

Kansas AVIATION



Kansas Aviation Economic Impact Study



EXECUTIVE SUMMARY

INTRODUCTION

The history of aviation and Kansas are intertwined. The state is home to many aviation pioneers, including Clyde Cessna, Lloyd Stearman, and Walter and Olive Beech. Wichita’s early commitment to aircraft manufacturing earned it the title “Air Capital of the United States” in the 1920s. Cities and towns across Kansas are now home to some of the world’s leading aerospace manufacturing companies as well as their suppliers. Without the rich history of aircraft manufacturing in Kansas, the aviation industry would not be what it is today, and the Kansas economy would be drastically smaller in size.

Air transportation benefits Kansas in a variety of ways. Airports in Kansas are the gateway to the nation’s air transportation system and the world’s economy. Air transportation is essential in today’s global marketplace. It helps attract and retain businesses in communities throughout the state. Air transportation is not only important to businesses in Kansas, it also helps to support tourism, agriculture, emergency medical services, the military, and public safety. Each airport is an important component of the Kansas Aviation System.



STUDY OVERVIEW

Economic impacts were identified for eight commercial and 132 general aviation airports. This study focused on identifying economic benefits associated with the businesses and tenants that are located on each of the airports. Spending by visitors who arrive in Kansas by air also results in significant economic impacts each year, and this study calculated these benefits.

Airports throughout the state contribute to Kansas’ economy through a variety of activities. This study explored several unique industries and aviation-related areas that help Kansas in ways that are not as easily quantified. This study analyzed the aviation benefits residents of Kansas derive from:

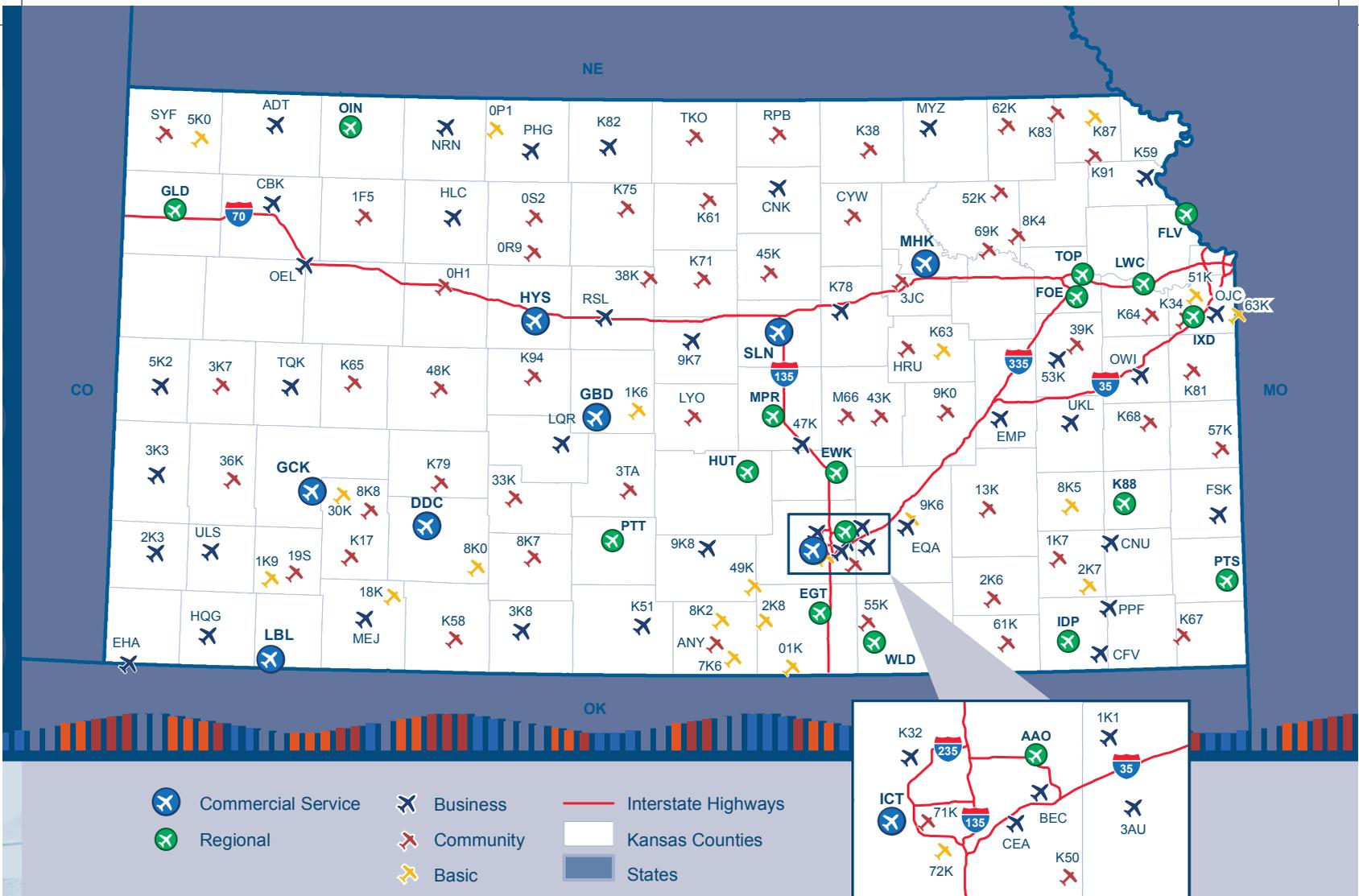
- Airport and Heliport Use by Hospitals
- Agricultural Application
- Off-Airport Aerospace Manufacturing
- Value Added Benefits from Off-Airport Aviation Dependent Businesses
- Qualitative Airport Benefits
- Kansas City International Airport

Airports in Kansas:

Support
47,651
JOBS

Generate
\$2.3 BILLION
IN PAYROLL

Produce
\$10.4 BILLION
IN ECONOMIC ACTIVITY



AIRPORT ROLE

COMMERCIAL SERVICE AIRPORTS – Airports that accommodate scheduled commercial airline service

REGIONAL AIRPORTS – Airports that accommodate regional economic activities, connect the state and national economies, and serve all types of general aviation users

BUSINESS AIRPORTS – Airports that accommodate local business activities and general aviation users

COMMUNITY AIRPORTS – Airports that serve a supplemental role in local economies, primarily serving smaller business, and personal flying

BASIC AIRPORTS – Airports that serve a limited role in the local economy, primarily serving personal flying



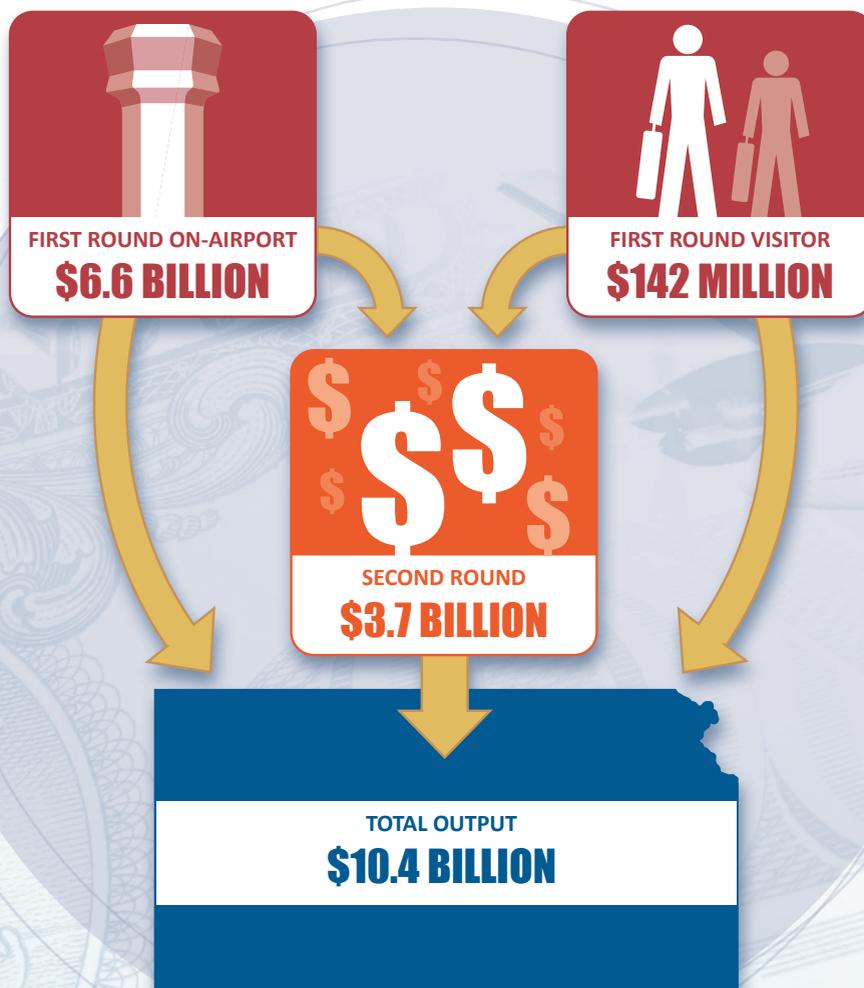
STUDY METHODOLOGY

Airports create economic impacts in a variety of ways. On-airport businesses, such as airlines, flight schools, agricultural sprayers, corporate flight departments, aircraft mechanics, and government entities including airport sponsors and the Federal Aviation Administration are responsible for tens of thousands of jobs and extensive capital projects at airports throughout Kansas. These are the first round direct benefits of Kansas airports. Visitors arriving on commercial service airlines and general aviation aircraft spend money for hotels, restaurants, retail, and entertainment, which creates additional jobs and economic benefits. These are the first round indirect benefits of Kansas airports.

The methodology used to quantitatively estimate these benefits involved on-site data gathering and surveys mailed to airports and their tenants to tabulate the direct benefits of airports and their tenants. A survey also sampled general aviation visitors' spending habits while traveling to determine their indirect benefits. Kansas specific ratios were used to convert this spending into jobs and payroll. As these first

round benefits are released into the statewide economy, additional second round benefits are created. For example, when airport managers use their salary to buy groceries, this spending helps support additional economic activity. This spending recirculates or multiplies until the benefits ultimately leak outside of Kansas. Second round benefits for this study were calculated using Kansas specific multipliers. In general, for every \$100 of first round benefits generated by aviation-related businesses, an additional second round benefit of \$55 is created. The total economic benefit is the sum of first round and second round benefits.

The quantitative benefits of Kansas' airport system are expressed as jobs, payroll, and output. Jobs are expressed as full-time equivalents, where any part-time job is treated as half a full-time job. Payroll includes all wages, salaries, and benefits paid to employees. Output is a measure of annual economic activity equivalent to the annual revenues of a business or the annual expenditures of a visitor or organization that does not generate revenues.



IMPACT MEASURES

For this study, economic impacts are expressed in terms of employment, payroll, and total economic activity or output. For each of these measures, first round and second round impacts were calculated.

EMPLOYMENT

Thousands of jobs in Kansas are directly created by businesses, tenants, and other activities located at commercial service and general aviation airports. In addition to on-airport jobs, spending by Kansas visitors arriving via a commercial service or general aviation airport supports additional indirect employment. For this study, jobs were measured in terms of full-time equivalents, where any part-time job was treated as half a full-time job. In total, Kansas airports support 47,651 jobs.

PAYROLL

As noted above, aviation in Kansas supports an estimated 47,651 first and second round jobs. All of these jobs have annual wages, salaries, and benefits that contribute to the payroll impacts identified in this study. Study findings estimate that the commercial service and general aviation airports generate \$2.3 billion in annual payroll benefits.

OUTPUT

The value of the goods and services produced by airports and related aviation activities is the economic output of that airport. The output of on-airport businesses is estimated as the sum of annual gross revenues and average annual capital expenditures. For organizations that do not produce revenues (such as corporate flight departments), annual payroll and expenses are substituted for annual revenues. This study concluded that commercial service and general aviation airports in Kansas currently contribute \$10.4 billion in total economic impacts to state, regional, and local economies each year. Aerospace manufacturing is tied to 83 percent of this output.

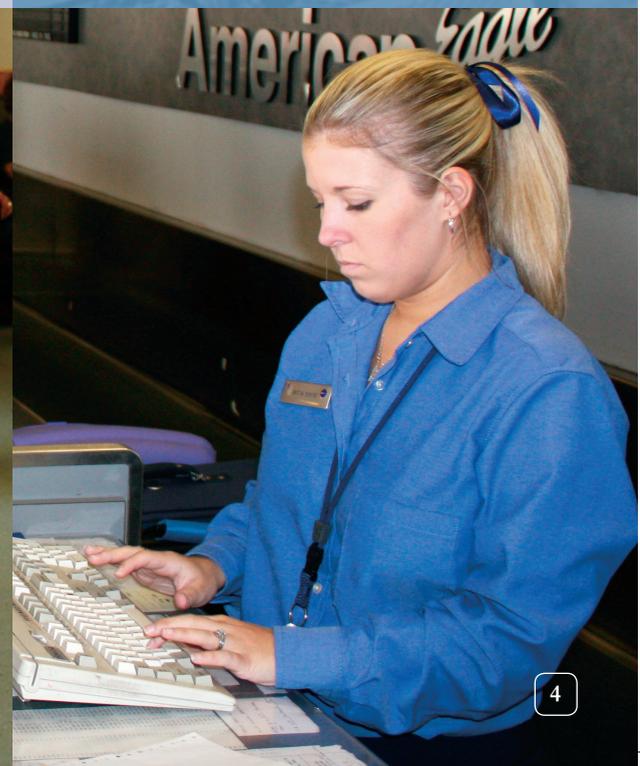
GENERAL AVIATION AIRPORTS	
JOBS	23,266
PAYROLL	\$1.1 BILLION
OUTPUT	\$5.4 BILLION

+

COMMERCIAL SERVICE AIRPORTS	
JOBS	24,385
PAYROLL	\$1.3 BILLION
OUTPUT	\$5.0 BILLION

=

TOTAL IMPACTS	
JOBS	47,651
PAYROLL	\$2.3 BILLION
OUTPUT	\$10.4 BILLION



ANNUAL ECONOMIC IMPACT OF COMMERCIAL SERVICE AIRPORTS

Associated City	ID	Airport	Total Employment	Total Payroll	Total Output
Dodge City	DDC	Dodge City Regional	159	\$5,267,500	\$19,582,400
Garden City	GCK	Garden City Regional	187	\$5,774,100	\$25,296,900
Great Bend	GBD	Great Bend Municipal	119	\$4,482,500	\$12,199,000
Hays	HYS	Hays Regional	179	\$5,769,100	\$24,579,200
Liberal	LBL	Liberal Mid-America Regional	200	\$6,122,500	\$28,725,500
Manhattan	MHK	Manhattan Regional	233	\$6,483,200	\$22,888,900
Salina	SLN	Salina Municipal	995	\$39,613,600	\$146,843,800
Wichita	ICT	Wichita Mid-Continent	22,313	\$1,196,316,900	\$4,685,303,200
Commercial Service Airports Total			24,385	\$1,269,829,400	\$4,965,418,900



ANNUAL ECONOMIC IMPACT OF GENERAL AVIATION AIRPORTS

Associated City	ID	Airport	Total Employment	Total Payroll	Total Output
Goodland	GLD	Renner Field-Goodland Municipal	125	\$3,721,200	\$15,465,400
Hutchinson	HUT	Hutchinson Municipal	169	\$5,336,400	\$15,182,400
Independence	IDP	Independence Municipal	2,066	\$88,226,500	\$578,142,300
Iola	K88	Allen County	31	\$711,700	\$2,871,600
Lawrence	LWC	Lawrence Municipal	96	\$3,558,900	\$10,722,800
Leavenworth	FLV	Sherman Army Airfield	30	\$960,300	\$2,701,000
McPherson	MPR	McPherson	34	\$856,600	\$2,369,800
Newton	EWK	Newton City/County	440	\$16,712,000	\$56,889,300
Oberlin	OIN	Oberlin Municipal	12	\$177,900	\$805,600
Olathe	IXD	New Century AirCenter	478	\$24,907,400	\$92,854,500
Pittsburg	PTS	Atkinson Municipal	54	\$1,727,900	\$7,114,500
Pratt	PTT	Pratt Regional	47	\$1,228,100	\$5,319,900
Topeka	FOE	Forbes Field	1,303	\$54,134,500	\$99,960,000
Topeka	TOP	Philip Billard Municipal	199	\$6,800,700	\$14,258,300
Wellington	EGT	Wellington Municipal	35	\$1,025,400	\$4,660,400
Wichita	AAO	Col. James Jabara	738	\$33,592,300	\$89,923,600
Winfield/Arkansas City	WLD	Strother Field	1,669	\$156,983,300	\$1,542,667,500
Abilene	K78	Abilene Municipal	18	\$359,400	\$1,069,600
Atchison	K59	Amelia Earhart	7	\$162,900	\$499,400
Atwood	ADT	Atwood-Rawlins County	30	\$814,400	\$5,908,500
Augusta	3AU	Augusta Municipal	122	\$5,048,700	\$23,753,300
Benton	1K1	Stearman Field	22	\$519,600	\$2,675,200
Burlington	UKL	Coffey County	15	\$433,500	\$1,993,900
Chanute	CNU	Chanute-Martin Johnson	35	\$1,077,800	\$3,160,000
Coffeyville	CFV	Coffeyville Municipal	15	\$220,000	\$1,120,900
Colby	CBK	Shalz Field	20	\$596,000	\$4,036,800
Coldwater	3K8	Comanche County	1	\$19,400	\$72,000
Concordia	CNK	Blosser Municipal	8	\$134,800	\$437,000
El Dorado	EQA	Capt. Jack Thomas	13	\$496,500	\$1,778,600
Elkhart	EHA	Elkhart-Morton County	11	\$333,000	\$2,440,900

REGIONAL AIRPORTS



BUSINESS AIRPORTS



ANNUAL ECONOMIC IMPACT OF
GENERAL AVIATION AIRPORTS *CONTINUED*

Associated City	ID	Airport	Total Employment	Total Payroll	Total Output
Ellsworth	9K7	Ellsworth Municipal	8	\$242,800	\$1,494,600
Emporia	EMP	Emporia Municipal	53	\$2,160,100	\$6,330,100
Fort Scott	FSK	Fort Scott Municipal	8	\$200,100	\$1,238,000
Hill City	HLC	Hill City Municipal	13	\$292,700	\$1,513,700
Hugoton	HQG	Hugoton Municipal	16	\$490,000	\$2,154,000
Johnson	2K3	Stanton County Municipal	41	\$999,900	\$6,142,200
Kingman	9K8	Kingman-Clyde Cessna Field	13	\$228,500	\$994,100
Larned	LQR	Larned-Pawnee County	11	\$326,900	\$2,243,100
Marysville	MYZ	Marysville Municipal	7	\$334,600	\$813,400
Meade	MEJ	Meade Municipal	7	\$178,400	\$1,178,600
Medicine Lodge	K51	Medicine Lodge	less than 1	\$27,600	\$146,400
Moundridge	47K	Moundridge Municipal	16	\$583,700	\$2,559,700
Norton	NRN	Norton Municipal	10	\$299,100	\$2,304,100
Oakley	OEL	Oakley Municipal	26	\$557,300	\$3,916,000
Olathe	OJC	Johnson County Executive	377	\$10,012,500	\$36,608,900
Osage City	53K	Osage City Municipal	45	\$2,077,100	\$7,071,600
Ottawa	OWI	Ottawa Municipal	10	\$233,000	\$875,100
Parsons	PPF	Tri-City	19	\$407,800	\$1,810,700
Phillipsburg	PHG	Phillipsburg Municipal	8	\$262,100	\$1,977,700
Russell	RSL	Russell Municipal	13	\$340,900	\$1,856,700
Scott City	TQK	Scott City Municipal	17	\$394,600	\$1,916,700
Smith Center	K82	Smith Center Municipal	17	\$470,600	\$3,018,100
Syracuse	3K3	Syracuse-Hamilton County Municipal	29	\$724,100	\$4,532,200
Tribune	5K2	Tribune Municipal	5	\$151,800	\$899,700
Ulysses	ULS	Ulysses	39	\$1,189,400	\$5,716,500
Wichita	BEC	Beech Factory	11,014	\$486,998,500	\$1,783,759,000
Wichita	CEA	Cessna Aircraft Field	3,020	\$133,614,700	\$890,973,900
Wichita	K32	Riverside	8	\$177,700	\$582,300

Anthony	ANY	Anthony Municipal	3	\$92,300	\$517,200
Ashland	K58	Harold Krier Field	4	\$120,200	\$858,900
Baldwin City	K64	Vinland Valley Aerodrome	82	\$2,959,200	\$3,536,400
Belleville	RPB	Belleville Municipal	4	\$111,100	\$692,100
Beloit	K61	Moritz Memorial	18	\$577,300	\$2,265,100
Cimarron	8K8	Cimarron Municipal	1	\$23,100	\$130,300
Clay Center	CYW	Clay Center Municipal	14	\$291,100	\$1,081,400
Dighton	K65	Dighton	less than 1	\$30,100	\$66,800
Eureka	13K	Eureka Municipal	5	\$189,000	\$561,700
Fredonia	1K7	Fredonia	1	\$4,400	\$15,200
Gardner	K34	Gardner Municipal	15	\$282,400	\$1,008,800
Garnett	K68	Garnett Municipal	8	\$277,400	\$669,100
Greensburg	8K7	Paul Windle Municipal	1	\$56,200	\$424,000
Herington	HRU	Herington Regional	12	\$249,400	\$1,141,400
Hillsboro	M66	Alfred Schroeder Field	1	\$41,500	\$223,600
Hoxie	1F5	Hoxie-Sheridan County	13	\$452,700	\$3,485,800
Jetmore	K79	Jetmore Municipal	less than 1	\$2,900	\$16,900
Junction City	3JC	Freeman Field	91	\$3,333,200	\$12,608,600

BUSINESS AIRPORTS CONTINUED



COMMUNITY AIRPORTS



ANNUAL ECONOMIC IMPACT OF
GENERAL AVIATION AIRPORTS *CONTINUED*

COMMUNITY AIRPORTS CONTINUED

Associated City	ID	Airport	Total Employment	Total Payroll	Total Output
Kinsley	33K	Kinsley Municipal	35	\$1,424,500	\$13,117,600
Lakin	36K	Lakin	11	\$441,400	\$1,541,700
Leoti	3K7	Mark Hoard Memorial	18	\$635,800	\$5,003,000
Lincoln	K71	Lincoln Municipal	11	\$338,000	\$2,561,700
Lyndon	39K	Pomona Lake	1	\$26,400	\$139,700
Lyons	LYO	Lyons-Rice County Municipal	28	\$710,600	\$3,591,400
Mankato	TKO	Mankato	5	\$167,600	\$941,200
Marion	43K	Marion Municipal	3	\$62,300	\$196,100
Minneapolis	45K	Minneapolis City-County	6	\$119,300	\$866,100
Montezuma	K17	Montezuma Municipal	10	\$201,400	\$1,223,900
Ness City	48K	Ness City Municipal	less than 1	\$8,900	\$38,000
Osborne	K75	Osborne Municipal	9	\$147,900	\$1,223,500
Oswego	K67	Oswego Municipal	2	\$14,000	\$81,400
Oxford	55K	Oxford Municipal	3	\$66,400	\$345,600
Paola	K81	Miami County	29	\$952,500	\$3,390,000
Pleasanton	57K	Gilmore	4	\$91,000	\$477,700
Rose Hill	K50	Cook Airfield	6	\$115,900	\$503,600
Sabetha	K83	Sabetha Municipal	less than 1	\$22,300	\$83,500
St. Francis	SYF	Cheyenne County Municipal	17	\$306,700	\$1,303,700
Stafford	3TA	Stafford Municipal	less than 1	\$19,700	\$38,900
Sublette	19S	Sublette Flying Club	3	\$42,100	\$173,600
WaKeeney	0H1	Trego WaKeeney	6	\$124,000	\$899,700
Wamego	69K	Wamego Municipal	1	\$30,800	\$184,100
Washington	K38	Washington County Memorial	13	\$277,600	\$1,445,700
Wichita	71K	Westport	11	\$310,100	\$1,170,100

BASIC AIRPORTS

Anthony	7K6	Wilcox Field	7	\$46,400	\$52,500
Bird City	5K0	Bressler Field	11	\$227,500	\$660,200
Ellinwood	1K6	Ellinwood Municipal	11	\$423,800	\$3,312,500
Harper	8K2	Harper Municipal	5	\$172,700	\$1,344,700
Ingalls	30K	Ingalls Municipal	7	\$281,600	\$2,341,100
Neodesha	2K7	Neodesha Municipal	1	\$27,800	\$124,600
Olathe	51K	Cedar Air Park	10	\$90,800	\$288,100
Satanta	1K9	Satanta Municipal	3	\$119,000	\$920,600
Yates Center	8K5	Yates Center	less than 1	\$500	\$11,200

Other General Aviation Airports *			13	\$52,400	\$167,700
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General Aviation Airports Total			23,266	\$1,072,046,800	\$5,444,550,100
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ALL AIRPORTS TOTAL			47,651	\$2,341,876,200	\$10,409,969,000
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* Other General Aviation Airports include: Argonia Municipal, Bucklin, C.E. Grutzmacher Municipal, Caldwell Municipal, Cotton Wood Falls, Council Grove Municipal, Elk County, Fowler, Hiawatha Municipal, Hillside, Horton Municipal, Lucas, Norwich, Patty Field, Plainville Airpark, Rush County, Sedan City, Seneca Municipal, St. Marys Airpark, Stockton Municipal, Van Pak, and Westport Auxiliary.



ADDITIONAL AREAS OF ECONOMIC BENEFIT TO KANSANS

Certain areas of aviation provide benefits to Kansas that are not captured in the traditional economic model process described previously. This study evaluated several additional areas of economic benefit to Kansas and its residents.



Economic impact for airport and heliport use by hospitals:

Lives, Health, Service

AIRPORT AND HELIPORT USE BY HOSPITALS

In purely economic terms, aviation use by the healthcare industry is only a tiny part of aviation’s overall impact. However, aviation serves a critical role in providing communities, especially those in rural areas, with access to medical services. The ability to rapidly and safely move patients and medical personnel throughout Kansas is an aviation benefit that cannot be measured solely in terms of jobs, payroll, and economic output. Lives are improved, in some cases saved, and these outcomes are difficult to assign an economic value. Through a survey of nearly 200 hospitals across Kansas, it was determined that hospitals on average host eight specialty clinics a month with doctors flying long distances from major cities to conduct the clinics. Hospitals also rely on the use of helicopters and fixed wing aircraft to transfer patients both in and out of Kansas. In addition to using airports to move doctors and patients around the state, hospitals also use airports to move a variety of medical items and important paperwork via air cargo or overnight delivery services.

AGRICULTURAL APPLICATION

As part of the “Grain Belt,” Kansas plays a major role in the production of agriculture products for the nation and the world. In 2009, Kansas harvested more than 21 million acres of crops valued at nearly \$7 billion, which places Kansas among the top 10 states in agriculture production. Aviation has a significant role in supporting the Kansas agriculture industry. In general, agricultural applicators apply pesticides to crops without negatively impacting yield as ground rigs can to certain crops. Agricultural applicators are also used to respond quickly to outbreaks of plant disease or insect infestation. Without these actions by agricultural application operators, some or even all of the economic value of a crop can be lost.



Economic impact of crop value attributed to agricultural applicators:

Up to \$1.2 billion

OFF-AIRPORT AEROSPACE MANUFACTURING

Aviation and aerospace companies make up a large sector of the Kansas economy. The state has attracted many businesses that are engaged in the development, production, and manufacturing of aircraft, aviation support systems, aircraft components, and other aviation and aerospace-related products. In some instances, these aviation-related businesses are located on-airport. However, a substantial portion of the aerospace manufacturing industry takes place at locations other than airports. With a rich aviation history, it is no surprise that aerospace manufacturing plays such an important role in the Kansas economy.



Economic impact for off-airport aerospace manufacturing:

Jobs	47,000
Payroll	\$1.6 billion
Output	\$9.5 billion

OFF-AIRPORT AVIATION DEPENDENT BUSINESSES

Many employers in Kansas, while not located directly on the airport, benefit from the proximity and availability of the state's airports. Businesses rely on airports to provide transportation or to move goods quickly. Without these airports, many companies in the state would experience adverse effects in business activity levels. A survey of Kansas businesses found that many businesses in the region

depend on the state's airports for the transport of employees, clients and suppliers as well as goods. Without access to these airports, some companies would be forced to cut employment or possibly locate outside of Kansas. Based on this survey, an estimated 67,000 Kansas jobs exist in non-aviation companies because of the availability of aviation services in Kansas.



Off-Airport Aviation Dependent Businesses support:
Increased Jobs & Business Activity

QUALITATIVE AIRPORT BENEFITS

Beyond the quantitative aspects of aviation benefits, there are also qualitative benefits that deserve consideration when the total value of an airport system is analyzed. Qualitative benefits are those activities which take place at an airport on a regular basis that add to the quality of life, but are difficult to assign a dollar value. One example is the use of aviation in disaster response plans. The Kansas Highway Patrol, Civil Air Patrol, and Kansas National Guard all use aviation assets during emergencies to provide aid. For example, during winter storms, the Kansas Highway Patrol uses aircraft to locate stranded motorists, and the Kansas National Guard flies food to cattle that ranchers are unable to reach. Aviation is also an integral part of the Western Kansas Weather Modification Program. Cloud seeding by aircraft was estimated to produce \$4 million in annual benefits through the reduction of crop-damaging hail.

Qualitative benefits typically enhance the health, welfare, or safety of individuals in the airport's market area. While it may be difficult to place a dollar value on these activities, the benefits resulting from these activities improve the quality of life of Kansas' residents in numerous ways.

KANSAS CITY INTERNATIONAL AIRPORT

This study examined the positive benefits that airports within Kansas provide the state and its people. However, one major airport outside the state – Kansas City International Airport – is close enough and has a large enough market area that its influence is felt within Kansas. In fact, two reliever airports that support metropolitan general aviation activity, are located in Kansas. With 12 airlines providing scheduled service and 5.8 million annual passenger enplanements, Kansas City International was evaluated to determine its economic benefit to Kansas.



Kansas economic impact for Kansas City International Airport:

Jobs	25,400
Payroll	\$537.9 million
Output	\$1.8 billion



Some examples of the qualitative benefits of aviation at Kansas system airports include:

- Supporting rangeland firefighting efforts
- Supporting the U.S. military and other government organizations
- Conducting search-and-rescue operations
- Serving as a staging area for community events
- Providing police support
- Assisting with prisoner transport
- Providing entertainment opportunities, such as air shows
- Hosting school field trips and other educational events

SUMMARY

In 2009, \$10.4 billion in annual economic activity was supported by Kansas' Aviation System. To put things into perspective, the recently completed Kansas Airport System Plan concluded that approximately \$665 million will be needed over the next 20 years to improve airports. This 20-year need is roughly 6 percent of what the Kansas Aviation System contributed to Kansas' economy in 2009!

Furthermore, the benefits of aviation extend well beyond the economic value found at Kansas' airports. Kansas farm-

ers owe as much as \$1.2 billion in crop value to the efforts of aerial applicators. Off-airport aerospace manufacturing contributes significantly to the Kansas economy. And, without aviation, the healthcare network in Kansas would not operate as effectively as it does.

It is clear that aviation and airports in Kansas have a significant positive impact on the economy and quality of life of the people of Kansas.





KANSAS

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