

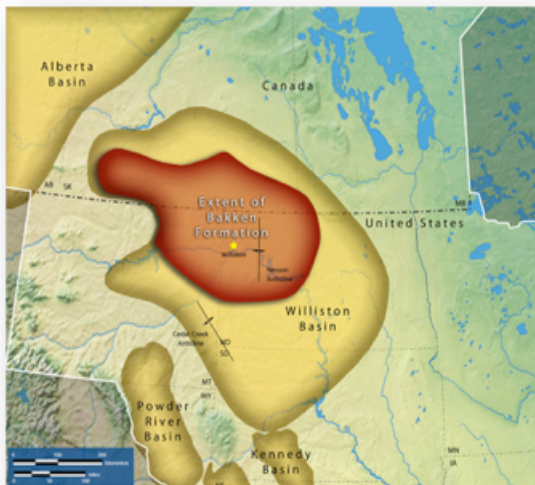


EXECUTIVE SUMMARY

The purpose of this study is to forecast the impact of oil and related economic growth on the air service (airport infrastructure) investment needs in the oil and gas producing regions of North Dakota over the next 10 years. It will provide a framework that will enable policy makers to plan for the future of the state's aviation-related needs. The study has three goals:

- (a) Provide information for decision makers developing policies that address the state's aviation needs.
- (b) Guide policy makers in long-term financial planning to secure the vitality of the state's aviation systems and services.
- (c) Serve as an educational source for the public and industry vested in the state's aviation system on issues that impact commercial and general aviation in North Dakota.

Aviation is a vital part of North Dakota's economy, providing passenger, charter, airfreight, flight training, and agricultural services. In addition, airports facilitate emergency medical transport, search and rescue operations for law enforcement, staging areas for community events such as air shows and support military operations. The industry generates in excess of \$1.1 billion in economic activity at the state's 89 public-use airports and an additional \$560 million in off-airport activity. Combined, the industry supports over 15,000 jobs and generates an annual payroll of \$590 million.



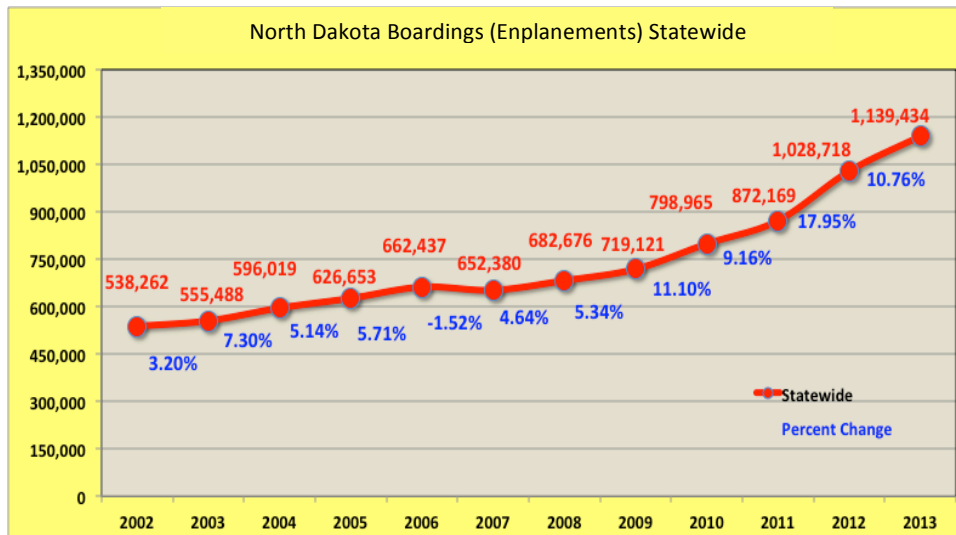
Williston Basin, North Dakota

In recent years, aviation activity has played a critical role in the robust development of the oil and gas industry in North Dakota. Underlying over three-quarters of the state is the Williston Basin, and within the basin lies the Bakken shale. The United States Geological Survey (USGS) estimates the Bakken shale holds approximately 18 billion barrels of crude oil; of which, over 7 billion barrels is extractable. The USGS also estimates that an additional 3.73 billion barrels of recoverable oil lies in a second formation known as Three Forks, which lies below the Bakken shale, increasing the total recoverable oil to over 10 billion barrels. The Department of the Interior (DOI) estimates there is 6,726 billion cubic feet of recoverable natural gas and 527 billion barrels of recoverable natural gas liquid (NGL) in the Bakken and Three Forks formations.

Researchers studying the economic impact of oil and gas extraction and its impact on employment and population have forecast that the industry,



which drilled over 7,000 wells in 2012, will continue to expand exploration and extraction activity well into the middle 2030s. Approximately 9,000 wells were drilled in 2013, a 40 percent increase over the previous year. Drilling activity is expected to increase to nearly 39,000 wells by 2036. This increased activity is expected to fuel a demand for passenger and cargo air service and add pressure to the state's aviation system.



North Dakota Passenger Boarding (Enplanement 2002 – 2013)

Airports in all regions of the state report increased passenger and cargo activity. Increased activity diminishes the life cycle of capital assets, including but not limited to runways, taxiways, terminals, parking, and other related infrastructure.

The integrity of airport infrastructure is essential to insure that airports operate safely. Investments in time and money are needed for

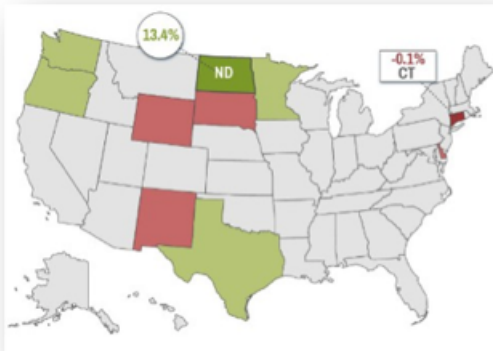
North Dakota to maintain, repair, and upgrade airport infrastructure, including:

- Constructing new and expanding existing terminals
- Extending and rehabilitating runways, taxiways and aprons
- Acquiring land and equipment
- Installing safety and security measures and removing runway obstructions

From 2013 to 2022, it is estimated that airports in North Dakota will require:

- \$857.2 million for capital expenditures.
- Nearly two-thirds or \$594 million is needed in the first five years (2013 to 2017)
- The remaining \$263.2 million is needed in the second five years (2018 to 2022)
- Airports in the oil-producing regions of Williston, Dickinson, and Minot will require \$547.5 million* over ten years
- Airports in the non-oil producing regions such as Bismarck, Fargo, and Grand Forks will require \$324.1 million* over the same period

(*Includes capital expenditures for airports not part of the National Plan of Integrated Airport Systems or NPIAS)



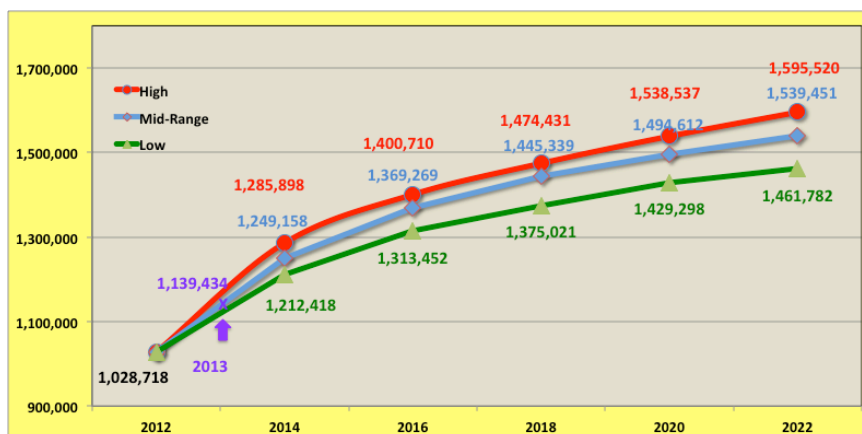
2012 Economic Growth

North Dakota	13.4 Percent
Texas	04.8 Percent
Oregon	03.9 Percent
Washington	03.6 Percent
Minnesota	03.5 Percent

Propelled by the discovery of oil and gas, North Dakota's economy has a growth rate five times the national average of 2.5 percent, posting a 13.4 percent growth rate in 2012, equivalent to about 38.7 billion. That growth rate is nearly three times as fast as Texas' rate of 4.8 percent, the second highest growth rate in the nation. The production of oil and gas has contributed to an increased demand for air service in the western region of North Dakota, along with spillover effects in the central and eastern areas of the state. In just over a decade, the combined population of the western North Dakota cities of Dickinson, Minot, and Williston grew from 65,476 in 2000 to 81,975 in 2012, a 25.2 percent increase. Similarly, enplanements at the commercial service airports in oil-producing regions grew from 77,645 in 2000 to 283,519 in 2012, an increase of 265 percent.

Due to the speed and magnitude the petroleum activity grew in the oil patch regions, policy makers have had limited opportunities to develop long-term sustainable plans necessary to manage expectations and properly allocate sufficient resources to address long-term development. In addition, policy makers have had limited information about how to manage the current economic boom relative to previous oil booms that produced limited activity relative to the present. Between 2012 to 2022, North Dakota airports are forecast to increase enplanements ranging from 42 percent to 55.1 percent:

- On a low projection rate from 1,028,718 to 1,461,782, an increase by 42 percent
- On a mid-range projection rate to 1,539,451, an increase by 49.6 percent
- On a high projection rate to 1,595,520, an increase by 55.1 percent



North Dakota Boarding (Enplanements) Forecast 2012 – 2022

Recognizing the unprecedented growth in the oil and gas sectors, the 63rd North Dakota legislature provided a one-time, \$60 million funding for airport infrastructure improvements in the oil-producing regions. The state also provided a one-time \$6 million appropriation for those airports that would otherwise receive little or no funding. In addition, the state and federal governments addressed the significant increase in airline



activity, congestion, and aircraft boarding by providing \$40 million for terminal enhancement as part of a larger capital improvement project, estimated at nearly \$70 million at the Minot International Airport.

Research shows that in spite of the increased funding provided by the legislature for the 2013-2014 biennium, North Dakota airports will continue to have financial needs for capital infrastructure projects in excess of current funding levels over the next nine years. It is estimated that the state's aviation systems will need:

- \$50 million per year of state funding in addition to federal and local investments
 - State funding would support maintenance and rehabilitation of aviation infrastructure at current and future safety standards, including but not limited to runways, taxiways, terminals, parking, and security
- \$5 million per year of state funding for capital projects that are not eligible for federal funding and for those airports that need financial assistance to meet the 10 percent match necessary to secure federal investments

The aviation industry is an essential player in the state's economic vitality. Just as the state highways and roads connect oil and gas production facilities, airports transport travelers and equipment in the oil and gas industry between North Dakota and the rest of the world. As oil and gas production continued to fuel North Dakota's economy, the state recorded an unemployment rate of just 3.3 percent compared to the national unemployment rate of 7.6 percent in February 2013. Continued growth in the state's economy will require increased financial support for air transportation infrastructure, which pays substantial dividends into the state's economic engine.