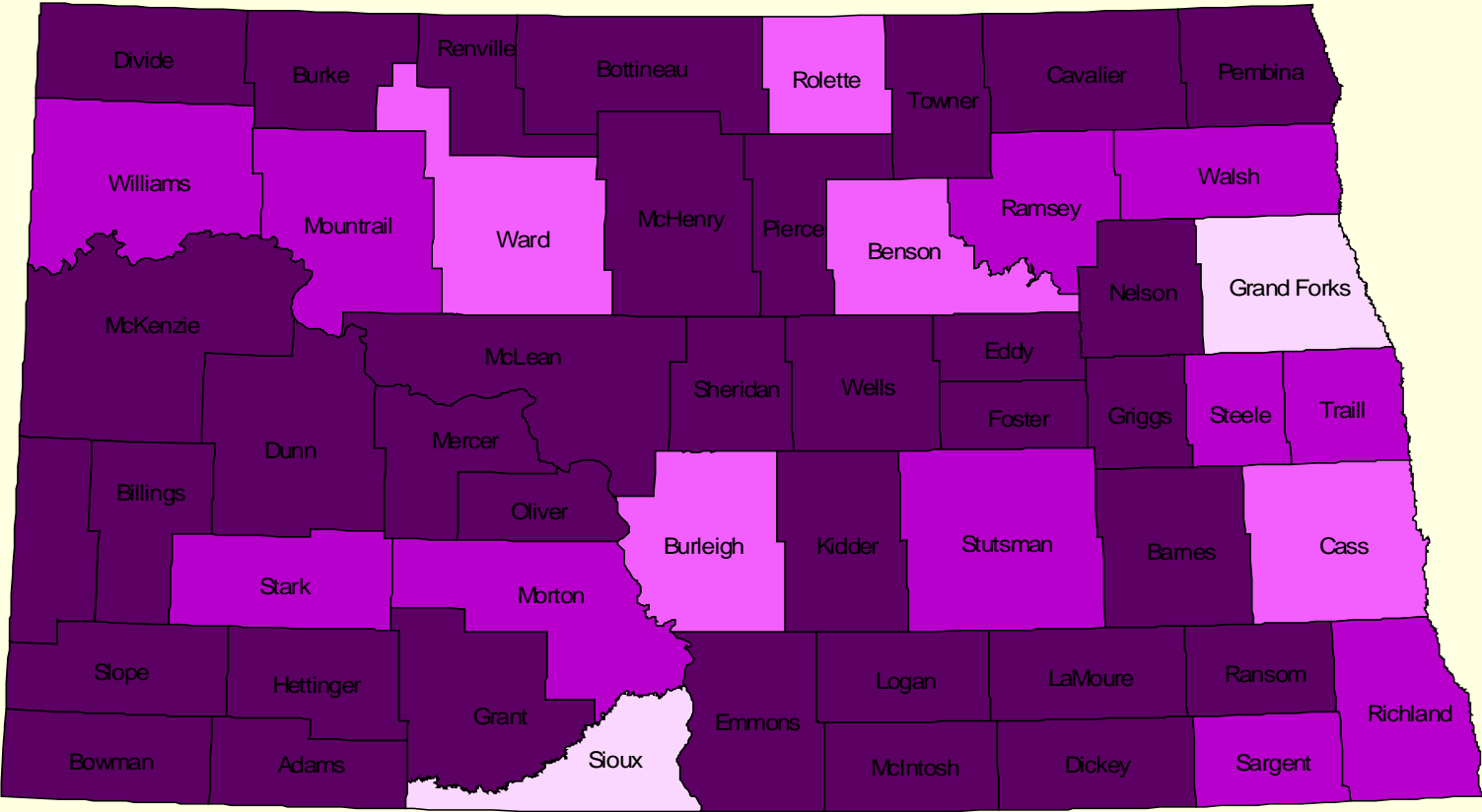
Persons Ages 65 and Older as a Percent of the Total Population in North Dakota by County: 2000

Source: U.S. Census Bureau, Census 2000



Persons Ages 65 and Older as a Percent of the Total Population in North Dakota by County: 2020

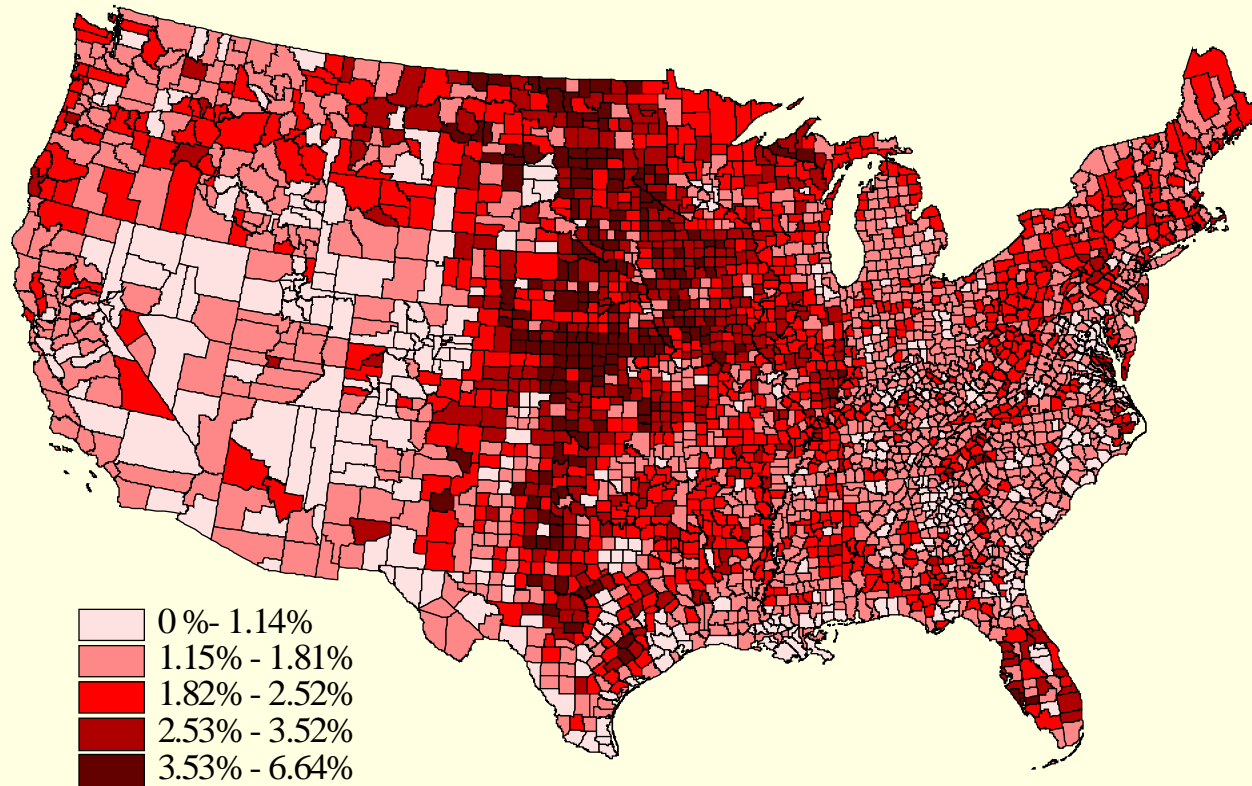
Source: North Dakota State Data Center, North Dakota Population Projections: 2005 to 2020, Sept. 2002



The Elderly – 85 plus

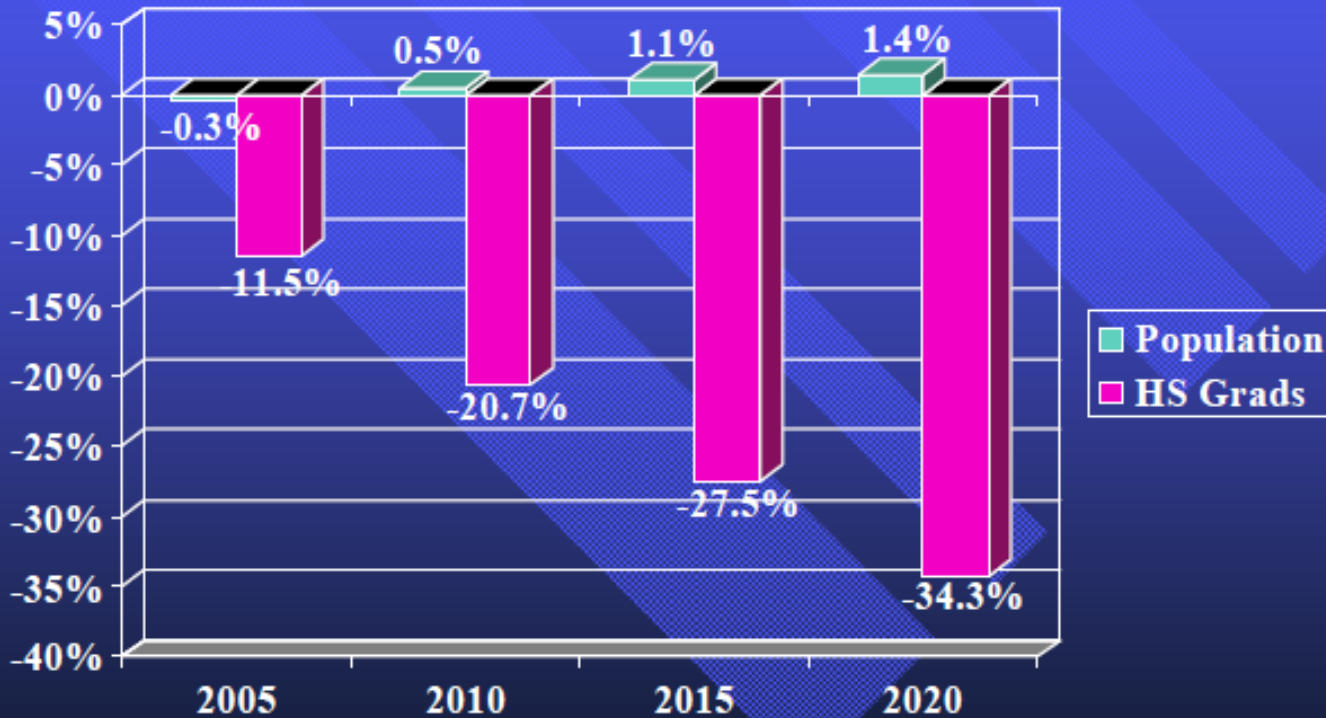
Persons Age 85 and Older as a Percentage of Total Persons by State: 2000

Source: U.S. Census Bureau.



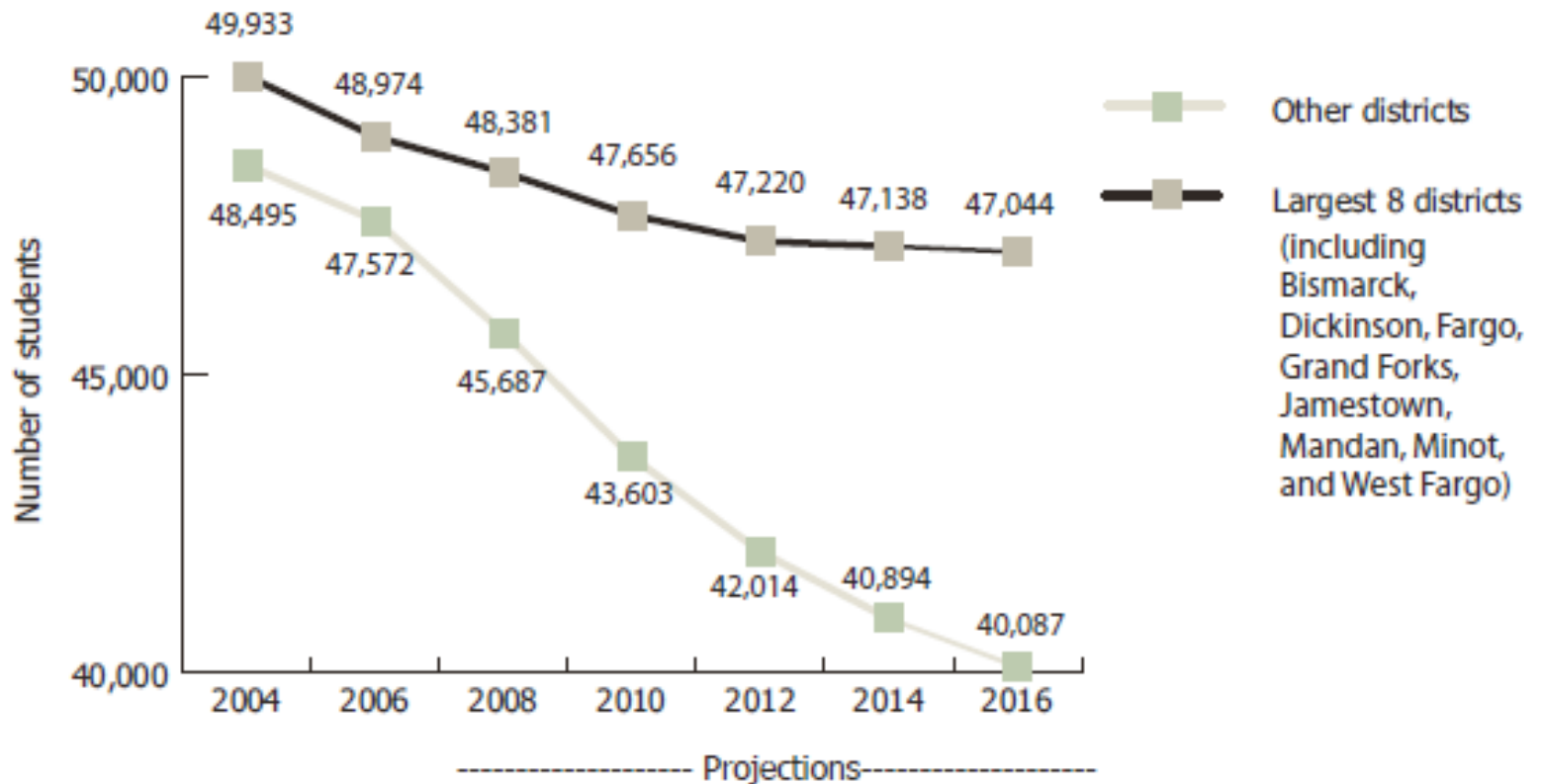
North Dakota

Projected Change in Population and High School Graduates Based on 2000 Census



Source: North Dakota State Data Center and WICHE

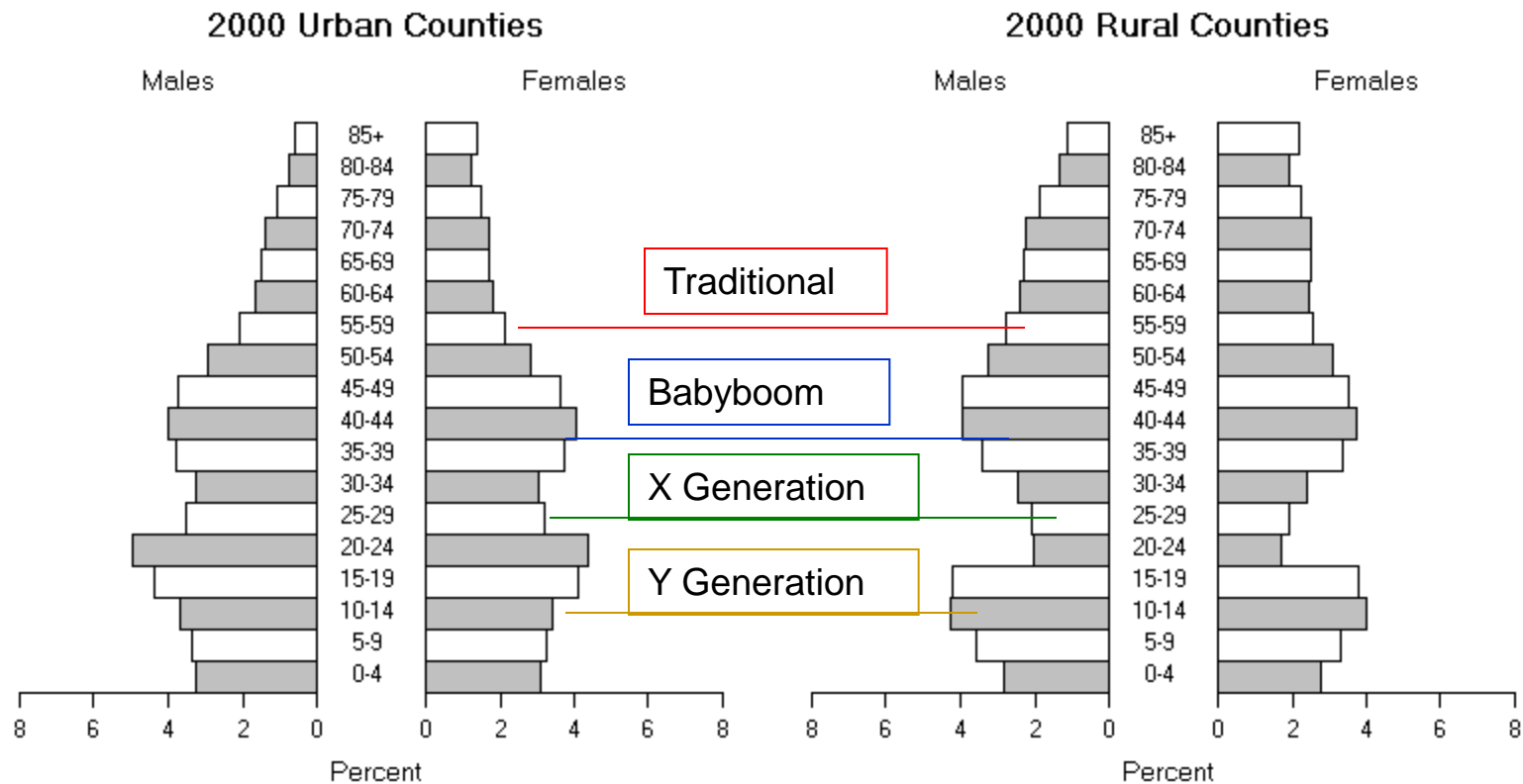
North Dakota Public K-12 Enrollment, 2004-2006 and 2008-2016 Projections



Source: ND Department of Public Instruction

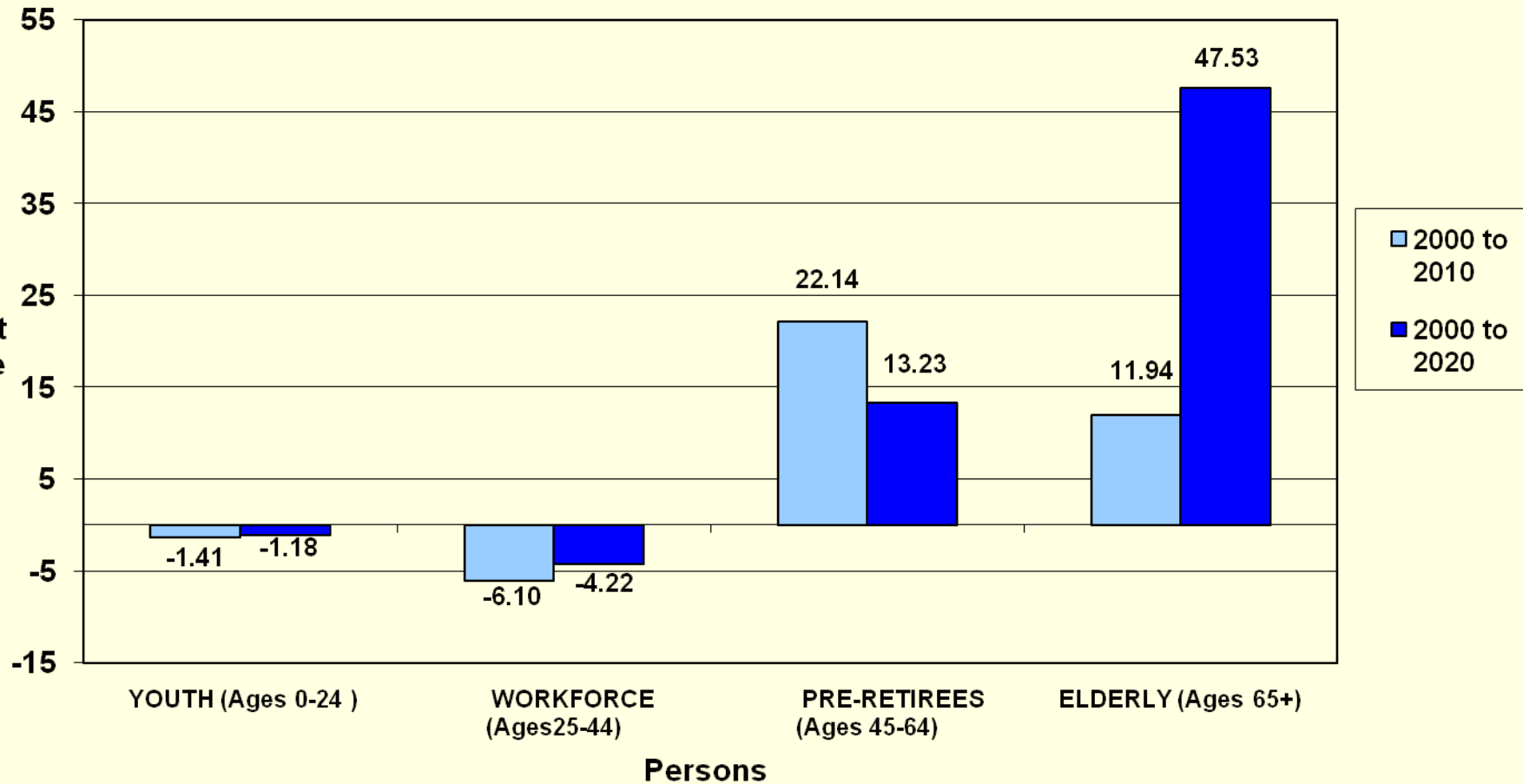
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2000 Census – Rural and Urban Population Distributions by Age and Gender for North Dakota

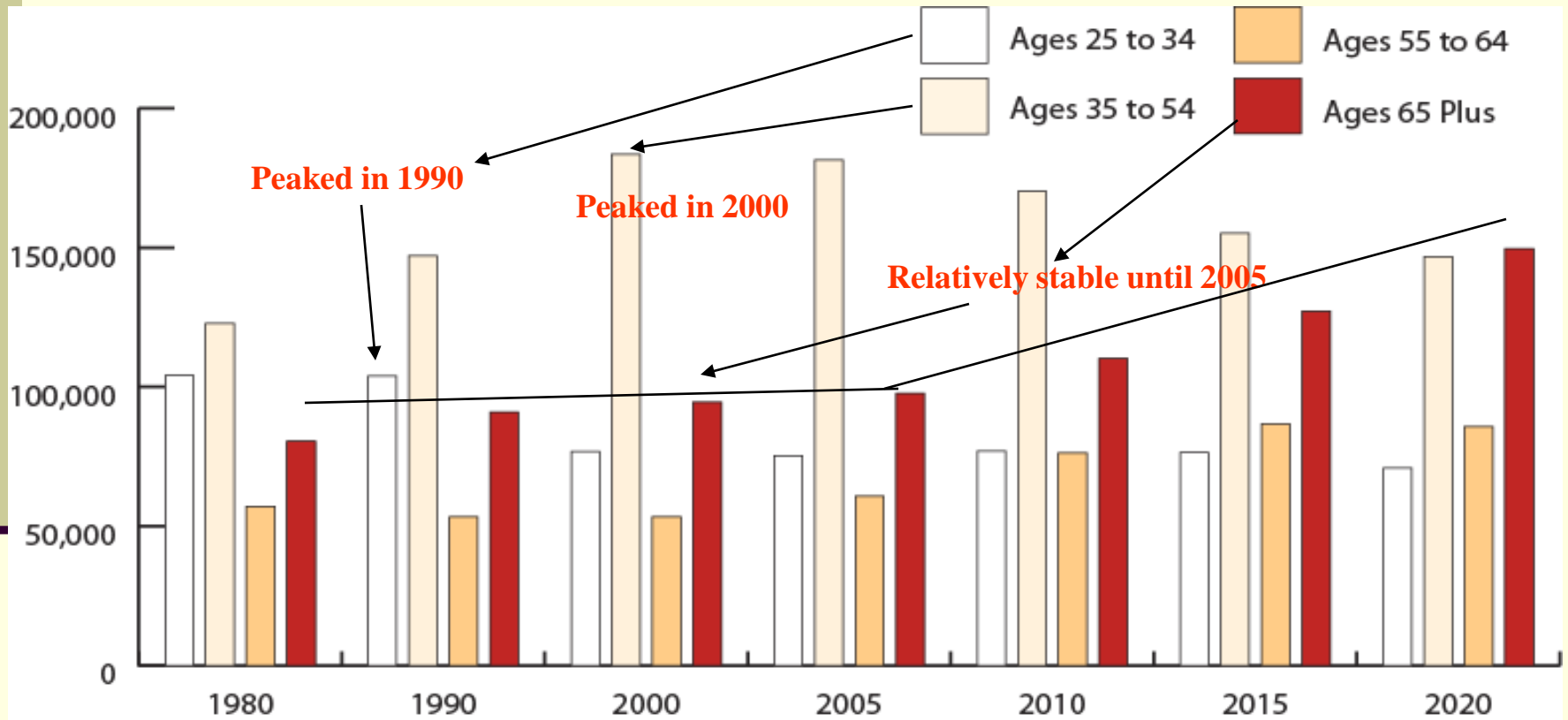


PERCENT CHANGE IN PERSONS: 2000 to 2010 & 2000 to 2020

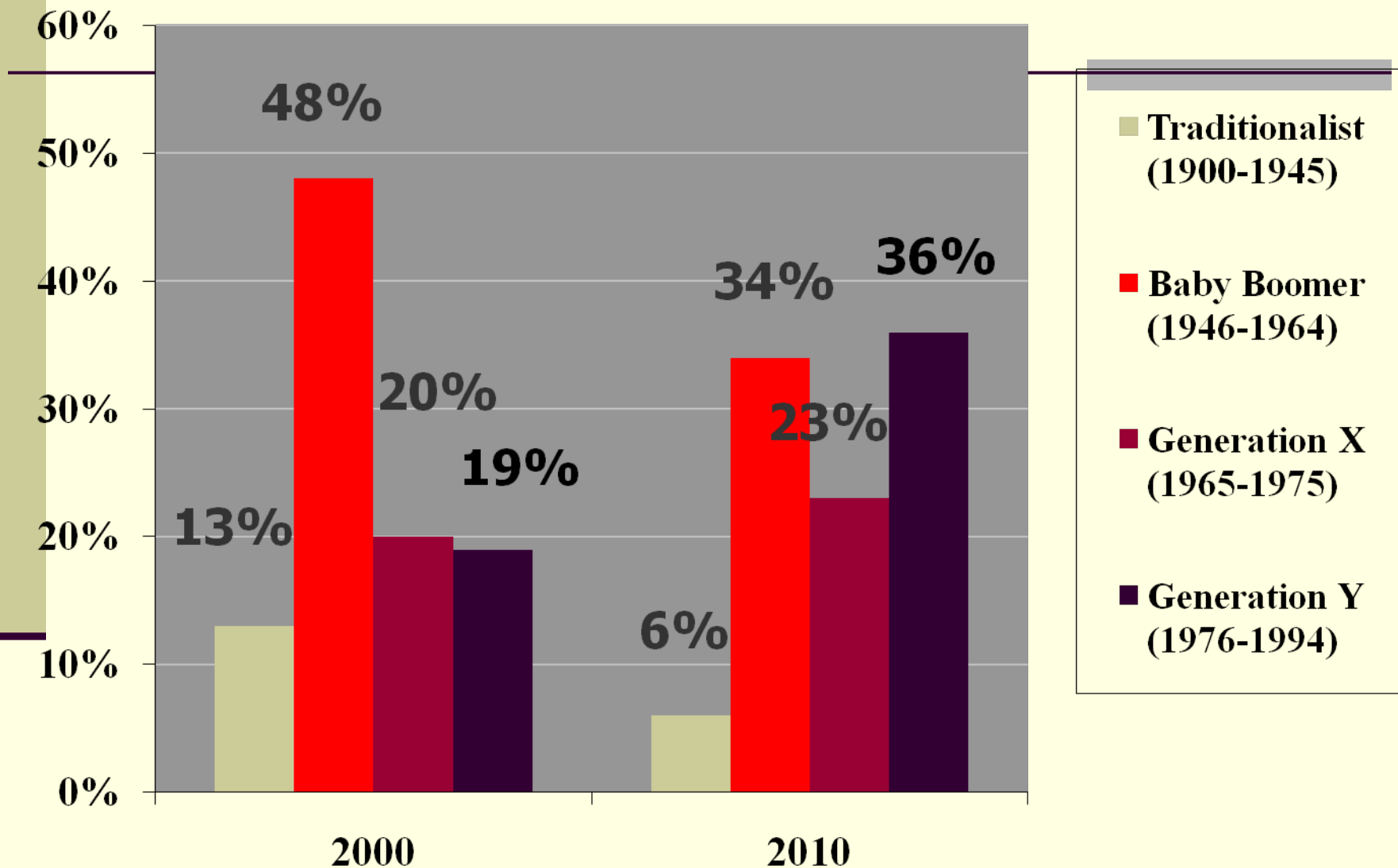
(Source: U.S. Census Bureau)



Population Distribution by Age of Earner in North Dakota: 1980-2020



N.D. Labor Force, by Generation



Prepared by the North Dakota State Data Center
March 2010

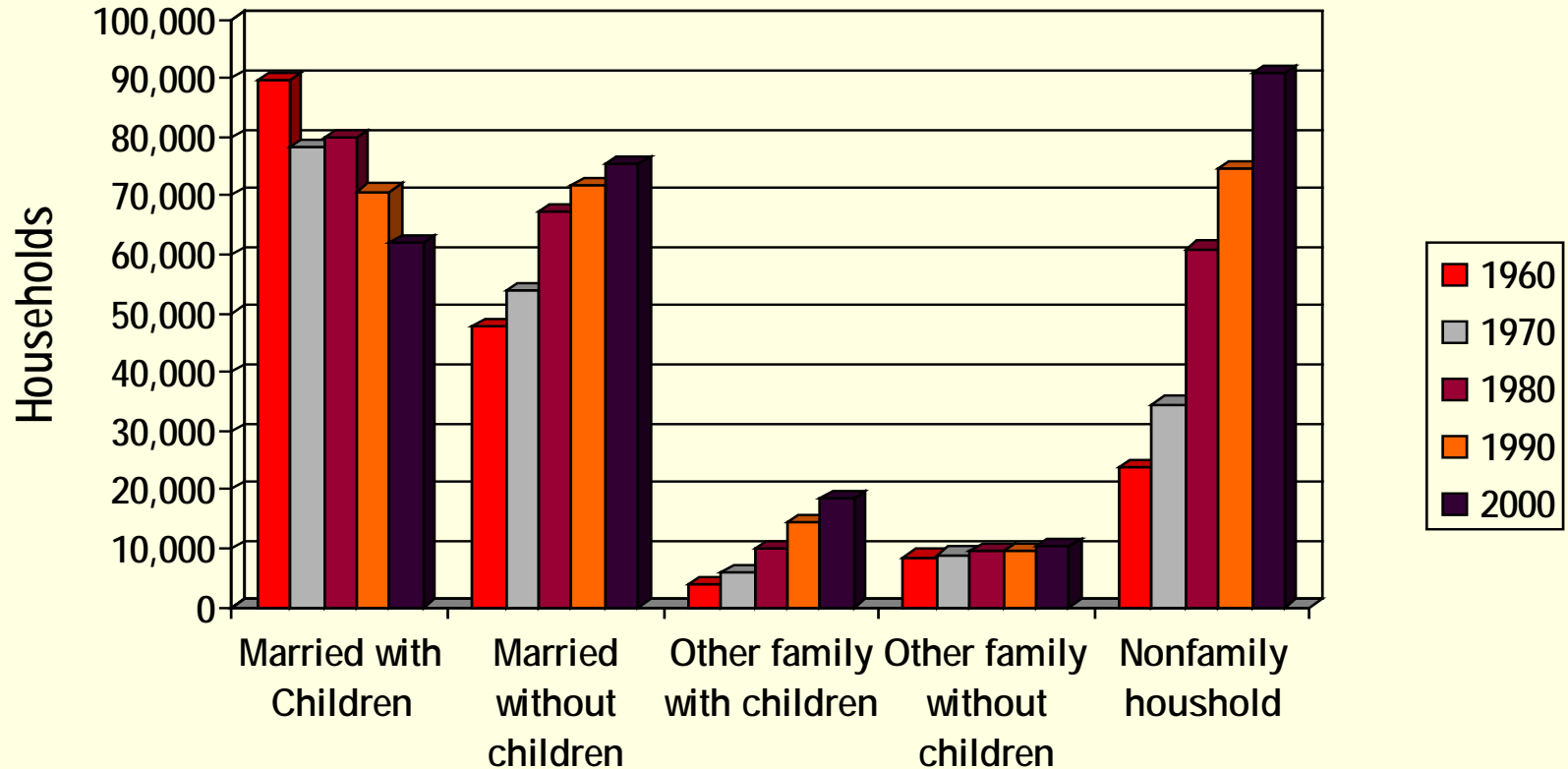
Source: Census Bureau & North Dakota
State Data Center

Key Demographic Drivers

3. Changing household composition

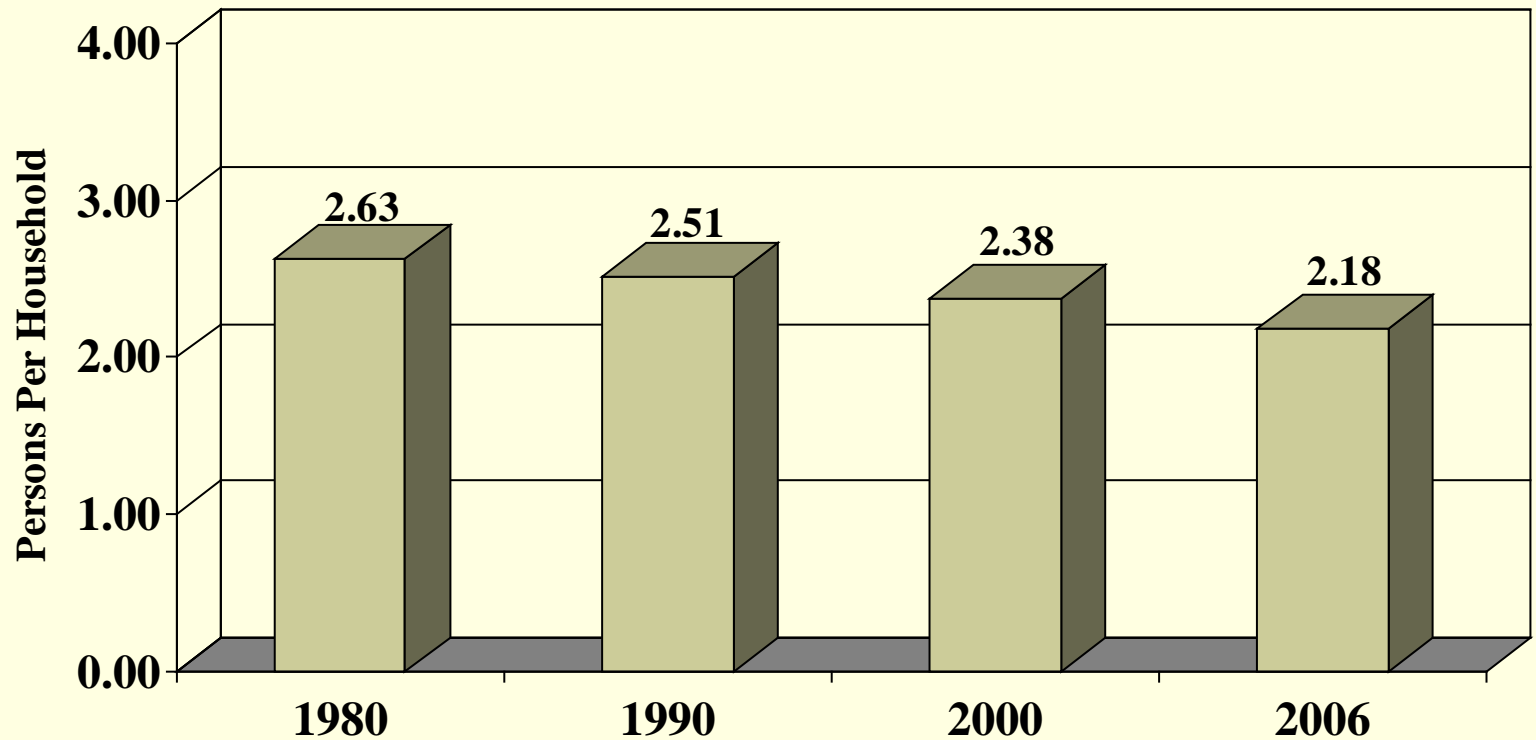
Households by Type

North Dakota Households by Type: 1960 to 2000



Persons Per Household

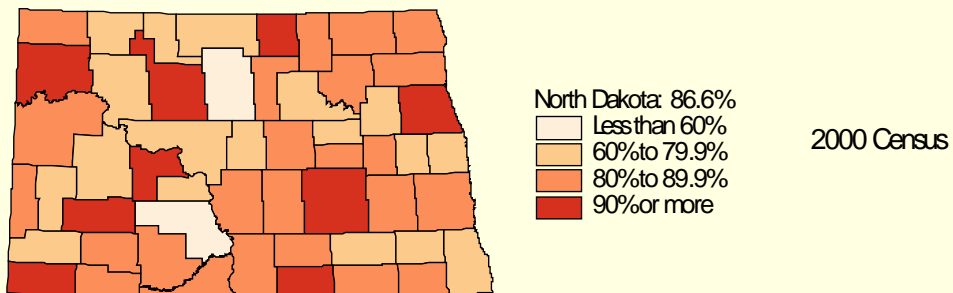
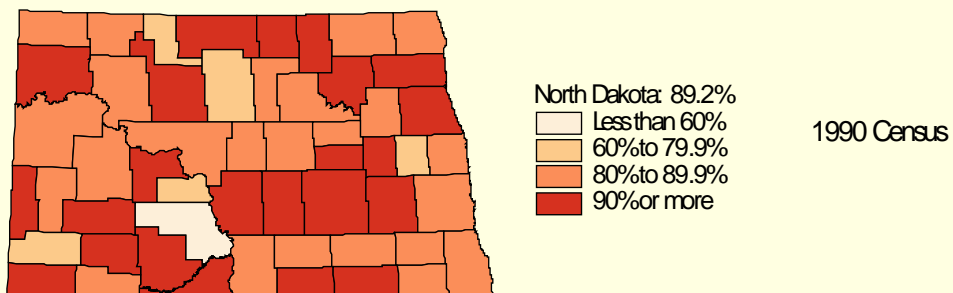
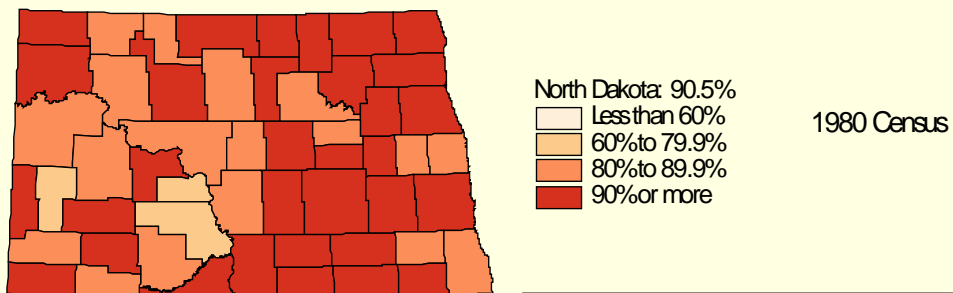
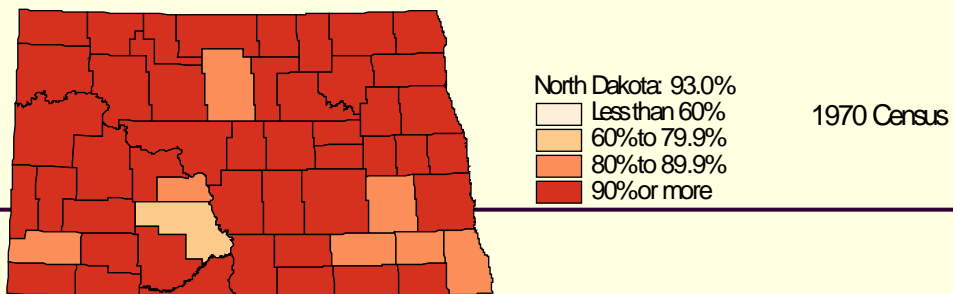
Fargo-Moorhead Area Household Size



Interface Between Population and Transportation

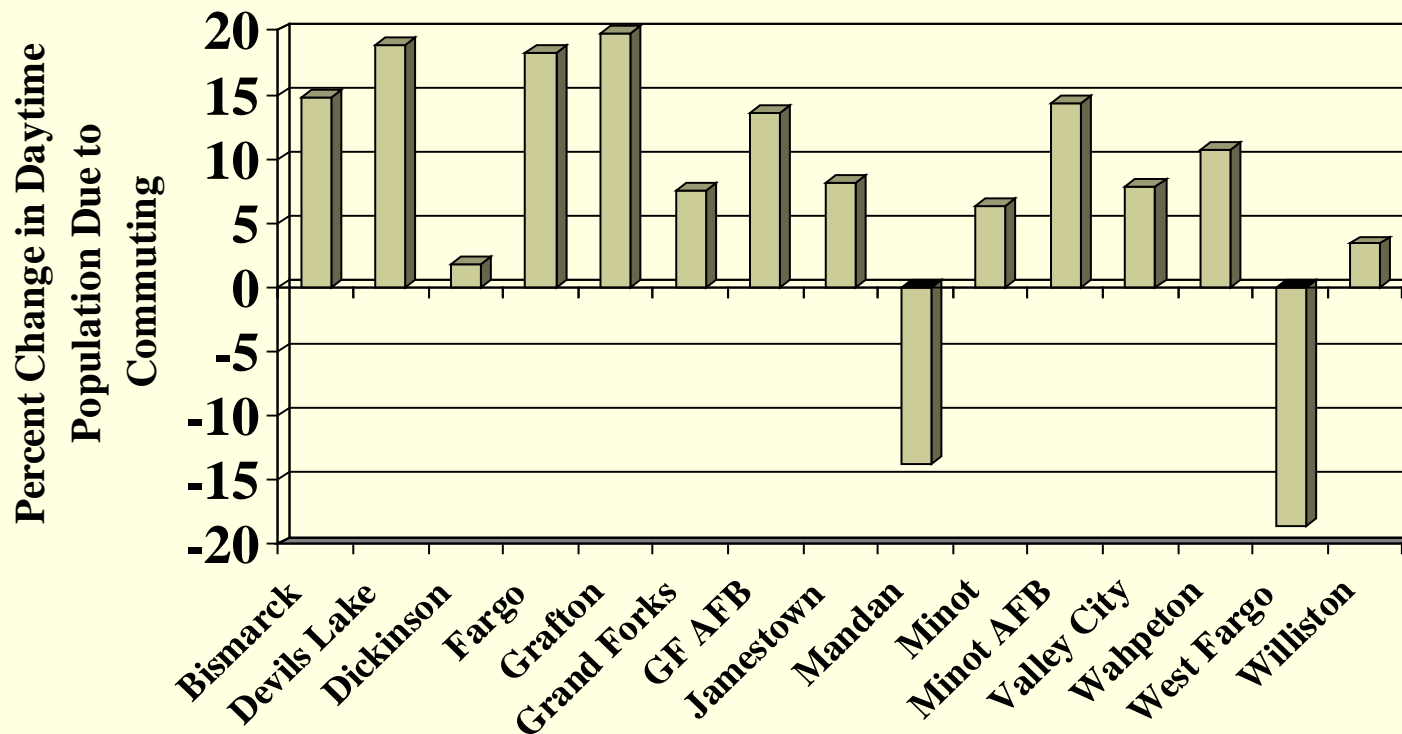
1. Commuting patterns
2. Challenges in service delivery
3. Senior transportation

Percentage of Resident Workers Who Work in County of Residence: 1970 to 2000



Commuting's Impact on Daytime Population: Census 2000

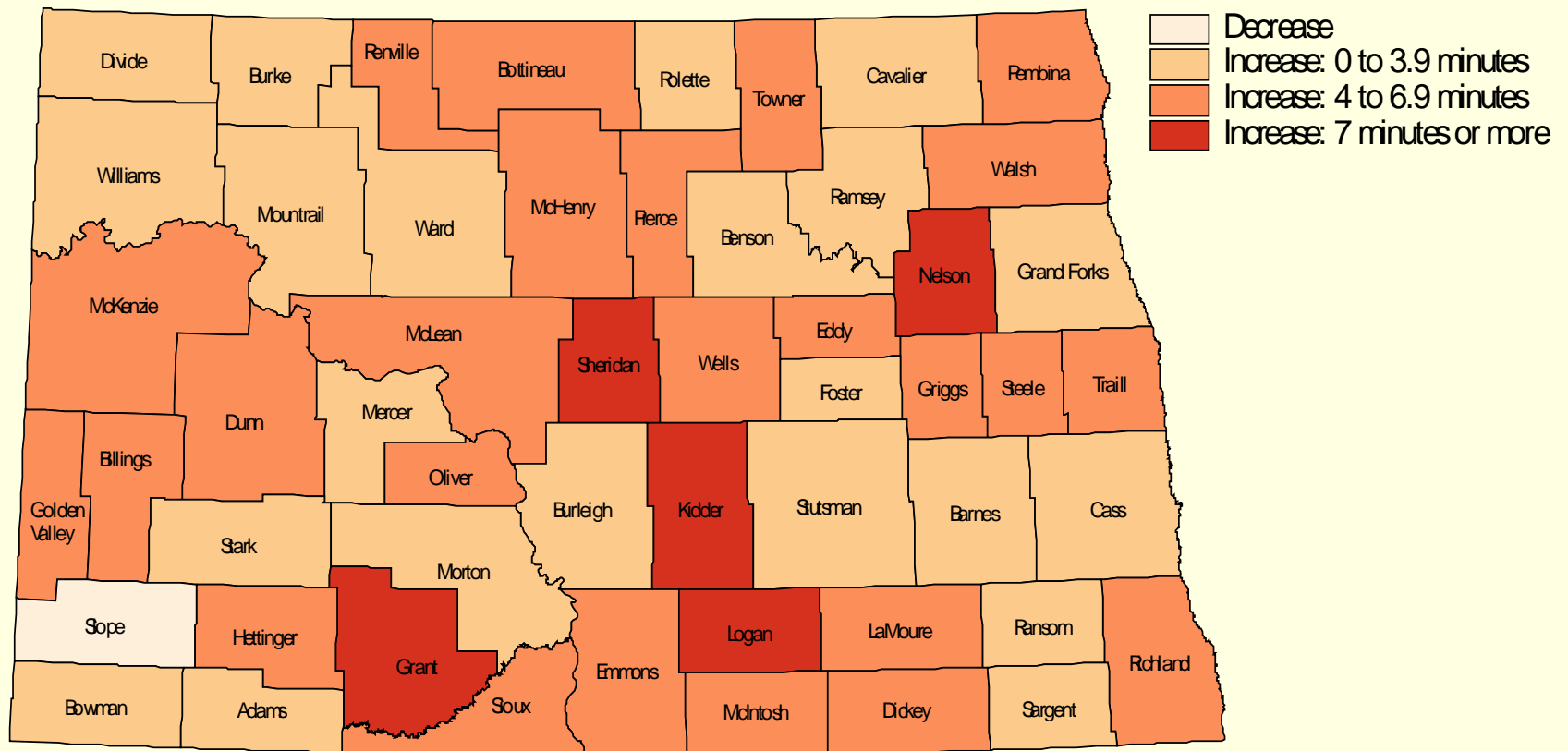
Figure 1. Percent Change in Daytime Population Due to Commuting in North Dakota Cities with at least 2,500 Workers: 2000



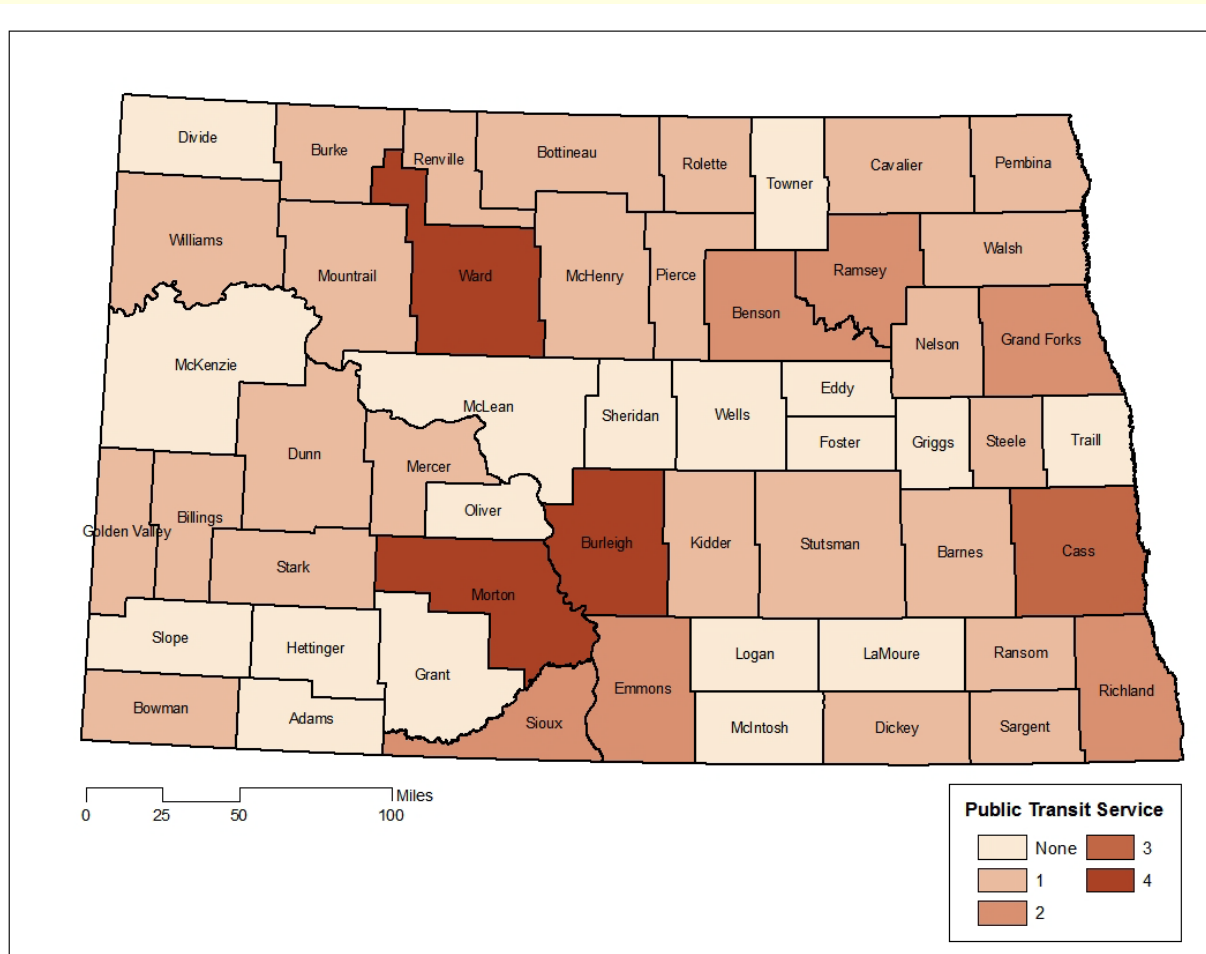
Note: Daytime population refers to the number of people, including workers, who are present in an area during normal business hours.
Source: U.S. Census Bureau, Census 2000 Sample Data, www.census.gov/population/www/socdemo/daytime/daytimepop.html

Mean Travel Time to Work

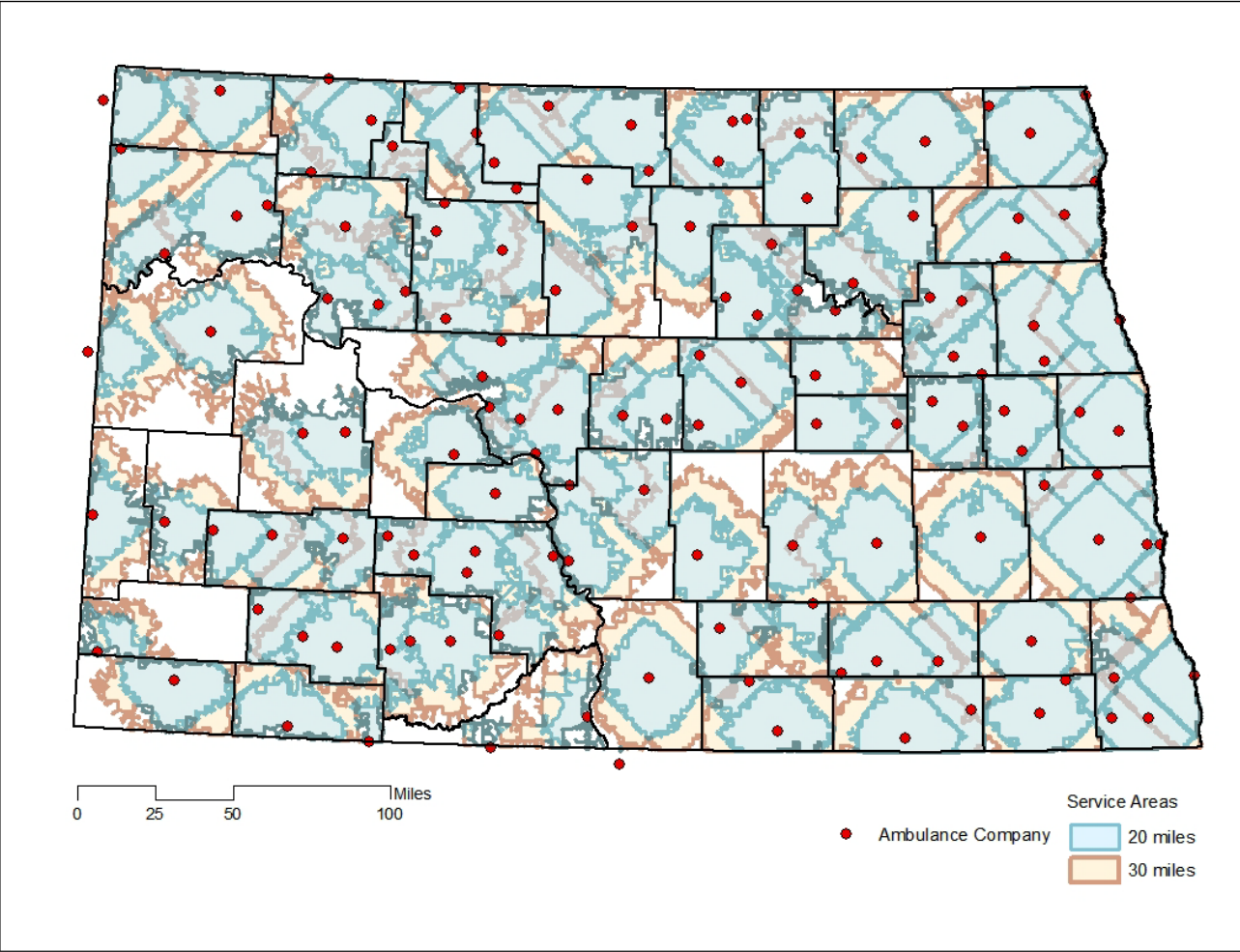
Change in Mean Travel Time to Work in North Dakota by County: 1990 to 2000



Public Transit Service

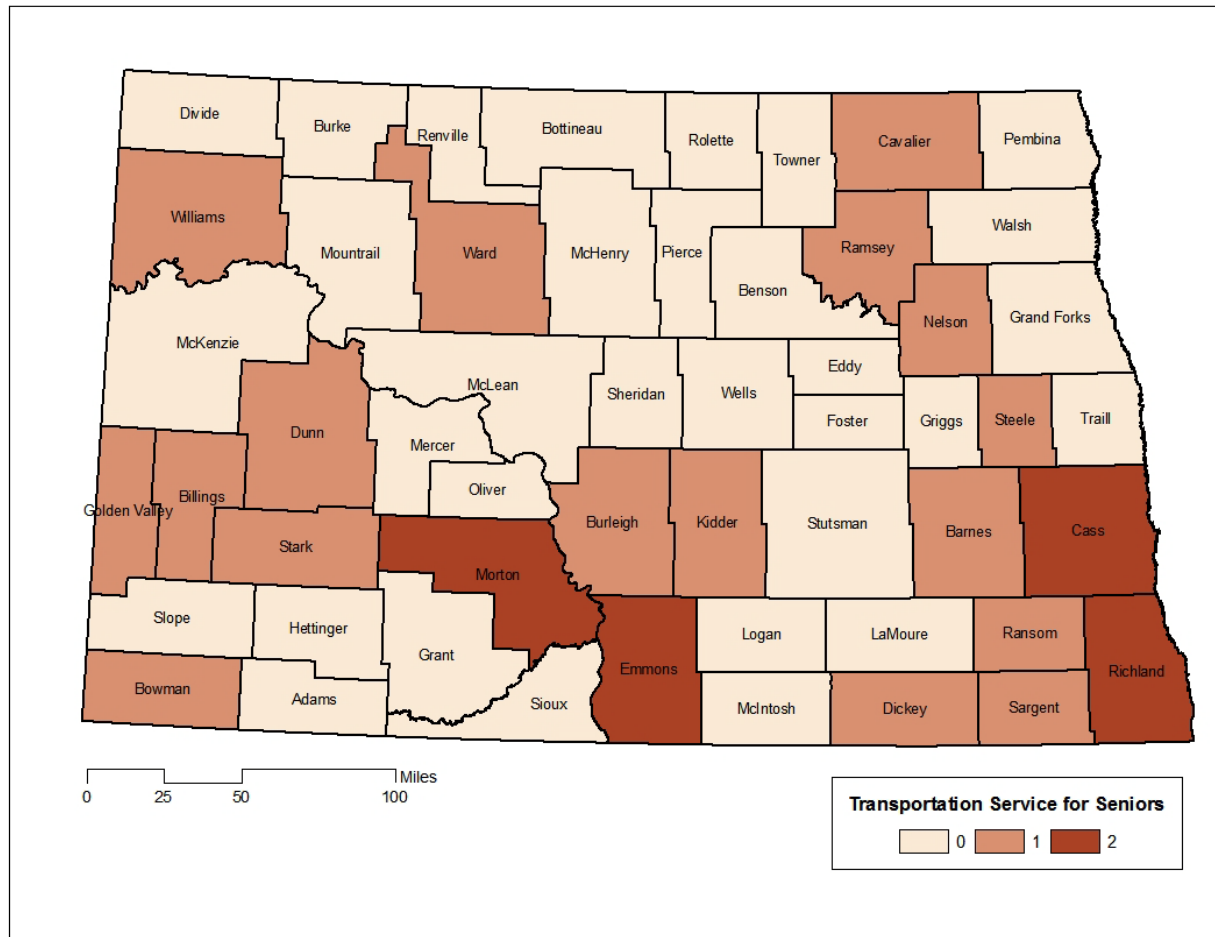


Ambulance company's service areas



Source: Division of EMS and Trauma, ND Dept. of Health

Transportation Service for Seniors



Demographic Presentation 2010

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