

### 4.3.7 Future Development

The way in which new development across the state occurs is important to disaster mitigation. Often, smart development is an inexpensive and effective way to reduce the impact of disasters on the communities. In contrast, new development in hazardous areas without provisions for hazard mitigation adds to the vulnerability of a community and ultimately can lead to more costly disasters.

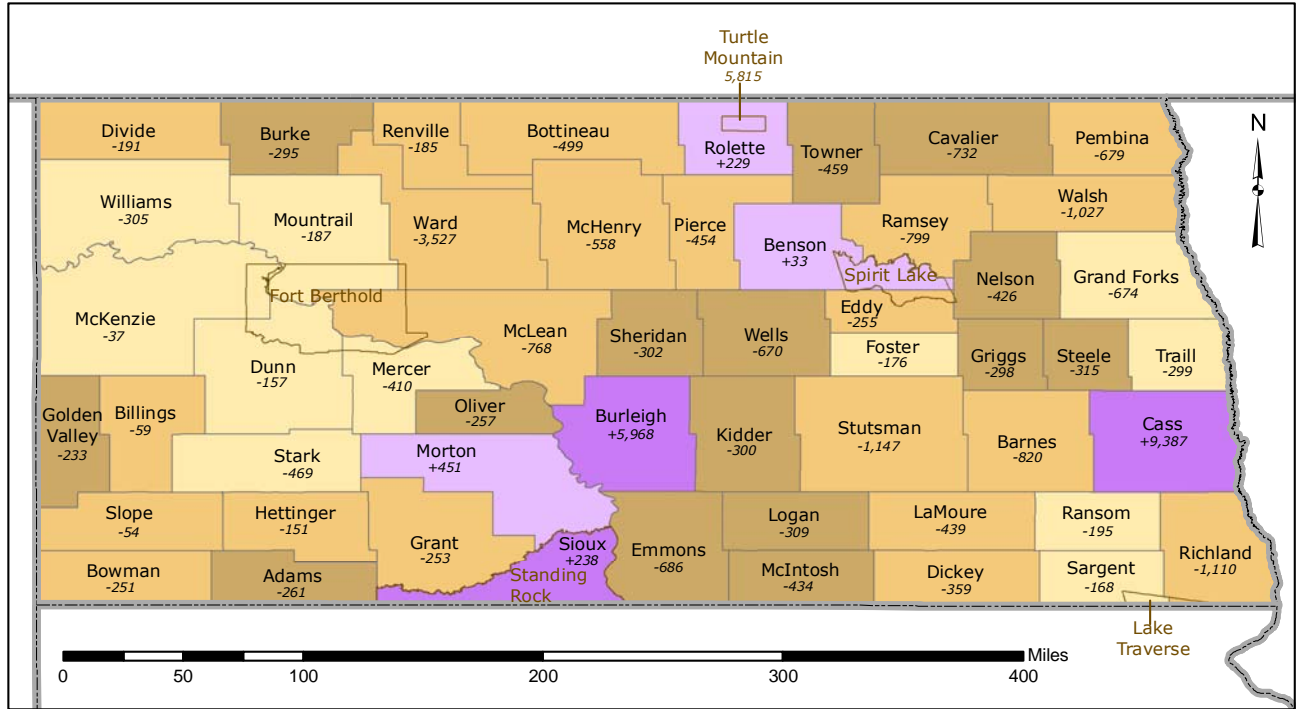
From 1990 to 2000, North Dakota ranked 50<sup>th</sup> in the nation (last except for the District of Columbia) for population growth in the United States with a growth rate of only 0.53%. Therefore, future development has not been a major concern across the state. In fact, population estimates from 2000 to 2006 show that North Dakota was one of only two states estimated to have lost population. The other state was Louisiana which suffered Hurricane Katrina in 2005. These estimates show a North Dakota population decrease of 6,333, or 1%, over that time period. (US Census Bureau, 2007) Recent estimates, however, indicate the trend may be changing. From 2003-2007, North Dakota is estimated to have grown a bit, by 6,556 people according to annual population estimates. Labor statistics also indicate the workforce has continued to grow. (US Census Bureau, 2007; Bismarck Tribune, 2007) Within the state, some population movement from the rural areas into the cities is also being seen. Therefore, some growth is occurring, particularly in the urban and surrounding areas.

Table 4.3.3A in the population section shows the estimated percentage of population change by county from April 1, 2000 to July 1, 2006. Map 4.3.7A demonstrates this change geographically. As this demonstrates, the North Dakota population trend is generally people moving out of the rural areas and into the urban areas. The tribal areas are also seeing moderate population growth.

Table 4.3.7B shows the estimated number of new privately owned housing units authorized in North Dakota by unit type from 2005-2007. This table demonstrates the amount of development that has occurred in North Dakota since the last plan revision in 2005. This information is based on building permit data, so it is important to note that development in areas lacking a building permit system may not be included in these results. Table 4.3.7C shows the number of building permits approved from 2004-2006 by county. Note that 2007 data is not yet available for the counties. Table 4.3.7D shows the associated construction costs; these construction costs represent the increase in residential building exposure by county from 2004-2006 for those municipalities that have a building permit system.

Map 4.3.7A

**Population Change from 2000 to 2006**  
State of North Dakota



Data Source: US Census Bureau  
Data Date: August 2007  
Map Coordinates: NAD 1983

**Population Change (percent)**

- Greater than 10.0% population decrease
- 5.1% - 10.0% population decrease
- 0.1% - 5.0% population decrease
- 0.0% - 5.0% population increase
- Greater than 5.0% population increase

Map Created By:  
Pam Shrauger, September 2007



**Table 4.3.7B New Privately Owned Housing Units Authorized in North Dakota**

Type	2005	2006	2007 (preliminary)
1 Unit	2,367	2,297	2,119
2 Units	70	60	20
3 and 4 Units	140	126	118
5 Units or More	1,461	1,046	816
Number of Structures with 5 units or More	56	58	26
<b>Total Number of Units</b>	<b>4,038</b>	<b>3,529</b>	<b>3,073</b>

Note: Only areas with building permit systems are included. Additional new construction may be occurring in areas lacking building permit regulations.

Source: US Census Bureau, 2008.

**Table 4.3.7C New Privately Owned Residential Building Permits**

<b>County</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>Total 2004-2006</b>
<i>North Dakota</i>	2,650	2,494	2,418	7,562
Adams	4	3	8	15
Barnes	24	25	21	70
Benson	0	0	0	0
Billings	1	1	0	2
Bottineau	4	4	0	8
Bowman	1	1	3	5
Burke	1	3	0	4
Burleigh	547	516	553	1,616
Cass	1,210	1,026	840	3,076
Cavalier	0	1	1	2
Dickey	1	1	4	6
Divide	0	0	1	1
Dunn	4	4	8	16
Eddy	0	1	0	1
Emmons	4	1	2	7
Foster	4	5	1	10
Golden Valley	0	2	3	5
Grand Forks	254	226	217	697
Grant	3	0	0	3
Griggs	0	0	0	0
Hettinger	0	1	0	1
Kidder	4	4	3	11
LaMoure	1	3	2	6
Logan	2	0	0	2
McHenry	9	5	8	22
McIntosh	6	10	1	17
McKenzie	1	1	8	10
McLean	31	20	50	101
Mercer	6	8	7	21
Morton	145	149	184	478
Mountrail	48	19	13	80
Nelson	1	2	2	5
Oliver	1	0	0	1
Pembina	3	1	1	5
Pierce	0	3	4	7
Ramsey	11	4	3	18
Ransom	4	5	2	11
Renville	2	2	1	5

**Table 4.3.7C New Privately Owned Residential Building Permits (continued)**

County	2004	2005	2006	Total 2004-2006
Richland	23	36	48	107
Rolette	1	0	0	1
Sargent	5	15	14	34
Sheridan	4	1	7	12
Sioux	0	0	0	0
Slope	0	0	0	0
Stark	73	79	89	241
Steele	3	7	1	11
Stutsman	34	31	38	103
Towner	0	0	0	0
Traill	13	20	18	51
Walsh	4	6	8	18
Ward	117	188	165	470
Wells	1	1	1	3
Williams	35	53	78	166

Note 1: Only areas with building permit systems are included. Additional new construction may be occurring in areas lacking building permit regulations. Note 2: 2007 county data is not yet available.

Source: US Census Bureau, 2008.

**Table 4.3.7D New Privately Owned Residential Construction Costs**

County	2004	2005	2006	Total 2004-2006
<i>North Dakota</i>	<i>\$434,393,608</i>	<i>\$457,789,126</i>	<i>\$462,339,822</i>	<i>\$1,354,522,556</i>
Adams	\$629,200	\$295,000	\$1,191,000	\$2,115,200
Barnes	\$3,507,366	\$3,572,084	\$3,366,802	\$10,446,252
Benson	\$0	\$0	\$0	\$0
Billings	\$250,000	\$250,000	\$0	\$500,000
Bottineau	\$537,000	\$540,000	\$0	\$1,077,000
Bowman	\$1,400,000	\$125,000	\$348,000	\$1,873,000
Burke	\$70,000	\$83,800	\$0	\$153,800
Burleigh	\$98,780,845	\$92,204,061	\$109,764,812	\$300,749,718
Cass	\$194,112,377	\$196,672,852	\$159,060,609	\$549,845,838
Cavalier	\$0	\$150,000	\$250,000	\$400,000
Dickey	\$100,000	\$130,000	\$1,020,000	\$1,250,000
Divide	\$0	\$0	\$130,000	\$130,000
Dunn	\$400,000	\$400,000	\$1,540,000	\$2,340,000
Eddy	\$0	\$185,000	\$0	\$185,000
Emmons	\$154,500	\$185,500	\$275,000	\$615,000
Foster	\$605,000	\$1,005,000	\$125,000	\$1,735,000
Golden Valley	\$0	\$63,000	\$198,000	\$261,000

**Table 4.3.7D New Privately Owned Residential Construction Costs (continued)**

County	2004	2005	2006	Total 2004-2006
Grand Forks	\$45,570,367	\$51,789,220	\$63,302,943	\$160,662,530
Grant	\$182,000	\$0	\$0	\$182,000
Griggs	\$0	\$0	\$0	\$0
Hettinger	\$0	\$200,000	\$0	\$200,000
Kidder	\$210,000	\$210,000	\$157,500	\$577,500
LaMoure	\$115,000	\$340,000	\$265,000	\$720,000
Logan	\$450,000	\$0	\$0	\$450,000
McHenry	\$1,166,032	\$642,212	\$1,122,796	\$2,931,040
McIntosh	\$666,000	\$1,161,000	\$136,000	\$1,963,000
McKenzie	\$175,000	\$160,000	\$980,000	\$1,315,000
McLean	\$951,667	\$2,525,667	\$4,756,667	\$8,234,001
Mercer	\$975,000	\$1,387,000	\$1,030,000	\$3,392,000
Morton	\$29,818,124	\$27,453,312	\$23,743,682	\$81,015,118
Mountrail	\$3,944,864	\$1,180,164	\$1,180,768	\$6,305,796
Nelson	\$20,000	\$170,000	\$80,000	\$270,000
Oliver	\$70,000	\$0	\$0	\$70,000
Pembina	\$437,689	\$95,000	\$100,000	\$632,689
Pierce	\$0	\$360,000	\$575,000	\$935,000
Ramsey	\$2,008,905	\$1,178,104	\$459,586	\$3,646,595
Ransom	\$496,500	\$671,000	\$229,500	\$1,397,000
Renville	\$100,000	\$100,000	\$50,000	\$250,000
Richland	\$3,337,559	\$5,859,593	\$6,941,550	\$16,138,702
Rolette	\$150,000	\$0	\$0	\$150,000
Sargent	\$935,000	\$2,994,000	\$1,425,700	\$5,354,700
Sheridan	\$210,000	\$40,000	\$300,000	\$550,000
Sioux	\$0	\$0	\$0	\$0
Slope	\$0	\$0	\$0	\$0
Stark	\$11,096,056	\$15,737,003	\$15,990,961	\$42,824,020
Steele	\$140,000	\$1,125,000	\$102,110	\$1,367,110
Stutsman	\$6,407,409	\$6,134,405	\$8,038,691	\$20,580,505
Towner	\$0	\$0	\$0	\$0
Traill	\$1,521,625	\$2,701,625	\$2,492,000	\$6,715,250
Walsh	\$400,000	\$770,773	\$1,204,000	\$2,374,773
Ward	\$18,441,819	\$31,237,948	\$36,544,680	\$86,224,447
Wells	\$150,000	\$38,000	\$200,000	\$388,000
Williams	\$3,700,704	\$5,666,803	\$13,661,465	\$23,028,972

Note 1: Only areas with building permit systems are included. Additional new construction may be occurring in areas lacking building permit regulations. Note 2: 2007 county data is not yet available.

Source: US Census Bureau, 2008.

The construction costs listed in Table 4.3.7D increase the total exposure to the hazards in North Dakota; however, the vulnerability of the new construction depends on specifically where the development occurred and what regulations are in place locally to mitigate any impacts. Municipalities issuing 20 or more new privately owned residential building permits from 2004-2006 are shown in Table 4.3.7E.

**Table 4.3.7E Places with New Privately Owned Residential Building Permits of 20 or More in 2004-2006**

Place	County	2004	2005	2006	Total 2004-2006
Barnes County, unincorporated	Barnes	17	16	15	48
Valley City	Barnes	7	7	6	20
Bismarck	Burleigh	298	244	294	836
Burleigh County, unincorporated	Burleigh	196	229	226	651
Lincoln*	Burleigh	53	43	32	128
Casselton	Cass	18	16	9	43
Fargo	Cass	469	501	482	1,452
Harwood	Cass	4	0	22	26
Horace	Cass	21	18	19	58
Mapleton	Cass	2	2	29	33
West Fargo	Cass	671	463	254	1,388
Grand Forks	Grand Forks	232	195	200	627
Grand Forks County, unincorporated	Grand Forks	14	24	13	51
McHenry County, unincorporated	McHenry	9	4	7	20
McLean County, unincorporated	McLean	23	9	38	70
Mandan	Morton	123	124	162	409
Morton County, unincorporated	Morton	20	23	20	63
New Town	Mountrail	34	7	1	42
Parshall	Mountrail	9	9	8	26
Wahpeton	Richland	8	15	16	39
Dickinson	Stark	69	78	87	234
Jamestown	Stutsman	27	20	30	77
Hillsboro	Traill	4	9	10	23
Minot	Ward	85	145	123	353
Ward County, unincorporated	Ward	25	33	35	93
Williams County, unincorporated	Williams	14	23	12	49
Williston	Williams	18	28	64	110

\* Not participating in the NFIP program.

Note 1: Only areas with building permit systems are included. Additional new construction may be occurring in areas lacking building permit regulations. Note 2: 2007 county data is not yet available.

Source: US Census Bureau, 2008.

Despite recent population gains, projections for future populations estimate that the overall trend of population decreases in the state will continue through 2030. The North Dakota population projected for 2030 is 606,566 people, down 5.5% or 35,634 people from 2000. Again, this puts North Dakota at the 50<sup>th</sup>

rank, only ahead of the District of Columbia, for percent of population growth in United States from 2000 to 2030. (US Census Bureau, 2007) Table 4.3.7F shows those counties expected to grow from 2005 to 2020.

**Table 4.3.7F North Dakota Counties Expected to Experience Population Growth from 2005 to 2020**

County	2005	2020	Projected 15-Year Increase
Barnes	11,574	11,675	0.9%
Benson	7,101	7,835	10.3%
Burleigh	70,524	74,727	6.0%
Cass	131,097	151,651	15.7%
Grand Forks	66,545	68,238	2.5%
Morton	26,272	29,521	12.4%
Mountrail	6,492	6,503	0.2%
Ransom	5,834	5,840	0.1%
Rolette	13,687	14,029	2.5%
Sargent	4,258	4,272	0.3%
Sioux	4,096	4,206	2.7%
Stark	22,220	22,360	0.6%

Note: Although, not listed as expected to grow, comments have been received suggesting that the Williston area in Williams County is expected to experience growth due to natural resource booms in the region.

Source: North Dakota State Data Center, 2002.

Mechanisms currently in place in North Dakota to manage growth and new development include building codes, zoning, floodplain ordinances, master plans, and subdivision regulations. All of these mechanisms are at the local and tribal government discretion to adopt and enforce. North Dakota has a state building code, but it is still up to the communities to choose to adopt and enforce the codes. Map 4.3.7G shows the communities that have adopted the state building code. A significant limitation of this program is that communities may adopt the state building code but not enforce it. Therefore, simply adopting the code does not guarantee that new development and remodels meet current codes. Map 4.3.7H shows those communities that have a recognized flood hazard but do not have floodplain ordinances.

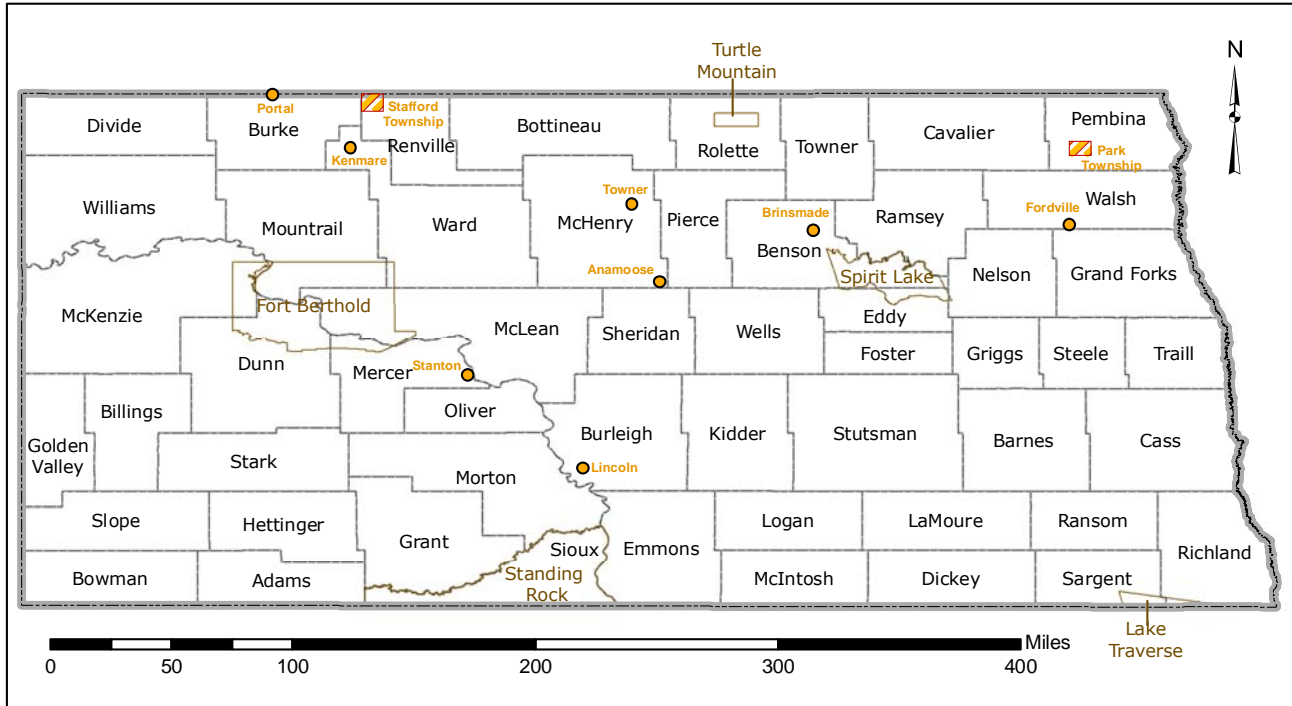
Future developments identified in the local plans include:

- A new fuel additive plant and kitty litter manufacturer in Golden Valley County
- Increase in development since 1999 south of Fargo along Cass County Highway 17
- Development in Cass County in the Cities of Casselton, Mapleton, Horace, and Argusville for the commuting population of the greater Fargo area.



Map 4.3.7H

### Communities With Flood Hazards Not Participating in the National Flood Insurance Program State of North Dakota



Data Source: Federal Emergency Management Agency  
Data Date: October 2007  
Map Coordinates: NAD 1983

Map Created By:  
Pam Shrauger, October 2007



Table 4.3.7I lists the counties experiencing population growth from 2000-2006 and their building code and NFIP statuses.

**Table 4.3.7I Growing Counties**

<b>Counties Experiencing Population Growth (2006 population estimate)</b>	<b>Jurisdictions with Building Codes (2000 population)</b>	<b>Non-Participating NFIP Status (2000 population)</b>
Benson (pop. 6,997)	City of Minnewaukan (pop. 318) City of Brinsmade (pop. 29)	City of Brinsmade (pop. 29)
Burleigh (pop. 75,384)	Burleigh County City of Bismarck (pop. 55,532) City of Lincoln (pop. 1,730) City of Wilton (pop. 807)	City of Lincoln (pop. 1,730)
Cass (pop. 132,525)	City of Fargo (pop. 90,599) City of West Fargo (pop. 14,940) City of Casselton (pop. 1,855) City of Enderlin (pop. 947) City of Horace (pop. 915) City of Kindred (pop. 614) City of Harwood (pop. 607) City of Mapleton (pop. 606) City of Hunter (pop. 326) City of Leonard (pop. 255) City of Reile's Acres (pop. 254) City of Page (pop. 225) City of Argusville (pop. 147) City of Amenia (pop. 89) City of Prairie Rose (pop. 68) City of North River (pop. 65)	None
Morton (pop. 25,754)	Morton County City of Mandan (pop. 16,718) City of New Salem (pop. 938)	None
Rolette (pop. 13,903)	None	None
Sioux (pop. 4,282)	None	None