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# Williston Basin 2012: Projections of Future Employment and Population North Dakota Summary

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KLJ has published a report entitled *Williston Basin Oil and Gas Related Electrical Load Growth Forecast (PF 12)* which contains a comprehensive presentation of the overall study findings. That document is available to the public at http://www.nd.gov/ndic/.

The authors assume responsibility for any errors of omission, logic, or otherwise. Any opinions, findings, and conclusions expressed in this publication are those of the authors and do not necessarily reflect the view of the Department of Agribusiness and Applied Economics, North Dakota State University, the North Dakota Transmission Authority, Basin Electric Power Cooperative, Montana-Dakota Utilities Co., or KLJ.

A single copy of this publication is available free of charge. Please address your inquiry to: Norma Ackerson, Department of Agribusiness and Applied Economics, North Dakota State University, PO Box 6050, Fargo, ND 58105-6050, phone (701-231-7441), fax (701-231-7400), or email: norma.ackersonn@ndsu.edu . This publication is also available electronically at the following web site: http://ageconsearch.umn.edu/

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# Study Perspective

The oil boom in western North Dakota is creating issues for governments and businesses trying to manage the growth in employment, demands for infrastructure, and delivery of public services. The struggles associated with planning for the current oil boom are partially rooted in past experience that suggests oil booms are quickly followed by oil busts. Additionally, part of the problem has been due to the speed and magnitude of changes exhibited by the industry and a lack of understanding how this oil boom may be different from past boom/bust cycles. Long-term insights on the magnitude of oil field development and population expectations are critical to providing proper perspective to managing both short-term needs in the Williston Basin, but also in properly allocating sufficient resources to address long-term development.

The research reported here was part of a study to forecast electrical load growth in the Williston Basin. Employment and population forecasts presented in this summary were part of that larger study.

This summary paper highlights projections for North Dakota. While discussion of these projections is presented on a regional basis, county-level estimates for housing demand and population potential are contained in the attached appendices.

# Overview of Study Methods

Population is a key component in planning for future infrastructure needs. Population is usually forecast using standard cohort demographic models; however, due to rapidly changing conditions in the Williston Basin, existing demographic tools are inadequate. Those traditional methods lack data to adjust birth rates and in-migration rates, and those models fail to address the unique characteristics of the current workforce in the Williston Basin.

An alternate method was developed that linked employment to population. Projected employment growth in the Williston Basin was used to estimate future housing demand. Persons-per-household occupancy rates were then used with estimates of future housing demand to estimate population potential.

The overall method(s) used to develop projections of employment and population in the Williston Basin primarily were based on processes and procedures developed in other studies (Bangsund and Hodur 2012, Bangsund et al. 2012). This modeling process translating regional employment forecasts into demand for housing and converting housing demand into potential population also was used in the North Dakota Housing Finance Agency's Statewide Housing Needs Assessment study (Rathge et al. 2012).

# Projections

The following sections highlight projections for oil field development, direct employment in the petroleum industry, and future total employment in the Williston Basin in North Dakota. Employment in the petroleum industry is presented as statewide estimates, while total (petroleum and all other) employment is presented a regional level. Following the description of employment forecasts, housing demand is estimated and discussed at the regional level. The links between housing demand and population are then discussed, along with regional projections of population potential.

While forecasts of housing demand and population potential are described and discussed at the regional level in the following sections, both housing demand and population potential have been estimated at a county level and are presented in tabular form in the attached appendix.

## Outlook for Future Oil Field Development

The scope of future oil field development in the Williston Basin is unknown. Accordingly, three scenarios were developed, based on stakeholders' input, economic expectations, and reservoir characteristics in the Basin. The range of development scenarios provides context to address the uncertainty associated with the rate and extent of future oil field development (KLJ 2012).

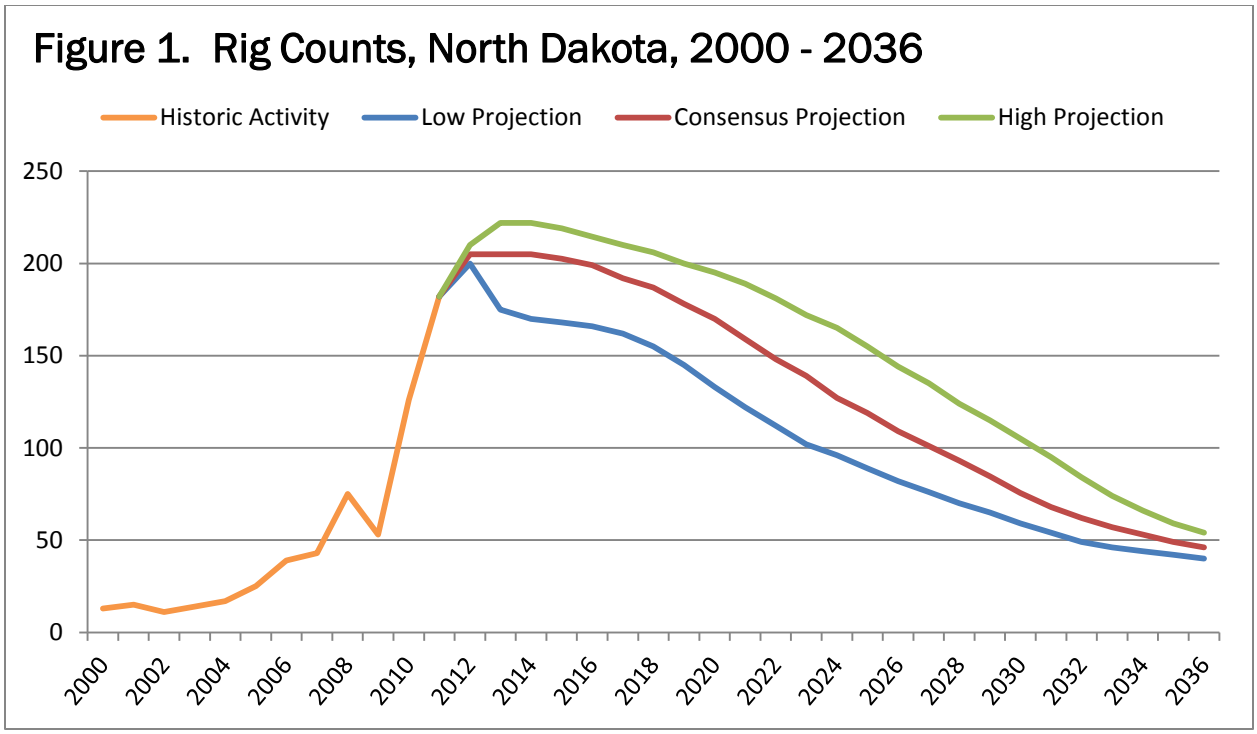
*Low*: The basic premise for the low scenario is that economic conditions or overall economic climate are worse than current conditions.

*Consensus*: The consensus scenario was designed around the premise that economic conditions remain relatively similar to those in early 2012.

*High*: The high scenario considers an improved economic climate relative to early 2012.

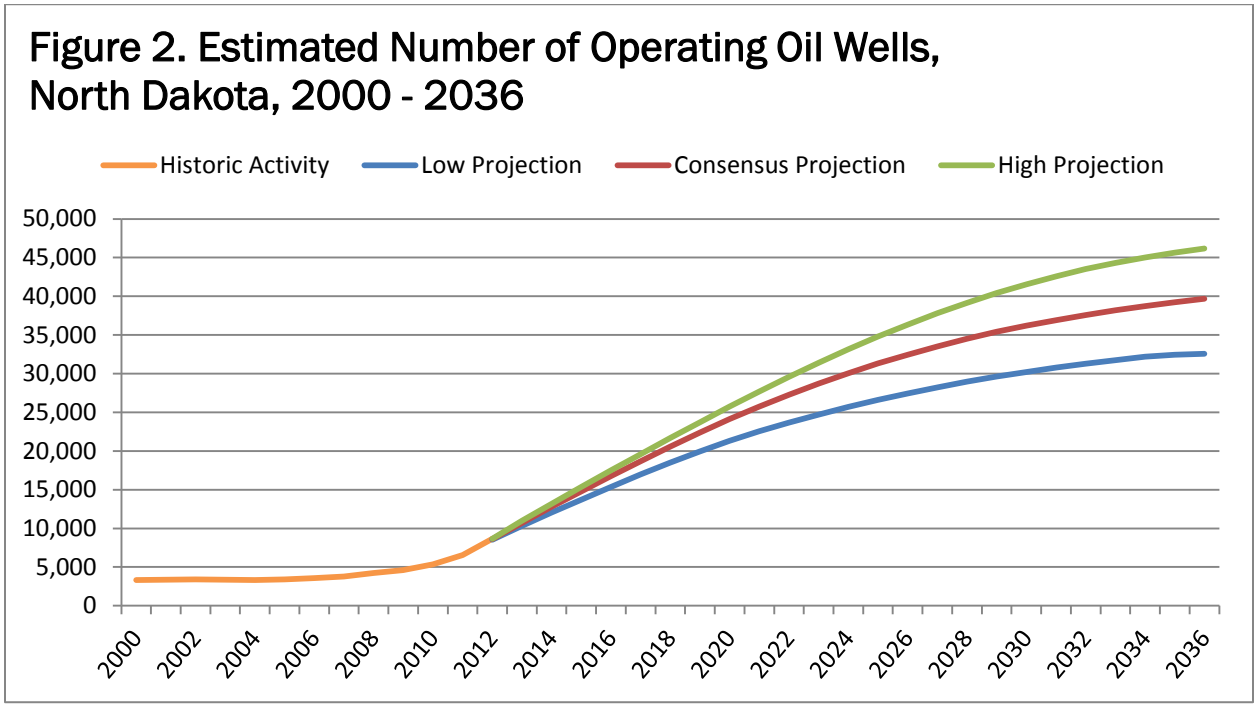
### Drilling Activities

The number of drilling rigs is an important factor in the rate of oil field development, and has direct implications on employment in the Basin. Rig counts were estimated for North Dakota for the three scenarios (Figure 1). Rig counts increase and eventually peak at 222 in 2014 in the high scenario. The consensus scenario has rig counts peaking at 205 in 2014, while rig counts have already peaked in the low scenario.




## Well Counts

The number of producing oil wells is a key metric to describe the extent or size of oil field development. North Dakota is projected in 2036 to have about 32,500 operating wells in the low scenario, 39,700 operating wells in the consensus scenario, and around 46,200 operating wells in the high scenario (Figure 2).



# Employment Projections

Employment estimates consist of three main components: direct employment in the oil and gas industry, secondary job creation, and employment in other industries and sectors.

*Petroleum Industry*: Direct employment in the petroleum industry was estimated for drilling, hydraulic fracturing (fracing), construction of in-field gathering systems, and oil field service for each development scenario (for more detail see Bangsund and Hodur 2012).

Employment in the petroleum industry was based on rig counts, well completions, number of existing wells and labor requirements for various aspects of the industry. Separate employment estimates were produced for exploration activities such as drilling and fracing, production operations such as well upkeep, infrastructure maintenance and transportation, and construction of oil field infrastructure and gathering systems. Labor coefficients were adjusted over time to reflect anticipated changes in labor requirements, production practices, and technological efficiencies.

*Secondary Job Creation*: The additional jobs expected to accrue over the projection period in the Williston Basin as a result of expansion of the oil and gas industry were estimated using a variety of methods (see Bangsund and Hodur 2012a). Examples of these jobs include doctors, teachers, mechanics, home builders, sales people, store clerks, accountants, and other jobs in the general economy.

*Other Industries*: Changes in regional employment were evaluated after removing direct employment in the oil and gas industry. Trend analysis of the employment change in remaining industries and economic sectors provided the basis for predicting future employment in non-petroleum related industries.

*Constraints on Employment Growth:* Factors that potentially reduce employment growth (i.e., housing, wages, labor force availability) were included in estimates of base employment and secondary employment [see Bangsund and Hodur (2012a) for a more in-depth discussion on employment constraints].

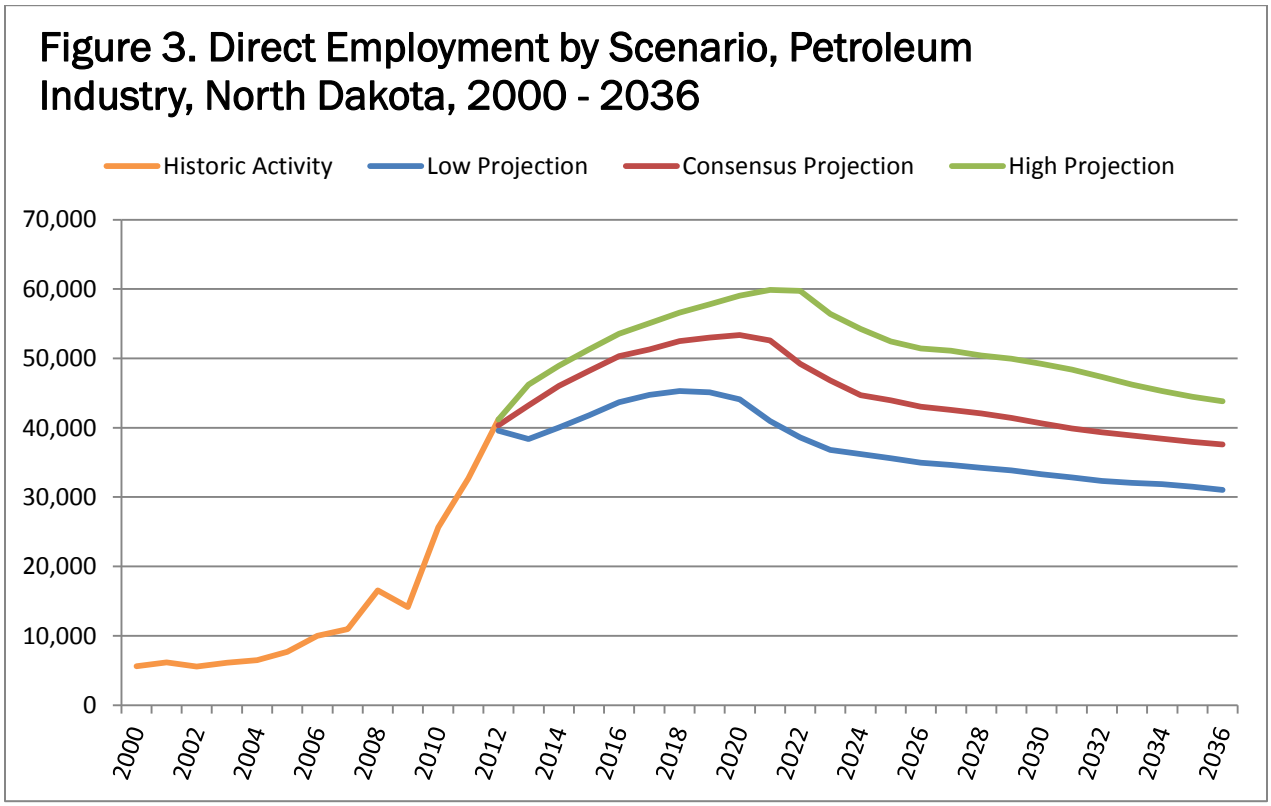
Workforce characteristics vary based on various oil and gas industry activities. Drilling and fracing, infrastructure construction, and gathering systems' construction largely consist of a temporary workforce. These workers are often residents of other states and work in a location until the job is complete and then move on to the next job site. Temporary workforce also includes shift workers with alternating patterns of working and non-working periods. Even though workers may be onsite or in the state for an extended period, they are viewed as a temporary resident relative to the life cycle of oil field development and are not considered established residents of the state in which they work.

The permanent workforce is comprised of individuals who work in the Williston Basin and are established permanent residents of North Dakota. Employment for oil field

services is an example of the type of industry activity that consists of a largely permanent workforce. The delineation between permanent and temporary workforces is important as each group of workers has different demands for goods and services, housing, and infrastructure.

## Petroleum Sector Employment

Petroleum sector employment in North Dakota was projected to peak 6 to 12 years in the future, depending upon the rate of future oil field development (Figure 3). Employment associated with constructing oil field gathering systems is expected to substantially contract about midway through the projection period. This assessment is based on the expectation that the gathering systems will be mostly completed after about half of the total wells are finished.

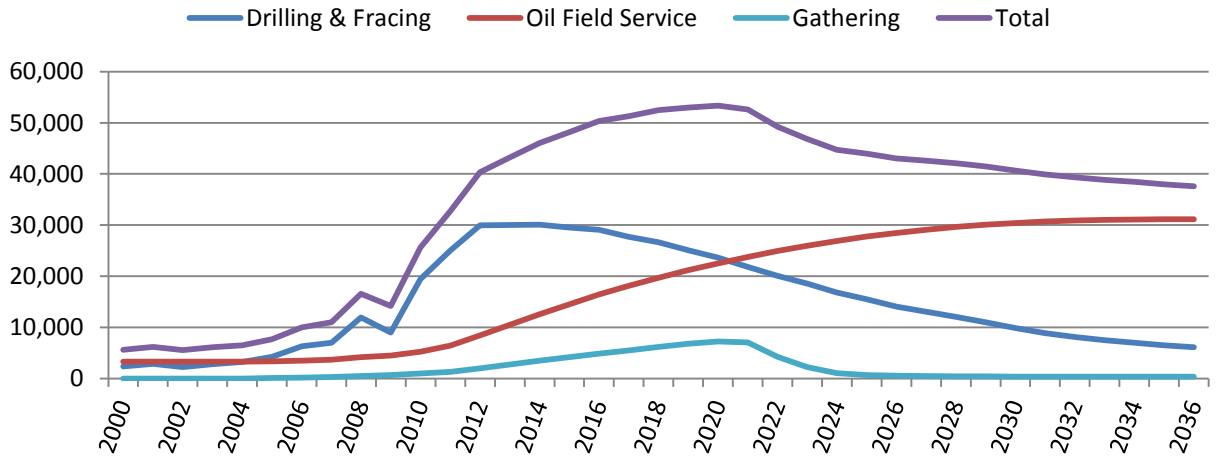



Total employment in the petroleum sector exhibits a sustained declining trend after achieving peak employment due to declining rig counts and labor efficiencies. After labor associated with constructing oil field gathering systems is largely removed from the region, changes in employment within the industry become largely driven by oil field service and well development.

## Employment Shifts within the Petroleum Industry

Employment shifts within the industry occur as near-term increases in employment are primarily due to growth in gathering systems employment, steady employment in drilling and fracing operations, and slowly accumulating employment in oil field service (Figure 4). Towards the end of the planning period, employment in the petroleum sector is largely a function of the number of wells, as employment in drilling and fracing is greatly reduced, and employment in gathering systems construction is mostly removed from the Williston Basin.

**Figure 4. Direct Employment by Industry Segment, Petroleum Sector, Consensus Scenario, North Dakota, 2000 - 2036**




Overall labor in the petroleum sector is modeled to slowly decline over the second half of the projection period. Declining rig counts and reduced labor requirements associated with efficiencies in future drilling operations reduces labor in that segment of the industry. Simultaneously, employment in the oil service segment of the industry increases. Reduction in the decrease in labor for drilling and fracing are slightly greater than the increase in demand for labor for oil field service. The net effect is that employment in the industry slowly decreases. Labor efficiencies associated with oil field service offset some of the employment gains associated with an increase in well counts; this trend contributes to the slow decline in overall employment. While employment grows in the oil service segment of the industry, employment does not grow at a rate proportional to the change in well counts.

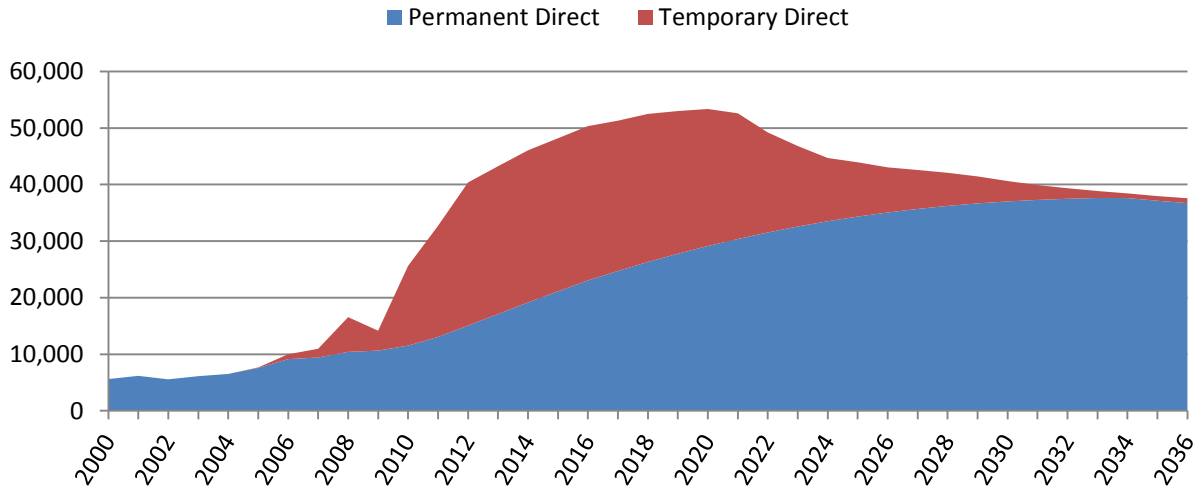
## Temporary and Permanent Workforce in the Petroleum Sector

Temporary and permanent workers within various components of the oil and gas industry were delineated separately for drilling, fracing, gathering systems construction, and oil field service. Understanding the future labor characteristics and the implications of a

changing labor dynamic within the industry is critical to identifying and quantifying short-term and long-term labor requirements within the industry. Workforce characteristics also play an important role in estimating secondary employment, and have substantial implications for projecting both short-term and long-term housing needs.

Current employment in the petroleum sector is dominated by a temporary workforce associated with drilling, fracing, and construction of gathering systems within the oil fields. Across all scenarios, temporary workforce peaks at about the same time as total oil and gas employment. Temporary workforce rapidly declines throughout the remainder of the planning period. While the temporary workforce is decreasing, permanent employment, including oil field service employment, is growing. As oil field service employment grows, so do demands for permanent housing and commercial activity. Employment in the petroleum sector is currently dominated by a temporary workforce. However, over the next 20 to 30 years, employment in the industry will transition to a more permanent workforce (Figure 5).

**Figure 5. Direct Employment by Temporary and Permanent Workforce, Petroleum Industry, Consensus Scenario, North Dakota, 2000 - 2036**




Two salient observations regarding changes in petroleum sector employment in the next several decades are observed. First, across all scenarios, petroleum sector employment peaks and then declines. The second observation is that the composition of employment workforce in the petroleum sector is expected to be much different in the next 20 to 30 years.

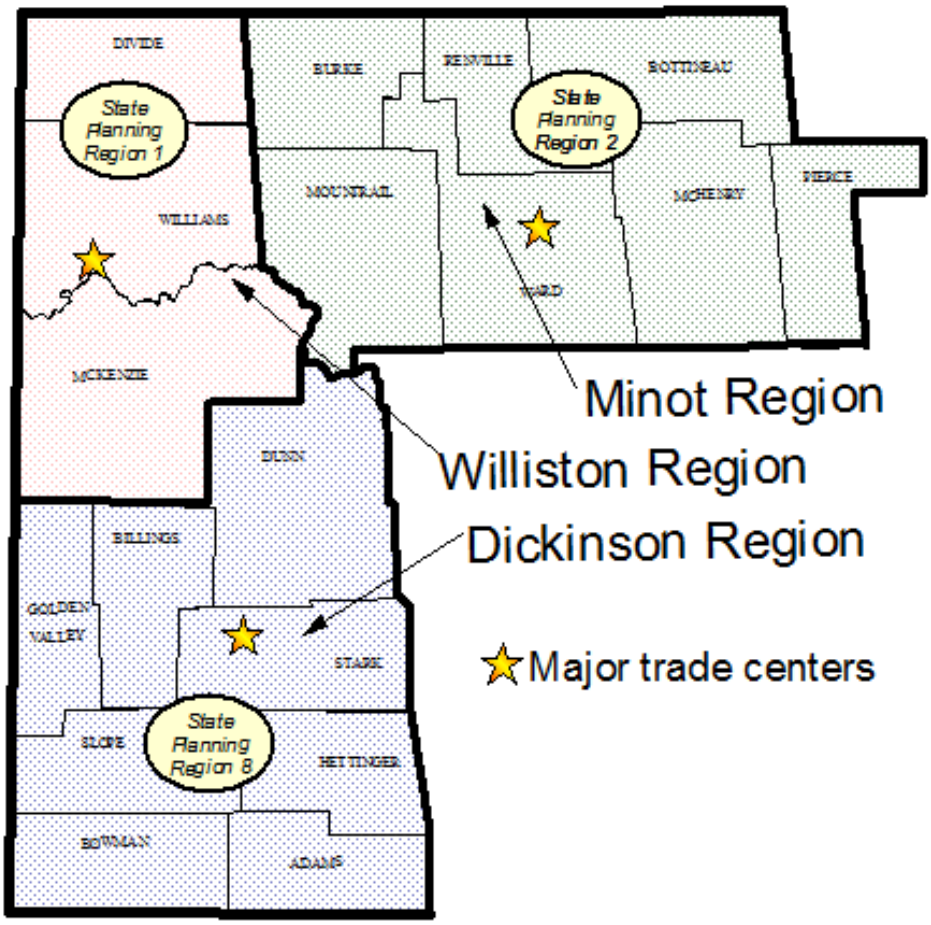
While per-well labor requirements to maintain and service future wells are expected to be lower than current requirements, the number of wells and associated activities, such as pipelines and processing plants, will be the driving factor in oil and gas industry

employment. The number of wells in the Williston Basin in all scenarios are considerably higher than current well counts.

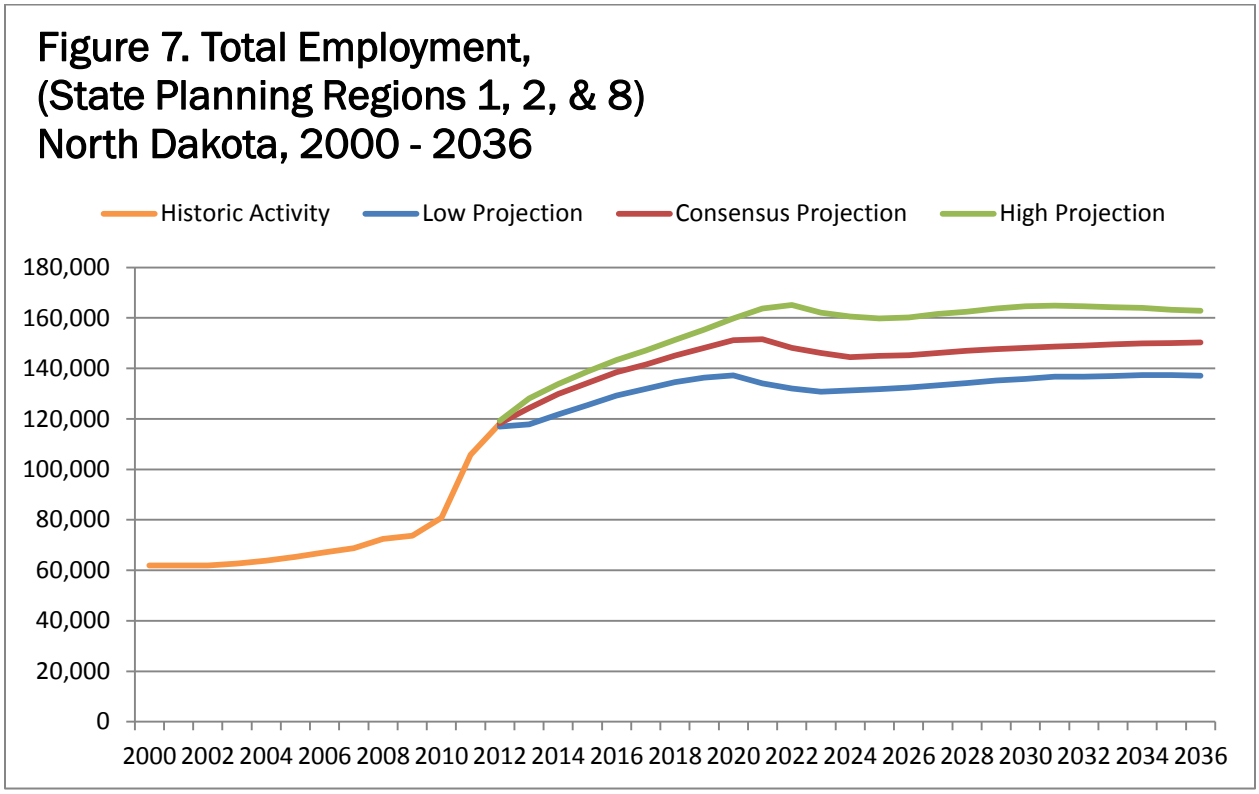
## Williston, Dickinson, and Minot Regional Employment

Total employment in the Williston Basin includes changes in base employment and the change in direct and secondary employment associated with the petroleum sector. Because the effects of employment growth in the petroleum sector differ throughout the Williston Basin, total employment in the North Dakota portion of the Williston Basin was modeled on a regional basis. State Planning Regions 1, 2 and 8, which correspond with the trade areas of Dickinson, Minot, and Williston, provided the geographic scope for employment modeling (Figure 6). Separate estimates of total employment were developed for each region.

**Figure 6. State Planning Regions**



Total employment in the North Dakota portion of the Williston Basin continues to increase in the near term (Figure 7) due largely to expansion of petroleum sector employment. Total regional employment is expected to decline shortly after peak employment in the petroleum sector employment, due to an anticipated rapid reduction in construction employment upon completion of oil field gathering systems. However, several factors are expected to contribute to stabilization and subsequent modest growth of overall regional employment in the later stages of the planning period.




The sharp and pronounced employment contraction in the petroleum sector is expected to be associated with temporary construction employment. Removal of a large portion of temporary workforce reduces constraints on housing. Simultaneously, permanent workforce continues to grow, increasing demand for long-term delivery of services and commercial activity.

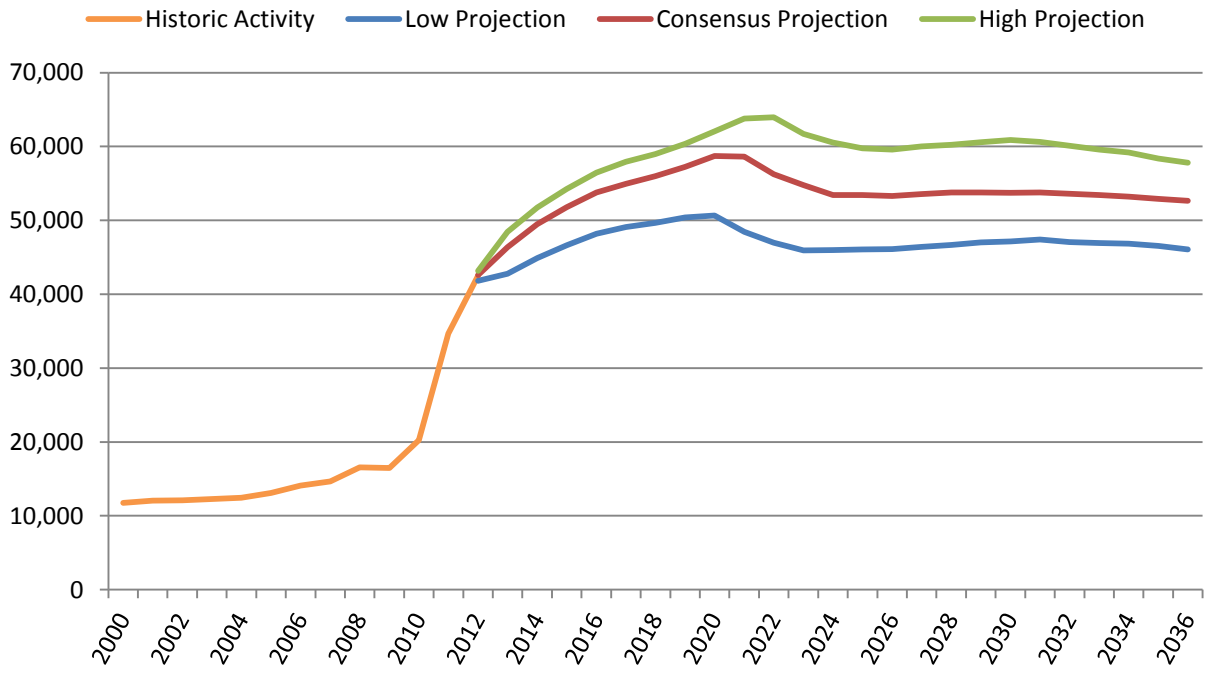
Over the same period, reductions in housing constraints are expected as communities and trade centers have sufficient time to address long-term housing demand allowing the economy in the Williston Basin to begin addressing labor needs for service and commercial operations. Further, with a growing labor force and reductions in housing constraints, constraints on growth in base employment (all other industries) are expected to moderate slightly. All of these dynamic elements of regional employment suggest long-term stabilization of employment in the Williston Basin after an expected contraction in petroleum sector employment.

Despite overall employment in the Williston Basin stabilizing after the contraction in petroleum sector employment, the consequences and effects of employment change in the petroleum sector employment are not equally shared in all regions of the study area.

### Williston Region

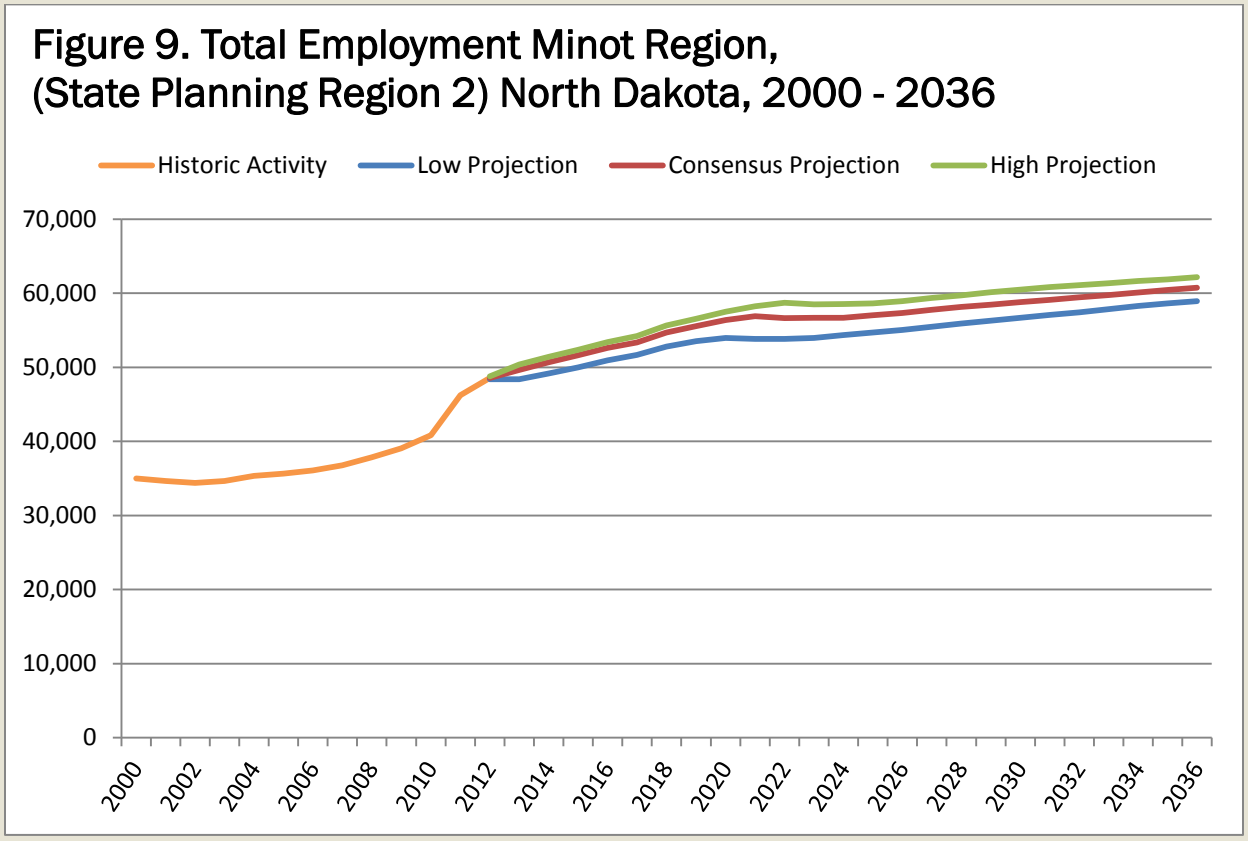
The Williston region is the most influenced of all the North Dakota regions by changes in current and expected employment in the Williston Basin (Figure 8). The regional economy currently is extremely sensitive to changes in petroleum sector employment as the industry comprises a considerable share of total employment in the region. Further, the pace of change in total employment in the region has overwhelmed local resources, further straining the regional economy in its ability to add commercial and service employment. In the last four to six years, growth in total employment in the region has been entirely driven by changes in petroleum sector employment. Going forward, expansions or contractions in employment will have immediate effects in the region as base industries appear to be stagnant. Recent changes in near-term employment growth outside of the petroleum sector have been largely attributed to construction of roads, housing, and commercial activity largely tied to oil and gas-related activities.

**Figure 8. Total Employment Williston Region, (State Planning Region 1) North Dakota, 2000 - 2036**



## Minot Region

The robust Minot regional economy would likely be the least impacted of all North Dakota regions from substantial changes in petroleum sector employment (Figure 9). While petroleum sector employment represents a growing proportion of regional employment in the Minot area, it is expected to remain a minor component of the overall economy in the future. Changes in employment in base industries in the Minot region show growth without the influences of recent petroleum sector expansion.

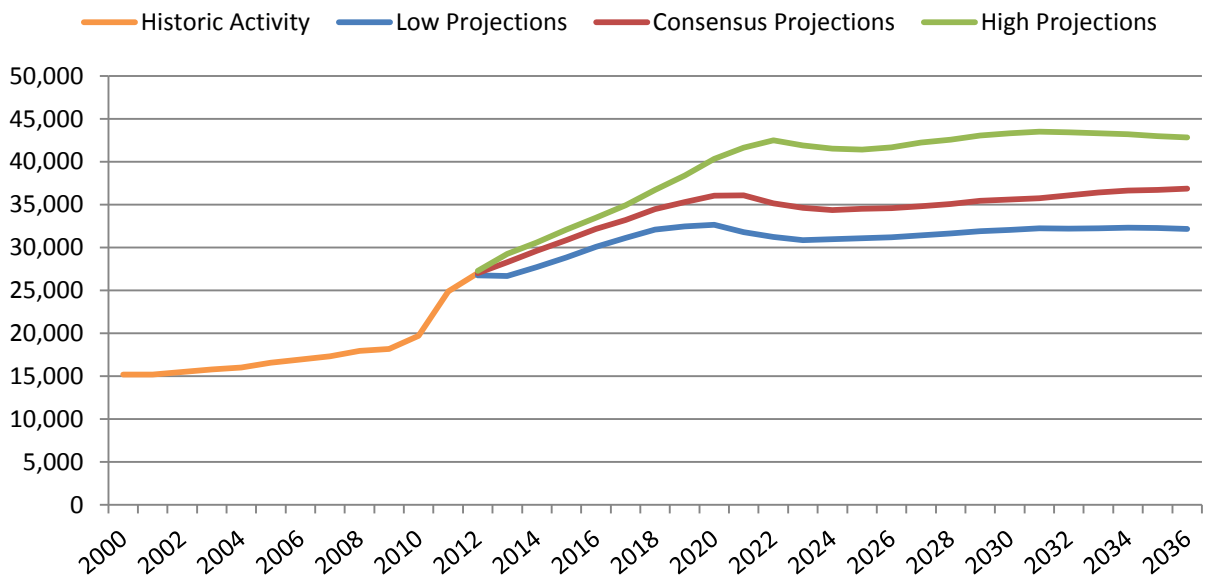


## Dickinson Region

Future effects of petroleum sector employment in the Dickinson region could range from severe to moderate, depending upon the level of future development in the Tyler Formation. Unlike development of the Bakken Formation, which has had the greatest impact in the Williston area, employment and other impacts from the development of the Tyler Formation would disproportionately occur in the Dickinson area. It is expected that continued development in the Three Forks Formation will remain a major factor the Dickinson area economy.

Overall, the current effects of petroleum sector expansion in Dickinson are less than those experienced in the Williston area, but probably greater than the relative impacts in the Minot area (Figure 10). Prior to the current oil boom, the Dickinson regional economy had continued and sustained economic growth. However, future employment in the region is likely to be sensitive to both changes in base employment and changes in petroleum sector employment.

**Figure 10. Total Employment Dickinson Region, (State Planning Region 8) North Dakota 2000 - 2036)**



### Employment Highlights

● Illustrations display employment in the petroleum sector 20+ years remaining at elevated levels compared to employment prior to development of the Bakken/Three Forks Formations. Depending upon the total number of wells in the Williston Basin, employment 20 to 30 years from now is either above, equal to, or only slightly below current overall levels. Regardless of the exact path forward, elevated levels of employment in that industry in the Williston Basin will remain for several decades.

● Influences of current and future petroleum sector employment differ within regional economies in the Williston Basin. Considerable regional variation exists within the study area with respect to the overall economic health and relative influence of petroleum sector employment. Due to the relative differences in the effects of petroleum sector employment in the Williston Basin, expected changes in base industries and secondary job creation also vary within the region.

● Build-out scenarios for oil and gas development largely set the level of employment in the various study regions. While subtle differences exist in the assumptions on secondary job growth and constrictions on changes in base employment, those factors were not sufficiently different among the scenarios to alter the trends in regional employment. The shape or pattern of total regional employment over time was shown to be largely similar across all scenarios. The result is due to shifts in employment within the petroleum industry creating a peak and then a subsequent decline, with the pattern also being linked to the fundamental economic factors affecting various regional economies, including constraints on secondary job creation and expectations for change in employment in other industries.

## Housing Demand

Because of the rate of expansion of energy development in the Williston Basin and associated growth in employment, the demand for housing has outstripped supply. Any excess supply of housing has long been absorbed removing elasticity in the housing supply. An inelastic market for housing exists when housing supply fails to keep pace with housing demand and any new demand results in a proportionate increase in supply. Housing demand was modeled using the following steps.

> *Estimates of Total Housing Unit Demand*: A model that converts regional employment forecasts to regional demand for housing revealed an increase in one job currently would result in demand for one housing unit in most areas of the Williston Basin. That assumption was relaxed over time as housing supply was expected to grow and more closely equal demand. Total housing demand was based on estimates of future employment, with adjustments for changes in housing supply over time.

*Demand for Housing at the County Level*: In the near term, the overall workforce remains mobile and will respond to the availability of housing; however, in the long term, the workforce will desire housing to be in reasonable proximity to the oilfields. Accordingly, regional demand for housing, based on projected employment, was allocated among Williston Basin counties according to historic regional distributions and recent trends in the distribution of housing units. This effort produced an estimate of total housing demand at the county level. It is possible that the distribution of housing units among cities and counties may change in the future as many communities near oilfield development have yet to formalize long-term housing plans. Until additional data are available, regional housing demand was allocated among individual counties based on historic distributions and emerging trends.

*Housing Mix in Each County*: Recent building trends reveal a disproportionate shift to multi-family units in North Dakota. The future housing mix (i.e., the number of single family versus multi-family homes) in most counties was adjusted to reflect this trend.

*Housing Demand by Workforce Characteristic*: The employment-to-housing model linked changes in the total workforce (both temporary and permanent workers) to projected demand for housing. That projection produced estimates of total housing demand. The analysis also evaluated housing needs associated with only permanent employment. The two estimates of housing demand help demonstrate the long-term housing needs by showing the importance of including temporary housing in the near term, and planning to provide adequate permanent housing in the long run.

Housing demand was modeled separately for the Dickinson, Minot, and Williston regions. The employment-to-housing model linked changes in the total workforce, both temporary and permanent, to projected demand for housing.

*Total Housing Demand*: Total housing demand includes the needs for both permanent and temporary workers. The analysis shows that total housing demand increases in the near-term and then declines slightly or remains steady over time the petroleum-sector workforce contracts (Figures 11, 12, 13). Substantial levels of temporary housing will be required for over a decade in the Williston Basin.

*Permanent (only) Housing Demand*: Long-term permanent housing demand is projected to increase substantially in all of the scenarios and in all regions. Permanent housing demand is associated with a permanent workforce, and more closely aligns with changes oil field service employment, and expectations for additional service and commercial employment in the future.

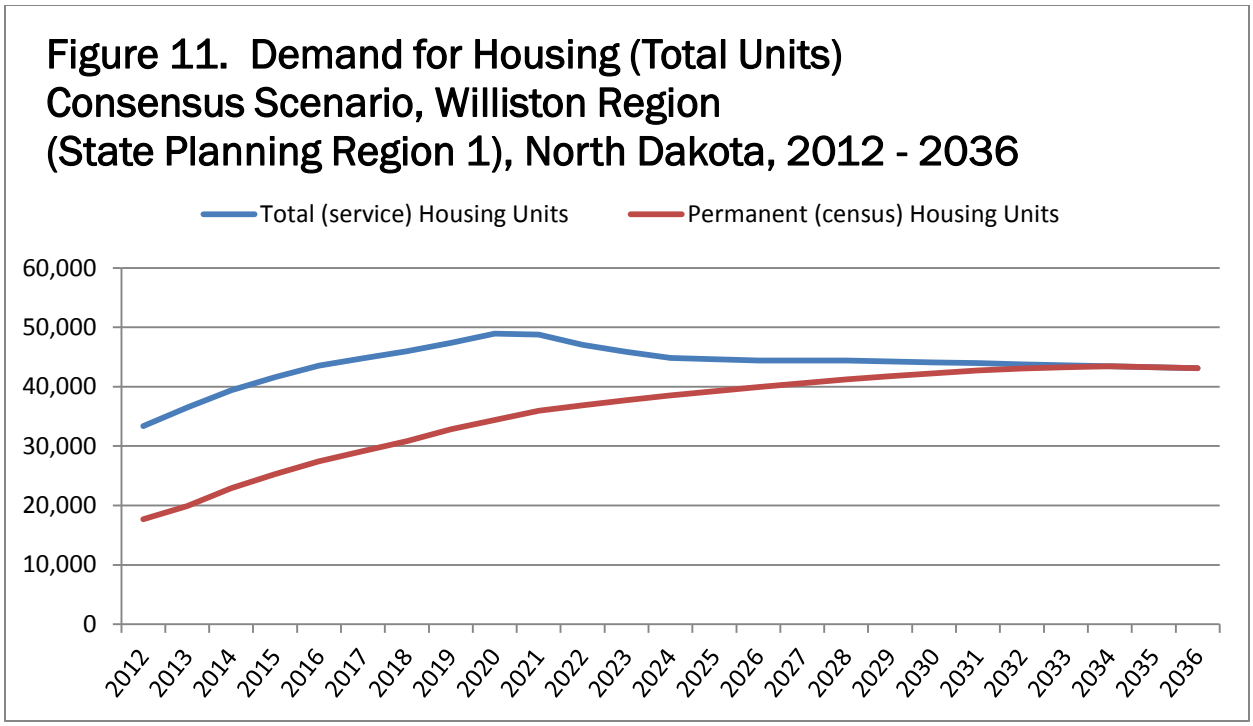


Figure 11. Demand for Housing (Total Units)
Consensus Scenario, Williston Region
(State Planning Region 1), North Dakota, 2012 - 2036
Total (service) Housing Units
Permanent (census) Housing Units
60,000
50,000
40,000
30,000
20,000
10,000
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
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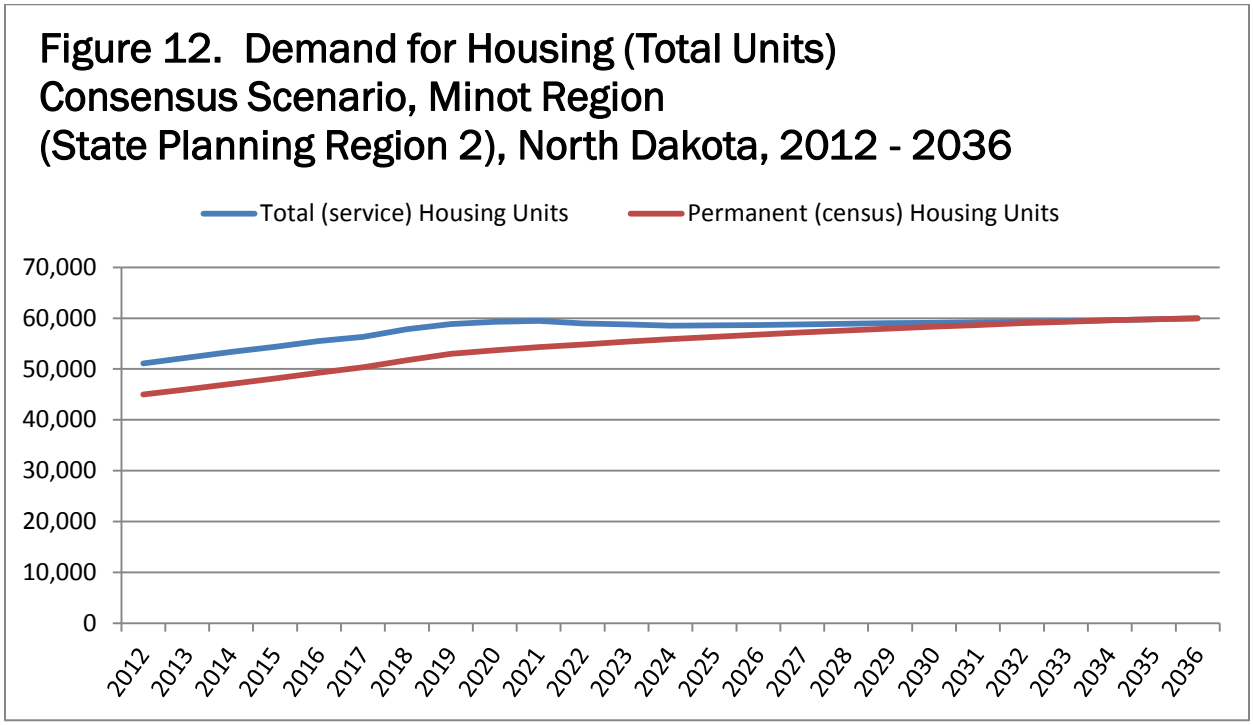
Figure 12. Demand for Housing (Total Units)
Consensus Scenario, Minot Region
(State Planning Region 2), North Dakota, 2012 - 2036
Total (service) Housing Units
Permanent (census) Housing Units
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
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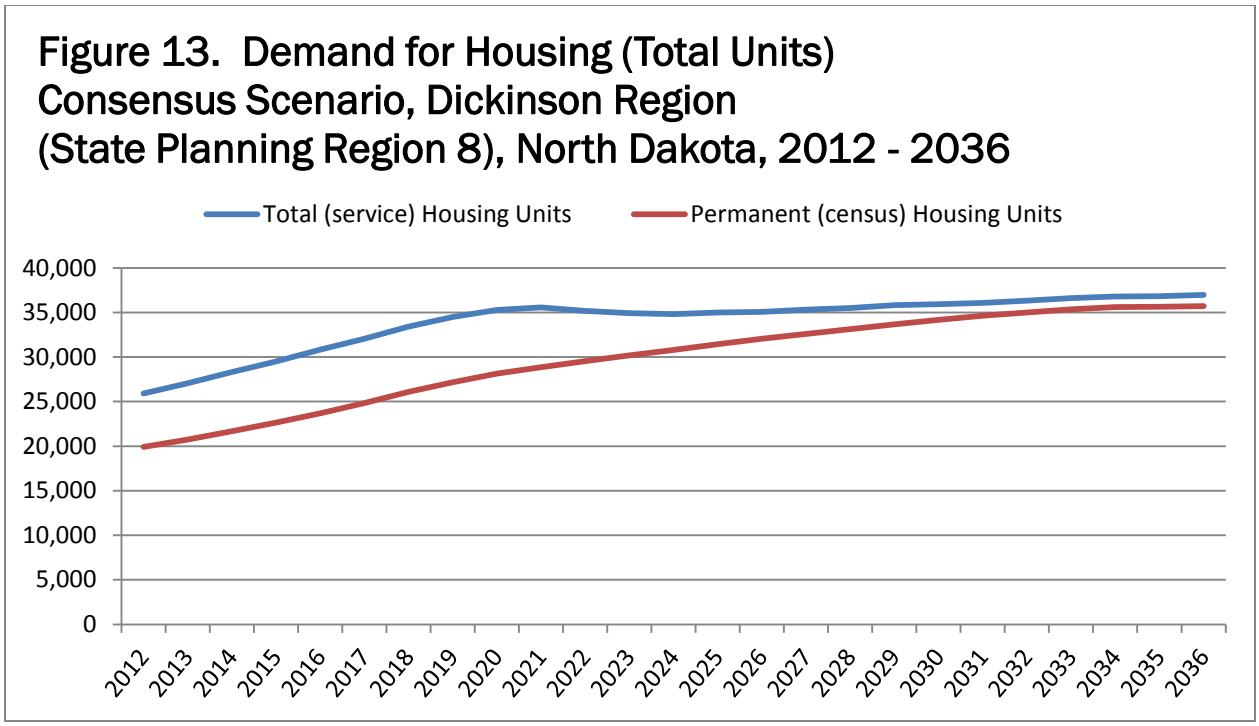



Key Observations on Forecasts of Housing Demand:

●Total housing demand (temporary and permanent workers), given current oil field development rates, is not expected to peak until around 2020.

●Housing demand associated with the long-term, permanent workforce is expected to grow almost continually over the next 20 years.

●Supplying adequate housing will present substantial challenges. A conservative estimate using only data from the low scenario for the North Dakota portion of the Williston Basin suggests an additional 45,000 housing units will be needed over the next 20 years.

●Despite an enormous differential between current supply of housing and future projected demand for housing, communities could over build if they attempt to build permanent housing to meet the total housing demand.

●Based on the characteristics of the oil and gas industry workforce, it is imperative that communities include temporary housing as part of their long-term strategy. Temporary housing will be needed, in some capacity, over the next 25 years in nearly all regions of the Williston Basin.

●The lack and cost of housing is currently constraining growth in other sectors of the economy. Expectations for normal economic response for creating secondary employment will not be realized until housing becomes available at prices that

enable additional (service and commercial industries) workers to locate to the region. In addition to constraining secondary job creation, the housing shortage also is constraining existing industries from adding employment. Persistent and acute housing shortages can lead to displacement and crowding out, which have substantial implications for the long-term diversity and economic health of the Williston Basin.

## Forecasts of Population Potential

The final step in estimating the Williston Basin population potential was to apply occupancy rates (i.e., number of people living in a housing unit) by housing type, by county, to convert housing demand into population estimates. Occupancy rates for each type of housing unit by county were based on 2010 Census data. Two population estimates were made to illustrate the unique conditions present in the Williston Basin.

*Permanent Population*: Permanent population is an estimate of individuals who work in the region and are established residents. Spouses and children of permanent workers living in the region also would be counted as permanent residents. Permanent population also is consistent with population measured by the U.S. Census Bureau. Long-term planning for housing, infrastructure, public and social services and potential public revenue streams should focus on the permanent population.

*Total Population*: Also called service population, this estimate includes permanent population and temporary population. Temporary population includes individuals not counted by the U.S. Census Bureau who claim residency in other states, work for short durations in the region, do not have permanent addresses in the region or are otherwise associated with short-term employment (relative to the life-span of the oil fields). Incorporating temporary population into an estimate of service population is critical for communities, businesses and government planning requirements since those individuals use and require good and services, both public and private.

*Key Assumptions to Estimating Population Potential*: This modeling approach relies on several key assumptions. Understanding those conditions is necessary to appropriately interpreting the housing and population forecasts.

- Ability to Supply Housing –Communities are assumed to be willing and able to supply housing at levels that meet projected demand. Some communities may be more or less inclined or able to supply housing, but on a regional level, the model assumes that housing supply will meet housing demand. While the future supply of housing is unknown, forecasted values represent population potential if housing demand is met.

- Characteristics of Temporary and Permanent Population are Similar – Temporary population was assumed to have similar characteristics as the permanent population. Current and future temporary workforce

characteristics are unknown. However, it was assumed occupancy rates for temporary workers were similar to occupancy rates for permanent workers.

- Use of Historical Occupancy Rates – Population estimates were made by applying person per household occupancy rates to housing demand estimates for various types of housing units (single family, multi-family). County-level data on occupancy rates for each type of housing were based on 2010 Census data. The severe housing shortage has likely forced higher occupancy rates than historical values, so using historical data may underestimate actual occupancy rates. Unfortunately, no other data was available, so a key assumption in this study was that historical occupancy rates remain valid.

The population projections produced in this study represent *population potential*. As explained in the modeling overview, it is important to understand that the population figures assume that communities are willing and able to supply housing at levels that meet the projected demand, and that occupancy rates and worker demographics are similar to historical Census data.

Two population estimates were produced: *permanent population* comprised of individuals who are established residents of the state and *total service population* comprised of established residents and temporary population. Temporary population represents individuals not counted by the U.S. Census Bureau who claim residency in other states, work for short durations in the region, do not have permanent addresses in the region or are otherwise associated with short-term employment or temporary residency.

Depending on the level of oilfield development, service population in the North Dakota portion of the Williston Basin is expected to increase for the next 6 to 12 years. Over the next two decades, service population in the Williston and Minot regions will increase, plateau and then decrease until the point when the service population equals the permanent population (Figures 14 and 15). Service population and permanent population are expected to slowly increase over the study period for the Dickinson region (Figure 16).

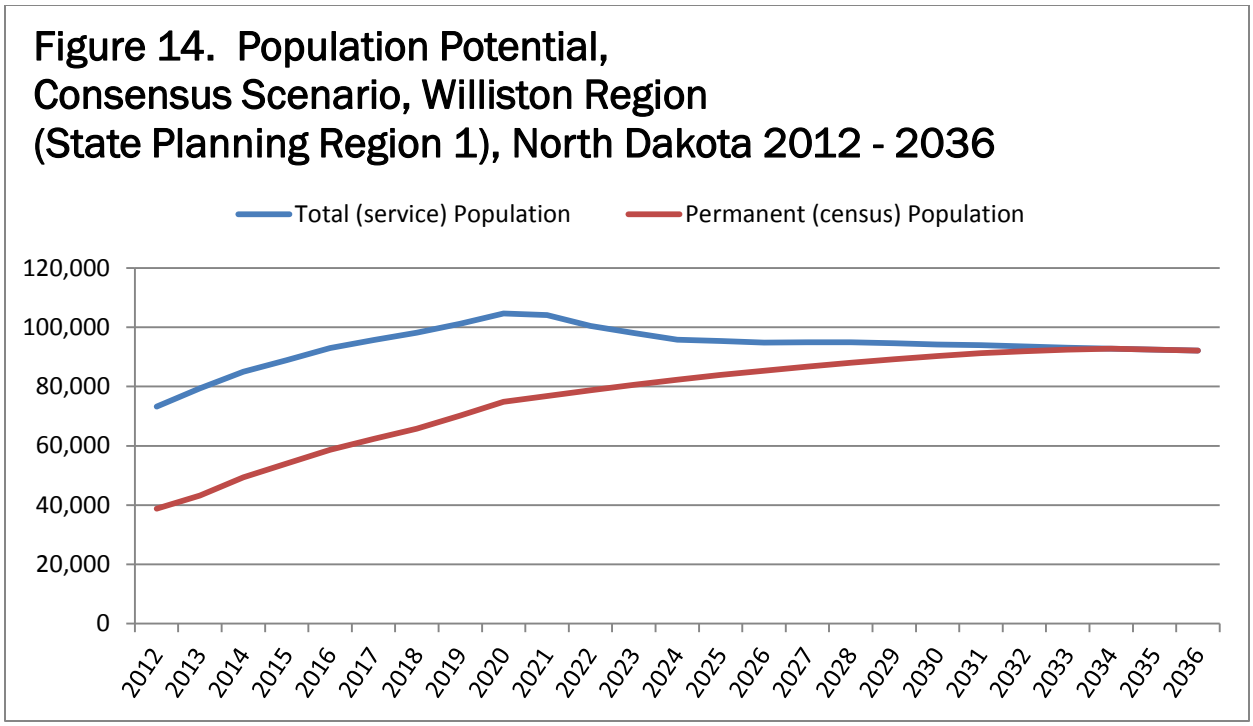


Figure 14. Population Potential,
Consensus Scenario, Williston Region
(State Planning Region 1), North Dakota 2012 - 2036
Total (service) Population
Permanent (census) Population
120,000
100,000
80,000
60,000
40,000
20,000
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036

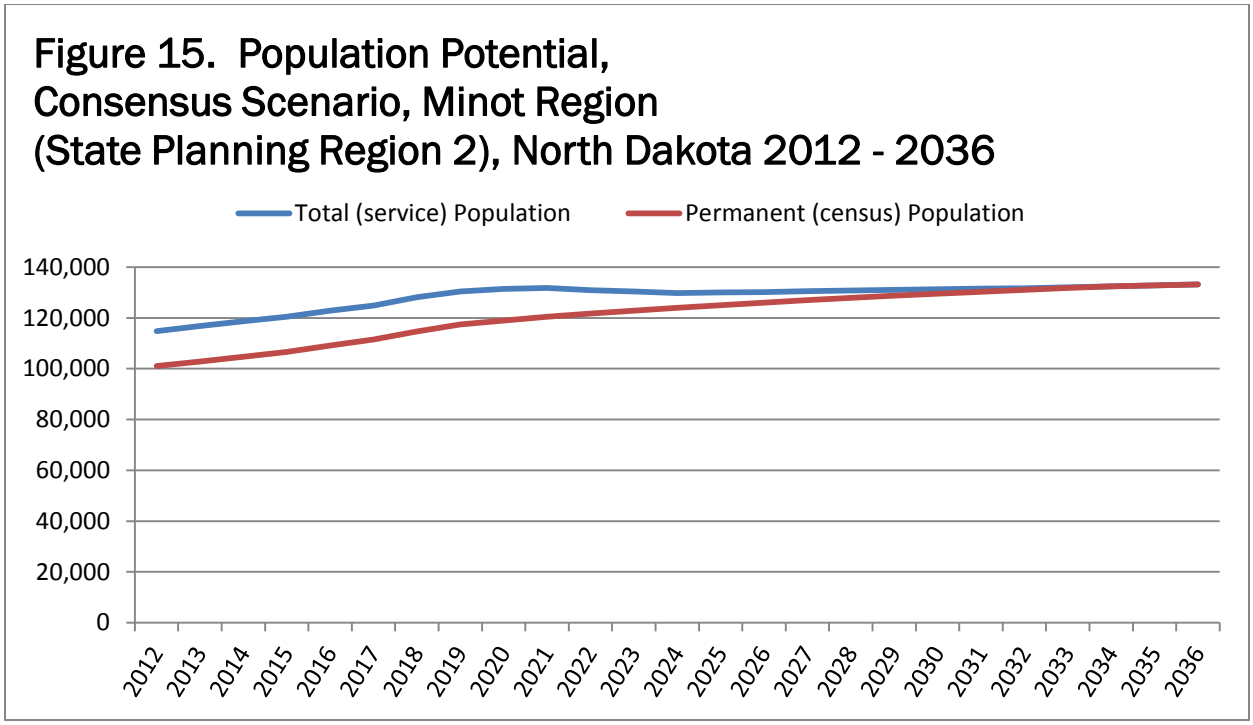
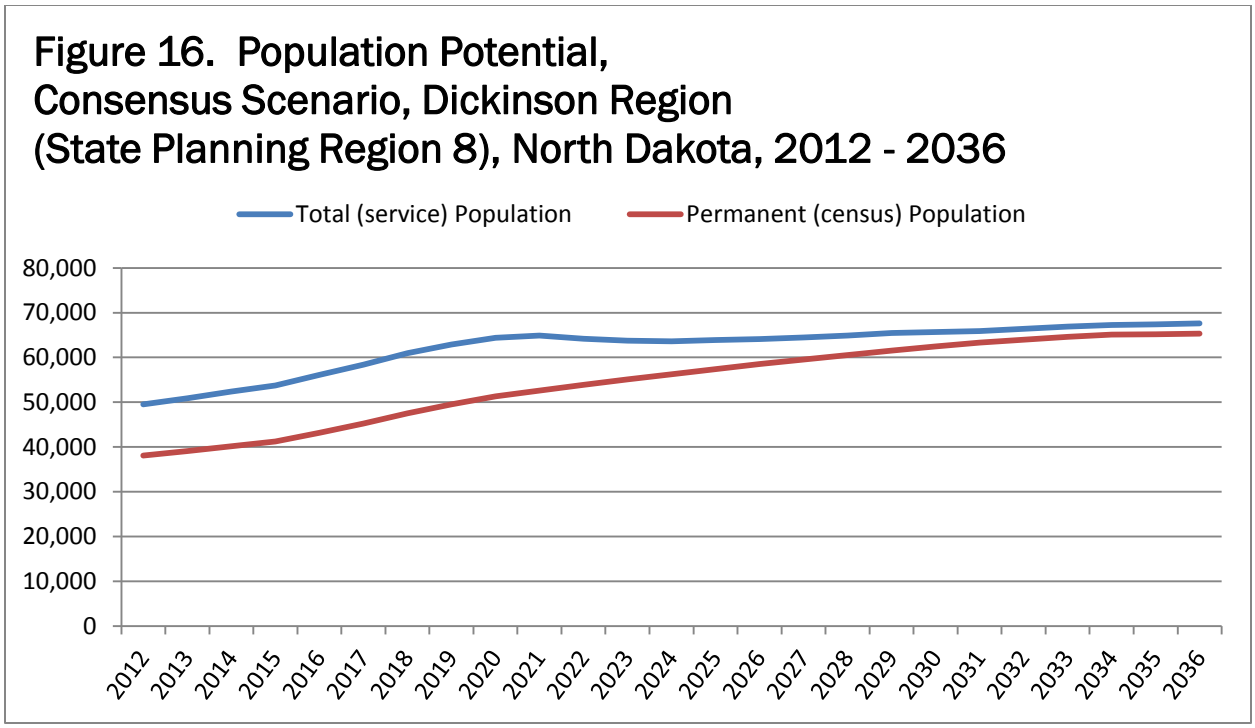


Figure 15. Population Potential,
Consensus Scenario, Minot Region
(State Planning Region 2), North Dakota 2012 - 2036
Total (service) Population
Permanent (census) Population
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
2034
2035
2036




Key Observations on Forecasts of Population Potential:

●Future change in service population was forecasted to be less than the change in permanent population. Based on forecasted changes from 2012 to 2036, service population in the greater Williston Basin was estimated to increase by 12 percent to 27 percent, depending upon development scenario. The modest increase in the service population over the planning period is because growth in the permanent population exceeds the decline in the temporary population.

●If future housing is not provided at a level approaching the forecasted values; population will be less than estimated in this study. Workers will find it difficult to bring family members to the state, or difficult to start families. Accordingly, the region's population will be skewed towards unaccompanied working adults without spouses and dependents.

●Sensitivity analysis revealed the employment-to-housing-to-population model was responsive to both a change in housing units and occupancy rates. Small changes in either component resulted in large swings in population. A better understanding of workforce characteristics and communities' ability to address future housing needs is needed to refine population projections.

●The Williston Basin lacks a good baseline population estimate. Because the U.S. Census only reports (what is termed in this assessment as) the permanent population, the 2010 Census figures for the Williston Basin undoubtedly underestimated the service population. Incorporating the temporary population into

an estimate of service population is critical for communities, businesses and government planning activities. Even though a portion of the service population are residents of other states, while in the Williston Basin, they still use and require services, both public and private.

## County-level Housing Demand and Population Potential

This study produced forecasted values for housing and population at both regional and county levels. Appendix A provides estimates of the demand for housing expressed in total units. Housing demand, delineated by housing type (e.g., number of single family, apartments, mobile homes), at the county-level is available upon request.

Appendix B provides estimates of permanent and service population potential by county.

## References


Bangsund, Dean A. and Nancy M. Hodur. 2012. *Modeling Direct and Secondary Employment in the Petroleum Sector in North Dakota*. Agribusiness and Applied Economics Report No. 694, Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.

Bangsund, Dean A., Nancy M. Hodur, Rich Rathge, and Karen Olson. 2012. *Modeling Employment, Housing, and Population in Western North Dakota: The Case of Dickinson*. Agribusiness and Applied Economics Report No. 695, Department of Agribusiness and Applied Economics, North Dakota State University, Fargo.

Rathge, Richard, Ramona Danielson, Caitlin Deal, Kendra Erickson, Jennie Lazarus, Karen Olson, Kay Schwarzwalter, and Ashley Wiertzema. 2012. *2012 North Dakota Statewide Housing Needs Assessment: Housing Forecast*. Center for Social Research, North Dakota State University, Fargo, ND.

KLJ. 2012. *Power Forecast 2012: Williston Basin Oil and Gas Related Electrical Load Growth Forecast (PF 12)*. KLJ, Bismarck, ND.

# North Dakota County-level Housing Projections and Population Potential

An Appendix Supplement to

# Williston Basin 2012: Projections of Future Employment and Population North Dakota Summary

## Appendix A – Housing Demand

The tables in Appendix A represent total demand for housing, by county, by development scenario, for both permanent workforce and total (permanent and temporary) workforce. The tables are organized separately for each of the three study regions. Separate tables for the low, consensus, and high scenario are provided.

## Appendix B – Population Potential

The tables in Appendix B represent estimates of the permanent and service populations by county for each region. Permanent populations are designed to closely align with a Census population; whereas, service populations include all people (permanent and temporary workforces). The tables are organized separately for each of the three study regions. Separate tables for the low, consensus, and high scenario are provided.

# Appendix A

Table A1. Housing Demand in Total Units, Low Scenario, by County, State Planning Region 1, 2012 through 2036

| | State Planning Region 1 | | | |
|---|---|---|---|---|
| Year | Divide | McKenzie | Williams | Total |
| | | Permanent Housing[a] | | |
| 2012 | 1,557 | 3,633 | 12,303 | 17,493 |
| 2013 | 1,732 | 4,043 | 13,691 | 19,466 |
| 2014 | 2,065 | 4,820 | 16,322 | 23,207 |
| 2015 | 2,250 | 5,251 | 17,781 | 25,282 |
| 2016 | 2,399 | 5,599 | 18,961 | 26,959 |
| 2017 | 2,509 | 5,856 | 19,830 | 28,195 |
| 2018 | 2,602 | 6,072 | 20,563 | 29,238 |
| 2019 | 2,762 | 6,447 | 21,832 | 31,041 |
| 2020 | 2,864 | 6,683 | 22,632 | 32,178 |
| 2021 | 2,927 | 6,832 | 23,136 | 32,895 |
| 2022 | 2,989 | 6,976 | 23,622 | 33,587 |
| 2023 | 3,045 | 7,108 | 24,069 | 34,223 |
| 2024 | 3,099 | 7,233 | 24,493 | 34,825 |
| 2025 | 3,150 | 7,352 | 24,897 | 35,399 |
| 2026 | 3,198 | 7,464 | 25,276 | 35,938 |
| 2027 | 3,243 | 7,569 | 25,632 | 36,444 |
| 2028 | 3,285 | 7,667 | 25,964 | 36,917 |
| 2029 | 3,325 | 7,760 | 26,280 | 37,366 |
| 2030 | 3,363 | 7,848 | 26,576 | 37,786 |
| 2031 | 3,398 | 7,930 | 26,853 | 38,181 |
| 2032 | 3,408 | 7,953 | 26,933 | 38,294 |
| 2033 | 3,416 | 7,973 | 26,999 | 38,388 |
| 2034 | 3,421 | 7,985 | 27,041 | 38,447 |
| 2035 | 3,407 | 7,952 | 26,928 | 38,288 |
| 2036 | 3,387 | 7,904 | 26,765 | 38,055 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A1. continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Total (Permanent and Temporary) Housing[b] | | | |
| 2012 | 2,939 | 6,860 | 23,230 | 33,029 |
| 2013 | 3,048 | 7,114 | 24,091 | 34,253 |
| 2014 | 3,271 | 7,635 | 25,854 | 36,760 |
| 2015 | 3,428 | 8,000 | 27,092 | 38,520 |
| 2016 | 3,565 | 8,321 | 28,178 | 40,064 |
| 2017 | 3,649 | 8,517 | 28,843 | 41,010 |
| 2018 | 3,710 | 8,660 | 29,325 | 41,695 |
| 2019 | 3,803 | 8,876 | 30,059 | 42,739 |
| 2020 | 3,799 | 8,866 | 30,022 | 42,687 |
| 2021 | 3,657 | 8,534 | 28,900 | 41,090 |
| 2022 | 3,554 | 8,294 | 28,086 | 39,934 |
| 2023 | 3,480 | 8,121 | 27,501 | 39,102 |
| 2024 | 3,469 | 8,097 | 27,420 | 38,986 |
| 2025 | 3,460 | 8,074 | 27,342 | 38,876 |
| 2026 | 3,450 | 8,051 | 27,263 | 38,764 |
| 2027 | 3,454 | 8,062 | 27,302 | 38,818 |
| 2028 | 3,457 | 8,067 | 27,319 | 38,843 |
| 2029 | 3,463 | 8,083 | 27,371 | 38,917 |
| 2030 | 3,461 | 8,077 | 27,350 | 38,888 |
| 2031 | 3,463 | 8,081 | 27,366 | 38,910 |
| 2032 | 3,440 | 8,028 | 27,187 | 38,655 |
| 2033 | 3,428 | 8,001 | 27,094 | 38,523 |
| 2034 | 3,421 | 7,985 | 27,041 | 38,447 |
| 2035 | 3,407 | 7,952 | 26,928 | 38,288 |
| 2036 | 3,387 | 7,904 | 26,765 | 38,055 |

[b] Housing demand associated with permanent and temporary workforce.

Table A2. Housing Demand in Total Units, Low Scenario, by County, State Planning Region 2, 2012 through 2036

| | State Planning Region 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Housing[a] | | | | |
| 2012 | 4,467 | 1,368 | 3,036 | 4,402 | 2,255 | 1,425 | 27,975 | 44,928 |
| 2013 | 4,529 | 1,381 | 3,080 | 4,548 | 2,282 | 1,444 | 28,597 | 45,861 |
| 2014 | 4,592 | 1,394 | 3,123 | 4,697 | 2,310 | 1,464 | 29,232 | 46,812 |
| 2015 | 4,655 | 1,407 | 3,168 | 4,851 | 2,337 | 1,483 | 29,882 | 47,783 |
| 2016 | 4,723 | 1,421 | 3,215 | 5,013 | 2,367 | 1,504 | 30,570 | 48,814 |
| 2017 | 4,785 | 1,434 | 3,259 | 5,174 | 2,394 | 1,523 | 31,237 | 49,807 |
| 2018 | 4,873 | 1,454 | 3,321 | 5,367 | 2,433 | 1,551 | 32,082 | 51,081 |
| 2019 | 4,943 | 1,468 | 3,370 | 5,544 | 2,463 | 1,572 | 32,820 | 52,181 |
| 2020 | 4,966 | 1,467 | 3,387 | 5,671 | 2,470 | 1,579 | 33,253 | 52,793 |
| 2021 | 5,000 | 1,474 | 3,411 | 5,762 | 2,484 | 1,589 | 33,624 | 53,344 |
| 2022 | 5,028 | 1,478 | 3,430 | 5,847 | 2,496 | 1,598 | 33,957 | 53,834 |
| 2023 | 5,053 | 1,482 | 3,449 | 5,930 | 2,506 | 1,605 | 34,279 | 54,304 |
| 2024 | 5,075 | 1,485 | 3,464 | 6,009 | 2,514 | 1,612 | 34,573 | 54,732 |
| 2025 | 5,094 | 1,487 | 3,478 | 6,087 | 2,521 | 1,618 | 34,857 | 55,142 |
| 2026 | 5,112 | 1,488 | 3,491 | 6,163 | 2,527 | 1,623 | 35,132 | 55,538 |
| 2027 | 5,129 | 1,489 | 3,503 | 6,238 | 2,533 | 1,628 | 35,398 | 55,918 |
| 2028 | 5,143 | 1,490 | 3,514 | 6,312 | 2,537 | 1,632 | 35,653 | 56,281 |
| 2029 | 5,157 | 1,490 | 3,524 | 6,385 | 2,541 | 1,636 | 35,904 | 56,636 |
| 2030 | 5,168 | 1,489 | 3,533 | 6,457 | 2,544 | 1,639 | 36,145 | 56,976 |
| 2031 | 5,188 | 1,493 | 3,547 | 6,511 | 2,553 | 1,645 | 36,366 | 57,304 |
| 2032 | 5,207 | 1,496 | 3,561 | 6,564 | 2,560 | 1,651 | 36,579 | 57,620 |
| 2033 | 5,225 | 1,500 | 3,573 | 6,616 | 2,568 | 1,657 | 36,787 | 57,926 |
| 2034 | 5,242 | 1,502 | 3,585 | 6,667 | 2,575 | 1,662 | 36,988 | 58,222 |
| 2035 | 5,252 | 1,503 | 3,592 | 6,709 | 2,578 | 1,665 | 37,138 | 58,438 |
| 2036 | 5,269 | 1,508 | 3,604 | 6,731 | 2,587 | 1,670 | 37,259 | 58,628 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A2. continued

| Year | State Planning Region 2 | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | |
| 2012 | 5,073 | 1,553 | 3,448 | 4,999 | 2,561 | 1,618 | 31,766 | 51,017 |
| 2013 | 5,062 | 1,544 | 3,442 | 5,083 | 2,551 | 1,614 | 31,963 | 51,259 |
| 2014 | 5,114 | 1,553 | 3,479 | 5,232 | 2,573 | 1,630 | 32,557 | 52,137 |
| 2015 | 5,170 | 1,563 | 3,518 | 5,387 | 2,596 | 1,647 | 33,185 | 53,066 |
| 2016 | 5,233 | 1,575 | 3,563 | 5,556 | 2,623 | 1,667 | 33,877 | 54,093 |
| 2017 | 5,279 | 1,582 | 3,596 | 5,708 | 2,641 | 1,681 | 34,462 | 54,948 |
| 2018 | 5,359 | 1,598 | 3,652 | 5,902 | 2,676 | 1,705 | 35,280 | 56,172 |
| 2019 | 5,400 | 1,603 | 3,681 | 6,056 | 2,691 | 1,717 | 35,851 | 57,000 |
| 2020 | 5,375 | 1,588 | 3,665 | 6,138 | 2,673 | 1,709 | 35,989 | 57,137 |
| 2021 | 5,321 | 1,568 | 3,630 | 6,133 | 2,644 | 1,691 | 35,786 | 56,774 |
| 2022 | 5,278 | 1,552 | 3,601 | 6,138 | 2,620 | 1,677 | 35,649 | 56,515 |
| 2023 | 5,247 | 1,539 | 3,581 | 6,157 | 2,602 | 1,667 | 35,588 | 56,379 |
| 2024 | 5,239 | 1,533 | 3,576 | 6,204 | 2,595 | 1,664 | 35,692 | 56,503 |
| 2025 | 5,231 | 1,527 | 3,572 | 6,250 | 2,589 | 1,661 | 35,793 | 56,622 |
| 2026 | 5,223 | 1,521 | 3,567 | 6,297 | 2,582 | 1,658 | 35,894 | 56,742 |
| 2027 | 5,221 | 1,516 | 3,567 | 6,351 | 2,578 | 1,657 | 36,038 | 56,929 |
| 2028 | 5,218 | 1,511 | 3,565 | 6,404 | 2,574 | 1,656 | 36,172 | 57,100 |
| 2029 | 5,217 | 1,507 | 3,565 | 6,460 | 2,571 | 1,655 | 36,322 | 57,296 |
| 2030 | 5,211 | 1,501 | 3,562 | 6,510 | 2,565 | 1,653 | 36,442 | 57,444 |
| 2031 | 5,216 | 1,501 | 3,566 | 6,546 | 2,566 | 1,654 | 36,562 | 57,613 |
| 2032 | 5,221 | 1,500 | 3,570 | 6,582 | 2,567 | 1,655 | 36,677 | 57,773 |
| 2033 | 5,231 | 1,501 | 3,577 | 6,623 | 2,570 | 1,658 | 36,824 | 57,984 |
| 2034 | 5,242 | 1,502 | 3,585 | 6,667 | 2,575 | 1,662 | 36,988 | 58,222 |
| 2035 | 5,252 | 1,503 | 3,592 | 6,709 | 2,578 | 1,665 | 37,138 | 58,438 |
| 2036 | 5,269 | 1,508 | 3,604 | 6,731 | 2,587 | 1,670 | 37,259 | 58,628 |

[b] Housing demand associated with permanent and temporary workforce.

Table A3. Housing Demand in Total Units, Low Scenario, by County, State Planning Region 8, 2012 through 2036

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | | | | Permanent Housing[a] | | | | | |
| 2012 | 1,399 | 485 | 1,740 | 2,217 | 987 | 1,445 | 443 | 11,200 | 19,916 |
| 2013 | 1,437 | 494 | 1,803 | 2,303 | 1,017 | 1,488 | 454 | 11,657 | 20,654 |
| 2014 | 1,486 | 507 | 1,880 | 2,409 | 1,054 | 1,542 | 469 | 12,211 | 21,558 |
| 2015 | 1,535 | 520 | 1,960 | 2,518 | 1,091 | 1,598 | 484 | 12,785 | 22,490 |
| 2016 | 1,589 | 534 | 2,047 | 2,637 | 1,132 | 1,659 | 501 | 13,414 | 23,514 |
| 2017 | 1,642 | 547 | 2,134 | 2,758 | 1,173 | 1,719 | 517 | 14,049 | 24,540 |
| 2018 | 1,699 | 561 | 2,229 | 2,888 | 1,217 | 1,784 | 535 | 14,737 | 25,650 |
| 2019 | 1,743 | 571 | 2,309 | 3,000 | 1,252 | 1,836 | 548 | 15,332 | 26,591 |
| 2020 | 1,764 | 573 | 2,358 | 3,073 | 1,271 | 1,864 | 554 | 15,731 | 27,187 |
| 2021 | 1,780 | 576 | 2,391 | 3,121 | 1,284 | 1,884 | 559 | 15,988 | 27,583 |
| 2022 | 1,796 | 578 | 2,424 | 3,167 | 1,297 | 1,903 | 564 | 16,240 | 27,969 |
| 2023 | 1,809 | 579 | 2,454 | 3,211 | 1,309 | 1,921 | 568 | 16,476 | 28,326 |
| 2024 | 1,821 | 581 | 2,482 | 3,253 | 1,320 | 1,937 | 572 | 16,706 | 28,672 |
| 2025 | 1,833 | 582 | 2,511 | 3,295 | 1,330 | 1,953 | 575 | 16,935 | 29,014 |
| 2026 | 1,844 | 582 | 2,538 | 3,335 | 1,340 | 1,967 | 578 | 17,155 | 29,340 |
| 2027 | 1,853 | 582 | 2,564 | 3,373 | 1,349 | 1,981 | 581 | 17,366 | 29,650 |
| 2028 | 1,862 | 582 | 2,588 | 3,410 | 1,357 | 1,993 | 583 | 17,570 | 29,946 |
| 2029 | 1,869 | 581 | 2,611 | 3,446 | 1,365 | 2,004 | 585 | 17,767 | 30,229 |
| 2030 | 1,876 | 580 | 2,633 | 3,479 | 1,371 | 2,015 | 587 | 17,956 | 30,497 |
| 2031 | 1,886 | 582 | 2,655 | 3,510 | 1,380 | 2,028 | 590 | 18,120 | 30,750 |
| 2032 | 1,888 | 581 | 2,664 | 3,525 | 1,382 | 2,031 | 591 | 18,204 | 30,865 |
| 2033 | 1,889 | 579 | 2,672 | 3,538 | 1,384 | 2,034 | 591 | 18,281 | 30,970 |
| 2034 | 1,889 | 578 | 2,679 | 3,550 | 1,385 | 2,036 | 591 | 18,348 | 31,056 |
| 2035 | 1,882 | 574 | 2,676 | 3,549 | 1,382 | 2,031 | 589 | 18,350 | 31,032 |
| 2036 | 1,879 | 573 | 2,671 | 3,542 | 1,379 | 2,027 | 587 | 18,315 | 30,973 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A3. continued

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | | |
| 2012 | 1,821 | 631 | 2,264 | 2,884 | 1,285 | 1,880 | 576 | 14,572 | 25,912 |
| 2013 | 1,830 | 630 | 2,296 | 2,933 | 1,295 | 1,895 | 578 | 14,845 | 26,302 |
| 2014 | 1,886 | 644 | 2,387 | 3,059 | 1,338 | 1,958 | 596 | 15,505 | 27,373 |
| 2015 | 1,945 | 659 | 2,484 | 3,191 | 1,383 | 2,025 | 614 | 16,203 | 28,503 |
| 2016 | 2,012 | 676 | 2,592 | 3,339 | 1,434 | 2,100 | 634 | 16,984 | 29,771 |
| 2017 | 2,068 | 689 | 2,688 | 3,474 | 1,478 | 2,165 | 652 | 17,696 | 30,910 |
| 2018 | 2,122 | 701 | 2,784 | 3,608 | 1,520 | 2,229 | 668 | 18,410 | 32,043 |
| 2019 | 2,146 | 703 | 2,842 | 3,693 | 1,542 | 2,261 | 675 | 18,876 | 32,738 |
| 2020 | 2,128 | 691 | 2,845 | 3,707 | 1,533 | 2,249 | 669 | 18,980 | 32,803 |
| 2021 | 2,075 | 671 | 2,787 | 3,637 | 1,497 | 2,196 | 652 | 18,633 | 32,147 |
| 2022 | 2,030 | 653 | 2,740 | 3,580 | 1,467 | 2,152 | 638 | 18,359 | 31,618 |
| 2023 | 1,992 | 638 | 2,703 | 3,536 | 1,442 | 2,116 | 626 | 18,148 | 31,201 |
| 2024 | 1,978 | 631 | 2,697 | 3,533 | 1,434 | 2,104 | 621 | 18,147 | 31,145 |
| 2025 | 1,965 | 623 | 2,691 | 3,531 | 1,426 | 2,093 | 616 | 18,151 | 31,097 |
| 2026 | 1,951 | 616 | 2,685 | 3,529 | 1,418 | 2,082 | 612 | 18,152 | 31,045 |
| 2027 | 1,943 | 610 | 2,688 | 3,537 | 1,414 | 2,077 | 609 | 18,208 | 31,087 |
| 2028 | 1,935 | 605 | 2,689 | 3,543 | 1,410 | 2,071 | 606 | 18,257 | 31,115 |
| 2029 | 1,928 | 599 | 2,693 | 3,553 | 1,407 | 2,067 | 604 | 18,322 | 31,173 |
| 2030 | 1,917 | 593 | 2,691 | 3,556 | 1,401 | 2,059 | 600 | 18,352 | 31,170 |
| 2031 | 1,913 | 590 | 2,693 | 3,561 | 1,400 | 2,057 | 599 | 18,383 | 31,196 |
| 2032 | 1,901 | 585 | 2,683 | 3,550 | 1,392 | 2,046 | 595 | 18,335 | 31,087 |
| 2033 | 1,894 | 581 | 2,679 | 3,548 | 1,388 | 2,040 | 593 | 18,330 | 31,053 |
| 2034 | 1,889 | 578 | 2,679 | 3,550 | 1,385 | 2,036 | 591 | 18,348 | 31,056 |
| 2035 | 1,882 | 574 | 2,676 | 3,549 | 1,382 | 2,031 | 589 | 18,350 | 31,032 |
| 2036 | 1,879 | 573 | 2,671 | 3,542 | 1,379 | 2,027 | 587 | 18,315 | 30,973 |

[b] Housing demand associated with permanent and temporary workforce.

Table A4. Housing Demand in Total Units, Consensus Scenario, by County, State Planning Region 1, 2012 through 2036

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Permanent Housing[a] | | | |
| 2012 | 1,574 | 3,672 | 12,436 | 17,682 |
| 2013 | 1,770 | 4,130 | 13,986 | 19,885 |
| 2014 | 2,039 | 4,758 | 16,111 | 22,907 |
| 2015 | 2,250 | 5,251 | 17,780 | 25,281 |
| 2016 | 2,442 | 5,698 | 19,296 | 27,436 |
| 2017 | 2,597 | 6,061 | 20,526 | 29,185 |
| 2018 | 2,742 | 6,399 | 21,669 | 30,809 |
| 2019 | 2,923 | 6,822 | 23,102 | 32,847 |
| 2020 | 3,117 | 7,275 | 24,636 | 35,028 |
| 2021 | 3,201 | 7,470 | 25,298 | 35,969 |
| 2022 | 3,282 | 7,659 | 25,935 | 36,876 |
| 2023 | 3,358 | 7,837 | 26,538 | 37,732 |
| 2024 | 3,427 | 7,999 | 27,089 | 38,515 |
| 2025 | 3,494 | 8,154 | 27,614 | 39,262 |
| 2026 | 3,556 | 8,298 | 28,101 | 39,955 |
| 2027 | 3,613 | 8,433 | 28,556 | 40,602 |
| 2028 | 3,667 | 8,558 | 28,982 | 41,208 |
| 2029 | 3,717 | 8,674 | 29,373 | 41,763 |
| 2030 | 3,762 | 8,779 | 29,731 | 42,272 |
| 2031 | 3,803 | 8,877 | 30,060 | 42,740 |
| 2032 | 3,830 | 8,939 | 30,271 | 43,040 |
| 2033 | 3,853 | 8,993 | 30,453 | 43,298 |
| 2034 | 3,864 | 9,017 | 30,535 | 43,416 |
| 2035 | 3,849 | 8,983 | 30,421 | 43,253 |
| 2036 | 3,838 | 8,956 | 30,330 | 43,124 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A4. continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Total (Permanent and Temporary) Housing[b] | | | |
| 2012 | 2,967 | 6,924 | 23,449 | 33,340 |
| 2013 | 3,247 | 7,577 | 25,659 | 36,482 |
| 2014 | 3,508 | 8,188 | 27,727 | 39,423 |
| 2015 | 3,703 | 8,641 | 29,264 | 41,608 |
| 2016 | 3,873 | 9,040 | 30,613 | 43,526 |
| 2017 | 3,987 | 9,305 | 31,510 | 44,802 |
| 2018 | 4,090 | 9,546 | 32,326 | 45,962 |
| 2019 | 4,215 | 9,836 | 33,309 | 47,360 |
| 2020 | 4,357 | 10,169 | 34,436 | 48,962 |
| 2021 | 4,339 | 10,126 | 34,289 | 48,754 |
| 2022 | 4,185 | 9,767 | 33,076 | 47,029 |
| 2023 | 4,083 | 9,530 | 32,271 | 45,884 |
| 2024 | 3,988 | 9,308 | 31,522 | 44,818 |
| 2025 | 3,973 | 9,272 | 31,400 | 44,645 |
| 2026 | 3,951 | 9,222 | 31,228 | 44,401 |
| 2027 | 3,953 | 9,225 | 31,239 | 44,417 |
| 2028 | 3,953 | 9,226 | 31,243 | 44,422 |
| 2029 | 3,939 | 9,193 | 31,133 | 44,265 |
| 2030 | 3,924 | 9,159 | 31,015 | 44,098 |
| 2031 | 3,916 | 9,139 | 30,947 | 44,001 |
| 2032 | 3,895 | 9,091 | 30,787 | 43,774 |
| 2033 | 3,878 | 9,051 | 30,651 | 43,580 |
| 2034 | 3,864 | 9,017 | 30,535 | 43,416 |
| 2035 | 3,849 | 8,983 | 30,421 | 43,253 |
| 2036 | 3,838 | 8,956 | 30,330 | 43,124 |

[b]Housing demand associated with permanent and temporary workforce.

Table A5. Housing Demand in Total Units, Consensus Scenario, by County, State Planning Region 2, 2012 through 2036

| | State Planning Region 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Housing[a] | | | | |
| 2012 | 4,474 | 1,370 | 3,041 | 4,409 | 2,259 | 1,427 | 28,016 | 44,995 |
| 2013 | 4,544 | 1,385 | 3,089 | 4,562 | 2,290 | 1,449 | 28,687 | 46,005 |
| 2014 | 4,615 | 1,401 | 3,139 | 4,721 | 2,322 | 1,471 | 29,381 | 47,050 |
| 2015 | 4,688 | 1,417 | 3,190 | 4,885 | 2,354 | 1,494 | 30,091 | 48,118 |
| 2016 | 4,765 | 1,434 | 3,244 | 5,058 | 2,388 | 1,518 | 30,843 | 49,250 |
| 2017 | 4,837 | 1,449 | 3,294 | 5,230 | 2,420 | 1,540 | 31,573 | 50,342 |
| 2018 | 4,937 | 1,472 | 3,364 | 5,437 | 2,465 | 1,571 | 32,501 | 51,747 |
| 2019 | 5,018 | 1,490 | 3,421 | 5,628 | 2,501 | 1,596 | 33,314 | 52,966 |
| 2020 | 5,047 | 1,491 | 3,442 | 5,764 | 2,510 | 1,605 | 33,797 | 53,656 |
| 2021 | 5,088 | 1,500 | 3,471 | 5,864 | 2,528 | 1,617 | 34,218 | 54,286 |
| 2022 | 5,122 | 1,506 | 3,495 | 5,957 | 2,542 | 1,628 | 34,595 | 54,846 |
| 2023 | 5,154 | 1,512 | 3,518 | 6,049 | 2,556 | 1,638 | 34,964 | 55,390 |
| 2024 | 5,181 | 1,516 | 3,536 | 6,134 | 2,566 | 1,645 | 35,293 | 55,872 |
| 2025 | 5,204 | 1,519 | 3,554 | 6,218 | 2,575 | 1,653 | 35,610 | 56,332 |
| 2026 | 5,226 | 1,521 | 3,569 | 6,300 | 2,583 | 1,659 | 35,912 | 56,771 |
| 2027 | 5,245 | 1,523 | 3,583 | 6,380 | 2,590 | 1,665 | 36,203 | 57,189 |
| 2028 | 5,263 | 1,524 | 3,596 | 6,459 | 2,596 | 1,670 | 36,483 | 57,591 |
| 2029 | 5,278 | 1,525 | 3,607 | 6,536 | 2,601 | 1,674 | 36,750 | 57,970 |
| 2030 | 5,291 | 1,524 | 3,617 | 6,611 | 2,604 | 1,678 | 37,004 | 58,329 |
| 2031 | 5,312 | 1,529 | 3,632 | 6,667 | 2,614 | 1,685 | 37,235 | 58,673 |
| 2032 | 5,332 | 1,532 | 3,646 | 6,721 | 2,622 | 1,691 | 37,455 | 59,000 |
| 2033 | 5,350 | 1,535 | 3,659 | 6,774 | 2,629 | 1,696 | 37,666 | 59,310 |
| 2034 | 5,365 | 1,538 | 3,670 | 6,824 | 2,635 | 1,701 | 37,858 | 59,591 |
| 2035 | 5,372 | 1,537 | 3,675 | 6,863 | 2,637 | 1,703 | 37,988 | 59,775 |
| 2036 | 5,390 | 1,542 | 3,687 | 6,885 | 2,646 | 1,708 | 38,112 | 59,969 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A5. continued

| Year | State Planning Region 2 | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | |
| 2012 | 5,082 | 1,556 | 3,454 | 5,007 | 2,565 | 1,621 | 31,821 | 51,106 |
| 2013 | 5,157 | 1,572 | 3,507 | 5,178 | 2,599 | 1,645 | 32,562 | 52,220 |
| 2014 | 5,233 | 1,589 | 3,560 | 5,353 | 2,632 | 1,668 | 33,315 | 53,350 |
| 2015 | 5,297 | 1,601 | 3,605 | 5,521 | 2,660 | 1,688 | 34,006 | 54,379 |
| 2016 | 5,367 | 1,615 | 3,654 | 5,698 | 2,690 | 1,709 | 34,744 | 55,478 |
| 2017 | 5,414 | 1,622 | 3,688 | 5,854 | 2,709 | 1,724 | 35,343 | 56,354 |
| 2018 | 5,515 | 1,645 | 3,758 | 6,073 | 2,754 | 1,755 | 36,305 | 57,805 |
| 2019 | 5,572 | 1,654 | 3,798 | 6,249 | 2,776 | 1,772 | 36,991 | 58,812 |
| 2020 | 5,574 | 1,647 | 3,802 | 6,366 | 2,772 | 1,772 | 37,326 | 59,259 |
| 2021 | 5,571 | 1,642 | 3,801 | 6,421 | 2,768 | 1,771 | 37,467 | 59,441 |
| 2022 | 5,510 | 1,620 | 3,760 | 6,408 | 2,735 | 1,751 | 37,215 | 58,998 |
| 2023 | 5,468 | 1,604 | 3,732 | 6,416 | 2,711 | 1,737 | 37,088 | 58,755 |
| 2024 | 5,424 | 1,587 | 3,703 | 6,422 | 2,687 | 1,723 | 36,952 | 58,497 |
| 2025 | 5,412 | 1,580 | 3,695 | 6,466 | 2,678 | 1,719 | 37,030 | 58,579 |
| 2026 | 5,397 | 1,571 | 3,686 | 6,506 | 2,668 | 1,713 | 37,089 | 58,631 |
| 2027 | 5,392 | 1,566 | 3,683 | 6,558 | 2,662 | 1,711 | 37,213 | 58,785 |
| 2028 | 5,386 | 1,560 | 3,680 | 6,610 | 2,657 | 1,709 | 37,335 | 58,935 |
| 2029 | 5,373 | 1,552 | 3,672 | 6,654 | 2,648 | 1,705 | 37,414 | 59,018 |
| 2030 | 5,361 | 1,544 | 3,665 | 6,697 | 2,639 | 1,700 | 37,489 | 59,095 |
| 2031 | 5,360 | 1,542 | 3,665 | 6,727 | 2,637 | 1,700 | 37,571 | 59,202 |
| 2032 | 5,360 | 1,540 | 3,665 | 6,756 | 2,635 | 1,699 | 37,651 | 59,307 |
| 2033 | 5,361 | 1,538 | 3,666 | 6,788 | 2,634 | 1,700 | 37,741 | 59,428 |
| 2034 | 5,365 | 1,538 | 3,670 | 6,824 | 2,635 | 1,701 | 37,858 | 59,591 |
| 2035 | 5,372 | 1,537 | 3,675 | 6,863 | 2,637 | 1,703 | 37,988 | 59,775 |
| 2036 | 5,390 | 1,542 | 3,687 | 6,885 | 2,646 | 1,708 | 38,112 | 59,969 |

[b]Housing demand associated with permanent and temporary workforce.

Table A6. Housing Demand in Total Units, Consensus Scenario, by County, State Planning Region 8, 2012 through 2036

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | | | | Permanent Housing[a] | | | | | |
| 2012 | 1,400 | 485 | 1,741 | 2,217 | 988 | 1,445 | 443 | 11,203 | 19,921 |
| 2013 | 1,444 | 497 | 1,812 | 2,315 | 1,022 | 1,495 | 456 | 11,714 | 20,755 |
| 2014 | 1,494 | 510 | 1,890 | 2,422 | 1,059 | 1,551 | 472 | 12,278 | 21,676 |
| 2015 | 1,545 | 523 | 1,973 | 2,534 | 1,098 | 1,608 | 488 | 12,869 | 22,639 |
| 2016 | 1,601 | 538 | 2,063 | 2,658 | 1,141 | 1,672 | 505 | 13,519 | 23,697 |
| 2017 | 1,662 | 554 | 2,161 | 2,792 | 1,187 | 1,740 | 524 | 14,222 | 24,840 |
| 2018 | 1,727 | 571 | 2,266 | 2,936 | 1,237 | 1,814 | 544 | 14,984 | 26,079 |
| 2019 | 1,780 | 583 | 2,358 | 3,063 | 1,279 | 1,875 | 560 | 15,657 | 27,155 |
| 2020 | 1,826 | 593 | 2,441 | 3,181 | 1,315 | 1,929 | 574 | 16,283 | 28,141 |
| 2021 | 1,861 | 602 | 2,500 | 3,263 | 1,343 | 1,970 | 585 | 16,717 | 28,840 |
| 2022 | 1,896 | 610 | 2,559 | 3,344 | 1,370 | 2,009 | 595 | 17,145 | 29,527 |
| 2023 | 1,928 | 617 | 2,615 | 3,421 | 1,395 | 2,047 | 605 | 17,557 | 30,184 |
| 2024 | 1,957 | 624 | 2,668 | 3,496 | 1,418 | 2,082 | 614 | 17,953 | 30,811 |
| 2025 | 1,987 | 630 | 2,721 | 3,570 | 1,442 | 2,116 | 623 | 18,351 | 31,440 |
| 2026 | 2,013 | 636 | 2,771 | 3,641 | 1,463 | 2,148 | 631 | 18,732 | 32,036 |
| 2027 | 2,038 | 640 | 2,819 | 3,709 | 1,483 | 2,178 | 639 | 19,097 | 32,603 |
| 2028 | 2,061 | 644 | 2,865 | 3,775 | 1,502 | 2,206 | 646 | 19,448 | 33,146 |
| 2029 | 2,082 | 647 | 2,909 | 3,838 | 1,520 | 2,233 | 652 | 19,790 | 33,671 |
| 2030 | 2,101 | 650 | 2,950 | 3,898 | 1,536 | 2,257 | 658 | 20,114 | 34,162 |
| 2031 | 2,124 | 655 | 2,989 | 3,953 | 1,554 | 2,283 | 665 | 20,407 | 34,631 |
| 2032 | 2,140 | 658 | 3,020 | 3,996 | 1,567 | 2,303 | 670 | 20,638 | 34,992 |
| 2033 | 2,156 | 661 | 3,050 | 4,038 | 1,580 | 2,322 | 674 | 20,862 | 35,342 |
| 2034 | 2,165 | 662 | 3,071 | 4,069 | 1,588 | 2,334 | 677 | 21,031 | 35,597 |
| 2035 | 2,162 | 660 | 3,074 | 4,077 | 1,587 | 2,333 | 676 | 21,079 | 35,648 |
| 2036 | 2,167 | 661 | 3,081 | 4,086 | 1,591 | 2,338 | 678 | 21,125 | 35,726 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A6. continued

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | | |
| 2012 | 1,820 | 631 | 2,263 | 2,883 | 1,284 | 1,879 | 575 | 14,565 | 25,900 |
| 2013 | 1,883 | 648 | 2,362 | 3,018 | 1,332 | 1,950 | 595 | 15,273 | 27,060 |
| 2014 | 1,951 | 666 | 2,469 | 3,163 | 1,384 | 2,025 | 616 | 16,036 | 28,311 |
| 2015 | 2,014 | 682 | 2,571 | 3,304 | 1,432 | 2,097 | 635 | 16,775 | 29,509 |
| 2016 | 2,082 | 700 | 2,683 | 3,457 | 1,484 | 2,174 | 657 | 17,583 | 30,821 |
| 2017 | 2,144 | 715 | 2,788 | 3,602 | 1,532 | 2,245 | 676 | 18,351 | 32,053 |
| 2018 | 2,214 | 732 | 2,905 | 3,765 | 1,587 | 2,325 | 697 | 19,211 | 33,436 |
| 2019 | 2,261 | 741 | 2,994 | 3,890 | 1,624 | 2,381 | 711 | 19,885 | 34,488 |
| 2020 | 2,290 | 744 | 3,062 | 3,989 | 1,650 | 2,420 | 720 | 20,423 | 35,296 |
| 2021 | 2,296 | 742 | 3,084 | 4,024 | 1,656 | 2,430 | 721 | 20,619 | 35,573 |
| 2022 | 2,259 | 727 | 3,049 | 3,984 | 1,632 | 2,394 | 709 | 20,428 | 35,182 |
| 2023 | 2,231 | 715 | 3,026 | 3,960 | 1,614 | 2,369 | 701 | 20,321 | 34,936 |
| 2024 | 2,213 | 705 | 3,016 | 3,952 | 1,603 | 2,353 | 694 | 20,295 | 34,831 |
| 2025 | 2,211 | 701 | 3,028 | 3,973 | 1,604 | 2,355 | 694 | 20,422 | 34,988 |
| 2026 | 2,205 | 696 | 3,035 | 3,988 | 1,603 | 2,353 | 692 | 20,516 | 35,088 |
| 2027 | 2,207 | 693 | 3,053 | 4,017 | 1,606 | 2,359 | 692 | 20,681 | 35,308 |
| 2028 | 2,208 | 690 | 3,069 | 4,044 | 1,609 | 2,364 | 692 | 20,837 | 35,513 |
| 2029 | 2,215 | 689 | 3,095 | 4,084 | 1,617 | 2,376 | 694 | 21,058 | 35,828 |
| 2030 | 2,209 | 683 | 3,102 | 4,099 | 1,615 | 2,373 | 692 | 21,152 | 35,926 |
| 2031 | 2,212 | 682 | 3,113 | 4,116 | 1,618 | 2,378 | 692 | 21,249 | 36,060 |
| 2032 | 2,221 | 683 | 3,134 | 4,147 | 1,626 | 2,390 | 695 | 21,416 | 36,312 |
| 2033 | 2,232 | 685 | 3,158 | 4,182 | 1,636 | 2,404 | 698 | 21,604 | 36,599 |
| 2034 | 2,238 | 685 | 3,173 | 4,205 | 1,641 | 2,412 | 700 | 21,733 | 36,787 |
| 2035 | 2,234 | 682 | 3,177 | 4,213 | 1,640 | 2,411 | 699 | 21,782 | 36,837 |
| 2036 | 2,242 | 684 | 3,188 | 4,228 | 1,646 | 2,419 | 701 | 21,860 | 36,968 |

[b]Housing demand associated with permanent and temporary workforce.

Table A7. Housing Demand in Total Units, High Scenario, by County, State Planning Region 1, 2012 through 2036

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | | Permanent Housing[a] | | |
| 2012 | 1,635 | 3,816 | 12,922 | 18,373 |
| 2013 | 1,833 | 4,278 | 14,486 | 20,596 |
| 2014 | 2,059 | 4,806 | 16,275 | 23,140 |
| 2015 | 2,288 | 5,339 | 18,082 | 25,709 |
| 2016 | 2,520 | 5,882 | 19,919 | 28,321 |
| 2017 | 2,690 | 6,278 | 21,258 | 30,226 |
| 2018 | 2,840 | 6,627 | 22,443 | 31,910 |
| 2019 | 3,028 | 7,067 | 23,933 | 34,029 |
| 2020 | 3,180 | 7,421 | 25,131 | 35,731 |
| 2021 | 3,341 | 7,798 | 26,406 | 37,545 |
| 2022 | 3,450 | 8,051 | 27,263 | 38,763 |
| 2023 | 3,553 | 8,292 | 28,082 | 39,927 |
| 2024 | 3,654 | 8,528 | 28,878 | 41,059 |
| 2025 | 3,751 | 8,753 | 29,642 | 42,146 |
| 2026 | 3,842 | 8,965 | 30,361 | 43,168 |
| 2027 | 3,928 | 9,167 | 31,043 | 44,138 |
| 2028 | 4,009 | 9,356 | 31,682 | 45,046 |
| 2029 | 4,085 | 9,533 | 32,284 | 45,903 |
| 2030 | 4,156 | 9,700 | 32,849 | 46,706 |
| 2031 | 4,197 | 9,796 | 33,173 | 47,167 |
| 2032 | 4,232 | 9,876 | 33,445 | 47,553 |
| 2033 | 4,260 | 9,942 | 33,667 | 47,869 |
| 2034 | 4,272 | 9,969 | 33,761 | 48,002 |
| 2035 | 4,228 | 9,867 | 33,412 | 47,506 |
| 2036 | 4,197 | 9,795 | 33,169 | 47,161 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A7. continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Total (Permanent and Temporary) Housing[b] | | | |
| 2012 | 2,996 | 6,991 | 23,676 | 33,663 |
| 2013 | 3,361 | 7,844 | 26,562 | 37,766 |
| 2014 | 3,616 | 8,439 | 28,579 | 40,634 |
| 2015 | 3,826 | 8,929 | 30,237 | 42,992 |
| 2016 | 4,018 | 9,376 | 31,752 | 45,146 |
| 2017 | 4,151 | 9,687 | 32,804 | 46,642 |
| 2018 | 4,252 | 9,924 | 33,607 | 47,783 |
| 2019 | 4,385 | 10,234 | 34,658 | 49,278 |
| 2020 | 4,489 | 10,476 | 35,477 | 50,442 |
| 2021 | 4,592 | 10,716 | 36,289 | 51,597 |
| 2022 | 4,601 | 10,739 | 36,366 | 51,707 |
| 2023 | 4,464 | 10,419 | 35,282 | 50,164 |
| 2024 | 4,393 | 10,253 | 34,721 | 49,367 |
| 2025 | 4,341 | 10,130 | 34,306 | 48,777 |
| 2026 | 4,327 | 10,099 | 34,198 | 48,623 |
| 2027 | 4,348 | 10,147 | 34,363 | 48,859 |
| 2028 | 4,355 | 10,165 | 34,422 | 48,942 |
| 2029 | 4,371 | 10,202 | 34,548 | 49,121 |
| 2030 | 4,382 | 10,228 | 34,636 | 49,246 |
| 2031 | 4,363 | 10,183 | 34,484 | 49,030 |
| 2032 | 4,331 | 10,107 | 34,225 | 48,663 |
| 2033 | 4,297 | 10,029 | 33,964 | 48,290 |
| 2034 | 4,272 | 9,969 | 33,761 | 48,002 |
| 2035 | 4,228 | 9,867 | 33,412 | 47,506 |
| 2036 | 4,197 | 9,795 | 33,169 | 47,161 |

[b]Housing demand associated with permanent and temporary workforce.

Table A8. Housing Demand in Total Units, High Scenario, by County, State Planning Region 2, 2012 through 2036

| | State Planning Region 2 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Housing[a] | | | | |
| 2012 | 4,487 | 1,374 | 3,049 | 4,421 | 2,265 | 1,431 | 28,095 | 45,122 |
| 2013 | 4,561 | 1,391 | 3,101 | 4,580 | 2,298 | 1,454 | 28,797 | 46,182 |
| 2014 | 4,635 | 1,407 | 3,153 | 4,742 | 2,332 | 1,478 | 29,510 | 47,257 |
| 2015 | 4,712 | 1,424 | 3,207 | 4,911 | 2,366 | 1,501 | 30,248 | 48,368 |
| 2016 | 4,794 | 1,443 | 3,263 | 5,089 | 2,403 | 1,527 | 31,030 | 49,548 |
| 2017 | 4,870 | 1,459 | 3,317 | 5,266 | 2,436 | 1,550 | 31,789 | 50,687 |
| 2018 | 4,977 | 1,485 | 3,392 | 5,481 | 2,485 | 1,584 | 32,766 | 52,170 |
| 2019 | 5,064 | 1,503 | 3,452 | 5,679 | 2,523 | 1,611 | 33,620 | 53,453 |
| 2020 | 5,096 | 1,506 | 3,476 | 5,821 | 2,535 | 1,620 | 34,127 | 54,181 |
| 2021 | 5,140 | 1,515 | 3,506 | 5,924 | 2,554 | 1,634 | 34,568 | 54,841 |
| 2022 | 5,177 | 1,522 | 3,533 | 6,021 | 2,570 | 1,645 | 34,968 | 55,436 |
| 2023 | 5,212 | 1,529 | 3,557 | 6,116 | 2,584 | 1,656 | 35,355 | 56,010 |
| 2024 | 5,242 | 1,534 | 3,578 | 6,207 | 2,597 | 1,665 | 35,711 | 56,534 |
| 2025 | 5,270 | 1,538 | 3,598 | 6,296 | 2,608 | 1,673 | 36,055 | 57,038 |
| 2026 | 5,294 | 1,541 | 3,616 | 6,382 | 2,617 | 1,681 | 36,383 | 57,514 |
| 2027 | 5,317 | 1,544 | 3,632 | 6,467 | 2,626 | 1,688 | 36,698 | 57,971 |
| 2028 | 5,337 | 1,546 | 3,647 | 6,550 | 2,633 | 1,693 | 36,998 | 58,404 |
| 2029 | 5,355 | 1,547 | 3,660 | 6,631 | 2,639 | 1,699 | 37,285 | 58,815 |
| 2030 | 5,371 | 1,547 | 3,671 | 6,710 | 2,644 | 1,703 | 37,561 | 59,207 |
| 2031 | 5,394 | 1,552 | 3,688 | 6,770 | 2,654 | 1,711 | 37,809 | 59,577 |
| 2032 | 5,416 | 1,556 | 3,703 | 6,827 | 2,663 | 1,717 | 38,043 | 59,926 |
| 2033 | 5,435 | 1,560 | 3,717 | 6,882 | 2,671 | 1,723 | 38,265 | 60,253 |
| 2034 | 5,450 | 1,562 | 3,727 | 6,931 | 2,677 | 1,728 | 38,453 | 60,528 |
| 2035 | 5,452 | 1,560 | 3,730 | 6,965 | 2,677 | 1,728 | 38,556 | 60,668 |
| 2036 | 5,469 | 1,565 | 3,741 | 6,986 | 2,684 | 1,733 | 38,670 | 60,849 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A8. continued

| Year | State Planning Region 2 | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | |
| 2012 | 5,082 | 1,556 | 3,454 | 5,008 | 2,565 | 1,621 | 31,822 | 51,107 |
| 2013 | 5,202 | 1,586 | 3,537 | 5,223 | 2,621 | 1,659 | 32,841 | 52,668 |
| 2014 | 5,276 | 1,602 | 3,589 | 5,397 | 2,654 | 1,682 | 33,586 | 53,785 |
| 2015 | 5,342 | 1,615 | 3,636 | 5,568 | 2,683 | 1,702 | 34,295 | 54,840 |
| 2016 | 5,415 | 1,630 | 3,687 | 5,749 | 2,714 | 1,725 | 35,054 | 55,973 |
| 2017 | 5,471 | 1,639 | 3,726 | 5,916 | 2,737 | 1,742 | 35,714 | 56,945 |
| 2018 | 5,577 | 1,663 | 3,800 | 6,142 | 2,785 | 1,775 | 36,716 | 58,458 |
| 2019 | 5,640 | 1,674 | 3,845 | 6,326 | 2,811 | 1,794 | 37,449 | 59,539 |
| 2020 | 5,647 | 1,669 | 3,852 | 6,450 | 2,809 | 1,795 | 37,816 | 60,038 |
| 2021 | 5,664 | 1,670 | 3,864 | 6,528 | 2,814 | 1,800 | 38,091 | 60,431 |
| 2022 | 5,659 | 1,664 | 3,862 | 6,581 | 2,809 | 1,798 | 38,224 | 60,597 |
| 2023 | 5,598 | 1,642 | 3,820 | 6,568 | 2,776 | 1,778 | 37,969 | 60,151 |
| 2024 | 5,556 | 1,626 | 3,793 | 6,579 | 2,752 | 1,765 | 37,853 | 59,924 |
| 2025 | 5,521 | 1,611 | 3,770 | 6,597 | 2,732 | 1,753 | 37,778 | 59,762 |
| 2026 | 5,501 | 1,602 | 3,757 | 6,632 | 2,719 | 1,746 | 37,806 | 59,764 |
| 2027 | 5,496 | 1,596 | 3,754 | 6,685 | 2,714 | 1,744 | 37,931 | 59,919 |
| 2028 | 5,484 | 1,588 | 3,747 | 6,731 | 2,705 | 1,740 | 38,018 | 60,014 |
| 2029 | 5,476 | 1,582 | 3,743 | 6,781 | 2,698 | 1,737 | 38,128 | 60,145 |
| 2030 | 5,466 | 1,575 | 3,737 | 6,829 | 2,691 | 1,734 | 38,227 | 60,258 |
| 2031 | 5,464 | 1,572 | 3,736 | 6,857 | 2,688 | 1,733 | 38,298 | 60,348 |
| 2032 | 5,457 | 1,568 | 3,732 | 6,879 | 2,683 | 1,730 | 38,335 | 60,386 |
| 2033 | 5,451 | 1,564 | 3,728 | 6,902 | 2,679 | 1,728 | 38,376 | 60,428 |
| 2034 | 5,450 | 1,562 | 3,727 | 6,931 | 2,677 | 1,728 | 38,453 | 60,528 |
| 2035 | 5,452 | 1,560 | 3,730 | 6,965 | 2,677 | 1,728 | 38,556 | 60,668 |
| 2036 | 5,469 | 1,565 | 3,741 | 6,986 | 2,684 | 1,733 | 38,670 | 60,849 |

[b]Housing demand associated with permanent and temporary workforce.

Table A9. Housing Demand in Total Units, High Scenario, by County, State Planning Region 8, 2012 through 2036

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | | | | Permanent Housing[a] | | | | | |
| 2012 | 1,415 | 490 | 1,759 | 2,241 | 998 | 1,460 | 447 | 11,322 | 20,132 |
| 2013 | 1,464 | 504 | 1,837 | 2,346 | 1,036 | 1,516 | 463 | 11,875 | 21,040 |
| 2014 | 1,517 | 518 | 1,919 | 2,459 | 1,076 | 1,575 | 479 | 12,466 | 22,007 |
| 2015 | 1,573 | 533 | 2,008 | 2,581 | 1,118 | 1,638 | 496 | 13,103 | 23,051 |
| 2016 | 1,633 | 549 | 2,104 | 2,711 | 1,164 | 1,705 | 515 | 13,791 | 24,173 |
| 2017 | 1,698 | 566 | 2,207 | 2,852 | 1,213 | 1,778 | 535 | 14,530 | 25,378 |
| 2018 | 1,772 | 586 | 2,325 | 3,012 | 1,269 | 1,861 | 558 | 15,371 | 26,753 |
| 2019 | 1,837 | 602 | 2,433 | 3,161 | 1,320 | 1,935 | 578 | 16,156 | 28,021 |
| 2020 | 1,904 | 618 | 2,545 | 3,317 | 1,372 | 2,012 | 598 | 16,980 | 29,346 |
| 2021 | 1,962 | 634 | 2,636 | 3,439 | 1,415 | 2,076 | 616 | 17,621 | 30,400 |
| 2022 | 2,021 | 650 | 2,728 | 3,565 | 1,460 | 2,142 | 635 | 18,278 | 31,480 |
| 2023 | 2,078 | 666 | 2,818 | 3,688 | 1,503 | 2,206 | 652 | 18,926 | 32,538 |
| 2024 | 2,132 | 680 | 2,906 | 3,808 | 1,545 | 2,268 | 669 | 19,558 | 33,566 |
| 2025 | 2,185 | 693 | 2,993 | 3,928 | 1,586 | 2,328 | 686 | 20,188 | 34,586 |
| 2026 | 2,235 | 706 | 3,077 | 4,043 | 1,625 | 2,385 | 701 | 20,797 | 35,568 |
| 2027 | 2,283 | 717 | 3,158 | 4,155 | 1,662 | 2,440 | 716 | 21,391 | 36,520 |
| 2028 | 2,327 | 727 | 3,235 | 4,263 | 1,696 | 2,491 | 729 | 21,963 | 37,432 |
| 2029 | 2,369 | 737 | 3,310 | 4,367 | 1,729 | 2,541 | 742 | 22,518 | 38,312 |
| 2030 | 2,407 | 745 | 3,380 | 4,466 | 1,760 | 2,586 | 754 | 23,048 | 39,146 |
| 2031 | 2,449 | 755 | 3,447 | 4,558 | 1,792 | 2,633 | 766 | 23,529 | 39,929 |
| 2032 | 2,479 | 762 | 3,498 | 4,628 | 1,815 | 2,667 | 776 | 23,902 | 40,527 |
| 2033 | 2,504 | 768 | 3,542 | 4,691 | 1,835 | 2,697 | 783 | 24,234 | 41,055 |
| 2034 | 2,517 | 770 | 3,570 | 4,731 | 1,846 | 2,713 | 787 | 24,451 | 41,386 |
| 2035 | 2,510 | 766 | 3,569 | 4,733 | 1,842 | 2,708 | 785 | 24,471 | 41,385 |
| 2036 | 2,515 | 767 | 3,576 | 4,742 | 1,846 | 2,713 | 786 | 24,519 | 41,465 |

- continued -

[a]Housing needs associated with permanent workforce.

Table A9. continued

| | State Planning Region 8 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Total (Permanent and Temporary) Housing[b] | | | | | | | | |
| 2012 | 1,827 | 633 | 2,272 | 2,894 | 1,289 | 1,886 | 578 | 14,623 | 26,003 |
| 2013 | 1,918 | 660 | 2,406 | 3,074 | 1,357 | 1,986 | 606 | 15,557 | 27,565 |
| 2014 | 1,987 | 679 | 2,515 | 3,222 | 1,409 | 2,063 | 628 | 16,333 | 28,836 |
| 2015 | 2,062 | 699 | 2,633 | 3,383 | 1,466 | 2,147 | 651 | 17,179 | 30,221 |
| 2016 | 2,135 | 718 | 2,751 | 3,544 | 1,522 | 2,229 | 673 | 18,026 | 31,597 |
| 2017 | 2,212 | 737 | 2,876 | 3,715 | 1,580 | 2,316 | 697 | 18,928 | 33,061 |
| 2018 | 2,305 | 762 | 3,025 | 3,919 | 1,652 | 2,421 | 726 | 19,999 | 34,809 |
| 2019 | 2,388 | 783 | 3,163 | 4,110 | 1,716 | 2,516 | 751 | 21,005 | 36,430 |
| 2020 | 2,473 | 803 | 3,307 | 4,309 | 1,782 | 2,613 | 777 | 22,058 | 38,123 |
| 2021 | 2,541 | 822 | 3,414 | 4,454 | 1,833 | 2,689 | 798 | 22,822 | 39,373 |
| 2022 | 2,593 | 834 | 3,500 | 4,573 | 1,873 | 2,748 | 814 | 23,449 | 40,385 |
| 2023 | 2,589 | 829 | 3,511 | 4,594 | 1,873 | 2,749 | 813 | 23,578 | 40,536 |
| 2024 | 2,586 | 824 | 3,525 | 4,619 | 1,874 | 2,751 | 812 | 23,725 | 40,717 |
| 2025 | 2,590 | 822 | 3,547 | 4,654 | 1,879 | 2,759 | 813 | 23,924 | 40,988 |
| 2026 | 2,606 | 823 | 3,587 | 4,713 | 1,894 | 2,781 | 817 | 24,246 | 41,467 |
| 2027 | 2,632 | 827 | 3,640 | 4,789 | 1,915 | 2,812 | 825 | 24,657 | 42,097 |
| 2028 | 2,645 | 827 | 3,677 | 4,845 | 1,928 | 2,832 | 829 | 24,964 | 42,547 |
| 2029 | 2,665 | 829 | 3,723 | 4,913 | 1,946 | 2,858 | 835 | 25,335 | 43,104 |
| 2030 | 2,671 | 826 | 3,750 | 4,955 | 1,953 | 2,869 | 836 | 25,568 | 43,427 |
| 2031 | 2,679 | 826 | 3,771 | 4,986 | 1,960 | 2,880 | 838 | 25,739 | 43,679 |
| 2032 | 2,672 | 822 | 3,770 | 4,989 | 1,956 | 2,875 | 836 | 25,764 | 43,684 |
| 2033 | 2,661 | 816 | 3,765 | 4,985 | 1,950 | 2,866 | 833 | 25,755 | 43,631 |
| 2034 | 2,647 | 810 | 3,754 | 4,975 | 1,941 | 2,853 | 828 | 25,711 | 43,520 |
| 2035 | 2,627 | 802 | 3,736 | 4,954 | 1,928 | 2,834 | 822 | 25,613 | 43,315 |
| 2036 | 2,620 | 799 | 3,725 | 4,939 | 1,923 | 2,826 | 819 | 25,538 | 43,190 |

[b]Housing demand associated with permanent and temporary workforce.

# Appendix B

Table B1. Population Estimates, Low Scenario, by County, State Planning Region 1, North Dakota, 2010 through 2036

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | | Permanent Population[a] | | |
| 2010 | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 2,949 | 8,666 | 26,791 | 38,406 |
| 2013 | 3,234 | 9,546 | 29,572 | 42,353 |
| 2014 | 3,800 | 11,265 | 34,970 | 50,035 |
| 2015 | 4,078 | 12,146 | 37,785 | 54,008 |
| 2016 | 4,348 | 12,951 | 40,292 | 57,592 |
| 2017 | 4,548 | 13,545 | 42,140 | 60,232 |
| 2018 | 4,716 | 14,046 | 43,698 | 62,460 |
| 2019 | 5,007 | 14,913 | 46,393 | 66,313 |
| 2020 | 5,190 | 15,459 | 48,093 | 68,742 |
| 2021 | 5,306 | 15,803 | 49,164 | 70,273 |
| 2022 | 5,417 | 16,136 | 50,197 | 71,750 |
| 2023 | 5,520 | 16,441 | 51,148 | 73,109 |
| 2024 | 5,617 | 16,730 | 52,048 | 74,395 |
| 2025 | 5,709 | 17,006 | 52,906 | 75,622 |
| 2026 | 5,796 | 17,265 | 53,712 | 76,774 |
| 2027 | 5,878 | 17,508 | 54,468 | 77,854 |
| 2028 | 5,954 | 17,735 | 55,175 | 78,864 |
| 2029 | 6,027 | 17,951 | 55,846 | 79,824 |
| 2030 | 6,094 | 18,153 | 56,473 | 80,721 |
| 2031 | 6,158 | 18,343 | 57,064 | 81,565 |
| 2032 | 6,176 | 18,397 | 57,233 | 81,807 |
| 2033 | 6,191 | 18,442 | 57,374 | 82,007 |
| 2034 | 6,201 | 18,471 | 57,462 | 82,133 |
| 2035 | 6,175 | 18,394 | 57,223 | 81,793 |
| 2036 | 6,138 | 18,282 | 56,876 | 81,295 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B1. Continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Service (Permanent and Temporary) Population[b] | | | |
| 2010[c] | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 5,569 | 16,363 | 50,585 | 72,517 |
| 2013 | 5,692 | 16,798 | 52,037 | 74,526 |
| 2014 | 6,018 | 17,844 | 55,393 | 79,255 |
| 2015 | 6,213 | 18,506 | 57,571 | 82,289 |
| 2016 | 6,462 | 19,247 | 59,878 | 85,587 |
| 2017 | 6,614 | 19,702 | 61,292 | 87,608 |
| 2018 | 6,725 | 20,031 | 62,316 | 89,072 |
| 2019 | 6,893 | 20,533 | 63,877 | 91,302 |
| 2020 | 6,885 | 20,507 | 63,798 | 91,190 |
| 2021 | 6,627 | 19,740 | 61,412 | 87,780 |
| 2022 | 6,441 | 19,185 | 59,684 | 85,309 |
| 2023 | 6,307 | 18,785 | 58,440 | 83,532 |
| 2024 | 6,288 | 18,730 | 58,267 | 83,285 |
| 2025 | 6,270 | 18,677 | 58,103 | 83,050 |
| 2026 | 6,252 | 18,623 | 57,935 | 82,810 |
| 2027 | 6,261 | 18,649 | 58,017 | 82,927 |
| 2028 | 6,265 | 18,661 | 58,053 | 82,978 |
| 2029 | 6,277 | 18,697 | 58,165 | 83,138 |
| 2030 | 6,272 | 18,682 | 58,120 | 83,074 |
| 2031 | 6,276 | 18,693 | 58,153 | 83,121 |
| 2032 | 6,235 | 18,571 | 57,773 | 82,578 |
| 2033 | 6,213 | 18,507 | 57,576 | 82,297 |
| 2034 | 6,201 | 18,471 | 57,462 | 82,134 |
| 2035 | 6,175 | 18,394 | 57,223 | 81,793 |
| 2036 | 6,138 | 18,282 | 56,876 | 81,295 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B2. Population Estimates, Low Scenario, by County, State Planning Region 2, North Dakota, 2010 through 2036

| | State Planning Region 2 Counties | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Population[a] | | | | |
| 2010 | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 8,995 | 2,657 | 6,424 | 10,470 | 4,618 | 3,063 | 64,720 | 100,946 |
| 2013 | 9,092 | 2,676 | 6,503 | 10,779 | 4,655 | 3,090 | 65,752 | 102,547 |
| 2014 | 9,188 | 2,695 | 6,583 | 11,096 | 4,691 | 3,118 | 66,797 | 104,169 |
| 2015 | 9,286 | 2,714 | 6,664 | 11,421 | 4,727 | 3,145 | 67,856 | 105,814 |
| 2016 | 9,421 | 2,741 | 6,764 | 11,803 | 4,787 | 3,190 | 69,419 | 108,125 |
| 2017 | 9,546 | 2,765 | 6,857 | 12,182 | 4,842 | 3,231 | 70,934 | 110,356 |
| 2018 | 9,721 | 2,803 | 6,986 | 12,635 | 4,921 | 3,289 | 72,853 | 113,209 |
| 2019 | 9,861 | 2,830 | 7,089 | 13,053 | 4,982 | 3,334 | 74,528 | 115,678 |
| 2020 | 9,906 | 2,830 | 7,125 | 13,353 | 4,995 | 3,348 | 75,511 | 117,068 |
| 2021 | 9,974 | 2,842 | 7,175 | 13,566 | 5,024 | 3,370 | 76,353 | 118,304 |
| 2022 | 10,029 | 2,851 | 7,217 | 13,765 | 5,047 | 3,388 | 77,110 | 119,408 |
| 2023 | 10,081 | 2,859 | 7,256 | 13,961 | 5,068 | 3,405 | 77,840 | 120,469 |
| 2024 | 10,123 | 2,864 | 7,288 | 14,147 | 5,084 | 3,418 | 78,509 | 121,435 |
| 2025 | 10,162 | 2,868 | 7,318 | 14,330 | 5,099 | 3,431 | 79,153 | 122,360 |
| 2026 | 10,198 | 2,870 | 7,345 | 14,510 | 5,111 | 3,442 | 79,778 | 123,255 |
| 2027 | 10,230 | 2,872 | 7,370 | 14,687 | 5,122 | 3,452 | 80,382 | 124,116 |
| 2028 | 10,259 | 2,873 | 7,393 | 14,861 | 5,131 | 3,461 | 80,962 | 124,939 |
| 2029 | 10,286 | 2,873 | 7,414 | 15,033 | 5,139 | 3,469 | 81,531 | 125,745 |
| 2030 | 10,310 | 2,872 | 7,433 | 15,203 | 5,145 | 3,476 | 82,079 | 126,517 |
| 2031 | 10,350 | 2,879 | 7,463 | 15,330 | 5,163 | 3,489 | 82,580 | 127,253 |
| 2032 | 10,388 | 2,886 | 7,491 | 15,454 | 5,179 | 3,502 | 83,065 | 127,963 |
| 2033 | 10,423 | 2,892 | 7,518 | 15,577 | 5,194 | 3,513 | 83,537 | 128,653 |
| 2034 | 10,457 | 2,897 | 7,543 | 15,697 | 5,208 | 3,524 | 83,993 | 129,319 |
| 2035 | 10,476 | 2,899 | 7,558 | 15,796 | 5,214 | 3,530 | 84,334 | 129,807 |
| 2036 | 10,511 | 2,908 | 7,582 | 15,847 | 5,231 | 3,542 | 84,609 | 130,230 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B2. Continued

| Year | State Planning Region 2 Counties | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Service (Permanent and Temporary) Population[b] | | | | | | | |
| 2010[c] | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 10,214 | 3,017 | 7,294 | 11,888 | 5,244 | 3,478 | 73,492 | 114,627 |
| 2013 | 10,162 | 2,991 | 7,269 | 12,048 | 5,202 | 3,454 | 73,492 | 114,618 |
| 2014 | 10,234 | 3,002 | 7,332 | 12,359 | 5,225 | 3,472 | 74,395 | 116,018 |
| 2015 | 10,312 | 3,014 | 7,401 | 12,684 | 5,250 | 3,493 | 75,357 | 117,512 |
| 2016 | 10,440 | 3,038 | 7,495 | 13,080 | 5,305 | 3,535 | 76,927 | 119,819 |
| 2017 | 10,531 | 3,051 | 7,564 | 13,439 | 5,341 | 3,564 | 78,255 | 121,746 |
| 2018 | 10,690 | 3,083 | 7,682 | 13,895 | 5,412 | 3,616 | 80,113 | 124,491 |
| 2019 | 10,772 | 3,092 | 7,744 | 14,258 | 5,442 | 3,642 | 81,411 | 126,361 |
| 2020 | 10,721 | 3,063 | 7,711 | 14,451 | 5,406 | 3,624 | 81,724 | 126,700 |
| 2021 | 10,615 | 3,025 | 7,637 | 14,438 | 5,347 | 3,587 | 81,263 | 125,912 |
| 2022 | 10,529 | 2,993 | 7,576 | 14,451 | 5,299 | 3,557 | 80,951 | 125,356 |
| 2023 | 10,466 | 2,968 | 7,533 | 14,495 | 5,262 | 3,535 | 80,814 | 125,071 |
| 2024 | 10,451 | 2,956 | 7,524 | 14,605 | 5,249 | 3,529 | 81,050 | 125,364 |
| 2025 | 10,435 | 2,945 | 7,514 | 14,715 | 5,235 | 3,523 | 81,279 | 125,645 |
| 2026 | 10,419 | 2,933 | 7,504 | 14,824 | 5,222 | 3,517 | 81,508 | 125,927 |
| 2027 | 10,415 | 2,924 | 7,504 | 14,952 | 5,215 | 3,514 | 81,835 | 126,360 |
| 2028 | 10,408 | 2,915 | 7,500 | 15,077 | 5,206 | 3,511 | 82,140 | 126,758 |
| 2029 | 10,406 | 2,906 | 7,500 | 15,208 | 5,199 | 3,509 | 82,480 | 127,209 |
| 2030 | 10,394 | 2,895 | 7,494 | 15,327 | 5,188 | 3,505 | 82,753 | 127,557 |
| 2031 | 10,406 | 2,895 | 7,503 | 15,412 | 5,190 | 3,508 | 83,025 | 127,939 |
| 2032 | 10,415 | 2,894 | 7,511 | 15,495 | 5,192 | 3,511 | 83,285 | 128,303 |
| 2033 | 10,434 | 2,895 | 7,525 | 15,592 | 5,199 | 3,517 | 83,619 | 128,781 |
| 2034 | 10,457 | 2,897 | 7,543 | 15,697 | 5,208 | 3,524 | 83,993 | 129,319 |
| 2035 | 10,476 | 2,899 | 7,558 | 15,796 | 5,214 | 3,530 | 84,334 | 129,807 |
| 2036 | 10,511 | 2,908 | 7,582 | 15,847 | 5,231 | 3,542 | 84,609 | 130,230 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B3. Population Estimates, Low Scenario, by County, State Planning Region 8, North Dakota, 2010 through 2036

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | | | | Permanent Population[a] | | | | | |
| 2010 | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,178 | 829 | 3,294 | 3,781 | 1,648 | 2,412 | 684 | 23,248 | 38,074 |
| 2013 | 2,212 | 835 | 3,365 | 3,933 | 1,710 | 2,443 | 701 | 23,659 | 38,858 |
| 2014 | 2,261 | 846 | 3,460 | 4,118 | 1,785 | 2,488 | 724 | 24,221 | 39,904 |
| 2015 | 2,309 | 857 | 3,554 | 4,309 | 1,863 | 2,533 | 747 | 24,770 | 40,943 |
| 2016 | 2,390 | 880 | 3,713 | 4,514 | 1,933 | 2,630 | 773 | 25,990 | 42,823 |
| 2017 | 2,470 | 902 | 3,871 | 4,720 | 2,003 | 2,725 | 798 | 27,221 | 44,709 |
| 2018 | 2,555 | 926 | 4,043 | 4,943 | 2,078 | 2,828 | 825 | 28,554 | 46,752 |
| 2019 | 2,622 | 942 | 4,187 | 5,134 | 2,138 | 2,911 | 846 | 29,706 | 48,486 |
| 2020 | 2,653 | 944 | 4,277 | 5,259 | 2,169 | 2,954 | 855 | 30,478 | 49,591 |
| 2021 | 2,678 | 949 | 4,338 | 5,341 | 2,193 | 2,987 | 863 | 30,977 | 50,325 |
| 2022 | 2,701 | 953 | 4,396 | 5,421 | 2,215 | 3,017 | 870 | 31,465 | 51,038 |
| 2023 | 2,721 | 955 | 4,450 | 5,495 | 2,235 | 3,045 | 876 | 31,923 | 51,700 |
| 2024 | 2,740 | 957 | 4,503 | 5,567 | 2,253 | 3,070 | 882 | 32,369 | 52,341 |
| 2025 | 2,758 | 959 | 4,554 | 5,639 | 2,271 | 3,096 | 887 | 32,812 | 52,977 |
| 2026 | 2,774 | 960 | 4,603 | 5,708 | 2,288 | 3,119 | 892 | 33,239 | 53,582 |
| 2027 | 2,788 | 960 | 4,650 | 5,773 | 2,303 | 3,140 | 896 | 33,648 | 54,158 |
| 2028 | 2,801 | 959 | 4,694 | 5,837 | 2,317 | 3,160 | 900 | 34,043 | 54,710 |
| 2029 | 2,812 | 958 | 4,736 | 5,897 | 2,330 | 3,177 | 903 | 34,424 | 55,237 |
| 2030 | 2,822 | 956 | 4,776 | 5,955 | 2,341 | 3,194 | 906 | 34,789 | 55,739 |
| 2031 | 2,837 | 959 | 4,815 | 6,007 | 2,356 | 3,214 | 910 | 35,109 | 56,208 |
| 2032 | 2,840 | 957 | 4,832 | 6,033 | 2,360 | 3,220 | 911 | 35,270 | 56,423 |
| 2033 | 2,842 | 955 | 4,847 | 6,056 | 2,363 | 3,225 | 911 | 35,420 | 56,620 |
| 2034 | 2,842 | 953 | 4,859 | 6,076 | 2,365 | 3,228 | 911 | 35,549 | 56,783 |
| 2035 | 2,832 | 947 | 4,854 | 6,074 | 2,359 | 3,219 | 908 | 35,553 | 56,745 |
| 2036 | 2,826 | 945 | 4,845 | 6,062 | 2,354 | 3,213 | 906 | 35,485 | 56,637 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B3. Continued

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Service (Permanent and Temporary) Population[b] | | | | | | | | |
| 2010[c] | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,833 | 1,078 | 4,286 | 4,920 | 2,144 | 3,138 | 890 | 30,246 | 49,535 |
| 2013 | 2,817 | 1,064 | 4,286 | 5,009 | 2,177 | 3,111 | 893 | 30,129 | 49,485 |
| 2014 | 2,871 | 1,075 | 4,393 | 5,229 | 2,267 | 3,160 | 919 | 30,755 | 50,668 |
| 2015 | 2,926 | 1,086 | 4,505 | 5,461 | 2,361 | 3,210 | 947 | 31,393 | 51,889 |
| 2016 | 3,026 | 1,115 | 4,701 | 5,715 | 2,448 | 3,329 | 978 | 32,907 | 54,219 |
| 2017 | 3,111 | 1,136 | 4,876 | 5,945 | 2,523 | 3,432 | 1,005 | 34,287 | 56,315 |
| 2018 | 3,192 | 1,156 | 5,050 | 6,175 | 2,596 | 3,533 | 1,030 | 35,670 | 58,402 |
| 2019 | 3,228 | 1,159 | 5,155 | 6,321 | 2,632 | 3,584 | 1,041 | 36,573 | 59,694 |
| 2020 | 3,201 | 1,139 | 5,161 | 6,345 | 2,618 | 3,565 | 1,032 | 36,774 | 59,835 |
| 2021 | 3,121 | 1,106 | 5,055 | 6,224 | 2,556 | 3,481 | 1,005 | 36,102 | 58,650 |
| 2022 | 3,054 | 1,077 | 4,970 | 6,128 | 2,504 | 3,411 | 983 | 35,570 | 57,696 |
| 2023 | 2,997 | 1,052 | 4,902 | 6,053 | 2,461 | 3,354 | 965 | 35,163 | 56,947 |
| 2024 | 2,976 | 1,040 | 4,891 | 6,047 | 2,448 | 3,335 | 958 | 35,161 | 56,856 |
| 2025 | 2,956 | 1,027 | 4,881 | 6,044 | 2,434 | 3,318 | 951 | 35,168 | 56,779 |
| 2026 | 2,935 | 1,015 | 4,871 | 6,039 | 2,421 | 3,300 | 944 | 35,170 | 56,695 |
| 2027 | 2,923 | 1,006 | 4,875 | 6,053 | 2,415 | 3,292 | 940 | 35,279 | 56,784 |
| 2028 | 2,910 | 997 | 4,877 | 6,065 | 2,408 | 3,283 | 935 | 35,372 | 56,847 |
| 2029 | 2,900 | 988 | 4,884 | 6,081 | 2,402 | 3,277 | 931 | 35,499 | 56,962 |
| 2030 | 2,884 | 977 | 4,882 | 6,087 | 2,393 | 3,264 | 926 | 35,557 | 56,968 |
| 2031 | 2,878 | 973 | 4,885 | 6,095 | 2,390 | 3,261 | 924 | 35,618 | 57,023 |
| 2032 | 2,860 | 964 | 4,866 | 6,076 | 2,377 | 3,243 | 918 | 35,524 | 56,829 |
| 2033 | 2,849 | 958 | 4,860 | 6,072 | 2,370 | 3,234 | 914 | 35,516 | 56,772 |
| 2034 | 2,842 | 953 | 4,859 | 6,076 | 2,365 | 3,228 | 911 | 35,549 | 56,783 |
| 2035 | 2,832 | 947 | 4,854 | 6,074 | 2,359 | 3,219 | 908 | 35,553 | 56,745 |
| 2036 | 2,826 | 945 | 4,845 | 6,062 | 2,354 | 3,213 | 906 | 35,485 | 56,637 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B4. Population Estimates, Consensus Scenario, by County, State Planning Region 1, North Dakota, 2010 through 2036

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Permanent Population[a] | | | |
| 2010 | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 2,981 | 8,760 | 27,081 | 38,822 |
| 2013 | 3,304 | 9,752 | 30,210 | 43,266 |
| 2014 | 3,750 | 11,119 | 34,518 | 49,388 |
| 2015 | 4,077 | 12,145 | 37,784 | 54,007 |
| 2016 | 4,425 | 13,181 | 41,005 | 58,611 |
| 2017 | 4,707 | 14,021 | 43,619 | 62,346 |
| 2018 | 4,969 | 14,801 | 46,046 | 65,816 |
| 2019 | 5,298 | 15,780 | 49,092 | 70,170 |
| 2020 | 5,650 | 16,828 | 52,352 | 74,829 |
| 2021 | 5,801 | 17,280 | 53,758 | 76,840 |
| 2022 | 5,948 | 17,716 | 55,113 | 78,776 |
| 2023 | 6,086 | 18,127 | 56,393 | 80,606 |
| 2024 | 6,212 | 18,503 | 57,564 | 82,279 |
| 2025 | 6,332 | 18,862 | 58,680 | 83,874 |
| 2026 | 6,444 | 19,195 | 59,716 | 85,356 |
| 2027 | 6,549 | 19,506 | 60,682 | 86,737 |
| 2028 | 6,646 | 19,797 | 61,588 | 88,031 |
| 2029 | 6,736 | 20,064 | 62,418 | 89,218 |
| 2030 | 6,818 | 20,308 | 63,178 | 90,304 |
| 2031 | 6,893 | 20,533 | 63,878 | 91,304 |
| 2032 | 6,942 | 20,677 | 64,327 | 91,946 |
| 2033 | 6,983 | 20,801 | 64,712 | 92,497 |
| 2034 | 7,002 | 20,858 | 64,888 | 92,748 |
| 2035 | 6,976 | 20,780 | 64,645 | 92,401 |
| 2036 | 6,955 | 20,717 | 64,451 | 92,124 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B4. Continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Service (Permanent and Temporary) Population[b] | | | |
| 2010[c] | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 5,621 | 16,517 | 51,061 | 73,199 |
| 2013 | 6,062 | 17,891 | 55,424 | 79,377 |
| 2014 | 6,455 | 19,136 | 59,406 | 84,997 |
| 2015 | 6,711 | 19,989 | 62,186 | 88,885 |
| 2016 | 7,020 | 20,911 | 65,053 | 92,984 |
| 2017 | 7,226 | 21,524 | 66,960 | 95,709 |
| 2018 | 7,413 | 22,081 | 68,693 | 98,187 |
| 2019 | 7,638 | 22,752 | 70,782 | 101,173 |
| 2020 | 7,897 | 23,522 | 73,178 | 104,597 |
| 2021 | 7,863 | 23,422 | 72,866 | 104,151 |
| 2022 | 7,585 | 22,593 | 70,288 | 100,466 |
| 2023 | 7,400 | 22,043 | 68,576 | 98,020 |
| 2024 | 7,229 | 21,531 | 66,984 | 95,744 |
| 2025 | 7,201 | 21,448 | 66,725 | 95,373 |
| 2026 | 7,161 | 21,331 | 66,361 | 94,854 |
| 2027 | 7,164 | 21,339 | 66,384 | 94,887 |
| 2028 | 7,165 | 21,341 | 66,391 | 94,897 |
| 2029 | 7,139 | 21,266 | 66,157 | 94,562 |
| 2030 | 7,112 | 21,185 | 65,907 | 94,205 |
| 2031 | 7,097 | 21,139 | 65,763 | 93,998 |
| 2032 | 7,060 | 21,030 | 65,423 | 93,513 |
| 2033 | 7,029 | 20,937 | 65,134 | 93,100 |
| 2034 | 7,002 | 20,858 | 64,888 | 92,748 |
| 2035 | 6,976 | 20,780 | 64,645 | 92,401 |
| 2036 | 6,955 | 20,717 | 64,451 | 92,124 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B5. Population Estimates, Consensus Scenario, by County, State Planning Region 2, North Dakota, 2010 through 2036

| | State Planning Region 2 Counties | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Population[a] | | | | |
| 2010 | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 9,008 | 2,661 | 6,433 | 10,485 | 4,625 | 3,067 | 64,816 | 101,096 |
| 2013 | 9,120 | 2,685 | 6,524 | 10,813 | 4,669 | 3,100 | 65,959 | 102,870 |
| 2014 | 9,235 | 2,709 | 6,617 | 11,153 | 4,715 | 3,134 | 67,136 | 104,698 |
| 2015 | 9,351 | 2,733 | 6,711 | 11,501 | 4,760 | 3,167 | 68,331 | 106,555 |
| 2016 | 9,505 | 2,766 | 6,824 | 11,909 | 4,830 | 3,218 | 70,039 | 109,091 |
| 2017 | 9,648 | 2,795 | 6,930 | 12,313 | 4,894 | 3,265 | 71,696 | 111,542 |
| 2018 | 9,848 | 2,840 | 7,077 | 12,800 | 4,986 | 3,332 | 73,802 | 114,685 |
| 2019 | 10,009 | 2,873 | 7,196 | 13,249 | 5,057 | 3,385 | 75,650 | 117,419 |
| 2020 | 10,068 | 2,876 | 7,241 | 13,571 | 5,077 | 3,403 | 76,746 | 118,982 |
| 2021 | 10,150 | 2,892 | 7,302 | 13,806 | 5,113 | 3,430 | 77,702 | 120,395 |
| 2022 | 10,218 | 2,905 | 7,353 | 14,024 | 5,142 | 3,452 | 78,559 | 121,652 |
| 2023 | 10,282 | 2,916 | 7,401 | 14,240 | 5,169 | 3,473 | 79,396 | 122,876 |
| 2024 | 10,334 | 2,923 | 7,440 | 14,442 | 5,190 | 3,490 | 80,144 | 123,963 |
| 2025 | 10,382 | 2,929 | 7,476 | 14,639 | 5,209 | 3,505 | 80,863 | 125,002 |
| 2026 | 10,424 | 2,934 | 7,508 | 14,832 | 5,225 | 3,518 | 81,550 | 125,992 |
| 2027 | 10,463 | 2,937 | 7,538 | 15,021 | 5,239 | 3,530 | 82,209 | 126,937 |
| 2028 | 10,498 | 2,940 | 7,565 | 15,206 | 5,250 | 3,541 | 82,846 | 127,846 |
| 2029 | 10,528 | 2,940 | 7,589 | 15,387 | 5,260 | 3,551 | 83,451 | 128,707 |
| 2030 | 10,555 | 2,940 | 7,609 | 15,564 | 5,268 | 3,559 | 84,028 | 129,522 |
| 2031 | 10,597 | 2,948 | 7,641 | 15,696 | 5,286 | 3,573 | 84,554 | 130,295 |
| 2032 | 10,636 | 2,955 | 7,670 | 15,824 | 5,303 | 3,585 | 85,054 | 131,028 |
| 2033 | 10,672 | 2,961 | 7,697 | 15,949 | 5,318 | 3,597 | 85,532 | 131,727 |
| 2034 | 10,703 | 2,966 | 7,720 | 16,066 | 5,330 | 3,607 | 85,967 | 132,359 |
| 2035 | 10,716 | 2,965 | 7,731 | 16,157 | 5,334 | 3,611 | 86,264 | 132,777 |
| 2036 | 10,751 | 2,975 | 7,756 | 16,210 | 5,351 | 3,623 | 86,544 | 133,209 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B5. Continued

| Year | State Planning Region 2 Counties | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Service (Permanent and Temporary) Population[b] | | | | | | | |
| 2010[c] | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 10,232 | 3,023 | 7,307 | 11,909 | 5,253 | 3,484 | 73,620 | 114,827 |
| 2013 | 10,352 | 3,047 | 7,405 | 12,274 | 5,300 | 3,519 | 74,869 | 116,765 |
| 2014 | 10,472 | 3,072 | 7,503 | 12,646 | 5,346 | 3,553 | 76,125 | 118,717 |
| 2015 | 10,567 | 3,089 | 7,584 | 12,998 | 5,380 | 3,580 | 77,221 | 120,418 |
| 2016 | 10,707 | 3,115 | 7,687 | 13,415 | 5,441 | 3,625 | 78,896 | 122,886 |
| 2017 | 10,800 | 3,129 | 7,758 | 13,783 | 5,478 | 3,655 | 80,258 | 124,861 |
| 2018 | 11,001 | 3,172 | 7,905 | 14,299 | 5,569 | 3,722 | 82,442 | 128,110 |
| 2019 | 11,114 | 3,190 | 7,990 | 14,711 | 5,615 | 3,758 | 83,999 | 130,378 |
| 2020 | 11,119 | 3,176 | 7,998 | 14,988 | 5,607 | 3,758 | 84,759 | 131,405 |
| 2021 | 11,114 | 3,167 | 7,995 | 15,116 | 5,599 | 3,755 | 85,080 | 131,827 |
| 2022 | 10,991 | 3,125 | 7,909 | 15,086 | 5,531 | 3,713 | 84,507 | 130,863 |
| 2023 | 10,907 | 3,093 | 7,850 | 15,106 | 5,483 | 3,684 | 84,220 | 130,343 |
| 2024 | 10,820 | 3,061 | 7,789 | 15,121 | 5,434 | 3,654 | 83,910 | 129,788 |
| 2025 | 10,796 | 3,046 | 7,774 | 15,223 | 5,416 | 3,645 | 84,088 | 129,987 |
| 2026 | 10,766 | 3,030 | 7,754 | 15,318 | 5,396 | 3,634 | 84,221 | 130,119 |
| 2027 | 10,755 | 3,019 | 7,748 | 15,440 | 5,385 | 3,629 | 84,504 | 130,480 |
| 2028 | 10,743 | 3,008 | 7,742 | 15,561 | 5,373 | 3,624 | 84,780 | 130,832 |
| 2029 | 10,719 | 2,994 | 7,726 | 15,665 | 5,355 | 3,615 | 84,960 | 131,033 |
| 2030 | 10,693 | 2,979 | 7,709 | 15,768 | 5,337 | 3,605 | 85,131 | 131,222 |
| 2031 | 10,693 | 2,975 | 7,710 | 15,838 | 5,334 | 3,605 | 85,316 | 131,469 |
| 2032 | 10,692 | 2,970 | 7,710 | 15,907 | 5,330 | 3,604 | 85,498 | 131,711 |
| 2033 | 10,694 | 2,967 | 7,713 | 15,981 | 5,328 | 3,604 | 85,703 | 131,989 |
| 2034 | 10,703 | 2,966 | 7,720 | 16,066 | 5,330 | 3,607 | 85,967 | 132,359 |
| 2035 | 10,716 | 2,965 | 7,731 | 16,157 | 5,334 | 3,611 | 86,264 | 132,778 |
| 2036 | 10,751 | 2,975 | 7,756 | 16,210 | 5,351 | 3,623 | 86,544 | 133,209 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B6. Population Estimates, Consensus Scenario, by County, State Planning Region 8, North Dakota, 2010 through 2036

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Permanent Population[a] | | | | | | | | |
| 2010 | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,178 | 829 | 3,295 | 3,782 | 1,648 | 2,413 | 684 | 23,253 | 38,083 |
| 2013 | 2,223 | 839 | 3,382 | 3,953 | 1,718 | 2,455 | 705 | 23,775 | 39,050 |
| 2014 | 2,273 | 851 | 3,479 | 4,141 | 1,795 | 2,502 | 728 | 24,354 | 40,122 |
| 2015 | 2,324 | 863 | 3,578 | 4,338 | 1,875 | 2,550 | 752 | 24,934 | 41,213 |
| 2016 | 2,409 | 887 | 3,742 | 4,549 | 1,948 | 2,650 | 779 | 26,193 | 43,157 |
| 2017 | 2,500 | 913 | 3,919 | 4,778 | 2,027 | 2,758 | 808 | 27,555 | 45,257 |
| 2018 | 2,598 | 941 | 4,110 | 5,026 | 2,113 | 2,875 | 839 | 29,031 | 47,533 |
| 2019 | 2,678 | 962 | 4,276 | 5,243 | 2,183 | 2,972 | 864 | 30,336 | 49,514 |
| 2020 | 2,746 | 977 | 4,427 | 5,444 | 2,246 | 3,058 | 885 | 31,549 | 51,332 |
| 2021 | 2,800 | 992 | 4,535 | 5,584 | 2,293 | 3,123 | 902 | 32,389 | 52,617 |
| 2022 | 2,852 | 1,006 | 4,641 | 5,722 | 2,338 | 3,185 | 918 | 33,218 | 53,881 |
| 2023 | 2,900 | 1,018 | 4,742 | 5,855 | 2,381 | 3,244 | 933 | 34,016 | 55,090 |
| 2024 | 2,944 | 1,028 | 4,839 | 5,983 | 2,421 | 3,300 | 947 | 34,784 | 56,247 |
| 2025 | 2,989 | 1,039 | 4,935 | 6,110 | 2,461 | 3,354 | 961 | 35,555 | 57,405 |
| 2026 | 3,029 | 1,048 | 5,026 | 6,232 | 2,498 | 3,405 | 974 | 36,293 | 58,506 |
| 2027 | 3,066 | 1,055 | 5,113 | 6,349 | 2,533 | 3,453 | 985 | 37,000 | 59,554 |
| 2028 | 3,100 | 1,062 | 5,196 | 6,460 | 2,565 | 3,497 | 996 | 37,681 | 60,556 |
| 2029 | 3,132 | 1,067 | 5,276 | 6,569 | 2,595 | 3,539 | 1,006 | 38,344 | 61,528 |
| 2030 | 3,161 | 1,071 | 5,350 | 6,671 | 2,623 | 3,578 | 1,014 | 38,971 | 62,438 |
| 2031 | 3,195 | 1,080 | 5,422 | 6,766 | 2,653 | 3,620 | 1,025 | 39,539 | 63,300 |
| 2032 | 3,220 | 1,085 | 5,478 | 6,839 | 2,676 | 3,651 | 1,033 | 39,986 | 63,966 |
| 2033 | 3,243 | 1,090 | 5,531 | 6,911 | 2,697 | 3,680 | 1,040 | 40,421 | 64,614 |
| 2034 | 3,257 | 1,092 | 5,570 | 6,964 | 2,711 | 3,700 | 1,044 | 40,747 | 65,085 |
| 2035 | 3,253 | 1,087 | 5,576 | 6,977 | 2,710 | 3,698 | 1,043 | 40,840 | 65,184 |
| 2036 | 3,260 | 1,090 | 5,589 | 6,993 | 2,716 | 3,706 | 1,045 | 40,930 | 65,328 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B6. Continued

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Service (Permanent and Temporary) Population[b] | | | | | | | | |
| 2010[c] | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,832 | 1,078 | 4,284 | 4,917 | 2,143 | 3,137 | 889 | 30,232 | 49,512 |
| 2013 | 2,898 | 1,094 | 4,409 | 5,153 | 2,240 | 3,200 | 919 | 30,998 | 50,912 |
| 2014 | 2,969 | 1,112 | 4,544 | 5,408 | 2,344 | 3,268 | 951 | 31,808 | 52,403 |
| 2015 | 3,030 | 1,125 | 4,664 | 5,654 | 2,444 | 3,323 | 980 | 32,501 | 53,721 |
| 2016 | 3,133 | 1,154 | 4,867 | 5,917 | 2,534 | 3,447 | 1,013 | 34,067 | 56,131 |
| 2017 | 3,226 | 1,178 | 5,057 | 6,165 | 2,616 | 3,559 | 1,042 | 35,555 | 58,397 |
| 2018 | 3,331 | 1,207 | 5,270 | 6,443 | 2,709 | 3,686 | 1,075 | 37,221 | 60,942 |
| 2019 | 3,401 | 1,221 | 5,431 | 6,659 | 2,773 | 3,775 | 1,097 | 38,527 | 62,884 |
| 2020 | 3,445 | 1,226 | 5,553 | 6,828 | 2,817 | 3,836 | 1,110 | 39,570 | 64,384 |
| 2021 | 3,454 | 1,224 | 5,594 | 6,888 | 2,828 | 3,852 | 1,113 | 39,950 | 64,902 |
| 2022 | 3,398 | 1,198 | 5,530 | 6,818 | 2,786 | 3,795 | 1,094 | 39,580 | 64,200 |
| 2023 | 3,356 | 1,178 | 5,489 | 6,777 | 2,756 | 3,755 | 1,080 | 39,372 | 63,763 |
| 2024 | 3,329 | 1,163 | 5,470 | 6,763 | 2,737 | 3,730 | 1,071 | 39,323 | 63,585 |
| 2025 | 3,326 | 1,156 | 5,492 | 6,800 | 2,739 | 3,733 | 1,070 | 39,569 | 63,885 |
| 2026 | 3,318 | 1,147 | 5,505 | 6,826 | 2,736 | 3,730 | 1,067 | 39,750 | 64,079 |
| 2027 | 3,320 | 1,143 | 5,537 | 6,875 | 2,743 | 3,739 | 1,067 | 40,069 | 64,494 |
| 2028 | 3,322 | 1,137 | 5,567 | 6,922 | 2,748 | 3,747 | 1,067 | 40,372 | 64,881 |
| 2029 | 3,333 | 1,135 | 5,614 | 6,990 | 2,761 | 3,766 | 1,070 | 40,800 | 65,470 |
| 2030 | 3,324 | 1,126 | 5,626 | 7,015 | 2,758 | 3,762 | 1,067 | 40,983 | 65,661 |
| 2031 | 3,327 | 1,124 | 5,646 | 7,045 | 2,763 | 3,769 | 1,068 | 41,171 | 65,913 |
| 2032 | 3,341 | 1,126 | 5,684 | 7,097 | 2,777 | 3,788 | 1,072 | 41,495 | 66,381 |
| 2033 | 3,358 | 1,129 | 5,728 | 7,157 | 2,793 | 3,811 | 1,077 | 41,858 | 66,910 |
| 2034 | 3,366 | 1,128 | 5,756 | 7,197 | 2,802 | 3,823 | 1,079 | 42,109 | 67,261 |
| 2035 | 3,361 | 1,124 | 5,763 | 7,210 | 2,800 | 3,821 | 1,078 | 42,203 | 67,360 |
| 2036 | 3,373 | 1,128 | 5,783 | 7,236 | 2,810 | 3,835 | 1,081 | 42,354 | 67,600 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B7. Population Estimates, High Scenario, by County, State Planning Region 1, North Dakota, 2010 through 2036

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | | Permanent Population[a] | | |
| 2010 | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 3,098 | 9,102 | 28,139 | 40,339 |
| 2013 | 3,422 | 10,101 | 31,290 | 44,813 |
| 2014 | 3,789 | 11,232 | 34,870 | 49,891 |
| 2015 | 4,146 | 12,351 | 38,424 | 54,921 |
| 2016 | 4,568 | 13,606 | 42,328 | 60,502 |
| 2017 | 4,875 | 14,521 | 45,175 | 64,571 |
| 2018 | 5,147 | 15,330 | 47,692 | 68,168 |
| 2019 | 5,488 | 16,348 | 50,858 | 72,695 |
| 2020 | 5,763 | 17,166 | 53,403 | 76,332 |
| 2021 | 6,055 | 18,037 | 56,113 | 80,206 |
| 2022 | 6,252 | 18,623 | 57,935 | 82,809 |
| 2023 | 6,440 | 19,182 | 59,674 | 85,295 |
| 2024 | 6,622 | 19,725 | 61,366 | 87,713 |
| 2025 | 6,798 | 20,247 | 62,990 | 90,035 |
| 2026 | 6,962 | 20,738 | 64,517 | 92,218 |
| 2027 | 7,119 | 21,205 | 65,968 | 94,292 |
| 2028 | 7,265 | 21,641 | 67,324 | 96,231 |
| 2029 | 7,403 | 22,052 | 68,605 | 98,060 |
| 2030 | 7,533 | 22,438 | 69,806 | 99,777 |
| 2031 | 7,607 | 22,660 | 70,494 | 100,761 |
| 2032 | 7,670 | 22,845 | 71,072 | 101,587 |
| 2033 | 7,721 | 22,997 | 71,544 | 102,261 |
| 2034 | 7,742 | 23,061 | 71,742 | 102,545 |
| 2035 | 7,662 | 22,823 | 71,001 | 101,486 |
| 2036 | 7,606 | 22,657 | 70,486 | 100,749 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B7. Continued

| Year | State Planning Region 1 | | | Total |
|---|---|---|---|---|
| | Divide | McKenzie | Williams | |
| | Service (Permanent and Temporary) Population[b] | | | |
| 2010[c] | 2,071 | 6,360 | 22,398 | 30,829 |
| 2011 | 2,125 | 7,019 | 24,374 | 33,518 |
| 2012 | 5,676 | 16,677 | 51,556 | 73,908 |
| 2013 | 6,275 | 18,521 | 57,375 | 82,171 |
| 2014 | 6,653 | 19,724 | 61,230 | 87,607 |
| 2015 | 6,934 | 20,654 | 64,255 | 91,843 |
| 2016 | 7,281 | 21,689 | 67,474 | 96,444 |
| 2017 | 7,523 | 22,408 | 69,710 | 99,640 |
| 2018 | 7,707 | 22,956 | 71,415 | 102,078 |
| 2019 | 7,948 | 23,674 | 73,649 | 105,270 |
| 2020 | 8,136 | 24,233 | 75,388 | 107,757 |
| 2021 | 8,322 | 24,788 | 77,115 | 110,225 |
| 2022 | 8,340 | 24,841 | 77,279 | 110,460 |
| 2023 | 8,091 | 24,100 | 74,974 | 107,165 |
| 2024 | 7,962 | 23,717 | 73,782 | 105,461 |
| 2025 | 7,867 | 23,433 | 72,900 | 104,200 |
| 2026 | 7,842 | 23,359 | 72,671 | 103,872 |
| 2027 | 7,880 | 23,472 | 73,023 | 104,375 |
| 2028 | 7,894 | 23,513 | 73,148 | 104,554 |
| 2029 | 7,923 | 23,598 | 73,414 | 104,935 |
| 2030 | 7,943 | 23,659 | 73,602 | 105,204 |
| 2031 | 7,908 | 23,555 | 73,279 | 104,741 |
| 2032 | 7,849 | 23,378 | 72,730 | 103,957 |
| 2033 | 7,789 | 23,199 | 72,173 | 103,161 |
| 2034 | 7,742 | 23,061 | 71,742 | 102,545 |
| 2035 | 7,662 | 22,823 | 71,001 | 101,486 |
| 2036 | 7,606 | 22,657 | 70,486 | 100,749 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B8. Population Estimates, High Scenario, by County, State Planning Region 2, North Dakota, 2010 through 2036

| | State Planning Region 2 Counties | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | Total |
| | | | | Permanent Population[a] | | | | |
| 2010 | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 9,034 | 2,669 | 6,451 | 10,515 | 4,638 | 3,076 | 65,000 | 101,382 |
| 2013 | 9,155 | 2,695 | 6,549 | 10,855 | 4,687 | 3,112 | 66,213 | 103,266 |
| 2014 | 9,276 | 2,721 | 6,646 | 11,202 | 4,736 | 3,147 | 67,432 | 105,159 |
| 2015 | 9,399 | 2,747 | 6,746 | 11,561 | 4,785 | 3,184 | 68,687 | 107,109 |
| 2016 | 9,562 | 2,782 | 6,866 | 11,981 | 4,859 | 3,238 | 70,463 | 109,750 |
| 2017 | 9,714 | 2,814 | 6,978 | 12,397 | 4,927 | 3,288 | 72,187 | 112,305 |
| 2018 | 9,929 | 2,863 | 7,135 | 12,905 | 5,026 | 3,359 | 74,406 | 115,622 |
| 2019 | 10,101 | 2,899 | 7,262 | 13,371 | 5,104 | 3,416 | 76,345 | 118,498 |
| 2020 | 10,166 | 2,904 | 7,312 | 13,703 | 5,127 | 3,436 | 77,496 | 120,145 |
| 2021 | 10,254 | 2,922 | 7,377 | 13,947 | 5,165 | 3,465 | 78,497 | 121,627 |
| 2022 | 10,328 | 2,936 | 7,432 | 14,175 | 5,197 | 3,489 | 79,405 | 122,961 |
| 2023 | 10,397 | 2,948 | 7,483 | 14,400 | 5,227 | 3,512 | 80,285 | 124,253 |
| 2024 | 10,457 | 2,958 | 7,528 | 14,613 | 5,252 | 3,531 | 81,094 | 125,432 |
| 2025 | 10,512 | 2,966 | 7,569 | 14,822 | 5,274 | 3,549 | 81,875 | 126,567 |
| 2026 | 10,561 | 2,973 | 7,607 | 15,026 | 5,293 | 3,564 | 82,618 | 127,642 |
| 2027 | 10,606 | 2,978 | 7,641 | 15,226 | 5,310 | 3,579 | 83,334 | 128,674 |
| 2028 | 10,646 | 2,981 | 7,672 | 15,421 | 5,325 | 3,591 | 84,016 | 129,652 |
| 2029 | 10,682 | 2,983 | 7,699 | 15,611 | 5,337 | 3,603 | 84,667 | 130,582 |
| 2030 | 10,713 | 2,984 | 7,724 | 15,798 | 5,347 | 3,612 | 85,293 | 131,471 |
| 2031 | 10,760 | 2,993 | 7,759 | 15,938 | 5,367 | 3,628 | 85,856 | 132,302 |
| 2032 | 10,803 | 3,001 | 7,791 | 16,073 | 5,386 | 3,642 | 86,389 | 133,085 |
| 2033 | 10,842 | 3,008 | 7,820 | 16,203 | 5,402 | 3,654 | 86,892 | 133,822 |
| 2034 | 10,871 | 3,012 | 7,842 | 16,319 | 5,414 | 3,664 | 87,320 | 134,442 |
| 2035 | 10,876 | 3,009 | 7,846 | 16,398 | 5,413 | 3,665 | 87,552 | 134,761 |
| 2036 | 10,909 | 3,018 | 7,869 | 16,447 | 5,429 | 3,676 | 87,813 | 135,162 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B8. Continued

| Year | State Planning Region 2 Counties | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | Bottineau | Burke | McHenry | Mountrail | Pierce | Renville | Ward | |
| | Service (Permanent and Temporary) Population[b] | | | | | | | |
| 2010[c] | 6,429 | 1,968 | 5,395 | 7,673 | 4,357 | 2,470 | 61,675 | 89,967 |
| 2011 | 6,443 | 2,033 | 5,505 | 8,097 | 4,375 | 2,490 | 64,072 | 93,015 |
| 2012 | 10,232 | 3,023 | 7,307 | 11,909 | 5,253 | 3,484 | 73,621 | 114,828 |
| 2013 | 10,441 | 3,074 | 7,468 | 12,379 | 5,345 | 3,549 | 75,512 | 117,769 |
| 2014 | 10,557 | 3,097 | 7,564 | 12,749 | 5,390 | 3,582 | 76,746 | 119,685 |
| 2015 | 10,657 | 3,115 | 7,648 | 13,108 | 5,425 | 3,610 | 77,877 | 121,440 |
| 2016 | 10,802 | 3,143 | 7,756 | 13,534 | 5,489 | 3,658 | 79,601 | 123,984 |
| 2017 | 10,914 | 3,161 | 7,839 | 13,928 | 5,535 | 3,694 | 81,099 | 126,170 |
| 2018 | 11,125 | 3,208 | 7,995 | 14,460 | 5,632 | 3,764 | 83,374 | 129,558 |
| 2019 | 11,251 | 3,229 | 8,089 | 14,893 | 5,685 | 3,805 | 85,038 | 131,991 |
| 2020 | 11,265 | 3,218 | 8,103 | 15,185 | 5,681 | 3,808 | 85,874 | 133,133 |
| 2021 | 11,299 | 3,220 | 8,129 | 15,368 | 5,692 | 3,818 | 86,497 | 134,022 |
| 2022 | 11,289 | 3,209 | 8,124 | 15,495 | 5,681 | 3,814 | 86,798 | 134,410 |
| 2023 | 11,166 | 3,166 | 8,037 | 15,464 | 5,614 | 3,771 | 86,220 | 133,438 |
| 2024 | 11,084 | 3,135 | 7,979 | 15,489 | 5,567 | 3,743 | 85,956 | 132,953 |
| 2025 | 11,014 | 3,108 | 7,931 | 15,531 | 5,526 | 3,718 | 85,786 | 132,613 |
| 2026 | 10,974 | 3,089 | 7,904 | 15,614 | 5,500 | 3,704 | 85,850 | 132,635 |
| 2027 | 10,962 | 3,078 | 7,898 | 15,738 | 5,489 | 3,699 | 86,134 | 132,997 |
| 2028 | 10,940 | 3,063 | 7,883 | 15,846 | 5,471 | 3,690 | 86,331 | 133,225 |
| 2029 | 10,923 | 3,051 | 7,873 | 15,964 | 5,457 | 3,684 | 86,582 | 133,535 |
| 2030 | 10,903 | 3,037 | 7,861 | 16,078 | 5,442 | 3,676 | 86,806 | 133,804 |
| 2031 | 10,900 | 3,032 | 7,859 | 16,144 | 5,437 | 3,675 | 86,968 | 134,014 |
| 2032 | 10,886 | 3,024 | 7,850 | 16,196 | 5,427 | 3,670 | 87,052 | 134,106 |
| 2033 | 10,874 | 3,017 | 7,842 | 16,250 | 5,418 | 3,665 | 87,145 | 134,210 |
| 2034 | 10,871 | 3,012 | 7,842 | 16,319 | 5,414 | 3,664 | 87,320 | 134,442 |
| 2035 | 10,876 | 3,009 | 7,846 | 16,398 | 5,413 | 3,665 | 87,552 | 134,761 |
| 2036 | 10,909 | 3,018 | 7,869 | 16,447 | 5,429 | 3,676 | 87,813 | 135,162 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).

Table B9. Population Estimates, High Scenario, by County, State Planning Region 8, North Dakota, 2010 through 2036

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Permanent Population[a] | | | | | | | | |
| 2010 | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,201 | 838 | 3,330 | 3,822 | 1,666 | 2,438 | 691 | 23,500 | 38,486 |
| 2013 | 2,253 | 851 | 3,428 | 4,007 | 1,742 | 2,488 | 714 | 24,102 | 39,585 |
| 2014 | 2,308 | 864 | 3,532 | 4,204 | 1,822 | 2,540 | 739 | 24,726 | 40,736 |
| 2015 | 2,366 | 879 | 3,643 | 4,417 | 1,909 | 2,596 | 766 | 25,388 | 41,963 |
| 2016 | 2,457 | 905 | 3,817 | 4,641 | 1,988 | 2,703 | 794 | 26,719 | 44,024 |
| 2017 | 2,554 | 933 | 4,004 | 4,881 | 2,071 | 2,818 | 825 | 28,151 | 46,237 |
| 2018 | 2,665 | 965 | 4,217 | 5,156 | 2,167 | 2,950 | 860 | 29,782 | 48,762 |
| 2019 | 2,763 | 992 | 4,412 | 5,410 | 2,253 | 3,067 | 891 | 31,303 | 51,092 |
| 2020 | 2,864 | 1,019 | 4,617 | 5,677 | 2,342 | 3,189 | 923 | 32,899 | 53,529 |
| 2021 | 2,951 | 1,046 | 4,781 | 5,886 | 2,417 | 3,292 | 951 | 34,140 | 55,463 |
| 2022 | 3,040 | 1,072 | 4,948 | 6,101 | 2,493 | 3,396 | 979 | 35,415 | 57,444 |
| 2023 | 3,126 | 1,097 | 5,112 | 6,312 | 2,567 | 3,497 | 1,006 | 36,669 | 59,386 |
| 2024 | 3,208 | 1,120 | 5,271 | 6,518 | 2,638 | 3,595 | 1,032 | 37,894 | 61,275 |
| 2025 | 3,288 | 1,143 | 5,429 | 6,722 | 2,708 | 3,690 | 1,057 | 39,114 | 63,151 |
| 2026 | 3,363 | 1,163 | 5,580 | 6,919 | 2,774 | 3,781 | 1,081 | 40,294 | 64,955 |
| 2027 | 3,434 | 1,182 | 5,727 | 7,111 | 2,837 | 3,868 | 1,104 | 41,445 | 66,708 |
| 2028 | 3,501 | 1,199 | 5,868 | 7,296 | 2,896 | 3,949 | 1,125 | 42,553 | 68,387 |
| 2029 | 3,564 | 1,214 | 6,003 | 7,474 | 2,953 | 4,027 | 1,144 | 43,629 | 70,009 |
| 2030 | 3,622 | 1,227 | 6,131 | 7,644 | 3,005 | 4,099 | 1,162 | 44,656 | 71,547 |
| 2031 | 3,684 | 1,245 | 6,252 | 7,801 | 3,059 | 4,174 | 1,182 | 45,589 | 72,985 |
| 2032 | 3,729 | 1,257 | 6,344 | 7,921 | 3,099 | 4,228 | 1,196 | 46,311 | 74,085 |
| 2033 | 3,767 | 1,266 | 6,425 | 8,028 | 3,133 | 4,275 | 1,208 | 46,954 | 75,057 |
| 2034 | 3,787 | 1,270 | 6,476 | 8,097 | 3,152 | 4,301 | 1,214 | 47,374 | 75,671 |
| 2035 | 3,776 | 1,263 | 6,474 | 8,100 | 3,146 | 4,293 | 1,211 | 47,414 | 75,676 |
| 2036 | 3,784 | 1,265 | 6,486 | 8,116 | 3,152 | 4,301 | 1,213 | 47,505 | 75,822 |

- continued -

[a] Population associated with permanent workforce. Population in 2010 represents Census estimates.

Table B9. Continued

| | State Planning Region 8 Counties | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Year | Adams | Billings | Bowman | Dunn | Golden Valley | Hettinger | Slope | Stark | Total |
| | Service (Permanent and Temporary) Population[b] | | | | | | | | |
| 2010[c] | 2,343 | 783 | 3,151 | 3,536 | 1,680 | 2,477 | 727 | 24,199 | 38,896 |
| 2011 | 2,307 | 816 | 3,134 | 3,720 | 1,752 | 2,515 | 718 | 25,177 | 40,139 |
| 2012 | 2,843 | 1,082 | 4,301 | 4,937 | 2,152 | 3,149 | 893 | 30,352 | 49,709 |
| 2013 | 2,952 | 1,115 | 4,491 | 5,250 | 2,282 | 3,260 | 936 | 31,575 | 51,860 |
| 2014 | 3,024 | 1,132 | 4,628 | 5,508 | 2,388 | 3,328 | 968 | 32,398 | 53,375 |
| 2015 | 3,103 | 1,152 | 4,776 | 5,791 | 2,503 | 3,404 | 1,004 | 33,285 | 55,017 |
| 2016 | 3,212 | 1,183 | 4,989 | 6,066 | 2,598 | 3,534 | 1,038 | 34,925 | 57,545 |
| 2017 | 3,327 | 1,215 | 5,216 | 6,359 | 2,698 | 3,671 | 1,075 | 36,674 | 60,235 |
| 2018 | 3,468 | 1,256 | 5,486 | 6,708 | 2,820 | 3,838 | 1,119 | 38,749 | 63,444 |
| 2019 | 3,592 | 1,290 | 5,737 | 7,034 | 2,929 | 3,988 | 1,159 | 40,697 | 66,425 |
| 2020 | 3,720 | 1,324 | 5,998 | 7,374 | 3,042 | 4,143 | 1,199 | 42,738 | 69,539 |
| 2021 | 3,823 | 1,354 | 6,192 | 7,624 | 3,130 | 4,263 | 1,232 | 44,218 | 71,835 |
| 2022 | 3,900 | 1,375 | 6,348 | 7,827 | 3,198 | 4,357 | 1,256 | 45,433 | 73,695 |
| 2023 | 3,894 | 1,367 | 6,369 | 7,863 | 3,198 | 4,357 | 1,254 | 45,683 | 73,984 |
| 2024 | 3,891 | 1,359 | 6,394 | 7,906 | 3,200 | 4,360 | 1,252 | 45,967 | 74,329 |
| 2025 | 3,896 | 1,354 | 6,434 | 7,966 | 3,209 | 4,373 | 1,253 | 46,354 | 74,839 |
| 2026 | 3,921 | 1,356 | 6,506 | 8,067 | 3,234 | 4,408 | 1,261 | 46,977 | 75,729 |
| 2027 | 3,959 | 1,362 | 6,602 | 8,197 | 3,270 | 4,458 | 1,272 | 47,774 | 76,895 |
| 2028 | 3,980 | 1,363 | 6,669 | 8,293 | 3,292 | 4,489 | 1,278 | 48,368 | 77,732 |
| 2029 | 4,010 | 1,366 | 6,754 | 8,409 | 3,322 | 4,531 | 1,288 | 49,086 | 78,765 |
| 2030 | 4,018 | 1,361 | 6,801 | 8,480 | 3,334 | 4,548 | 1,290 | 49,539 | 79,370 |
| 2031 | 4,030 | 1,362 | 6,839 | 8,533 | 3,346 | 4,565 | 1,293 | 49,870 | 79,839 |
| 2032 | 4,020 | 1,355 | 6,838 | 8,538 | 3,340 | 4,557 | 1,289 | 49,919 | 79,857 |
| 2033 | 4,004 | 1,346 | 6,828 | 8,532 | 3,330 | 4,543 | 1,284 | 49,901 | 79,768 |
| 2034 | 3,982 | 1,335 | 6,809 | 8,514 | 3,314 | 4,523 | 1,277 | 49,816 | 79,572 |
| 2035 | 3,953 | 1,321 | 6,776 | 8,478 | 3,292 | 4,493 | 1,267 | 49,625 | 79,206 |
| 2036 | 3,941 | 1,318 | 6,756 | 8,453 | 3,283 | 4,480 | 1,263 | 49,481 | 78,976 |

[b] Population associated with permanent and temporary workforce.
[c] Service population not estimated for 2010. Figures represent 2010 Census population only (U.S. Census Bureau 2012b).