

# 2012 North Dakota Housing Needs Assessment

North Dakota Association of Builders

Annual Meeting

Fargo, ND

November 15, 2012

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1

# Presentation Objectives:

1. To review the findings of the 2012 Housing Needs Assessment – Housing Forecast
2. To provide a briefing of the results from the survey of key housing stakeholders.
3. To highlight key housing priority areas.

# Components of the 2012 Housing Needs Assessment

1. Housing Forecast
2. Supplement Detailed Tables
3. Survey of Stakeholders
4. Statewide Housing Assessment  
Resource Project (SHARP) website

Available at: [www.hdhfa.org](http://www.hdhfa.org)

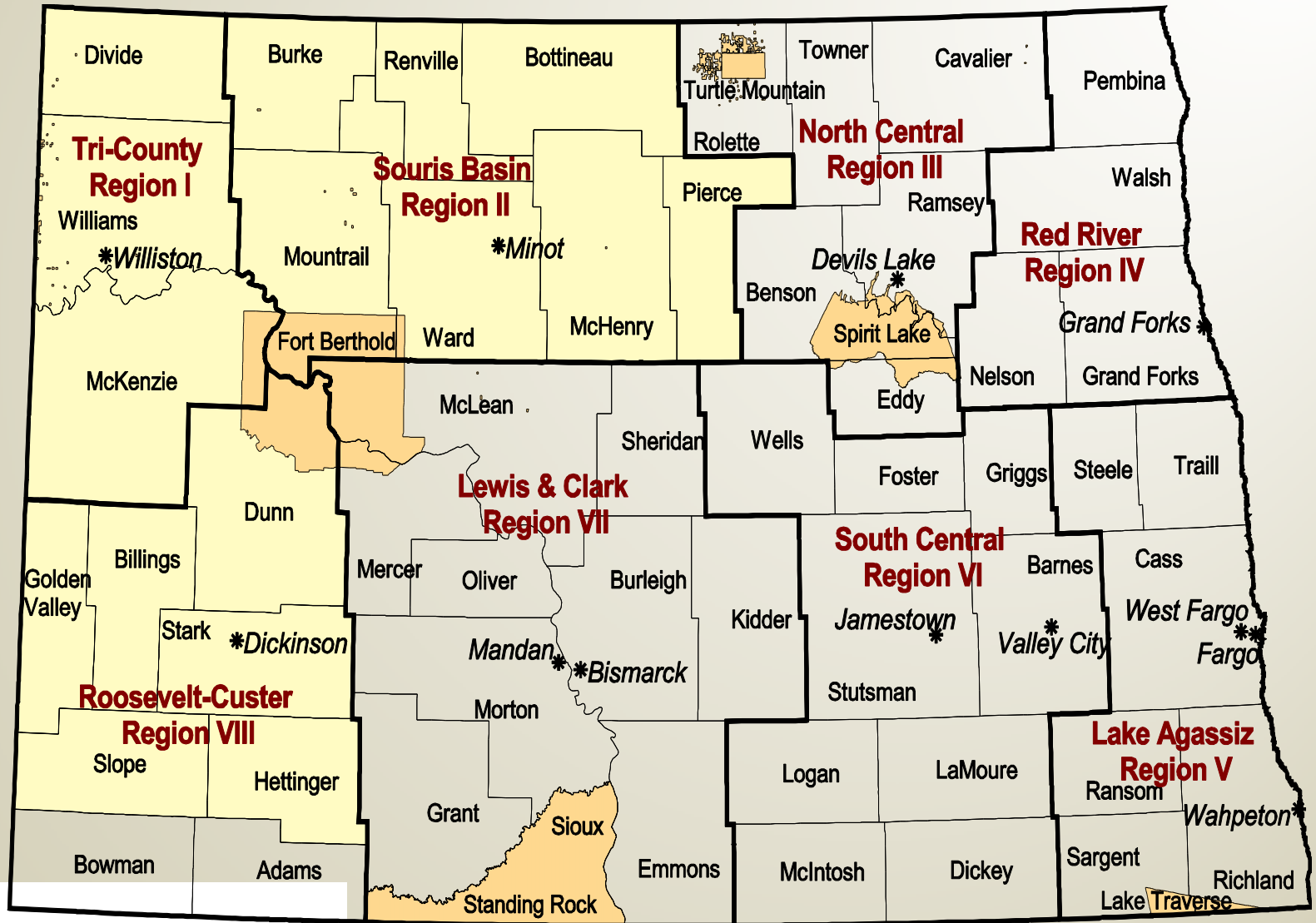
# Organization of the Housing Forecast report:

1. Statewide context of important trends affecting housing
2. Discussion of current population dynamics and corresponding shifts in housing
3. Forecast of future housing needs

# Topics covered in the Housing Needs Assessment

- Demographic/economic trends
- Housing stock
- Affordable housing
- Housing conditions
- Special populations
- Housing supply
- Housing demand
- Land use issue

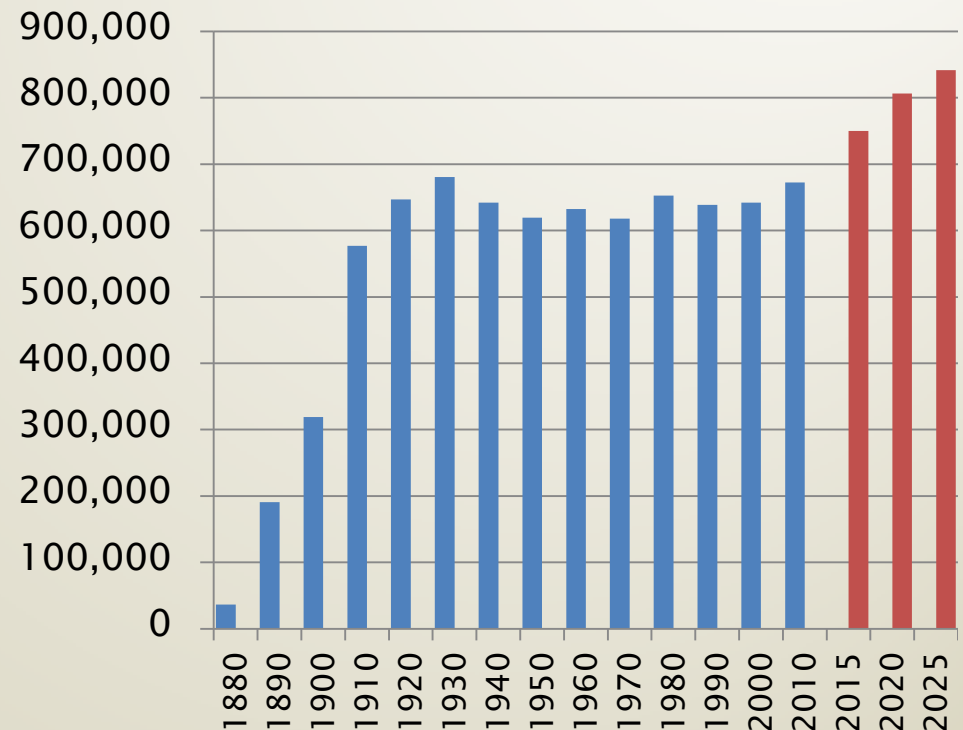
# Geographic Units Used in the Housing Needs Assessment



Oil Impacted Areas

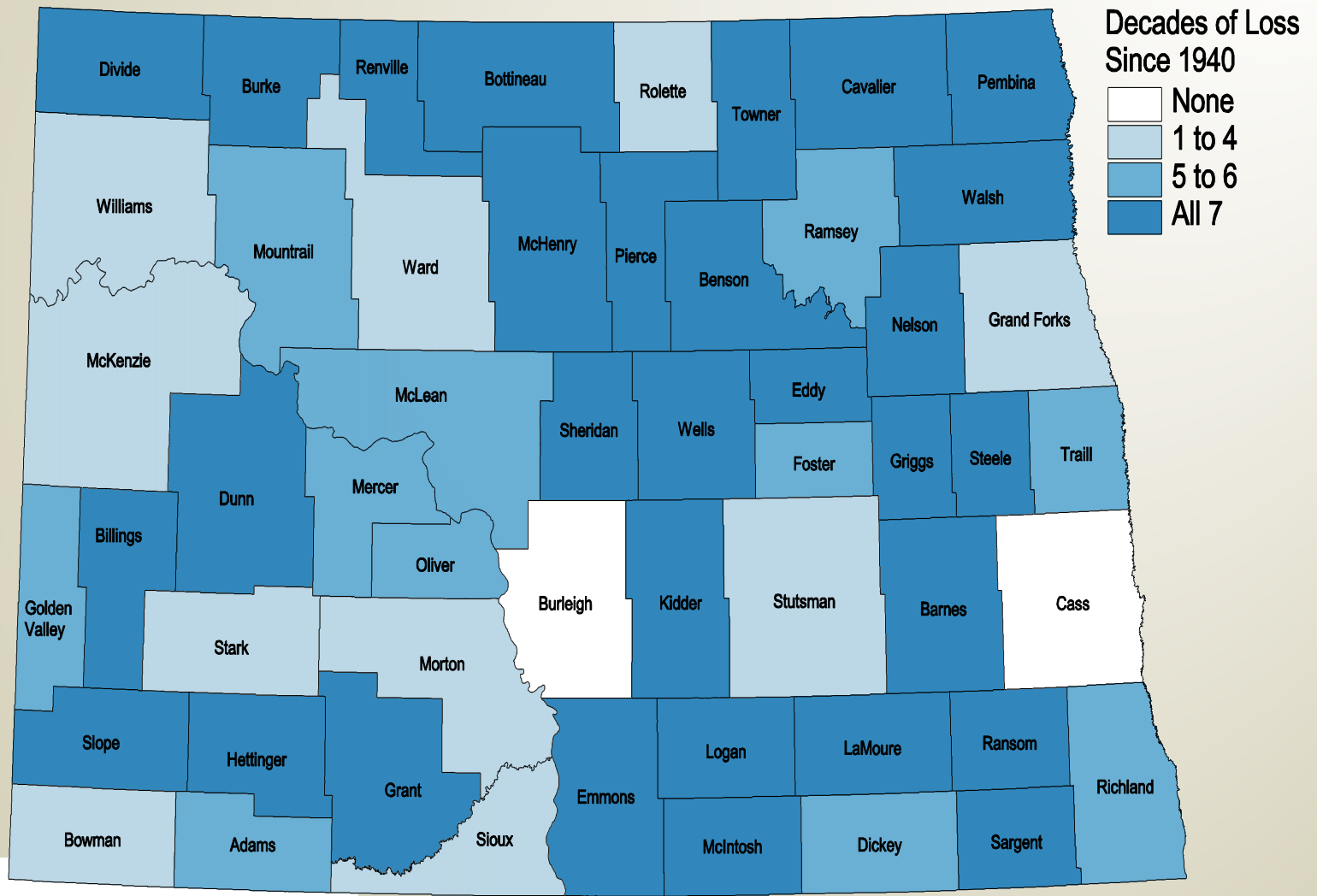
# Population

- ▶ North Dakota's population peaked in 1930 at 680,845.
- ▶ The 2010 Census for North Dakota totaled 672,591, an increase of 30,391 persons from 2000.



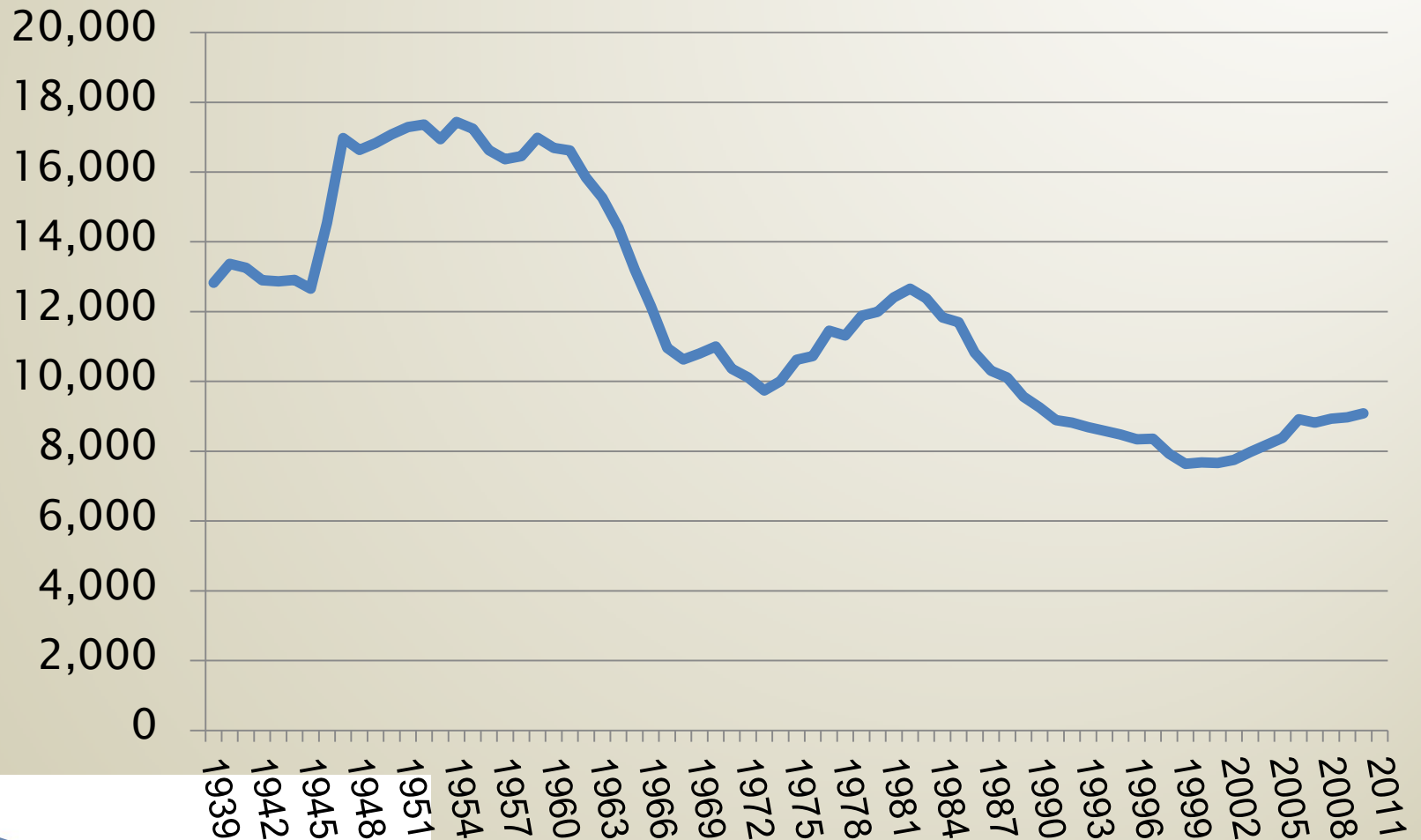
Source: U.S. Census Bureau, Decennial Census and the Population

# Decades of Population Decline for North Dakota by County Since 1940

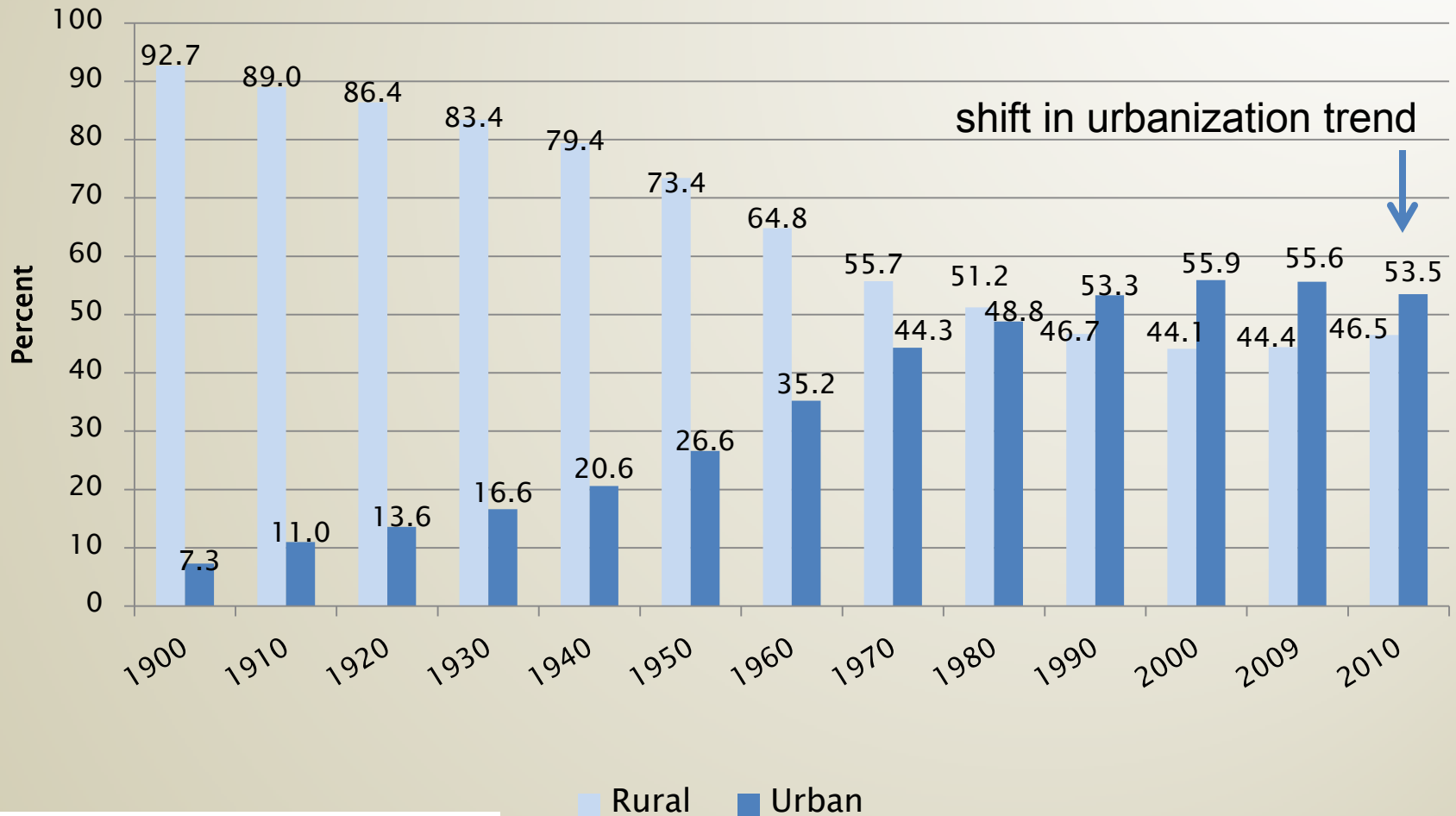




# Resident Births in North Dakota: 1939 to 2011



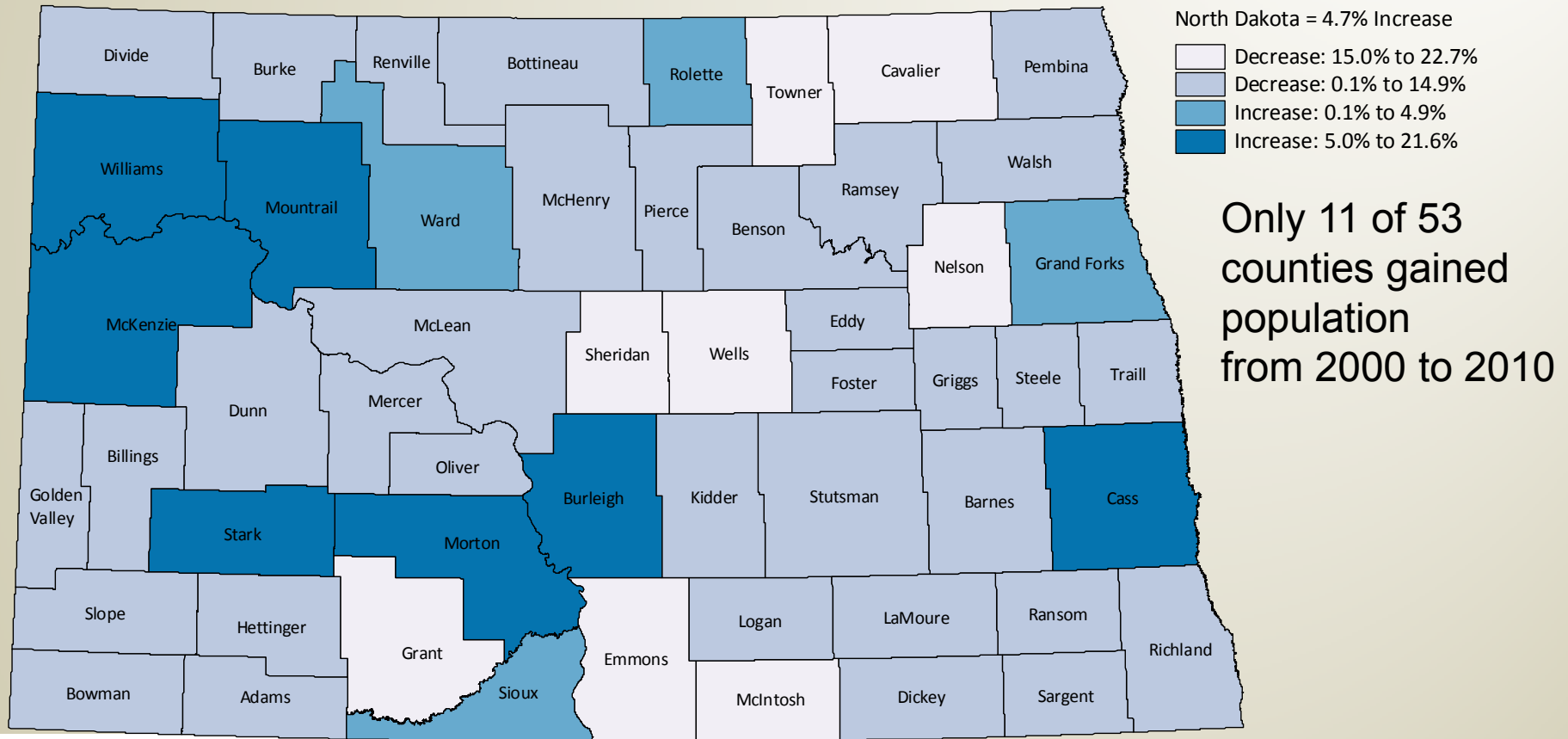
# Rural-Urban Population Distribution for North Dakota: 1900 to 2010



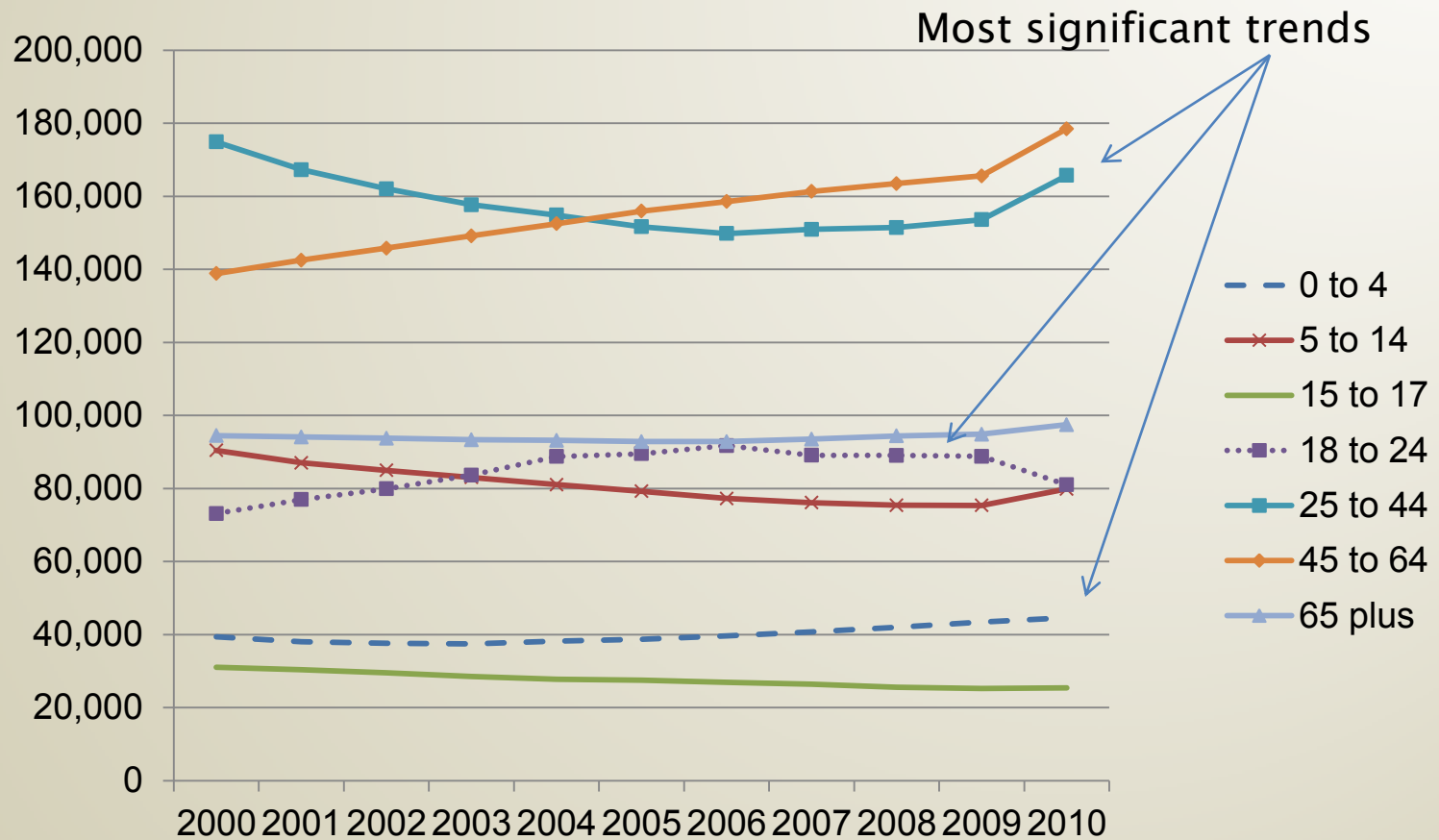
# Population Change 2000 to 2010

Percent Change in Total Population in North Dakota by County: 2000 to 2010

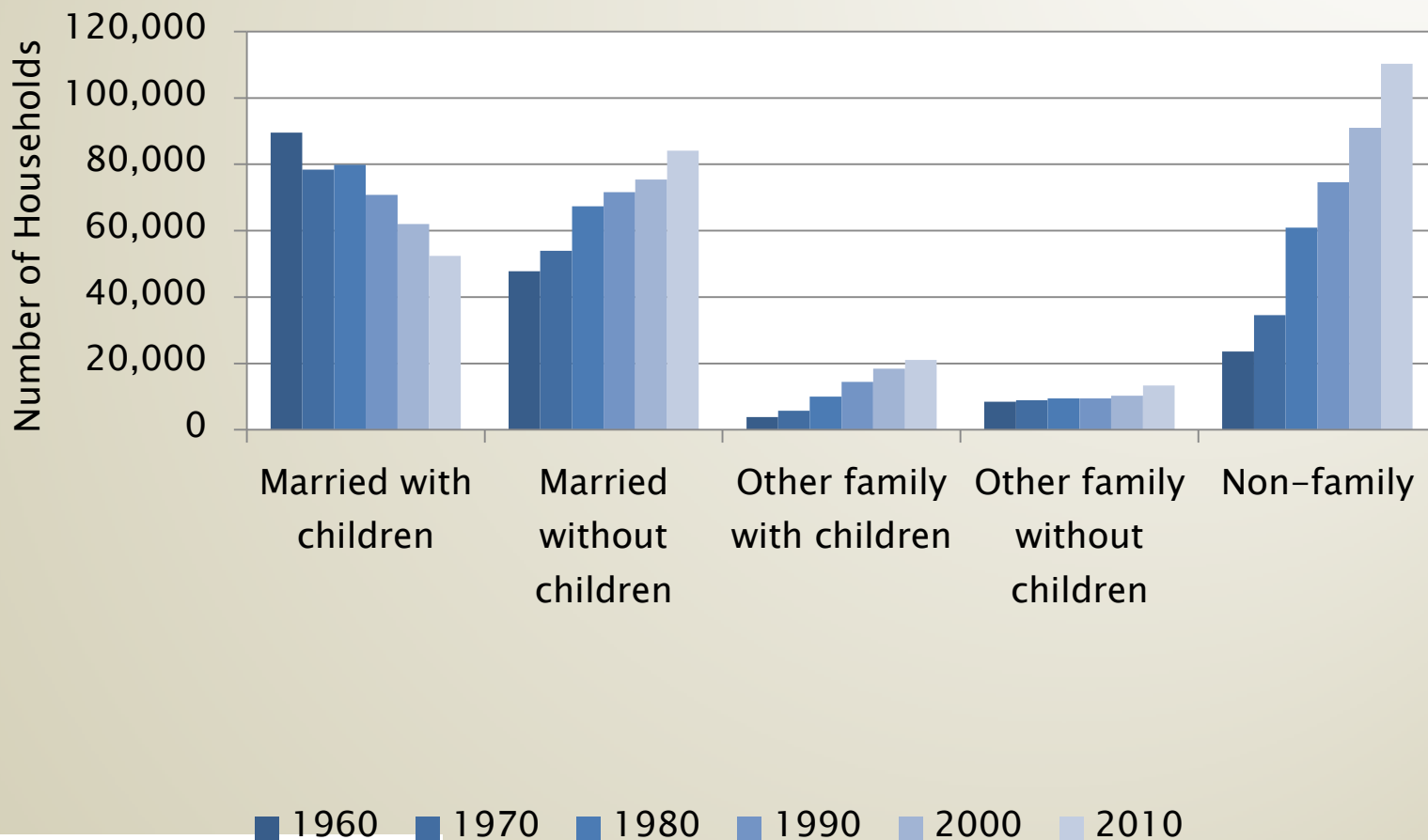
Source: U.S. Census Bureau, Decennial Censuses



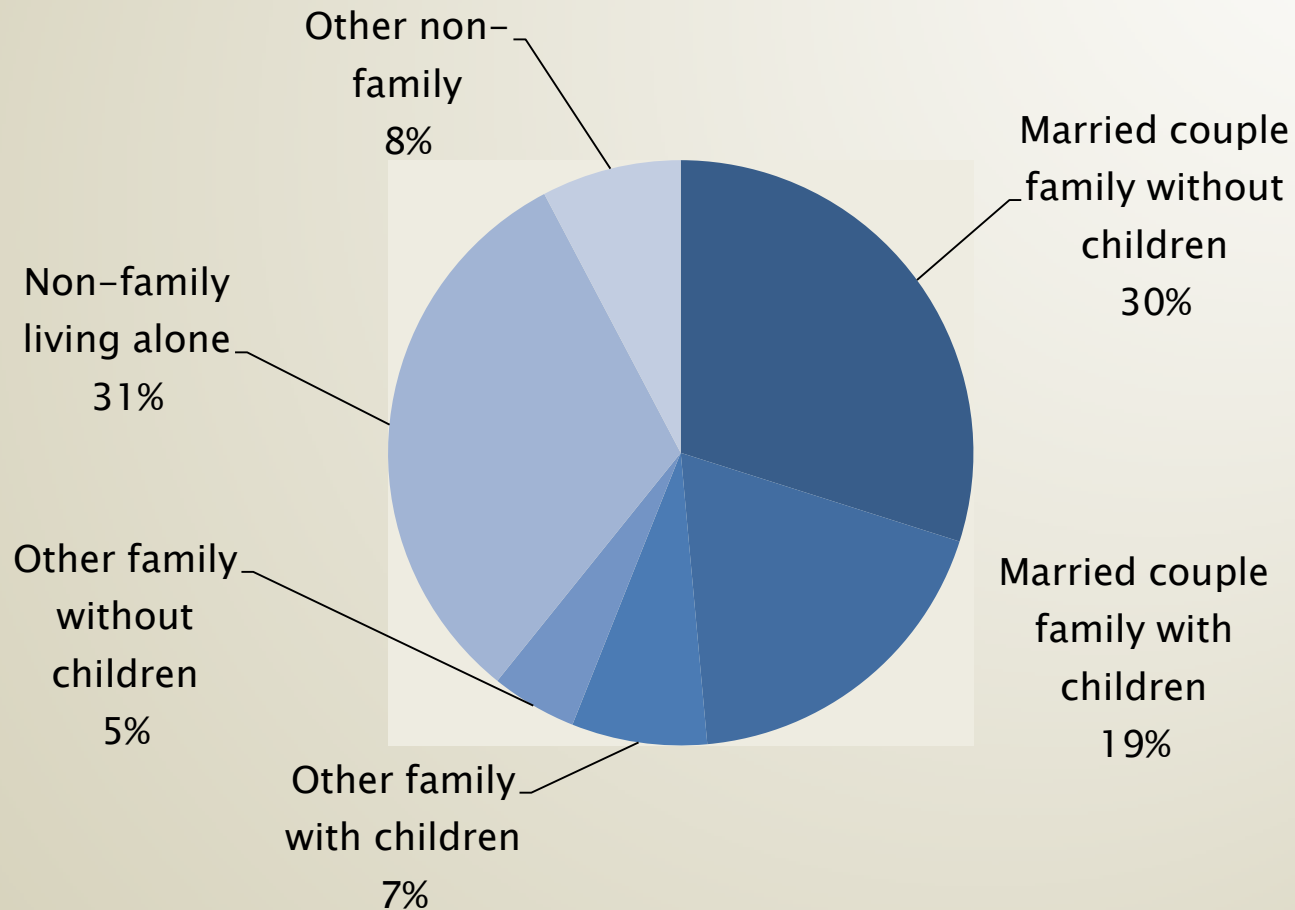
# Age Distribution for North Dakota: 2000 to 2010



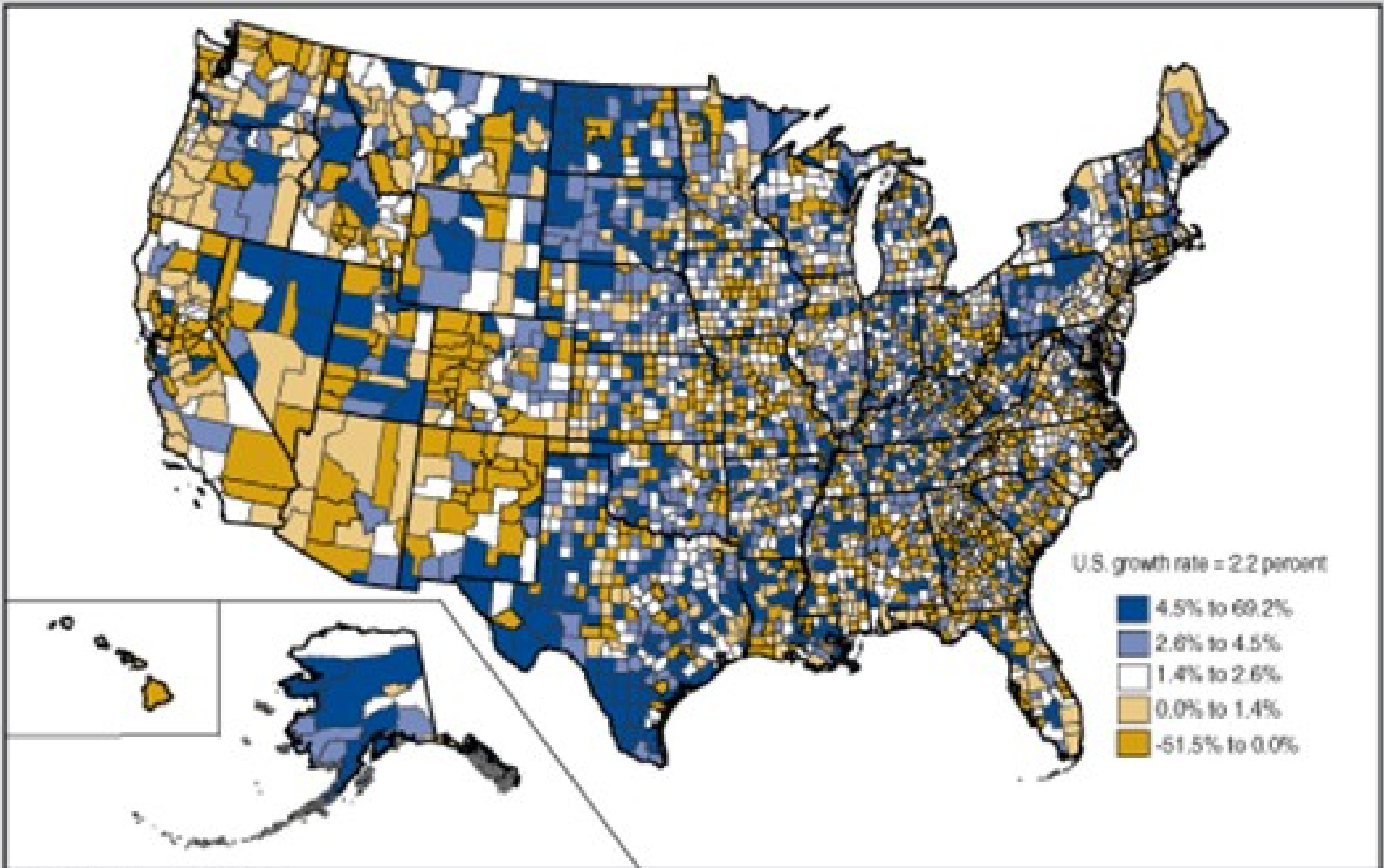
# North Dakota Households by Type and Presence of Children under Age 18, 1960 to 2010



# North Dakota Households by Type, 2010



# Compensation of Employees: Percent Change, 2009 - 2010

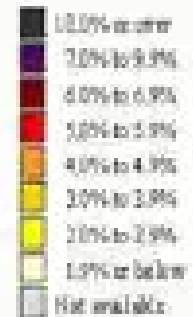
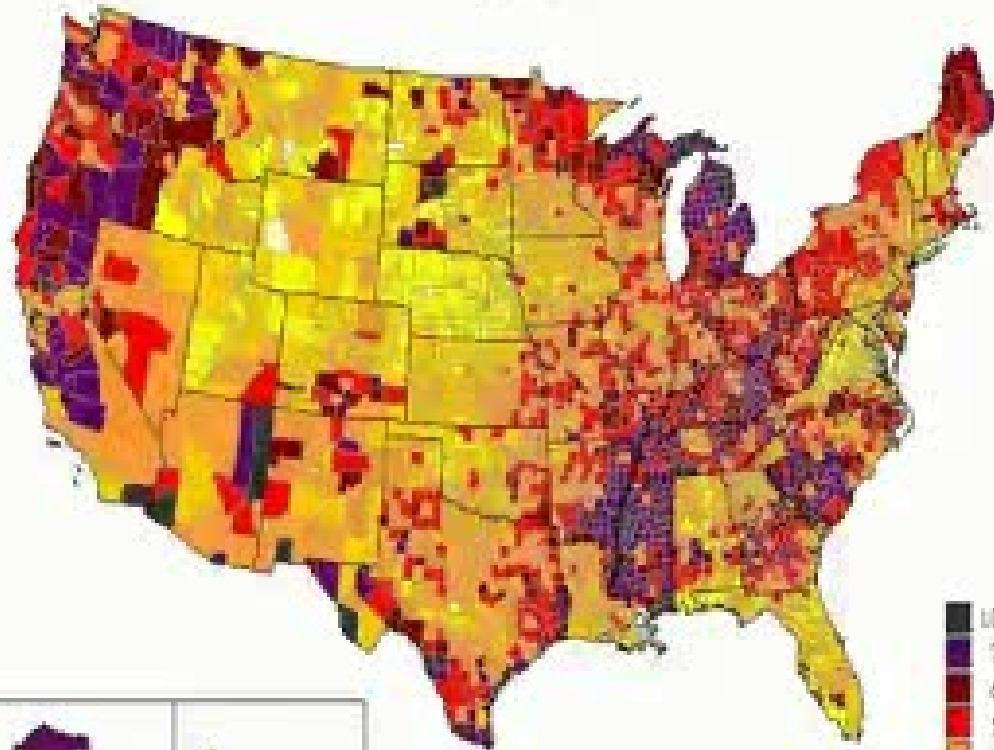


U.S. Bureau of Economic Analysis

# Unemployment Rates by County

January 2007

4.6%



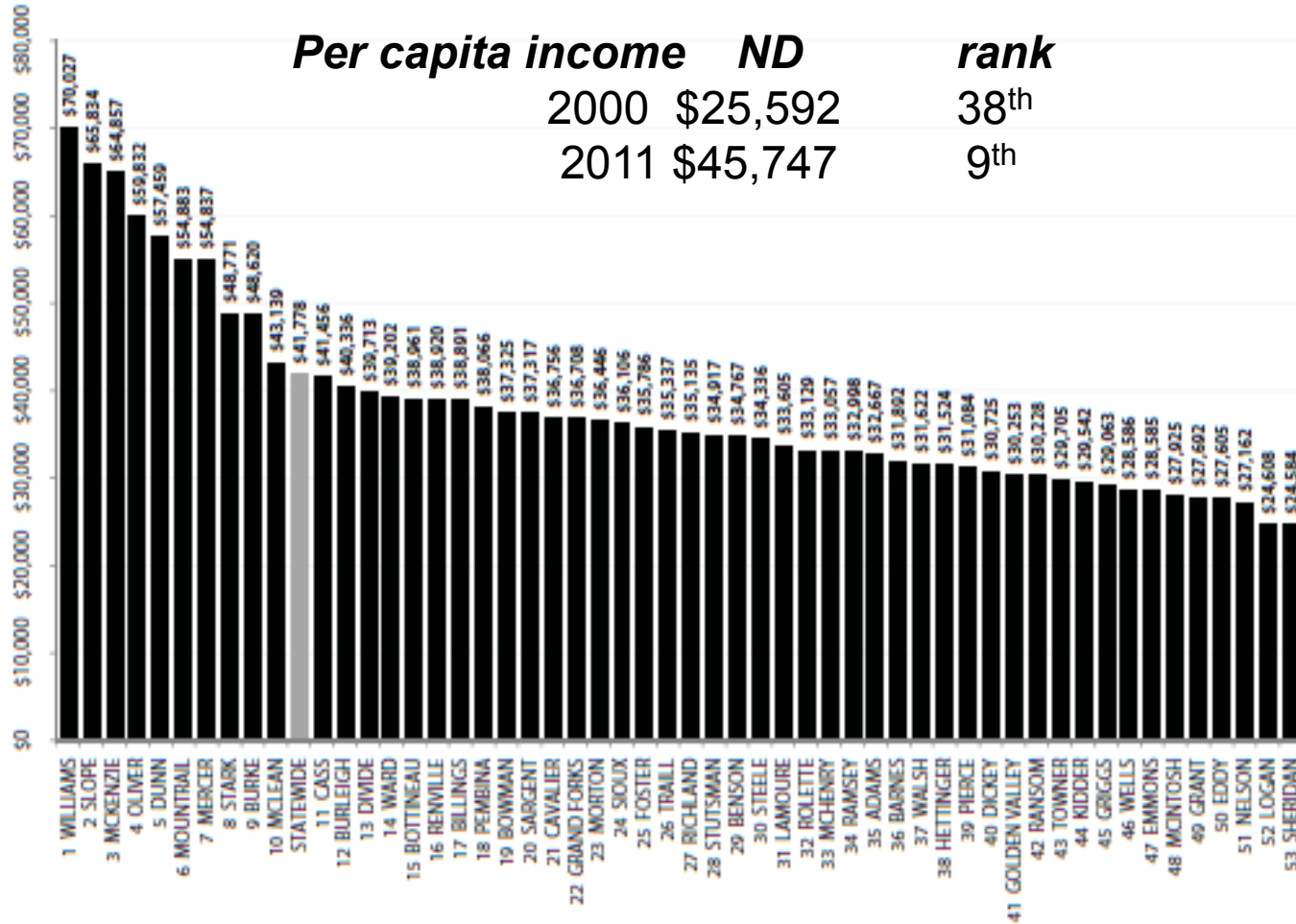
Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Note: Map displays unemployment data as actually published by the Bureau. It represents the unemployment rate by county and is a 12-month average. The national unemployment and US rates are not collected.



# Average Annual Wage in North Dakota, by County: 2011

## AVERAGE ANNUAL WAGE BY COUNTY



Per capita income		ND	rank
2000	\$25,592		38 <sup>th</sup>
2011	\$45,747		9 <sup>th</sup>

Source: Job Services North Dakota

# North Dakota Annual Income Level Category Characteristics, 2010

Characteristic	Income Categories Based on Income as a Percentage of the Median Family Income (MFI) FY 2010 (FY 2010 MFI=\$61,500 in North Dakota)												
	Extremely low: 0% to 30% MFI		Very Low: 31% to 50% MFI		Low Income: 51% to 80% MFI		Moderate: 81% to 115% MFI		Upper: Above 115% MFI		Tax Credit: 51% to 60% MFI		
	From:	To:	From:	To:	From:	To:	From:	To:	From:	To:	From:	To:	
Annual Income Ranges (\$)	\$0	\$18,450	\$18,451	\$30,750	\$30,751	\$49,200	\$49,201	\$70,725	\$70,726	and above		\$30,751	\$36,900
Monthly Affordable Housing Costs (\$)	\$0	\$461	\$462	\$769	\$770	\$1,230	\$1,231	\$1,768	\$1,769	and above		\$770	\$923
Affordable Purchase Price (\$)	\$37,741		\$62,845		\$100,665		\$144,923		\$174,814		\$75,738		
% of Owner-Occupied Housing Units That Are Affordable	16.2%		28.9%		56.6%		67.3%		77.5%		33.8%		
% of Renter-Occupied Housing Units That Are Affordable	35.2%		75.4%		87.7%		90.1%		90.1%		84.1%		

Sources: U.S. Department of Housing and Urban Development and the Center for Social Research at NDSU

43% in 2004

83% in 2004

69% in 2004

91% in 2004

96% in 2004

86% in 2004

# North Dakota Elderly Householders Burdened by Housing Costs (30% or More of Income toward Housing Costs) by Tenure, 2000 and 2010

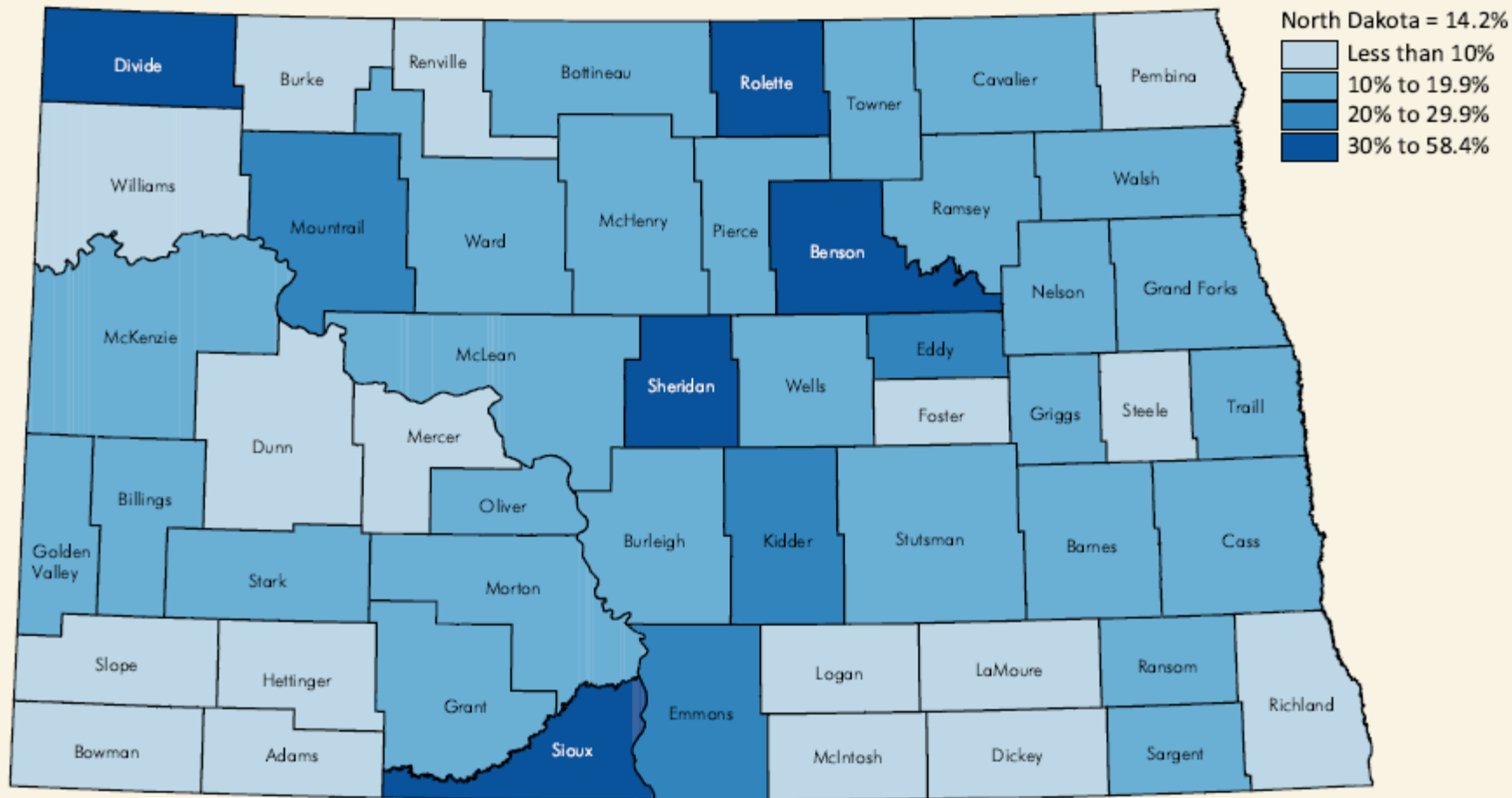
	2000		2010	
	Owner-Occupied Households	Renter-Occupied Households	Owner-Occupied Households	Renter-Occupied Households
All householders 65 and older	32,980	16,124	44,819	16,449
Cost-burdened	5,087	6,129	9,713	8,080
Percent	15.4%	38.0%	21.7%	49.1%

Source: U.S. Census Bureau

41% increase

29% increase

# Percent of Children Ages 0 to 17 Living in Poverty in North Dakota: 2010



Source: U.S. Census Bureau, 2006-2010 American Community Survey 5-Year Estimates, B17001

# Needed Beds for North Dakota Homeless, July 27, 2011

Area	Needed Beds as of July 27, 2011							
	Emergency Shelter		Transitional Housing		Permanent Supportive Housing		Total	
	Number	% of Regional Total	Number	% of Regional Total	Number	% of Regional Total	Number	% of Regional Total
North Dakota	385	25.6%	460	30.6%	660	43.9%	1,505	100.0%
Region I	125	68.7%	41	22.5%	16	8.8%	182	100.0%
Region II	44	21.0%	120	57.1%	46	21.9%	210	100.0%
Region III	50	62.5%	10	12.5%	20	25.0%	80	100.0%
Region IV	31	25.0%	11	8.9%	82	66.1%	124	100.0%
Region V	21	5.5%	29	7.7%	329	86.8%	379	100.0%
Region VI	10	23.3%	9	20.9%	24	55.8%	43	100.0%
Region VII	60	29.3%	65	31.7%	80	39.0%	205	100.0%
Region VIII	44	15.6%	175	62.1%	63	22.3%	282	100.0%

# North Dakota Housing Supply by Occupancy Status and Tenure, 1990, 2000, and 2010

Occupancy and Tenure	1990	2000	2010	% Change: 2000-10
Total housing units	276,340	289,677	317,498	9.6%
Occupied housing units	240,878	257,152	281,192	9.3%
Owner-occupied	157,950	171,310	183,943	7.4%
Percent of all occupied housing	65.6%	66.6%	65.4%	-1.8%
Renter-occupied	82,928	85,842	97,249	13.3%
Percent of all occupied housing	34.4%	33.4%	34.6%	3.6%
Vacant housing units	35,462	32,525	36,306	11.6%
Percent of total housing units	12.8%	11.2%	11.4%	1.8%

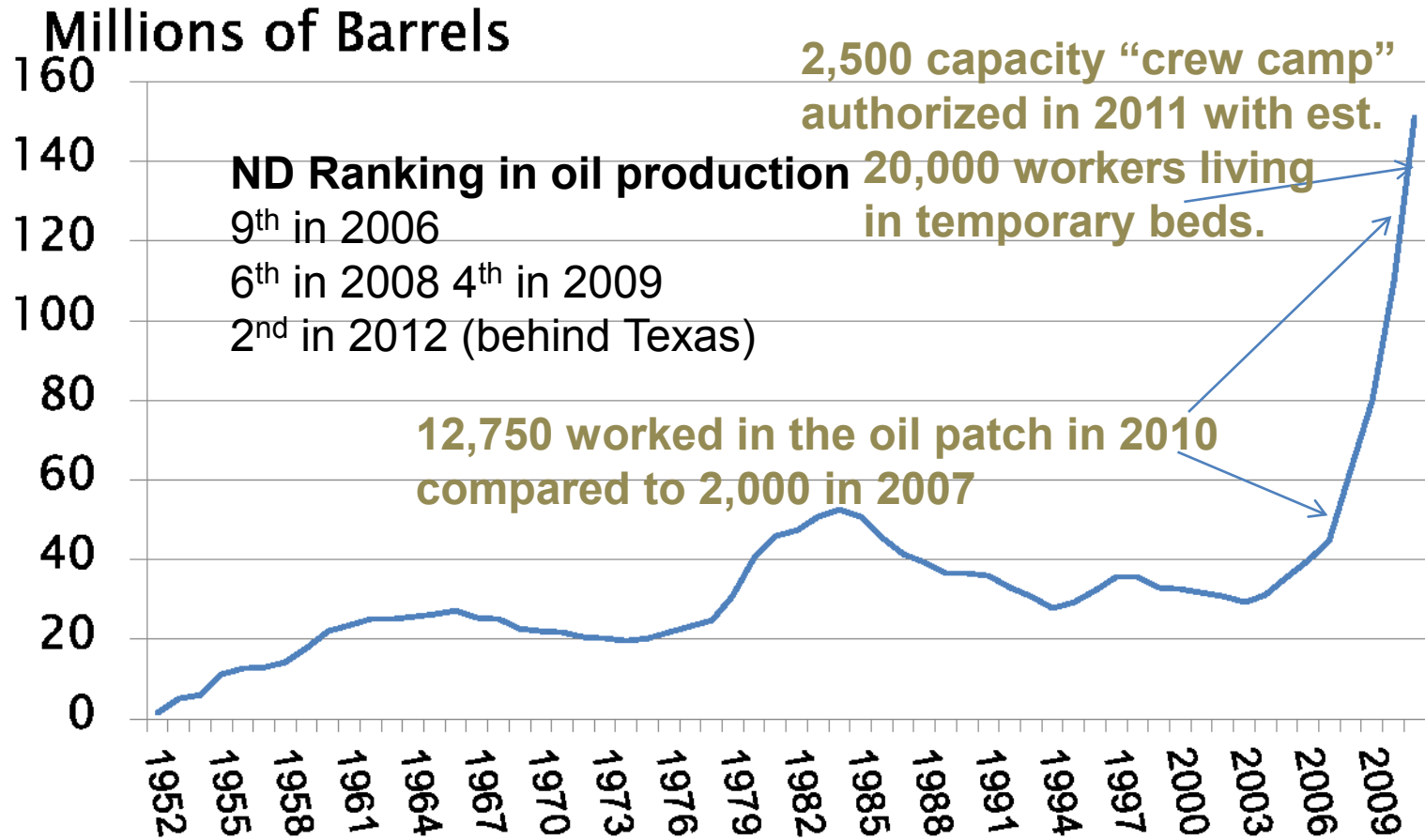
Source: U.S. Census Bureau, Decennial Census. Please note that the U.S. Census Bureau's American Community Survey 2006-2010 5-Year Estimates were used in the state and regional profiles of this study to be consistent with modeling efforts. Thus, there will be slight differences in the 2010 data between this

Shift in housing from owner to renter

# Energy Development in Western North Dakota has transformed the state, very rapidly



# Annual Crude Oil Production in North Dakota: 1952 to 2011



Source: North Dakota Industrial Commission, Oil and Gas Division, <https://www.dmr.nd.gov/oilgas/>.



# Bakken Shale Production 1985-2010 Williston Basin, ND & MT

Canada

2006

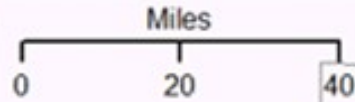
**Bakken Shale Producing Wells**  
Bbl Oil per Day (Mean per Quarter)

- 0 - 100
- 101 - 500
- > 500

Gas-Oil Ratio (Mean per Quarter)

- 0 - 1,000 (Oil Bbl >>> Gas BOE)
- 1,001 - 6,000 (Oil Bbl > Gas BOE)
- > 6,000 (Gas BOE > Oil Bbl)

— Bakken Depositional Limit

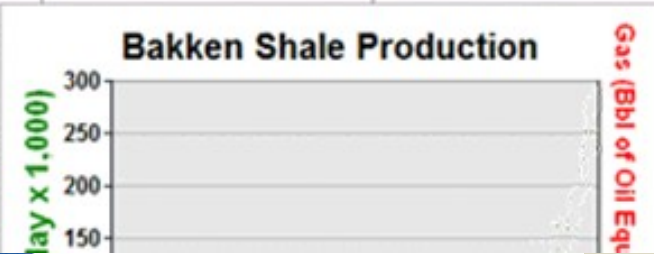


1996: Middle Bakken  
Vertical well Tests  
Elm Coulee Field

2000: Elm Coulee  
Middle Bakken  
Horizontal wells  
Discovery

1987:  
Upper Bakken Shale  
Horizontal Wells  
Billings Nose

2006:  
Parshall  
Field  
discovered



# Bakken Shale Production 1985-2010 Williston Basin, ND & MT

Canada

2010

## Bakken Shale Producing Wells

Bbl Oil per Day (Mean per Quarter)

- 0 - 100
- 101 - 500
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Gas-Oil Ratio (Mean per Quarter)

- 0 - 1,000 (Oil Bbl >>> Gas BOE)
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- > 6,000 (Gas BOE > Oil Bbl)

— Bakken Depositional Limit

Miles

0 20 40

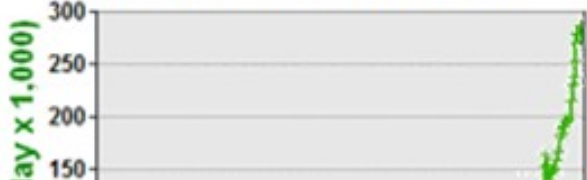
1996: Middle Bakken Vertical well Tests Elm Coulee Field

2000: Elm Coulee Middle Bakken Horizontal wells Discovery

1987: Upper Bakken Shale Horizontal Wells Billings Nose

2006: Parshall Field discovered

## Bakken Shale Production

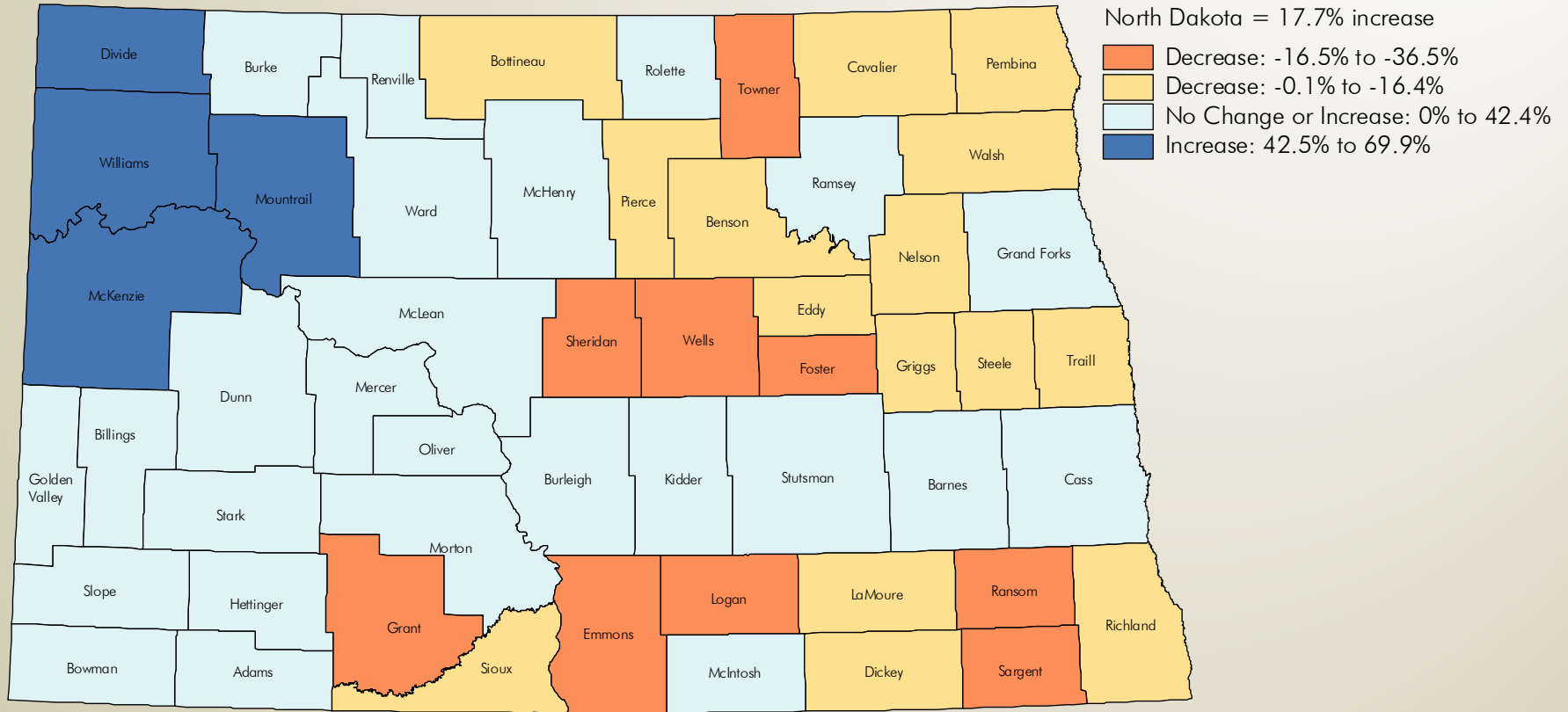


Gas (Bbl of Oil Equ)

# Young Adults Ages 25 to 34

Percent Change in the Population of Persons Ages 25 to 34 in North Dakota by County: 2000 to 2010

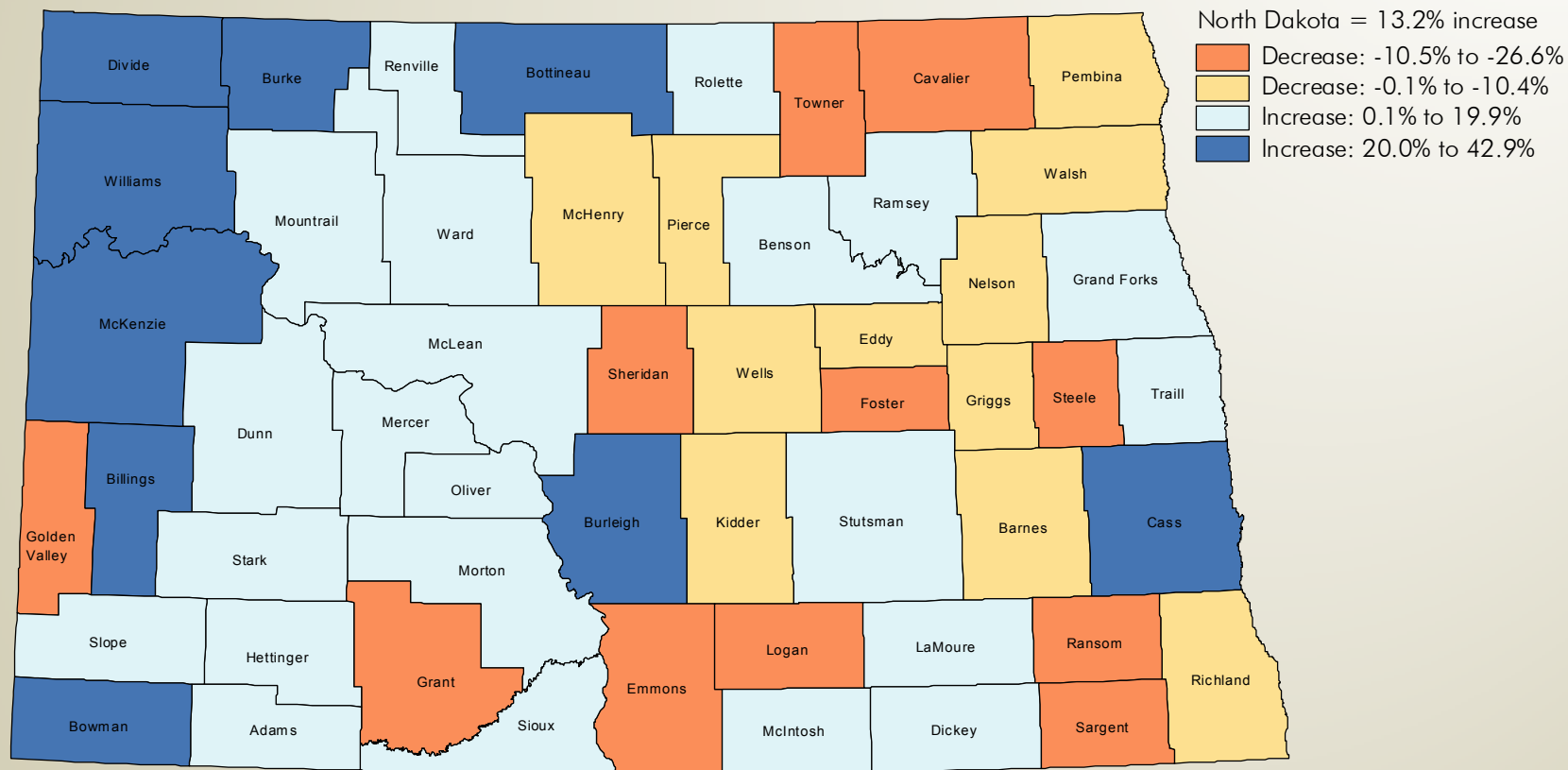
Source: U.S. Census Bureau, 2000 and 2010 Census



# Young Children Ages 0 to 4

Percent Change in the Population of Persons Ages 0 to 4 in North Dakota by County: 2000 to 2010

Source: U.S. Census Bureau, 2000 and 2010 Census



# Housing and Population Modeling

Due to the Uniqueness of North Dakota's Population Dynamics:

1. Independently modeled oil-impact counties
  - Used employment to set threshold for population
2. Used cohort-component population model to develop age forecasts

# Model Housing Demand Based on Petroleum Sector Projections

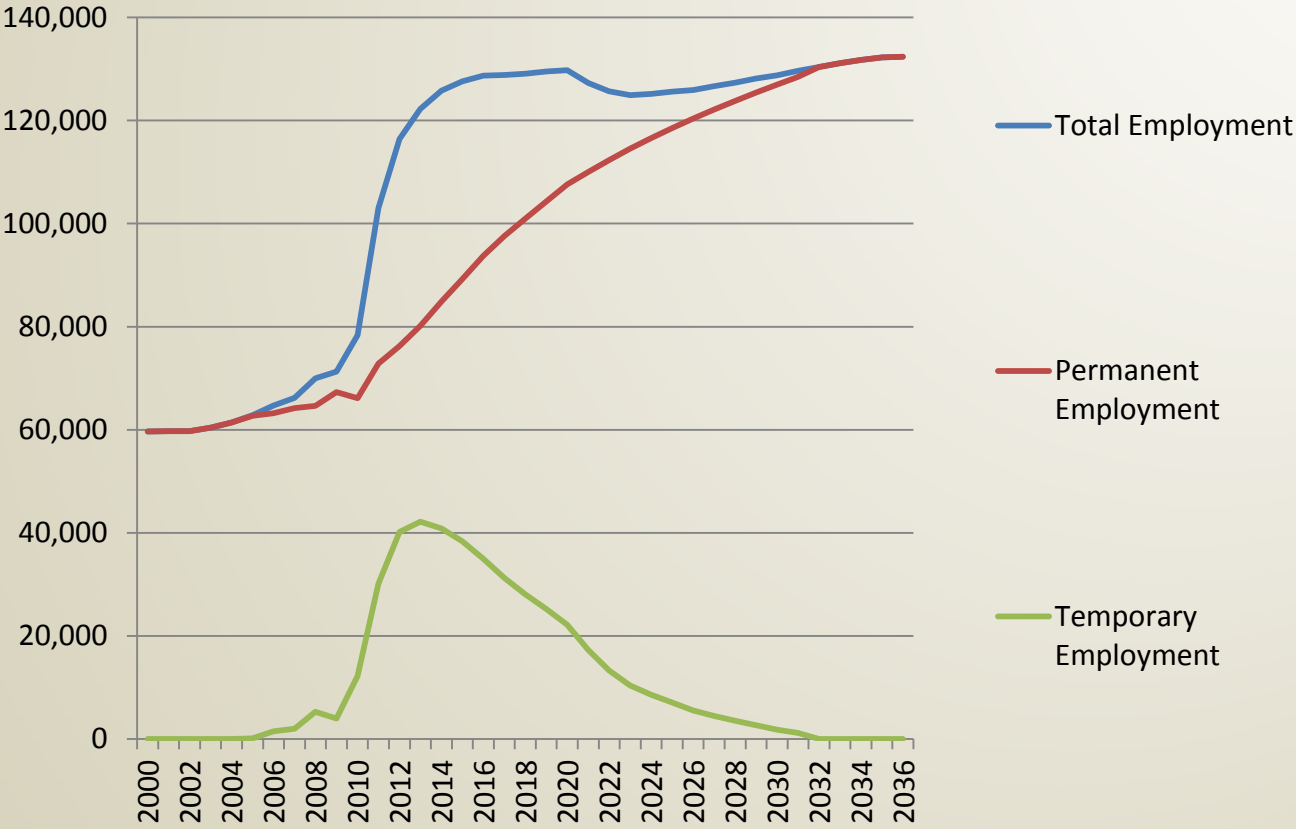
- ▶ Five step process

1. Develop estimates of overall employment demand
2. Calculate ratio of employment to total housing
3. Distribute housing by county/place
4. Estimate housing unit mix (single vs multi-family)
5. Apply coefficients to create projections of housing demand by year

# Modeling Population Change Based on Housing Demand Projections

- ▶ Three step process
  1. Translate housing demand into total population by using estimate of persons per housing unit
  2. Apply coefficient to housing unit demand to estimate potential population
  3. Use cohort component model to create age distribution

# Employment Projections for Oil-Impacted Counties in North Dakota: 2000 to 2036



Source: North Dakota State University, Department of Agribusiness and Applied Economics



# Population Projections for North Dakota to the Year 2025

Noted difference in impact regions

## Total Population, 2000 to 2025

Area	2000	2010	Percent Change: 2000 to 2010	Projections			Percent Change: 2010 to 2025
				2015	2020	2025	
North Dakota	642,200	672,591	4.7	750,023	806,541	841,820	25.2
Region I	27,781	30,829	11.0	50,529	66,938	73,164	137.3
Region II	88,089	89,967	2.1	114,709	121,425	121,443	35.0
Region III	43,168	40,672	-5.8	41,434	42,254	43,016	5.8
Region IV	90,798	88,519	-2.5	90,506	92,800	95,125	7.5
Region V	162,127	185,481	14.4	196,322	207,284	218,799	18.0
Region VI	61,454	56,363	-8.3	56,813	57,349	58,222	3.3
Region VII	130,418	141,864	8.8	151,192	160,356	169,993	19.8
Region VIII	38,365	38,896	1.4	48,518	58,135	62,058	59.5

Sources: U.S. Census Bureau, 2000 Census, Summary File 1 (SF1), Table P1; 2010 Census Demographic Profile, and the Center for Social Research at North Dakota State University.

Three regions had population decline last decade

# Housing Forecast based on 2000-2010 Trend in Building Model 1

Area	Number of Housing Units: 2010	Projected Change in Total Housing Units					
		2010 to 2015		2010 to 2020		2010 to 2025	
		Numeric	Percent	Numeric	Percent	Numeric	Percent
North Dakota	289,677	20,398	6.5%	35,849	11.5%	51,292	16.4%
Region I	13,868	1,870	12.8%	3,482	23.8%	5,094	34.9%
Region II	41,021	3,425	8.1%	6,224	14.7%	9,022	21.3%
Region III	19,389	-271	-1.4%	-499	-2.6%	-729	-3.8%
Region IV	39,259	759	1.9%	1,330	3.3%	1,898	4.7%
Region V	70,924	8,370	10.1%	14,486	17.4%	20,600	24.8%
Region VI	29,346	-213	-0.7%	-414	-1.4%	-617	-2.1%
Region VII	57,799	5,388	8.3%	9,318	14.3%	13,248	20.4%
Region VIII	18,071	1,070	5.6%	1,922	10.1%	2,776	14.6%

Two regions have historical building trends that will result in housing decline

# Housing Forecast based on Projected Demand Model 2

Area	Number of Housing Units: 2010	Change in Total Housing Units					
		2010 to 2015		2010 to 2020		2010 to 2025	
		Numeric	Percent	Numeric	Percent	Numeric	Percent
North Dakota	289,677	42,322	13.5%	71,620	22.9%	90,469	28.9%
Region I	13,868	9,673	66.2%	17,333	118.6%	20,854	142.7%
Region II	41,021	10,829	25.5%	14,047	33.1%	13,725	32.3%
Region III	19,389	820	4.3%	1,416	7.4%	1,812	9.5%
Region IV	39,259	1,699	4.2%	3,018	7.5%	4,265	10.5%
Region V	70,924	8,187	9.8%	14,511	17.4%	21,113	25.4%
Region VI	29,346	836	2.9%	1,511	5.2%	2,204	7.5%
Region VII	57,799	5,817	9.0%	10,875	16.7%	15,534	23.9%
Region VIII	18,071	4,461	23.5%	8,909	46.9%	10,962	57.7%

Short-term housing demand is sizeable

# Projected Housing Demand

## Findings: Between 2010-2025

- Age of householder (30% increase in total)
  - Under age 25 will grow by 1.5% (394)
  - 25-44 grow 42% (over 37,000)
  - 45-64 will increase 9% (nearly 9,000)
  - 65 and over will increase 60% (nearly 37,000)

# Projected Housing Demand

## Findings: Between 2010-2025

- Income of householder
  - Below 30% MFI will increase 31 (17,263)
  - 31-50% MFI will increase 32% (10,462)
  - 51-80% MFI will increase 31% (17,801)
  - 81-115% MFI will increase 30% (16,695)
  - 115% + MFI will increase 28% (21,192)
  - 51-60% MFI will increase 31% (9,567)

# Projected Housing Demand

## Findings: Between 2010-2025

- Type of householder
  - First-time homebuyer will increase 35%
    - Ages 15-44 and \$30,000 - \$74,999
  - Upscale homebuyer will increase 25%
    - Ages 15-64 and \$less than \$50,000
  - Low-income homebuyer will increase 19%
    - Ages 15-64 and less than \$50,000
  - Moderate homebuyer will increase 26%
    - Ages 25-64 and \$50,000 - \$74,999
  - Elderly homebuyer will increase 60%
    - Ages 65 +

# Organization of the Housing Forecast report:

1. Statewide context of important trends affecting housing
- 2. Discussion of current population dynamics and corresponding shifts in housing**
3. Forecast of future housing needs

# Key Leaders Survey

## Method

- On-line survey of 211 key leaders
  - County, major city, reservation, realtors, apartment association, builders, etc.
- Data grouped by geography
- Topics included:
  - Housing supply/demand
  - Housing quality & affordability
  - Barriers to development
  - Special needs population
  - Policy/program concerns



# Key Leaders Survey

## Findings – general issues

- Economic health of communities is good
- Visionary leadership
- Top factors positively influencing growth
  - Community & economic development organ.
  - Population Change
- Top factors negatively influencing growth
  - Amount, quality, and affordable housing
  - Availability of investment capital (region IV and labor pool (region VIII))

# Key Leaders Survey

## Findings – Supply & Demand

- Shortage in all types of housing (except trailers)
- Within next 5 years:
  - Majority expect new development of large multi-units & single family homes
  - Less than half expect development of smaller units
  - Less than 3 percent expect permanent supportive housing (e.g., transition housing disabled, homeless)
- Temporary housing concerns
- Need new development & incentives for developers

# Key Leaders Survey

## Findings – Affordability, Quality

- General opinion housing is not affordable
- Nearly half indicate need housing repair has reached:
  - Nearly half of owner-occupied units
  - Two-thirds of rental housing
- Temporary housing concerns
- Need new development & incentives for developers
- Affordable housing programs for low- & moderate-income households must be strengthened/increased
- Populations with greatest unmet need are homeless and adults transitioning from institutional settings

# Key Leaders Survey

## Findings – Barriers

- Lack of housing developers, equity & appraisal gaps, not-in-my-back yard, poor infrastructure
- ¼ indicated flood plain issues & development of ag. land
- Nearly half indicate cost of infrastructure & lack of funding inhibit development of affordable housing
- Solutions to increase supply:
  - State should assist in funding
  - Develop infrastructure in rural areas
  - Provide assistance for starter home program

# Presentation Objective:

1. To review the findings of the 2012 Housing Needs Assessment – Housing Forecast
2. To provide a briefing of the results from the survey of key housing stakeholders.
- 3. To highlight key priority areas.**

# Key Priority Areas (not prioritized)

- ▶ Housing Affordability
  - Situation has worsened since last assessment in 2004
- ▶ Elderly Housing
  - Aging of baby boom requires “elderly friendly” housing
  - Elderly significant portion of low-income
- ▶ Consideration for Homeless
- ▶ Attention to Changing Household Composition
  - Non-family household 40% of all households (majority are single persons)
- ▶ Energy Impact areas:
  - Short- & long-term housing shortage
  - Temporary housing

# Housing Needs Assessment

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