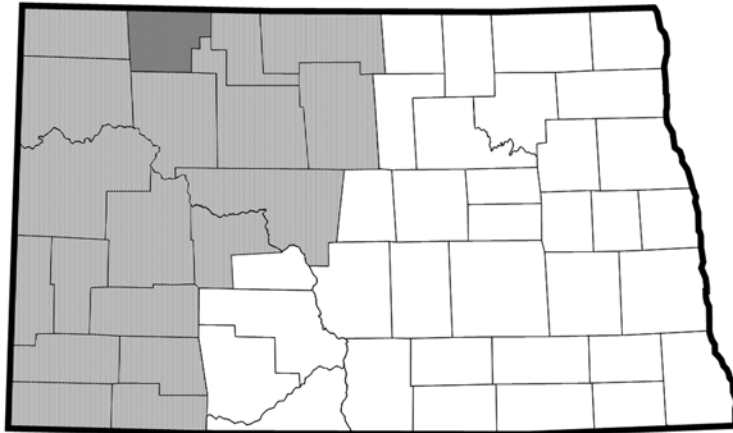


# BURKE COUNTY



## 2016 Vision West ND Projection Series

### 1) Online Webinars:

One-hour webinars for each county discussing recent trends and presenting future projections for employment, population, and housing. Webinars are available at <http://www.visionwestnd.com/webinars.php>

### 2) Overview Report:

NDSU document that discusses study assumptions, data and methods, and overall results of the projection series, along with background data for the study. Report is available at <http://ageconsearch.umn.edu/>

### 3) Final Project Presentation:

Presentation to the Vision West ND highlighting the key elements of the study and conclusions for future change in employment, population, and housing. Slides can be viewed at <http://www.visionwestnd.com>

### 4) County Factsheets:

Detailed graphs and tabular data identifying trends and projections of employment, population, and housing for individual counties.

## Employment, Population, and Housing Projections

**NDSU** NORTH DAKOTA  
STATE UNIVERSITY



Study Authors

Dean A. Bangsund  
Department of Agribusiness and  
Applied Economics

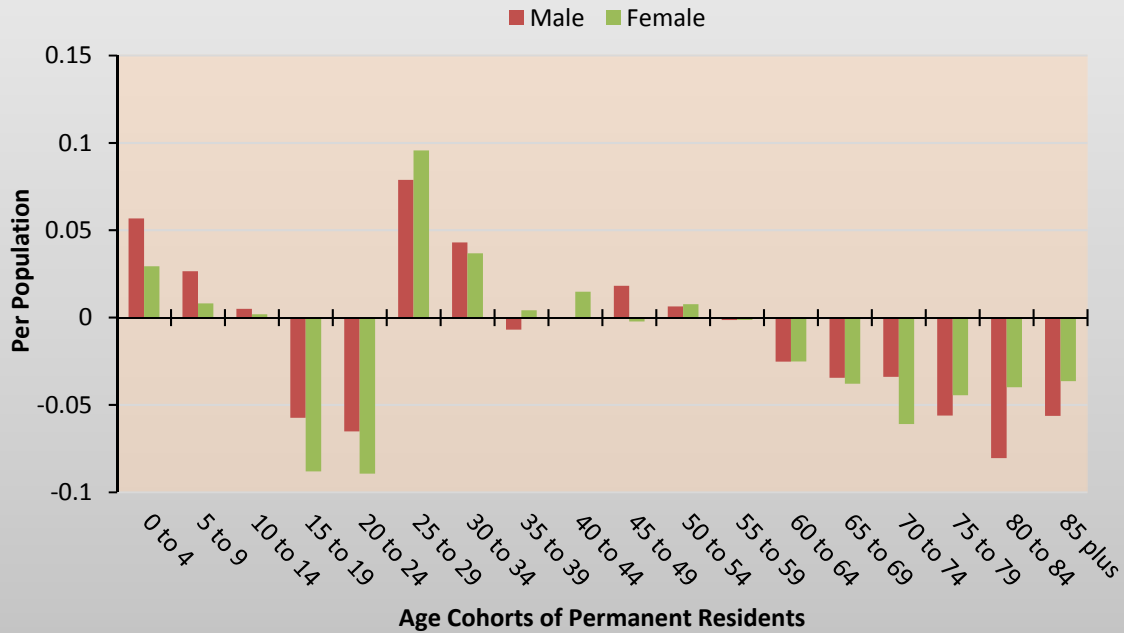
Nancy M. Hodur, PhD  
Center for Social Research

Vision West ND funded the study through grants from the North Dakota Association of Oil and Gas Producing Counties and the North Dakota Energy Infrastructure and Impact Office.

NDSU is an equal opportunity institution.

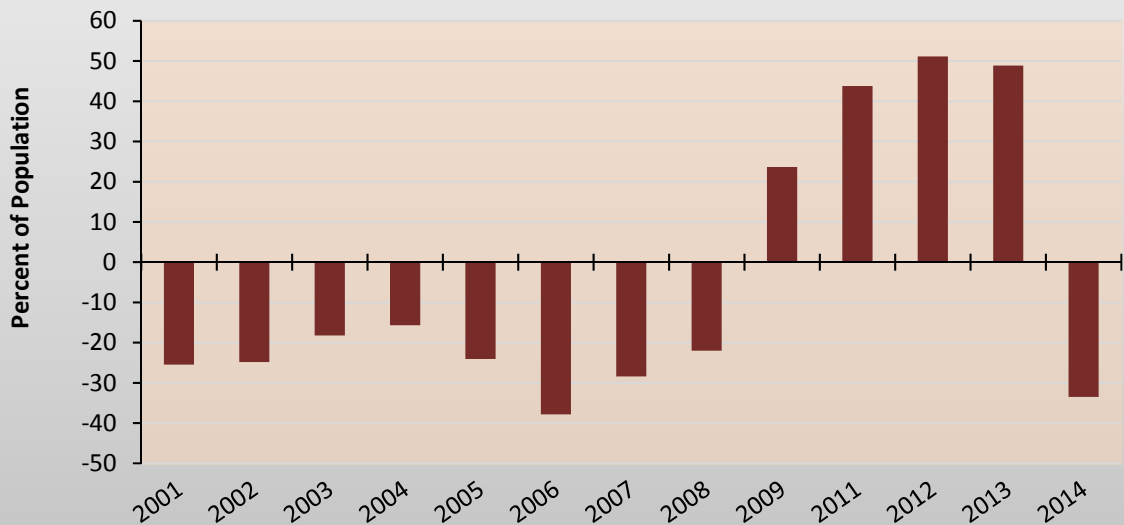
Copyright © 2017 by Bangsund and Hodur. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided this copyright notice appears on all such copies.

## Burke County 2014 Net Migration Rates by Gender and Age Cohort



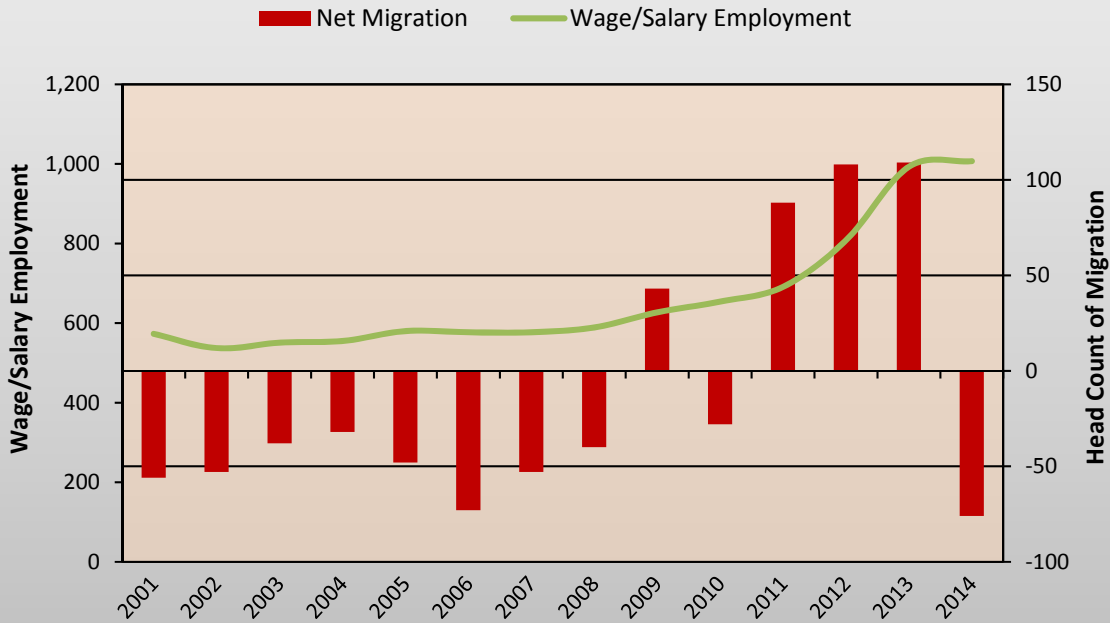
Definition: Net migration is the sum of the number of residents leaving the county and the number of residents moving into the county. Positive net migration means more people moved into the county than moved out of the county. Negative net migration means more people moved out of the county than moved into the county.  
Source: NDSU, Center for Social Research

## Burke County Net Migration Rates



Definition: Net migration is the sum of the number of residents leaving the county and the number of residents moving into the county. Positive net migration means more people moved into the county than moved out of the county. Negative net migration means more people moved out of the county than moved into the county.  
Source: NDSU, Center for Social Research

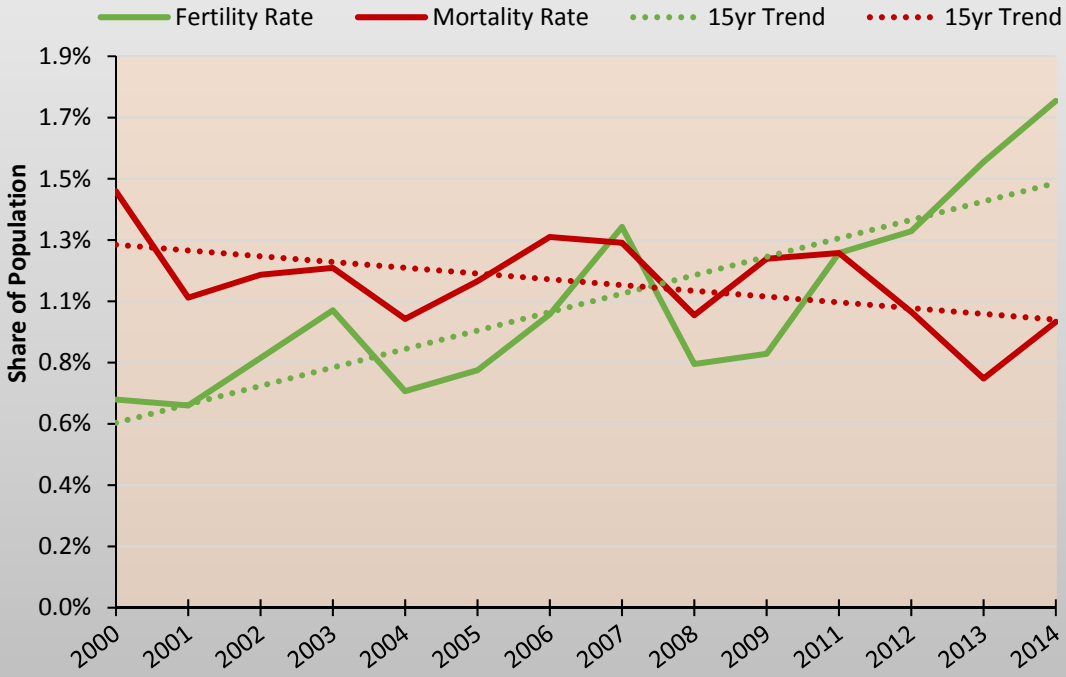
### Burke County



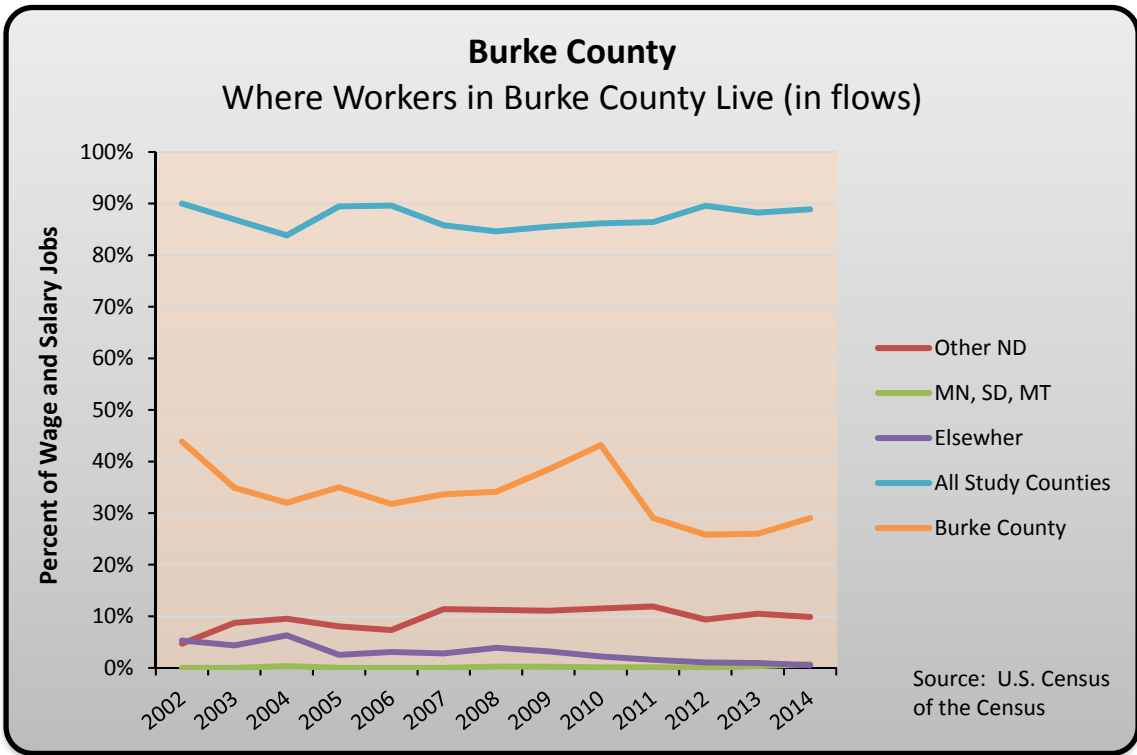
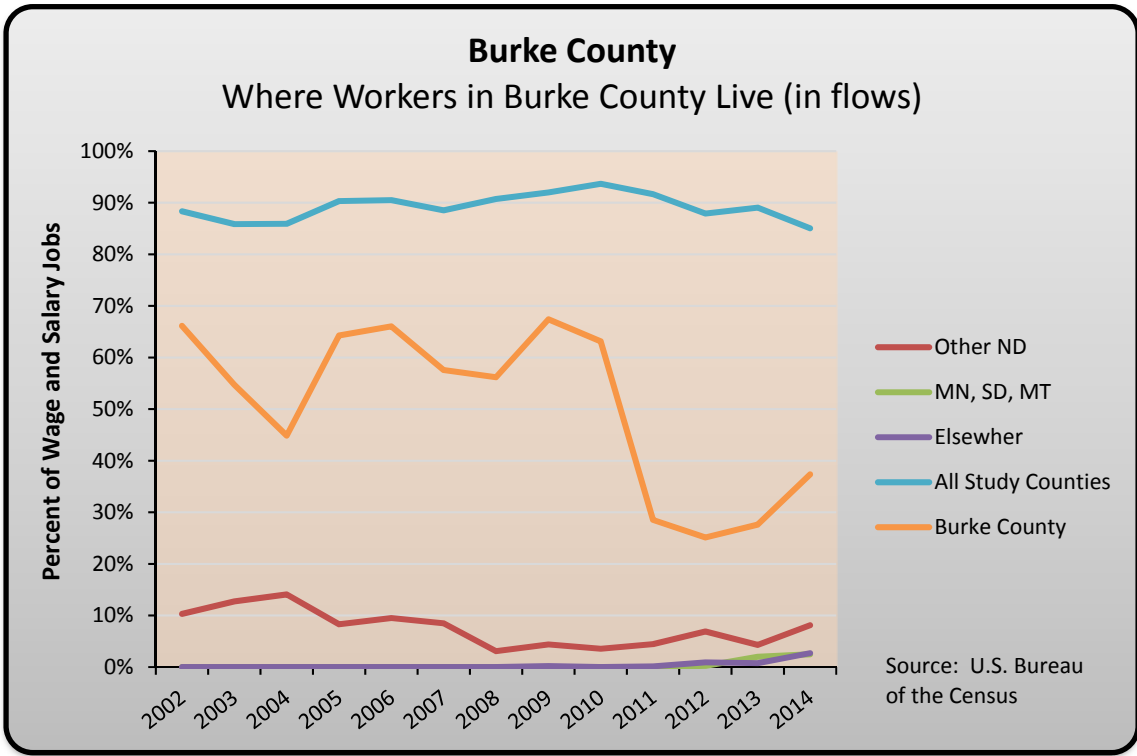
Sources: Job Service North Dakota; 2016 Statewide Housing Needs Assessment, NDSU

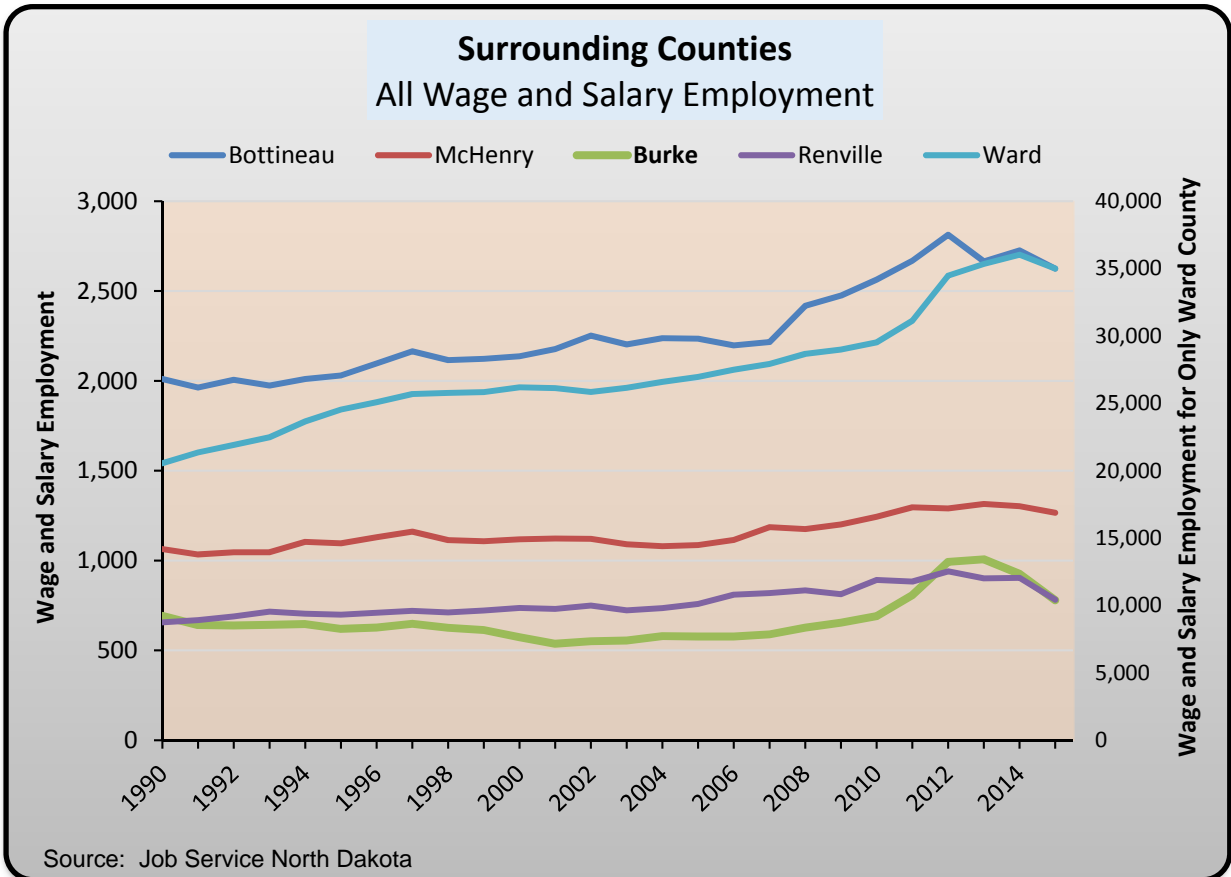
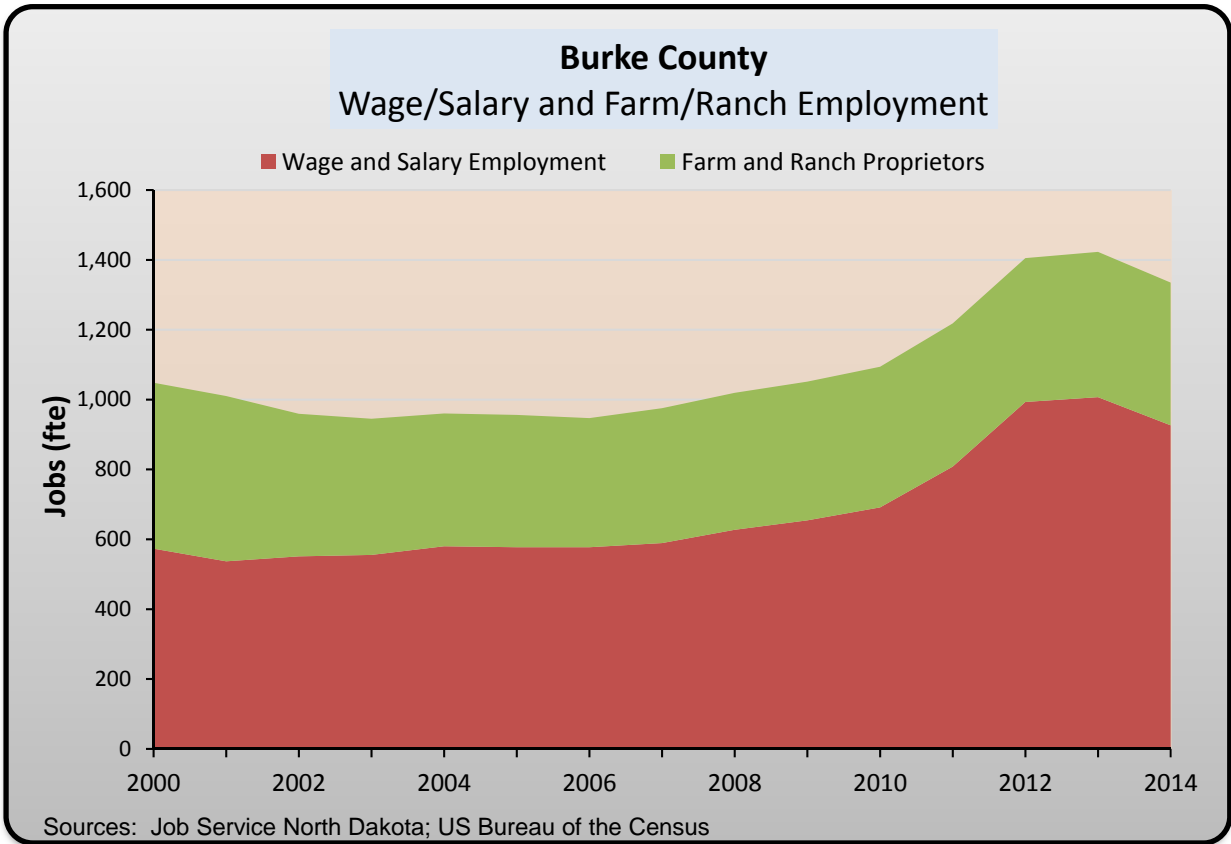
### Burke County

#### Trends in Fertility and Mortality Rates

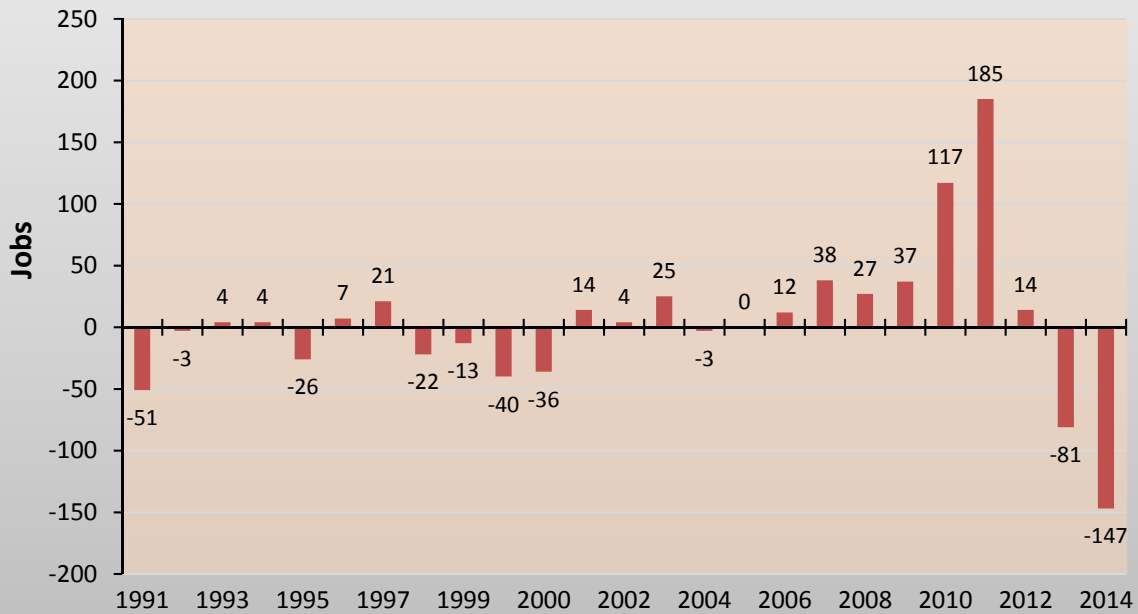


Source: 2016 Statewide Housing Needs assessment, NDSU





### Burke County Annual Change in Wage/Salary Employment



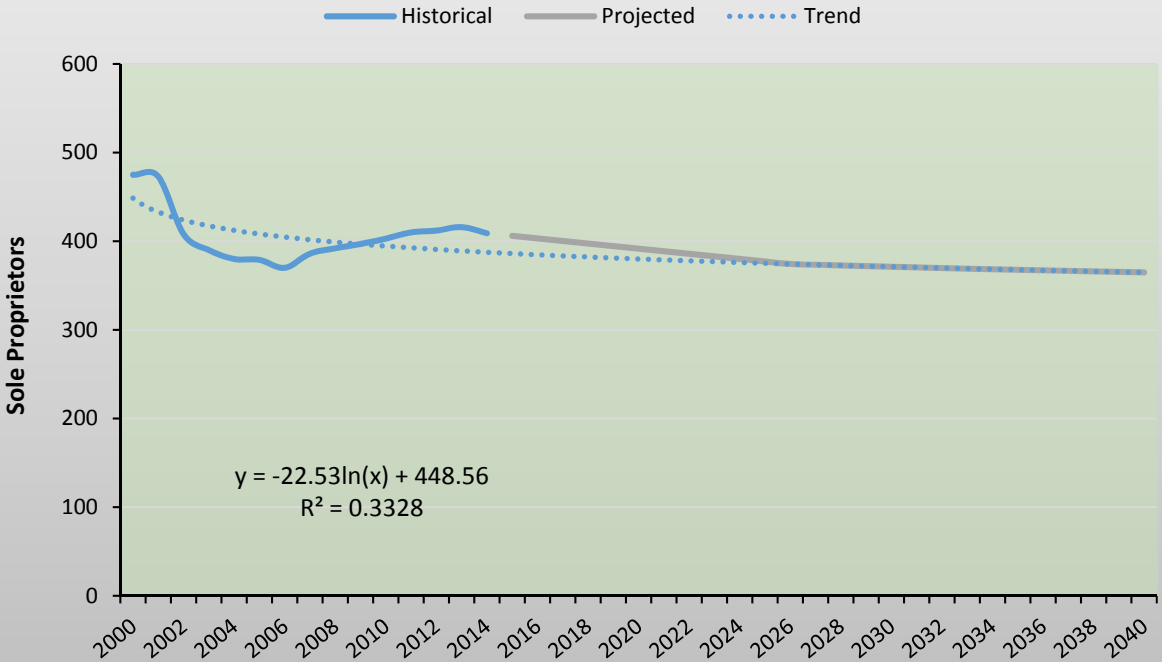
Source: Job Service North Dakota

### Historical Rates of Change in Wage and Salary Employment, Burke County, North Dakota, 1990 to 2015

	Historical Periods			
	25-year 1990-2015	15-year 2000-2015	10-year 2005-2015	5-year 2010-2015
<b>Change in Employment</b>				
Total Period Change (jobs)	87	206	202	88
Total Period Change (%)	12.6%	36.0%	35.0%	12.7%
Average Annual (jobs)	3.5	13.7	20.2	17.6
Average Annual (%)	0.75%	2.5%	3.6%	3.5%

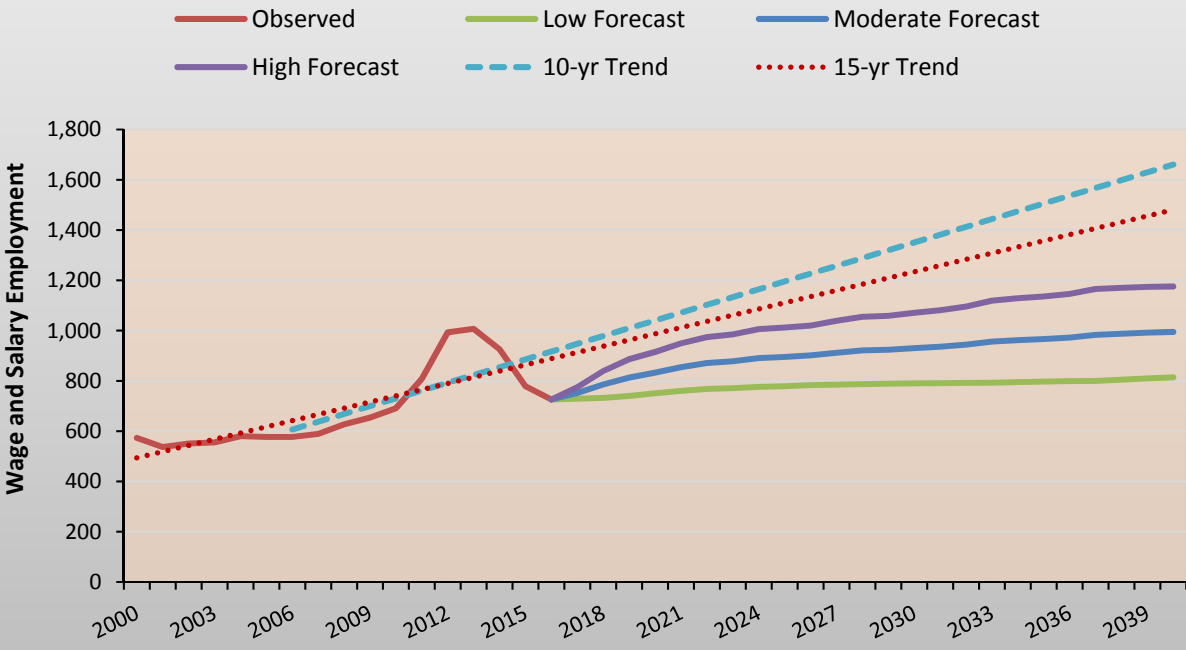
Source: Job Service North Dakota

### Burke County Historical and Projected Farm and Ranch Operators



Sources: US Bureau of the Census; NDSU Employment Forecasting

### Burke County Historical and Projected Wage and Salary Employment



Sources: Job Service North Dakota; NDSU Employment Forecasting

## Historical and Projected Employment, by Economic Scenario, Burke County, North Dakota 2002 - 2040

Year	Wage and Salary Employment			Farm and Ranch Proprietors		
	Actual	Low Scenario	Moderate Scenario	High Scenario	Actual	Projected
2000	573				475	
2001	537				473	
2002	551				408	
2003	555				390	
2004	580				380	
2005	577				379	
2006	577				370	
2007	589				386	
2008	627				392	
2009	654				397	
2010	691				403	
2011	808				410	
2012	993				412	
2013	1,007				416	
2014	926				409	
2015	779					406
2016		726	726	726		403
2017		729	752	775		400
2018		732	786	839		397
2019		740	813	886		395
2020		751	833	915		392
2021		760	855	949		389
2022		768	871	974		386
2023		771	878	985		383
2024		776	891	1,006		380
2025		779	896	1,012		377
2026		783	902	1,020		374
2027		785	912	1,039		373
2028		787	921	1,055		373
2029		789	924	1,059		372
2030		790	931	1,071		371
2031		791	936	1,081		370
2032		792	944	1,096		370
2033		793	956	1,119		369
2034		795	962	1,129		368
2035		797	967	1,136		368
2036		799	973	1,146		367
2037		800	983	1,166		367
2038		805	988	1,170		366
2039		810	992	1,174		365
2040		814	995	1,176		365



## Historical and Projected Permanent Populations, by Economic Scenario, Burke County, North Dakota 2002 - 2040

Year	Actual	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2002	2,183									
2003	2,137									
2004	2,108									
2005	2,081									
2006	2,042									
2007	1,975									
2008	1,933									
2009	1,902									
2010	1,968									
2011	2,056									
2012	2,170									
2013	2,291									
2014	2,245									
2015	2,257									
2016		2,243	2,243	2,243	2,243	2,243	2,243	2,243	2,243	2,243
2017		2,175	2,182	2,186	2,219	2,222	2,225	2,249	2,249	2,249
2018		2,202	2,211	2,220	2,282	2,291	2,301	2,336	2,345	2,359
2019		2,233	2,244	2,256	2,321	2,336	2,346	2,395	2,405	2,421
2020		2,266	2,281	2,297	2,361	2,375	2,391	2,445	2,462	2,479
2021		2,290	2,307	2,324	2,388	2,405	2,423	2,481	2,500	2,520
2022		2,298	2,316	2,333	2,399	2,416	2,436	2,496	2,520	2,540
2023		2,305	2,325	2,346	2,410	2,430	2,450	2,511	2,534	2,558
2024		2,320	2,342	2,364	2,428	2,450	2,472	2,525	2,551	2,576
2025		2,326	2,348	2,371	2,436	2,461	2,485	2,541	2,566	2,595
2026		2,330	2,353	2,378	2,446	2,470	2,495	2,551	2,578	2,602
2027		2,330	2,354	2,380	2,447	2,470	2,499	2,552	2,580	2,606
2028		2,326	2,351	2,377	2,449	2,471	2,503	2,561	2,591	2,618
2029		2,327	2,351	2,377	2,454	2,473	2,509	2,572	2,603	2,631
2030		2,316	2,342	2,369	2,452	2,480	2,508	2,582	2,614	2,642
2031		2,310	2,334	2,360	2,450	2,478	2,508	2,583	2,620	2,653
2032		2,306	2,331	2,357	2,455	2,482	2,515	2,596	2,630	2,663
2033		2,311	2,338	2,365	2,465	2,494	2,526	2,612	2,647	2,681
2034		2,306	2,334	2,363	2,473	2,496	2,534	2,625	2,657	2,696
2035		2,307	2,336	2,367	2,475	2,504	2,543	2,632	2,670	2,708
2036		2,300	2,331	2,364	2,480	2,508	2,551	2,647	2,686	2,724
2037		2,298	2,330	2,365	2,487	2,519	2,562	2,662	2,702	2,742
2038		2,301	2,335	2,372	2,498	2,530	2,576	2,677	2,719	2,760
2039		2,308	2,344	2,383	2,509	2,545	2,590	2,691	2,733	2,775
2040		2,320	2,358	2,399	2,526	2,564	2,610	2,712	2,755	2,799

<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.

## Historical and Projected Service Populations, by Economic Scenario, Burke County, North Dakota 2002 - 2040

Year	Estimated	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2002	2,240									
2003	2,208									
2004	2,190									
2005	2,129									
2006	2,097									
2007	2,025									
2008	1,952									
2009	1,932									
2010	1,993									
2011	2,093									
2012	2,250									
2013	2,362									
2014	2,368									
2015	2,350									
2016		2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339	2,339
2017		2,269	2,276	2,280	2,316	2,319	2,322	2,349	2,348	2,349
2018		2,298	2,307	2,316	2,384	2,393	2,403	2,442	2,452	2,466
2019		2,330	2,342	2,355	2,426	2,441	2,452	2,506	2,517	2,533
2020		2,366	2,382	2,398	2,468	2,483	2,500	2,559	2,577	2,595
2021		2,390	2,408	2,426	2,497	2,514	2,533	2,598	2,617	2,639
2022		2,398	2,417	2,435	2,508	2,526	2,547	2,613	2,638	2,659
2023		2,404	2,425	2,447	2,519	2,539	2,560	2,628	2,652	2,677
2024		2,420	2,442	2,466	2,537	2,560	2,583	2,642	2,669	2,696
2025		2,425	2,448	2,472	2,544	2,570	2,596	2,658	2,684	2,715
2026		2,428	2,453	2,478	2,554	2,579	2,605	2,668	2,695	2,721
2027		2,428	2,453	2,479	2,554	2,578	2,608	2,668	2,697	2,724
2028		2,423	2,449	2,476	2,555	2,578	2,611	2,677	2,708	2,736
2029		2,422	2,448	2,474	2,559	2,579	2,617	2,687	2,719	2,749
2030		2,410	2,437	2,465	2,556	2,585	2,615	2,696	2,729	2,759
2031		2,402	2,427	2,454	2,553	2,582	2,614	2,696	2,735	2,769
2032		2,397	2,423	2,450	2,558	2,585	2,620	2,709	2,744	2,778
2033		2,402	2,429	2,458	2,567	2,597	2,630	2,724	2,761	2,796
2034		2,395	2,424	2,454	2,574	2,598	2,637	2,737	2,770	2,811
2035		2,395	2,425	2,457	2,575	2,605	2,646	2,743	2,783	2,821
2036		2,387	2,419	2,453	2,579	2,608	2,653	2,757	2,798	2,838
2037		2,383	2,417	2,453	2,586	2,618	2,663	2,772	2,814	2,855
2038		2,385	2,421	2,459	2,595	2,629	2,676	2,786	2,830	2,872
2039		2,392	2,429	2,469	2,606	2,643	2,690	2,799	2,843	2,887
2040		2,404	2,443	2,485	2,622	2,662	2,709	2,819	2,865	2,910

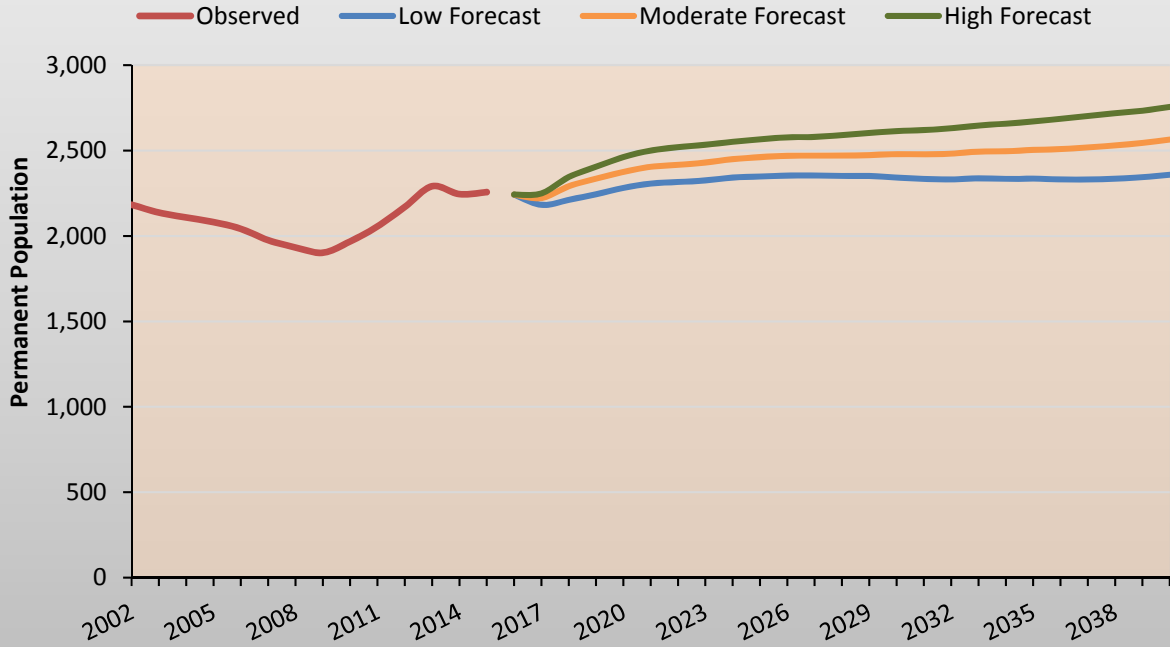
<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.

## Projected Permanent and Service Populations, by Economic Scenario, Burke County, North Dakota 2017 – 2040

	Low Scenarios			Moderate Scenarios			High Scenarios		
	Low	Mid	High	Low	Mid	High	Low	Mid	High
----- Permanent Population -----									
Total Percentage Change in Population	3.5%	5.2%	7.0%	12.6%	14.3%	16.4%	20.9%	22.9%	24.8%
Average Annual Change in Population	3	5	7	12	13	15	20	21	23
Average Annual Percentage Change in Population	0.15%	0.21%	0.28%	0.50%	0.56%	0.64%	0.80%	0.87%	0.93%
----- Service Population -----									
Total Percentage Change in Population	2.8%	4.4%	6.2%	12.1%	13.8%	15.8%	20.5%	22.5%	24.4%
Average Annual Change in Population	2.7	4.3	6.1	11.8	13.4	15.4	20	21.9	23.8
Average Annual Percentage Change in Population	0.12%	0.18%	0.26%	0.48%	0.54%	0.62%	0.78%	0.85%	0.92%

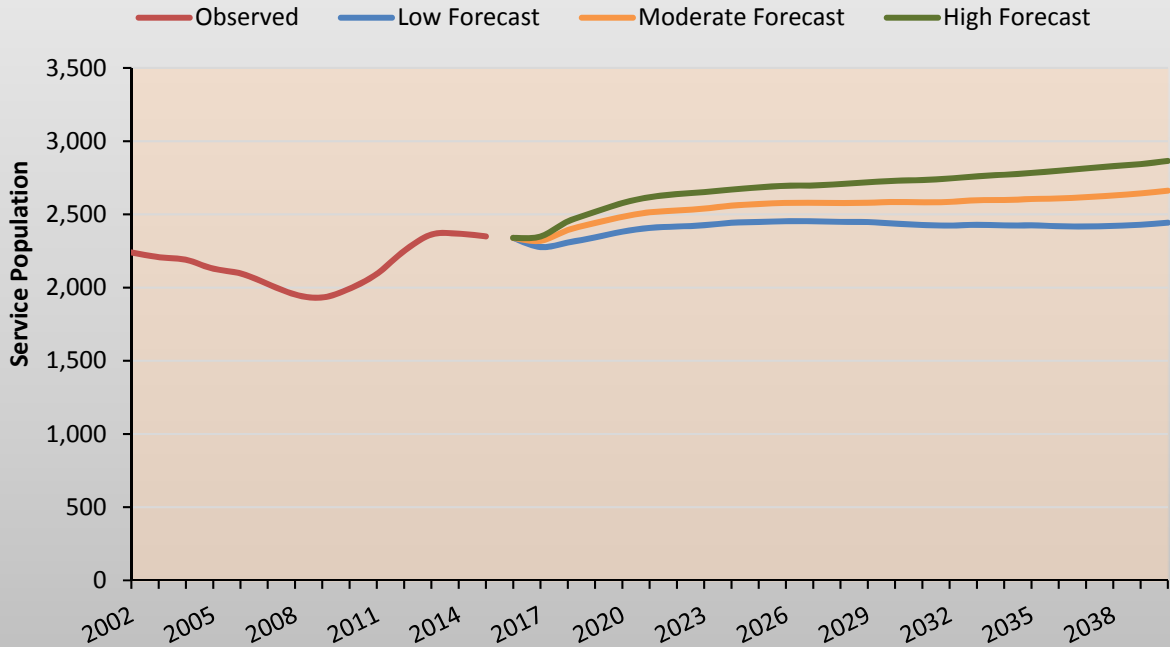
NOTE: Permanent population refers to individuals that live in permanent housing and are counted as residents of that respective geography. Service population is a head count of all individuals living in an area regardless of residency, even if some of those individuals reside in temporary, seasonal, or other undocumented lodging arrangements. Service population in this study also includes commuting workers who are employed in the county but retain permanent residence elsewhere.

### Burke County Permanent Population

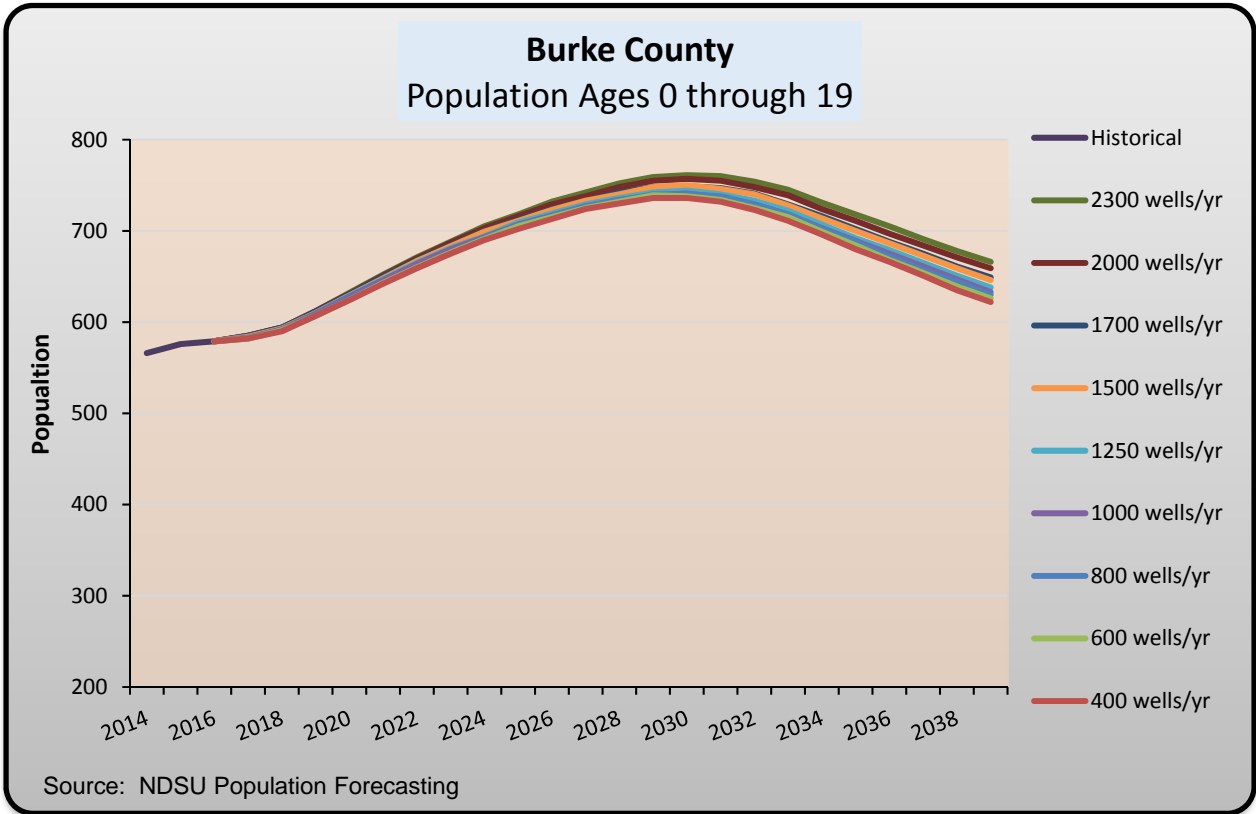
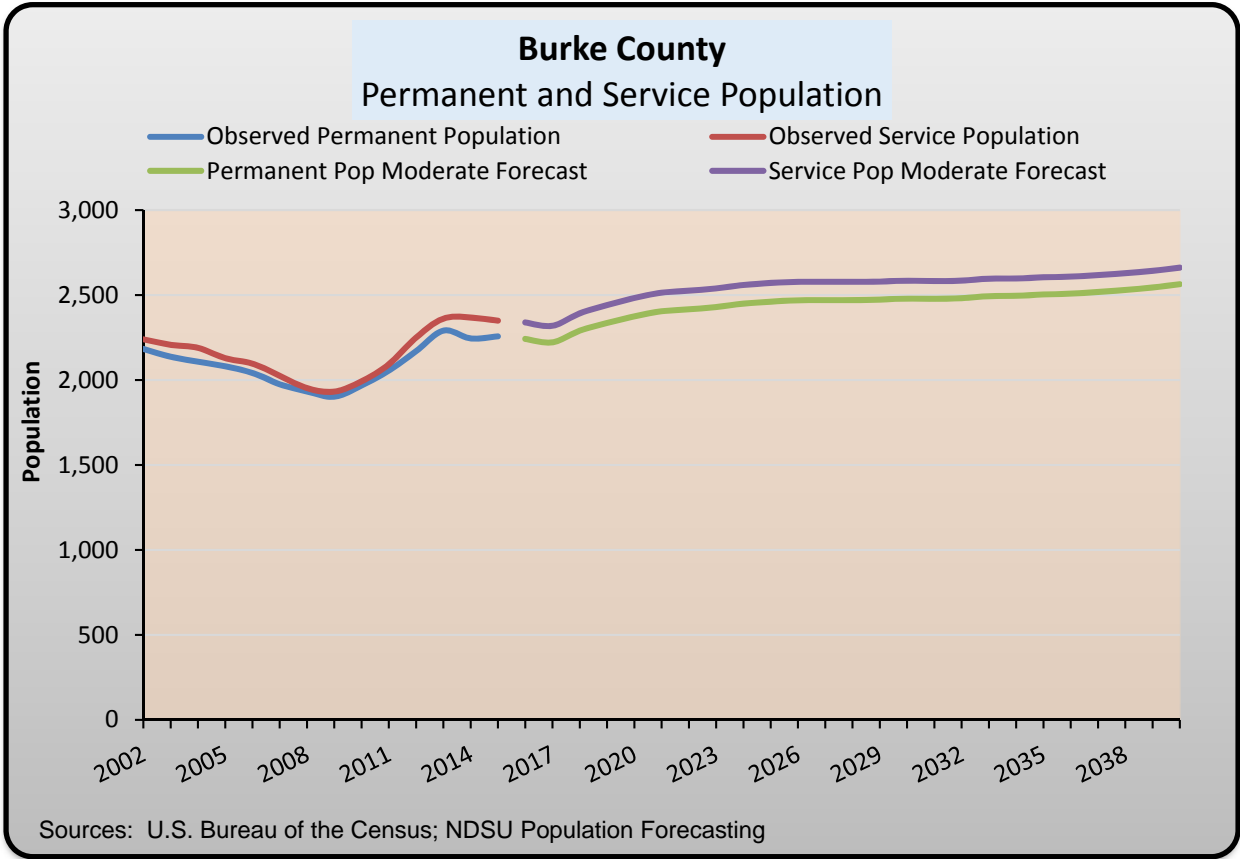


Sources: U.S. Bureau of the Census; NDSU Population Forecasting

### Burke County Service Population



Sources: U.S. Bureau of the Census; NDSU Population Forecasting



## Historical and Projected Population Ages 0 through 4, by Economic Scenario, Burke County, North Dakota 2002 – 2039

Year	Actual	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2014	180									
2015	187									
2016	189									
2017		189	189	189	189	189	190	190	190	190
2018		191	192	192	192	192	193	193	193	193
2019		194	194	194	195	196	196	196	197	197
2020		194	194	194	196	197	197	198	199	199
2021		193	194	194	196	197	198	199	200	201
2022		191	192	192	194	195	197	198	200	201
2023		187	188	188	190	191	193	193	196	197
2024		182	183	183	183	184	187	187	190	192
2025		177	178	179	178	179	181	181	184	186
2026		171	172	173	171	172	175	174	178	180
2027		166	167	168	166	167	169	168	171	174
2028		161	162	163	161	162	164	163	166	169
2029		156	157	158	156	157	160	159	162	164
2030		150	151	152	151	152	155	154	157	159
2031		144	145	147	146	147	149	149	151	153
2032		138	139	140	140	141	143	144	146	148
2033		133	134	135	135	136	138	139	140	142
2034		128	129	130	131	132	134	135	136	138
2035		125	126	127	129	129	131	132	134	135
2036		124	124	125	127	128	129	131	132	134
2037		124	124	125	128	129	130	132	133	134
2038		125	126	127	130	131	132	134	135	136
2039		128	129	130	133	134	135	138	139	140

<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.

## Historical and Projected Population Ages 5 through 9, by Economic Scenario, Burke County, North Dakota 2002 – 2039

Year	Actual	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2014	149									
2015	154									
2016	157									
2017		159	159	159	159	159	159	159	159	159
2018		165	165	165	165	165	165	165	165	165
2019		178	178	178	178	178	178	178	178	178
2020		191	191	191	191	191	191	191	191	191
2021		201	201	201	201	201	201	201	201	201
2022		209	209	209	210	210	210	210	210	210
2023		215	215	215	216	216	216	217	217	217
2024		217	217	218	219	219	220	221	221	221
2025		217	218	218	220	221	221	222	223	223
2026		216	217	217	220	221	222	223	224	225
2027		214	214	215	217	218	220	221	223	224
2028		209	210	210	212	213	215	216	219	220
2029		203	204	204	204	205	208	208	212	214
2030		197	198	199	198	199	202	201	205	207
2031		191	192	193	191	192	195	194	198	201
2032		185	186	187	185	186	189	188	191	194
2033		179	181	182	179	181	183	182	186	189
2034		174	175	176	174	175	178	177	180	183
2035		167	169	170	169	170	172	172	175	177
2036		161	162	163	163	164	166	166	169	171
2037		155	156	157	157	158	160	160	163	165
2038		148	149	151	151	152	154	155	157	159
2039		143	144	145	146	147	149	150	152	154

<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.

## Historical and Projected Population Ages 10 through 14, by Economic Scenario, Burke County, North Dakota 2002 – 2039

Year	Actual	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2014	125									
2015	126									
2016	126									
2017		126	126	126	126	126	126	126	126	126
2018		126	126	126	126	126	126	126	126	126
2019		126	126	126	126	126	126	126	126	126
2020		128	128	128	128	128	128	128	128	128
2021		135	135	135	135	135	135	135	135	135
2022		145	145	145	145	145	145	145	145	145
2023		158	158	158	158	158	158	158	158	158
2024		175	175	175	175	175	175	175	175	175
2025		189	189	189	189	189	189	189	189	189
2026		200	200	200	200	200	200	200	200	200
2027		208	208	208	208	208	208	208	208	208
2028		212	212	212	213	213	213	214	214	214
2029		213	214	214	215	216	216	217	217	217
2030		213	213	213	215	216	216	217	218	218
2031		211	211	212	214	215	216	217	219	219
2032		208	208	209	211	212	214	215	217	218
2033		203	204	205	206	207	209	209	213	214
2034		197	198	199	199	200	202	202	206	208
2035		192	193	194	192	193	196	196	199	202
2036		186	187	188	186	187	190	189	192	195
2037		180	181	182	180	181	184	183	186	189
2038		174	176	177	175	176	179	177	181	183
2039		169	170	171	170	171	174	173	176	178

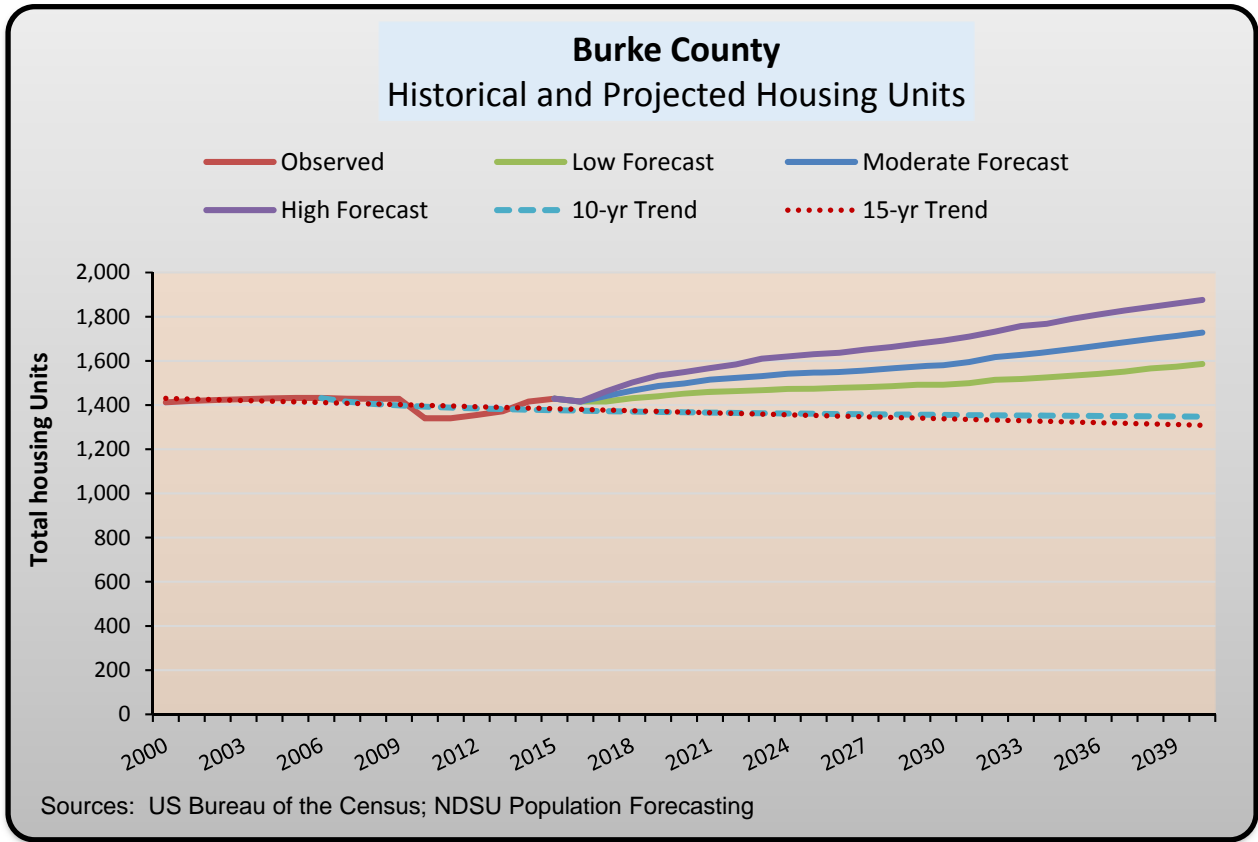
<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.



## Historical and Projected Population Ages 15 through 19, by Economic Scenario, Burke County, North Dakota 2002 – 2039

Year	Actual	Low Scenarios			Moderate Scenarios			High Scenarios		
		Low <sup>1</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>2</sup>	Low <sup>2</sup>	Mid	High <sup>1</sup>
2014	112									
2015	109									
2016	107									
2017		108	108	108	109	109	109	110	110	110
2018		108	108	108	109	109	109	110	110	110
2019		109	109	109	110	110	110	111	111	111
2020		111	111	112	113	113	113	113	113	114
2021		113	113	113	114	114	114	115	115	115
2022		114	114	114	115	115	115	115	115	115
2023		115	115	115	116	116	116	116	116	116
2024		116	116	116	116	116	117	117	117	117
2025		119	120	120	120	120	120	120	120	120
2026		126	126	126	126	126	126	127	127	127
2027		136	136	136	136	136	136	136	136	136
2028		148	148	148	148	148	148	149	149	149
2029		164	164	164	164	164	164	164	164	164
2030		176	176	176	177	177	177	177	177	177
2031		186	186	186	186	186	186	187	187	187
2032		192	192	193	193	194	194	194	194	194
2033		196	196	196	198	198	198	199	200	200
2034		197	197	197	199	200	200	202	202	202
2035		196	196	197	199	200	201	202	203	204
2036		195	195	196	199	200	201	202	204	205
2037		192	193	193	196	197	199	200	202	203
2038		188	188	189	191	192	194	195	198	200
2039		182	183	184	184	186	188	188	192	194

<sup>1</sup>Developed from extrapolation of main forecasts. <sup>2</sup>Developed from interpolation between main forecasts.

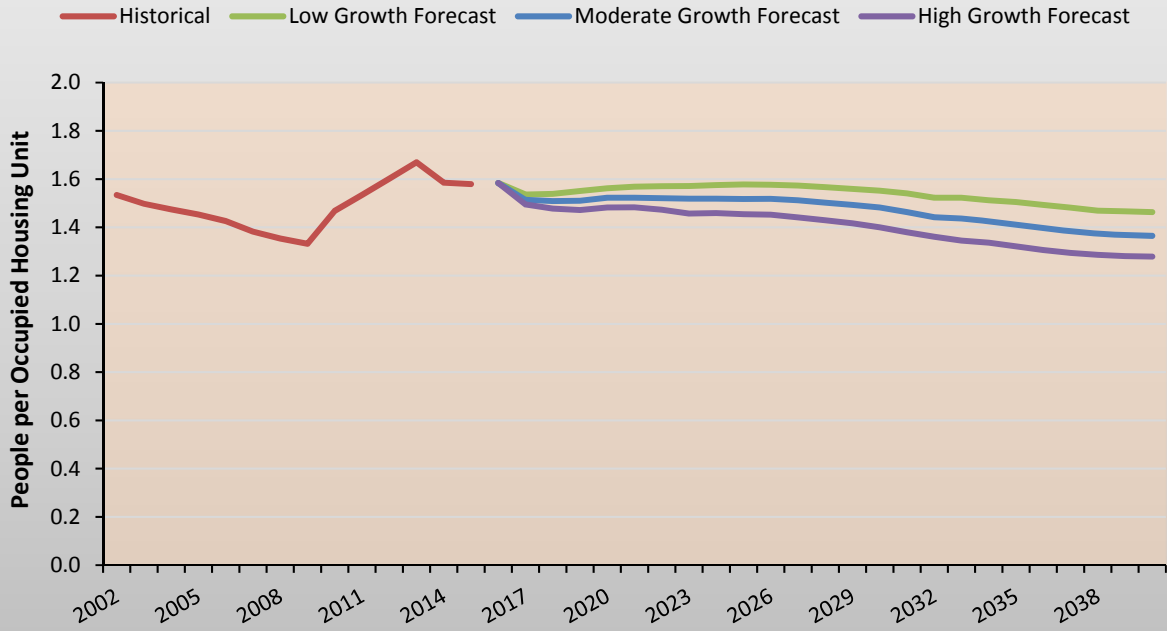


### Projected Housing Inventory Requirements for Permanent Population, by Economic Scenario, Burke County, North Dakota 2017 – 2040

	Low Scenarios			Moderate Scenarios			High Scenarios		
	Low	Mid	High	Low	Mid	High	Low	Mid	High
	----- Permanent Housing -----								
Total Percentage Change in Housing	na	12.0%	na	na	22.0%	na	na	32.5%	na
Average Annual Change in Housing (no. of units)	na	7.1	na	na	13.0	na	na	19.2	na
Average Annual Percentage Change in Housing	na	0.47%	na	na	0.83%	na	na	1.18%	na

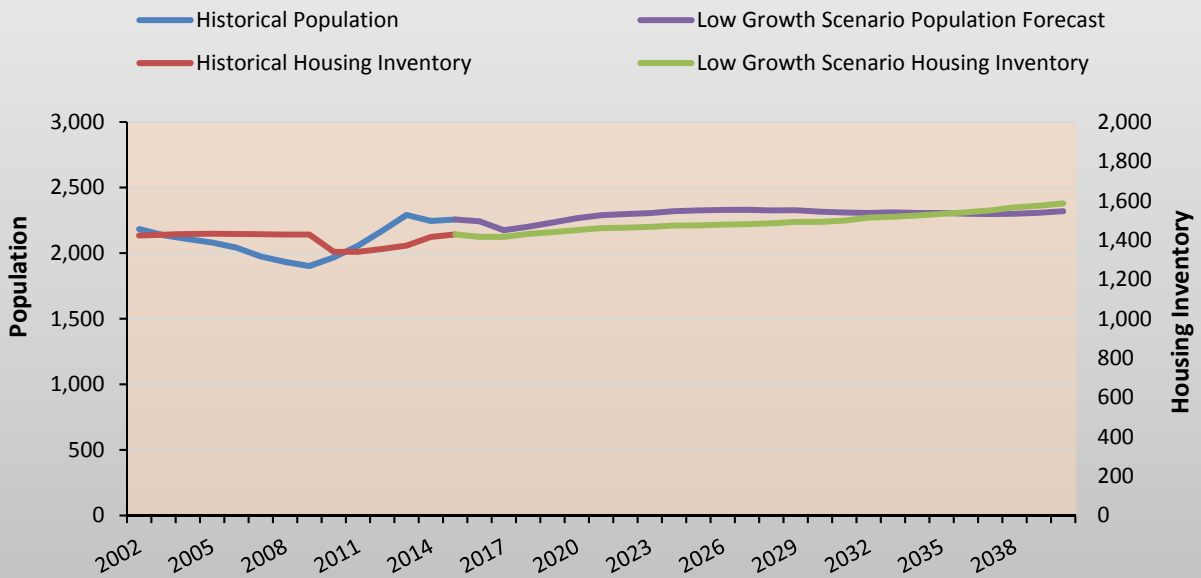
NA=not available. Projected housing inventories were only estimated for the medium rig count for the low, moderate, and high oil price scenarios.

## Burke County People per Occupied Housing Unit



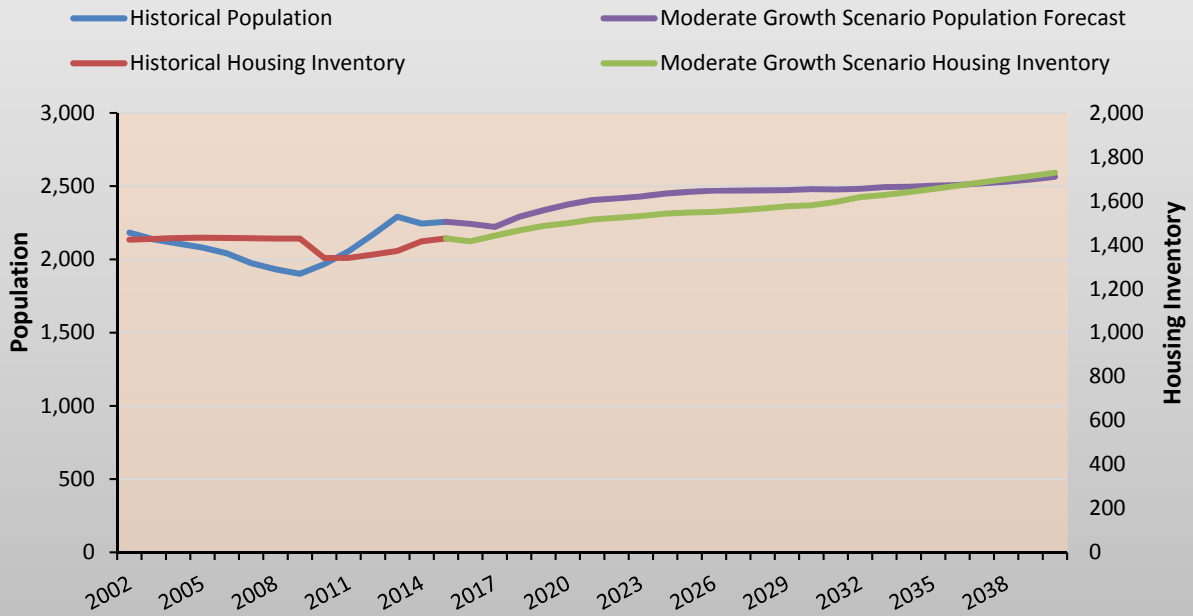
Sources: U.S. Bureau of the Census; NDSU Forecasting

## Burke County Population and Housing Inventories



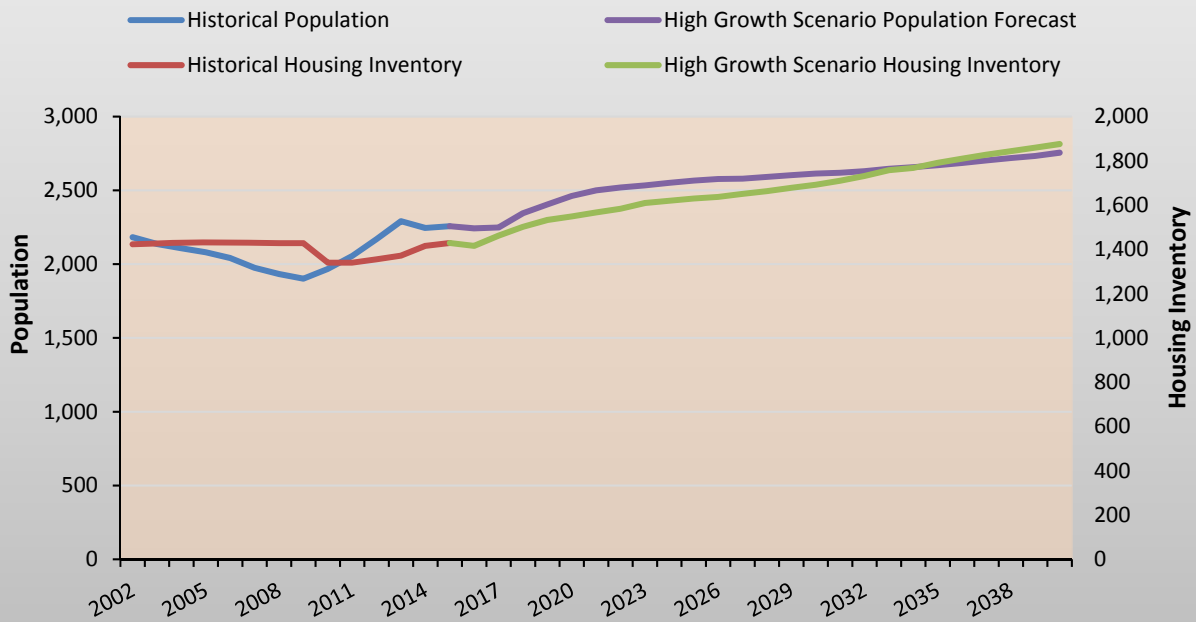
Sources: U.S. Bureau of the Census; NDSU Forecasting

## Burke County Population and Housing Inventories



Sources: U.S. Bureau of the Census; NDSU Forecasting

## Burke County Population and Housing Inventories



Sources: U.S. Bureau of the Census; NDSU Forecasting

## Historical and Projected Rates of Change in Housing Inventories, Burke County, North Dakota, 2000 to 2035

	Historical Periods		
	15-year 2000-2015	10-year 2005-2015	5-year 2010-2015
Change in Housing Inventories			
Housing Units Added (total) <sup>1</sup>	17	-3	89
Housing Units Added (annual average) <sup>1</sup>	1.13	0	18

	Economic Growth Scenarios 2016 to 2035		
	Low	Moderate	High
Housing Units Required (total additional) <sup>2</sup>	117	238	378
Housing Units Required (average annual) <sup>2</sup>	6	12	19

<sup>1</sup>Based on 2000 and 2010 Decennial Censuses and 2016 North Dakota Statewide Housing Needs Assessment.

<sup>2</sup>Based on 2015 housing inventories reported in the 2016 North Dakota Statewide Housing Needs Assessment.

## Additional Resources

### 2016 Statewide Housing Needs Assessment

Link to report: <https://www.ndhfa.org/Publications/HousingNeeds.html>

### NDSU Department of Agribusiness and Applied Economics

Links to departmental reports: <http://ageconsearch.umn.edu/>  
<https://www.ag.ndsu.edu/agecon/>

### NDSU Center for Social Research

Link to the Center: <https://www.ndsu.edu/csr/>

### North Dakota Compass and North Dakota Kids Count

Links to programs: <http://www.ndcompass.org/>  
<http://www.ndkidscount.org/>

### Vision West ND

Link to their website: <http://www.visionwestnd.com/>

### North Dakota Job Service

Links to Job Service North Dakota reports pertaining to oil and gas industry  
North Dakota's Oil and Gas Economy

<https://www.ndworkforceintelligence.com/gsipub/index.asp?docid=578>

North Dakota Oil and Gas Industry Employment

<https://www.ndworkforceintelligence.com/gsipub/index.asp?docid=586>

### Census on the Map

Link to data portal: <http://onthemap.ces.census.gov/>

### Study Authors

Dean A. Bangsund  
Department of Agribusiness and Applied Economics  
NDSU  
[d.bangsund@ndus.edu](mailto:d.bangsund@ndus.edu)  
701-231-7471

Nancy Hodur, PhD  
Center for Social Research  
NDSU  
[Nancy.hodur@ndus.edu](mailto:Nancy.hodur@ndus.edu)  
701-231-7357