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Final Report

MEASUREMENT OF AVIATION - RELATED TAX REVENUE IN KANSAS

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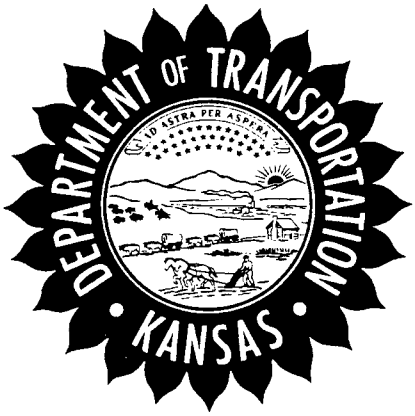

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16 **Abstract**

The objectives of this study were to identify the aviation-related taxes, measure the revenue generated, and analyze the trend in recent years in aviation-related tax rates and tax revenue. Aviation-related taxes are defined as taxes paid to Kansas by business firms located at Kansas airports that sell goods and services to aircraft owners and operators.

Kansas levies aviation-related taxes but none of the tax revenue is dedicated to supporting state aviation programs. Kansas has no excise tax on jet fuel, aviation gasoline, or mogas, but does levy a 4.9% sales tax of these fuels. The state has no aircraft registration fee but does levy a personal property tax on aircraft. Kansas does have a 4.9% sales tax on aircraft sales, leases and parts.

Kansas aviation-related taxes were compared to five other midwestern states, Colorado, Iowa, Missouri, Nebraska, and Oklahoma. Tables are also provided showing the types of aviation-related taxes levied in all 50 states.

Other studies have determined that the benefits of Kansas general aviation airports exceeds the cost. It is recommended that Kansas fund the state airport development program authorized by the legislature. Eligible projects might include runway reconstruction and resurfacing, refurbishing or constructing taxiways and ramps, lighting , and navigation aids. Financing of the program could be achieved through the state transportation budget.

This report documented the decline in Airport Improvement Program (AIP) grants to Kansas airports despite the existence of a multi-billion dollar surplus in the Federal Airport and Airway Trust Fund. The list of projects eligible for AIP funds should be expanded. The FAA should modify its criteria for allocating AIP funds to focus on the economic contribution general aviation airports make to the national airport system.

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FINAL REPORT

Project No. K-TRAN: KSU 98-5

Prepared for
Division of Aviation
Kansas Department of Transportation

by

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August 1998

PREFACE

This research project was funded by the Kansas Department of Transportation K-TRAN research program. The Kansas Transportation Research and New-Developments (K-TRAN) Research Program is an ongoing, cooperative and comprehensive research program addressing transportation needs of the State of Kansas utilizing academic and research resources from the Kansas Department of Transportation, Kansas State University and the University of Kansas. The projects included in the research program are jointly developed by transportation professionals in KDOT and the universities.

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The contents of this report reflect the views of the authors who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the views or the policies of the State of Kansas. This report does not constitute a standard, specification or regulation.

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Special thanks go to the Kansas airport managers and FBOs as well as the Kansas Pilots Association. Without their cooperation and support, this study would not have been possible.

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EXECUTIVE SUMMARY

The Kansas State University (KSU) study *The Economic Impact of General Aviation Airport Deterioration on Kansas Communities* documented the deterioration of Kansas general aviation airports. According to the *Kansas Aviation System Plan, Phase 6* the cost for planned improvements for Kansas Airport System airports for the 1998-2008 period is estimated to be $113 million. The federal government has been withdrawing from its traditional role of providing funds for airport capital improvements. Local government financial resources are not adequate to reverse the deterioration of Kansas general aviation airports. Thus if the system of Kansas airports is to survive, the state must play a larger role in the financing of airport improvements.

This research measured the amount of aviation-related tax revenue in Kansas and thus the potential level of funding for a state airport development program that would halt the deterioration of Kansas airports. Accordingly the objectives of the study are as follows:

1. Identify aviation-related taxes and tax rates levied by the state of Kansas.
2. Measure the revenue generated in recent years by the aviation-related taxes identified in Objective 1.
3. Analyze the trend in recent years in aviation-related tax rates and tax revenue of the aviation-related taxes identified in Objective 1.

Objective 1 is accomplished through information supplied by the Kansas Department of Revenue and by information in *1996-97 State Aviation Tax Report* published by the National Business Aircraft Association. Objectives 2 and 3 are accomplished through personal interviews and surveys of managers of Kansas airports and of FBOs (fixed based operator) at 49 of the

larger Kansas airports. The personal interviews permitted the investigators to discuss the motivation of the study and explain the instructions for completing the tax revenue questionnaire. The questionnaire was mailed to managers and FBOs located at the smaller Kansas airports.

In this study aviation-related taxes are defined as taxes paid to Kansas by business firms located at Kansas airports that sell goods and services to aircraft owners/operators (excluding corporate income taxes paid by these firms). Thus this study does not measure the economic significance of the aviation industry to the state of Kansas. However this study does measure taxes paid by firms that sell goods and services to the users of Kansas airports and therefore the types of taxes that most people would regard as the taxes most directly related to airport use.

Kansas levies aviation-related taxes but none of the tax revenue is dedicated to supporting state aviation programs. Kansas has no excise tax on jet fuel, aviation gasoline, or mogas consumed in aircraft but does levy a 4.9 percent sales tax on these fuels. The state has no aircraft registration fee but does levy a personal property tax on aircraft. Kansas has a 4.9 percent sales tax on aircraft sales, aircraft leases, and aircraft parts and labor. There are exemptions for all of the Kansas aviation-related taxes.

Kansas aviation-related taxes were compared to those of five other midwestern states. Kansas is the only one of the six states in the group that does not have an excise tax on aviation gasoline but is also the only one of these states that has a sales tax on this fuel. Some of the six states have an excise tax on jet fuel while others, including Kansas, have a jet fuel sales tax. Three of the six states, including Kansas, have a personal property tax on aircraft. However if the aircraft is used exclusively for business purposes the owner is exempt from the Kansas property tax. All the states in the group levy sales and use taxes on aircraft sales, aircraft leases,

and aircraft parts (except Colorado has no tax on aircraft parts) with the tax rates ranging from 3 to 5 percent. The exemptions from these taxes vary somewhat by state. Other than Kansas, Iowa is the only other state in the group that dedicates no aviation-related tax revenue to state aviation programs. However Iowa funds an airport improvement program from general fund revenue.

Kansas aviation-related sales and sales tax revenue was estimated by distributing questionnaires to 102 airport managers and FBOs located at 49 Kansas airports that account for 78 percent of the general aviation aircraft based at Kansas airports. A total of 71 completed questionnaires were received for a return rate of 70 percent. Of the 31 companies that did not return their questionnaire it was discovered that 8 had no taxable sales in Kansas. For 16 of these 31 companies it was possible to estimate their sales and sales tax revenue using averages from the survey respondent firms. No estimate of sales and sales tax revenue was possible for 7 of the 31 non-response firms. It is known that 3 of these 7 firms have multi-million dollar annual sales. Thus the aviation-related sales tax revenue measured in this study should be viewed as a conservative estimate.

The study also estimated aviation-related sales tax revenue generated at smaller (measured in terms of based aircraft) Kansas airports.

Except for mogas, total sales of each aviation-related good or service increased continuously from 1995 through 1997. This is due to two factors. First , the number of firms supplying data increased throughout the period, and secondly, average sales per firm steadily increased between 1995 and 1997.

Total sales of aviation gasoline grew from $4.4 million (1995) to $6.3 million(1997), a gain of 43 percent, and taxes on these sales rose from $213,790 (1995) to $306,963 (1997), an

increment of about 44 percent. Jet fuel sales increased from $9.3 million (1995) to $14.1 million (1997), nearly a 52 percent expansion, while jet fuel tax revenue rose from $455,484 (1995) to $693,090 (1997) also a 52 percent increase.

The number of aircraft sold at Kansas airports and the total sales value of these aircraft increased steadily between 1995 and 1997. However estimated sales taxes paid on these sales increased from $43,053 in 1995 to $185,103 in 1996 and then fell to $97,478 in 1997. The volatility in taxes paid is due to inter-year variation in the applicability of sales tax exemptions as well as the location of aircraft buyers.

In all 3 years of the study the aircraft repair service and aircraft parts category of aviation-related goods and services accounted for a large majority of total sales and sales tax revenue. Sales in this category increased from $227.1 million in 1995 to $286.9 million in 1997, a gain of 26 percent. Sales tax revenue increased from $1.55 million in 1995 to $1.95 million in 1997, also a 26 percent increment.

Sales in the Other category increased by 111 percent from $2.55 million in 1995 to $5.37 million in 1997. However due to tax exemptions and large sales to out-of-state buyers, sales taxes paid on these sales increased only 39 percent from $99,071 in 1995 to $137,565 in 1997.

Grand Total estimated sales (sum of sales in all categories) rose from $252.2 million in 1995 to $353.1 million in 1997, a gain of 40 percent. *Grand Total sales tax revenue increased from $2.4 million in 1995 to $3.2 million in 1997, a 33 percent increase.*

Sales of aviation-related goods and services at Kansas airports experienced strong growth in the 1995- 1997 period as Grand Total average sales per firm rose from $2.9 million in 1995 to $3.4 million in 1997, a 17 percent gain. Grand Total average sales tax per firm increased from

$27,546 (1995) to $30,992 (1997) a 12.5 percent increment.

The Kansas Department of Revenue was unable to supply the study with an estimate of Kansas aircraft personal property tax revenue. Alternative attempts to secure this information were also unsuccessful. However there is some evidence that Kansas aircraft personal property taxes are high relative to alternative types of personal transportation of similar value.

As noted above, the 1997 estimated sales tax revenue of $3.2 million is a conservative estimate. Three firms that did not return their questionnaires are known to have multi-million dollar annual sales. If it is assumed that each of these firms paid 1997 aviation-related sales tax that is equal to the average paid by the 6 largest sales tax payers in the sample ($323,048), then the estimated 1997 sales tax paid by the 3 firms is $969,144 (3 multiplied by $323,048). When this figure is added to the 1997 Grand Total sales tax revenue of $3,192,218 measured by the study, an estimate of $4.2 million is obtained. *Thus it can be said with reasonable certainty that 1997 aviation-related tax revenue, as defined in this study, is between $3.2 and $4.2 million.*

It is certain that the benefits of Kansas general aviation airports exceed the costs. Thus government programs that address the problem of airport deterioration are an efficient use of resources. It is recommended that the state of Kansas fund the state airport development program authorized by the Kansas legislature of few years ago. The list of eligible projects might include runway reconstruction and resurfacing, construction or refurbishing of taxiways and ramps, lighting of taxiways and runways, and navigation aids. Financing of the program could be achieved through a line item in the state transportation budget.

At the local level, airport improvements could be financed by exploring the idea of city-county airport authorities or in the more rural areas of the state, multi-county airport authorities.

The cost of airport runway resurfacing might be reduced by combining these projects with state projects in the area of the airport. In many cases, minor repairs and maintenance such as crack sealing of airport runways are performed by city or county highway departments and this approach should be encouraged in areas where it is not currently applied.

This report documented the decline in AIP grants to Kansas airports despite the existence of a multi-billion dollar surplus in the Airport and Airway Trust Fund. The downward trend in Kansas AIP grants can be reversed by spending the surplus in the trust fund. Also the list of airport maintenance projects that are eligible for AIP funds should be expanded. The FAA should modify its criteria for allocating AIP funds to general aviation airports. Instead of focusing on the number of aircraft based at the airport, the FAA should evaluate proposed improvements in terms of the economic contribution they will make to the national airport system. This would tend to increase the AIP funds allocated to general aviation airports.

CHAPTER 1
INTRODUCTION

Deterioration of Kansas General Aviation Airports

According to the Kansas State University (KSU) study *The Economic Impact of General Aviation Airport Deterioration on Kansas Communities*, general aviation airports in Kansas have deteriorated to a significant degree and available finances are insufficient to prevent this trend from continuing.

The KSU study documented the deterioration of Kansas general aviation airports through surveys of the managers of Kansas airports, the Kansas Pilots Association (KPA), and business firms that use Kansas general aviation airports. The survey of 97 managers of general aviation airports revealed a long list of needed capital improvements with special emphasis on lengthening the runway, resurfacing the runway, lighting improvements, and taxiway improvements. Another indication of airport deterioration obtained from the managers' survey is the runway related limitations placed on the use of many Kansas general aviation airports. Among the limitations most frequently cited by the airport managers are length of the runway and poor condition of the runway. Several airport managers reported that the condition of the runway had reduced the use of the airport. Personal interviews of airport managers revealed that they believe that the most important problem of general aviation airports is obtaining financing for airport maintenance and capital improvements.

Further evidence of the deterioration of Kansas general aviation airports was obtained from the KPA survey that included returned questionnaires from one-third of the membership. About 25 percent of the survey respondents stated that the condition of the runway at some Kansas

general aviation airports has deteriorated to the point that landing at these airports creates a safety hazard for their aircraft. Among the safety deficiencies the KPA respondents cited are cracks in the runway pavement, crumbling concrete, and loose gravel on the runway.

Additional evidence of the deterioration of Kansas general aviation airports was obtained from a survey of 114 Kansas companies that have their own aircraft and use Kansas airports. A total of 41 companies (36 percent of the sample) stated that they encounter or specifically avoid Kansas airports that have *runway in poor condition.* One-third of the sample of Kansas companies stated that they encounter or specifically avoid Kansas general aviation airports which have *inadequate runway length* for safe operation of the company aircraft. A total of 48 companies (42 percent of the sample) cited *non-runway related safety problems* at Kansas general aviation airports with the most frequently cited problems being lack of navigational aids and instrument landing systems.

Negative Effects of Airport Deterioration

One important reason for halting the decline of Kansas airports is the substantial economic impact of the general aviation airport system. Based on the results of the airport managers' survey of the KSU study, the *direct* economic impact of the Kansas general aviation airport system is estimated to be approximately $16 million. This impact will decrease as conditions at these airports continue to deteriorate.

The KPA survey respondents of the KSU study described the impact on airport users if the airports they use frequently were closed. These impacts are:

1. Income reduction due to lost business.

2. The higher costs of using commercial service airlines compared to personal aircraft.
3. The higher time and money costs of driving to destinations as opposed to flying.
4. Relocation of business and/or residence to an area with good airports.
5. The higher time and money costs of driving a longer distance between aircraft owners' residence and the nearest airport with available hangers to re-base the aircraft.
6. Significantly reduce business and/or pleasure use of the aircraft or quit flying entirely.

Survey respondents estimated the annual monetary value of the first impact in the above list at $25,000 to $100,000. The annual amount of the second, third, and fifth impacts are estimated at $1000 to $5000 although some respondents placed some of these impacts as high as $10,000.

The negative consequences of airport deterioration can be inferred by documenting the benefits that business users receive through access to good airport facilities. These benefits include a profitable location, increased profitability, and higher sales. The results of the business user survey of the KSU study indicate that 58.8 percent of the Kansas companies regard access to a good airport as essential or very important to their locational decision. The survey revealed that 63.2 percent of the business users regard access to a good airport as essential or very important to company profits. The survey also discovered that 55.4 percent of the respondents regard good airports as essential or very important to their sales.

The business users described the impacts on the company if the airports they use frequently were closed. The most significant impact of airport closure is higher time and transport costs associated with increased use of slower, less efficient transportation. The following impacts were also cited by 10 or more companies.

- Smaller geographic markets and reduced ability to service more distant customers
- Slower or reduced sales growth
- Reduced productivity of the company's employees and executives

- Relocation to other states

The impacts cited by business respondents imply that airport closure will reduce the profits of Kansas firms and have a negative effect on economic development in Kansas.

The impacts of airport closure cited by the business users are more diverse than those cited by the KPA respondents. However both groups focused on some common themes including higher time and money costs, lost business opportunities, and relocation to areas with good airports.

Two-thirds of the business users that estimated a monetary impact from airport closure said they would lose $1 to $250 thousand dollars on an annual basis, and slightly less then 10 percent estimated they would lose more than $1 million. As a group, these companies (slightly less than half of the business users sample) would lose a total of $35.5 million if the airports they currently use are closed.

Kansas General Aviation Airport Needs and Finances

Table 1 contains cost data for planned improvements for Kansas Airport System airports during the 1998-2008 period. The costs are obtained by adjusting the data on page 1-18 of the *Kansas Aviation System Plan, Phase 6* by the increase in the Gross Domestic Product Implicit Price Deflator over the 1996-1997 period.

The cost data are for improvement projects and planning projects that are eligible for federal funding assistance under the Airport and Airway Improvement Act of 1982. The data do not include airports in the Kansas City Metropolitan Region (Johnson, Leavenworth, and Wyandotte counties) or the Wichita Tri-County Region (Butler, Harvey, and Sedgwick counties).

Table 1
SUMMARY OF COSTS FOR PLANNED AIRPORT IMPROVEMENTS
TOTAL KANSAS AIRPORT SYSTEM AIRPORTS[1]
1998-2008

	Cost of improvements (in thousands of dollars)		
Improvement	1 to 5 years	6 to 10 years	10-year period
Approach aids	$3611	$4478	$8089
Access	1113	164	1277
Apron	6214	2618	8832
Equipment	914	313	1227
Land	1987	1762	3749
Lighting	1009	813	1822
Other	3075	843	3918
Planning	399	--	399
Runway	38,081	13,194	51,275
Taxiway	9782	5534	15,316
New airport or undesignated project	1462	15,719	17,181
Total	67,647	45,438	113,085

Source: Calculated from data in Leigh Fisher Associates, *Kansas Aviation Systems Plan, Phase 6* p. 1-18.

[1] The cost data do not include costs for airports in the Kansas City Metropolitan Region (Johnson, Leavenworth, and Wyandotte counties) or the Wichita Tri-County Region (Butler, Harvey and Sedgwick counties).

Of the total ten year requirement of $113 million, about 60 percent is required in the first five years. Runway and taxiway improvements account for nearly 60 percent of the total over the 10 year period. Thus the funds needed to rehabilitate the Kansas general aviation airport system are more than $100 million.

The federal government provides funds for airport capital improvements through the Airport Improvement Program (AIP). The AIP is funded by the Airport and Airway Trust Fund which receives money from a variety of user fees levied on passengers, air cargo, and the airlines. Tables 2 and 3 reveal trends in Kansas AIP grants for fiscal years 1991 through 1997. The data in Table 2 reveal an alarming downward trend in total Kansas AIP grants from $22 million in fiscal year 1991 to only $ 7.9 million in fiscal year 1995, a 64 percent decrease. Total Kansas AIP grants increased in fiscal years 1996 and 1997 but in fiscal year 1997, they were about half that of fiscal year 1991.

According to the data in Table 3, AIP grants for general aviation airports fell from $6.1 million in fiscal year 1992 to only $2.6 million in fiscal year 1995, a 57 percent decline. In fiscal years 1996 and 1997, AIP grants for Kansas general aviation airports were $3.9 million which is 36 percent less than the fiscal year 1992 level. The data in Table 1 coupled with the decline in AIP grants implies further deterioration of Kansas general aviation airports.

Maintenance of Kansas general aviation airports has historically been financed by municipal and county governments. Most general aviation airport maintenance is financed by a combination of municipal or county general fund taxes as well as airport revenues such as aviation fuel sales, hanger rental, and land rent. The KSU study discovered that 74 percent of the 95 Kansas airports in the survey spend zero to $10,000 per year on airport maintenance. The

Table 2
Kansas AIP Grants
Fiscal Years 1991-1997

Fiscal Year	Amount of AIP Grants	Number of Airports Receiving AIP Grants
1991	$22,049,057	23
1992	16,668,904	20
1993	13,807,799	20
1994	8,893,993	12
1995	7,867,894	13
1996	16,836,945	11
1997	11,820,463	19
Total	97,945,055	118
Average Per Year	13,992,151	17

Source: Federal Aviation Administration

Table 3
Kansas AIP Grants by Type of Airport
Fiscal Years 1991-1997

Airport	1991	1992	1993	1994	1995	1996	1997
Primary Service:							
Manhattan Municipal	$310,860	$66,423	$127,265	$106,312	$545,068	711,511	320,377
Topeka Forbes Field	1,166,005	461,550	368,682	-----	797,292	-----	2,104,141
Wichita Mid-Continent	7,342,145	5,254,806	4,592,725	1,931,066	1,487,207	9,365,182	1,790,276
Total	$8,819,010	$5,782,779	$5,088,672	$2,037,378	$2,829,567	10,076,693	4,214,794
Commercial Service:							
Dodge City Regional	-----	-----	$289,902	$185,476	-----	-----	-----
Garden City Municipal	$1,535,700	$1,541,100	135,180	349,300	$134,100	-----	500,000
Hays Municipal	2,006,016	119,508	-----	631,800	-----	-----	-----
Liberal Municipal	279,450	1,045,134	-----	-----	237,570	163,214	-----
Salina Municipal	909,714	-----	218,527	1,950,433	1,388,935	1,359,337	1,758,856
Total	$4,730,880	$2,705,742	$643,609	$3,117,009	$1,760,605	1,522,551	2,258,856
Reliever:							
Johnson County Exec.	$838,231	$239,475	$506,223	$233,997	$145,353	1,251,626	983,981
Colonel James Jabara	1,792,769	548,348	-----	323,100	-----	-----	76,500
Augusta Municipal	-----	130,730	302,040	428,931	-----	-----	450,342
Newton-City-County	-----	334,229	1,309,300	-----	-----	-----	-----
New Century (Olathe)	-----	780,110	667,080	225,720	498,770	-----	398,636
Total	$2,631,000	$2,032,892	$2,784,643	$1,211,748	$644,123	1,251,626	1,909,459
General Aviation:							
Columbus-Oswego	$38,070	-----	-----	-----	-----	-----	-----
Blosser Muni (Concordia)	22,320	-----	-----	-----	-----	-----	-----
Renner Field - Goodland	488,790	-----	531,900	-----	-----	144,291	102,194
Great Bend Municipal	190,170	621,627	85,948	-----	-----	-----	128,410
Hutchinson Municipal	478,493	254,512	-----	-----	$406,623	-----	-----
Allen County (Iola)	1,097,000	1,576,100	-----	-----	-----	-----	-----
Kingman Municipal	45,000	-----	-----	-----	-----	-----	-----
Lawrence Municipal	472,140	370,954	-----	-----	-----	-----	58,770
Meade Municipal	249,570	1,465,695	-----	-----	-----	-----	-----
Pratt Municipal	27,000	-----	1,269,945	-----	-----	-----	-----
Sharon Springs	43,200	-----	-----	-----	-----	-----	-----
Syracuse-Hamilton Co.	45,000	-----	-----	-----	-----	-----	-----

Table 3 Continued

Phillip Billard Municipal	1,006,414	1,463,356	-----	-----	-----	-----	-----
Ulysses	1,665,000	-----	-----	-----	-----	704,610	-----
Larned-Pawnee Co.	-----	-----	-----	-----	55,296	-----	-----
Winfield-Arkansas City	-----	-----	-----	-----	60,750	-----	-----
Fort Scott Municipal	-----	40,500	-----	-----	38,430	883,832	-----
Hill City Municipal	-----	64,575	-----	-----	-----	-----	-----
Independence Municipal	-----	290,172	-----	-----	-----	1,477,508	1,162,627
Captain Jack Thomas	-----	-----	1,646,410	-----	-----	-----	-----
Emporia Municipal	-----	-----	418,273	-----	-----	-----	101,070
Paul Windle Municipal	-----	-----	48,600	-----	-----	-----	-----
Hoxie	-----	-----	47,700	-----	-----	-----	-----
Coffeyville Municipal	-----	-----	-----	-----	-----	719,372	835,275
Hiawatha- Horton	-----	-----	-----	-----	-----	56,462	-----
Gardner Municipal	-----	-----	-----	-----	-----	-----	43,200
Hugoton Municipal	-----	-----	-----	-----	-----	-----	176,436
Phillipsburg Municipal	-----	-----	328,874	-----	-----	-----	-----
Atkinson Municipal	-----	-----	75,055	1,521,011	-----	-----	92,281
Scott City Municipal	-----	-----	838,170	-----	-----	-----	-----
McPherson	-----	-----	-----	1,006,847	2,072,500	-----	737,091
Total	$5,868,167	$6,147,491	$5,290,875	$2,527,858	$2,633,599	3,986,075	3,437,354
Grand Total	$22,049,057	$16,668,904	$13,807,799	$8,893,993	$7,867,894	16,836,945	11,820,463

Source: Federal Aviation Adminstration

most common type of maintenance is sealing cracks in the runway.

Congress has not appropriated the maximum authorized amount of AIP grants since fiscal year 1992. Nationally, AIP funding has declined from $1.9 billion in fiscal year 1992 to $1.46 billion in fiscal year 1997, despite authorization to spend $2.1 billion annually. Thus it appears that the federal government is withdrawing from its historical role of providing funds for airport capital improvements. Local government financial resources are not adequate to reverse the deterioration of Kansas general aviation airports. Thus if the system of Kansas airports is to be preserved, the state must play a larger role in the financing of airport improvements. The Kansas legislature recognized this when it enacted an authorization for a state airport development program; however no state funds have been appropriated for the program.

Objectives

This research will reveal the amount of aviation-related tax revenue in the state of Kansas and thus the potential level of funding for a state airport development program that would halt and reverse the deterioration of Kansas airports. Accordingly the objectives of this study are as follows:

1. Identify aviation-related taxes and tax rates levied by the state of Kansas.
2. Measure the revenue generated in recent years by the aviation-related taxes identified in Objective 1.
3. Analyze the trend in recent years in aviation-related tax rates and tax revenue of the aviation-related taxes identified in Objective 1.

Methodology

Objective 1 is accomplished through information supplied by the Kansas Department of Revenue and by information published in *1996-97 State Aviation Tax Report* published by the National Business Aircraft Association.

Objectives 2 and 3 are accomplished through personal interviews and surveys of managers of Kansas airports and of FBOs (fixed based operator) at 49 of the larger (defined by the number of aircraft based at the airport) Kansas airports. The interviews permitted the investigators to discuss the motivation of the study and explain the instructions for completing the tax revenue questionnaire. The questionnaire was mailed to managers and FBOs located at smaller airports.

The questionnaire requested data for total gallons sold, total sales, and state tax for aviation gasoline, jet fuel, and mogas. For aircraft sales, the questionnaire requested data for number of aircraft sold, total aircraft sales, and state tax on aircraft sales. The questionnaire also sought data for total sales and state tax for aircraft repair service and aircraft parts. The same information was requested for "Other" aviation-related products and services such as pilot supplies and aircraft rental. The objective of the questionnaire is to include all aviation-related goods and services sold at Kansas airports. Of course, the information supplied by each individual respondent varies with the aviation-related goods and services sold by that particular FBO or airport manager (in some cases the same person is both airport manager and FBO).

Kansas Aviation-Related Tax Revenue Survey

Please complete all of the following that apply to your company. State tax refers to sales taxes paid to Kansas. If your fiscal year is different from the calendar year, complete the table for your most recent fiscal years.

Aviation Gasoline

	1997	1996	1995
Total Gallons Sold	____	____	____
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

Jet Fuel

	1997	1996	1995
Total Gallons Sold	____	____	____
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

Mogas

	1997	1996	1995
Total Gallons Sold	____	____	____
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

Aircraft

	1997	1996	1995
Number of Aircraft Sold	____	____	____
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

Aircraft Repair Service and Aircraft Parts

	1997	1996	1995
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

Other (Please specify _____)

	1997	1996	1995
Total Sales (Dollars)	____	____	____
State Tax (Dollars)	____	____	____

CHAPTER 2
AVIATION-RELATED TAXES AND TAX RATES

The Scope of the Study

The first problem of the study is defining the term "aviation-related tax." A broad definition of the aviation industry would include passenger airlines, airports, business firms operating at airports, aircraft manufacturers, and suppliers of aircraft manufacturers. The wide scope of the aviation industry can be indicated by the following types of aviation companies listed in the 1998 Wichita, Kansas and Vicinity telephone book.

Aircraft Equipment Testing
Aircraft Avionics
Aircraft Brokers
Aircraft Charter Rental and Leasing
Aircraft Components Manufacturers
Aircraft Dealers
Aircraft Engines
Aircraft Ferry and Transport Service
Aircraft Ground Support and Service Equipment
Aircraft Instruments
Aircraft Interiors
Aircraft Management Services
Aircraft Manufacturers
Aircraft Parts and Supplies
Aircraft Rebuilding
Aircraft Schools
Aircraft Servicing and Maintenance
Aircraft Upholsterers.

Obviously, the scope of the study must be narrowed in order to make it manageable. Thus we decided to define "aviation-related tax" as taxes paid to Kansas by business firms located at Kansas airports that sell products and services to aircraft owners/operators. This definition excludes corporate income taxes paid to Kansas by these firms. Thus this study does

not measure the economic significance of the aviation industry to the state of Kansas, which would be a much more ambitions study than this project. However this study does measure taxes paid by firms that sell goods and services to the users of Kansas airports and therefore the types of taxes that many people would regard as the taxes most directly related to airport development.

Kansas Aviation Taxes and Tax Rates

Kansas levies aviation-related taxes but none of the tax revenue is dedicated to supporting state aviation programs. According to information supplied by the Kansas Department of Revenue and information published in *NBAA 1996-97 State Aviation Tax Report* (authored by Nel Sanders) Kansas has no excise tax on jet fuel, aviation gasoline, or mogas consumed in aircraft. Kansas does levy a 4.9 percent sales tax on these fuels; however the federal government, state and local governments, the U.S. military and interstate common carriers of passengers and freight are exempt from the state sales tax. Kansas has no aircraft registration fee but does levy a personal property tax on aircraft. However aircraft used exclusively to earn income for the owner in the conduct of the owner's business are exempt from the personal property tax. Kansas levies a 4.9 percent sales tax on aircraft sales, aircraft leases, and aircraft parts and labor. However there are exemptions for each of these taxes. For example, aircraft used as licensed carriers of persons or property in interstate or foreign commerce are exempt from the sales tax. In addition, aircraft removed from Kansas within 10 days of purchase are exempt from the tax. In the case of aircraft leases the sales tax applies only when the aircraft is provided without a crew. Aircraft parts (and labor) used on aircraft engaged as licensed carriers of persons or property in interstate or foreign commerce are exempt from the Kansas sales tax.

Aviation Taxes and Tax Rates of Selected Midwestern States

Using the NBAA report referred to above, additional perspective can be gained by examining aviation taxes and tax rates of Kansas, Missouri, Nebraska, Iowa, Oklahoma and Colorado. This information is displayed in Table 4.

Jet fuel excise taxes are levied by Nebraska (3 cents per gallon), Iowa (3 cents per gallon), Oklahoma (0.0008 cents per gallon), and Colorado (4 cents per gallon). Kansas and Missouri have no jet fuel excise tax. The states of Colorado (3 percent), Kansas (4.9 percent) and Missouri (4.225 percent) levy sales taxes on jet fuel. Thus Colorado is the only one of the six states that levies both an excise tax and a sales tax on jet fuel.

The taxes on aviation gasoline are higher than taxes on jet fuel in some of the six states. For example Missouri (9 cents per gallon), Nebraska (5 cents per gallon), Iowa (8 cents per gallon), Colorado (6 cents per gallon), and Oklahoma (0.0008 cents per gallon) levy aviation gasoline excise taxes. Thus Kansas is the only one of the six states that does not have an excise tax on aviation gasoline but is also the only state in the group with a sales tax (4.9 percent) on this fuel.

Iowa and Oklahoma levy an aircraft registration fee but the other four states in the group do not.

Kansas, Missouri, and Nebraska have a personal property tax on aircraft but, as noted above, aircraft used exclusively for business purposes are exempt from the Kansas tax. The states of Iowa, Oklahoma, and Colorado have no personal property tax on aircraft.

All the states in the group levy sales and use taxes on aircraft sales, aircraft leases and aircraft parts (except Colorado that has no tax on aircraft parts). These taxes are clustered between 3 and 5 percent. The exemptions from these taxes vary somewhat by state.

Table 4
Aviation Taxes in Selected Midwestern States
1997

Kansas	
Tax	Tax Rate
Jet Fuel Excise Tax	None
Jet Fuel Sales and Use Tax	4.9%
Dedicated to Aviation	No
Aviation Gasoline Excise Tax	None
Aviation Gasoline Sales and Use Tax	4.9%
Dedicated to Aviation	No
Aircraft Registration Fee	None
Dedicated to Aviation	NA
Personal Property Tax (Aircraft)	Yes
Dedicated to Aviation	No
Sales and Use Tax:	
(a) Aircraft Sales	4.9%
(b) Aircraft Leases	4.9%
(c) Aircraft Parts	4.9%
(d) Labor	4.9%
Dedicated to Aviation	No

Missouri	
Tax	Tax Rate
Jet Fuel Excise Tax	None
Jet Fuel Sales and Use Tax	4.225%
Dedicated to Aviation	Yes*
Aviation Gasoline Excise Tax	$0.09
Aviation Gasoline Sales and Use Tax	NA
Dedicated to Aviation	Yes
Aircraft Registration Fee	None
Dedicated to Aviation	NA
Personal Property Tax (Aircraft)	Yes
Dedicated to Aviation	No

Table 4 Continued

Sales and Use Tax:	
(a) Aircraft Sales	4.225%
(b) Aircraft Leases	4.225%
(c) Aircraft Parts	4.225%
(d) Labor	None
Dedicated to Aviation	No

Nebraska

Tax	Tax Rate
Jet Fuel Excise Tax	$0.03
Jet Fuel Sales and Use Tax	NA
Dedicated to Aviation	Yes
Aviation Gasoline Excise Tax	$0.05
Aviation Gasoline Sales and Use Tax	NA
Dedicated to Aviation	Yes
Aircraft Registration Fee	None
Dedicated to Aviation	NA
Personal Property Tax (Aircraft)	Yes
Dedicated to Aviation	No
Sales and Use Tax:	
(a) Aircraft Sales	5%
(b) Aircraft Leases	5%
(c) Aircraft Parts	5%
(d) Labor	None
Dedicated to Aviation	No

Iowa

Tax	Tax Rate
Jet Fuel Excise Tax	$0.03
Jet Fuel Sales and Use Tax	NA
Dedicated to Aviation	No
Aviation Gasoline Excise Tax	$0.08
Aviation Gasoline Sales and Use Tax	NA

Table 4 Continued

Dedicated to Aviation	No
Aircraft Registration Fee	Yes
Dedicated to Aviation	No
Personal Property Tax (Aircraft)	No
Dedicated to Aviation	NA
Sales and Use Tax:	
(a) Aircraft Sales	5%
(b) Aircraft Leases	5%
(c) Aircraft Parts	5%
(d) Labor	5%
Dedicated to Aviation	No

Oklahoma

Tax	Tax Rate
Jet Fuel Excise Tax	$0.0008
Jet Fuel Sales and Use Tax	NA
Dedicated to Aviation	No
Aviation Gasoline Excise Tax	$0.0008
Aviation Gasoline Sales and Use Tax	NA
Dedicated to Aviation	No
Aircraft Registration Fee	Yes
Dedicated to Aviation	Yes
Personal Property Tax (Aircraft)	No
Dedicated to Aviation	NA
Sales and Use Tax:	
(a) Aircraft Sales	4.5%
(b) Aircraft Leases	4.5%
(c) Aircraft Parts	4.5%
(d) Labor	None
Dedicated to Aviation	No

Table 4 Continued

Colorado

Tax	Tax Rate
Jet Fuel Excise Tax	$0.04
Jet Fuel Sales and Use Tax	3%
Dedicated to Aviation	Yes
Aviation Gasoline Excise Tax	$0.06
Aviation Gasoline Sales and Use Tax	NA
Dedicated to Aviation	Yes
Aircraft Registration Fee	None
Dedicated to Aviation	NA
Personal Property Tax (Aircraft)	No
Dedicated to Aviation	NA
Sales and Use Tax:	
(a) Aircraft Sales	3%
(b) Aircraft Leases	3%
(c) Aircraft Parts	None
(d) Labor	None
Dedicated to Aviation	No

Source: Nel Sanders, National Business Aviation Association Inc., *NBAA 1996-97 State Aviation Tax Report*, Washington, D.C., 1997.

NA- Not applicable

* The dedication to aviation of Missouri jet fuel sales tax revenue is limited to $5 million per year. Commercial airlines are exempt from the tax after their jet fuel sales tax paid exceeds $1.5 million.

The six states vary in terms of the dedication of aviation-related tax revenues to state aviation programs. Nebraska, Missouri, and Colorado dedicate their jet fuel and aviation gasoline tax revenue to state aviation programs while the other three states do not. Of the two states that have aircraft registration fees, Oklahoma dedicates the fees to state aviation programs but Iowa does not. The three states that levy personal property taxes on aircraft do not dedicate the revenue to state aviation programs. Also none of the six states dedicates tax revenue derived from aircraft sales, aircraft leases, and aircraft parts and labor to such programs. Thus the above discussion reveals that Kansas and Iowa are the only states in the group that dedicate no aviation-related tax revenue to state aviation programs. However Iowa funds an airport improvement program from general fund tax revenue.

National Aviation Taxes and Tax Rates

According to the 1996-97 NBAA report, 33 states levy an excise tax on jet fuel. These taxes range from less than one cent per gallon to 28 cents per gallon (Rhode Island). However in most states the jet fuel excise taxes ranges from 1.0 to 6.0 cents per gallon. A total of 13 states levy only a sales and use tax on jet fuel with the tax ranging from a low of 4 percent to a high of 6.5 percent. The states of California, Colorado, Hawaii, Michigan, New York, Tennessee, and Washington levy both an excise tax and a sales and use tax on jet fuel. In contrast, Connecticut, Delaware, Maryland, and Texas have no tax on jet fuel.

A total of 41 states levy an excise tax on aviation gasoline with the tax ranging from a low of less than one cent per gallon to a high of 28 cents per gallon (Rhode Island). The states of Arkansas, Illinois, Kansas, Louisiana, North Carolina, Ohio, and South Carolina levy only a sales

and use tax on aviation gasoline with the tax ranging from a low of 3 percent (Louisiana) to a high of 6.5 percent (Illinois). A total of eight states levy both an excise tax and a sales and use tax on aviation gasoline while Connecticut and Texas have no tax on this fuel. In general the state taxes on aviation gasoline are higher than that of jet fuel. Only four states have an excise tax on jet fuel greater than 6 cents per gallon while the corresponding figure for aviation gasoline is 17 states.

A total of 20 states have a personal property tax on aircraft while the other 30 states have no such tax. The states are almost evenly split with regard to aircraft registration fees with 26 of the 50 states levying these fees. In most states either the aircraft personal property tax or the aircraft registration fee applies but Alaska, Oregon, Utah, and Virginia have both taxes.

The states of Alaska, Montana, New Hampshire, and Oregon are the only ones that levy no sales and use tax on aircraft sales, aircraft leases, and aircraft parts and labor. Sales and use taxes in the other 46 states on these items range from less than 1.0 percent to 7.0 percent but most of the states have tax rates in the 3.0 to 6.0 percent range.

According to the NBAA report the states are about evenly split in terms of their dedication of aviation-related tax revenue to state aviation programs. Table 5 measures the dedication of jet fuel excise and/or sales and use taxes to aviation programs. According to the table, 26 states dedicate these tax revenues to state aviation programs while 20 states allocate these revenues to the state general fund. As noted above, Connecticut, Delaware, Maryland, and Texas have no jet fuel tax.

Table 6 measures the dedication of aviation gasoline excise and/or sales and use taxes to aviation programs. According to the table, 28 states dedicate these tax revenues to state aviation

Table 5
Dedication of Jet Fuel Excise and/or Sales and Use Taxes to Aviation
Distribution by State

State	Dedicated to Aviation	Not Dedicated to Aviation	No Tax
Alabama	X		
Alaska		X	
Arizona		X	
Arkansas	X		
California	X		
Colorado	X		
Connecticut			X
Delaware			X
Florida	X		
Georgia		X	
Hawaii	X		
Idaho	X		
Illinois		X	
Indiana		X	
Iowa		X	
Kansas		X	
Kentucky		X	
Louisiana	X		
Maine		X	
Maryland			X
Massachusetts		X	
Michigan	X		
Minnesota	X		
Mississippi	X		
Missouri		X	
Montana	X		
Nebraska	X		
Nevada	X		
New Hampshire		X	
New Jersey	X		
New Mexico	X		
New York		X	
North Carolina		X	
North Dakota	X		
Ohio		X	
Oklahoma		X	
Oregon	X		
Pennsylvania	X		

Table 5 Continued

Rhode Island		X	
South Carolina		X	
South Dakota	X		
Tennessee	X		
Texas			X
Utah	X		
Vermont		X	
Virginia	X		
Washington	X		
West Virginia	X		
Wisconsin		X	
Wyoming	X		
Total	26	20	4

Source: Nel Sanders, National Business Aircraft Association Inc., *NBAA 1996-97 State Aviation Tax Report*, Washington, D.C., 1997.

Table 6
Dedication of Aviation Gasoline Excise and/or Sales and Use Taxes to Aviation Distribution by State

State	Dedicated to Aviation	Not Dedicated to Aviation	No Tax
Alabama	X		
Alaska		X	
Arizona		X	
Arkansas	X		
California	X		
Colorado	X		
Connecticut			X
Delaware			X
Florida	X		
Georgia		X	
Hawaii	X		
Idaho	X		
Illinois		X	
Indiana		X	
Iowa		X	
Kansas		X	
Kentucky		X	
Louisiana	X		
Maine		X	
Maryland		X	
Massachusetts	X		
Michigan	X		
Minnesota	X		
Mississippi	X		
Missouri	X		
Montana	X		
Nebraska	X		
Nevada	X		
New Hampshire		X	
New Jersey	X		
New Mexico	X		
New York		X	
North Carolina		X	
North Dakota	X		
Ohio		X	
Oklahoma		X	
Oregon	X		
Pennsylvania	X		

Table 6 Continued

Rhode Island		X	
South Carolina		X	
South Dakota	X		
Tennessee	X		
Texas			X
Utah	X		
Vermont		X	
Virginia	X		
Washington	X		
West Virginia	X		
Wisconsin		X	
Wyoming	X		
Total	28	19	3

Source: Nel Sanders, National Business Aircraft Association Inc., *NBAA 1996-97 State Aviation Tax Report*, Washington, D.C., 1997.

programs while 19 states do not. The states of Connecticut, Delaware, and Texas have no aviation gasoline tax.

Table 7 measures the dedication of aircraft registration fees to state aviation programs. Of the 26 states that have these fees, 17 dedicate the revenue to state aviation programs.

According to the NBAA report, no state dedicates aircraft personal property tax revenue to state aviation programs. Only South Carolina dedicates tax revenue from sales taxes on aircraft sales, aircraft leases, and aircraft parts and labor to state aviation programs.

The above discussion indicates that 29 states dedicate all or a portion of their aviation-related tax revenue to fund state aviation programs.

It should also be noted that the federal government levies taxes on noncommercial aviation in the form of a 17.5 cents per gallon excise tax on jet fuel and a 15 cents per gallon excise tax on aviation gasoline. Also there is a 4.3 cents per gallon federal transportation fuel tax.

Summary

In this study aviation-related taxes are taxes paid to Kansas by business firms located at Kansas airports that sell products and services to aircraft owners/operators. This definition excludes corporate income taxes paid to Kansas by these firms. These are the types of taxes that many people would regard as the taxes most directly related to airport development.

Kansas levies aviation-related taxes but none of the tax revenue is dedicated to supporting state aviation programs. Kansas has no excise tax on jet fuel , aviation gasoline, or mogas but does levy a 4.9 percent sales tax on these fuels. Kansas has no aircraft registration fee but does levy a personal property tax on aircraft. Kansas has a 4.9 percent sales tax on aircraft sales, aircraft leases, and aircraft parts and labor. There are exemptions for all of the Kansas aviation-

Table 7
Dedication of Aircraft Registration Fees to Aviation
Distribution by State

State	Dedicated to Aviation	Not Dedicated to Aviation	No Tax
Alabama			X
Alaska		X	
Arizona	X		
Arkansas			X
California			X
Colorado			X
Connecticut		X	
Delaware			X
Florida			X
Georgia			X
Hawaii	X		
Idaho	X		
Illinois	X		
Indiana		X	
Iowa		X	
Kansas			X
Kentucky			X
Louisiana			X
Maine		X	
Maryland			X
Massachusetts	X		
Michigan	X		
Minnesota	X		
Mississippi		X	
Missouri			X
Montana	X		
Nebraska			X
Nevada			X
New Hampshire		X	
New Jersey			X
New Mexico	X		
New York			X
North Carolina			X
North Dakota	X		
Ohio		X	
Oklahoma	X		
Oregon	X		
Pennsylvania			X

Table 7 Continued

Rhode Island	X		
South Carolina			X
South Dakota	X		
Tennessee			X
Texas			X
Utah		X	
Vermont			X
Virginia	X		
Washington	X		
West Virginia			X
Wisconsin	X		
Wyoming			X
Total	17	9	24

Source: Nel Sanders, National Business Aircraft Association Inc., *NBAA 1996-97 State Aviation Tax Report*, Washington, D.C., 1997.

related taxes.

Kansas aviation-related taxes were compared to those of five other midwestern states. Some of these states have an excise tax on jet fuel while others including Kansas have a jet fuel sales tax. Colorado is the only one of the six states that levy both an excise tax and a sales tax on jet fuel. Kansas is the only one of the six states in the group that does not have an excise tax on aviation gasoline but is also the only one of these states that has a sales tax on this fuel. Three of the six states, including Kansas, have a personal property tax on aircraft. However if the aircraft is used exclusively for business purposes the owner is exempt from the Kansas tax. All the states in the group levy sales and use taxes on aircraft sales, aircraft leases, and aircraft parts (except Colorado that has no tax on aircraft parts). These taxes range from 3 to 5 percent. The exemptions from these taxes vary somewhat by state. Kansas and Iowa are the only states in the group that dedicate no aviation-related tax revenue to state aviation programs. However Iowa funds an airport improvement program from general fund tax revenue.

At the national level, 33 states levy only an excise tax on jet fuel while 13 states, including Kansas, levy only a sales tax. A total of 7 states levy both taxes on jet fuel while 4 states have no tax on this fuel. A total of 41 states levy an excise tax on aviation gasoline. This number includes 8 states that also levy a sales tax on this fuel. Kansas is one of only 7 states that levies a sales tax on aviation gasoline. In general state taxes on aviation gasoline are higher than jet fuel. A total of 20 states (including Kansas) have a personal property tax on aircraft and 26 states have an aircraft registration fee. The states of Alaska, Montana, New Hampshire, and Oregon are the only ones that levy no sales and use tax on aircraft sales, aircraft leases, and aircraft parts and labor. For these items most of the states have tax rates in the 3 to 6 percent range. A total of 29 states dedicate all or a portion of their aviation-related tax revenue to fund state aviation programs.

CHAPTER 3
KANSAS-AVIATION RELATED SALES AND TAX REVENUE

Survey Procedures

Personal interviews were conducted with airport managers and many of the FBOs at 49 Kansas airports that account for 78 percent of the general aviation aircraft based at Kansas airports. The personal interviews offered an opportunity to discuss the motivation of the study and to explain the details of the questionnaire. The FBOs that were not interviewed were contacted later by phone to explain the project and the questionnaire. There are 102 entities (airport managers and FBOs) at these 49 Kansas airports selling goods and services to aircraft owners/operators. Completed questionnaires were received from 71 entities for a return rate of nearly 70 percent.

Of the 31 companies that did not return their questionnaire it was discovered that 8 had no taxable sales in Kansas. For 16 of the 31 companies that failed to return the questionnaire it was possible to estimate their sales and sales tax paid. Through phone conversations with the owners of these 16 companies it was possible to determine the goods and services sold by these firms. Then the average sales of companies that returned their questionnaires were used to estimate the sales in the various categories for the 16 companies. For example suppose that we know that a non-response firm sells only aviation gasoline and that the average annual sales of aviation gasoline for the survey respondent firms is $50,000. Applying the Kansas sales tax rate of 4.9 percent to the $50,000 of annual sales yields a sales tax estimate for the non-response firm of $2450.

No estimate of sales and sales taxes paid was made for 7 of the 31 non-response firms. This was due to the fact that in some cases it was not possible to determine the types of goods and services sold by these firms or there were no comparable survey respondent firms on which to base a sales estimate. However it is known that 3 of the 7 firms have multi-million dollar annual sales. Thus the estimate of aviation-related tax revenue in this study should be viewed as a conservative estimate.

Using information supplied by KDOT a group of 35 smaller (defined in terms of number of based aircraft) Kansas airports was identified. A total of 16 of these airports are unattended so it was assumed that no taxable goods and services are sold at these airports. We obtained names and addresses of the 21 airport managers and FBOs located at the 19 smaller, but attended airports. The questionnaire was mailed to this group with a cover letter explaining the project. However only 5 questionnaires were returned. We assumed that 15 of the 16 non-response companies sell only aviation gasoline and we assumed that their annual sales are equal to the average annual sales of the survey respondent firms. We applied the Kansas sales tax rate of 4.9 percent to estimate taxes paid for each of these 15 firms. The other non-respondent firm in this group sells both aviation gasoline and aircraft maintenance and repair services. We assumed this firm's annual maintenance and repair sales to be equal to the average of the survey respondent firms that have such sales.

Results of the Kansas Aviation-Related Tax Revenue Study

Table 8 displays the results of the study for the years 1995, 1996, and 1997. Before discussing the data in Table 8 it is important to explain some aspects of the data. First, except for

Table 8
Results of the Kansas Aviation-Related Tax Revenue Survey

Aviation Gasoline

	1997	1996	1995
Total Gallons Sold	3,319,714	2,799,425	2,385,158
Total Sales (Dollars)	6,264,551	5,203,880	4,363,067
State Tax (Dollars)	306,963	254,990	213,790

Jet Fuel

	1997	1996	1995
Total Gallons Sold	8,123,805	6,575,694	5,574,028
Total Sales (Dollars)	14,144,686	11,296,967	9,331,942
State Tax (Dollars)	693,090	549,826	455,484

Mogas

	1997	1996	1995
Total Gallons Sold	47,611	55,922	48,888
Total Sales (Dollars)	56,161	68,445	55,551
State Tax (Dollars)	2752	3354	2722

Aircraft

	1997	1996	1995
Number of Aircraft Sold	158	58	53
Total Sales (Dollars)	40,343,533	13,154,952	8,866,778
State Tax (Dollars)	97,478	185,103	43,053

Aircraft Repair Service and Aircraft Parts

	1997	1996	1995
Total Sales (Dollars)	286,907,634	253,062,979	227,059,140
State Tax (Dollars)	1,954,370	1,974,902	1,554,843

Other

	1997	1996	1995
Total Sales (Dollars)	5,369,017	2,845,419	2,550,738
State Tax (Dollars)	137,565	102,607	99,071

Grand Total

	1997	1996	1995
Total Sales (Dollars)	353,085,582	285,632,642	252,227,217
Total State Tax (Dollars)	3,192,218	3,070,782	2,368,963

mogas, total sales in each category increase continuously from 1995 through 1997. This is due to two factors. One of these factors is that the number of firms supplying data for 1997 is greater than that of 1996 and 1995. Likewise, the number of firms supplying data for 1996 is greater than that of 1995. Thus estimated sales increase between 1995 and 1997 because of an increase in the number of firms. However sales also increase steadily between 1995 and 1997 because average sales per firm increase.

For aviation gasoline, jet fuel, and mogas, estimated sales taxes paid are about 4.9 percent of total sales. However estimated sales taxes paid are much less than 4.9 percent of total sales for the aircraft, aircraft repair service and aircraft parts, and Other categories. This is primarily due to Kansas sales tax exemptions for these goods and services as well as the fact that many of these sales are to buyers located outside of Kansas.

Total gallons sold of aviation gasoline increased from about 2.4 million in 1995 to 3.3 million in 1997, an increase of 37.5 percent. Total sales grew from $4.4 million (1995) to $6.3 million (1997), a gain of 43 percent, and taxes on these sales rose from $213,790 (1995) to $306,963 (1997), an increment of about 44 percent.

Jet fuel gallons sold rose from about 5.6 million in 1995 to 8.1 million in 1997, a 45 percent gain. Jet fuel sales increased from $9.3 million to $14.1 million, nearly a 52 percent expansion, while jet fuel tax revenue rose from $455,484 (1995) to $693,090 (1997) a 52 percent increase.

Relatively small amounts of mogas are sold in Kansas relative to sales of aviation gasoline and jet fuel. After increasing from 48,888 gallons in 1995 to 55,922 in 1996, total

gallons of mogas dropped to 47,611 in 1997. Sales and sales taxes paid followed a similar pattern.

Aircraft sales in this study are sales of aircraft by firms located at Kansas airports; not the worldwide sales of the Kansas general aviation aircraft manufacturing industry. The number of aircraft sold at Kansas airports and the total sales value of these aircraft increased steadily between 1995 and 1997. However estimated sales taxes paid on these sales increased from $43,053 in 1995 to $185,103 in 1996 and then fell to $97,478 in 1997. As noted above, the volatility in taxes paid is due to variation in the applicability of sales tax exemptions as well as the location of the buyers.

In all three years of the study, the aircraft repair service and aircraft parts category accounted for the majority of aviation-related sales and sales taxes paid. In 1995, this category accounted for 90 percent of the total sales measured in this study. The corresponding percentages for 1996 and 1997 are 89 percent and 81 percent respectively. Sales in this category rose from $227.1 million in 1995 to $286.9 million in 1997, a 26 percent increment. Sales taxes paid increased from $1.55 million in 1995 to $1.97 million in 1996 and then declined slightly to $1.95 million in 1997.

The Other category includes sales of a wide variety of aviation-related goods and services, including aircraft charter, aircraft rental, pilot supplies, oil, restaurant meals, concessions, painting, hanger rental, car rental, and flight instruction. Sales in the Other category increased from $2.55 million in 1995 to $5.37 million in 1997, a gain of about 111 percent. Sales taxes paid on these sales increased from $99,071 in 1995 to $137,565 in 1997, a 39 percent increase.

Grand Total sales (sum of sales in all categories) rose from $252.2 million in 1995 to $353.1 million in 1997, a gain of 40 percent. Grand Total aviation-related taxes paid increased from $2.4 million in 1995 to $3.2 million in 1997, a 33 percent increase.

Statistical Analysis of Kansas Aviation-Related Goods and Services

Additional perspective on the results of the study can be gained by examining the data in Tables 9, 10, and 11, which tabulate the results for 1995, 1996, and 1997 respectively. Each table contains various statistics for gallons sold, total sales, and Kansas sales tax for aviation gasoline, jet fuel and mogas. The tables display statistics for total sales and Kansas sales tax for the aircraft repair service and aircraft parts, Other, and Grand Total categories. In the aircraft category the tables display statistics for aircraft sold, total sales, and Kansas sales tax.

The tables display the number of reporting firms for each aviation-related good or service. Thus in Table 9, a total of 61 firms reported sales of aviation gasoline in 1995 while 28 firms sold jet fuel. The tables also show the mean value per reporting firm. Thus in Table 9, the mean value per firm for gallons sold of aviation gasoline was 39,101 gallons in 1995.

The tables contain the standard deviation for each aviation-related good or service which is a measure of the "spread" of the distribution of values among firms for a particular good or service. For almost every good or service for all 3 years of the study, the standard deviation exceeds the mean value per firm. This means that the values reported by the firms range from very small values (relative to the mean) to very large values as opposed to a situation in which all the firms have about the same value. This is more clearly revealed by the wide variation between the lowest value reported and the highest value. For example, according to Table 9, in 1995 the

Table 9
Statistical Analysis of Kansas Aviation-Related Goods and Services
1995

Variable	Number of Reporting Firms	Mean Value Per Firm	Standard Deviation	Lowest Value	Highest Value
Aviation Gasoline:					
Gallons Sold	61	39,101	48,321	1500	240,880
Sales	61	$71,526	$88,488	$2625	$475,938
State Tax	61	$3505	$4585	$155	$23,321
Jet Fuel:					
Gallons Sold	28	199,072	318,250	2748	1,312,277
Sales	28	$333,284	$570,700	$5226	$2,624,554
State Tax	28	$16,267	$28,543	$308	$128,603
Mogas:					
Gallons Sold	7	6984	5839	1900	18,224
Sales	6	$9259	$8140	$2280	$22,051
State Tax	6	$454	$390	$135	$1081
Aircraft:					
Aircraft Sold	9	6	5	1	15
Sales	9	$985,198	$1,162,344	$13,000	$3,200,000
State Tax	9	$4784	$6554	0	$19,287
Aircraft Repair Service and Aircraft Parts:					
Sales	37	$6,136,734	$33,688,137	$1564	$205,381,000
State Tax	37	$42,023	$140,611	$77	$862,987
Other:					
Sales	19	$134,249	$360,919	$573	$1,600,000
State Tax	17	$5828	$14,265	$15	$60,000
Grand Total:					
Sales	86	$2,932,875	$22,280,360	$4905	$206,884,910
State Tax	86	$27,546	$104,938	$212	$947,281

Table 10
Statistical Analysis of Kansas Aviation-Related Goods and Services
1996

Variable	Number of Reporting Firms	Mean Value Per Firm	Standard Deviation	Lowest Value	Highest Value
Aviation Gasoline:					
Gallons Sold	67	41,782	52,830	2869	233,288
Sales	67	$77,670	$100,660	$4384	$467,190
State Tax	67	$3806	$5259	$215	$22,893
Jet Fuel:					
Gallons Sold	31	212,119	351,995	5335	1,495,430
Sales	31	$364,418	$625,885	$6400	$2,990,860
State Tax	31	$17,736	$31,141	$380	$146,552
Mogas:					
Gallons Sold	9	6214	5233	1450	18,244
Sales	8	$8556	$7608	$1892	$23,717
State Tax	8	$419	$371	$93	$1162
Aircraft:					
Aircraft Sold	12	5	4	1	15
Sales	12	$1,096,246	$1,624,285	$13,000	$4,986,753
State Tax	12	$15,425	$26,523	0	$85,750
Aircraft Repair Service and Aircraft Parts:					
Sales	42	$6,025,309	$35,152,646	$328	$228,280,000
State Tax	42	$47,021	$175,796	0	$1,148,656
Other:					
Sales	22	$129,337	$276,232	$767	$1,300,000
State Tax	20	$5130	$8264	$45	$35,000
Grand Total:					
Sales	94	$3,038,645	$23,706,723	$4384	$230,111,054
State Tax	94	$32,668	$132,224	$151	$1,251,287

Table 11
Statistical Analysis of Kansas Aviation-Related Goods and Services
1997

Variable	Number of Reporting Firms	Mean Value Per Firm	Standard Deviation	Lowest Value	Highest Value
Aviation Gasoline:					
Gallons Sold	74	44,861	56,701	1600	271,679
Sales	74	$84,656	$110,979	$2800	$555,640
State Tax	74	$4148	$5621	$157	$27,226
Jet Fuel:					
Gallons Sold	37	219,562	378,775	2033	1,731,877
Sales	37	$382,289	$685,683	$3659	$3,463,754
State Tax	37	$18,732	$34,053	$179	$169,724
Mogas:					
Gallons Sold	10	4761	4360	79	14,528
Sales	9	$6240	$6208	$136	$19,024
State Tax	8	$344	$303	$75	$932
Aircraft:					
Aircraft Sold	14	11	19	1	70
Sales	14	$2,881,681	$5,886,297	$15,960	$21,069,093
State Tax	14	$6963	$8128	0	$27,527
Aircraft Repair Service and Aircraft Parts:					
Sales	48	$5,977,242	$36,450,380	$5329	$253,008,000
State Tax	48	$40,716	$145,010	$341	$1,007,730
Other:					
Sales	26	$205,501	$488,514	$567	$2,184,689
State Tax	24	$5732	$8594	$33	$30,150
Grand Total:					
Sales	103	$3,428,015	$25,232,309	$3206	$255,216,483
State Tax	103	$30,992	$115,347	$157	$1,131,515

lowest sales of aviation gasoline reported by a firm was $2625 as opposed to the highest value of $475,938 and a mean value per firm of $71,526.

As noted above, the number of firms reporting data increased somewhat during the 1995-1997 period. This is a potential source of distortion of the data in the tables since the sample of firms is not the same for all 3 years. However it is believed that this distortion is relatively mild since the firms that failed to report data for all 3 years have relatively low sales. Also 12 of the 14 firms with the largest sales in the sample reported data for all 3 years.

The most interesting aspect revealed by the data in the tables is the growth in sales of aviation-related goods and services at Kansas airports during the 1995-1997 period. Table 12 contains mean sales per firm of Kansas aviation-related goods and services for each year of the study. There was a large percentage decline in the mean sales per firm of mogas and a slight decline in the aircraft repair service and aircraft parts category. However there were large increases in mean sales per firm of aviation gasoline, jet fuel, aircraft and Other. Grand Total (sum of all categories of aviation-related goods and services) mean sales per firm rose from $2,932,875 in 1995 to $3,428,015 in 1997, a 16.9 percent gain.

As one would expect, the 1995-97 growth of sales taxes paid paralleled that of sales growth in the various categories of aviation-related goods and services. According to Table 13, mean sales tax per firm decreased in the mogas, Other, and aircraft repair service and aircraft parts categories and increased in the aviation gasoline, jet fuel, and aircraft categories. Grand total mean sales tax per firm increased from $27,546 in 1995 to $30,992 in 1997, an increase of 12.5 percent, compared to a 16.9 percent gain in mean sales per firm.

Table 12
Mean Sales Per Firm of Kansas Aviation-Related Goods and Services
1995-1997

Good or Service	1995	1996	1997	Percent Change 1995-97
Aviation Gasoline	$71,526	$77,670	$84,656	18.4
Jet Fuel	$333,284	$364,418	$382,289	14.7
Mogas	$9259	$8556	$6240	-32.6
Aircraft	$985,198	$1,096,246	$2,881,681	192.5
Aircraft Repair Service and Aircraft Parts	$6,136,734	$6,025,309	$5,977,242	-2.6
Other	$134,249	$129,337	$206,501	53.8
Grand Total	$2,932,875	$3,038,645	$3,428,015	16.9

Table 13
Mean Sales Tax Per Firm of Kansas Aviation Related Goods and Services
1995-1997

Good or Service	1995	1996	1997	Percent Change 1995-97
Aviation Gasoline	$3505	$3806	$4148	18.3
Jet Fuel	$16,267	$17,736	$18,732	15.2
Mogas	$454	$419	$344	-24.2
Aircraft	$4784	$15,425	$6963	45.5
Aircraft Repair Service and Aircraft Parts	$42,023	$47,021	$40,716	-3.1
Other	$5828	$5130	$5732	-1.6
Grand Total	$27,546	$32,668	$30,992	12.5

Aircraft Personal Property Tax

The state of Kansas levies an aircraft personal property tax; however the Kansas Department of Revenue was unable to estimate the amount of tax revenue collected from the tax. The Kansas Department of Transportation has estimates of the number of planes based at each Kansas airport. However it is not known how many of these aircraft are exempt from the personal property tax either because they are used exclusively for business purposes or the aircraft is 30 years-old or older.

There is some evidence that the aircraft personal property tax is relatively high compared to other types of personal transportation. In 1996, the Kansas Pilots Association conducted a survey of 10 Kansas counties to determine the property taxes levied on comparably priced types of personal transportation. The vehicles used for the tax comparisons are as follows:

1. A 1983 Cessna Skyhawk-P Model
2. A 1995 Lincoln Town Car
3. A 1995 18-foot Ranger Bass Boat with a 100 horsepower motor and trailer
4. A 1995 Pace Aero Motor Home-37 feet and approximately 12,000 pounds

The results of the KPA survey are displayed in Table 14. As the data in the table indicate, with one exception the aircraft personal property tax is higher than that of all 3 of the alternative types of personal transportation in all 10 counties. The lone exception is the $1618 tax on the motor home which is 6 to 10 times greater than the tax reported in the other 9 counties. The average aircraft personal property tax of $1816 for the 10 counties is twice that of the Lincoln Town Car ($868), about 3 times greater than the Ranger Bass Boat ($575), and about 5.5

Table 14
KPA Personal Property Tax Survey

1983 Cessna Skyhawk	1985 Lincoln Town Car	1995 Ranger Bass Boat	1995 Pace Aero Motor Home
$1846	$750	$499	$160
2410	1270	730	190
2200	900	525	200
1713	744	454	160
2332	959	475	160
1529	706	720	1618
1946	786	605	205
1447	1017	597	207
1154	705	569	284
1583	842	NA	178
Average of 10 Counties			
$1816	$868	$575	$336*

Source: Kansas Pilots Association Newsletter, Volume 12, Number 2, February 1996, p. 2.

*The average excluding the $1618 value is $194
NA-not available

times greater than the Pace Aero Motor Home ($336). The latter figure increases to more than 9 times greater if the atypical value of $1618 is excluded from the calculation.

Summary

Kansas aviation-related sales and sales tax revenue was estimated by distributing questionnaires to 102 airport managers and FBOs at 49 Kansas airports that account for 78 percent of the general aviation aircraft based at Kansas airports. A total of 71 completed questionnaires were received for a return rate of 70 percent. Of the 31 companies that did not return their questionnaire it was discovered that 8 had no taxable sales in Kansas. For 16 of these 31 companies it was possible to estimate their sales and sales tax revenue using averages from the survey respondent firms. No estimate of sales and sales tax revenue was possible for 7 of the 31 non-response firms. It is known that 3 of these 7 firms have multi-million dollar annual sales. Thus the aviation-related tax revenue measured in this study should be viewed as a conservative estimate.

Using information supplied by KDOT a group of 35 smaller Kansas airports was identified. A total of 16 of these airports are unattended so it was assumed that no taxable goods and services are sold at these airports. The questionnaire was mailed to airport managers and FBOs located at the 19 other airports but only 5 questionnaires were returned. Sales and sales tax revenue of the non-response companies of this group were estimated using annual average values of the survey respondent firms.

Except for mogas, total sales of each aviation-related good or service increased continuously from 1995 through 1997. This is due to two factors. First, the number of firms

supplying data increased throughout the period. Also average sales per firm steadily increased between 1995 and 1997.

Total sales of aviation gasoline grew from $4.4 million (1995) to $6.3 million (1997), a gain of 43 percent, and taxes on these sales rose from $213,790 (1995) to $306,963 (1997), an increment of about 44 percent. Jet fuel sales increased from $9.3 million (1995) to $14.1 million (1997), nearly a 52 percent expansion, while jet fuel tax revenue rose from $455,484 (1995) to $693,090 (1997) also a 52 percent increase.

The number of aircraft sold at Kansas airports and the total sales value of these aircraft increased steadily between 1995 and 1997. However estimated sales taxes paid on these sales increased from $43,053 in 1995 to $185,103 in 1996 and then fell to $97,478 in 1997. The volatility in taxes paid is due to inter-year variation in the applicability of sales tax exemptions as well as the location of aircraft buyers.

In all 3 years of the study, the aircraft repair service and aircraft parts category of aviation-related goods and services accounted for a large majority of total sales and sales tax revenue. Sales in this category increased from $227.1 million in 1995 to $286.9 million in 1997, a gain of 26 percent. Sales tax revenue increased from $1.55 million in 1995 to $1.95 million in 1997, also a 26 percent increment.

Sales in the Other category increased by 111 percent from $2.55 million in 1995 to $5.37 million in 1997. However due to tax exemptions and large sales to out-of-state buyers, sales taxes paid on these sales increased only 39 percent from $99,071 in 1995 to $137, 565 in 1997.

Grand Total estimated sales (sum of sales in all categories) rose from $252.2 million in 1995 to $353.1 million in 1997, a gain of 40 percent. *Grand Total sales tax revenue increased from $2.4 million in 1995 to $3.2 million in 1997, a 33 percent increase.*

Sales of aviation-related goods and services at Kansas airports experienced strong growth in the 1995-1997 period as Grand Total average sales per firm rose from $2.9 million in 1995 to $3.4 million in 1997, a 17 percent gain. Grand Total average sales tax per firm increased from $27,546 (1995) to $30,992 (1997) a 12.5 percent increment.

The Kansas Department of Revenue was unable to provide the study with an estimate of Kansas aircraft personal property tax revenue. Alternative attempts to obtain this data were also unsuccessful. However there is some evidence that Kansas aircraft personal property taxes are high relative to alternative types of personal transportation of similar value.

CHAPTER 4
CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The Kansas State University (KSU) study *The Economic Impact of General Aviation Airport Deterioration on Kansas Communities* documented the deterioration of Kansas general aviation airports through surveys of the managers of Kansas airports, the Kansas Pilots Association (KPA), and business firms that use Kansas general aviation airports. According to the *Kansas Aviation System Plan, Phase 6* the costs for planned improvements for Kansas Airport System airports for the 1998-2008 period are estimated to be $113 million. The federal government has been withdrawing from its historical role of providing funds for airport capital improvements. Local government financial resources are not adequate to reverse the deterioration of Kansas general aviation airports. Thus if the system of Kansas airports is to be preserved, the state of Kansas must play a larger role in the financing of airport improvements. This study measured the amount of aviation-related tax revenue in Kansas and thus the potential level of funding for a state airport development program that would halt and reverse the deterioration of Kansas airports.

In this study, aviation-related taxes are defined as taxes paid to Kansas by business firms located at Kansas airports that sell goods and services to aircraft owners/operators (excluding corporate income taxes paid by these firms). Thus this study does not measure the economic significance of the aviation industry to the state of Kansas. However this study does measure taxes paid by firms that sell goods and services to the users of Kansas airports and therefore the types of taxes that most people would regard as the taxes most directly related to airport use.

Kansas levies aviation-related taxes but none of the tax revenue is dedicated to supporting state aviation programs. Kansas has no excise tax on jet fuel, aviation gasoline, or mogas consumed in aircraft but does levy a 4.9 percent sales tax on these fuels. Kansas has no aircraft registration fee but does levy a personal property tax on aircraft. Kansas has a 4.9 percent sales tax on aircraft sales, aircraft leases, and aircraft parts and labor. There are exemptions for all of the Kansas aviation-related taxes.

Kansas aviation-related taxes were compared to those of five other midwestern states. Kansas is the only one of the six states in the group that does not have an excise tax on aviation gasoline but is also the only one of these states that has a sales tax on this fuel. Some of the six states have an excise tax on jet fuel while others including Kansas have a jet fuel sales tax. Three of the six states, including Kansas, have a personal property tax on aircraft. However if the aircraft is used exclusively for business purposes the owner is exempt from the Kansas property tax. All the states in the group levy sales and use taxes on aircraft sales, aircraft leases, and aircraft parts (except Colorado that has no tax on aircraft parts) with the tax rates ranging from 3 to 5 percent. The exemptions from these taxes vary somewhat by state. Other than Kansas, Iowa is the only other state in the group that dedicates no aviation-related tax revenue to state aviation programs. However Iowa funds an airport improvement program from general fund tax revenue.

Kansas aviation-related sales and sales tax revenue was estimated by distributing questionnaires to 102 airport managers and FBOs located at 49 Kansas airports that account for 78 percent of the general aviation aircraft based at Kansas airports. A total of 71 completed questionnaires were received for a return rate of 70 percent. Of the 31 companies that did not return their questionnaire it was discovered that 8 had no taxable sales in Kansas. For 16 of these

31 companies it was possible to estimated their sales and sales tax revenue using averages from the survey respondent firms. No estimate of sales and sales tax revenue was possible for 7 of the 31 non-response firms. It is known that 3 of these 7 firms have multi-million dollar annual sales. Thus the aviation-related tax revenue measured in this study should be viewed as a conservative estimate.

The study also estimated aviation-related sales tax revenue generated at smaller (measured in terms of based aircraft) Kansas airports.

Except for mogas, total sales of each aviation-related good or service increased continuously from 1995 through 1997. This is due to two factors. First, the number of firms supplying data increased throughout the period. Also average sales per firm steadily increased between 1995 and 1997.

Total sales of aviation gasoline grew from $4.4 million (1995) to $6.3 million (1997), a gain of 43 percent, and taxes on these sales rose from $213,790 (1995) to $306,963 (1997), an increment of about 44 percent. Jet fuel sales increased from $9.3 million (1995) to $14.1 million (1997), nearly a 52 percent expansion, while jet fuel tax revenue rose from $455,484 (1995) to $693,090 (1997) also a 52 percent increase.

The number of aircraft sold at Kansas airports and the total sales value of these aircraft increased steadily between 1995 and 1997. However estimated sales taxes paid on these sales increased from $43,053 in 1995 to $185,103 in 1996 and then fell to $97,478 in 1997. The volatility in taxes paid is due to inter-year variation in the applicability of sales tax exemptions as well as the location of aircraft buyers.

In all 3 years of the study, the aircraft repair service and aircraft parts category of aviation-related goods and services accounted for a large majority of total sales and sales tax revenue. Sales in this category increased from $227.1 million in 1995 to $286.9 million in 1997, a gain of 26 percent. Sales tax revenue increased from $1.55 million in 1995 to $1.95 million in 1997, also a 26 percent increment.

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Grand Total estimated sales (sum of sales in all categories) rose from $252.2 million in 1995 to $353.1 million in 1997 a gain of 40 percent. *Grand Total sales tax revenue increased from $2.4 million in 1995 to $3.2 million in 1997, a 33 percent increase.*

Sales of aviation-related goods and services at Kansas airports experienced strong growth in the 1995-1997 period as Grand Total average sales per firm rose from $2.9 million in 1995 to $3.4 million in 1997, a 17 percent gain. Grand Total average sales tax per firm increased from $27,546 (1995) to $30,992 (1997) a 12.5 percent increment.

The Kansas Department of Revenue was unable to supply the study with an estimate of Kansas aircraft personal property tax revenue. Alternative attempts to secure this information were also unsuccessful. However there is some evidence that Kansas aircraft personal property taxes are high relative to alternative types of personal transportation of similar value.

As noted above, the 1997 estimated sales tax revenue of $3.2 million is a conservative estimate. Three firms that did not return their questionnaires are known to have multi-million dollar annual sales. If it is assumed that each of these firms paid 1997 aviation-related sales tax

that is equal to the average paid by the 6 largest sales taxpayers in the sample ($323,048), then the estimated 1997 sales tax paid by the 3 firms is $969,144 (3 multiplied by $323,048). When this figure is added to the 1997 Grand Total sales tax revenue of $3,192,218 measured by the study, an estimate of $4.2 million is obtained. *Thus it can be said with reasonable certainty that 1997 aviation-related tax revenue, as defined in this study, is between $3.2 and $4.2 million.*

Recommendations

It is certain that the benefits of Kansas general aviation airports exceed the costs. Thus government programs that address the problem of airport deterioration are an efficient use of resources. It is recommended that the state of Kansas fund the state airport development program authorized by the Kansas legislature a few years ago. The list of eligible projects might include runway reconstruction and resurfacing, construction or refurbishing of taxiways and ramps, lighting of taxiways and runways, and navigation aids. Financing of the program could be achieved through a line item in the state transportation budget.

At the local level, airport improvements could be financed by exploring the idea of city-country airport authorities or in the more rural areas of the state, multi-county airport authorities. The cost of airport runway resurfacing might be reduced by combining these projects with state projects in the area of the airport. In many cases, minor repairs and maintenance such as crack sealing of airport runways are performed by city or county highway departments and this approach should be encouraged in areas where it is not currently applied.

This report documented the decline in AIP grants to Kansas airports despite the existence of a multi-billion dollar surplus in the Airport and Airway Trust Fund. The downward trend in Kansas AIP grants can be reversed by spending the surplus in the trust fund. Also the list of

airport maintenance projects that are eligible for AIP funds should be expanded. The FAA should modify its criteria for allocating AIP funds to general aviation airports. Instead of focusing on the number of aircraft based at the airport, the FAA should evaluate proposed improvements in terms of the economic contribution they will make to the national airport system. This would tend to increase the AIP funds allocated to general aviation airports.

APPENDIX A
KANSAS AIRPORT IMPROVEMENT PROGRAM (AIP) GRANTS BY AIRPORT
FISCAL YEARS 1991-1997

Kansas AIP Grants by Airport
Fiscal Years 1991-1997

Airport	Grant Amount
Wichita Mid-Continent	$31,763,407
Salina Municipal	7,585,802
Topeka Forbes Field	4,897,670
Johnson County Executive	4,198,886
Garden City Municipal	4,195,380
McPherson	3,816,438
Independence Municipal	2,930,307
Hays Municipal	2,757,324
Colonel James Jabara (Wichita)	2,740,717
Allen County (Iola)	2,673,100
New Century AirCenter (Olathe)	2,570,316
Phillip Billard- Topeka	2,469,770
Ulysses	2,369,610
Manhattan Municipal	2,187,816
Liberal Municipal	1,725,368
Meade Municipal	1,715,265
Atkinson (Pittsburg)	1,688,347
Captain Jack Thomas (El Dorado)	1,646,410
Newton City-County	1,643,529
Coffeyville Municipal	1,554,647
Augusta Municipal	1,312,043
Pratt Industrial	1,296,945
Renner Field (Goodland)	1,267,175
Hutchinson Municipal	1,139,628
Great Bend Municipal	1,026,155
Ft. Scott Municipal	962,762
Lawrence Municipal	901,864
Scott City Municipal	838,170
Emporia Municipal	519,343
Dodge City Municipal	475,378
Phillipsburg Municipal	328,874
Hugoton Municipal	176,436
Hill City Municipal	64,575
Strother Field (Winfield-Arkansas City)	60,750
Hiawatha-Horton	56,462
Larned-Pawnee County	55,296
Greensburg	48,600
Hoxie-Sheridan County	47,700
Kingman Municipal	45,000
Syracuse- Hamilton County	45,000
Sharon Springs Municipal	43,200

Appendix A Continued

Gardner Municipal	43,200
Columbus-Oswego	38,070
Blosser Municipal (Concordia)	22,320
Number of Airports Receiving AIP Grants	44
Total Amount of AIP Grants	97,945,055

Source: Federal Aviation Administration, Kansas City, Missouri Office

APPENDIX B
KANSAS AIRPORT IMPROVEMENT PROGRAM (AIP) GRANTS
BY AIRPORT AND TYPE OF GRANT PROJECT
FISCAL YEARS 1996-1997

Kansas AIP Grants by Airport and Type of Grant Project
Fiscal Year 1996

Manhattan Municipal

Description of Grant Project	Grant Amount
Terminal Area Fence	$19,662
Terminal Access Road	497,569
Terminal Building Utilities	1,007
Terminal Parking Lot	193,273
	Total $711,511

Wichita Mid-Continent

Description of Grant Project	Grant Amount
Install High Intensity Runway Lights (HIRL)	$200,000
Runway Reconstruction	6,610,276
Taxiway Reconstruction	1,000,000
Rehabilitate Taxiway Lights	80,000
Windcone Installation	15,000
Cargo Apron Reconstruction	1,449,906
Relocate Access Road	10,000
	Total $9,365,182

Liberal Municipal

Description of Grant Project	Grant Amount
Rehabilitate Runway Lights	$99,559
Generator Installation	37,540
Electronic Equipment Installation	26,115
	Total $163,214

Salina Municipal

Description of Grant Project	Grant Amount
Runway Rehabilitation	$1,359,337

Johnson County Executive (Olathe)

Description of Grant Project	Grant Amount
Runway Reconstruction	$1,251,626

Coffeyville Municipal

Description of Grant Project	Grant Amount
Runway Rehabilitation	$107,460
Taxiway Reconstruction	132,742
Apron Rehabilitation	403,319
Conversion of Taxiway to Runway	75,851
	Total $719,372

Fort Scott Municipal

Description of Grant Project	Grant Amount
Runway Reconstruction	$823,832
Widen Taxiway	60,000
Total	$883,832

Renner Field (Goodland)

Description of Grant Project	Grant Amount
Runway Slurry Seal	$144,291

Hiwatha- Horton

Description of Grant Project	Grant Amount
Airport Master Plan	$56,462

Independence Municipal

Description of Grant Project	Grant Amount
Runway Rehabilitation	$892,052
Taxiway Rehabilitation	315,456
Runway Markings and Signals	100,000
Precision Approach Path Indicator (PAPI)	50,000
Installation of Approach Aids	120,000
Total	$1,477,508

Ulysses

Description of Grant Project	Grant Amount
Conversion of Taxiway to Runway	$204,600
Construction of New Access Road	180,000
Construction of New Apron	320,010
Total	$704,610

Number of Airports Receiving AIP Grants	11
Total Amount of AIP Grants	$16,836,945

Source: Federal Aviation Administration, Kansas City, Missouri Office

Kansas AIP Grants by Airport and Type of Grant Project
Fiscal Year 1997

Garden City Regional

Description of Grant Project	Grant Amount
Update Master Plan	$68,985
Replace Generator	245,000
Construction of Terminal Parking	166,215
Rehabilitate Terminal Building	19,800
Total	$500,000

Manhattan Regional

Description of Grant Project	Grant Amount
Service Road Construction	$208,611
Weatherproof Corridor to Aircraft	111,766
Total	$320,377

Forbes Field (Topeka)

Description of Grant Project	Grant Amount
Runway Rehabilitation	$2,104,141

Wichita Mid-Continent

Description of Grant Project	Grant Amount
Acquire ARFF	$160,650
Taxiway Hold Line Equipment	138,690
Runway Light Replacements	313,646
New Loader	443,700
Taxiway Design	61,650
Air Carrier Approach Lights	224,190
Service Road Reconstruction	447,750
Total	$1,790,276

Augusta Municipal

Description of Grant Project	Grant Amount
Taxiway Reconstruction	$65,000
Apron Reconstruction	385,342
Total	$450,342

Coffeyville Municipal

Description of Grant Project	Grant Amount
Taxiway Reconstruction	$625,000
Apron Reconstruction	210,275
Total	$835,275

Emporia Municipal

Description of Grant Project	Grant Amount
Runway Slurry Seal	$101,070

Gardner Municipal

Description of Grant Project	Grant Amount
Master Plan	$43,200

Renner Field- Goodland

Description of Grant Project	Grant Amount
Runway Slurry Seal	$102,194

Great Bend Municipal

Description of Grant Project	Grant Amount
Snow Removal Equipment	$128,410

Hugoton Municipal

Description of Grant Project	Grant Amount
Runway Lights	$176,436

Independence Municipal

Description of Grant Project	Grant Amount
Control Tower Equipment	$340,142
Master Plan	63,000
Refurbish Fencing	55,024
Land Acquisition Reappraisal	90,099
Snow Removal Equipment	258,750
Install Automated Weather Observation System (AWOS)	112,500
Storage Building	213,750
Windcones	29,362
	Total $1,162,627

Lawrence Municipal

Description of Grant Project	Grant Amount
Apron Slurry Seal	$58,770

McPherson

Description of Grant Project	Grant Amount
Apron Reconstruction	$737,091

New Century Aircenter (Olathe)

Description of Grant Project	Grant Amount
Building Construction	$398,636

Johnson County Executive (Olathe)

Description of Grant Project	Grant Amount
Taxiway Rehabilitation	$983,981

Atkinson Municipal (Pittsburg)

Description of Grant Project	Grant Amount
Construct Taxilane	$92,281

Salina Municipal

Description of Grant Project	Grant Amount
Terminal Work	$1,758,856

Colonel James Jabara (Wichita)

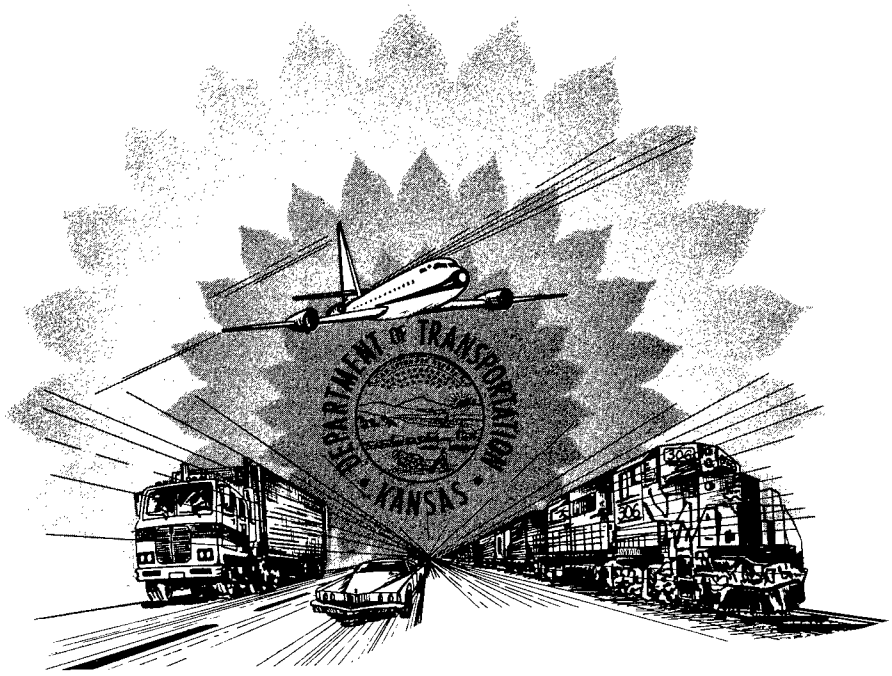
Description of Grant Project	Grant Amount
T-hanger Designs	$18,500
Apron Design	58,000
Total	$76,500

Number of Airports Receiving AIP Grants	19
Total Amount of AIP Grants	$11,820,463

Source: Federal Aviation Administration, Kansas City, Missouri Office

K - TRAN

KANSAS TRANSPORTATION RESEARCH AND NEW - DEVELOPMENTS PROGRAM



A COOPERATIVE TRANSPORTATION RESEARCH PROGRAM BETWEEN:

KANSAS DEPARTMENT OF TRANSPORTATION

THE KANSAS STATE UNIVERSITY

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