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16. Abstract <p>This report reviews the projected airport development needs as represented in the Texas Aeronautical Facilities Plan, produced by the Aviation Division, Texas Department of Transportation. The 5-year development needs for state general aviation airports are shown to be significantly greater than existing and expected state funding capabilities. An approximately \$30 million per year shortfall is expected considering the current condition of the state aviation system. The general consequences of this shortfall will be the potential loss of general aviation airports, continued substandard pavement conditions, and the subsequent loss of the economic advantage that air access provides to communities. A comparison of the Texas airport system and its funding mechanisms to those of other states is included. Texas is the only state that does not impose either an excise tax or sales tax, or both, on aviation fuels. Alternative aviation funding sources, such as an aviation fuel tax, state sales tax on aviation-related products, and aircraft and pilot registration fees, are analyzed. Historical, current, and future federal funding levels for general aviation development in Texas are included. Based on these findings, this report recommends that a combination of three aviation-related revenue sources be developed to address the funding shortfall. The Appendix includes a description of the state airport planning and funding mechanisms for North Carolina, Florida, and Colorado.</p>					
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TEXAS AERONAUTICAL FACILITIES PLAN
DEVELOPMENT NEEDS ASSESSMENT

by

Eric Lindquist
Research Assistant

and

George B. Dresser
Research Scientist

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Sponsored by

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The Texas A&M University System
College Station, Texas 77843-3135

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IMPLEMENTATION STATEMENT

This report will serve as a resource document to assist the Aviation Division, Texas Department of Transportation, the state aviation community, and the state legislature in evaluating the revenue potential of alternative funding sources for general aviation development in Texas.

DISCLAIMER

The contents of this report reflect the views of the authors who are responsible for the opinions, findings, and conclusions presented herein. The contents do not necessarily reflect the official views or policies of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation. Additionally, this report is not intended for construction, bidding, or permit purposes. George B. Dresser, Ph.D., was the Principal Investigator for the project.

TABLE OF CONTENTS

LIST OF TABLES	xi
SUMMARY	xiii
TEXAS AERONAUTICAL FACILITIES PLAN	
DEVELOPMENT NEEDS ASSESSMENT	1
Introduction	1
TAFP Development Cost Projections	2
Funding Shortfalls by Service Level	4
Consequences of Funding Shortfalls	5
REVIEW OF STATE AVIATION FUNDING	7
Introduction	7
Aviation Fuel Taxes	7
Aviation-Related State Sales Taxes	11
Miscellaneous Revenue Sources	11
Summary	12
ALTERNATIVE STATE AVIATION FUNDING SOURCES	15
Introduction	15
Aviation Fuel Taxes	16
Aircraft, Parts Sales, and Franchise Taxes	19
Aviation-Related Fees	23
Property Taxes	26
Airport Licensing and Publication Sales Revenue	28
FEDERAL AVIATION FUNDING	29
Introduction	29
Historical AIP Funding in Texas	29
Future Federal Funding Levels	30
Passenger Facility Charges	32
State Block Grant Pilot Program	34
STATE FUNDING RECOMMENDATIONS	37

TABLE OF CONTENTS
(Continued)

**APPENDIX: Review of State Aviation Planning and
Funding Programs: North Carolina, Florida, and Colorado 39**
 North Carolina 40
 Florida 44
 Colorado 48

REFERENCES 51

LIST OF TABLES

1.	Five-Year TAFP Development Cost Projection by Program Objective -- Commercial Service Airports	3
2.	Five-Year TAFP Development Cost Projection by Program Objective -- Reliever Airports	3
3.	Five-Year TAFP Development Cost Projection by Program Objective -- General Aviation Airports	4
4.	Five-Year TAFP Development Cost Projection by Project Type -- General Aviation Airports	4
5.	Pavement Condition Index for Texas General Aviation Airports Frequency Report -- January 1994	6
6.	State Tax Rates on Avgas and Jet A, Refunds and Exemptions	8
7.	Projected FY 1994 Revenues from Varying Tax Rates on All Aviation Fuel in Texas	10
8.	Sales Tax Revenue Generated from the Manufacture of Aircraft and Parts (FY 1991)	11
9.	State Aircraft and Pilot Registration Fee Revenue and Personal Property Taxes	13
10.	Forecast of Texas Active General Aviation Aircraft Fuel Consumption	16
11.	Estimated General Aviation Fuel Tax Revenue from Avgas and Jet A Consumption, 1994-2003	17
12.	Estimated Air Carrier Fuel Consumption and Excise/Sales Tax Revenue, 1994-2003	18
13.	Estimated State Sales and Franchise Taxes from Texas Aviation-Related Industries, 1988-1992	20
14.	Trends and Forecasts: Aircraft Engines and Engine Parts (SIC 3724), Aircraft Parts and Equipment NEC (SIC 3728)	22
15.	Forecast of Texas Registered Aircraft and Potential Fee Revenue	24

LIST OF TABLES
(Continued)

16.	Forecast of Texas Registered Pilots and Estimated Potential Registration Fee Revenue	25
17.	1992 Business Aircraft Property Tax: Estimated Appraisal Value and Revenue for Selected Texas Counties	28
18.	Airport Improvement Program Grant Agreements for Texas: 1988-1992	30
19.	Approved PFC Programs in Texas as of January 1994	34
20.	North Carolina Federal Aid Airport Funding	42
21.	North Carolina Aviation Funding Mechanism	43
22.	North Carolina Airport Development Costs, Phase I: 1992-1996 Source of Funds	44
23.	Florida Aviation Fuel Tax: 10-Year Summary	46
24.	Florida Aviation Funding Mechanisms	47
25.	Colorado Aviation Funding Mechanism	50

SUMMARY

This report gives an overview of current state aviation funding, alternative funding sources, federal aviation funding, and funding programs in other states. The report provides potential revenue from aviation fuel taxes, aircraft and parts sales taxes, aviation-related fees, property taxes, and airport licensing and publication sales revenue.

According to The Wall Street Journal, air service is an important issue for any small town, but "is particularly critical in Texas -- a state as large as New England, New York, Pennsylvania, Ohio, and Illinois combined" (1). Communities are recognizing the importance of air service to their economic development and vitality and are offering tax incentives and subsidies for carriers agreeing to provide service. Any air service, commercial, business, or recreational, is contingent on airport condition which underscores the importance of developing consistent and adequate aviation funding sources in Texas.

Texas is currently the only state without a dedicated source of funding for aviation facility development. Presently, some aviation development funding is available through State Highway Fund No. 006. However, the aviation community and the Texas Department of Transportation (TxDOT) are interested in exploring alternative methods of aviation funding, particularly user-generated revenue sources that link aviation use with aviation facility development.

The current Texas Aeronautical Facilities Plan (TAFP) produced by TxDOT's Aviation Division projects 0-5 year development costs for general aviation facilities at \$243 million. A considerable shortfall exists between the 1994 combined federal and state funding of \$18 million for general aviation and the needed \$49 million annual development costs projected in the TAFP (2). While it is assumed that the funding shortfalls for commercial airports will be made up by airport-generated revenue and local sources, general aviation airports do not have the ability to generate revenue consistent with their needs.

The consequences for failing to meet these shortfalls are the potential loss of airports to communities, the loss of business and recreational air access, and a subsequent loss of economic development potential to the community.

A comparison of Texas' aviation-related revenue sources with those of other states finds that most states fund their aviation programs through aviation fuels taxes. Of the 49 states that impose these taxes, 31 place all or a portion of the revenue into a dedicated aviation fund for airport development projects. While Texas ranks second in total number of state airport system plan airports with 308, it ranks only 38th in available state funds per aircraft. Aviation-related revenue sources found in other states are state sales taxes on aircraft and parts, pilot and aircraft registration fees, and personal property taxes on aircraft. The Appendix contains a detailed description of the airport planning and funding programs for North Carolina, Florida, and Colorado.

Alternative aviation funding sources are considered for their applicability to Texas. The potential for revenue generation from sources such as aviation fuel taxes, sales taxes, and registration fees are analyzed. Based on general aviation fuel consumption forecasts for 1994, a \$0.079 per gallon tax on avgas, and a \$0.042 per gallon tax on Jet A fuel would result in revenue in excess of \$4.5 million. Based on the 1994 fuel consumption forecast for air carriers, a \$0.047 per gallon tax would generate approximately \$86.8 million in tax revenue. These taxes are national averages for the states that levy these taxes. Historically, a state aviation fuel tax has been strongly opposed.

Sales tax revenue from the sale of aircraft and parts and franchise taxes from aviation-related industries have generated a significant amount of revenue in the past (\$22.6 million for the general revenue fund in 1992). However, this revenue has been declining in recent years.

Aircraft and pilot registration fees are also considered as potential revenue sources. The forecast of Texas registered aircraft for 1994 shows that this source could contribute over \$1 million, based on a minimum registration fee of \$50 per aircraft, or \$2.2 million based on a \$100 per aircraft fee. The number of registered pilots in Texas in 1993 was 53,100. An annual registration fee of \$50 would generate approximately \$2.6 million in revenue for aviation development.

Nineteen states, including Texas, generate revenue from personal property taxes on aircraft. In 1992 the property tax revenue from business aircraft in four major Texas counties was in excess of \$38 million. The potential revenue in Texas from aircraft property

taxes is considerable, yet the majority of property taxes are levied by school districts, making the dedication of these funds to aircraft development highly unlikely.

Federal funding for state aviation is currently provided under a single program, the Airport Improvement Program (AIP). AIP funding to Texas has averaged about \$95 million annually for the past five years. In 1992 all Texas airport grants totaled \$123,874,849, the majority of which went to primary commercial service airports. Reliever airports received \$17.3 million in 1992, and general aviation received \$15.7 million, or 12.7 percent of the total. TxDOT's Aviation Division estimates that federal funding for general aviation will be reduced over the next several years from \$15.7 million to approximately \$14 million annually.

In 1990 the Aviation Safety and Capacity Expansion Act authorized domestic airports to impose a Passenger Facility Charge (PFC) on enplaning passengers. Twenty-six commercial service airports in Texas are eligible to apply for the PFC program; and, as of January 1994, eight airports have been approved to collect these fees.

Texas is also a participant in the State Block Grant Pilot Program for airport funding and administration. This program partially shifts responsibility from the federal government to the state for AIP grant administration. The purpose of the program is to allow state-level administration of the state airport system in a more efficient and effective manner than before. While no additional funds will be made available to Texas through the Block Grant Program, it is estimated that existing funds will be allocated more effectively, which will increase the efficiency of the overall state airport system.

TEXAS AERONAUTICAL FACILITIES PLAN DEVELOPMENT NEEDS ASSESSMENT

INTRODUCTION

The current TAFP identifies short- and long-term development objectives for the Texas airport system. The goal of the TAFP is to "direct state and federal resources to the airports that can best support the plan's goals of increasing system capacity; provide access by air to centers of population, industry, agriculture and natural resource development; and foster economic development" (3).

The short-term (0-5 year) development costs outlined in the TAFP are significant, totaling over \$243 million for general aviation alone, approximately \$49 million per year. Three factors have contributed to these development needs: the low legislative priority assigned to aviation and airports in Texas, the misunderstanding of the role of general aviation airports and their potential economic contribution for the state, and the substandard condition of many of the state's aviation facilities.

State funding for transportation and, in particular, aviation is not currently considered a high priority in many states. The National Conference of State Legislatures recently surveyed priority issues for state legislatures. Only 19 states responded that aviation and airports were a priority transportation issue. In the aggregate response to transportation priority issues, aviation and airports ranked fourth behind the construction and improvement of roads and highways; mass transit issues; and, tied for third, drunk or drugged driving, rail transportation, and commercial motor vehicles. Only two states, Minnesota and Illinois, ranked aviation and airports as the number one (highest) transportation priority. Texas respondents ranked aviation as a number four priority transportation issue behind roads and highways, rail transportation, and mass transit (4).

In addition to a low priority legislative assignment to aviation in Texas, the role of aviation, particularly general aviation, is misunderstood. It is often assumed that general aviation airports serve only, and are of benefit to, those individuals that own airplanes. What is frequently ignored is the considerable economic advantage and opportunity offered by general aviation airports to communities. TxDOT's Aviation Division is currently

undertaking a program to educate communities about the economic contribution of community airports (5).

The third problem associated with airport development costs in Texas is that for years many of the airports in the system plan have received little or no funding and will require a substantial investment for improvement if they are to fulfill their economic potential in the community and state. The largest portion of the 5-year general aviation development costs projected in the TAFP is to bring existing airports up to acceptable standards (2).

These factors have contributed to a statewide airport system that is in need of a significant amount of funding in order to meet its potential. This section analyzes these short-term development needs and costs as presented in the TAFP. Potential funding shortfalls are identified as well as the general consequences in terms of system performance for failing to meet these needs.

TAFP DEVELOPMENT COST PROJECTIONS

The current TAFP lists 308 airports classified by service level. The service levels are primary and nonprimary commercial service airports, relievers, and general aviation airports. Commercial service airports provide scheduled passenger service; reliever airports are those located adjacent to large urban areas and provide additional capacity for the area's commercial airports by attracting general aviation use from these large commercial airports; and general aviation includes all flying that is not commercial or military.

The majority of these airports, 257, are general aviation, and their condition is critical in addressing the economic development potential of Texas communities. General aviation airports are further classified by role: transport, general utility, and basic utility. Transport airports provide access to turboprop and turbojet business aircraft and are situated in areas of sufficient population or economic activity that will support moderate to high levels of business jet activity and provide capacity to metropolitan airports. General utility airports provide primary business access to smaller communities, access to recreational areas and agricultural and mineral production, as well as capacity in metropolitan areas. Basic utility

airports are those that are located within the service area of a commercial service, reliever, general aviation transport or utility airport, and/or have very low activity levels (2).

The focus of the TAFP is on short-term objectives intended to bring the state airport system up to adequate standards. These objectives include safety, preservation of existing structures, improvement of the airport to meet design standards, airport facility upgrades to accommodate larger aircraft consistent with the airport's role in the plan, and airport expansion to handle increased activity levels.

The TAFP assessed 5-year development costs for commercial airports at \$1,239 million, \$101.8 million for reliever airports, and \$234.4 million for general aviation. The following tables summarize the TAFP 5-year airport development cost projections:

Table 1
Five-Year TAFP Development Cost Projection
by Program Objective -- Commercial Service Airports
(thousands of dollars)

Safety	Preservation	Standards	Upgrade	Capacity	New Airport Capacity	Total
5,120	212,962	73,771	132,934	351,079	463,600	1,239,466

Source: Texas Department of Transportation, Aviation Division

Table 2
Five-Year TAFP Development Cost Projection
by Program Objective -- Reliever Airports
(thousands of dollars)

Preservation	Standards	Upgrade	Capacity	New Airport Capacity	Total
5,438	11,820	55,976	20,613	7,968	101,815

Source: Texas Department of Transportation, Aviation Division

Table 3
Five-Year TAFP Development Cost Projection
by Program Objective -- General Aviation Airports
(thousands of dollars)

Service Role	Safety	Preservation	Standards	Upgrade	Capacity	New Airport Capacity	Total
Transport	1,125	32,044	36,394	16,334	2,716	6,194	94,807
General Utility	582	18,129	67,409	23,296	3,017	8,329	120,762
Basic Utility	17	7,026	18,607	1,380	791	0	27,821
TOTAL	1724	57,199	122,410	41,010	6,524	14,523	243,390

Source: Texas Department of Transportation, Aviation Division

The TAFP also shows general aviation development costs by project type:

Table 4
Five-Year TAFP Development Cost Projection
by Project Type -- General Aviation Airports
(thousands of dollars)

Service Role	Land	Buildings	Paving	Lighting	Landing Aids	Other	Total
Transport	3,897	1,211	67,669	6,396	8,998	6,636	94,807
General Utility	11,002	3,076	71,305	10,835	9,659	14,885	120,762
Basic Utility	2,156	812	15,586	3,720	1,532	4,015	27,821
TOTAL	17,055	5,099	154,560	20,951	20,189	25,536	243,390

Source: Texas Department of Transportation, Aviation Division

FUNDING SHORTFALLS BY SERVICE LEVEL

Each airport service level can expect funding shortfalls based on a comparison of TAFP development costs with the current and estimated state and federal funding capabilities. The 1992 federal Airport Improvement Program (AIP) funds for commercial

airport development in Texas totaled \$90.5 million. The annual average commercial development need based on the TAFP 5-year projection is \$247.9 million.

The Aviation Division estimates that 5-year AIP funds for commercial airports will be \$800 million, and the estimated airport sponsor's match will be \$266.6 million. This leaves a 5-year total shortfall of \$172.8 million, approximately \$35 million per year. While this annual estimated shortfall is significant, commercial airports in Texas are expected to be able to generate capital for their own improvement projects with the assistance of local funds (2).

Reliever airports in Texas received \$17.3 million in AIP grants in 1992, while the annual TAFP projected need is \$20.3 million. The TAFP estimates that available AIP funds will amount to \$95 million, with an additional \$10 million in matching local funds, which will cover the estimated 5-year development costs for reliever airports of \$101.8 million.

AIP funds for general aviation airports in Texas reached \$15.7 million in 1992; however, even by adding the projected \$4.25 million annual state contribution, a shortfall of over \$30 million per year develops based on an annual TAFP need of \$48.6 million (6). Federal funding for all airport service levels is also expected to decline over the next several years which may have a significant impact on general aviation airports (2).

CONSEQUENCES OF FUNDING SHORTFALLS

General aviation airports rely on federal and state funds and are the least able to make up any funding shortfall. In general terms, the estimated \$30 million annual shortfall expected for general aviation development over the next five years will result in the potential loss of general aviation airports and a subsequent decline in overall system performance. The general aviation airports that are in need of significant improvements may receive grants that will only partially fulfill development needs. Funding choices may have to be made that will result in the loss of a general aviation airport requiring too much capital to return it to acceptable standards if those funds could be more efficiently or effectively spent elsewhere.

Table 4 illustrates that almost 60 percent of the 5-year development cost projections for general aviation are for paving improvements. Recent estimates, as shown in Table 5,

of the pavement condition of general aviation facilities in Texas indicate that over 25 percent are of fair or worse condition. These surfaces will require improvement within two to three years in order to maintain even their present condition (7).

**Table 5
Pavement Condition Index for
Texas General Aviation Airports
Frequency Report -- January 1994**

Condition	PCI Range	Percent of Total Pavement Area
Failed	0-10	6.01
Very Poor	11-25	7.62
Poor	26-40	5.19
Fair	41-55	6.93
Good	56-70	25.48
Very Good	71-85	22.52
Excellent	86-100	26.26

Note: Pavements with a pavement condition index (PCI) rating of 55 or less are considered to be in need of improvement within two to three years.

Source: TTI

In developing the TAFP, one of the most important objectives is to formulate a state system that will provide air access to small communities in the state for the purpose of encouraging economic development. Some businesses will not even consider locating in communities without scheduled air service (1). A community without any air access at all would be severely disadvantaged in terms of economic development potential. Therefore, the negative consequences to general aviation in not meeting the projected development needs are twofold: first, general aviation airports may be lost with a resulting loss of air access, business and recreational, to the community; and second, the community may lose the economic development potential that is provided by air access.

REVIEW OF STATE AVIATION FUNDING

INTRODUCTION

The National Association of State Aviation Officials and the Center for Aviation Research and Education conduct surveys to quantify and catalog aviation revenues collected by each state. Their most recent report, in conjunction with the National Business Aircraft Association, includes data from FY 1991. The results of this report are significant:

- Texas is the only state that does not impose an excise tax or fuel tax (or both) on aviation gasoline (avgas) and/or jet fuel (Jet A).
- Most state aviation programs are funded from state taxes on aviation fuels.
- Thirty-one states place all or a portion of their fuel tax revenues into dedicated aviation funds for aviation support.
- Only five of the 36 states with aircraft and/or parts sales tax programs dedicate these funds for aviation programs.
- Texas ranks second in total number of state airport system plan airports (308), but 38th in available state funds per airport (8).

AVIATION FUEL TAXES

Most states fund their aviation programs from aviation fuel tax revenue. Only Texas does not impose any of these types of taxes. Additionally, 31 states dedicate all or part of the fuel tax revenues toward state aviation use. This dedication effectively links aviation use with aviation development costs. Table 6 lists state tax rates on avgas and Jet A fuel.

**Table 6
State Tax Rates on Avgas and Jet A, Refunds and Exemptions**

State	AVGAS	JET A	Applied State Sales Tax (%)	R&E	Dedicated to Aviation
Alabama	0.0380	0.0170	None	E	Y
Alaska	0.0400	0.0250	None	R&E	N
Arizona	0.0500	0.0305	None	R&E	Y (Avgas only)
Arkansas	Sales Tax	Sales Tax	4	E	Y
California	0.1600	0.0200	7.25 (on Jet A)	E	Y
Colorado	0.0600	0.0400	3 (on Jet A)	R&E	Y
Connecticut	Sales Tax	Sales Tax	2.5	E	N
Delaware	0.1900	Sales Tax	None	R&E	N
Florida	0.0690	0.0690	None	E	Y
Georgia	0.0100	Sales Tax	4	E	N
Hawaii	0.0100	0.0100	4	R&E	Y
Idaho	0.0550	0.0450	None	E	Y
Illinois	Sales Tax	Sales Tax	6.25	R&E	N
Indiana	0.1500	Sales Tax	5	R&E	N
Iowa	0.0800	0.0300	None	E	N
Kansas	Sales Tax	Sales Tax	4.25	E	N
Kentucky	0.1500	Sales Tax	6 (on Jet A)	R&E	N
Louisiana	Sales Tax	Sales Tax	3 and 4	R&E	Y
Maine	0.1900	0.0340	6 (on Avgas)	R&E	N
Maryland	0.0700	None	None	R&E	N
Massachusetts	0.1000	0.1000	None	E	Y (80% Avgas)
Michigan	0.0300	0.0300	4	R&E	Y
Minnesota	0.0500	0.0500	None	R&E	Y
Mississippi	0.0640	0.0525	None	E	Y
Missouri	0.0900	Sales Tax	4.225 (on Jet A)	R&E	Y (Avgas only)
Montana	0.0100	0.0100	None	None	Y
Nebraska	0.0500	0.0300	None	E	Y
Nevada	0.1800	0.0100	None	R&E	Y (Avgas only)
New Hampshire	0.0400	0.0250	None	E	N
New Jersey	0.1250	0.0200	None	R&E	Y
New Mexico	0.1600	Sales Tax	4.75 - 5.75	R&E	Y
New York	0.0800	0.1000	4 - 8.25	R&E	N
North Carolina	Sales Tax	Sales Tax	4	R&E	Y
North Dakota	0.0800	0.0800	None	R&E	Y
Ohio	Sales Tax	Sales Tax	5	R&E	N
Oklahoma	0.008	0.008	None	None	N
Oregon	0.0300	0.0050	None	R&E	Y
Pennsylvania	0.0380	0.0200	None	R&E	Y
Rhode Island	0.2600	0.2600	None	R&E	N
South Carolina	Sales Tax	Sales Tax	5	E	N
South Dakota	0.0600	0.0400	None	E	Y
Tennessee	0.0100	0.0100	4.5	E	Y
Texas	None	None	None	None	N
Utah	0.0400	0.0400	None	E	Y
Vermont	0.1500	Sales Tax	5 (on Jet A)	R&E	N
Virginia	0.0500	0.0500	None	E	Y
Washington	0.0550	0.0550	7.8 - 8.2	R	Y
West Virginia	Sales Tax	Sales Tax	5	E	Y
Wisconsin	0.0600	0.0600	None	R&E	Y
Wyoming	0.0500	0.0500	None	R&E	Y

Note: R and E are refunds and exemptions. Some states exempt federal, state, and local governments from sales or excise taxes; some states also refund taxes to government agencies.

Source: NASAO Center for Aviation Research and Education, National Business Aircraft Association

The Texas Transportation Institute has developed projections of the potential tax revenue that could be generated from a general aviation fuel tax and scheduled air carrier fuel tax. Based on Texas aviation activity and fuel consumption forecasts for 1994, a \$0.03 per gallon general aviation fuel tax plus \$0.02 per gallon scheduled air carrier fuel tax would generate over \$39 million in tax revenue (1). The average state excise tax on avgas is \$0.8 and \$0.4 for Jet A fuel. An excise tax is commodity specific (i.e., alcohol, tobacco) and can be levied in addition to sales taxes. The average state sales tax on avgas is 4.6 percent and 4.7 percent for Jet A fuel. Table 7 illustrates potential aviation fuels tax revenue for FY 1994.

Table 7
Projected FY 1994 Revenues from Varying Tax Rates on All Aviation Fuel in Texas
(revenue in thousands)

GENERAL AVIATION FUELS

SCHEDULED AIR CARRIER FUEL	TAX/GAL	0¢	1¢	2¢	3¢	4¢	5¢	6¢	7¢	8¢	9¢	10¢
	0¢	0	850	1,700	2,550	3,400	4,250	5,100	5,950	6,800	7,650	8,500
	1¢	18,476	19,326	20,176	21,026	21,876	22,726	23,576	24,426	25,276	26,126	26,976
	2¢	36,952	37,802	38,652	39,502	40,352	41,202	42,052	42,902	43,752	44,602	45,452
	3¢	55,428	56,278	57,128	57,978	58,828	59,678	60,528	61,378	62,228	63,078	63,928
	4¢	73,904	74,754	75,604	76,454	77,304	78,154	79,004	79,854	80,704	81,554	82,404
	5¢	92,380	93,230	94,080	94,930	95,780	96,630	97,480	98,330	99,180	100,030	100,880
	6¢	110,856	111,706	112,556	113,406	114,256	115,106	115,956	116,806	117,656	118,506	119,356
	7¢	129,332	130,182	131,032	131,882	132,732	133,582	134,432	135,282	136,132	136,982	137,832
	8¢	147,808	148,658	149,508	150,358	151,208	151,058	152,908	153,758	154,608	155,458	156,308
	9¢	166,284	167,134	167,984	168,834	169,684	170,534	171,384	172,234	173,084	173,934	174,784
	10¢	184,760	185,610	186,460	187,310	188,160	189,010	189,860	190,710	191,560	192,410	193,260

Example: 3¢/gallon tax on General Aviation Fuel + 2¢/gallon on Scheduled Air Carrier Fuel would produce \$39,502,000 in revenue.

Note: Revenue projections do not take into account reductions in receipts due to collection costs, shrinkage, elasticity of demand, or altered fuel purchase practices.

Source: TTI; General aviation estimates based on Texas Aeronautical Facilities Plan 1993 activity forecasts.

AVIATION-RELATED STATE SALES TAXES

Aircraft and/or parts sales (SIC 372) tax can provide a significant amount of revenue. Thirty-six states generate revenue from these sales, but only five states dedicate this revenue to aviation programs (8). The following table shows the five states that earmark these taxes for aviation programs, as compared to similar revenue generated in Texas for FY 1991:

Table 8
Sales Tax Revenue Generated from the
Manufacture of Aircraft and Parts (FY 1991)

State	Tax rate (%)	Sales Tax Revenue	Dedicated to Aviation (%)
Arkansas	4	383,465	100
North Carolina	4	Not specified	100
North Dakota	5	342,000	100
South Dakota	4	368,200	100
Virginia	2	2,423,540	100
Texas	6.25	12,711,982	0

Source: NASAO and the Texas Comptroller of Public Accounts

MISCELLANEOUS REVENUE SOURCES

In addition to aviation fuel taxes and sales taxes as revenue sources for aviation purposes, states also utilize other funding sources including:

- Pilot and aircraft registration fees
- Personal property taxes
- Publications
- Airport licensing
- Interest income
- Revenues from state-owned airports

Most of these sources, however, provide only modest amounts of revenue compared to the fuels and sales taxes. For example, in 1991 Texas generated \$4,899 in revenue from the sale of aviation-related publications. Airport licensing fees in Florida provided only \$39,000 of aviation revenue in 1991. Washington, with an estimated active pilot population of 22,500

generated only \$66,280 in pilot registration fees in 1991 (8). Table 9 shows the states that impose aircraft and pilot registration fees as well as personal property taxes on aircraft.

SUMMARY

Shortfalls in aviation finance, however, as in many state programs, are common throughout the country. The Appendix outlines in detail state aviation planning and funding programs in North Carolina, Florida, and Colorado. Each state aviation system has both similar and unique characteristics compared to Texas. The value of this type of comparison is to provide an illustration of the nationwide problems facing state aviation programs as well as alternative approaches to confronting these problems.

North Carolina, a state that participates in the State Block Grant Pilot Program, includes 84 existing airports in its airport system plan. Since 1991, North Carolina has imposed a 4 percent state sales tax on both avgas and Jet A fuel. These taxes generated over \$8.5 million in dedicated revenue in 1991. Florida has consistently invested more in aviation development programs than any other state; in fiscal year 1991, state aviation funding from the Aviation Fund and from the Transportation Fund totaled over \$74 million. Colorado, which adapts a regional approach to aviation planning, funds airport development from fuel tax revenues. The Colorado Aviation Fund provided \$8.65 million in airport development funds in 1991.

Table 9
State Aircraft and Pilot Registration
Fee Revenue and Personal Property Taxes

State	Pilot Registration		Aircraft Registration		Personal Property Tax
	1991 Amount	% Dedicated to Aviation	1991 Amount	% Dedicated to Aviation	
Alabama					Y
Alaska					Y
Arizona			47,410	100	N
Arkansas					Y
California					Y
Colorado					N
Connecticut					N
Delaware					N
Florida					N
Georgia					Y
Hawaii			4,760	100	N
Idaho	39,000	100	68,246	100	N
Illinois	99,761	0	62,420	0	N
Indiana			1,382,835	0	N
Iowa			991,606	100	N
Kansas					N
Kentucky					Y
Louisiana					?
Maine			1,035	100	?
Maryland					N
Massachusetts			294,953	50	N
Michigan			221,909	100	N
Minnesota			1,200,000	100	N
Mississippi			200,000	0	N
Missouri					Y
Montana	19,247	100	240,275	10	N
Nebraska					Y
Nevada					Y
New Hampshire	14,071	0	46,509	0	N
New Jersey					N
New Mexico			74,387	100	N
New York					N
North Carolina					Y
North Dakota	7,032	100	61,160	100	N
Ohio			116,000	0	N
Oklahoma			288,403	97	N
Oregon	39,788	100	189,364	100	Y
Pennsylvania					N
Rhode Island			17,505	0	N
South Carolina					Y
South Dakota	7,385	100	19,150	100	N
Tennessee					Y
Texas					Y
Utah					Y
Vermont					N
Virginia			12,092	100	Y
Washington	66,280	100	19,056	100	Y
West Virginia					Y
Wisconsin			327,110	0	N
Wyoming					Y

Source: NASAO

ALTERNATIVE STATE AVIATION FUNDING SOURCES

INTRODUCTION

While most states fund aviation facility improvements through aviation fuel excise taxes, a review of aviation funding sources for all 50 states yields several funding alternatives. Many of these alternatives, such as publication sales, provide nowhere near the amounts collected from fuel taxes; however, because each state aviation program is unique, with individual needs, objectives, and revenue potential, it is important to identify these alternatives to determine any applicability to Texas aviation.

The following list identifies revenue sources used by different states as compiled from the 1992 State Aviation Tax Revenue Report, published by the National Association of State Aviation Officials, Center for Aviation Research and Education:

- Aviation fuel excise taxes
- Aviation fuel sales taxes
- Aircraft and/or parts sales tax
- Aircraft registration fees
- Pilot registration fees
- Personal property taxes
- Airport licensing
- Publication sales

Not every state applies these methods of revenue generation, although each method is used in at least one state (8).

In the following sections, each revenue source will be evaluated as to its potential to generate revenue for aviation development in Texas. Positive and negative effects of implementing each source will be considered as well as any available national or state level forecasts that reflect on the long-term stability of each source to provide a dedicated source of revenue.

The fuel consumption forecasts, registered aircraft forecasts, and other Texas aviation forecasts used in determining the revenue potential generated by these alternative funding sources were developed by TTI unless otherwise specified.

AVIATION FUEL TAXES

Texas is the only state that does not impose either an excise tax or a sales tax, or both, on aviation fuels (avgas and Jet A). In the states that do impose these taxes, many dedicate the revenue to airport development. This section will consider the potential revenue that could be generated by the imposition of aviation fuels excise or sales taxes on both general aviation fuel and air carrier fuel.

The important variable to consider in determining any potential revenue generation is the current and estimated fuel consumption in the state. The projected consumption of avgas and Jet A over the next five years will determine the amount of any revenue that will be generated. The following table provides the projected fuels consumption data for general aviation aircraft in Texas:

Table 10
Forecast of Texas Active General Aviation
Aircraft Fuel Consumption
(millions of gallons)

As of Jan. 1	Avgas	Jet A	Total
1994	25.690	59.156	84.846
1995	25.775	61.735	87.511
1996	26.008	64.516	90.524
1997	26.062	67.620	93.682
1998	26.304	69.914	96.218
1999	26.358	72.105	98.463
2000	26.654	75.261	101.916
2001	26.686	77.351	104.037
2002	26.732	79.259	105.991
2003	26.771	82.118	108.889

Source: TTI and TAFP Forecast

It is important to note that the rate of increase for avgas consumption is relatively minor, compared to that of Jet A. Avgas consumption is projected to increase an average of 0.4 percent annually over the next ten years, while Jet A consumption is projected to increase at an annual average rate of 3.9 percent.

The following table illustrates the potential fuels tax revenue that could be generated by imposing a \$0.079 per gallon tax on avgas and a \$0.042 per gallon tax on Jet A. These tax rates represent the national averages for avgas and Jet A fuel tax for states that implement these taxes.

Table 11
Estimated General Aviation Fuel Tax
Revenue from Avgas and Jet A Consumption
1994-2003

Year	Avgas (0.079 per gallon)	Jet A (0.042 per gallon)	Total
1994	2,030,300	2,486,400	4,516,700
1995	2,038,200	2,595,600	4,633,800
1996	2,054,000	2,713,200	4,767,200
1997	2,061,900	2,839,200	4,901,100
1998	2,077,700	2,935,800	5,013,500
1999	2,085,600	3,028,200	5,113,800
2000	2,109,300	3,162,600	5,271,900
2001	2,109,300	3,250,800	5,360,100
2002	2,109,300	3,330,600	5,439,900
2003	2,117,200	3,448,200	5,565,400

Source: TTI and TAFP Forecast

Based on this table, the estimated revenue from this combination of general aviation fuel taxes, levied at rates comparable to the national average, would generate an annual amount that is roughly equivalent only to the \$4.25 million currently appropriated by the Texas state legislature for fiscal years 1994 and 1995. Furthermore, these estimates do not

consider the impact of tax exemptions, collection costs, or the loss of fuel sales associated with the implementation of a new tax.

Commercial air carrier fuel consumption estimates and potential fuel tax revenues are shown in Table 12. The average tax rates for states that impose fuel taxes on air carrier fuels are \$0.042 for state excise taxes and \$0.047 for state sales taxes.

Table 12
Estimated Air Carrier Fuel Consumption
and Excise/Sales Tax Revenue
1994-2003

Year	Fuel Consumption (millions of gallons)	Excise Tax Revenue (\$0.042 per gallon)	Sales Tax Revenue (\$0.047 per gallon)
1994	1847.6	77,599,200	86,837,200
1995	1970.9	82,777,800	92,632,300
1996	2078.6	87,301,200	97,694,200
1997	2185.2	91,778,400	102,704,400
1998	2281.3	95,814,600	107,221,100
1999	2388.4	100,312,800	112,254,800
2000	2490.0	104,580,000	117,030,000
2001	2597.3	109,086,600	122,073,100
2002	2700.1	113,404,200	126,904,700
2003	2808.0	117,936,000	131,976,000

Source: TTI and TAFP Forecast

Again, these tax revenue estimates do not consider any impact associated with alternative fuel purchasing programs by air carriers as a result of the imposition of a state fuel tax or possible revenue reduction related to collection costs or tax exemptions. However, either an excise or sales tax within the per gallon range of \$0.042 to \$0.047 for air carriers would be sufficient to fund the \$49 million annual general aviation airport development costs projected for the next five years in the TAFP.

There has been significant opposition to aviation fuel taxes in the past, however. While fuel taxes on general aviation fuels have been supported, in part by local airport sponsors and the Texas Municipal League, fuel taxes affecting commercial air carriers have been strongly opposed. Commercial carriers oppose new fuel taxes on the grounds that commercial service airports would receive little or no benefit from the revenue and that, if implemented, air carriers could purchase fuel out of state to avoid the tax. The loss of fuel sales could be considerable if major carriers purchase fuel out of state should fuel taxes be levied (3). This situation did, in fact, occur in Florida when aviation fuel taxes were implemented (see Table 24) (9).

Summary

This evaluation of the revenue potential for a state excise or sales tax on aviation fuels reveals, first, that any tax on general aviation fuels alone will not generate a significant amount of revenue; and second, any recommendation for similar taxes on commercial air carrier fuels, while potentially generating considerable revenue, will be faced with strong opposition.

AIRCRAFT, PARTS SALES, AND FRANCHISE TAXES

Thirty-six states generate tax revenue from the sale of aircraft and aircraft parts (SIC 372). Only five of these states, however, specifically dedicate this revenue to aviation programs. Of these five states, Virginia, with a two percent sales tax rate, generated only \$2.4 million from the sale of aircraft and aircraft parts in 1991. According to the Texas Comptroller of Public Accounts, sales tax revenue on the manufacture of aircraft and parts amounted to over \$8.5 million in 1992. In addition to sales tax revenue from aircraft and parts sales, the aviation industry in Texas contributes sales tax revenue from air transportation/certified carriers (SIC 451), air transportation/noncertified carriers (SIC 452), fixed facilities and service-related air transportation (SIC 458), as well as franchise tax revenue from air transportation providers, a total in excess of \$22 million for 1992. This revenue is deposited in the state general revenue fund (3).

Table 13 illustrates the contributions made by aviation-related industries from Texas state sales and franchise taxes.

Table 13
Estimated State Sales and Franchise Taxes from
Texas Aviation-Related Industries, 1988-1992

SIC Code	Description	Type	1988	1989	1990	1991	1992
372	Manufacture of Aircraft and Parts	Sales Tax	19,435,928	19,552,413	19,640,557	12,711,982	8,584,165
451	Air Transportation: Certificated Carriers	Sales Tax	4,006,036	5,166,090	4,908,298	4,918,378	5,908,666
452	Air Transportation: Noncertificated Carriers (Commuters, Charters)	Sales Tax	151,311	112,676	176,589	204,359	216,381
458	Fixed Facilities and Service Related to Air Transportation (Airport and Terminal Services)	Sales Tax	4,004,617	4,549,767	4,594,658	4,427,525	4,661,053
45	Transportation by Air (Major SIC group)	Franchise Tax	3,866,727	3,728,875	2,939,971	3,677,138	3,264,668
TOTAL			31,464,619	33,109,821	32,260,073	25,939,382	22,634,933

Note: These estimates are based on gross sales, by SIC code, and the amount subject to state sales tax. SIC 372 includes SIC 3721 (aircraft sales), SIC 3724 (aircraft engines and engine parts), and SIC 3728 (aircraft parts and auxiliary equipment, NEC).

Source: Economic Analysis Center, Texas Comptroller of Public Accounts.

The viability of this revenue as a potential source of aviation funding centers on two key issues: would it be possible to shift this revenue from the general fund to a dedicated aviation fund, and how stable are these revenue sources in their ability to provide a consistent amount into a dedicated aviation fund?

Using aviation-related sales tax revenue to fund state aviation improvement projects would not require the imposition of new taxes on either the aviation user or non-user. This is considered to be the advantage of using this revenue for dedicated aviation funding. However, dedicating this revenue for aviation will result in a general fund shortfall that, based on an annual average of \$31 million from 1988 to 1991, would not be available for appropriation to other programs. The major objection to the dedication of aviation-related

sales and franchise taxes to aviation funding, then, would be that this shortfall could not be overcome unless fees or taxes were raised elsewhere.

Legislative approval of switching revenue from the general revenue fund to a dedicated fund has recent precedent in Texas, however. House Bill 706, passed by the 73rd Legislature, Regular Session 1993, established the Texas Parks and Wildlife Capital Account as a separate fund in the general revenue fund (10). This account consists of the amount of tax credits made to the Texas Parks and Wildlife Department under Section 151.801, Tax Code, after allocations to the state parks account and the Texas recreation and parks account. Section 151.801(c)(2) specifies that beginning September 1, 1995, taxes collected from the sale, storage, or use of sporting goods shall be credited to the Parks and Wildlife Department. The annual amount credited by the state comptroller is not to exceed \$32 million in sporting goods tax revenue (11). The amounts subject to state sales tax for SIC 5091 (Sporting and recreational goods and supplies) for 1991 and 1992 were approximately \$15 million and \$16 million, respectively (12).

Tax generated revenue in this account is available for the acquisition and development of parks, fisheries, and wildlife projects. Specific projects noted in HB 706 include the acquisition of land or facilities for use in departmental programs and in developing and improving land and facilities owned by the department (10).

While this example illustrates that a precedent does exist for switching general revenue funds into dedicated funds, it should be noted that the Texas State Parks and Wildlife Department manages state-owned facilities, while general aviation facilities in Texas, for the most part, are not owned by the state but by local governments.

An important consideration of relying on sales taxes as a dedicated funding resource is the reliability and long-term outlook for sales of the particular product or service being taxed. The national trends and forecasts for aircraft engines and engine parts, and aircraft parts and equipment show declines, as illustrated in Table 14 (13). These declines are present in the value of shipments in both current and 1987 constant dollars. Texas state sales tax revenue for aviation-related industries (Table 13) also shows a decline of almost \$7 million from 1990 to 1991 and of \$4 million for 1991-1992 for SIC Code 372, the largest

Table 14
Trends and Forecasts:
Aircraft Engines and Engine Parts (SIC 3724)
Aircraft Parts and Equipment, NEC (SIC 3728)
(in millions of dollars)

SIC 3724					SIC 3728					Total				
Year	Shipment Value	Y/Y Percent Change	Shipment Value (1987\$)	Y/Y Percent Change	Year	Shipment Value	Y/Y Percent Change	Shipment Value (1987\$)	Y/Y Percent Change	Year	Shipment Value	Y/Y Percent Change	Shipment Value (1987\$)	Y/Y Percent Change
1988	20,339	-----	19,613	-----	1988	17,720	-----	16,973	-----	1988	38,059.00	-----	36,586.00	-----
1989	21,566	6.0	20,193	3.0	1989	19,075	7.6	17,678	4.2	1989	40,641.00	6.8	37,871.00	3.5
1990	22,813	5.8	20,278	0.4	1990	20,458	7.3	18,497	4.6	1990	43,271.00	6.5	38,775.00	2.4
1991	22,746	(0.3)	19,211	(5.3)	1991	21,544	5.3	18,865	2.0	1991	44,290.00	2.4	38,076.00	(1.8)
1992	24,075	5.8	19,621	2.1	1992	23,286	8.1	19,735	4.6	1992	47,361.00	7.0	39,356.00	3.4
1993	21,000	(12.8)	16,680	(15.0)	1993	20,030	(14.0)	16,580	(16.0)	1993	41,030.00	(13.4)	33,260.00	(15.5)
1994	17,250	(17.9)	13,350	(20.0)	1994	16,220	(19.0)	12,555	(24.3)	1994	33,470.00	(18.4)	25,905.00	(22.1)

Note: Value of shipments are the value of products and services sold by establishments in the aircraft engines and engine parts industry.

Source: U.S. Department of Commerce, International Trade Administration.

tax revenue contributor of the aviation-related industries. This represents single-year declines of approximately 35 percent and 32 percent, respectively, of sales tax revenue.

The U.S. Department of Commerce cites several reasons for the decline in aviation-related sales. Cancellation or deferrals of aircraft deliveries directly impacts aircraft engine orders and sales. Lower aircraft deliveries translates into lower sales of spare engines, replacement parts, and replacement aircraft systems. Increased global competition for these markets is also partially responsible for the decline in sales. Cutbacks in the U.S. defense budget and defense requirements are other factors contributing to sales decline (13).

Summary

The state sales tax revenue trends shown in Table 13 and the industry shipment data in Table 14 illustrate the fluctuations that can occur in aviation-related sales and shipments. This market is subject to the basic economic variables of supply and demand. Any consideration of separating aviation-related sales tax revenues from the Texas general fund and placing them in a dedicated account for aviation development will have to consider the potential for revenue decline or increase and the impact these variations will have on available funding.

Historically, in Texas a significant amount of tax revenue has been generated from aviation-related sales and franchise taxes. In 1992, this tax revenue exceeded \$22 million (Table 13). Although revenue dedicated from aviation-related sales and franchise taxes, in conjunction with projected federal and local contributions, would not meet the \$49 million annual general aviation airport development needs projected in the Texas Airport System Plan for the next five years, it would provide for substantial progress in correcting a large portion of the existing deficiencies in the system.

AVIATION-RELATED FEES

Two major types of aviation-related fees can potentially generate revenue for airport development projects in Texas: aircraft registration fees and pilot registration fees.

Aircraft Registration Fees

Texas does not currently assess an aircraft registration fee. Twenty-four states do, however, impose a registration fee; and of those, 14 dedicate 100 percent to aviation. The aircraft registration fees range from flat fees of \$5 per year to \$30 per year, or they are calculated by formulas based on manufacturer's list price, value, or gross weight. In 1991, Minnesota, with a minimum base tax of \$50 per aircraft, generated the largest amount from these fees, \$1.2 million, all of which was dedicated to aviation (8).

The amount of potential fee-generated revenue depends on the number of registered aircraft in Texas. There were 20,574 registered aircraft in Texas in 1992. A \$5 per aircraft registration fee would have generated only \$102,870 in revenue; a \$30 fee would have generated \$617,220 in revenue. These amounts are hardly substantial compared to the projected development needs of the Texas Airport System. The number of registered Texas aircraft is projected to increase at only a slight rate over the next five to ten years. Table 15 shows the projected growth of registered aircraft in Texas and the potential fee revenue that could be generated from various flat fee levels.

Table 15
Forecast of Texas Registered Aircraft
and Potential Fee Revenue

Year	Number of Registered Aircraft	Fee Revenue			
		\$5/aircraft	\$25/aircraft	\$50/aircraft	\$100/aircraft
1993	21,580	107,900	539,500	1,079,000	2,158,000
1994	22,630	113,150	565,750	1,131,500	2,263,000
1995	23,600	118,000	590,000	1,180,000	2,360,000
1996	23,800	119,000	595,000	1,190,000	2,380,000
1997	23,950	119,750	598,750	1,197,500	2,395,000
1998	24,120	120,600	603,000	1,206,000	2,412,000

Source: TTI

Pilot Registration Fees

Texas does not assess a pilot registration fee. Of the eight states that do impose pilot registration fees, all but two dedicate 100 percent of the revenue to aviation. The amounts generated are not, however, significant. In 1991, Illinois collected \$99,761 in pilot registration fees, the largest amount collected of all eight states (8).

In 1992 there were 53,126 total registered pilots in the State of Texas. This number is projected to increase only slightly over the next five years, as shown in Table 16. At a per pilot fee of \$10, the potential revenue from pilot registration fees for 1992 would have been \$531,260. Table 16 also shows the projected potential revenue from these fees for various fee rates.

Table 16
Forecast of Texas Registered Pilots
and Estimated Potential Registration Fee Revenue

Year	Number of Registered Pilots	Fee Revenue \$10/pilot	Fee Revenue \$25/pilot	Fee Revenue \$50/pilot
1993	53,100	531,000	1,327,500	2,655,000
1994	53,900	539,000	1,347,500	2,695,000
1995	54,900	549,000	1,372,500	2,745,000
1996	56,000	560,000	1,400,000	2,800,000
1997	56,700	567,000	1,417,500	2,835,000
1998	57,500	575,000	1,437,500	2,875,000

Source: TTI

Summary

Although neither pilot nor aircraft registration fees are currently being assessed in Texas, the Texas Parks and Wildlife Department again provides a precedent for the dedication of user fees into an account apart from the general fund.

House Bill 706 also created the Game, Fish, and Water Safety Account. The Texas Parks and Wildlife Department is now able to deposit revenue into this account from such

sources as fishing and hunting licenses; federal funds received for fish and wildlife research, management, development and conservation, resource protection, and law enforcement; motorboat registration fees; and various fees and fines. Funds in this account are available for use for the following purposes: enforcement of fish and game laws; dissemination of information pertaining to marine life, wild animal life, and wildlife management; research, management, and protection of fish and wildlife resources; and other educational and management purposes (10).

While the amounts that could be generated from aircraft and pilot registration fees are low, they do represent potential revenue for the aviation community. If these fees were established and the revenue dedicated to specific uses (e.g., education, management, and safety research) such as those specified in the Game, Fish, and Water Safety Account, the funds currently being used for these purposes could conceivably be available for airport development. By establishing modest fees for state aircraft or pilot registration, or both, revenue potentially could be generated that would serve and promote the aviation community in Texas as well as freeing additional funds for airport development.

Because these fees would be based on the number of registered aircraft and registered pilots, both of which are projected to be relatively stable in the future, this source of revenue would be more reliable and not as susceptible to market conditions as are sales tax and fuels tax revenues. The revenue potential, even at the highest rates illustrated in Tables 15 and 16, would still be low compared to estimated needs.

PROPERTY TAXES

Nineteen states, including Texas, generate revenue from personal property taxes on aircraft. Some states, such as Massachusetts and Michigan, use the aircraft registration fee in lieu of property taxes. Because most property taxes are collected at the city or county level, comparative statistics are difficult to compile. Property tax assessments are usually levied against broad categories of property, such as personal or commercial; and category reports are not specific to the individual type of property, such as motor home or aircraft. This, too, makes the evaluation of the revenue potential from personal property taxes difficult.

Considerable variety exists in the tax assessment methods practiced by individual states, as well as on the definition of taxable aircraft. California assesses a personal property tax of approximately 1.07 percent of the market value of general aviation aircraft. Each county in North Carolina establishes its own personal property tax rate on aircraft. Washington imposes and collects a personal property tax at the county level ranging from 0.90 percent to 1.57 percent, with a state average of 1.28 percent in 1990 (8).

The revenue amount generated from personal property taxes on aircraft varies as well. Of the states that reported revenue amounts generated from personal property taxes on aircraft, Connecticut raised the largest amount in 1991: \$2,653,043, none of which was dedicated to aviation use (8).

In Texas, local governments are authorized to levy property taxes. By definition, local governments include cities, counties, school districts and county education districts, and special districts such as junior colleges, hospitals, municipal utilities, flood control, and navigation. Property taxes are assessed based on the property values set by the county appraisal district located in each of the 254 counties. Of the \$1.459 billion in statewide property taxes levied in 1991, 57.3 percent were levied by school districts, 17.4 percent by cities, 14.3 percent by counties, and 11 percent by special districts (14).

Aircraft fall under two categories (based on use) in the Comptroller's classification scheme: Category L1, Personal Property: Commercial, includes the value of aircraft owned by a commercial business; and Category M, Other Tangible Personal Property, includes aircraft if personal property owned by an individual and subject to taxation. Revenues from these taxes are used locally, as are other property taxes, to support education, health, and community facilities. Table 17 illustrates the estimated appraisal value and revenue from the property tax on business aircraft in four Texas counties.

Table 17
1992 Business Aircraft Property Tax:
Estimated Appraisal Value and Revenue for
Selected Texas Counties

County	Estimated Appraisal Value	Estimated Revenue (\$)
Bexar	90,000,000	2,700,000
Dallas	600,000,000	15,000,000
Harris	800,000,000	20,800,000
Travis	14,864,410	406,235
TOTAL	1,504,864,410	38,906,235

Source: Texas Department of Transportation, Aviation Division

While the amount of potential revenue is significant, even from only four of the most populated Texas counties, the possibility of switching these funds from the county level to a dedicated statewide aviation fund is politically unlikely. Counties and cities in Texas, as elsewhere, rely on property taxes to provide services to their residents; and the possibility of a county or city relinquishing any available funding from property taxes for any purpose is unlikely. This is particularly true of school districts which levied almost 60 percent of all state property taxes in 1991 (14).

AIRPORT LICENSING AND PUBLICATION SALES REVENUE

NASAO lists publication sales and airport licensing revenue as two additional sources of aviation revenue. The amount of revenue generated from these sources is insignificant: Texas generated only \$4,899 from publication sales in 1991, of which 100 percent was dedicated to aviation.

Several states collect airport license fees; for example, Oregon collected \$520 in 1991, and Florida collected \$39,000, also in 1991. With 308 airports in the Texas airport system, the state would have to charge over \$3,000 per airport license to generate even \$1 million in revenue. A license fee of this amount would be prohibitively expensive to smaller airports and would not be supported by the general aviation community (8).

FEDERAL AVIATION FUNDING

INTRODUCTION

Federal funding for state aviation development currently is provided under a single program, the Airport Improvement Program, established by the Airport and Airway Improvement Act of 1982. The AIP provides funding from the Airport and Airway Trust Fund into which aviation user tax revenues from airline fares, air freight, and aviation gasoline are deposited. The total authorization level for the AIP in 1982 was \$450 million; by 1992 the amount had increased to \$19 billion (6).

The Airport and Airway Safety and Capacity Expansion Act of 1987 amended the previous act and extended the authority of the AIP for five years. This amendment also authorized a State Block Grant Pilot Program in three states for FYs 1990-1991. The program was expanded to seven states in 1993, and Texas was selected to participate. In 1990, the AIP was amended again by the Aviation Safety and Capacity Expansion Act of 1990. This amendment authorized the Passenger Facility Charge (PFC) Program which generates revenue to finance airport-related projects that improve capacity, safety, or security (15).

This act also requires that the Secretary of Transportation produce a national plan for developing public-use airports in the United States. The National Plan of Integrated Airport Systems (NPIAS) is published biennially. To receive an AIP grant, an airport must be included in the NPIAS. Of the 308 airports listed in the 1988 TAFP, 224 are listed in the 1990-1991 NPIAS (6).

This section will review the historical AIP funding of Texas airports and evaluate probable future federal funding levels. A brief review of two national aviation programs and their impact on Texas will be included: the Passenger Facility Charge Program and the State Block Grant Pilot Program.

HISTORICAL AIP FUNDING IN TEXAS

Over the past five years, AIP funding to Texas airports has averaged about \$95 million annually. In 1992, all Texas airport grants totaled \$123,874,849. The major

recipients of these grants are the primary commercial service airports enplaning more than 10,000 passengers annually. Primary airports in Texas accounted for over \$90 million in grant funds in 1992, or over 73 percent of the grant total (6). Table 18 shows the amounts of Texas AIP grants for 1988-1992 by airport type.

Table 18
Airport Improvement Program Grant
Agreements for Texas: 1988-1992
(Excludes amendments to prior year grants)

Year	Primary Commercial Service		Nonprimary Commercial Service		Reliever		GA		System Plan		Total	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
1988	31	64,211,972			7	16,449,172	22	11,503,630	2	612,316	62	92,777,090
1989	28	58,320,541	1	200,000	14	30,839,594	16	13,632,097	5	672,397	65	103,664,629
1990	20	36,351,818			7	12,530,107	24	11,585,961	3	316,000	54	60,783,886
1991	32	60,899,081			15	18,883,271	22	14,661,769	2	306,162	71	94,750,283
1992	54	90,549,205			20	17,288,043	24	15,712,767	1	324,834	99	123,874,849
TOTAL	165	310,332,617	1	200,000	63	95,990,187	108	67,096,224	13	2,231,709	351	475,850,737
5 Yr Avg.	33	62,066,523	.20	40,000	12	19,198,037	22	13,419,245	3	446,342	70	95,170,147

Source: FAA

Reliever airports received \$17.3 million in AIP grants in 1992 or 14 percent of the state total. General aviation airports averaged \$13.4 million in AIP funds for 1988-1992. In 1992, general aviation airports in Texas received \$15.7 million from the AIP or 12.7 percent of the annual total. In addition to airport grants, the AIP also granted the state \$324,834 in funds for system planning in 1992.

FUTURE FEDERAL FUNDING LEVELS

TxDOT's Aviation Division estimates that federal funding for general aviation will be slightly reduced over the next several years to a level of approximately \$14 million per year (5). If the funding levels for primary and reliever airports are consistent with their

previous 5-year averages, AIP grants for the next several years will total approximately \$96 million annually.

Several factors, however, may impact future FAA funding levels for all airports. A recent Government Accounting Office report questions the effectiveness of AIP funding in addressing aviation problems such as congestion. The report cites a need for a strategic approach in funding decisions and in developing performance measures to assess the effectiveness of spending money on NPIAS airports. The lack of coordinated planning between primary and nearby reliever airports, and the uninformed funding decisions that result, are of particular concern (16).

This increased awareness of the importance of reliever airports for congestion relief at large commercial airports may result in an increase in reliever funding from the AIP. As it becomes more expensive and difficult to build new airports such as the new Denver International, strategic planning may target reliever airports as the most cost-effective alternative. This focus will shift funding from other airport service types; funds could obviously become available as primary airports would require less funding for congestion mitigation projects due to an increased reliever status. As congestion planning efforts increase to coordinate primary and reliever airports, general aviation funds may be reduced in an effort to fund these congestion mitigation projects.

Summary

Overall, the near-term outlook for federal AIP funding for Texas airports will remain consistent or slightly lower than current levels. The long-term outlook in Texas will depend on how seriously the FAA pursues its recommendation for strategic planning of system airports. As congestion at primary airports increases, the demand for funding at the reliever airport level will increase at the expense of general aviation funding. While the total amount of available federal aviation funding may be reduced only slightly, it is probable that the proportion of general aviation funds will be reduced most.

PASSENGER FACILITY CHARGES

In 1990, the Aviation Safety and Capacity Expansion Act authorized domestic airports to impose a Passenger Facility Charge (PFC) on enplaning passengers. The public agency controlling a commercial service airport (primary or nonprimary) may charge enplaning passengers a \$1, \$2, or \$3 facility charge per segment up to a maximum of two segments per one-way trip and four segments per round trip. Those public agencies wishing to impose PFCs must apply to the FAA for this authority and also meet certain requirements (15).

The revenue generated from PFCs must be used for the allowable costs of approved airport projects. Any PFC-funded, or partially funded, project must meet one of the following criteria:

- Preserve or enhance safety, security, or capacity of the national air transportation system,
- Reduce noise or mitigate noise impacts resulting from an airport, or
- Furnish opportunities for enhanced competition between or among carriers.

Eligible projects include:

- Any AIP-eligible development or planning project,
- Noise compatibility projects regardless of whether or not the projects are in an approved Federal Aviation Regulation 14 CFR Part 150 program,
- Gates and related areas for movement of passengers and baggage, and
- Terminal development (15).

The purpose of the PFC program is to provide additional capital funding for the expansion of the national air transportation system. PFC funds are not available in addition to AIP funding. If a PFC is approved and imposed at a large or medium hub airport, the AIP funds apportioned to that airport will be reduced in the fiscal year following the PFC imposition and in each successive year in which the PFC is in place. The AIP apportionment is reduced by 50 percent of the projected PFC revenue but will not exceed 50 percent of the earned apportionments for that fiscal year. Any foregone apportionments are then redistributed within the AIP program; 25 percent goes into the AIP discretionary fund, and 75 percent goes into the "small airport fund." Half of the 25 percent that is deposited in the discretionary fund must be spent at small hub airports. Of the 75 percent

that is distributed to the "small airport fund," one third is distributed to general aviation airports, including reliever airports, and two-thirds are distributed to non-hub commercial airports (6).

Considering this redistribution mechanism, the potential exists for an increase in general aviation funds resulting from the approval and imposition of a PFC program in Texas. There is, however, no stipulation that any AIP funds made available by the approval of a PFC at any Texas airport remain in Texas for the use by other Texas airports.

The overall impact of the PFC program will potentially be a reduction in federal funds without an increase of funds for general aviation or reliever airports.

PFCs in Texas

Twenty-six airports in Texas are eligible to apply for the PFC program. Table 19 shows the airports as of January 1, 1994, which have been approved for the PFC program.

A previous PFC application by the City of Austin to convert Bergstrom Air Force Base to a commercial service airport was not approved. Three additional applications are pending: Dallas-Fort Worth International has applied for a collection amount of \$115,000,000 for runway construction and noise mitigation; Midland has applied for a collection amount of \$35,529,521 for rehabilitation and construction purposes; and Lubbock has an application pending to use previously approved funds.

Table 19
Approved PFC Programs in Texas
as of January 1994

City	Airport	Approved Collection Amount (\$)
Austin	Robert Mueller Int'l	6,189,300
Corpus Christi	Corpus Christi Int'l	5,540,745
Killeen	Killeen Municipal	243,339
Laredo	Laredo Int'l	11,983,000
Lubbock	Lubbock Int'l	10,699,749
Midland	Midland Int'l	35,529,521
San Angelo	San Angelo Mathis Field	873,716
Tyler	Tyler Pounds Field	819,733
TOTAL		71,879,103

Source: FAA

STATE BLOCK GRANT PILOT PROGRAM

The 1987 and 1990 amendments to the Airport and Airways Improvement Act also authorized implementation of the State Block Grant Pilot Program. This program partially shifts the administrative responsibility of AIP grants from the federal to the state level. Illinois, Missouri, and North Carolina were selected as the three original block grant states. In 1993 the program was extended through 1996 and four additional states were included: Texas, Wisconsin, Michigan, and New Jersey (6).

The purpose of the block grant program is to allow each state to demonstrate its capability and approach to administering airport grant funds. One goal of the program is that administrative functions will be identified that can be permanently shifted or shared with states in carrying out the Airport Improvement Program.

Grants are available for airport master planning and development projects at eligible nonprimary airports. Nonprimary airports are those that enplane fewer than 10,000 commercial passengers annually. The grant amounts that Texas is eligible to receive include

state apportionment and discretionary funds (17). As of August 1993, over \$5 million in grant program funds have been issued (5).

The aviation community has advocated the need for a state-administered funding program for many years. Benefits of a state-coordinated program include administrative efficiencies and a reduction in federal/state duplication of effort. The program will also allow FAA officials to concentrate on airports and airport problems with high national interest (18). The most convincing argument for the block grant program is that it will allow the state aviation agency to directly oversee the administration of federal funds. It is presumed that the state agency is closer to and, therefore, more knowledgeable of the aviation needs of the state; and funding decisions based on this knowledge will subsequently benefit the entire national airport system.

As is the case with the PFC program, the block grant program will not bring additional aviation funding to Texas. The major benefit of this program, however, is that federal funds which are made available to Texas will be appropriated more efficiently and effectively than before.

STATE FUNDING RECOMMENDATIONS

It is obvious from the review of potential state revenue sources that no single aviation user-related fee or tax in Texas is sufficient to accommodate the projected 5-year development costs specified in the TAFP. Each potential revenue source discussed in this report is either susceptible to market conditions and, therefore, would result in an inconsistent revenue source; or is lacking in sufficient revenue potential; or is politically improbable.

The TAFP has pointed out the need for significant funding amounts for development in Texas over the next several years. Current levels of state appropriations are limited and insufficient to meet the development cost projections for general aviation airports.

The most often cited rationale for tax or fee revenue dedication is that the users of a service should pay for the service. While this may be a popular sentiment, in fact it is not practiced as often as its proponents contend. In 1988, for example, the proportion of tax revenue earmarked for specific purposes in Texas was only 24 percent (19).

Dedicating, or earmarking, tax or fee revenue does not, by itself, guarantee a specific level of revenue or service. Nor does it guarantee an adequate level of revenue. Not all programs or state agencies or departments are capable of generating the revenue that would be sufficient to provide the services that are required throughout the state. In most cases it is imperative to either establish an appropriate tax rate or to establish a legislative mechanism where funds from other sources are added as necessary (for example, from the general fund) to maintain a consistent level of revenue and service. An additional drawback to revenue dedication is that once funds are dedicated, legislators often will neglect the area because they feel sufficient financial attention has been given. This will also result in their reluctance to provide additional funds from other sources, even when sufficient evidence exists to support the request (19). Developing a funding alternative that relies on a combination of sources addresses this drawback.

Aviation users, in part, should be responsible for development costs associated with the TAFP. However, because an entire community or state can benefit from the presence

of a general aviation, reliever, or commercial airport, an aviation funding alternative should be developed that draws on both user-related and non-user-related revenue sources.

APPENDIX

**REVIEW OF STATE AVIATION PLANNING AND FUNDING PROGRAMS:
NORTH CAROLINA, FLORIDA, AND COLORADO**

NORTH CAROLINA

State Airport System

The North Carolina Department of Transportation, Division of Aviation completed an update of the North Carolina Airport System Plan (NCASP) in 1992 (20). The primary objectives of the NCASP are to determine the number, types, general locations, and roles of the state's airports and the improvements that can be realistically made in the next 20 years.

Of the more than 400 airports in North Carolina, the NCASP identifies 69 of these as public-use airports, along with nine additional new airport sites. A total of 84 existing airports which are considered to be the most important facilities that constitute the state's airport system are included in the plan. Of these 84 airports, 72 are publicly owned while 12 are owned privately by individuals or incorporated entities. These 84 facilities include:

- 7 primary commercial service airports
- 8 commercial service airports
- 4 reliever airports
- 65 general aviation airports:
 - 13 basic utility
 - 37 general utility
 - 15 transport

There are also 10 active military airports in North Carolina.

Programs

The State Aid to Airports program was originated in 1967, and in 1988 the State General Assembly authorized a funding program tied to the estimated tax revenues generated by aviation in North Carolina. Aviation users are subject to state sales tax and excise taxes which include sales tax on aircraft sales, aviation fuels, lubricants, and accessories; use taxes on aircraft rentals; and franchise taxes levied against aviation businesses.

State Aid to Airports is limited to airports that are publicly owned and operated, and a minimum of \$5.9 million was committed for FY 1990. For eligible airports and projects, the state's share of costs is usually 50 percent of the nonfederal share or 50 percent of the total if no federal aid is available. New airports may qualify for 80 percent of the non-federal share for selected portions of the airport's initial construction. State Aid to Airports is available to most airport facilities that serve the general public and are not primarily revenue producing. Individual eligible items include planning, land acquisition, clearing, grading, drainage, paving, marking, lighting, navigational aids, and public portions of terminal buildings. Ineligible items include hangars, fuel systems, industrial areas, and similar areas not available to the general public.

North Carolina was selected as one of the three original participants in a 3-year demonstration program, the State Block Grant Pilot Program (SBGPP), which was required by Congress in the Airport and Airway Safety and Capacity Expansion Act of 1987. General eligibility requirements for the program included the existence of an agency capable of grant administration, use of a satisfactory airport system planning process, and use of a programming process acceptable to the FAA. The program's purpose was to allow up to a maximum of three states flexibility to demonstrate their capabilities in administering grants under the Airport Improvement Program. Under the SBGPP, North Carolina was allocated a total of \$33.7 million for FY 1990-1992.

Funding

The NCASP identifies four revenue sources that are generally used to fund capital improvement programs for state system airports:

- Federal funding programs
- State funding programs
- Local government funding
- Private funding

Prior to the pilot program, federal funding had traditionally flowed directly from the FAA to the local governments requesting funds. There was little involvement at the state level with the federal airport aid program, and funds were distributed with little regard for overall

state aviation planning needs. The selection of North Carolina as a SBGPP participant changed this. Under the pilot program, general aviation airports are eligible for up to 80 percent federal aid for federally approved projects.

Since 1987, federal aid to air carrier airports has averaged \$23.3 million, and federal aid to general aviation airports has averaged \$7.9 million. The following table illustrates federal aid to air carrier and general aviation airports:

**Table 20
North Carolina Federal Aid Airport Funding**

Year	Air Carrier	General Aviation
1987	25,421,500	9,068,138
1988	22,347,000	4,403,787
1989	24,301,000	5,926,577
1990	12,438,599	9,132,756
1991	31,963,000	11,022,871

Source: North Carolina Department of Transportation, Division of Aviation

Historically, the state has provided 5 percent funding in response to a federal share of 90 percent and a local share of 5 percent. Under the block grant program, general aviation airports will be funded with 10 percent state funds, 10 percent local funds, and 80 percent federal funds. For new general aviation airport development, the state will fund 16 percent, local funding will provide 4 percent, and federal funds will provide 80 percent.

Local revenue sources include general fund revenues, bond issues, and airport-generated funds. However, local funding from general revenue funds is difficult to obtain due to an almost constant budget shortfall. The amount of local general fund support of airport improvement projects varies by airport and is usually determined by the local tax base, priority of the development project, historical funding trends, and local attitudes toward the importance of aviation. Bond issues supporting airport development depend largely on the same variables that influence the availability of general revenue funds.

General aviation airports often rely on general obligation bonds. Unlike air carrier airports which realize revenue from airport-generated funds such as landing fees, space rentals, auto parking, and fees and commissions on gross sales, general aviation airports rarely are able to fund any projects with airport-generated funds.

The private sector also serves as a source of funds for airport development. Private facilities at publicly-owned airports, such as storage and maintenance hangars, fuel systems, and parking lots, are not eligible for federal funds because they are revenue-producing sources which may generate rental income for the airport.

Source of State Funds

North Carolina imposes a 4 percent state sales tax on both avgas and Jet A fuel, which, as of 1991, is dedicated to aviation. In 1991, the total aviation fuel tax revenue was \$8,400,000, which, when combined with additional revenue from the Highway Fund, provided total available funding of \$8,600,000. The state funding requirements outlined in the Capital Improvement Program for Phase One (1992-1996) average \$8.5 million annually.

Table 21
North Carolina Aviation Funding Mechanism

Fiscal Year	General Fund	Aviation Fund	Highway Fund	Total Funding
1987	3,400,000	--	--	3,400,000
1988	5,161,571	--	773,589	5,935,160
1989	5,661,571	--	764,584	6,426,155
1990	6,016,571	--	1,041,462	7,058,033
1991	--	8,400,000	200,000	8,600,00

Source: NASAO Center for Aviation Research and Education

Capital Improvement Program

The NCASP recommends a three-phase capital improvement program: Phase I, short term (1992-1996); Phase II, intermediate (1997-2001); and Phase III, long term (2002-2010). The airport development costs for Phase I are summarized below:

Table 22
North Carolina Airport Development Costs
Phase I: 1992-1996
Source of Funds

	Federal	State	Local	Private	Total
Air Carrier	209,352,050	28,637,775	41,973,775	5,137,400	285,101,000
General Aviation	83,567,360	13,763,120	17,702,420	20,427,100	135,460,000
TOTAL	292,919,410	42,400,895	59,676,195	25,564,500	420,561,000

Source: North Carolina Airport System Plan

FLORIDA

State Airport System

The Florida Aviation System Plan serves as a broad guideline for developing the state's 103 publicly-owned airports (21). The overall objective of the plan is to ensure that these airports (1) work together effectively as a statewide transportation system, (2) provide a link to the global air transportation system, and (3) effectively interface with regional surface transportation systems. The Florida Aviation System Plan defines three goals: (1) to forecast the dollar needs and timing of airport improvements necessary to maintain a viable system of airports, (2) to provide justification for budgeting and appropriation of funds for planned airport enhancements, and (3) to guide the investment of public funds in Florida's publicly-owned airports. These 103 publicly-owned airports include:

- 20 Commercial passenger service airports
- 23 Reliever airports (4 additional planned)
- 60 General aviation airports

Programs

The Florida Department of Transportation, in conjunction with the Federal Aviation Administration, has developed the Continuing Florida Aviation System Planning Process (CFASPP). The purpose of the CFASPP is to develop a cost-effective 20-year system plan, justify public funding for airports, and direct public funds to the most needy airports. The CFASPP includes four steps:

1. Ten metropolitan area/regional steering committees serve as guides for the overall State Aviation System Plan in defining appropriate roles for each system plan airport.
2. Individual communities develop their own airport master plans which outline project cost and construction schedules that satisfy their airports' role in the State Aviation Plan.
3. Individual airport cost estimates and project schedules from the airport master plans are accumulated, analyzed, and prioritized in the Florida Aviation System Plan and presented to local governments, the Florida Legislature, the Federal Aviation Administration, and the U.S. Congress to justify funding.
4. Legislatively appropriated funds, based on airport master plan development estimates, result in airport improvement projects.

Source of State Funds

The Florida Aviation System Plan Statewide Summary for 1992-2010 lists four typical aviation public funding sources for the state:

- Federal aviation user fees (FAA) -- 49 percent
- State aviation fuel tax -- 26 percent
- Local government -- 21 percent
- State transportation user fees -- 4 percent

The State of Florida enacted aviation fuel taxes in 1983. Originally established as sales taxes, the \$0.069/per gallon avgas and \$0.069/per gallon Jet A taxes are now excise taxes. Of these taxes, 100 percent are dedicated to aviation. Table 23 provides a 10-year summary of the state aviation fuels tax.

Table 23
Florida Aviation Fuel Tax:
10-Year Summary
(dollars or gallons in millions)

State FY	Taxable Gallons	Gross Receipts	Collection Fees ¹	Refunds ²	General Revenue Serv/chg ³	Net Receipts
1982-83	162.1 ⁴	9.2	N/A	N/A	0.4	8.9
1983-84	863.6	49.2	N/A	N/A	3.0	46.3
1984-85	680.2	38.8	N/A	N/A	2.3	36.4
1985-86	711.1	40.4	N/A	3.3	0.2	36.9
1986-87	776.9	44.2	N/A	5.7	2.3	36.2
1987-88	810.7	46.3	N/A	3.0	2.6	40.6
1988-89	790.5	43.9	0.3	7.5	2.2	34.0
1989-90	888.5	50.4	0.3	2.4	2.9	44.8
1990-91	760.8	51.4	0.3	2.5	3.5	45.1
1991-92	757.9	52.0	0.3	3.7	3.5	45.9

Note: ¹ A fee retained by the fuel dealer for collecting and remitting the tax.

² Refunds to air carriers based on a percentage (0.6%) of in-state wages.

³ A dedication (currently 7.3%) applied to most trust funds for the costs of general government. FY 1985-1986 was low because entire tax proceeds were deposited in the general fund for that year.

⁴ Reflects only two months of receipts in initial implementation year.

Source: Florida Department of Aviation

The Florida Transportation Trust Fund also contributes to the state aviation program. The total state contribution for FY 1990-1991 was \$74,332,700. Table 24 outlines the state aviation funding mechanisms for FY 1987 to FY 1991.

Table 24
Florida Aviation Funding Mechanisms

Fiscal Year	Aviation Fund	Transportation Fund	Total
1987	--	39,300,000	39,300,000
1988	--	34,950,000	34,950,000
1989	--	34,950,000	34,950,000
1990	--	44,877,000	44,877,000
1991	47,200,000	27,132,700	74,332,700

Source: NASAO Center for Aviation Research and Education

Capital Improvement Plan

The Florida Aviation System Plan includes a 10-year airport development needs assessment. Results of this assessment indicate that 60 percent of Florida's airports are nearing capacity in aircraft traffic handling, and that aircraft traffic delays due to congestion and capacity limitations are costing Florida businesses and citizens \$124 million per year. Furthermore, state and federal funding shortfalls are expected over the next 10 years; a system total of \$6 billion is needed during that period to accommodate the demands of growth. The 10-year needs are categorized as follows:

Passenger terminals/aprons/hangars	\$1.9 billion (32 percent)
Runways/taxiways	\$1.3 billion (22 percent)
Other facilities (security/safety/rescue)	\$1.2 billion (20 percent)
Airport preservation	\$0.8 billion (13 percent)
Land acquisition	\$0.8 billion (13 percent)

The runway/taxiway improvement needs category includes four new general aviation airports needed to relieve crowded commercial service airports. These costs do not include improvements to rail and transit connections to the airports.

COLORADO

State Airport System

The Colorado State Aviation System Plan (CSASP) is currently under revision and is expected to be completed in early 1994 (22). The 1990-1999 National Plan of Integrated Airport Systems (NPIAS) published by the FAA listed 84 airports in the State System Plan.

The Division of Aeronautics is currently updating the CSASP which incorporates three regions, the Eastern Plains, the Western Slope, and the San Luis Valley. The draft CSASP identifies 60 airports in these regions:

Eastern Plains		
Commercial Service	1	
Transport	3	
General Utility	3	
Basic Utility	<u>14</u>	
		21
Western Slope		
Commercial Service	6	
Primary Service	4	
General Aviation	<u>21</u>	
		31
San Luis Valley		
Commercial Service	1	
General Aviation	<u>7</u>	
		8
TOTAL		60

Regional Aviation System Plans (RASPs) are also developed for the Denver and Colorado Springs areas.

Programs

The state is divided into three planning regions to reflect the diverse geography of Colorado. Each region has different development needs, and each has an individual funding program. The Western Slope presents substantial enplanement forecasting problems not found in the other phases; most of these airports rely on seasonal tourist-related activity.

The physical demands on pavements and facilities associated with mountain regions can be better identified in a regional planning context.

The Aviation System Grant Program provides project funding to all eligible airports with the exception of Stapleton International Airport in Denver. Each grant award is limited to \$50,000 per grant cycle. In August 1993, the Colorado Aeronautical Board awarded 27 airports a total of \$1 million in discretionary aviation grants for airport maintenance; local match for federal funding; and compliance with federal, state, and locally mandated programs. Funding for the discretionary grants, which has been averaging \$2.2 million annually, comes from aviation fuel taxes. Grants also provided funding for statewide projects including production of a state aeronautical chart, a joint-use military and civilian aircraft rescue and firefighting program, and the development of a statewide Aircraft Weather Observation System (AWOS) program.

Funding Sources

Funding for the Colorado Division of Aeronautics is derived from cash revenues received into the Aviation Fund from avgas and Jet A fuel excise taxes and from Jet A fuel sales taxes. The state excise tax rate for avgas is \$.06 per gallon and \$.04 per gallon for Jet A fuel, of which \$.04 on each gallon collected is returned to the airport of origin. The remaining \$.02 per gallon avgas revenue is placed in the Aviation Fund. The Jet A fuel sales tax rate is 3 percent, of which 75 percent is returned to the airport of origin. The remaining 25 percent is also placed in the Aviation Fund. No general fund tax revenues or other state funds are allowable in the activities and operations of the Colorado Division of Aeronautics. There is no aircraft registration fee in Colorado, and there are no personal property taxes on aircraft. Table 25 outlines the aviation funding mechanisms from FY 1978 to FY 1991.

Table 25
Colorado Aviation Funding Mechanism

Fiscal Year	General Fund	Aviation Fund	Total Funding
1987	15,000	--	15,000
1988	7,500	--	7,500
1989	--	106,350	106,350
1990	--	173,580	173,580
1991	--	8,650,000	8,650,000

Source: NASAO Center for Aviation Research and Education

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