

The logo features a stylized blue bird in flight above a green horizon line with a yellow sun. Below this, the text "North Dakota" is written in a blue script font, and "STATEWIDE AVIATION ECONOMIC IMPACT STUDY" is written in a smaller, blue, sans-serif font.

North Dakota
STATEWIDE AVIATION ECONOMIC IMPACT STUDY



STATEWIDE ECONOMIC IMPACT OF AVIATION IN NORTH DAKOTA



**2015
Executive Summary**

INTRODUCTION

North Dakota's economy has recently undergone significant growth, driven primarily by energy exploration, production, and transportation. Airports in North Dakota are essential to supporting the state's economy. The state's economic growth has resulted in increased activity at many North Dakota airports. This increased activity has resulted in the growth of economic benefits that airports provide to the communities they serve.

North Dakota airports have responded to increased aviation activity generated by recent economic growth. More visitors flying for business are using commercial airports and are flying to the state on general aviation planes. Visitors to North Dakota are staying longer and spending more. Flights by larger and more demanding general aviation business jets have increased at many airports. General aviation planes connect North Dakota to business centers throughout the country.

Since statewide economic impacts were last measured in 2010:

- Annual economic benefits from public-use airports in North Dakota and the activities they support have increased 47%.
- Jobs supported by North Dakota airports have grown from 8,872 to 12,217, an increase of 3,345 jobs.
- Annual state and local sales tax revenues for airports and airport supported activities have increased from \$31.1 million to over \$60 million.
- Visitors coming to North Dakota each year on general aviation aircraft or commercial airline flights have grown from 545,300 to 915,290.



Airports Have Expanded Existing Facilities

Minot International is constructing a new passenger terminal. Passenger boardings have increased from 90,820 (2010) to 222,144 (2014), a 145% increase.

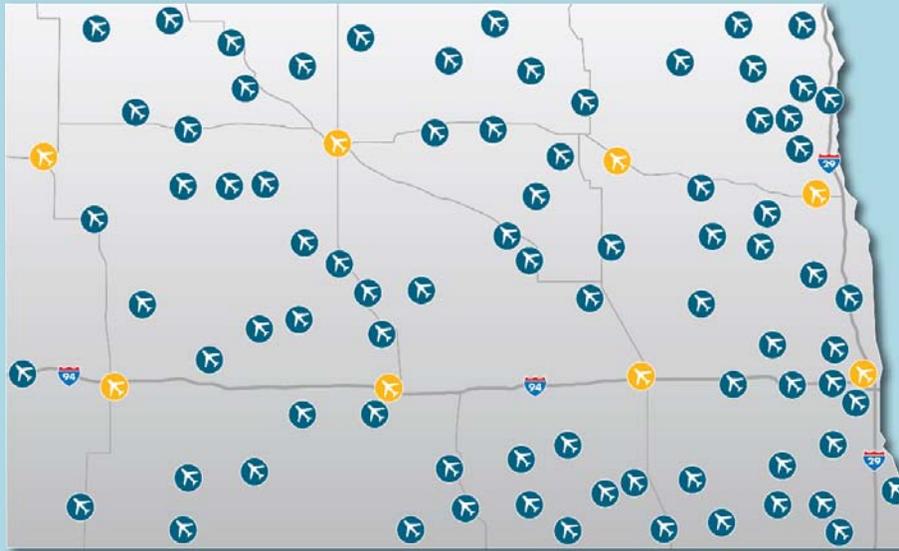
Airports Have Built New Facilities

Bowman recently constructed a new airport with a runway of 5,700 feet. This length enables larger business jets to reach the community.

Additional Aviation Businesses Have Been Attracted

Increased activity at the Tioga Municipal Airport attracted Tioga Aero Center in 2014. This aircraft service provider offers fuel, storage, maintenance, and ground transportation.

North Dakota Public-Use Airports

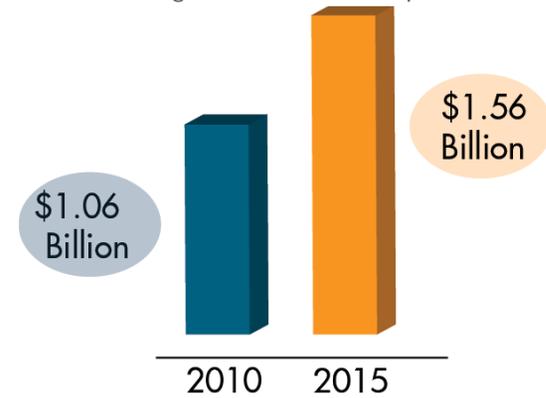


81 General Aviation Airports 8 Commercial Service Airports

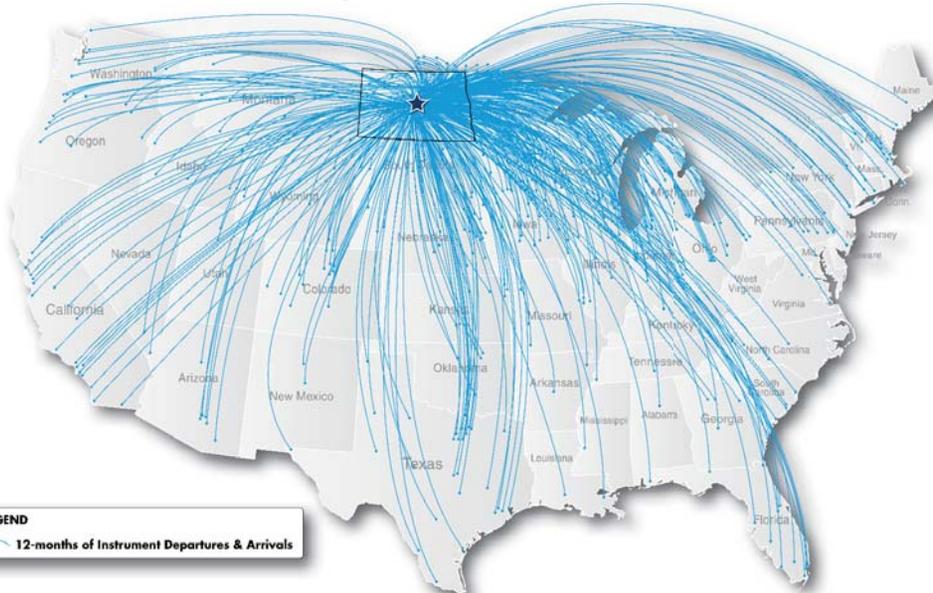
This report, authorized by the North Dakota Aeronautics Commission (NDAC), summarizes how growth at North Dakota's eight commercial service and 81 general aviation airports translates into higher annual economic impacts for the communities these airports serve and for the state. More detailed information on the study is available from the NDAC.

Change in Annual Airport Related Economic Impacts

When the economic impact of North Dakota's airport system was last measured in a study released in 2010, the total annual economic impact of commercial and general aviation airports was measured at \$1.06 billion. Just five years later, the total annual economic impact for the commercial and general aviation airports has increased to \$1.56 billion—a **47% increase.**



Business Connections Direct Flights To and From North Dakota



LEGEND
 12-months of Instrument Departures & Arrivals

North Dakota airports connect the state to business centers throughout the U.S. This map shows recorded instrument flight rule (IFR) arrivals and departures to the state over the last 12 months—most of these flights were on general aviation aircraft. According to FAA data, non-stop flights represent only 3% of all aircraft arrivals and departures to North Dakota airports over the past 12 months. This map clearly shows the important role that airports play in providing the transportation infrastructure that has supported the state's recent economic growth.

SOURCES OF AIRPORT ECONOMIC IMPACTS

For NDAC's statewide study for commercial service and general aviation airports, annual economic impacts were measured for **five** economic activity centers.



Economic Activity Centers

Airport Management	Activities undertaken by airport employees to operate the airport on a daily basis.
Airport Tenants	Aviation-related businesses that provide airport, aircraft, or customer services.
Capital Improvement Spending	Average annual investment made to maintain, improve, or expand an airport.
Commercial Visitor Spending	Spending by visitors to North Dakota who arrive by air that supports hotels, restaurants, and other visitor-related activities.
General Aviation Visitor Spending	

5 Sources of Economic Impacts

- On-Airport**
 - 1 Airport Management
 - 2 Aviation-Related Tenants / Businesses
 - 3 Investment for Capital Improvements
- Off-Airport**
 - 4 Visitors Arriving on Commercial Airlines
 - 5 Visitors Arriving on General Aviation Aircraft



Measurements of Economic Impacts



For each of these five categories, annual economic impacts were measured for jobs, payroll, and output. While employment and payroll measures are easy to understand, output is more complex. Output for airport management and airport tenants is generally equal to the purchase of goods and services needed by these two groups to support their operations or to run their businesses.

Output for capital improvement investment is equal to the average annual amount actually spent by federal, state, local, and private contributors to maintain and improve the airports. The annual spending of visitors in North Dakota is equal to direct output in the visitor category.

2015 TOTAL STATEWIDE ECONOMIC IMPACTS

NDAC's statewide economic impact study estimated annual economic impacts for each of the five activity centers. It is important to understand that impacts shown in this report represent a "snapshot in time," reflecting conditions at North Dakota airports when the study was prepared in the 2014/2015 time frame. While economic impacts from airport management, airport tenants, and visitor spending can change year-to-year, economic impacts from capital investment have a higher propensity to change between reporting periods.

Remaining portions of the summary provide more detail on economic impacts for each category and a general overview of the methodology used to complete the economic impact analysis. Other economic benefits associated with aviation and aerospace in North Dakota are also presented.

	TOTAL EMPLOYMENT	TOTAL PAYROLL	TOTAL OUTPUT
Total Airport Management	232	\$13.4 million	\$85.5 million
Total Airport Tenants	4,207	\$223.9 million	\$626.7 million
Total Capital Investments	1,156	\$63.5 million	\$173.0 million
Total General Aviation Visitors	854	\$26.9 million	\$101.1 million
Total Commercial Visitors	5,768	\$177.6 million	\$578.1 million
Total Statewide Annual Impacts	12,217	\$505.2 million	\$1.56 billion

Estimates Include Total Statewide Direct and Indirect Impacts

Total Annual Statewide Economic Impacts



ECONOMIC IMPACT METHODOLOGY

Airport-related economic impacts measured in this study came from five sources: airport management, airport tenants, capital improvement spending, spending from visitors arriving on commercial airlines, and spending from visitors arriving on general aviation aircraft. For each of these five categories, economic impacts are estimated for jobs, annual payroll, and annual output.

For each impact category and each measurement, the process to estimate total economic impacts starts with estimating “direct” impacts. Once direct impacts for jobs, payroll, or output enter the North Dakota economy, other successive waves of economic impact occur. These additional impacts are “indirect impacts” but are sometimes more commonly referred to as “multiplier” impacts. Together, direct and indirect impacts equal total annual economic impact for individual airports and the state. The following pages discuss economic impacts for the five activity centers.



Indirect Impact Example

Sam is employed by the airport. This week when Sam receives his pay from the airport, he takes his “direct” salary and pays a baby sitter, takes the family dog to the vet and pays for their services, and pays a teacher for his daughter’s piano lesson. Direct payroll that started at the airport has now entered the economy of the community where Sam lives. As this example shows, Sam’s “direct” airport job and pay help to support other “indirect” jobs, payroll, and output for the babysitter, the vet, and the piano teacher. In this study, the IMPLAN model*, with data sets specific to North Dakota, was used to estimate all indirect economic impacts in the employment, payroll, and output categories.

* Information on the IMPLAN model is available in the study’s technical report

Impact Measures

For this report, economic impacts are expressed in terms of jobs, payroll, and total annual economic output. Each of these measures include the direct, indirect, and total impacts.



ANNUAL ECONOMIC IMPACTS FROM AIRPORT MANAGEMENT

Throughout North Dakota people are employed to manage, operate, and maintain the eight large commercial service airports and the 81 general aviation airports. These employees can be full-time, part-time, or seasonal. Interviews conducted for this study show that most often employees in the airport management function are located at the airport, but sometimes the airport management employees work in off-airport locations.

To translate part-time and seasonal jobs into full-time positions, each airport furnished information on the number of hours part-time employees work specifically to support the airport. This information provides a more accurate means to estimate how the part-time and seasonal workforce contributes to the full-time employment at each airport.

As part of this study, extensive outreach with airport managers throughout North Dakota was completed to gather information on direct employment, payroll, and annual purchases for goods and services (output) needed to run each airport. Many times, airport managers were interviewed in person, especially at the commercial service airports and larger general aviation airports. Airport managers also played an important role in this study, verifying direct economic impacts for their airport for all five impact categories. Airport Management statewide annual economic impacts, which include the direct and indirect impacts for all study airports, are shown in the accompanying table.



Total Annual Statewide Economic Impact Airport Managers

EMPLOYMENT

• Direct	154
• Indirect	78
• Total	232

PAYROLL

• Direct	\$9.6 million
• Indirect	\$3.8 million
• Total	\$13.4 million

OUTPUT

• Direct	\$56.2 million
• Indirect	\$29.3 million
• Total	\$85.5 million

Source: North Dakota Airport Managers

ANNUAL ECONOMIC IMPACTS FROM AIRPORT TENANTS

There are many types of aviation-related businesses that operate at study airports. These businesses provide various types of aviation-related services to support aircraft and airport customers. Examples of airport tenants include, but are not limited to: Fixed Based Operators (FBOs); aircraft maintenance providers; aircraft charter, rental, and sales companies; air ambulance operators; aerial applicators; military units located at civilian airports; air cargo companies; ground transportation providers; flight schools; airlines; and corporate flight departments. Airport tenants who are not aviation-related are not included in this analysis.

For this study, all airport managers provided contact information for their aviation-related tenants. All tenants were contacted directly to obtain information on their full-time, part-time, and seasonal employment; annual payroll; and annual operating expenses (output). Tenants at North Dakota's airports were the primary source of direct impacts reported in this category. Indirect impacts (multiplier) for all airport tenant employment, payroll, and output were estimated using the IMPLAN model. Total statewide annual economic impacts for airport tenants are shown below.

Airport Tenants



Employment

4,207 jobs



Annual Payroll

\$223.9 million



Annual Output

\$626.7 million

Total Annual Statewide Economic Impact Airport Tenants

EMPLOYMENT

- Direct 2,738
- Indirect 1,469
- Total 4,207

PAYROLL

- Direct \$150.5 million
- Indirect \$73.4 million
- Total \$223.9 million

OUTPUT

- Direct \$408.3 million
- Indirect \$218.4 million
- Total \$626.7 million

Source: North Dakota Airport Tenants



ANNUAL ECONOMIC IMPACTS FROM CAPITAL INVESTMENT

Each year, federal, state, local, and private funds are invested to maintain, improve, and expand public-use airports in North Dakota. For each of the last three years, this combined investment has reach almost \$100 million per year. Recently, the North Dakota Legislature, FAA, and some local communities responded to growing airport infrastructure needs by allocating additional funds to help North Dakota’s airports keep pace with the state’s surging economy. Direct output in the capital investment category supports additional jobs and the payroll associated with those jobs, which were estimated with IMPLAN.

Economic impacts related to capital investment only exist when actual spending is taking place. Once a project is finished, employment, payroll, and output impacts in this category cease. When capital investment at an airport changes significantly, economic impacts stemming from this activity center also change.

To estimate economic impacts related to capital investment, a three-year average for annual capital investment at each study airport was developed. Information for airport-specific capital investment was provided by NDAC, FAA, study airports, and tenants at various airports. For this economic activity center, annual capital investment for each study airport is equal to its direct annual output. Based on estimated average annual investment, IMPLAN provides ratios which are used to estimate “direct” jobs and payroll supported by direct output, in this case average annual capital investment. IMPLAN also estimates “indirect” impacts associated with each capital investment impact measure: employment, payroll, and output provided by NDAC, FAA, airports, and tenants.

Average Annual Capital Investment



Total Annual Statewide Economic Impact Capital Investments

EMPLOYMENT		PAYROLL		OUTPUT	
• Direct	534	• Direct	\$39.8 million	• Direct	\$99.4 million
• Indirect	622	• Indirect	\$23.7 million	• Indirect	\$73.6 million
• Total	1,156	• Total	\$63.5 million	• Total	\$173.0 million

Source: Airport Managers, Tenants, NDAC, FAA, IMPLAN

ANNUAL ECONOMIC IMPACTS FROM COMMERCIAL AND GENERAL AVIATION VISITOR SPENDING

North Dakota's economic growth has resulted in more visitors, particularly business-related visitors, arriving to the state by air. These visitors are staying longer and spending more. Estimates of visitors arriving in North Dakota on a commercial airline were developed using each airport's annual enplaned passengers and information from USDOT on the portion of these enplanements that are residents versus visitors.

The process to develop estimates of visitors arriving on general aviation aircraft was much more complex and involved several rounds of input from study airports and NDAC staff. Estimates developed in this study of visitors arriving on general aviation aircraft were individualized for each commercial and general aviation airport.

According to airport and USDOT information, an estimated 533,112 visitors arrive annually in North Dakota on commercial airline flights, and 382,177 visitors arrive on general aviation aircraft. Once in North Dakota, visitors have expenditures for items such as lodging, food, entertainment, retail, and ground transportation services. To capture specific visitor spending patterns on a per trip basis, visitors completed more than 4,000 surveys. These surveys were completed with assistance from airports throughout North Dakota. Using survey information, airport-specific estimates for spending per visitor trip were developed. It is important to note that a high percentage of visitors who come to North Dakota on general aviation aircraft do not spend the night. Some business visitors specifically use general aviation aircraft for travel so that they can shorten the length of their trip.

Similar to capital investment, annual "direct output" for the visitor category is equal to annual visitor spending. Once direct visitor spending was estimated, IMPLAN was used to estimate the number of direct jobs and payroll that direct visitor spending supports. The following table shows estimated annual economic impacts for the general aviation visitor category. It is important to note that visitors traveling to North Dakota on general aviation aircraft arrive at both commercial and general aviation airports.

General Aviation Visitor Spending					
EMPLOYMENT		PAYROLL		OUTPUT	
• Direct	619	• Direct	\$16.3 million	• Direct	\$64.0 million
• Indirect	235	• Indirect	\$10.5 million	• Indirect	\$37.1 million
• Total	854	• Total	\$26.9 million	• Total	\$101.1 million

Source: Airport Managers, Surveys, and IMPLAN



General Aviation Visitor Spending



North Dakota's economic growth has attracted a growing number of visitors. These visitors arrive on commercial airline flights and on general aviation aircraft.

Not only are more visitors coming to North Dakota—these visitors are staying longer and spending more. The Annual and Average Spending Per Trip graphic shows, on a per trip basis, the average spending of visitors arriving on general aviation aircraft and on commercial airlines. It also shows how spending on a per trip basis for both types of visitors has increased since 2010.



Commercial Visitor Spending



Commercial Visitor Spending

EMPLOYMENT		PAYROLL		OUTPUT	
• Direct	4,151	• Direct	\$105.4 million	• Direct	\$360.9 million
• Indirect	1,617	• Indirect	\$72.2 million	• Indirect	\$217.2 million
• Total	5,768	• Total	\$177.6 million	• Total	\$578.1 million

Source: Surveys and IMPLAN

Spending per Commercial Visitor Trip

	ANNUAL COMMERCIAL VISITORS	TOTAL VISITOR SPENDING	SPENDING PER TRIP
Bismarck	110,342	\$68.8 million	\$624
Devils Lake	1,890	\$0.70 million	\$374
Dickinson	25,891	\$15.80 million	\$612
Fargo	179,539	\$96.10 million	\$535
Grand Forks	62,824	\$35.10 million	\$558
Jamestown	3,542	\$1.40 million	\$400
Minot	95,669	\$80.90 million	\$846
Williston	53,415	\$61.90 million	\$1,160

Residents and visitors comprise the annual passenger boardings; this table shows only visitor related boardings for each commercial airport.

Increase in North Dakota Air Visitors

		2010	2015	Increase
General Aviation Visitors		222,318	382,177	72%
Commercial Visitors		322,983	533,112	65%

Annual and Average Spending Per Trip



INDIVIDUAL AIRPORT ECONOMIC IMPACTS

This table presents current total annual economic impacts for each study airport. These estimates reflect total impacts, both direct and indirect, for airport management, airport tenants, capital investment, and all visitor-related spending. More information on impacts for individual airports is available in the study's technical report.

For the employment category, the table also shows how direct and indirect jobs contribute to total employment for each airport. **It is important to remember that direct jobs presented here come from as many as five activity centers. Indirect employment shown for each airport was estimated using the IMPLAN model.** Together, direct and indirect impacts represent the total employment impacts reported for each airport.

CITY	AIRPORT NAME	EMPLOYMENT			TOTAL PAYROLL	TOTAL OUTPUT
		Direct	Indirect	Total		
Bismarck	Bismarck Municipal	1,301	825	2,126	\$86,510,312	\$279,744,887
Devils Lake	Devils Lake Regional	59	30	89	\$4,013,851	\$11,811,488
Dickinson	Dickinson-Theodore Roosevelt Regional	314	161	475	\$20,322,935	\$76,618,095
Fargo	Hector International	2,391	962	3,353	\$142,166,337	\$387,465,584
Grand Forks	Grand Forks International	1,147	522	1,669	\$73,622,396	\$199,368,171
Jamestown	Jamestown Regional	65	55	120	\$4,797,458	\$24,425,703
Minot	Minot International	1,357	628	1,985	\$74,678,827	\$254,598,258
Williston	Sloulin Field International	1,004	470	1,474	\$57,256,315	\$209,047,988
Total Commercial Airports Impacts		7,638	3,653	11,291	\$463,368,431	\$1,443,080,174
Arthur	Arthur	0	0	0	\$0	\$23,250
Ashley	Ashley Municipal	13	4	17	\$806,986	\$2,382,031
Beach	Beach	6	7	13	\$283,851	\$656,324
Beulah	Beulah	10	3	13	\$625,781	\$1,708,123
Bottineau	Bottineau Municipal	7	3	10	\$522,677	\$1,546,789
Bowbells	Bowbells Municipal	0	0	0	\$0	\$8,200
Bowman	Bowman Regional	40	44	84	\$4,546,230	\$11,879,439
Cando	Cando Municipal	6	8	14	\$448,730	\$1,821,461
Carrington	Carrington Municipal	9	5	14	\$471,458	\$1,586,478
Casselton	Casselton Robert Miller Regional	32	23	55	\$2,192,020	\$5,610,341
Cavalier	Cavalier Municipal	10	4	14	\$573,265	\$1,933,077
Columbus	Columbus Municipal	0	0	0	\$0	\$3,000
Cooperstown	Cooperstown Municipal	2	1	3	\$129,618	\$431,535

CITY	AIRPORT NAME	EMPLOYMENT			TOTAL PAYROLL	TOTAL OUTPUT
		Direct	Indirect	Total		
Crosby	Crosby Municipal	6	7	13	\$452,141	\$1,473,286
Drayton	Drayton Municipal	1	0	1	\$64,809	\$185,378
Dunseith	International Peace Garden	<1	0	<1	\$0	\$69,753
Edgeley	Edgeley Municipal	5	4	9	\$408,353	\$1,261,884
Elgin	Elgin Municipal	0	0	0	\$0	\$3,625
Ellendale	Ellendale Municipal	4	5	9	\$246,800	\$1,031,194
Enderlin	Sky Haven	0	0	0	\$0	\$72,892
Fessenden	Fessenden-Streibel Municipal	5	2	7	\$336,038	\$874,424
Fort Yates	Standing Rock	<1	0	<1	\$0	\$7,133
Gackle	Gackle Municipal	<1	0	<1	\$0	\$7,686
Garrison	Garrison Municipal	4	2	6	\$302,006	\$819,976
Glen Ullin	Glen Ullin Regional	1	1	2	\$123,212	\$353,985
Grafton	Hutson Field	12	7	19	\$846,433	\$2,337,041
Gwinner	Gwinner-Roger Melroe Field	13	14	27	\$1,168,122	\$3,701,214
Harvey	Harvey Municipal	4	1	5	\$236,927	\$702,922
Hazleton	Hazleton Municipal	0	0	0	\$0	\$23,250
Hazen	Mercer County Regional	3	1	4	\$145,456	\$557,298
Hettinger	Hettinger Municipal	13	7	20	\$955,530	\$2,693,237
Hillsboro	Hillsboro Regional	18	6	24	\$887,146	\$2,922,895
Kenmare	Kenmare Municipal	17	9	26	\$1,301,723	\$3,034,219
Killdeer	Dunn County Airport - Weydahl Field	11	13	24	\$1,564,863	\$3,065,201
Kindred	Robert Odegaard Field	7	2	9	\$340,767	\$3,626,376
Kulm	Kulm Municipal	2	1	3	\$150,192	\$270,422

CITY	AIRPORT NAME	EMPLOYMENT			TOTAL PAYROLL	TOTAL OUTPUT
		Direct	Indirect	Total		
Lakota	Lakota Municipal	0	0	0	\$0	\$131,082
LaMoure	LaMoure Rott Municipal	2	1	3	\$129,618	\$361,906
Langdon	Robertson Field	5	4	9	\$289,506	\$1,053,010
Larimore	Larimore Municipal	9	3	12	\$507,389	\$1,886,989
Leeds	Leeds Municipal	1	1	2	\$70,700	\$225,343
Lidgerwood	Lidgerwood Municipal	0	0	0	\$0	\$9,443
Linton	Linton Municipal	9	3	12	\$508,504	\$1,589,613
Lisbon	Lisbon Municipal	3	2	5	\$311,872	\$699,239
Maddock	Maddock Municipal	7	5	12	\$1,230,638	\$2,012,105
Mandan	Mandan Municipal	38	29	67	\$3,149,158	\$8,950,629
Mayville	Mayville Municipal	11	9	20	\$778,094	\$2,436,563
McClusky	McClusky Municipal	<1	0	<1	\$0	\$7,117
McVie	McVie Municipal	0	0	0	\$0	\$23,450
Milnor	Milnor Municipal	0	0	0	\$0	\$38,448
Minto	Minto Municipal	5	1	6	\$301,736	\$806,069
Mohall	Mohall Municipal	12	7	19	\$631,793	\$2,180,976
Mott	Mott Municipal	3	1	4	\$195,633	\$493,806
Napoleon	Napoleon Municipal	2	1	3	\$129,618	\$372,540
New Rockford	Tomlinson Field	1	0	1	\$64,809	\$217,776
New Town	New Town Municipal	10	12	22	\$1,315,808	\$3,217,102
Northwood	Northwood Municipal- Vince Field	5	1	6	\$254,467	\$877,356
Oakes	Oakes Municipal	9	10	19	\$637,092	\$2,337,630
Page	Page Regional	9	4	13	\$498,619	\$2,085,675
Park River	Park River-WC Skjerven Field	6	2	8	\$388,854	\$1,108,549
Parshall	Parshall-Hankins	4	3	7	\$440,805	\$1,106,385
Pembina	Pembina Municipal	7	3	10	\$405,928	\$1,400,955
Plaza	Trulson Field	0	0	0	\$0	\$3,000
Richardton	Richardton	0	0	0	\$0	\$6,033
Riverdale	Garrison Dam Recreational	<1	0	<1	\$1,800	\$17,369
Rolette	Rolette	2	3	5	\$213,471	\$649,140

CITY	AIRPORT NAME	EMPLOYMENT			TOTAL PAYROLL	TOTAL OUTPUT
		Direct	Indirect	Total		
Rolla	Rolla Municipal	12	9	21	\$866,159	\$2,680,203
Rugby	Rugby Municipal	5	4	9	\$380,677	\$1,040,119
St. Thomas	St. Thomas Municipal	2	1	3	\$129,618	\$357,925
Stanley	Stanley Municipal	11	9	20	\$928,496	\$2,442,100
Tioga	Tioga Municipal	23	11	34	\$1,492,413	\$3,878,182
Towner	Towner Municipal	0	0	0	\$0	\$24,050
Turtle Lake	Turtle Lake Municipal	0	0	0	\$0	\$51,241
Valley City	Barnes County Municipal	14	8	22	\$901,786	\$2,803,132
Wahpeton	Harry Stern	25	11	36	\$1,446,088	\$4,397,025
Walhalla	Walhalla Municipal	7	5	12	\$580,058	\$1,559,947
Washburn	Washburn Municipal	0	0	0	\$0	\$138,429
Watford City	Watford City Municipal	28	16	44	\$2,063,056	\$5,205,805
West Fargo	West Fargo Municipal	8	4	12	\$374,063	\$1,262,928
Westhope	Westhope Municipal	2	1	3	\$129,618	\$355,215
Wishek	Wishek Municipal	0	0	0	\$0	\$85,259
Total General Aviation Airports Impacts		558	368	926	\$41,879,078	\$121,272,197
Total All Airports Impacts		8,196	4,021	12,217	\$505,247,509	\$1,564,352,371

Source: Airport Managers, Tenants, Surveys, NDAC, USDOT, IMPLAN, Dun & Bradstreet, and Manta



OTHER AVIATION / AEROSPACE ECONOMIC AND BENEFITS OF NORTH DAKOTA AIRPORTS

Aside from the 12,217 jobs, the \$505.2 million in annual payroll, and the \$1.56 billion in annual output, there are many, yet sometimes less visible activities that airports in North Dakota support. These activities include healthcare, emergency services, energy inspections, environmental patrols, research, and other vital services that help to improve the health, welfare, and safety of residents and business throughout the state. Having a general understanding of these additional benefits helps provide a better understanding of all of the different ways North Dakota airports support the communities they serve.



- Healthcare** - This study identified approximately 40 clinics and/or hospitals in North Dakota that rely on public-use airports. Several have doctors using general aviation aircraft to reach patients in small communities throughout the state. Small hospitals and clinics do not have a local patient base sufficient to support specialty doctors—flying doctors in North Dakota fill this void. Airports in North Dakota play an important role in providing both routine and advanced healthcare services.
- Emergency Services** - Fixed-wing aircraft and helicopters use North Dakota airports to transport North Dakota residents requiring time-sensitive care to larger medical facilities, both within and beyond the state. These lifesaving services cannot be assigned a dollar value, and essentially any airport in the state is a candidate for supporting emergency medical services.
- Education** - The University of North Dakota (UND) is home to one of the nation's leading aviation and aerospace programs, the John D. Odegard School of Aerospace Sciences. UND is educating tomorrow's airport managers, pilots, and air traffic controllers. Other colleges and universities in North Dakota also report that airports are essential to their ability to expand their market areas for attracting students, both domestic and international. Air access is important to helping North Dakota's centers of higher learning attract and retain the most qualified teaching and research staff.
- Research** - North Dakota was successful in being one of six states selected by the FAA as a test site for Unmanned Aerial Systems (UAS) research. There are many potential practical private and public applications for UAS technology. Grand Sky, located in Grand Forks, is a multi-faceted center for advancing UAS applications and technology. Companies in North Dakota are leading the way in exploring uses for this emerging technology. Some estimates indicate that as many as 3,000 new jobs could be supported by UAS in North Dakota by 2025.
- Taxes** - Activities at airports and activities supported by airports make significant contributions to state and local tax revenues. A significant portion of these tax revenues are collected as a result of spending by visitors who come to North Dakota on general aviation aircraft and scheduled commercial aircraft. The NDAC study estimates that, on an annual basis, approximately \$64 million in local and state tax revenues are generated by the 89 study airports and the activities they support.

There are other non-airport-specific aviation and aerospace activities in North Dakota that make direct contributions to the state's economy. A listing of these additional activities is provided below, and more information on each these additional economic contributors is provided in the study's technical report:

- Activities associated with the mission of the 319th Air Wing Base in Grand Forks.
- Jobs, payroll, and output associated with the operation and mission of Minot Air Force Base.
- Aviation and aerospace companies, including aerial applicators, doing business in North Dakota, but not located at a study airport.
- North Dakota companies with employees whose jobs have improved efficiency from using commercial and general aviation and air cargo services.

The statewide total annual economic impacts of these activities, as identified or estimated in this NDAC study, are shown in the table below. It is important to re-state that these benefits are in addition to those estimated for the 89 study airports.

Economic Impacts from Airports, Aviation, and Aerospace in North Dakota

	TOTAL EMPLOYMENT	TOTAL PAYROLL	TOTAL OUTPUT
Grand Forks AFB	2,565	\$105.2 million	\$203.7 million
Minot AFB	7,283	\$321 million	\$513.5 million
Off-Airport Aviation /Aerospace Businesses	4,635	\$232.7 million	\$512.6 million
Aviation Supported Jobs	5,513	\$271.8 million	\$882.7 million
Sub-Total	19,996	\$930.7 million	\$2.1 billion
Total for 89 Study Airports	12,217	\$505.2 million	\$1.56 billion
Total for All Airport / Aviation/Aerospace Impacts	32,213	\$1.44 billion	\$3.66 billion

North Dakota Jobs Supported by or Benefiting from Aviation, Airports, or Aerospace



Aviation Related Jobs in North Dakota: 32,213

The statewide economic impact study estimated economic impacts for 89 public airports, Grand Forks and Minot AFBs, off-airport aviation/aerospace businesses in the state, and other businesses in the state with employees who gain efficiency by using aviation. **When combined, all sources support approximately 32,200 direct and indirect jobs in North Dakota.** These jobs account for almost **8%** of North Dakota's total employment which was estimated at 413,000 in 2014.

As this report clearly shows, aviation, aerospace, and North Dakota's system of public-use airports are essential underpinnings to the present and future success of North Dakota's economy.

When combined, all aviation- and aerospace-related contributors discussed in this study (airports, the military, aviation/aerospace companies, and aviation-reliant businesses) provide annual economic benefits to North Dakota that approach **\$3.7 billion**. The 2014 Real Gross State Product of North Dakota is estimated at \$48.2 billion. All airport, aviation, and aerospace activities in North Dakota account for **7.6%** of the state's total annual economic activity.



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Input for this study was obtained from: airlines, passengers, North Dakota businesses, airport representatives, the North Dakota Aeronautics Commission (NDAC), the Federal Aviation Administration (FAA), and other private and government sources. Analysis completed in the study was based on data collected in 2014 and 2015, with the final report released November 2015. Preparation of this report was financed in part through a planning grant from the FAA as approved under the Airport and Airway Improvement Act of 1982. The contents of this report reflect the views of the Consultant, which is responsible for the facts and the accuracy of the data depicted herein, and do not necessarily reflect the official views or policy of the FAA. Acceptance of this report by the FAA does not in any way constitute a commitment on the part of the United States to participate in any development depicted therein, nor does it indicate that the proposed development is environmentally acceptable in accordance with applicable public laws.



Increasing Economic Impacts for North Dakota Airports

One objective the NDAC had for the 2015 update to their Statewide Aviation Economic Impact Study was to determine how economic contributions from the 89 public-use airports have changed since it was measured in 2010. The graphic below provides a comparison of findings from the 2010 and 2015 studies. The comparison shows direct, indirect, and total statewide economic impacts for employment, payroll, and output. The 2015 study took a conservative approach to estimate indirect impacts; as a result, 2015 indirect impacts represent a smaller percentage of total impacts than they did in the 2010 study.

As shown, direct statewide economic impacts for the 89 public-use airports increased between 2010 and 2015 for employment, payroll, and output. Increases in direct impacts contributed to the overall increase for total impacts for all three categories as shown here.

