



USES AND BENEFITS OF AVIATION IN IOWA

2009

EXECUTIVE SUMMARY

INTRODUCTION



Air transportation is a key contributor to Iowa's economy. The Iowa Department of Transportation's Office of Aviation developed this 2009 report to evaluate and analyze the uses and benefits of aviation in Iowa. The statewide economic impact study shows how aviation serves as an economic engine, documents various ways air transportation is used in Iowa, and discusses other benefits that air transportation supports.

Aviation related economic benefits measured in this study fall into two categories. In one category, benefits are measured in terms of jobs, payroll, and annual economic activity that various aviation and air transportation groups support. In the other category, added efficiency that businesses realize from their use of aviation is estimated in terms of increased productivity.

Many of the economic benefits identified in this study are associated with commercial and general aviation airports that serve communities throughout Iowa. Beyond the boundaries of the airports are other aviation related activities that also add significant value to Iowa's economy. Both types of economic benefit are discussed in this summary report. The full technical report is available on the Office of Aviation web site at www.iawings.com or by calling the Office of Aviation at 515-239-1875.



FINDINGS

The magnitude of economic impact Iowa receives from aviation activity is significant. It is estimated that aviation groups considered in this study are contributing, on an annual basis, approximately \$5.4 billion to Iowa's economy while supporting an estimated 47,304 jobs in Iowa with a payroll of \$2.7 billion.

Throughout Iowa, there are hundreds of businesses whose efficiency is improved and whose productivity is increased through their use of aviation. The efficiency of many private sector businesses is improved as a result of their use of air cargo, commercial aviation, and general aviation. This study estimates that the productivity of employers in Iowa is increased on an annual basis by almost \$13 billion as a result of their use of air transportation. Additionally, aviation supports Iowa's multi-billion dollar agricultural industry. This study estimates the annual productivity of Iowa's agricultural industry is increased by \$214 million as a result of agricultural aviation.

Specific uses and benefits of air transportation considered in this study, along with a generalized approach for estimating economic impacts from aviation, are discussed in the remainder of this summary report.



Activities and Services at Airports in Iowa

Commercial airline service

Business aviation

Charter and rentals of general aviation aircraft

Personal and recreational flying

Flight training for new pilots and recurrent pilot training

Required FAA maintenance of private and business aircraft

Fueling, flight planning facilities, and other services for based, visiting, and enroute aircraft

College programs for aircraft maintenance, airport management, and professional pilot training,

Aviation education programs for youth

Shipment of air cargo

Aerial applicator operations

Transport of doctors and other medical personnel

Transfer of patients to specialized or distant medical centers.

Aerial photography and survey

Aerial inspections of utility transmission lines

News reporting

Law enforcement activities including surveillance, search and rescue, prisoner transport, and medical relay missions

Fly-ins and airshows

USES OF AIRPORTS AND AVIATION IN IOWA

Iowa generates 2.5 million commercial airline passenger boardings each year. Nearly 60 percent of the boardings are associated with business travel, while the remainder are attributed to vacation and personal travel.

Even with extensive commercial airline activity, it is estimated that 87 percent of all aircraft operations in Iowa are associated with general aviation planes using both commercial and general aviation airports. General aviation is all aviation activity other than military and scheduled airline operations. The scope of general aviation activity in Iowa is broad. From supporting the movement of goods and people for Iowa businesses to providing vital services and recreational activities that benefit all Iowans, general aviation supports a wide range of services that boost Iowa's economy.

Airports provide access to the air transportation system and are gateways to the communities and regions they serve. Some airports are more highly developed than others and serve different types of demand. Some of the more common activities and services at airports in Iowa are listed to the left. The map below demonstrates how even single-engine general aviation planes help to support efficient business travel.

Three-Hour Flight Time for Single-Engine Aircraft



APPROACH FOR ESTIMATING ECONOMIC BENEFITS

Most air transportation related benefits were measured in three categories: jobs, annual payroll, and annual economic activity or output. To estimate benefits in each of these three categories, a standard modeling process was used.

Information was gathered and categorized into direct and indirect impact categories. Direct economic impacts are those that take place at an airport. Impacts in the direct impact category are associated with on-airport businesses, airport management, and capital improvement projects that take place at an airport. Indirect economic impacts take place off-airport. Indirect impacts are those associated with visitor spending.

As direct and indirect benefits enter Iowa's economy, additional benefits are created. These additional benefits are classified as induced impacts. Induced impacts were estimated through the use of Iowa-specific multipliers. Direct impacts that start at airports and indirect impacts that start with visitor spending continue to re-circulate within Iowa's economy. Combined, direct, indirect, and induced impacts equal total economic impacts.





AIRPORT AND VISITOR BENEFITS

One of the primary generators of aviation related economic impacts is the airports themselves. In addition to the eight commercial airports in Iowa, benefits realized in Iowa from commercial airports in Omaha and Moline were also considered in this study. Economic impacts from 101 publicly-owned general aviation airports were determined, along with the impacts from 14 larger privately-owned general aviation airports that help to serve Iowa's air transportation needs.

On-airport activities, businesses, and capital improvement projects undertaken by airports support significant economic activity. Airport activities alone pump nearly \$1.2 billion into the statewide economy and support over 9,000 jobs with an annual payroll of approximately \$346 million.

Additionally, visitors travel to Iowa via both commercial airline flights and general aviation aircraft. Commercial airlines bring approximately 900,000 visitors to Iowa, and an additional 384,000 visitors arrive on general aviation aircraft. Once in the state, these visitors spend money for lodging, food, entertainment, retail sales, and other items. Based

on surveys, it is estimated that visitors spend \$363 million each year supporting about 7,510 jobs with an annual payroll of approximately \$241 million.

When all on-airport activities and visitors are considered, annual economic activity for study airports is estimated at almost 16,550 jobs, \$587 million in annual payroll, and \$1.5 billion in annual economic output.

It is important to note that airports create additional economic impacts beyond those associated with airport activities and visitor spending. As an example, aerial spraying supported by most publicly-owned general aviation airports, contributes an estimated \$214 million in increased agricultural productivity in Iowa. When considering the role general aviation airports play in supporting agriculture, general aviation airports in Iowa make an annual economic contribution exceeding \$400 million.

Examples of economic activity that extends beyond airport activity and visitor spending are highlighted in the following sections.

When all benefits of on-airport activity, visitor spending, and support for the agricultural industry are considered, the annual economic benefit from general aviation airports in Iowa is more than \$400 million.

Economic Impacts for Study Airports (On-Airport Activity and Visitor Spending)

Airport Category	Impact Category		
	JOBS	PAYROLL	OUTPUT
Commercial Airports	14,292	\$515 Million	\$1.3 Billion
General Aviation Airports	2,257	\$72 Million	\$187 Million
Total	16,549	\$587 Million	\$1.5 Billion

AGRICULTURAL AVIATION OPERATIONS

Agriculture is a multi-billion dollar industry in Iowa. An estimated 86 percent of the publicly-owned general aviation airports in Iowa support aerial applicator activity. With 31.5 million acres in Iowa devoted to crop production, approximately four million of these acres are treated by aerial application each year. This is an area equal to the size of the state of Connecticut.

Aerial applicators boost agricultural productivity by applying fungicides to corn and insecticides to soy beans. Using historical price data for corn and soy beans, combined with projected yield increases for each type of crop, agricultural aviation is estimated to increase the value of crops grown in Iowa by \$214 million each year.



Productivity Increase for Agricultural from Aviation

\$214 Million

General Aviation Airports Reporting Aerial Applicator Activity



MILITARY AVIATION UNITS

Four commercial airports and two general aviation airports in Iowa have on-site military units. These airports serve Boone, Davenport, Des Moines, Fort Dodge, Sioux City, and Waterloo. Military units considered in this study are tenants of the six civilian airports. Their activities help to boost both the local and statewide economies. The employment, payroll, and annual economic activity of these units are included in the estimate of total annual economic activity for all study airports. Specific impacts associated with the six on-airport military units include: 2,247 jobs, \$84 million in annual payroll, and \$279 million in total annual economic activity.

Economic Impacts for Military Units

Airport	Impact Category		
	JOBS	PAYROLL	OUTPUT
Boone	80	\$3.0 Million	\$5.5 Million
Davenport	236	\$5.0 Million	\$6.6 Million
Des Moines	417	\$17.5 Million	\$60.8 Million
Fort Dodge	132	\$5.0 Million	\$20.5 Million
Sioux City	1,114	\$46.7 Million	\$162.5 Million
Waterloo	268	\$7.0 Million	\$22.8 Million
Total	2,247	\$84.2 Million	\$278.7 Million



HELICOPTER EMS OPERATIONS

Helicopter emergency medical service (EMS) providers operate at hospital-based heliports in Iowa. While it is not possible to quantify the economic or quality of life benefits for all health care related activities that aviation supports, it is possible to estimate economic impacts specific to the major helicopter EMS operations in Iowa. These EMS operators fly an estimated 4,000 missions each year supporting approximately 250 jobs with an annual payroll over \$11 million. Total annual economic activity associated with Iowa's helicopter EMS providers is estimated at almost \$22 million when both direct and induced impacts are considered.

Economic Impacts for Helicopter EMS

JOBS	PAYROLL	OUTPUT
250	\$11 Million	\$22 Million

Locations of Heliports Supporting Helicopter EMS Operators



OFF-AIRPORT AVIATION RELATED BUSINESS BENEFITS

As part of the study, 25 off-airport businesses were identified in Iowa that are engaged in the manufacturing of products or who are engaged in providing services that support the aviation and/or aerospace industries. The portion of each company's Iowa-related activity dedicated to supporting air transportation was estimated.

In some instances, these are small businesses manufacturing small numbers of general aviation aircraft each year. In other instances, these are major multi-billion dollar employers whose clientele are worldwide in scope. Some of the largest employers in this category include Rockwell Collins and Alcoa's Davenport Works.

The employment, payroll, and economic activity of these aviation related businesses all provide benefits to Iowa's economy. Aviation related businesses in Iowa have economic activity or output estimated at \$3.9 billion and support more than 30,500 jobs with an annual payroll estimated at \$2.1 billion.

Economic Impacts for Off-Airport Aviation Related Businesses

JOBS	PAYROLL	OUTPUT
30,506	\$2.1 Billion	\$3.9 Billion

Off-Airport Aviation Related Businesses in Iowa

Company	City	Description
Airabella Inc	Peosta	Aircraft Manufacturing
Aircraft Engine Resources Llc	Brighton	Aircraft Parts
Alcoa Davenport Works	Bettendorf	Aluminum Aircraft Parts
Carleton Life Support Systems Inc.	Davenport	Aircraft Oxygen Systems
Cleveland Aircraft Tool	Boone	Tooling
Dakota Air Frame	Larchwood	Air Frame Manufacturing
Eaton Corporation	Belmond	Engine Parts
FRC Component Products	Mason City	Aircraft Antennas
From Here To There P D Q Inc	Clear Lake	Aircraft Manufacturing
Geater Machining & Manufacturing	Independence	Tooling
Goodrich Corporation	Carroll	Aircraft Parts
Igles Corporation	Bedford	Aircraft Manufacturing
Indy Aircraft (aka Golden Circle Air)	Independence	Aircraft Manufacturing
Iowa Aircraft	Burlington	Aircraft Manufacturing
Iowa Mold & Engineering	Belle Plaine	Plastics Manufacturing
Iron Design	Clarksville	Metal Fabrication
JLM Aviation	Reasnor	Aviation Support
Kruse Air	Sioux City	Aircraft Manufacturing
Recreation Wheels Llc	Orange City	Wheel Manufacturing
Retro Flight	Atlantic	Radio Controlled Rockets
Rockwell Collins	Cedar Rapids	Avionics
Shey Systems	Hiawatha	Aircraft Parts
Snap-On Tools Co.	Algona	Tooling
St. Croix Aircraft	Corning	Aircraft Restoration
Vermeer Aviation	Sioux Center	Aircraft Manufacturing
Warp Drive, Inc	Ventura	Aircraft Parts

Source: Airport Management, Dun and Bradstreet, Wilbur Smith Associates





BENEFITS FOR THE IOWA BUSINESS COMMUNITY

Through their use of aviation, the annual productivity of companies doing business in Iowa is improved by an estimated \$12.8 billion. There are an estimated 142,100 jobs in Iowa that benefit from this estimated increase in business productivity, and these jobs have an annual payroll of \$5.8 billion.

Employers in the manufacturing, service, professional, financial, communications, and wholesale trade sectors rely directly on aviation to increase their productivity and efficiency. In many instances, these businesses have selected to do business at their current location because of the location's proximity to a commercial or general aviation airport.

A survey of members of the Iowa Business Council, made up of Iowa's 21 largest employers, indicates that proximity to a commercial airport ranks third and proximity to a general aviation airport ranks sixth of all factors considered important to business location. This finding was confirmed through another survey of 475 Iowa businesses included in the sectors noted above.

Employers rely on commercial and general aviation airports to support their business travel needs. Additionally, businesses rely on air cargo shipments and specialty aviation services that support their business operations. All the businesses contacted as part of this study indicate they use express air shipping to support their business activities while 70 percent of the businesses indicated they use general aviation to improve their efficiency.

Productivity Increase for Iowa Businesses from Aviation

\$12.8 Billion



OTHER BENEFITS OF AVIATION

Aviation in Iowa makes Iowa a better place to live. Some examples include:

<p>General aviation helps to improve medical care in many parts of the state by allowing specialty doctors to reach locations that are without large hospitals or specialized medical care.</p>	<p>Commercial airline service provides connectivity to the world, opening up opportunities from weekend get-a-ways to vacations in international destinations.</p>
<p>From transport helicopters to fighter jets to aerial re-fuelers, Iowa National Guard and other military operations supported by airports in Iowa help to defend our freedoms, keep us safe, and support critical services following natural disasters.</p>	<p>Aviation is used to help various law enforcement agencies, including the Iowa State Patrol, to carry out their duties and responsibilities.</p>
<p>Aerial survey provides inspection of major utility lines transmitting gas and electricity throughout Iowa and is used for important mapping services.</p>	<p>Aviation enables someone living in Iowa to shop online in a New York boutique and have their purchase delivered the next day.</p>
<p>News reporting and aerial surveillance is enhanced by the use of aircraft which was vital during the Iowa floods of 2008. Many different types of aircraft, as well as small and large airports played significant roles in flood recovery efforts.</p>	<p>The Department of Natural Resources uses airports to conduct aerial inspections to help Iowa improve and protect various aspects of its natural environment.</p>
<p>In today's busy world, the experience of a first airplane ride still provides an experience that is remembered for a lifetime.</p>	<p>With direct access to thousands of communities throughout the United States, personal, charter, and business airplanes make travel more convenient and efficient, making it easier for businesses in Iowa to retain customers and employees.</p>
<p>Aviation opens up recreational activities such as skydiving, glider flights, and personal aviation.</p>	<p>Aviation related college programs in Iowa help to support career training for many facets of the aviation industry, including pilots, mechanics, and those interested in aviation management.</p>

These examples help to show how even if someone never directly uses an airport or aviation themselves, their lives are still being touched by the many facets of air transportation.



ECONOMIC IMPACT SUMMARY

The accompanying table summarizes total annual economic impacts for on-airport activities, visitor spending, off-airport aviation related businesses, and the benefits from helicopter emergency medical service (EMS) providers.

As shown:

Airport activities include on-airport businesses, tenants, and construction impacts. They are responsible for supporting 9,038 jobs, \$345.5 million in annual payroll, and \$1.2 billion in annual economic activity or output. Benefits from military units and based aerial applicators are included in the airport impacts shown in this table.

Visitors arriving in Iowa on commercial and general aviation aircraft support an additional 7,511 jobs, \$241 million in annual payroll, and \$363 million in annual economic activity.

Off-airport aviation related businesses in Iowa support 30,505 jobs, \$2.07 billion in annual payroll, and \$3.85 billion in annual economic activity or output.

Iowa's helicopter EMS providers support another 250 jobs, \$11.3 million in annual payroll, and \$21.8 million in annual economic activity.

Iowa's Economic Impact from Air Transportation

Employment	Direct & Indirect Impacts	Induced Impacts	Total Impacts
On-Airport Activities Impact	5,275.0	3,763.0	9,038.0
Commercial Service Visitor Impacts	4,796.0	1,787.0	6,583.0
General Aviation Visitor Impacts	726.5	201.5	928.0
Off-Airport Aviation-Related Businesses	11,177.0	19,328.5	30,505.5
Helicopter EMS	126.0	123.5	249.5
TOTAL EMPLOYMENT	22,100.5	25,203.5	47,304.0

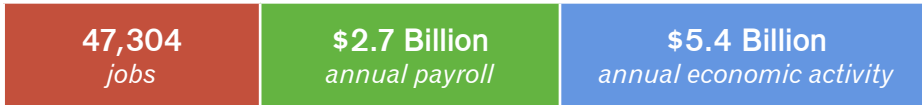
Payroll	Direct & Indirect Impacts	Induced Impacts	Total Impacts
On-Airport Activities Impact	\$218,080,700	\$127,432,200	\$345,512,900
Commercial Service Visitor Impacts	\$137,684,800	\$77,002,700	\$214,687,500
General Aviation Visitor Impacts	\$16,833,500	\$9,486,000	\$26,319,500
Off-Airport Aviation-Related Businesses	\$701,239,460	\$1,372,329,831	\$2,073,569,291
Helicopter EMS	\$6,100,000	\$5,200,000	\$11,300,000
TOTAL PAYROLL	\$1,079,938,460	\$1,591,450,731	\$2,671,439,191

Output	Direct & Indirect Impacts	Induced Impacts	Total Impacts
On-Airport Activities Impact	\$709,277,700	\$465,329,100	\$1,174,606,800
Commercial Service Visitor Impacts	\$194,158,000	\$125,167,500	\$319,325,500
General Aviation Visitor Impacts	\$26,047,400	\$17,716,400	\$43,763,800
Off-Airport Aviation-Related Businesses	\$2,457,523,000	\$1,396,900,309	\$3,854,423,309
Helicopter EMS	\$13,300,000	\$8,500,000	\$21,800,000
TOTAL OUTPUT	\$3,400,306,100	\$2,013,613,309	\$5,413,919,409

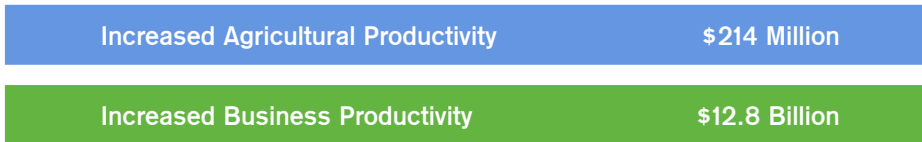
Sources: Wilbur Smith Associates and IMPLAN multipliers

ECONOMIC IMPACT SUMMARY

Air transportation in Iowa supports the following economic impacts:



In addition, the productivity of many businesses in Iowa is improved through air transportation and aviation related services supported by airports considered in this study. Increased business productivity estimates are as follows:



In today's time-sensitive economy, air transportation helps to enhance reliability, efficiency, the speed of customer service, and the delivery of goods. Air transportation plays a crucial role in tourism, emergency services, agriculture, and even public safety. Airports within Iowa provide gateways to the nation and world and play an important role in attracting and keeping business and industry in Iowa.

Airports support vital transportation services for all citizens in Iowa, whether they use the air transportation system directly or benefit from the system through the delivery of packages and goods, visits from family and friends, a healthy economy, or an improved quality of life.

The magnitude of the economic impact Iowa receives from all facets of air transportation is significant. From analysis completed in this study, it is estimated that roughly 12 percent of the state's jobs, annual payroll, and gross state product are in some way linked to aviation. These findings reinforce the need to sustain and invest in a healthy air transportation system in Iowa.

Specific economic impacts for study airports follow.



TOTAL ANNUAL ECONOMIC IMPACT BY AIRPORT

Commercial Airports

Airport Name	Associated City	Total Employment	Total Payroll	Total Output
Southeast Iowa Regional Airport	Burlington	114	\$3,342,600	\$10,417,100
The Eastern Iowa Airport	Cedar Rapids	2,695	\$94,716,000	\$223,983,500
Des Moines International Airport	Des Moines	5,476	\$200,616,200	\$522,440,100
Dubuque Regional Airport	Dubuque	383	\$13,272,000	\$34,386,200
Fort Dodge Regional Airport	Fort Dodge	279	\$11,236,000	\$36,185,000
Mason City Municipal Airport	Mason City	140	\$4,668,800	\$11,344,600
Sioux Gateway Airport	Sioux City	1,570	\$64,039,700	\$218,603,500
Waterloo Regional Airport	Waterloo	533	\$14,723,100	\$64,267,000
Quad City International Airport **	Moline	1,280	\$46,546,300	\$108,393,800
Eppley Airfield **	Omaha	1,822	\$61,809,000	\$106,894,000
Commercial Airport Totals		14,292	\$514,969,700	\$1,336,914,800

Sources: Wilbur Smith Associates and IMPLAN multipliers

Notes: ** Includes only the benefits of these airports realized in Iowa.



General Aviation Airports

Airport Name	Associated City	Total Employment	Total Payroll	Total Output
Albia Municipal	Albia	4.5	\$116,200	\$259,400
Algona Municipal	Algona	15.5	\$460,700	\$1,571,400
Allison Municipal	Allison	1.5	\$23,600	\$36,500
Ames Municipal	Ames	98.5	\$2,888,000	\$7,789,400
Anita Municipal	Anita	1.0	\$1,400	\$5,200
Ankeny Regional	Ankeny	141.5	\$5,427,000	\$14,780,700
Atlantic Municipal	Atlantic	42.0	\$1,374,200	\$4,643,600
Audubon County	Audubon	5.0	\$126,800	\$403,900
Bedford Municipal	Bedford	1.5	\$16,700	\$32,700
Belle Plaine Municipal	Belle Plaine	17.0	\$537,800	\$776,800
Belmond Municipal	Belmond	1.0	\$11,800	\$30,100
Bloomfield Municipal	Bloomfield	7.0	\$267,300	\$784,500
Boone Municipal	Boone	111.0	\$3,835,200	\$7,375,400
Carroll Municipal	Carroll	19.5	\$525,900	\$1,849,800
Centerville Municipal	Centerville	4.5	\$113,500	\$243,100
Chariton Municipal	Chariton	5.0	\$145,300	\$494,900
Northeast Iowa Regional	Charles City	12.0	\$282,200	\$989,000
Cherokee County Regional	Cherokee	13.5	\$340,700	\$944,900
Clarinda Municipal	Clarinda	9.5	\$284,100	\$856,200
Clarion Municipal	Clarion	5.5	\$125,500	\$473,400
Clinton Municipal	Clinton	23.5	\$617,900	\$1,715,800
Corning Municipal	Corning	1.0	\$11,800	\$37,300
Council Bluffs Municipal	Council Bluffs	180.0	\$5,668,800	\$12,737,500
Cresco Municipal	Cresco	1.0	\$11,800	\$20,500
Creston Municipal	Creston	5.0	\$142,200	\$423,800
Davenport Municipal	Davenport	388.0	\$11,485,900	\$20,270,500
Decorah Municipal	Decorah	13.0	\$391,300	\$813,800
Denison Municipal	Denison	6.5	\$147,100	\$576,700
Eagle Grove Municipal	Eagle Grove	1.5	\$7,700	\$15,600
Eldora Municipal	Eldora	1.0	\$11,800	\$19,400
Emmetsburg Municipal	Emmetsburg	12.0	\$374,400	\$1,015,900
Estherville Municipal	Estherville	15.5	\$539,100	\$1,509,600
Fairfield Municipal	Fairfield	12.5	\$490,100	\$1,619,700
Forest City Municipal	Forest City	22.0	\$880,300	\$3,187,000
Fort Madison Municipal	Fort Madison	2.0	\$25,200	\$123,900
Greenfield Municipal	Greenfield	9.5	\$170,300	\$279,400
Grinnell Regional	Grinnell	8.5	\$242,200	\$704,000
Grundy Center Municipal	Grundy Center	1.0	\$2,800	\$6,900
Guthrie County Regional	Guthrie Center	3.0	\$65,700	\$180,100
Hampton Municipal	Hampton	7.5	\$239,900	\$926,500

General Aviation Airports (continued)

Airport Name	Associated City	Total Employment	Total Payroll	Total Output
Harlan Municipal	Harlan	15.0	\$393,400	\$1,073,800
Humboldt Municipal	Humboldt	0.5	\$15,300	\$148,500
Ida Grove Municipal	Ida Grove	0.0	\$0	\$44,300
Independence Municipal	Independence	30.0	\$868,600	\$2,421,700
Iowa City Municipal	Iowa City	115.0	\$3,688,900	\$11,207,300
Iowa Falls Municipal	Iowa Falls	20.0	\$662,500	\$2,759,000
Jefferson Municipal	Jefferson	12.0	\$360,800	\$606,100
Keokuk Municipal	Keokuk	23.5	\$710,900	\$2,281,900
Keosauqua Municipal	Keosauqua	1.0	\$11,800	\$16,600
Knoxville Municipal	Knoxville	12.5	\$376,600	\$1,056,300
Lake Mills Municipal	Lake Mills	1.0	\$11,800	\$24,000
Lamoni Municipal	Lamoni	2.5	\$75,600	\$274,100
Le Mars Municipal	Le Mars	13.5	\$596,200	\$1,364,400
Manchester Municipal	Manchester	1.0	\$11,800	\$27,900
Mapleton Municipal	Mapleton	5.5	\$124,100	\$257,300
Maquoketa Municipal	Maquoketa	23.5	\$713,500	\$2,067,800
Marshalltown Municipal	Marshalltown	29.5	\$914,400	\$2,814,100
Milford Municipal	Milford	2.5	\$32,800	\$86,300
Monona Municipal	Monona	0.0	\$0	\$30,100
Monticello Regional	Monticello	20.5	\$551,100	\$1,770,900
Mt. Ayr Municipal	Mount Ayr	1.0	\$11,800	\$24,000
Mt. Pleasant Municipal	Mount Pleasant	25.0	\$819,800	\$3,688,400
Muscatine Municipal	Muscatine	66.0	\$2,426,600	\$4,671,000
New Hampton Municipal	New Hampton	1.0	\$3,800	\$28,200
Newton Municipal	Newton	26.0	\$738,000	\$2,246,200
Northwood Municipal	Northwood	1.5	\$15,300	\$18,500
Oelwein Municipal	Oelwein	14.0	\$425,000	\$1,866,600
Onawa Municipal	Onawa	2.5	\$50,400	\$173,700
Orange City Municipal	Orange City	13.5	\$504,800	\$1,024,900
Osage Municipal	Osage	1.0	\$3,600	\$22,400
Osceola Municipal	Osceola	5.0	\$123,200	\$442,200
Oskaloosa Municipal	Oskaloosa	25.5	\$717,500	\$1,780,700
Ottumwa Regional	Ottumwa	73.0	\$2,377,200	\$6,429,400
Paullina Municipal	Paullina	1.5	\$15,300	\$18,300
Pella Municipal	Pella	46.0	\$2,206,700	\$4,446,700
Perry Municipal	Perry	6.5	\$163,700	\$357,600
Pocahontas Municipal	Pocahontas	3.5	\$82,900	\$238,000
Primghar Municipal	Primghar	1.0	\$3,800	\$17,100
Red Oak Municipal	Red Oak	19.5	\$552,700	\$1,412,100
Rock Rapids Municipal	Rock Rapids	7.0	\$204,200	\$563,600

General Aviation Airports (continued)

Airport Name	Associated City	Total Employment	Total Payroll	Total Output
Rockwell City Municipal	Rockwell City	5.0	\$116,200	\$306,500
Sac City Municipal	Sac City	5.0	\$115,700	\$297,000
Sheldon Municipal	Sheldon	11.0	\$215,100	\$971,800
Shenandoah Municipal	Shenandoah	9.0	\$218,100	\$535,400
Sibley Municipal	Sibley	5.5	\$186,800	\$363,000
Sioux Center Municipal	Sioux Center	34.0	\$1,699,700	\$5,406,900
Spencer Municipal	Spencer	50.0	\$1,573,200	\$5,814,400
Spirit Lake Municipal	Spirit Lake	2.5	\$40,500	\$110,000
Storm Lake Municipal	Storm Lake	31.5	\$860,800	\$2,888,700
Sully Municipal	Sully	1.0	\$11,800	\$28,700
Tipton Municipal	Tipton	2.0	\$25,200	\$213,500
Toledo Municipal	Toledo	0.0	\$0	\$14,100
Traer Municipal	Traer	1.5	\$15,300	\$19,300
Vinton Veterans Memorial	Vinton	12.5	\$282,800	\$939,600
Washington Municipal	Washington	30.5	\$971,600	\$1,908,600
Waukon Municipal	Waukon	2.5	\$50,400	\$130,300
Waverly Municipal	Waverly	26.0	\$720,300	\$1,499,700
Webster City Municipal	Webster City	42.0	\$2,268,100	\$9,334,600
West Union Municipal	West Union	8.5	\$320,400	\$680,100
Winterset-Madison County	Winterset	27.0	\$696,500	\$1,928,200
Woodbine Municipal	Woodbine	1.0	\$11,800	\$18,300
<i>Public Airports Subtotals</i>		<i>2,207.5</i>	<i>\$70,396,900</i>	<i>\$183,735,500</i>
Private Airports	Various	49.5	\$1,153,300	\$3,596,900
General Aviation Airport Totals		2,257.0	\$71,550,200	\$187,332,400

Sources: Wilbur Smith Associates and IMPLAN Multipliers





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