

**Survey Results of Aviation Activity at
North Dakota Airports**

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Rural and Small Urban Aviation Research Program



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by

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EXECUTIVE SUMMARY

Overview

North Dakota's rural air transportation system facilitates economic development by providing transportation, jobs and services to the local economy. Today's global economy is placing new demands on rural transportation systems in which the local airport is a key transportation link for many rural businesses. A survey was designed to determine the issues affecting North Dakota's rural aviation community. The survey elicited responses from airport managers on the broader concerns of aviation in the state.

Procedure

The Airport Manager survey was mailed to 100 public airports in North Dakota in October, 1994. Each survey included a letter from Mr. Gary Ness, Director of the North Dakota Aeronautics Commission (NDAC); a copy of the 17-page survey; and a stamped, self-addressed envelope. Sixty-two percent of the surveys mailed were returned from 72 percent of the state's counties with an average of 294 of the 346 questions answered. Results were cross-tabulated to compare responses between questions and categories. Over 20,000 pieces of data resulted from the survey and were cross-tabulated into four airport groups:

- Schedule Air Service (SAS) airports, which provide scheduled air service;
- General Aviation Federal (GAF) airports, which provide pilot services, aircraft maintenance, fuel, and rental, are eligible for federal funds, and most have an FBO on the field;
- Non-Federal Paved (NFP) airports, which provide services similar to GAF airports but are not eligible for federal funds; and
- Non-Federal Turf (NFT) airports, which have grass or sod runways and are not eligible for federal funds.

Demographics

Airport managers have an average of 25 years of involvement in the aviation industry, including education, volunteer and work experience. Approximately 21 percent of airport managers have six to ten years and 20 percent have 16 to 20 years at their present airport. About 51 percent of airport managers spend approximately ten hours a week on aviation-related business and 5 percent spend over 60 hours a week on aviation-related business.

Seventy-five percent of airport managers indicated they spent "some" time in planning, 55 percent indicated the same for management and 45 percent indicated "some" time was spent on economic development.

Service

Seventy-nine percent of airport managers indicated that aerial spraying is an activity at their airport, 73 percent indicated they provided hangar rental, and 64 percent indicated they provided aircraft fuel. The majority of the responses indicated that use of their airport had not changed significantly over the past ten years. Similarly, they also expected no significant change in the future use of their airport. Fifty-five percent of airport managers reported that the farming industry benefited the most from their airport, 48 percent indicated business travelers, and 35 percent of airport managers indicated that the medical industry benefited the most from their airport.

Support

When airport managers were asked how the community has shown its support of their airport, 64 percent believed that local mill levy was the critical factor, 45 percent indicated long-term commitment and 33 percent indicated volunteer work. In response to how the community can improve its support of the airport, 50 percent of airport managers indicated that communities could help by insuring that state financial contributions continue and 38 percent indicated that communities could help by making a long-term commitment to the airport.

Environment

Over 10 percent of airport managers surveyed indicated there was "a lot" of impact to birds in flight as a result of airport operations and 47 percent indicated "some" impact to birds in flight. Seven percent of airport managers reported "a lot" of impact on wildlife on the ground and 36 percent indicated "some".

A fourth of the airport managers believe that developing new regulations will help reduce "some" impact to the environment, 47 percent believed enforcing existing laws will also help "some" and 31 percent reported that changing airport operating procedures would reduce the impact to the environment.

Almost 60 percent of airport managers reported that restrictions impacted their operations and 57 percent indicated that environmental regulations impacted their airport operations. Sixty-four percent of airport managers reported that environmental impact on their operations comes from excess paperwork and 58 percent indicated that environmental impact comes in the form of high cost to their operations.

Information

Fifty-three percent of airport managers sought information on federal and state grants for small airports, 44 percent sought information on writing grant proposals and 39 percent sought information on ways to bring businesses to their airport. Eighty-two percent of airport managers indicated they contacted the North Dakota Aeronautics Commission when seeking aviation-related information and 50 percent contacted their local airport authority.

Over 50 percent of airport managers indicated that if a research center were established to assist their airport operations, they would expect help in acquiring funding, while 40 percent would want help in developing airport plans and 38 percent would want help with rural economic development programs.

Concerns

Seventy-five percent of airport managers reported their most important concern was the lack of operating funds and 71 percent indicated the high cost of owning an aircraft was their next most important concern. When airport managers were asked how they could resolve their concerns, 72 percent indicated that helping to eliminate regulations would help resolve their concern. Less than half also believe that they could help resolve their concerns by promoting aviation in the state, working with economic development programs, recruiting businesses to their airport, seeking help from federal and state agencies, writing letters to legislators and working closely with aviation organizations.

Recommendations

Results of the survey suggest that airport managers are most concerned about maintaining profitability and continuing to receive financial support from the state and local agencies. They also indicated they would like to get assistance with acquiring funding and economic development.

The following recommendations are based on the results of the survey:

- Airport Managers should develop an airport improvement plan which involves the community, local businesses, and state agencies. A plan outlining specific needs of the airport will help ensure continued financial support from the community.
- Airport Managers have limited participation in state and federal legislation related to airport operations. To be better informed, Airport Managers should participate more in local legislative and national congressional process which affect airport funding and other related operations.
- Airport Managers need to take an active role in promoting their airport by participating in local economic development programs.

- Airport Managers should work towards enhancing their customer base through cooperative efforts between businesses and the local communities. Efforts must be made to broaden the customer base by developing services to meet the needs of those outside the immediate airport community.
- Airport managers should consider improving the visibility of their airport by marketing their services on the computer network systems. Computer network system helps promote a product to a wide audience throughout the world.
- Airports in rural areas are often near farmlands, wetlands, rivers, lakes, and other open areas. In the vicinity of airports, birds, wildlife, and aircraft compete for the same space. Airport Managers should develop and implement a wildlife management program that reduces the potential for impact between wildlife and aircraft.
- Airport managers generally contact state and federal agencies when needing information. Airport Managers should broaden their information resources by contacting regional and national aviation organizations such as the Airport Association of North Dakota (AAND) and the American Association of Airport (AAAE).

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LIST OF FIGURES

Figures		Page
1	North Dakota Counties Represented in the Survey by Region - - - -	3
2	Percent of All Airport Managers Indicating Industries in Their Community Which Benefit From the Local Airport - - - -	4
2A	Percent of SAS Airport Managers Indicating Industries in Their Community Which Benefit From the Local Airport - - - -	5
2B	Percent of GAF Airport Managers Indicating Industries in Their Community Which Benefit From the Local Airport - - - -	5
2C	Percent of NFP Airport Managers Indicating Industries in Their Community Which Benefit From the Local Airport - - - -	5
2D	Percent of NFT Airport Managers Indicating Industries in Their Community Which Benefit From the Local Airport - - - -	5
3	Percent of Airport Managers Responding to Increase in Tourism in Their Community by Airport Type - - - -	8
4	Percent of Airport Managers Responding to Aviation Activity That Are Expected to Increase At Their Airport - - - -	9
5	Years of Experience in the Aviation Industry by Number of Years and Percent of Airport Managers - - - -	11
6	Years at the Present Airport by Number of Years and Percent of Airport Managers - - - -	11
7	Time Spent on Aviation Related Business by Number of Hours and Percent of Airport Managers - - - -	12
8	Percent of Airport Managers Who Spend A Lot or Some Time on Aviation Activities - - - -	12
8A	Percent of SAS Airport Managers Who Spend A Lot or Some Time on Aviation Activities - - - -	13
8B	Percent of GAF Airport Managers Who Spend A Lot or Some Time on Aviation Activities - - - -	13

8C	Percent of NFP Airport Managers Who Spend A Lot or Some Time on Aviation Activities - - - - -	13
8D	Percent of NFT Airport Managers Who Spend A Lot or Some Time on Aviation Activities - - - - -	13
9	Percent of Airports Providing Various Aircraft Services - - - - -	15
10	Percent of Airports Providing Various Pilot Services - - - - -	15
11	Percent of Airports Providing Various General Public Services - - - - -	16
12 & 12A	Percent of Airport Managers Responding to Aviation Activities That Have Increased in the Past Ten Years and Those Activities Expected to Increase in the Next Ten Years - - - - -	17
13 & 13A	Percent of Airport Managers Responding to Aviation Activities That Have Decreased in the Past Ten Years and Those Activities Expected to Increase in the Next Ten Years - - - - -	18
14	Percent of Airport Managers Indicating Air Service Needs of Their Community Being Met and Unmet Needs Requiring Improved Service - -	19
15	Percent of Airport Managers Indicating How the Airport Contributes to the Economic Growth of Their Community - - - - -	20
16	Percent of Airport Managers Indicating How the Airport Could Enhance Its Contribution to the Economic Growth of Their Community - - - - -	21
17	Percent of Airport Managers Indicating How Their Community Has Shown Support to the Local Airport - - - - -	22
18	Percent of Airport Managers Indicating How Their Community Could Improve Support to the Local Airport - - - - -	23
19	Percent of Airport Managers Indicating How Their Community Could Improve Support to the Local Airport - - - - -	24
20	Percent of Airport Managers Responding to Impact to the Environment Resulting From Airport Operations and Efforts That Would Reduce the Impact - - - - -	25
21	Percent of Airport Managers Responding to What and How Environmental Issues Impact Operations at Their Airport - - - - -	26

22A	Percent of SAS Airport Managers Indicating Type of Improvements Needed to the Surface Access of Their Airport	-	-	-	-	28
22B	Percent of GAF Airport Managers Indicating Type of Improvements Needed to the Surface Access of Their Airport	-	-	-	-	28
22C	Percent of NFP Airport Managers Indicating Type of Improvements Needed to the Surface Access of Their Airport	-	-	-	-	29
22D	Percent of NFT Airport Managers Indicating Type of Improvements Needed to the Surface Access of Their Airport	-	-	-	-	29
23A	Percent of SAS Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center	-	-	-	-	31
23B	Percent of GAF Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center	-	-	-	-	32
23C	Percent of NFP Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center	-	-	-	-	32
23D	Percent of NFT Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center	-	-	-	-	33
24	Percent of NFT Airport Managers Responding to Concerns That Might Impact Airport Operations and How They Could Resolve Their Concerns-	-	-	-	-	34

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
ACKNOWLEDGMENTS	v
LIST OF FIGURES	vi
INTRODUCTION	1
RURAL AVIATION ECONOMICS	4
Air Cargo	6
General Aviation	6
Aviation in North Dakota	8
SURVEY RESULTS	
Demographics	11
Airport Services	15
Economic Growth	20
Community Support	22
Funding Sources	24
Environment	25
Access	28
Information	31
Issues and Concerns	34
CONCLUSION	
Recommendations	36
REFERENCES	38
APPENDIX	
Survey Results of Aviation Activity at North Dakota Airports	39
Survey of Aviation Activity in North Dakota Airports	54

INTRODUCTION

North Dakota's rural air transportation system is a vital part of the state's economic infrastructure. It provides air transportation, jobs and services to the local economy, and so facilitates economic development. Little research has focused on the issues influencing development and use of rural aviation. North Dakota's rural aviation community includes aircraft owners, aerial applicators, fixed-base operators, users of general aviation, and airport managers.

The Upper Great Plains Transportation Institute (UGPTI), in cooperation with the North Dakota Aeronautics Commission (NDAC), conducted a survey to determine what issues faced rural aviation in North Dakota today. The survey was designed by the research team at the UGPTI to elicit responses from airport managers and to gain an understanding of the concerns of the broader rural aviation community.

The objectives of the survey were to:

- collect data from aviation experts around the state,
- identify issues critical to North Dakota's rural aviation community,
- develop proposals to address those issues,
- maintain a database for further studies, and
- assist aviation policymakers in developing programs important to the state's aviation community.

Airport managers were asked to participate in the survey because they have knowledge of their community, their airports and general aviation in North Dakota. Results from the survey indicate that, on average, airport managers have 22.4 years of experience in aviation (education, volunteer and work experience) and over 12 years of experience at their community airport.

Twelve airport managers at public airports across the state were interviewed to solicit their help in designing the survey. These airport managers provided assistance by recommending additions and deletions to the framework of the survey. Discussions were also held with fixed-base operators (FBO). Their suggestions were also included in the survey. Airport managers and FBOs told us they were concerned about the survival of aviation in North Dakota and the survey results reflect their concern:

Percent of Airport Managers Listing Issues That Concern Their Survival

- 75% were concerned about a lack of operating funds,
- 75% were concerned about financial contribution from local government,
- 71% were concerned about the high cost of owning an aircraft, and
- 56% were concerned about operating liability.

A technical advisory committee was assembled to provide guidance to the research team. It included representatives from several aviation associations, an aviation college, an air cargo service, other airport managers and the NDAC. The advisory committee helped evaluate the survey and provided insight on its design and development.

The survey was mailed to airport managers at all 100 public airports in the state. Prior to mailing the surveys, the recipients were contacted by telephone and requested to participate in the survey. Three weeks after the mailing, a second telephone call was made to remind recipients to complete and return the survey. The survey included 346 questions and nine categories:

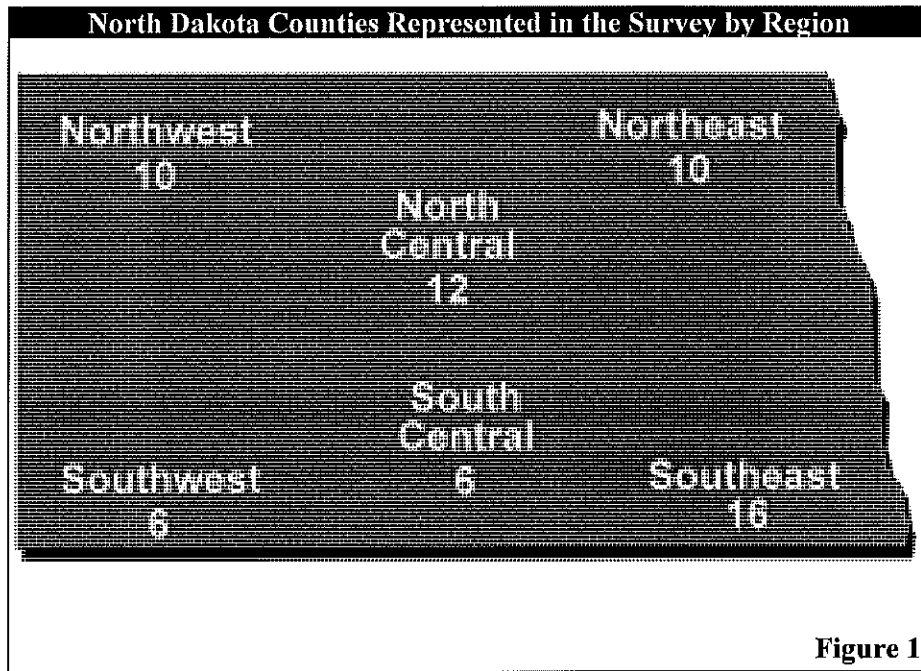
Survey Category and Description

<u>Number of Questions</u>	<u>Descriptions</u>
12	Your Role: Demographics of survey participant
126	Airport Services: Service provided and service trends
21	Economic Growth: Airport's contribution to the community
17	Community Support: Community support of the airport
21	Funding Source: Source of airport revenues
37	Environment: Impact on the environment
16	Access: Surface access to the airport
50	Information: Data most sought and agencies contacted
46	Issues and Concerns: Impact to airport operations
346	Total

Completed Surveys

Completed surveys were returned to the UGPTI and included the following:

- 65% of the surveys mailed were returned completed;
- an average of 85% of the questions in each survey were answered;
- surveys were returned from 72% of the state's counties (Figure 1).



Cross-Tabulation

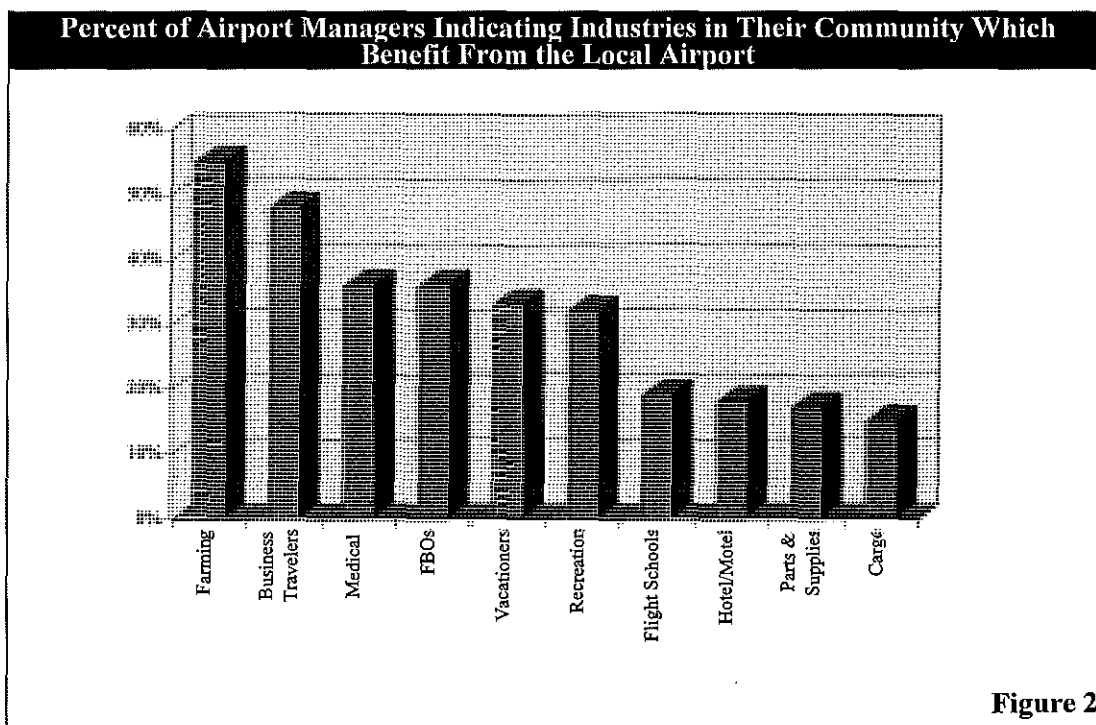
Cross-tabulation was used to compare responses between questions and categories. Over 20,000 pieces of data resulted from the survey and were cross-tabulated into four groups:

- Schedule Air Service (SAS) airports, which provide scheduled air service;
- General Aviation Federal (GAF) airports, which provide pilot services, aircraft maintenance, fuel, and rental, are eligible for federal funds, and most have an FBO on the field;
- Non-Federal Paved (NFP) airports, which provide services similar to GAF airports but are not eligible for federal funds; and
- Non-Federal Turf (NFT) airports, which have grass or sod runways and are not eligible for federal funds.

RURAL AVIATION ECONOMICS

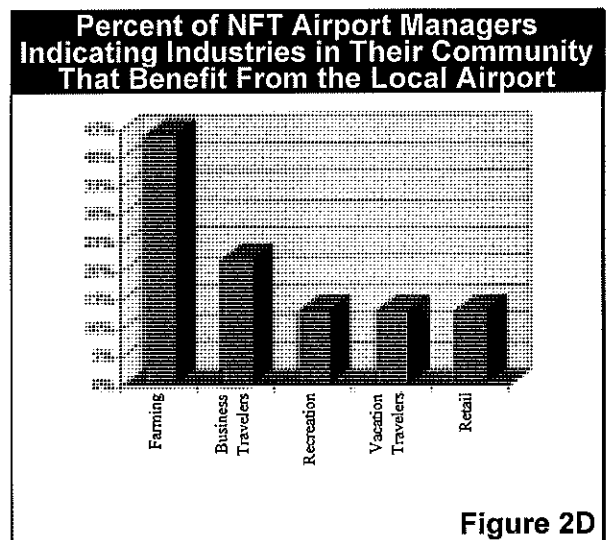
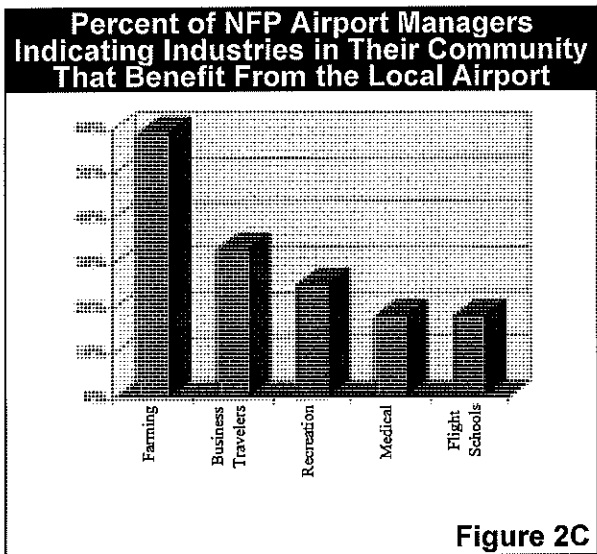
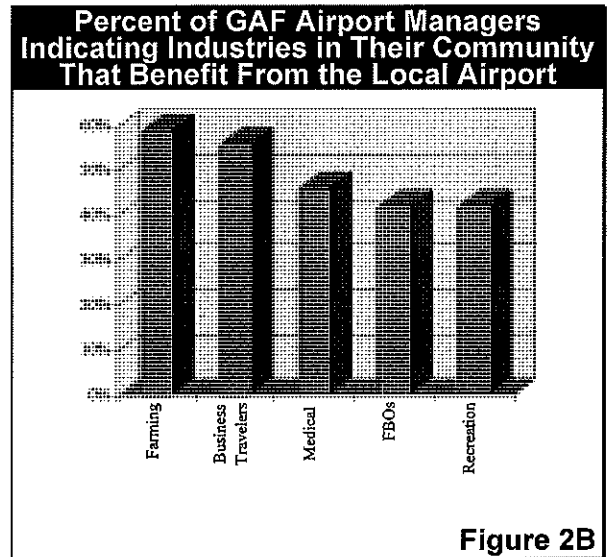
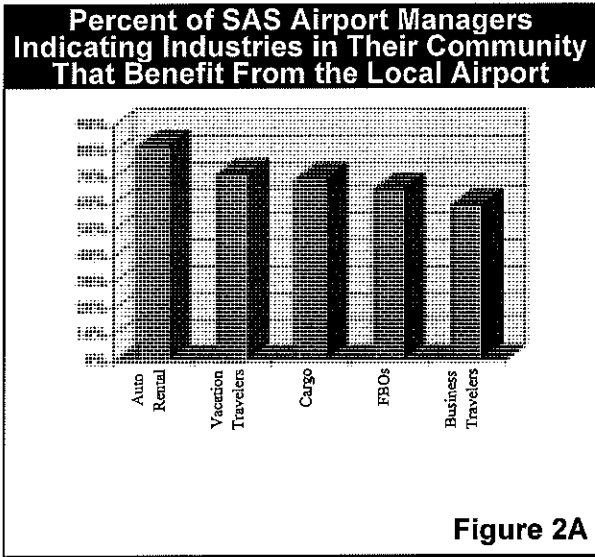
Today's increasingly global economy is placing new demands on transportation systems in rural America. These demands call for more efficient intermodal systems, with the local airport serving as a key transportation link for many rural businesses. Studies support the claim that few businesses today would consider locating where there is no airport service within travel distance of an hour or two (Reeder and Wanek, 1995).

It is important to recognize that airports can have an economic impact on the local economy even if only a minority of firms use the local airports. This is especially true if these firms represent an important and growing segment of the local economy (Reeder and Wanek, 1995). The survey asked airport managers to list industries in their community that benefited the most from the local airport. The following graph represents the top 10 responses (Figure 2).



Fifty-five percent of airport managers indicated that farming benefited the most from their local airport and 48 percent indicated businesses travelers. The medical industry and fixed-base operators received the third and fourth most responses, respectively.

Figures 2A, 2B, 2C, and 2D illustrate airport manager responses to industries that benefit from their local airport by airport type.



Eighty-two percent of SAS airport managers reported that the automotive rental industry benefited the most from their airport. Fifty-nine percent of GAF and NFP airport managers and 44 percent of NFT airport managers reported that farming benefited the most from their local airport.

Air Cargo

In an air cargo study, the air cargo industry claimed that deregulation of its industry in 1977 was responsible for the dramatic improvements in air cargo service through the emergence of express air cargo service like Federal Express, and that it has been a major factor in bringing small communities and rural America into the mainstream of economic growth (Reeder and Wanek, 1995).

Many industries rely on air cargo for shipping and receiving goods and services. SAS airports are located in large towns and serve as distribution centers for the cargo industry serving North Dakota. Though only 15 percent of all airport managers in the survey indicated the cargo industry benefited the most from their airport, this represents 69 percent of SAS airports.

General Aviation

Almost all rural communities benefit from general aviation airports. These airports make important contributions to agriculture, utilities, finance, fishing and real estate industries by providing such services as aerial spraying; transportation of staff, visitors and clients; and aerial surveys and photographs. In addition, general aviation airports are the location of flight training services, aircraft charter services and other aviation-related industries (Reeder and Wanek, 1995). The following, as reported by the survey results, illustrates the 10 services most provided at North Dakota airports:

Services Provided by Airports

% of airports

79	Aerial Application
73	Hangar Rental
64	Aircraft Fuel
46	Flight Instruction
45	Pilot Services
41	Aircraft Maintenance
36	Aircraft Rental
36	Aircraft Sales
33	Aerial Photography
31	Ultralight Flying

Rural areas with recreational or cultural amenities might benefit a great deal from one of the larger regional airports with regularly scheduled passenger service. These areas have the potential for developing the tourism or retirement sectors of their economies. Results from the survey indicate that

37 percent of airport managers believe tourism has increased in the past ten years in North Dakota and 40 percent believe the trend will continue in the next ten years.

Airports have direct ties to a variety of on- and off-airport firms. On-airport businesses include passenger and cargo airlines, airline suppliers, airport concessions and government agencies. Off-airport businesses include hotel, travel agencies, regional airline headquarters and ticket offices, car rental operations, and ground transportation agencies (Reeder and Wanek, 1995). These businesses provide millions of dollars and hundreds of jobs to the local economy.

Survey results indicate that 50 percent of SAS and 19 percent of GAF airport managers believe their airports contribute "a lot" to the economic growth of the community by providing jobs. Sixty percent of NFP airport managers believe their airports contribute "some" while none of the NFT airport managers believe their airports contribute to jobs.

In the next few years, federal, state and local policymakers are likely to confront policy issues relating to funding rural airport construction and improvements, and how to deal with congestion at large urban airports. Coordination between transportation agencies that fund airport projects and economic agencies that monitor development in rural areas is important in targeting such assistance. Benefits could be significant if investments are targeted efficiently and in a way that improves the competitiveness of industries located near rural airports (Reeder and Wanek, 1995).

The survey indicates:

- 31 percent of SAS, 14 percent of GAF, 20 percent of NFP airport managers spend "a lot" of time and effort on economic development;
- 25 percent of NFP airport managers spend "some" time and effort on economic development;
- The survey also found that only 14 percent of SAS, 18 percent of GAF and 10 percent of NFP airport managers spend "a lot" of time on public relations.
- Many of these airport managers spend "some" time and effort on public relations: 79 percent of SAS, 54 percent of GAF, 60 percent of NFP, and 43 percent of NFT.

Aviation In North Dakota

Air transportation is vital to North Dakota's agriculture industry. Survey results indicate that 55 percent of airport managers believe farming benefits the most from their airport (Figure 2) and 64 percent of airport managers indicate their airport contributes to the economic growth of their community by serving as a base for aerial applicators.

Over one-half million passengers boarded North Dakota's three major air carriers (Northwest, American and Frontier) and 5 regional carriers (Great Lakes - United Express, Mesaba - Northwest Airlink, Big Sky, Air Vantage and G P Express) in 1994. The economic impact to the state from its eight SAS airports in Bismarck, Dickinson, Fargo, Devils Lake, Grand Forks, Jamestown, Minot and Williston resulted in 5,836 jobs, \$133.5 million in payroll and \$309 million in expenditures from activities related to airline passenger service, concessionaires, air cargo, government and military, general aviation, and other airport tenants (North Dakota Aeronautics Commission, 1995).

North Dakota's tourism industry has an impact on the state's economy. In 1994, visitors spent an estimated \$478.5 million on food, entertainment and shopping. Visitors traveling by air carriers spent an average \$216 per visit. The hotel and motel industry's payroll from tourism was estimated at \$728,000 and payroll for travel agents in North Dakota was estimated at \$4.3 million (North Dakota Aeronautics Commission, 1995).

As Figure 3 shows, 75 percent of SAS airport managers indicated that the tourism industry use of their airports is expected to remain the same in the next ten years as it has in the past ten years. GAF, NFP and NFT airport managers are more optimistic and expect an increase in the use of their airport by the tourism industry in the next ten years.

North Dakota has 100 public-use airports and over 300 private landing areas. In 1994, 295,000 operations were reported at general aviation airports which maintain more than 740 aircraft. Over \$6.4 million was spent for operating and maintaining the state's general aviation airports. The economic impact to the state from general aviation includes 1,986 jobs, \$35.5 million in payroll and \$62.0 million in expenditures (North Dakota Aeronautics Commission, 1995).

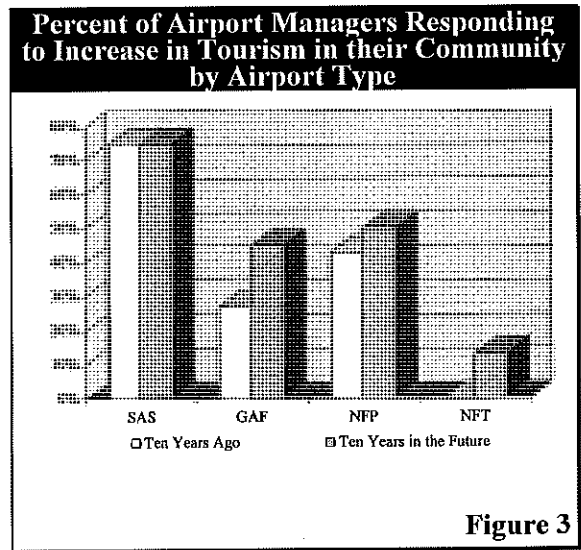


Figure 3

The survey indicates that airport managers are optimistic about aviation activity in the state. Figure 4 represents percent of airport managers indicating that they expect aviation activities will increase over the next 10 years at their airports.

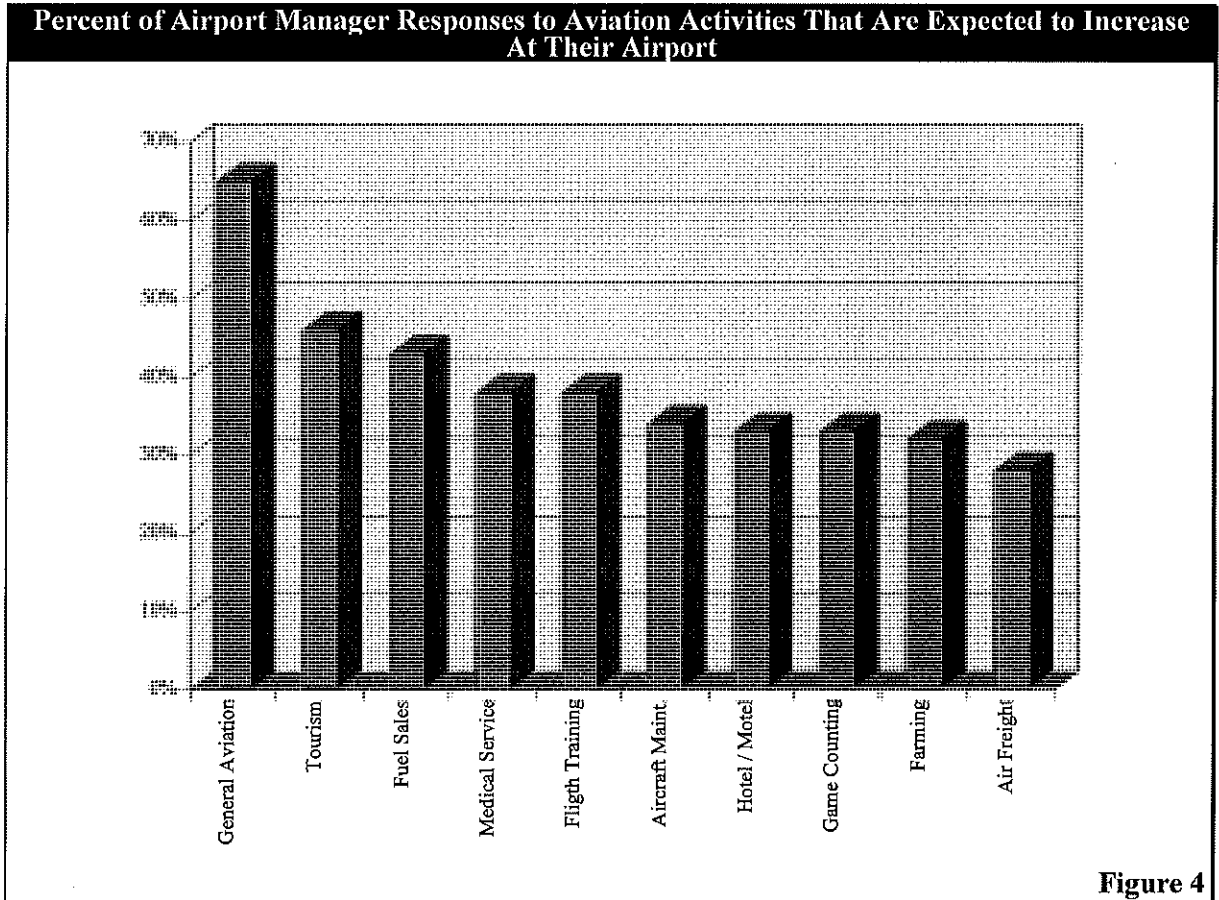


Figure 4

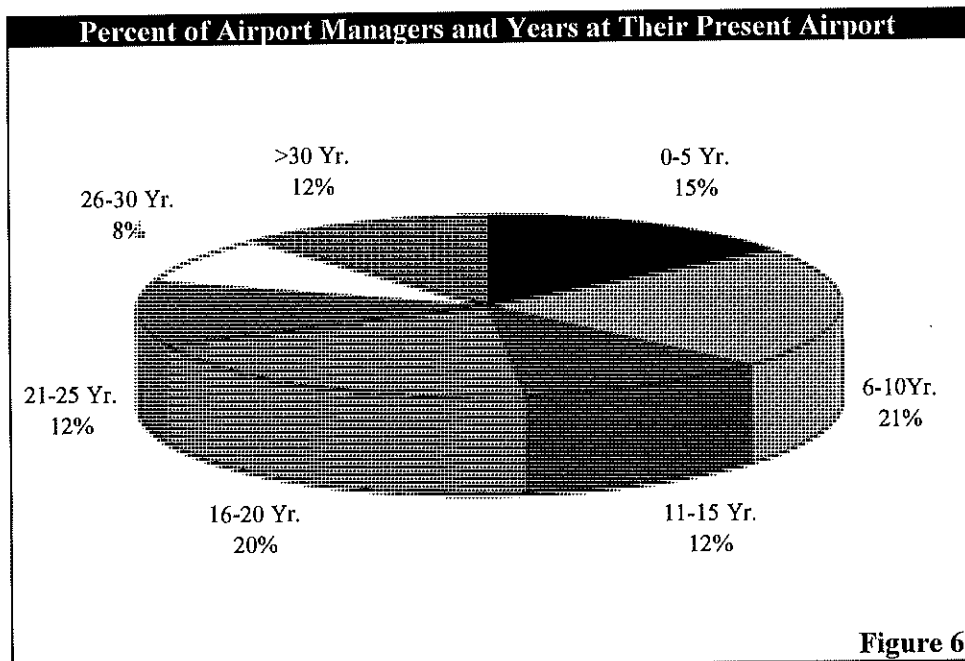
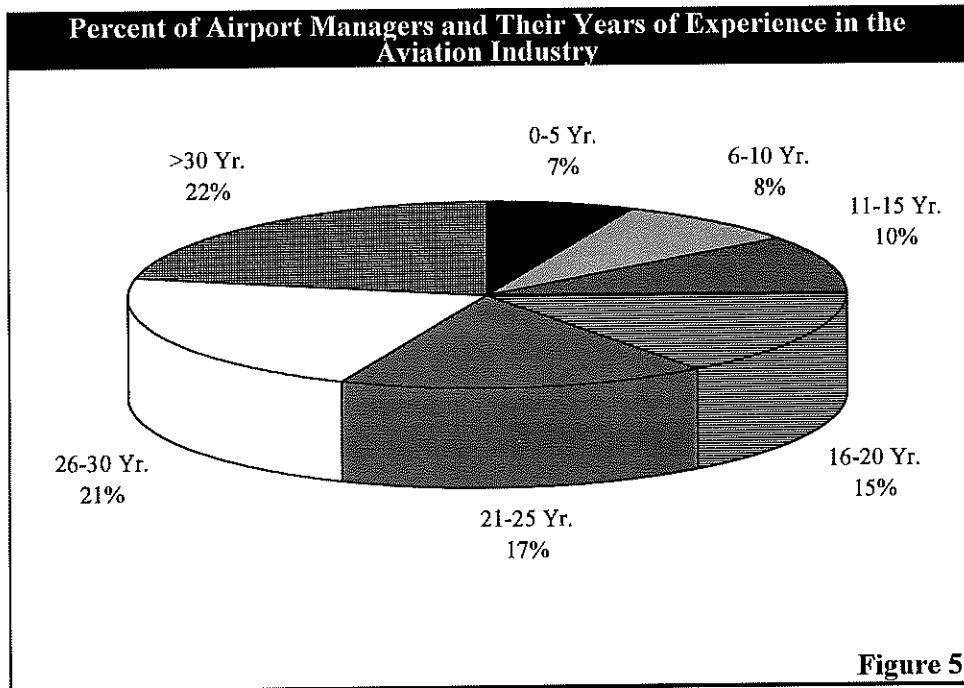
General aviation airports are important to rural businesses of all kinds. A study by the North Dakota Aeronautics Commission (1994) indicates that major businesses in the state rely on North Dakota's airport systems. The report indicates that 72 percent of business rely on commercial airports; 66 percent rely on general aviation airports; 73 percent use airports to ship cargo; 34 percent charter aircraft and 11 percent own or lease aircraft.

The conventional wisdom has been that airports may contribute to rural businesses, but they are not really decisive in rural business location decisions and will not make or break a rural community's economic well-being. Studies suggest this conventional wisdom may be in need of some revision because it ignores important developments in the growth of new industries that require air transportation. This does not necessarily mean that new airports must be built, or that rural areas must regain scheduled

air passenger and air freight service that were lost as a result of deregulation. Rather, what seems to be needed most are improvements at airports, including lengthening of runways to accommodate jets and upgrading of all-weather instruments landing and take-off systems, (Reeder and Wanek, 1995).

Demographics

A majority of airport managers are part-time and receive little or no compensation for their services. Nine airport managers are paid, full-time managers. Airport managers have an average of 25 years of involvement in aviation, including education, volunteer experience, and work experience (Figure 5).



Twenty-one percent of airport managers have six to ten years and 20 percent have 16 to 20 years at their present airport (Figure 6). This suggests that airport managers have a good knowledge of their community, their airport, and the dynamics that affect their state and local aviation community.

The survey also asked airport managers to indicate average hours spent weekly on aviation-related business (Figure 7). Responses are grouped by number of hours per week and percent of airport

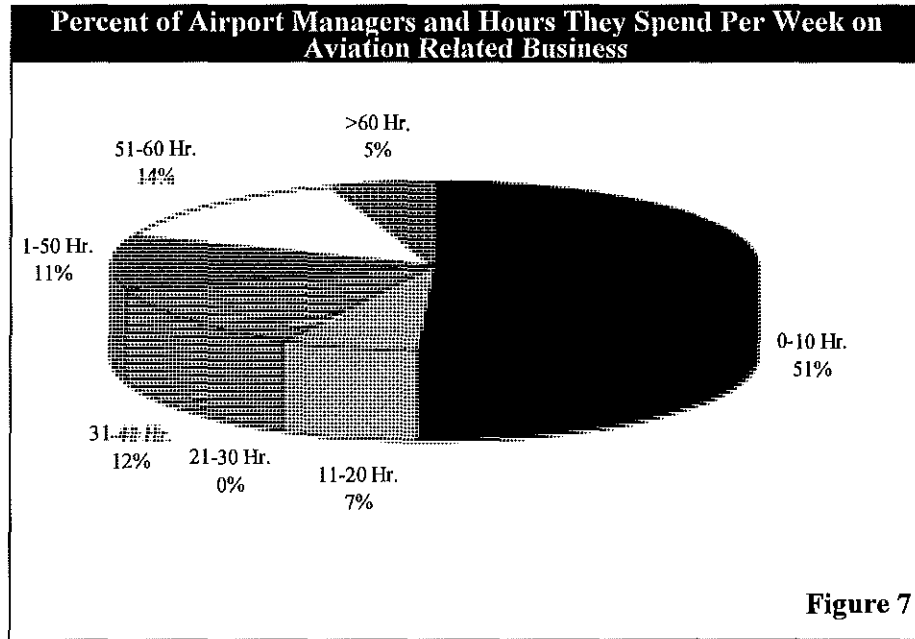


Figure 7

managers within each group.

Fifty-one percent of airport managers spend about ten hours a week and 5 percent spend over 60 hours a week at their airport on aviation-related business. On average, airport managers spend 47.5 hours a week on aviation-related business.

Aviation activity ranges from financial to planning, from supervision to public relations. Airport managers were asked to indicate the degree of time spent on these activities as "a lot" or "some"

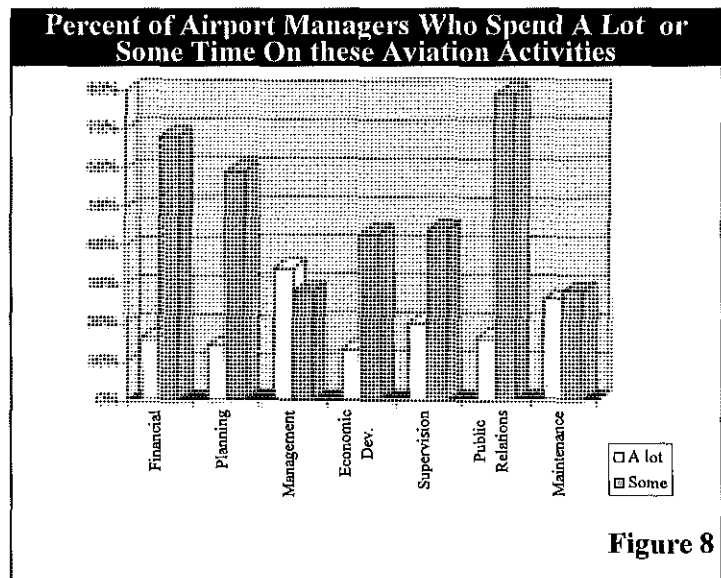
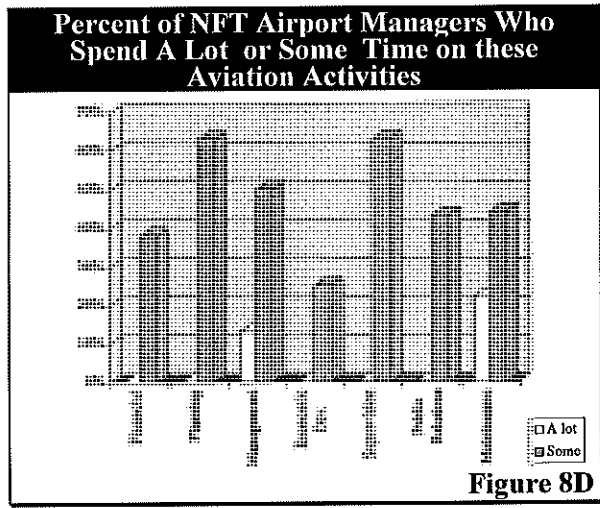
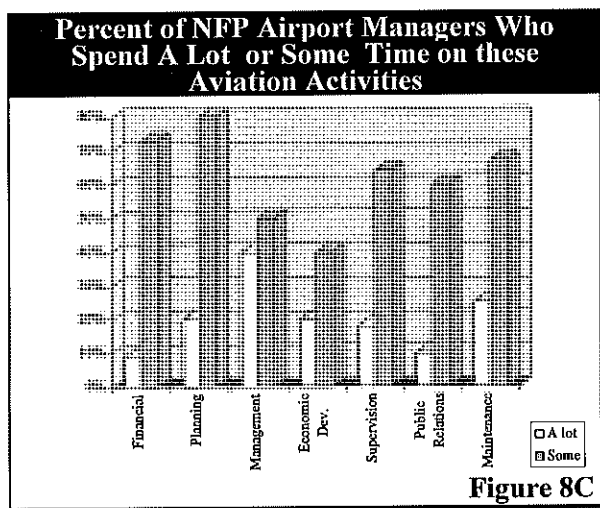
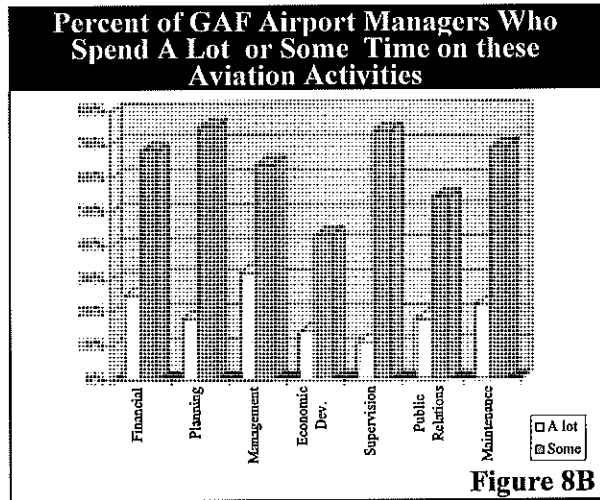
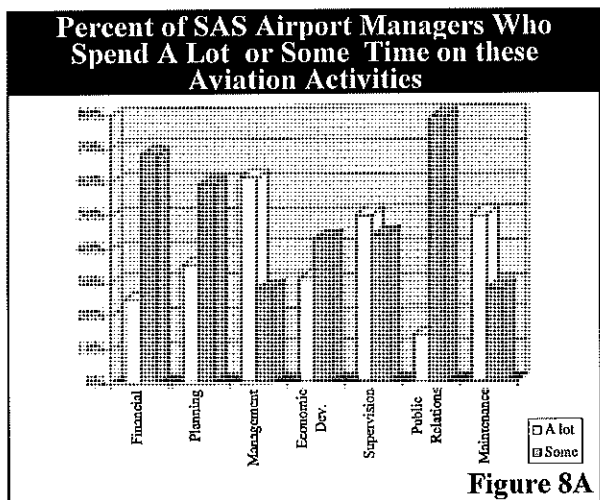


Figure 8

(Figure 8). "A lot" of time was not spent on any specific activity, but most managers indicated they spent "some" time on all of the activities. Seventy-five percent of managers indicated they spent "some" time in planning and 55 percent indicated the same for management, and 45 percent indicated "some" time was spent on economic development.

Responses to aviation activity were cross-tabulated by airport type (Figures 8A, 8B, 8C, and 8D).



A higher percent of SAS airport managers spent "a lot" of their time on planning, management, economic development and supervision than airport managers in the other groups. Approximately the

same percent of GAF, NFP and NFT airport managers spent "a lot" of their time on aircraft maintenance. Approximately the same percent of all managers spent "some" time on economic development.

Airport Services

A wide variety of services for pilots, aircraft owners, business travelers and the general public are available at airports. In addition, airports also offer food and beverage services, automotive rentals, air shows, air freight services and flight instruction.

Aircraft services provided by percent of airports are presented in Figure 9, pilot services are presented in Figure 10, and general public services are presented in Figure 11.

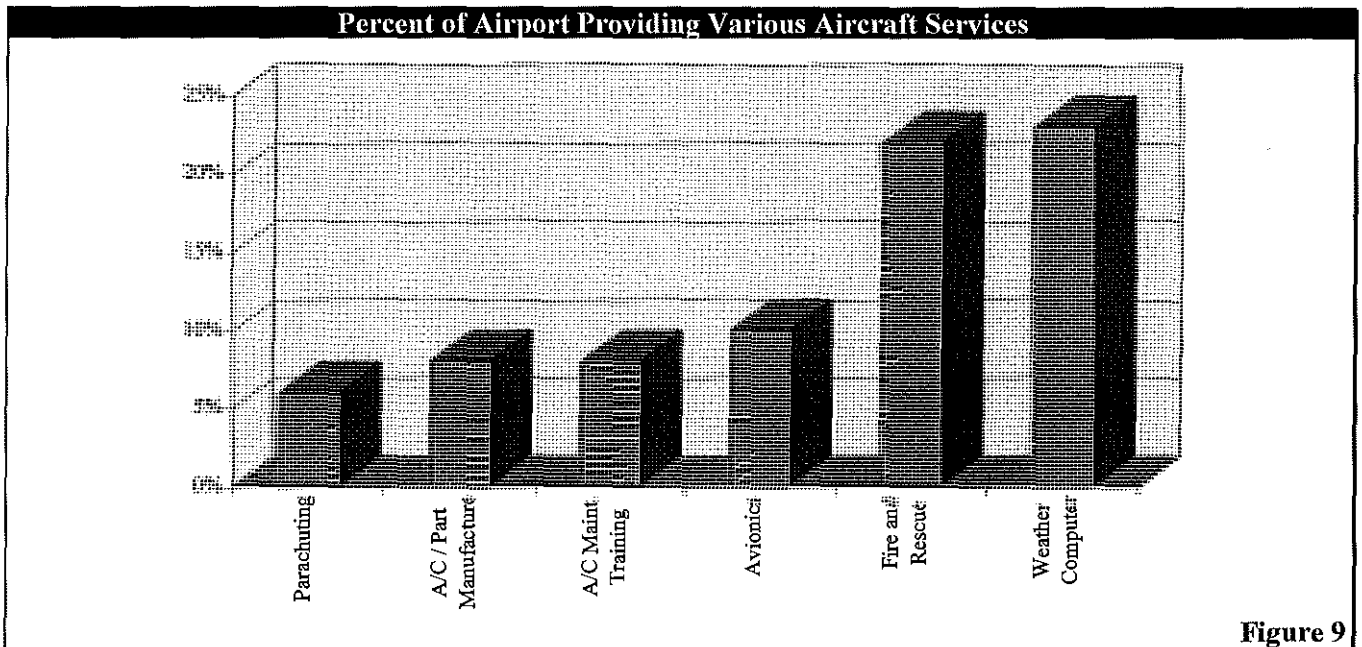


Figure 9

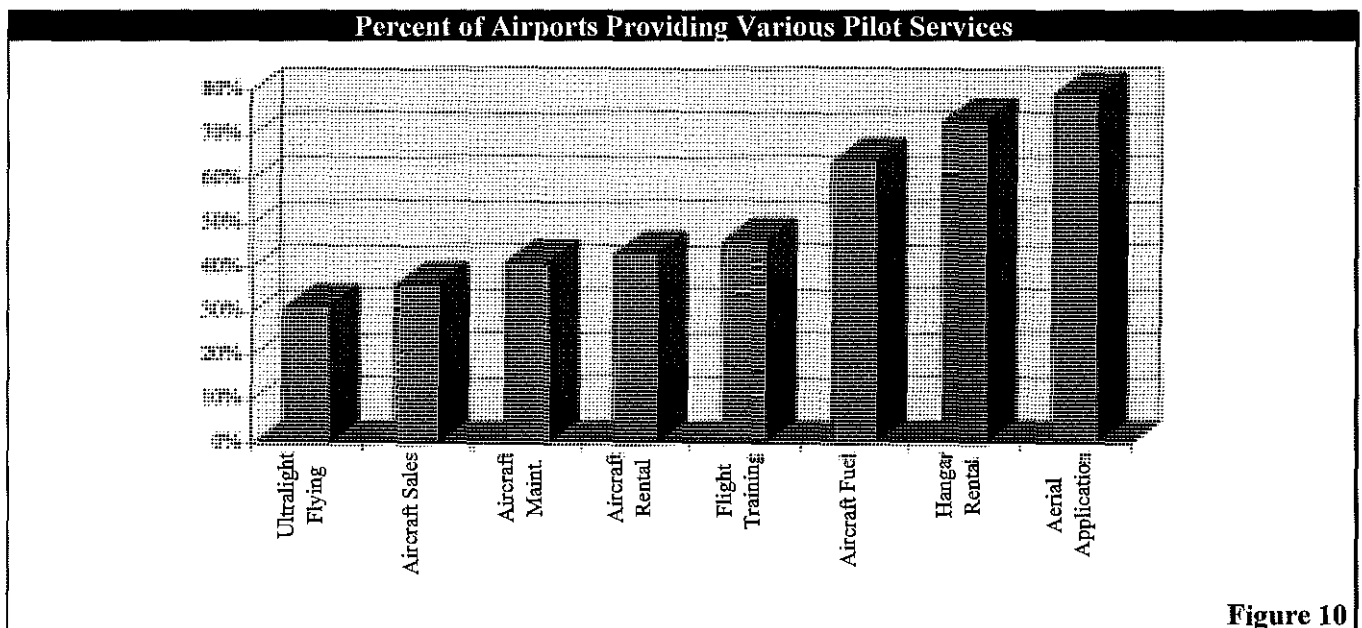


Figure 10

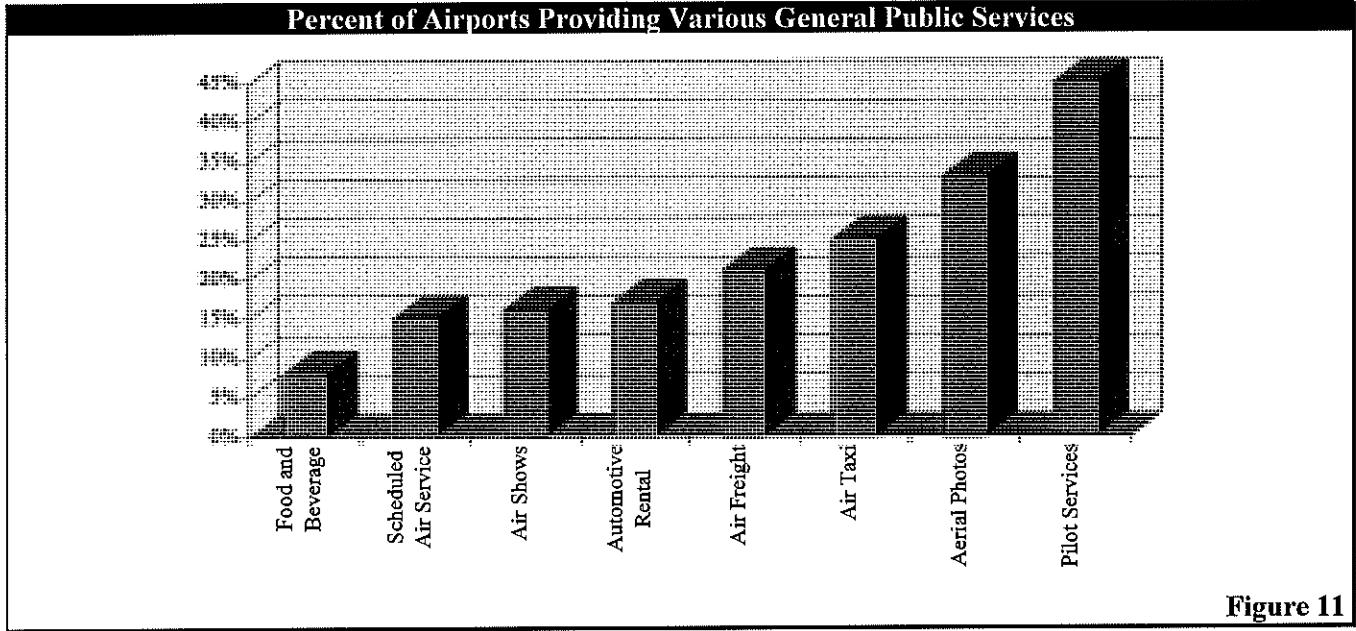


Figure 11

Pilot services include:

- weather computer and fire and rescue services, provided by 20 percent of airports, and
- avionics, aircraft maintenance training, aircraft parts manufacturing and parachuting, provided by less than 10 percent of airports.

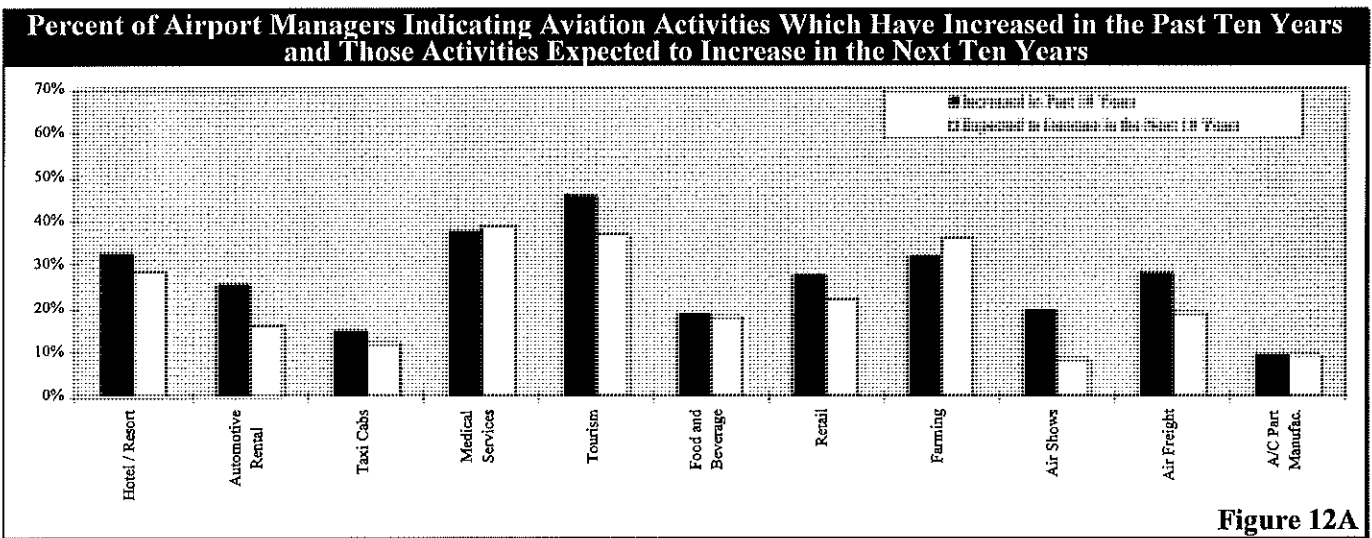
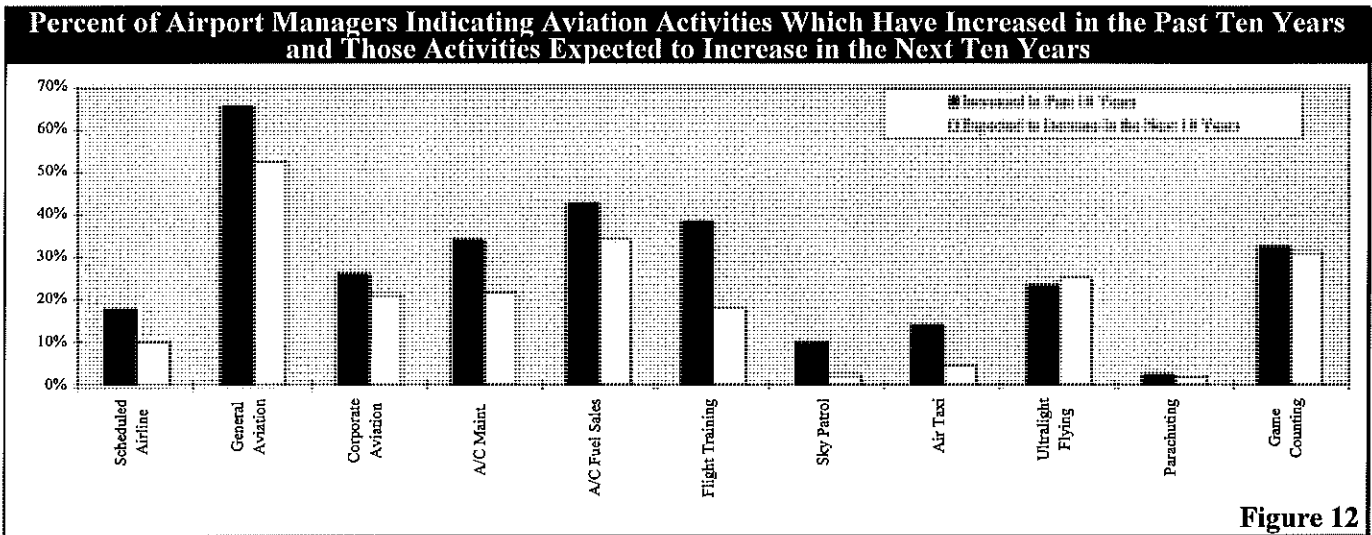
Aircraft services include:

- aerial application, provided by 79 percent of airports,
- hangar rental, provided by 78 percent of airports,
- aircraft fuel, provided by 64 percent of airports, and
- flight training, aircraft rentals and aircraft maintenance, provided by less than 50% of airports.

General public services include:

- air freight, provided by 21 percent of airports,
- automotive rental, provided by 17 percent of airports, and
- scheduled air service, provided by 15 percent of airports.

Airport managers were asked to identify airport businesses and aviation activity that have increased in the past ten years and those activities expected to increase in the next ten years at their airports (Figures 12 and 12A). Airport managers were also asked to identify activities that have decreased in the past ten years and those expected to decrease in the next ten years at their airports (Figures 13 and 13A).



Percent of Airport Managers Indicating Aviation Activities Which Have Decreased in the Past Ten Years and Those Activities Expected to Decrease in the Next Ten years

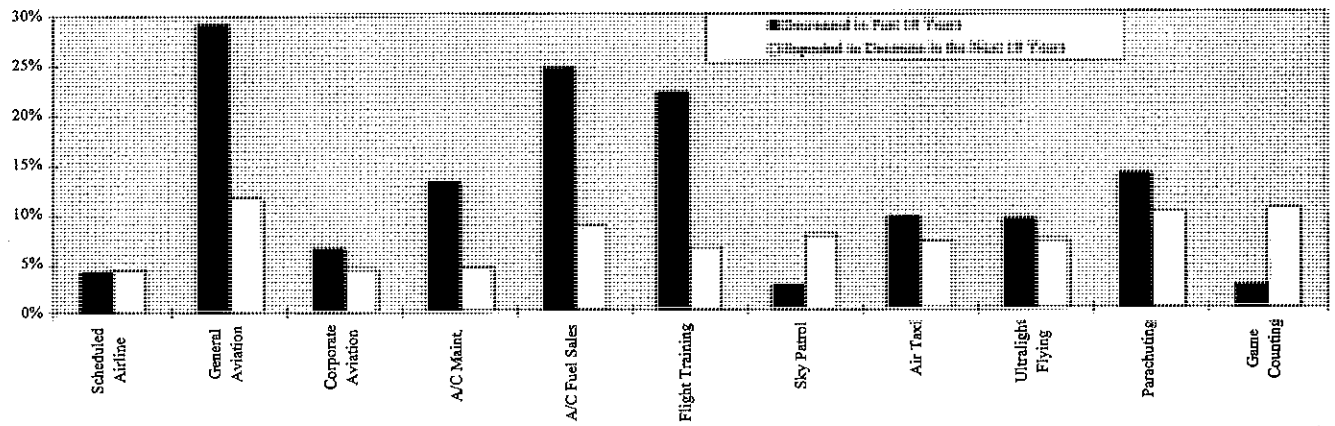


Figure 13

Percent of Airport Managers Indicating Aviation Activities Which Have Decreased in the Past Ten Years and Those Activities Expected to Decrease in the Next Ten years

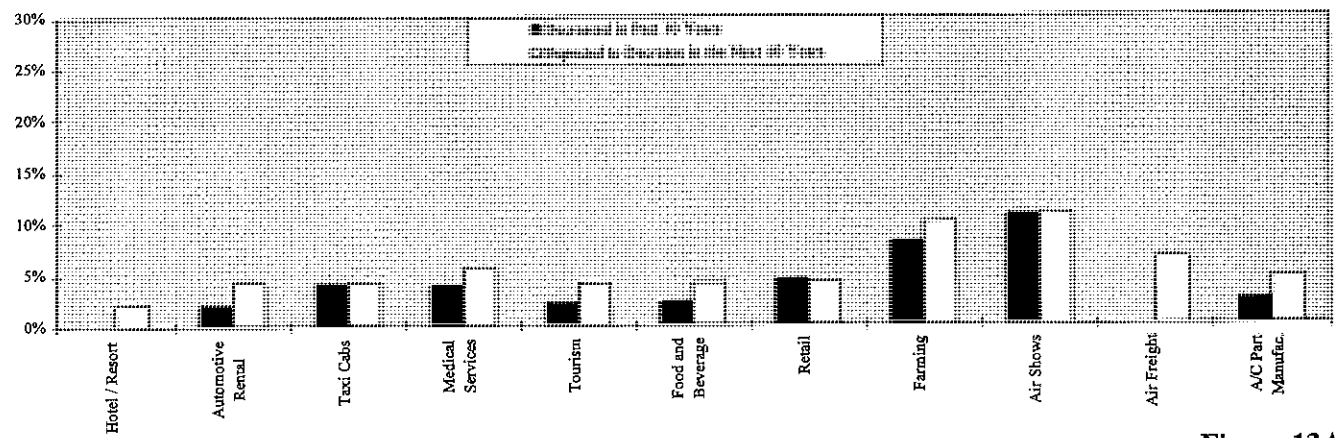


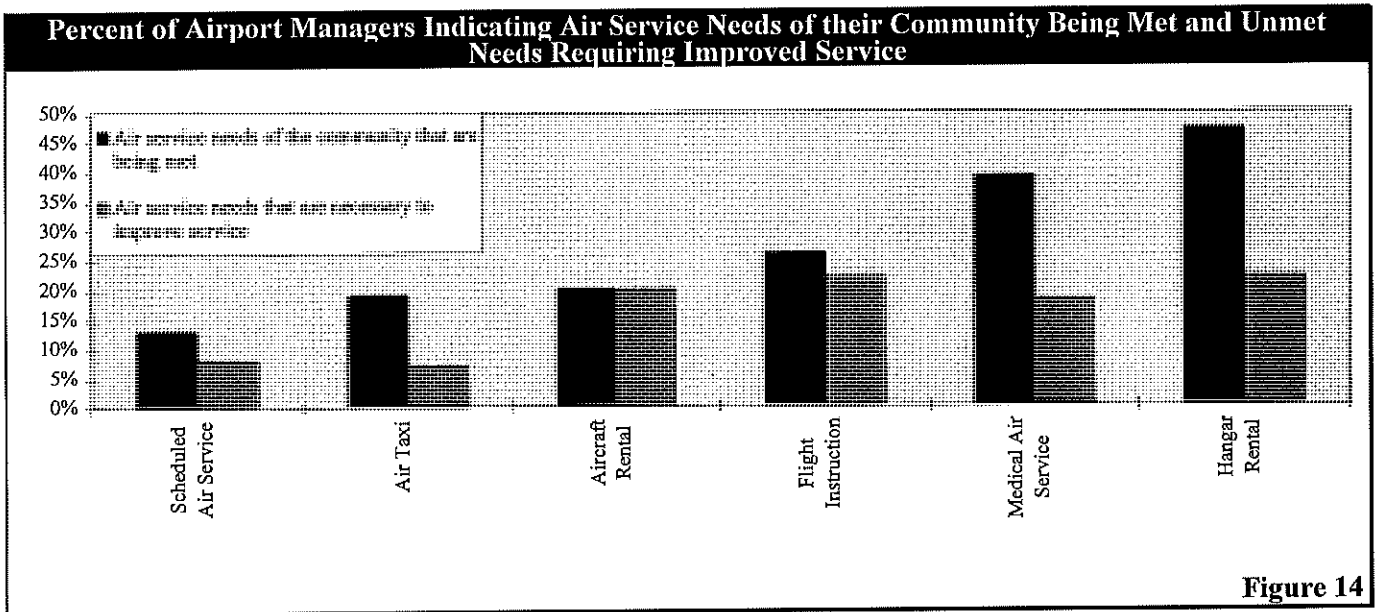
Figure 13A

When comparing increased aviation activity at airports in the past and in ten years into the future, the survey suggests the following:

- 38 percent of airport managers believe flight training will increase in the next ten years and 18 percent believe that flight training has increased in the past ten years.
- 18 percent of airport managers believe scheduled air services will increase in the next ten years and 10 percent believe it has increased in the past ten years,
- 65 percent of airport managers believe general aviation will increase in the next ten years and 53 percent believe it has increased in the past ten years, and

- 34 percent of airport managers believe purchase of aircraft maintenance services will increase in the next ten years and 22 percent believe it has increased in the past ten years. An important factor for the success of any airport is meeting the needs in the community.

Airport managers were asked to indicate the air service needs of their community that were being met and which services were needed to better serve their community (Figure 14).

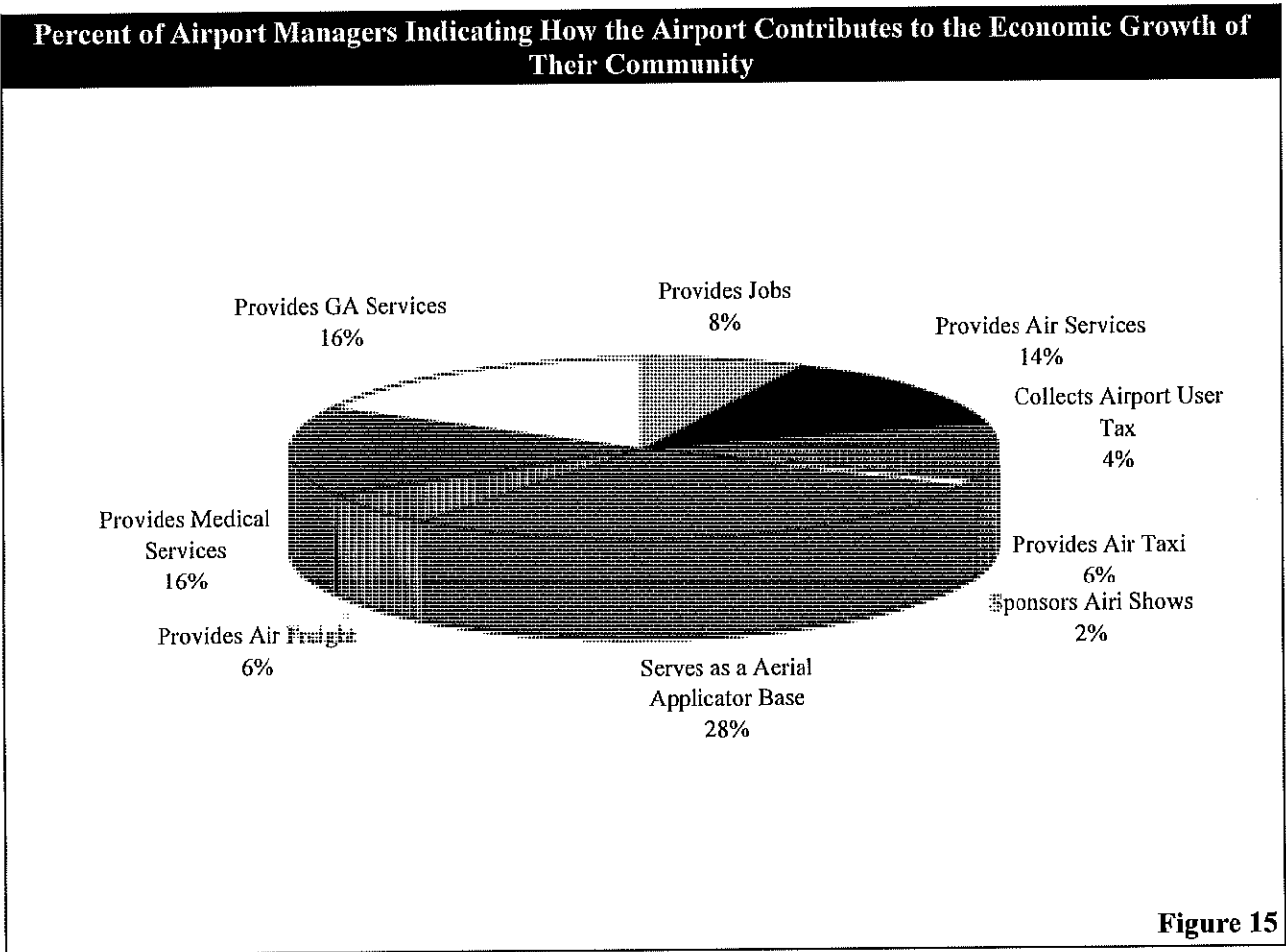


Twenty-two percent of airport managers indicated flight instruction and hangar rental were needed to improve service in their community, 20 percent of airport managers indicated their community needed aircraft rental, 18 percent indicated they needed medical air service, 8 percent indicated they needed scheduled air service, and 7 percent suggested they needed air taxi to improve service in their community.

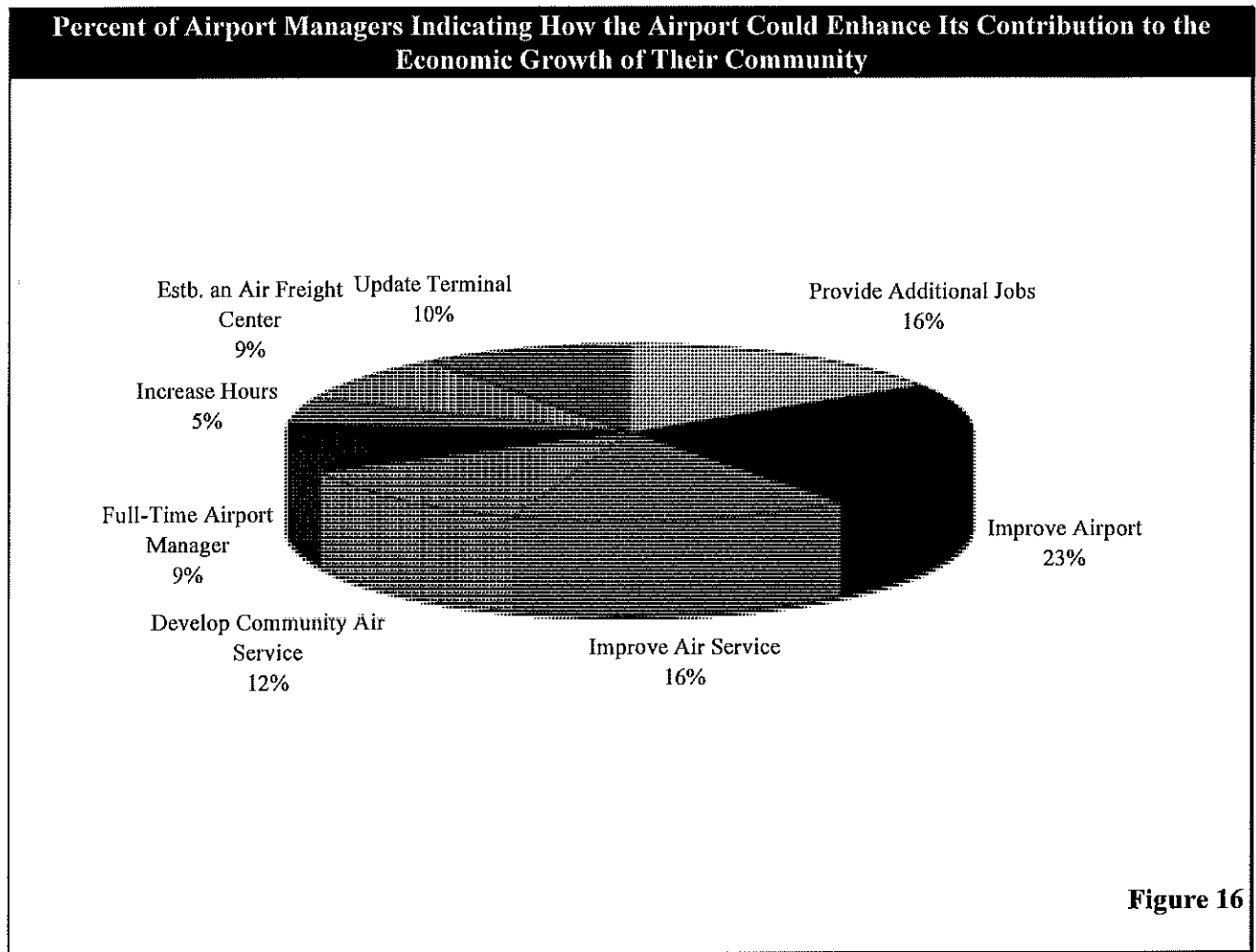
Economic Growth

Airports contribute to and influence the economic activity of the surrounding community. However, the persistent decline in the general economic well-being of the residents of many urban and rural communities has led to public concern regarding community economic development policy. Local leaders try to influence the rate of job and income growth in their communities through investments in physical and human infrastructure, searches for prospective employers, and selective tax and other incentives. The fundamental goal of most of these efforts is to stimulate the local economy to grow more rapidly than it would have without public intervention (Shaffer and Pulver, 1995).

The survey asked airport managers to indicate how their airport had contributed to the economic growth of their community (Figure 15) and how the airport could enhance its contribution to the economic well-being of their community (Figure 16).



Twenty-eight percent of airport managers believe that serving as a base for aerial applicators is one way in which their airport contributes "a lot" to the economic development of their community. Sixteen percent of airport managers indicated the use of their airport by the medical industry and providing general aviation services at their airport contribute to the economic development of their community.



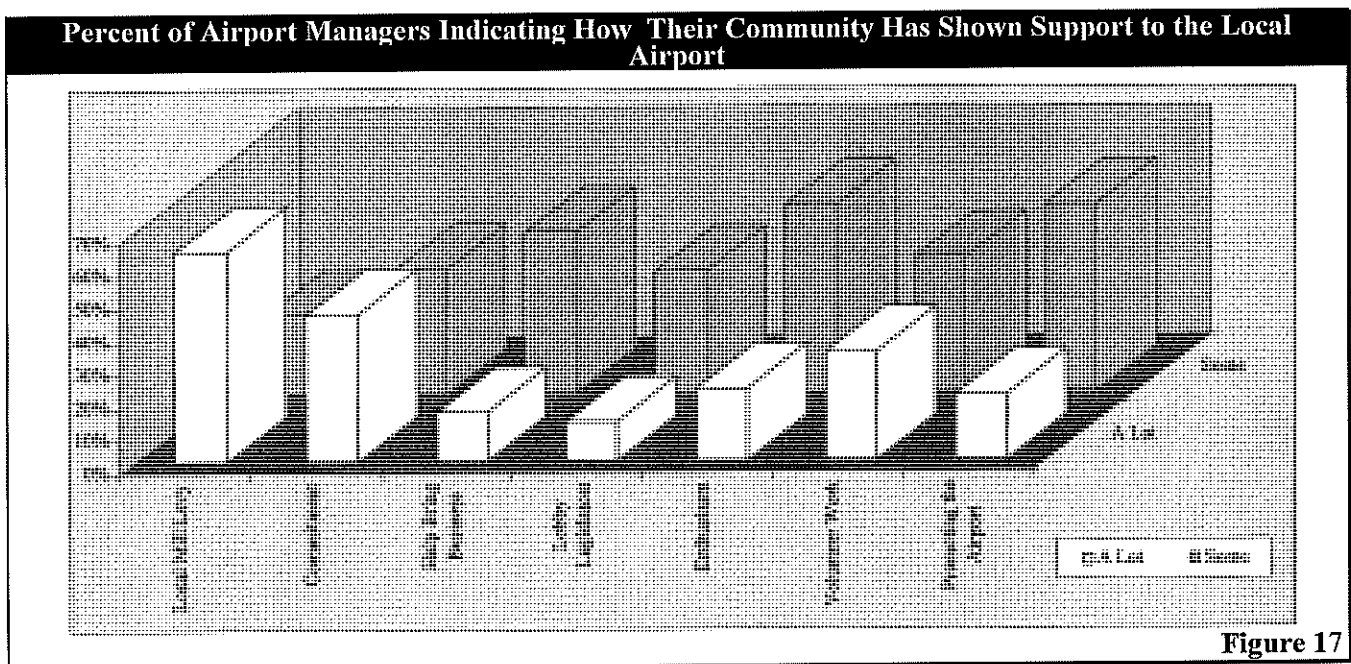
Airport managers believe the following efforts would improve their airport's contribution to the economic development of their community:

- improving airport facilities (23 percent),
- providing additional jobs (16 percent), and
- establishing an air freight center and having a full-time airport manager (9 percent).

Community Support

Community support is critical for the survival of the local airport. People must believe there are benefits to their airport and be willing to deal with the economic challenges facing rural airports. Rural problems are complex, and in most cases cannot be solved by simple or short-term actions. Instead, they require actions that integrate a number of different programs in an appropriate sequence to produce sustainable enhancements. Only then would institutions turn to higher productivity, adaptiveness and innovativeness (Reid and Sears, 1995). For example, communities must be willing to provide long-term commitment to the development of the airport, support raising funds through local mill levy or other tax measures, provide volunteer support, promote the airport, and help bring businesses to the airport.

Airport managers were asked to indicate how and to what degree ("a lot" or "some") their community has shown support for the local airport (Figure 17) and how the community could improve its support of the local airport (Figure 18).



Sixty-four percent of airport managers indicated the community has shown its support "a lot" by supporting local mill levy and 24 percent indicated "some". Forty-five percent indicated the community showed its support by providing long-term commitment. Thirty-three percent indicated that volunteer support was another way in which the community showed its support..

Percent of Airport Managers Indicating How Their Community Could Improve Support to the Local Airport

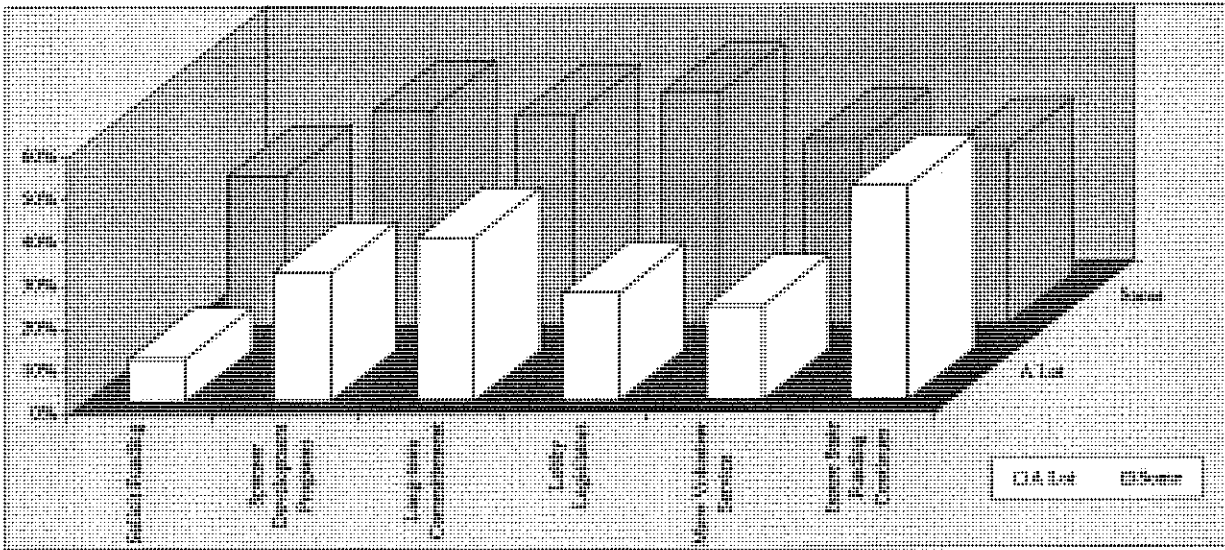


Figure 18

Fifty percent of airport managers indicated that communities could help improve their support of the airport by insuring that state and financial contributions continue; 38 percent of airport managers indicated long-term commitment was needed; 30 percent of airport managers indicated sponsoring airport development programs was needed; 25 percent indicated lobbying legislators was required and 22 percent indicated that providing more volunteers would improve community support of their airport.

Funding Source

Airports receive funding from a variety of sources including state and local aeronautics agencies, Federal Aviation Administration (FAA), airport tenant fees, landing fees, local mill levy, and rental of airport land for farming. However, without efforts to bring in business, establish an airport tax base, or create some other means of generating revenue, many rural airports risk being shut down.

The survey asked airport managers how funding can be enhanced for their airport (Figure 19) and what type of funding information they often need.

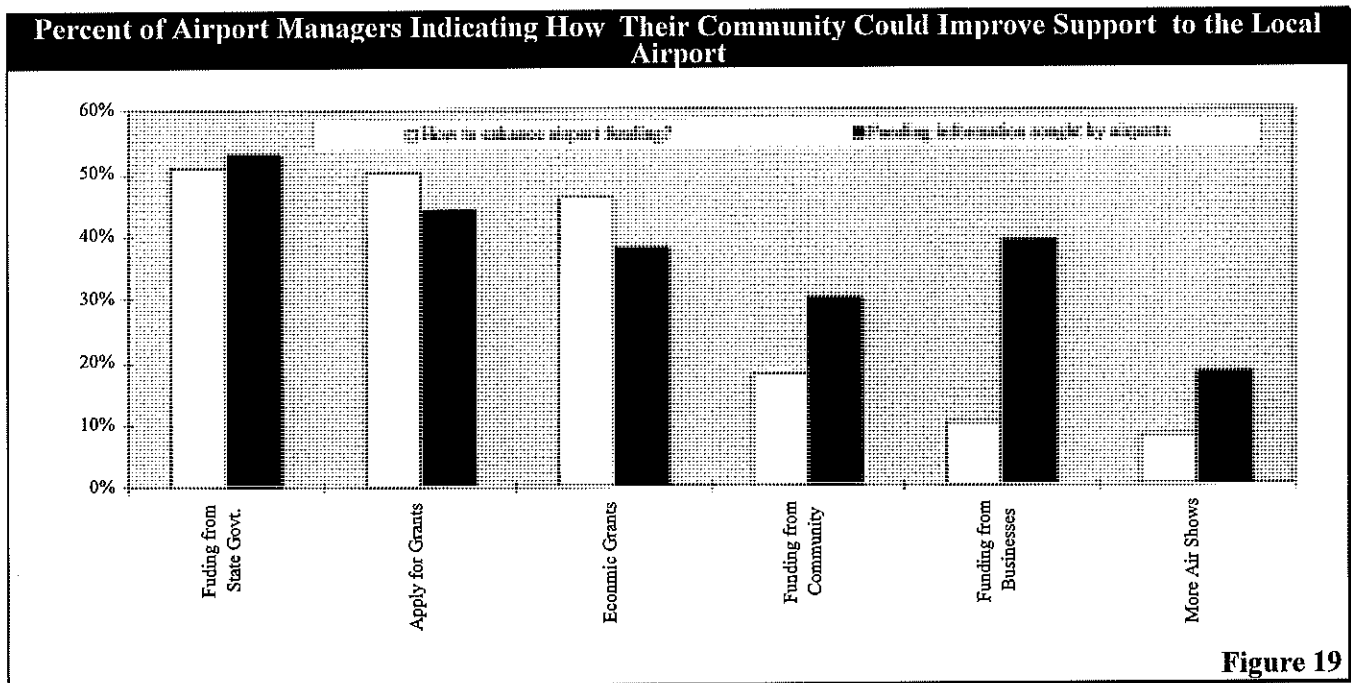


Figure 19

Over 51 percent of airport managers indicated that increased financial support from state government would enhance funding to their airport and 53 percent indicated they sought out information on federal and state grants available for small airports. Ten percent indicated that soliciting funding from businesses would enhance financial contributions to their airport, and 39 percent indicated they sought information on how to bring other businesses to the airport.

The difference between the last two responses suggests that only a small number of airport managers believe that asking businesses for financial support would enhance their airport's financial conditions. Many more airport managers believe that working to bring new businesses to the airport would benefit their airport more financially.

Environment

Airports in rural areas are often located near farmland, wetlands, rivers, lakes and other open areas. These areas are home to birds and animals and are used as migratory stopping points for wildlife. Impact to the environment resulting from airport operations could have devastating consequences on the wildlife population and their habitats.

There is also potential for impact between wildlife and aircraft in the air and on the ground. Noise pollution from aircraft could affect wildlife behavior and become a nuisance to people living near the airport. Leaking fuel tanks at airports can contaminate drinking water and storm water runoff could also adversely affect areas near the airport.

Local and federal regulations have been passed to limit impacts to the environment resulting from aviation activities. These regulations place a cost on operations at the airport. The survey asked airport managers to list potential impacts to the environment resulting from operations at their airport and which efforts would help reduce impact to the environment (Figure 20). Responses indicating "a lot" and "some" are combined.

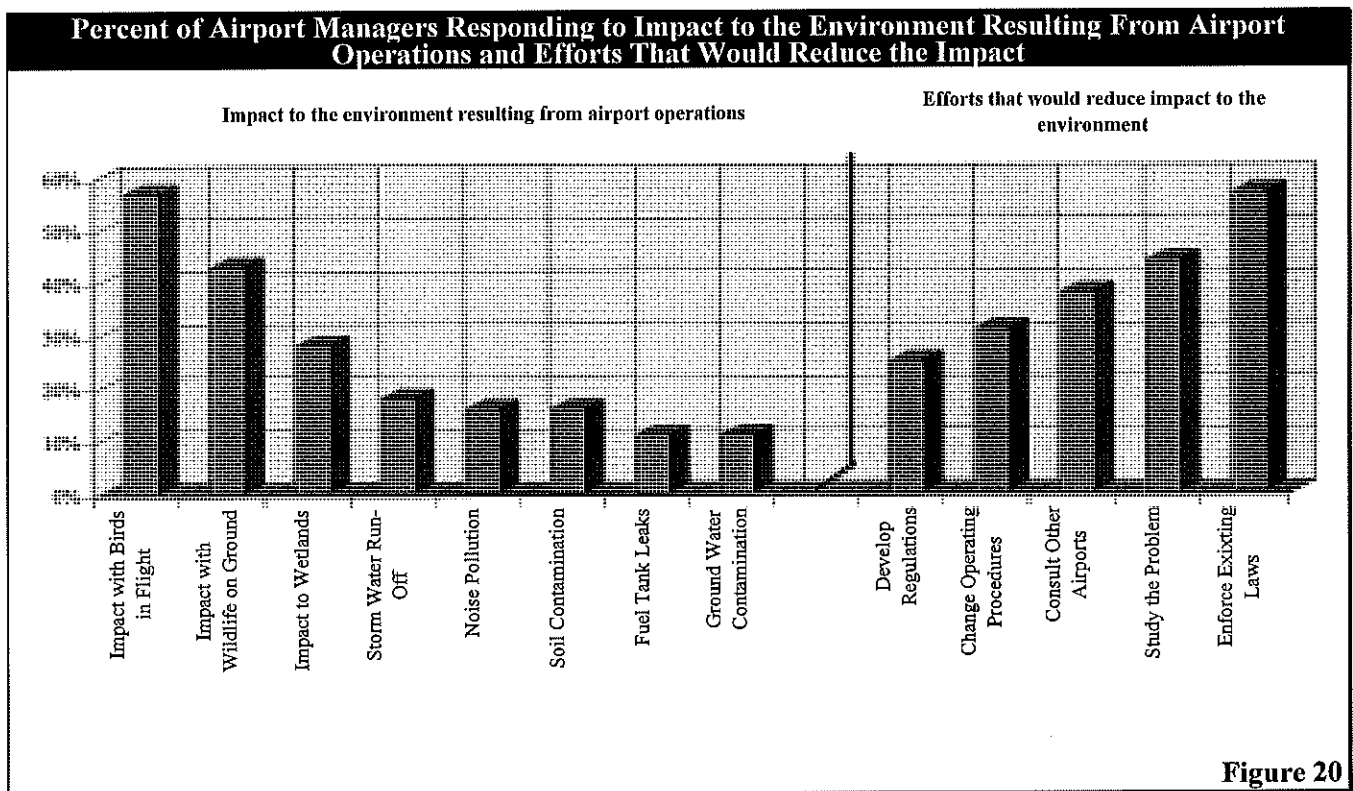
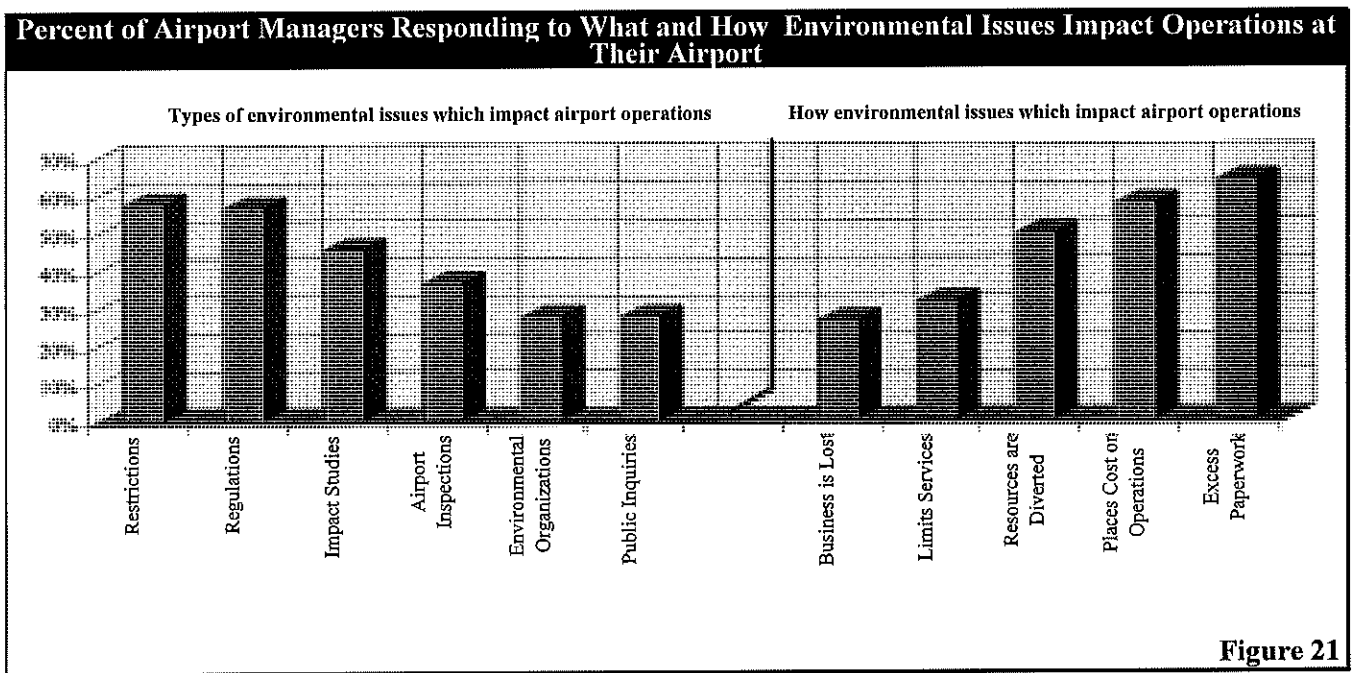


Figure 20

Fifty-seven percent of airport managers indicated there was "some" to "a lot" of impact on birds in flight as a result of operations at their airport. Forty-three percent of airport managers reported there was "some" to "a lot" of impact on wildlife on the ground. Twenty-eight percent of airport managers indicated there was "some" to "a lot" of impact on wetlands and under 20 percent reported there was "some" to "a lot" of impact from storm water run-off, noise pollution, soil contamination, fuel tank leaks, and groundwater contamination.

A fourth of the airport managers believe that developing new regulations will help "some" to reduce impact on the environment, 47 percent believe enforcing existing laws will also help "some," and 31 percent reported that changing airport operating procedures will help reduce the impact.

Airport Managers were also asked what type of environmental issues impacted operations at their airport and how these issues impact their operations (Figure 21). Responses indicating "a lot" and "some" are combined.



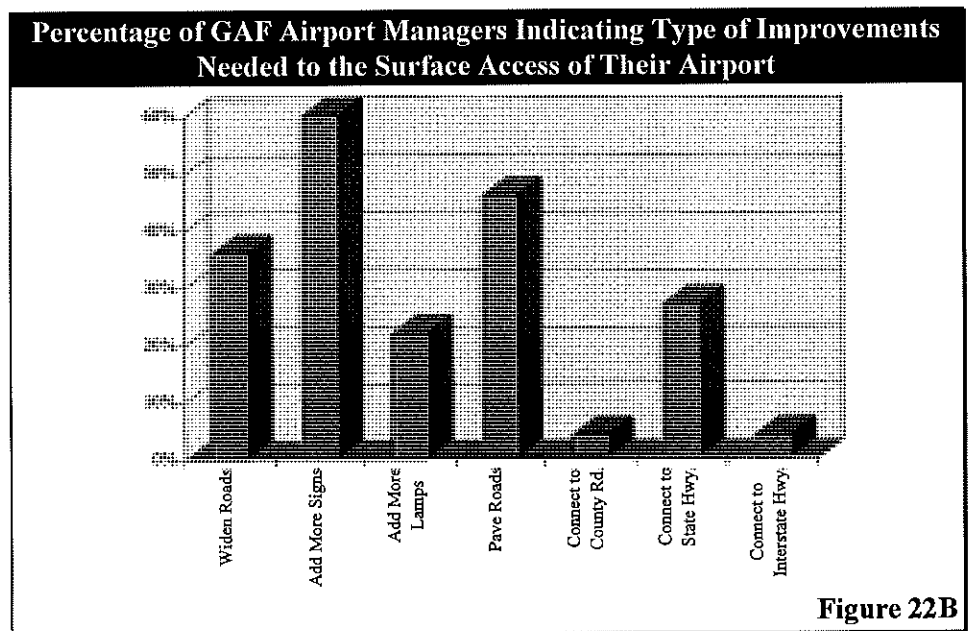
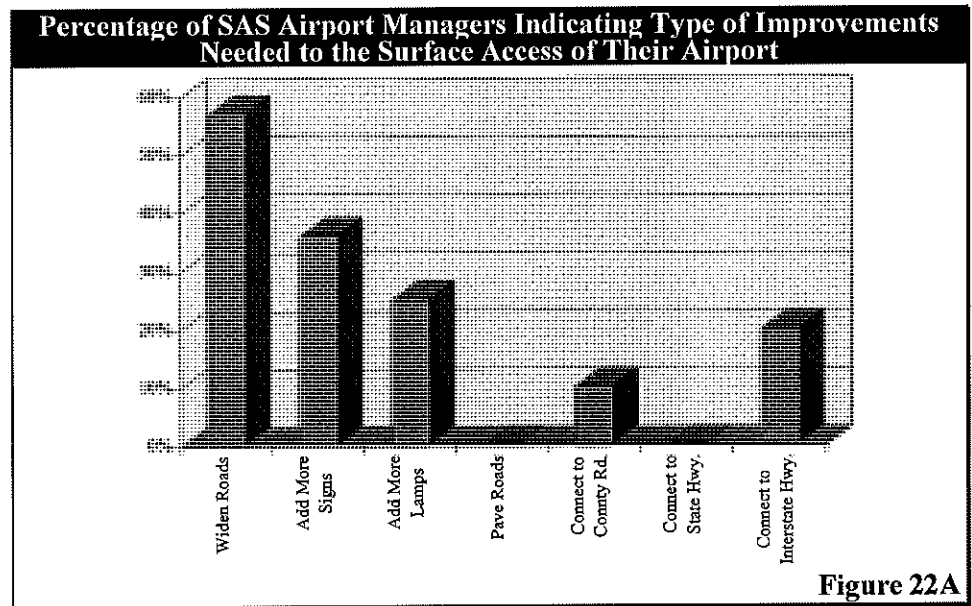
Almost 60 percent of airport managers surveyed indicated that environmental restrictions and 57 percent indicated environmental regulations impacted their operations "some" to "a lot." Forty-six percent of airport managers indicated that Environmental Impact Studies (EIS) and 37 percent indicated airport inspections impacted their operations.

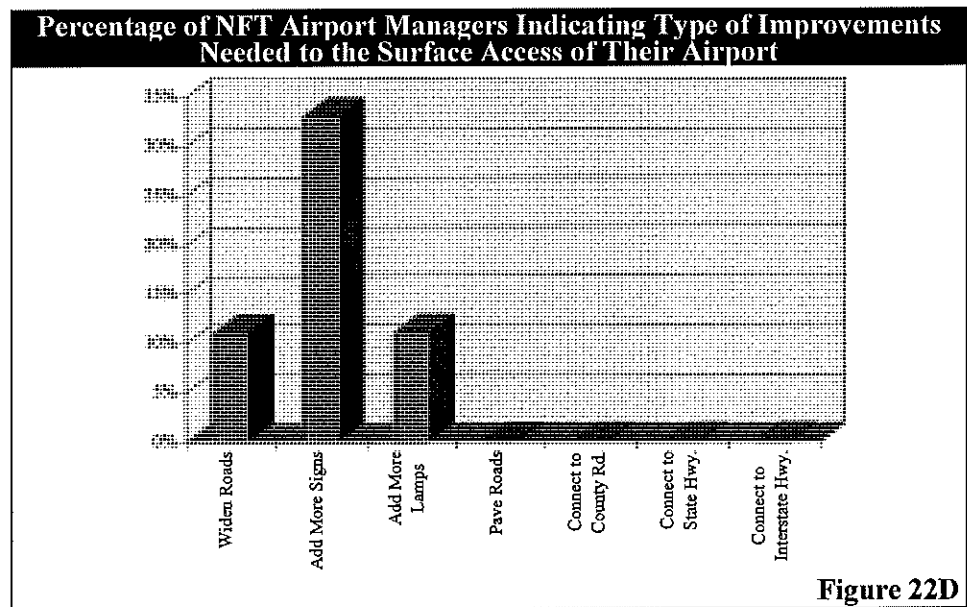
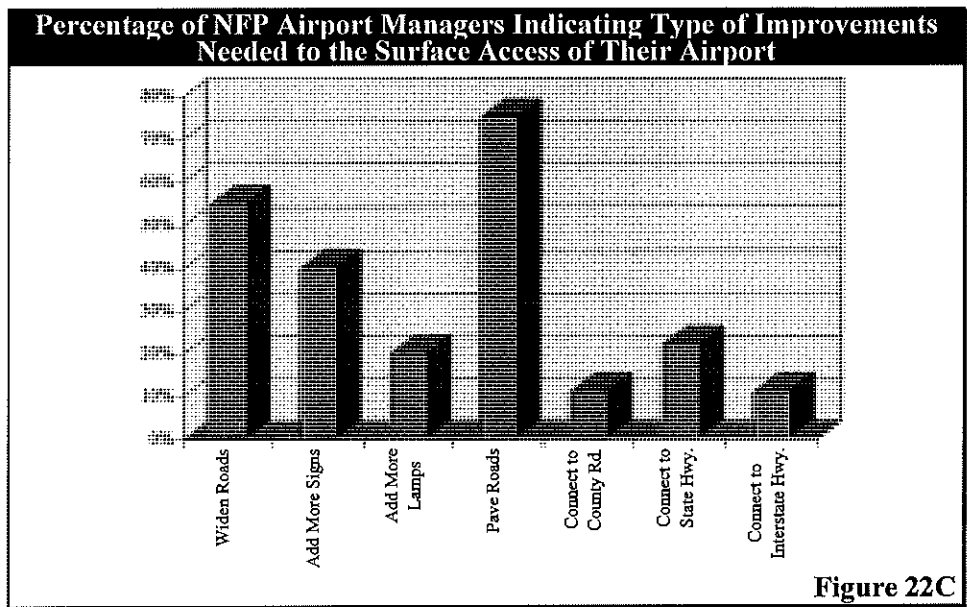
Sixty-four percent of airport managers reported "some" to "a lot" of environmental impact on their operation came from excess paperwork and 58 percent reported that environmental impact places

costs on their operations. Fifty percent of airport managers reported "some" to "a lot" of environmental impact on their operation caused capital to be diverted from operations, 32 percent reported that it limits service they can provide at their airport, and 27 percent indicated that business opportunities were lost due to restrictions.

Access

During winter, many rural roads and highways can become impassable. Covered with snow and ice, unpaved, narrow, or poorly lighted roads severely limit access to the airport. The survey asked airport managers to identify improvements needed to the surface access of their airport (Figures 22A, 22B, 22C, 22D).





Survey results indicate that:

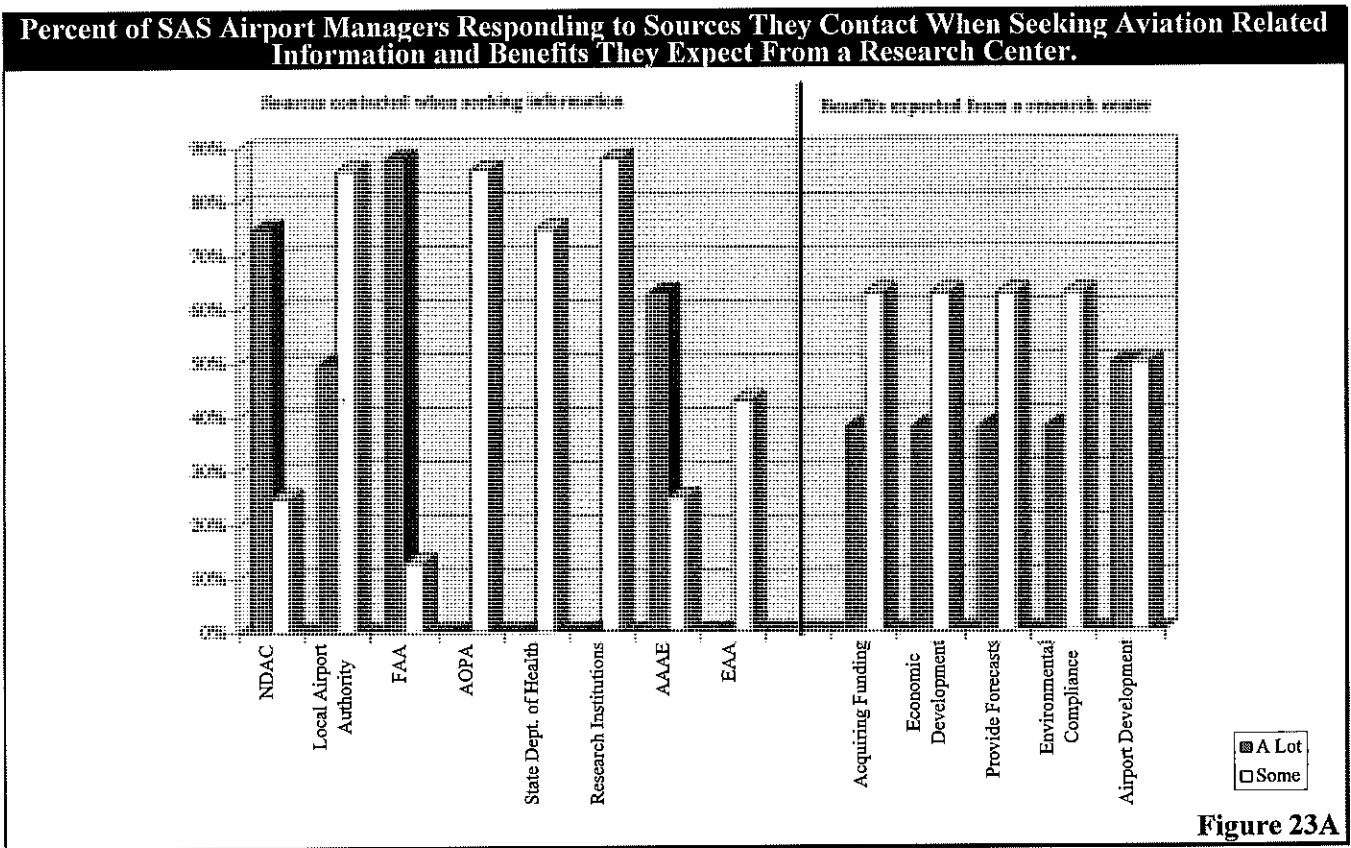
- more than half of the SAS and NFP airport managers, 36 percent of GAF and 11 percent of NFT airport managers believed that roads needed to be widened;
- thirty-six percent of SAS, 60 percent of GAF, 40 percent of NFP, and 33 percent of NFT managers believed that more road signs were needed to direct people to their airport;

- less than a fourth of all airport managers believed that more lamp posts were needed to improve the surface access to their airport; and
- 46 percent of GAF and 75 percent of NFP airport managers indicated that paving existing roads would improve access to their airport.

Information

Information is crucial if economic development efforts are to retain and expand businesses in rural towns and if decisions are to be made based on sound judgment. Economic development should be seen as a dynamic process that creates or loses opportunities depending on the community's preparedness, willingness and capacity to respond (McDowell, 1995).

Airport managers were asked to identify sources they contacted when seeking aviation-related information and the benefits they would expect from a research center designed to assist them in collecting data and helping them in operating their airport (Figures 23A, 23B, 23C., 23D).



Percent of GATF Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center.

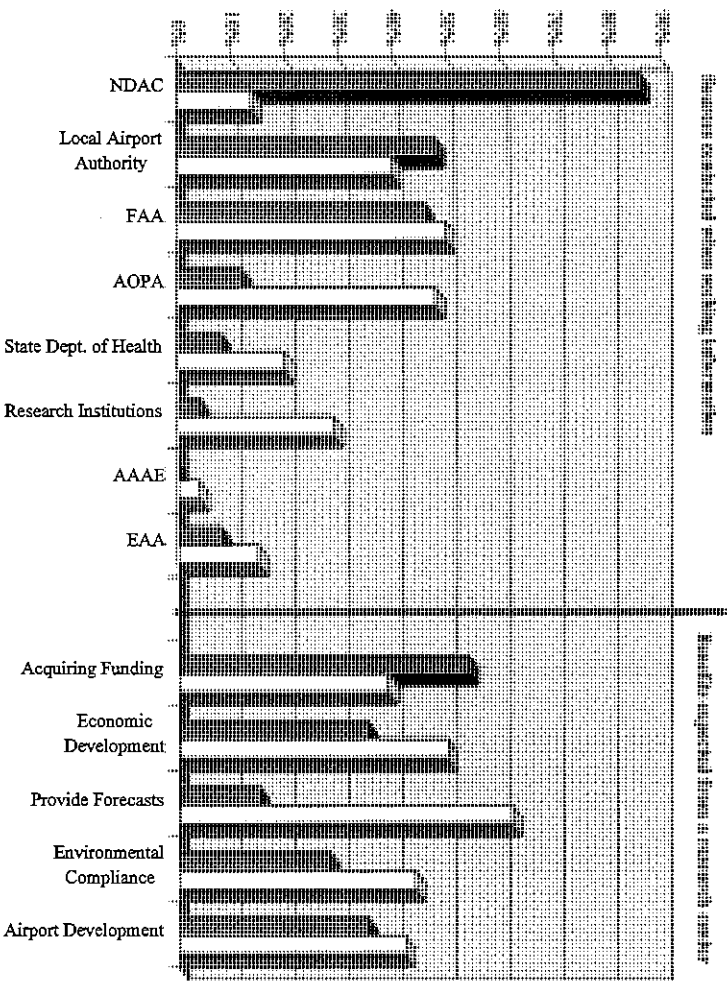


Figure 23B

Percent of NFP Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center.

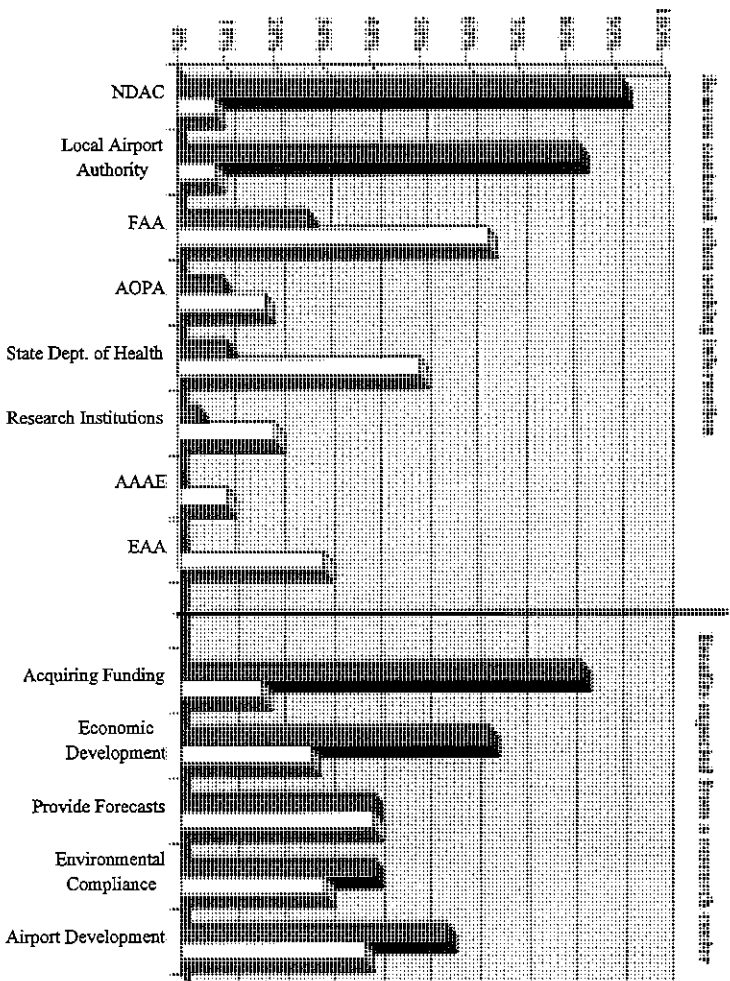


Figure 23C

Percent of NFT Airport Managers Responding to Sources They Contact When Seeking Aviation Related Information and Benefits They Expect From a Research Center.

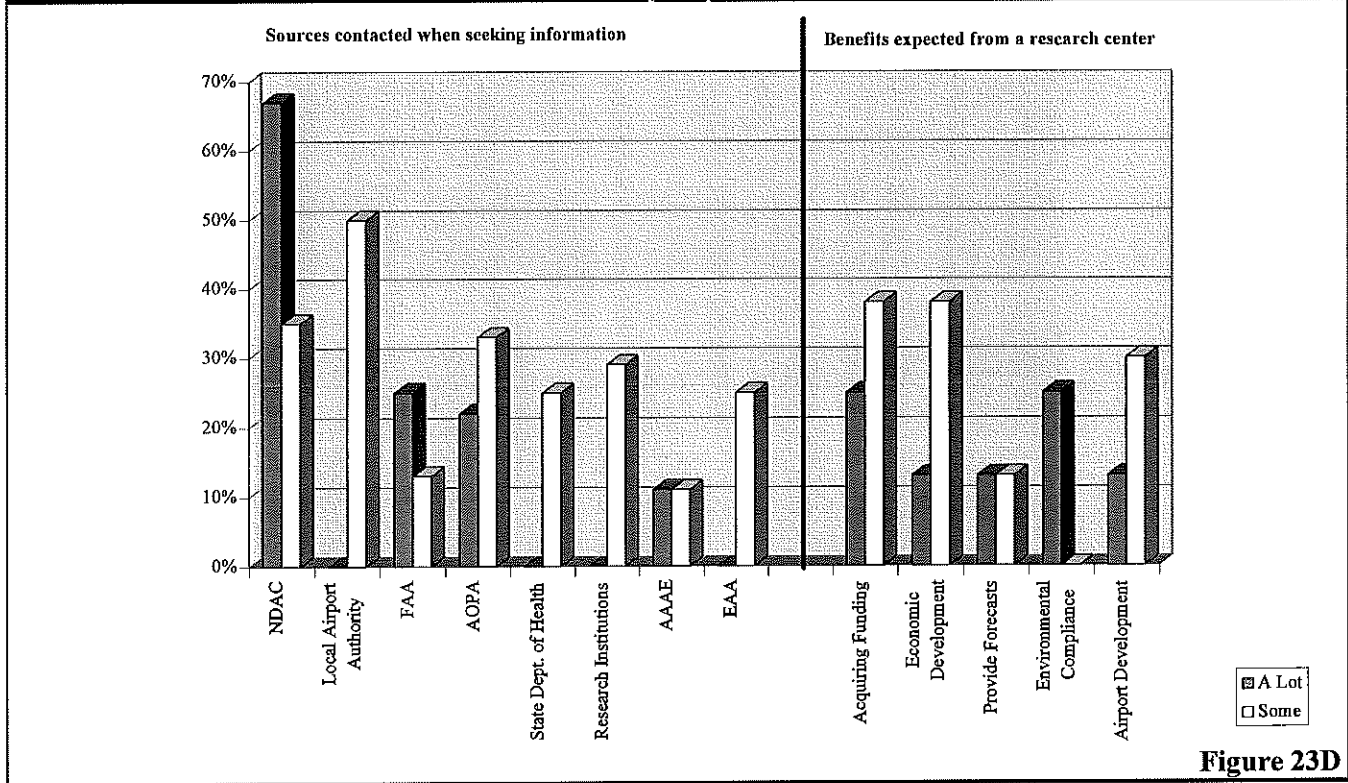


Figure 23D

The results suggest:

- 88 percent of SAS airport managers contact the FAA when seeking aviation-related information and 50 percent of these managers would like to get help in airport development from a research center;
- 86 percent of GAF airport managers, 92 percent of NFP airport managers, and 67 percent of NFT airport managers contact the NDAC when seeking information; and
- 54 percent of GAF, 83 percent of NFP and 25 percent of NFT would like to get help in acquiring funding from a research center.

Issues and Concerns

Issues regarding airport operations, regulations, funding, liability, maintaining profitability and the high cost of owning an aircraft concern airport managers today. These issues impact the survivability of an airport because they require airport managers to understand these complex issues and find the means to resolve them.

Blair and Red suggest there are several reasons why rural communities need to be careful about selecting development strategies. First, most rural communities depend on local volunteers more than their urban counterparts. Consequently, selecting strategies that are compatible with the use of voluntary resources is important. Second, many small community economies developed around natural resource-based industries (agriculture, mining and forestry) have decreasing capacity to generate income and employment. Hence, rural localities have fewer viable development approaches since most local strategies are derived from the existing economic base. Finally, many rural communities also face population decline and an aging population base. These trends affect the level of development resources, the characteristics and availability of labor, and the nature of options.

The survey asked airport managers to identify issues and concerns they believe might impact operations at their airport and how they could help resolve these concerns (Figure 24).

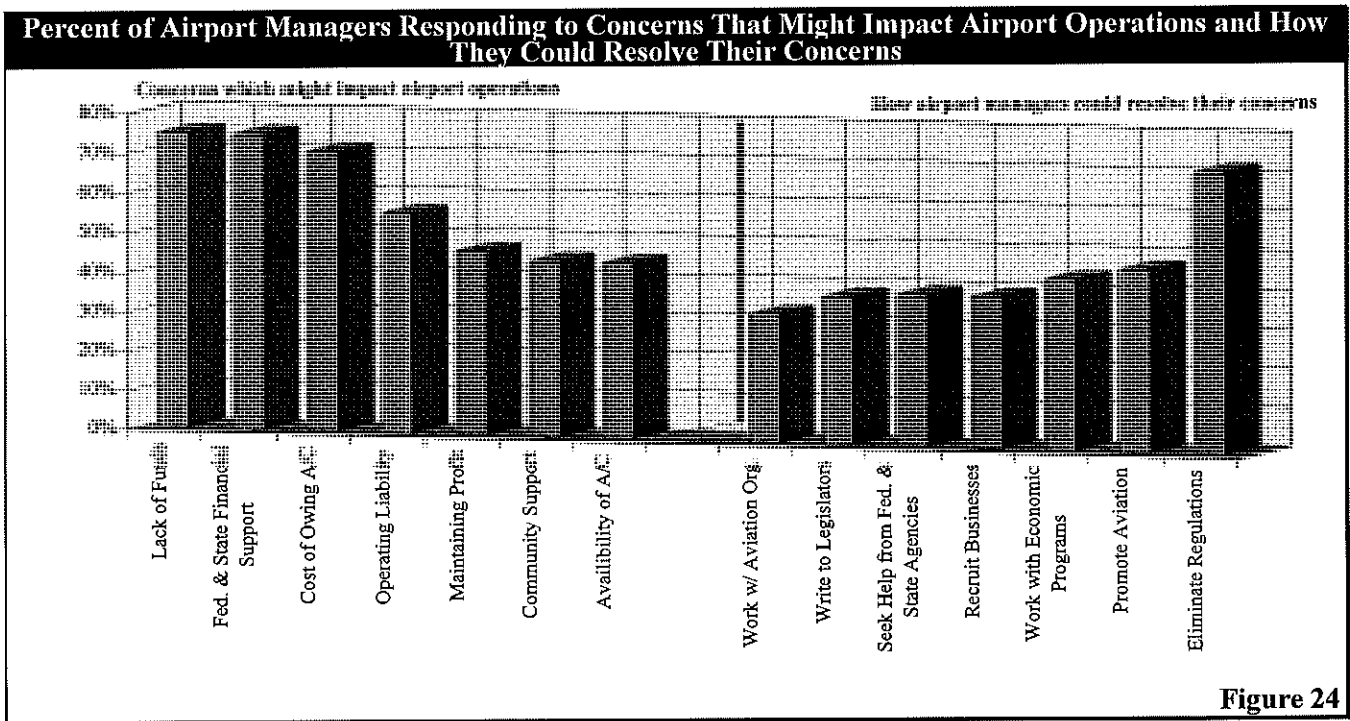


Figure 24

The survey results suggest that:

- 75 percent of airport managers are concerned about the lack of operating funds and continued financial support from local and federal government;
- 71 percent of airport managers are concerned about the high cost of owning aircraft;
- 56 of airport managers are concerned about operating liability;
- less than half of all airport managers are concerned about maintaining profitability, continued community support, and availability of aircraft.
- 72 percent of airport managers believe that eliminating regulations could help them resolve their concerns; and
- Between 33 and 47 percent of the airport managers believe that promoting aviation in the state, working with economic development programs, recruiting businesses to their airport, seeking help from federal and state agencies, writing letters to legislators and working closely with aviation organizations would help them resolve their concerns.

CONCLUSIONS

Recommendations

Through decades of investment, North Dakota's public airports have played an important role in the economic development of their communities. Increasing costs, regulations, competition, and liability place added demands on managing an airport. Today's airport managers must be more than caretakers of a plot of community land designated as the airport. They must know how to write and develop grant proposals; develop an airport plan; determine ways to bring in new business; expand their operation and be financial planners to budget and maintain their operation costs. Airport managers need to understand laws which govern land acquisition, zoning and easements; be able to determine opportunities in freight, passenger and other airport services; and be aware of the demographics and needs of their community.

Airport managers indicated in their responses that they are most concerned about maintaining profitability and continuing to receive financial support from state and local agencies. They also indicated they would like to get help with developing grant proposals, acquiring funding, and participating in state and regional economic development programs.

The following recommendations are based on the results of the survey:

- Airport Managers should develop an airport improvement plan which involves the community, local businesses, and state agencies. Efforts should be made to educate the public on the economic importance of the local airport. A plan outlining specific needs of the airport will help ensure continued financial support from the community.
- Most general aviation airport managers are volunteers. They are either business owners or work with a local aviation business and have limited participation in state and federal legislation related to airport operations. To be better informed, Airport Managers should participate more in local legislative and national congressional process which affect airport funding and other related operations.
- Rural airports provide a variety of community transportation needs. To insure that the airport can be maintained for the future use, Airport Managers need to take an active role in promoting their airport by participating in local economic development programs.
- North Dakota's rural air transportation system is a vital part of the state's economic infrastructure. It is therefore essential that airports work towards enhancing their customer base through cooperative efforts between businesses and the local communities. Efforts must be made to broaden the customer base by developing services to meet the needs of those outside the immediate airport community.
- Many businesses use the "information highway" to promote and market their products and services. Marketing through the computer network system helps promote a product to a wide

audience throughout the world. Updating and changing information is simple and easy. Airport managers should consider improving the visibility of their airport by marketing their services on the computer network systems.

- Airports in rural areas are often near farmlands, wetlands, rivers, lakes, and other open areas. In the vicinity of airports, birds, wildlife, and aircraft compete for the same space. Airport Managers should develop and implement a wildlife management program that reduces the potential for impact between wildlife and aircraft.
- Airport managers generally contact state and federal agencies when needing information about airport operations, funding, safety, etc. Airport Managers should broaden their information resources by contacting regional and national aviation organizations such as the Airport Association of North Dakota (AAND) and the American Association of Airport Executives (AAAE).

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APPENDIX A

Survey Results of Aviation Activity at North Dakota Airports

(Q-1) How many years have you been involved in the aviation industry?

	Percentage						
	Years						
	0-5	6-10	11-15	16-20	21-25	26-30	>30
Includes years of education, volunteer and work experience.	7.0	8.0	10.0	15.0	17.0	21.0	22.0

(Q-2) How many years have you been involved with this airport?

	Percentage						
	Years						
	0-5	6-10	11-15	16-20	21-25	26-30	>30
Includes years of volunteer and work experience.	15.0	21.0	12.0	20.0	12.0	8.0	12.0

(Q-3) How many hours a week on average do you spend on aviation related business?

	Percentage						
	Hours						
	0-10	11-20	21-30	31-0	41-50	51-60	>60
	51.0	7.0	0.0	12.0	11.0	14.0	5.0

(Q-4) How much of your business activities at this airport are spent on the following?

	Mean	Percentage								
		1+2	All		Some			None		6+7
			1	2	3	4	5	6	7	
A. Financial	3.94	13.2	7.5	6.7	17.0	45.3	7.5	13.2	3.8	17.0
B. Planning	3.88	13.5	5.8	7.7	21.2	38.5	15.4	7.7	3.8	11.5
C. Management	3.25	32.7	17.3	15.4	26.9	23.1	5.8	5.8	5.8	11.5
D. Economic Development	4.98	9.6	3.8	5.8	5.8	23.1	17.3	23.1	21.2	44.2
E. Supervision	3.90	19.2	13.5	5.8	19.2	26.9	17.3	7.7	9.6	17.3
F. Public Relations	4.14	16.0	8.0	8.0	18.0	32.0	10.0	14.0	10.0	24.0
G. Maintenance	3.58	26.9	11.5	15.4	25.0	23.1	9.6	11.5	3.8	15.4

(Q-5) What type of services are available at your airport?

	Percentage		
	Yes	No	Don't Know
A. Aircraft Maintenance	42.0	58.0	0.0
B. Aircraft Fuel	65.4	34.6	0.0
C. Aircraft Sales	37.3	62.7	0.0
D. Aircraft Rental	42.0	56.0	2.0
E. Flight Training	48.0	52.0	0.0
F. Aircraft Maintenance Training	6.3	91.7	2.1
G. Scheduled Air Service	14.6	85.4	0.0
H. Ultralight Flying	31.1	64.6	4.2
I. Air Freight	18.8	81.3	0.0
J. Food and Beverage Service (not including vending machines)	6.4	93.6	0.0
K. Automotive Rental	16.7	83.3	0.0
L. Weather Computer	22.4	77.6	0.0
M. Parachute or Sky Jumping	6.3	93.8	0.0
N. Fire and Rescue	21.3	78.7	0.0
O. Hangar Rental	72.5	27.5	0.0
P. Aerial Photography	31.9	66.0	2.1
Q. Aircraft and / or Aircraft Part Manufacturing	8.5	91.5	0.0
R. Air Taxi	25.0	75.0	0.0
S. Pilot Services	44.7	55.3	0.0
T. Crop Spraying	80.8	19.2	0.0
U. Avionics	10.4	89.6	0.0
V. Air Shows and Flight Demonstrations	14.9	85.1	0.0

(Q-6) How has the use of your airport by the following groups changed in the past 10 years and how do you see the future use of your airport change by these groups ?

	Percentage							
	Past 10 Years				Future 10 Years			
	Increased	Decreased	No Change	Don't Know	Increase	Decrease	No Change	Don't Know
A. Scheduled Airlines	10.6	4.3	80.9	4.3	17.0	4.3	68.1	10.6
B. General Aviation	51.9	26.9	19.2	1.9	59.6	11.5	21.2	7.7
C. Hotel / Motel / Resorts	26.5	0.0	65.3	8.2	30.6	2.0	55.1	12.2
D. Automotive Rental	16.3	2.0	75.5	6.1	22.4	4.1	61.2	12.2
E. Local Taxi (cab) Service	12.2	2.0	77.6	8.2	14.6	4.2	70.8	10.4
F. Medical Services	34.6	3.8	51.9	9.6	34.6	5.8	53.8	5.8
G. Tourism	32.7	2.0	51.0	14.3	42.9	4.1	42.9	10.2
H. Food and Beverage	17.0	2.1	66.0	14.9	18.8	4.2	68.8	8.3
I. Retail	19.1	4.3	63.8	12.8	27.1	4.2	58.3	10.4
J. Farming	33.3	7.8	49.0	9.8	28.8	9.6	50.0	11.5
K. Corporate Aviation	18.8	2.1	68.8	10.4	20.8	4.2	62.5	12.5
L. Aircraft Maint. Purchase	18.4	10.2	57.1	14.3	30.4	4.3	52.2	13.0
M. Pilots Purchasing Fuel	33.3	23.5	39.2	3.9	36.0	8.0	42.0	14.0
N. Flight Instruction	18.0	20.0	54.0	8.0	32.7	6.1	49.0	12.2
O. Sky Patrol	2.1	2.1	74.5	21.3	8.7	6.5	63.0	2.7
P. Purchase of Air Taxi Service	4.2	8.3	68.8	18.8	10.6	6.4	66.0	17.0
Q. Ultralight Flying	20.8	8.3	54.2	16.7	21.7	6.5	56.5	15.2
R. Air Shows & Flight Demos.	8.3	8.3	72.9	10.4	18.4	8.2	59.2	14.3
S. Parachute or Sky Jumping	2.2	13.0	71.7	13.0	2.2	8.9	71.1	17.8
T. Air Freight	14.6	0.0	75.0	10.4	20.8	6.3	60.4	12.5
U. Game Counting	24.5	2.0	57.1	16.3	20.8	8.3	45.8	25.0
V. Aircraft and / or Aircraft Part Manufacturing	8.9	2.2	79.3	15.6	8.5	4.3	70.2	17.0

(Q-7) If the overall use of your airport has increased in the past 10 years, indicate the most important factors that have contributed to this increase.

Responses Are Presented in no Particular Order	
Airline Discounting Tickets	Access to Aircraft and Farm Machine Parts
Discovery of Oil Reserve in the Area	Aerial Applicators
Federal, State, and Local Financial Support	Aggressive Marketing of Businesses on the Field
Fixed Based Operator Located on the Field	Aircraft Fuel Sale
Flight Training at the University of North Dakota	Airport and Facilities Improvement
Improved Runway Lighting	Airport Management
Increase in Convention Traffic	Economic Development
Increase in Recreation Flying	Game Counting
Increased Freight Activity	Hangar Rental
Increased General Aviation Use	Improving Economy
Increased Use for Medical Services	Increased Corporate Aviation Use
New Businesses Moving Into Town	Increased Manufacturing Activities
New Construction in the Area	Increased Pilot Operations
New Hard Surface Runway	Increased Use From Out-of-state
Providing Better Commercial Air Service	Local Gambling Casino
Small Game Hunting	Longer Runway
Tourism	Military Use of Airport
Weather Modification Use of Airport	Providing More Aircraft Maintenance

(Q-8) If the overall use of your airport has decreased in the past 10 years, indicate the most important factors that have contributed to this increase.

Responses Are Presented in no Particular Order	
Cost of Flying an Aircraft	Cost of Owning an Aircraft
Cost of Insurance	Drop in Aerial Applicator Use of the Airport
Decrease in Population	Lack of Interest in Airports by Young People
Decrease Use of the Airlines by Canadians	Lack of Interest in Promoting the Airport
Failure of Fixed Based Operators	Less Pilots in the State
Gravel Runways	Limited Funds to Finance Airport Improvements
High Cost of Fuel and Maintenance	Local Hospital and Small Business Closing Down
Increase in Operating Regulations	Low Recreation Use
Less People Flying These Days	Need to Included Global Positioning System Approaches
Limited Ability to Acquire Long-Term Loans	Product Liability Law Suits
Loss of Activity Related to Oil Reserves	Regulations on Fuel Services
Loss of Services at the Airport	Slow Economy
Reduced General Aviation Use of Airport	Snow Fall Creates Drifts and Covers Up Runways

(Q-9) Which of the following industries do you believe benefit from your airport?

	Mean	Percentage								
		1+2	Substantial		Some			None		6+7
			1	2	3	4	5	6	7	
A. Mail Service	5.94	10.4	8.3	2.1	2.1	6.3	4.2	10.4	66.7	77.1
B. Flight Schools	4.76	18.0	12.0	6.0	14.0	16.0	6.0	6.0	40.0	46.0
C. Fixed Base Operators	4.17	32.7	23.1	9.6	7.7	13.5	9.6	5.8	30.8	36.5
D. Business Travelers	3.04	48.1	24.1	24.1	13.0	22.2	5.6	1.9	9.3	11.1
E. Vacation Travelers	3.45	32.1	13.2	18.9	11.3	37.7	9.4	3.8	5.7	9.4
F. Hotel / Motel / Resorts	4.69	19.6	5.9	13.7	9.8	23.5	5.9	5.9	35.3	41.2
G. Car Rental	5.41	16.3	6.1	10.2	2.0	10.2	8.2	16.3	46.9	63.3
H. Taxi (cab) Service	5.74	13.0	6.5	6.5	6.5	4.3	2.2	10.9	63.0	73.9
I. Medical	3.92	34.0	16.0	18.0	12.00	22.0	4.0	4.0	24.0	28.0
J. Recreation (fishing, hunting, ect.)	3.96	32.7	13.5	19.2	5.8	21.2	17.3	5.8	17.3	23.1
K. Food and Beverage	5.57	6.3	2.1	4.2	6.3	16.7	10.4	14.6	45.8	60.4
L. Retail	5.04	10.4	4.2	6.3	4.2	27.1	14.6	14.6	29.2	43.8
M. Cargo	5.45	12.5	8.3	4.2	10.4	4.2	8.3	14.6	50.0	64.6
N. Farming	2.78	60.4	34.0	26.4	11.3	9.4	7.5	3.8	7.5	11.3
O. Law Firms	5.25	7.8	3.9	3.9	9.8	15.7	19.6	7.8	39.2	47.1
P. Banks	5.04	8.0	6.0	2.0	12.0	18.0	20.0	8.0	34.0	42.0
Q. Parts and Supply	4.38	18.0	8.0	10.0	16.0	18.0	18.0	10.0	20.0	30.0
R. Hardware and Lumber Supply	5.76	4.2	2.1	2.1	4.2	14.6	12.5	16.7	47.9	64.6
S. Energy and Mining	5.61	8.3	4.2	4.2	8.3	12.5	4.2	14.6	52.1	66.7
T. Oil Exploration and Drilling	5.80	8.0	2.0	6.0	6.0	8.0	6.0	18.0	54.0	72.0
U. Educational and Research Centers	5.61	10.4	0.0	10.4	4.2	10.4	6.3	27.1	41.7	68.8

(Q-10) Which air service needs of your community are being met by your airport?

	Mean	Percentage								
		1+2	All		Some			None		6+7
			1	2	3	4	5	6	7	
A. Scheduled Air Service	6.16	14.6	4.2	10.4	0.0	0.0	0.0	6.3	79.2	85.4
B. Air Taxi Service	5.35	18.4	10.2	8.2	8.2	8.2	2.0	2.0	61.2	63.3
C. Aircraft Rental Service	4.98	22.0	12.0	10.0	10.0	12.0	2.0	2.0	52.0	54.0
D. Medical Air Service	3.83	37.7	22.6	15.1	15.1	11.3	5.7	0.0	30.2	30.2
E. Corporate Air Service	5.31	14.9	8.5	6.4	10.6	10.6	4.3	4.3	55.3	59.6
F. Hangar and Tie Down Rental Service	3.28	47.2	32.1	15.1	18.9	5.7	3.8	3.8	20.8	24.5
G. Pilot Services	4.30	32.7	12.2	20.4	10.2	12.2	8.2	4.1	32.7	36.7
H. Flight Instruction Service	4.64	26.5	12.2	14.3	10.2	12.2	6.1	4.1	40.8	44.9

(Q-11) What is needed at your airport to better serve your community?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Scheduled Air Service	5.49	8.9	2.2	6.7	15.6	8.9	4.4	6.7	55.6	62.2
B. Airspace and Approach Protection	5.24	6.7	2.2	4.4	17.8	13.3	13.3	2.2	46.7	48.9
C. Air Freight	5.18	13.3	0.0	13.3	11.1	15.6	8.9	6.7	44.4	51.1
D. Medical Air Service	4.28	19.1	12.8	6.4	21.3	21.3	4.3	6.4	27.7	34.0
E. Paved Runway	4.11	29.8	27.7	2.1	17.0	8.5	6.4	6.4	31.9	38.3
F. Control Tower	6.38	4.4	2.2	2.2	2.2	4.4	4.4	6.7	77.8	84.4
G. Fire and Rescue Operation	5.76	6.7	2.2	4.4	8.9	11.1	4.4	11.1	57.8	68.9
H. Weather Information Service	4.34	21.3	14.9	6.4	17.0	19.1	6.4	6.4	29.8	36.2
I. Flight Instruction Service	4.15	21.3	12.8	8.5	21.3	21.3	6.4	4.3	25.5	29.8
J. Aircraft Maintenance Service	4.30	21.7	15.2	6.5	15.2	23.9	6.5	4.3	28.3	32.6
K. Hangar and Tie Down Rental Service	3.93	22.7	18.2	4.5	25.0	25.0	2.3	0.0	25.0	25.0
L. Aircraft Rental Service	4.23	21.3	10.6	10.6	17.0	25.5	6.4	2.1	27.7	29.8
M. Air Taxi Service	4.98	4.8	4.8	0.0	19.0	23.8	9.5	7.1	35.7	42.9

(Q-12) How does your airport contribute to the economic growth of the community?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Provides Jobs	4.31	17.6	9.8	7.8	27.5	11.8	9.8	5.9	27.5	33.3
B. Provides Air Service Access to Other Communities	4.12	32.7	16.3	16.3	16.3	10.2	2.0	8.2	30.6	38.8
C. Collects Airport User Tax, Landing Fees, and Tenant Tax	5.63	8.2	6.1	2.0	8.2	10.2	8.2	10.2	55.1	65.3
D. Provides Air Taxi Service to Businesses	5.15	16.7	10.4	6.3	8.3	12.5	6.3	8.3	47.9	56.3
E. Sponsors Air Shows and Demonstrations	5.63	4.1	0.0	4.1	16.3	10.2	6.1	8.2	55.1	63.3
F. Serves as a Base for Crop Sprayers	2.29	70.4	55.6	14.8	9.3	5.6	7.4	1.9	5.6	7.4
G. Provides Air Freight Service	5.51	14.9	8.5	6.4	4.3	6.4	8.5	12.8	53.2	66.0
H. Provides Air Medical Service	3.98	36.5	25.0	11.5	15.4	3.8	9.6	1.9	32.7	34.6
I. General Aviation Services (fuel, aircraft & hangar rentals ect.)	3.56	44.2	28.8	15.4	11.5	11.5	5.8	1.9	25.0	26.9

(Q-13) How can your airport enhance its contribution to the economic development of the community?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Provide Additional Jobs	3.96	24.0	12.0	12.0	20.0	24.0	6.0	8.0	18.0	26.0
B. Improve Airport Services	3.39	34.7	18.4	16.3	22.4	22.4	4.1	4.1	12.2	16.3
C. Improve Air Service	4.13	27.1	10.4	16.7	16.7	18.8	6.3	6.3	25.0	31.3
D. Develop Community-Owned Air Service	5.09	19.6	8.7	10.9	2.2	15.2	10.9	10.9	41.3	52.2
E. Maintain a Full-Time Airport Manager if None Exists	5.36	14.9	8.5	6.4	6.4	8.5	8.5	12.8	48.9	61.7
F. Increase Operation Hours	5.60	8.9	4.4	4.4	4.4	13.3	13.3	6.7	53.3	60.0
G. Establish a Regional Air Freight Distribution Center	5.33	12.5	6.3	6.3	10.4	8.3	10.4	10.4	47.9	58.3
H. Build or Update Terminals	5.15	17.4	10.9	6.5	6.5	10.9	10.9	6.5	47.8	54.3

(Q-14) Indicate how the community has shown its support for your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Local City Mill Levy	2.38	63.6	43.6	20.0	23.6	1.8	0.0	0.0	10.9	10.9
B. Long-Term Commitment	3.12	46.2	32.7	13.5	23.1	5.8	7.7	0.0	17.3	17.3
C. Help Bring Business to the Airport	4.41	15.7	9.8	5.9	21.6	19.6	7.8	9.8	25.5	35.3
D. Lobby Legislators	5.15	12.5	6.3	6.3	2.1	18.8	16.7	18.8	31.3	50.0
E. Enthusiasm	4.00	20.0	12.0	8.0	18.0	26.0	14.0	10.0	12.0	22.0
F. Volunteer Work	3.88	32.0	22.0	10.0	12.0	14.0	14.0	12.0	16.0	28.0
G. Assist With Promoting the Airport	4.00	21.2	15.4	5.8	17.3	23.1	15.4	9.6	13.5	23.1

(Q-15) How can the community improve its support to your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Solicit Funding From Local Businesses	5.38	8.5	6.4	2.1	4.3	14.9	17.0	17.0	38.3	55.3
B. Sponsor Airport Development Programs	3.75	30.8	19.2	11.5	11.5	23.1	15.4	5.8	13.5	19.2
C. Commit to Long-Term Development	3.29	39.2	23.5	15.7	11.8	29.4	5.9	3.9	9.8	13.7
D. Lobby Legislators	3.90	27.1	16.7	10.4	10.4	27.1	14.6	6.3	14.6	20.8
E. Provide More Volunteer Services	4.26	22.9	10.4	12.5	10.4	31.3	4.2	12.5	18.8	31.3
F. Help Insure State Financial Contribution	2.80	50.0	38.0	12.0	16.0	18.0	6.0	2.0	8.0	10.0

(Q-16) What are the funding sources for your airport?

	Percentage		
	Yes	No	Don't Know
A. Federal Government	45.1	51.0	3.9
B. State Government	76.9	21.2	1.9
C. County Government	66.0	34.0	0.0
D. Federal Aviation Administration	51.0	42.9	6.1
E. North Dakota Aeronautics Commission	88.5	7.7	3.8
F. Airport is Leased to a Single Private Operator	8.0	90.0	2.0
G. Airport Tenant Fees	73.5	26.5	0.0
H. Farmland Rental	75.5	24.5	0.0

(Q-17) How do you believe funding can be enhanced for your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Apply for Grants	2.56	52.9	39.2	13.7	19.6	21.6	2.0	0.0	3.9	3.9
B. Economic Development Grant	3.11	47.2	26.4	20.8	18.9	11.3	7.5	1.9	13.2	15.1
C. Solicit Funding from Businesses	5.19	11.1	4.4	6.7	8.9	17.8	11.1	13.3	37.8	51.1
D. Solicit Funding from the Community	4.62	19.1	8.5	10.6	10.6	21.3	10.6	6.4	31.9	38.3
E. Request Funding Increase from the State Government	2.88	52.9	31.4	21.6	21.6	7.8	2.0	2.0	13.7	15.7
F. Request Funding Increase from the Federal Government	3.46	40.0	24.0	16.0	20.0	14.0	2.0	4.0	20.0	24.0
G. Request Funding Increase from Federal Aviation Admin.	3.22	42.9	28.6	14.3	16.3	22.4	0.0	2.0	16.3	18.4
H. Establish Fair User Fees	5.02	15.2	8.7	6.5	10.9	15.2	8.7	8.7	41.3	50.0
I. Sponsor More Air Shows and Demonstrations	5.49	8.7	2.2	6.5	8.7	15.2	8.7	8.7	50.0	58.7

(Q-18) Are there any potential impacts to the environment resulting from operations at your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Impact with Birds in Flight	5.04	7.5	3.8	3.8	17.0	13.2	13.2	20.8	28.3	49.1
B. Impact with Wildlife on Ground	5.60	3.8	1.9	1.9	9.6	5.8	19.2	25.0	36.5	61.5
C. Impact to Wetlands	6.08	2.0	2.0	0.0	2.0	11.8	7.8	21.6	54.9	76.5
D. Noise Pollution Impact to Wildlife	6.31	0.0	0.0	0.0	2.0	4.1	12.2	22.4	59.2	81.6
E. Air Pollution	6.51	0.0	0.0	0.0	0.0	0.0	6.3	33.3	60.4	93.8
F. Air Traffic Density	6.53	0.0	0.0	0.0	0.0	2.0	4.1	30.6	63.3	96.9
G. Fuel Tank Leaks	6.37	0.0	0.0	0.0	4.1	2.0	6.1	26.5	61.2	87.8
H. Ground Water Contamination	6.39	0.0	0.0	0.0	0.0	4.2	8.3	29.2	58.3	87.5
I. Storm Water Run-Off	6.31	0.0	0.0	0.0	0.0	2.0	16.0	30.0	52.0	82.0
J. Soil Contamination	6.25	0.0	0.0	0.0	2.1	4.2	10.4	31.3	52.1	83.3

(Q-19) Which of the following would help reduce impact to the environment resulting from operations at your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Develop New Regulations	6.12	0.0	0.0	0.0	5.9	7.8	11.8	17.6	56.9	74.5
B. Consult With State or Federal Agencies	5.59	0.0	0.0	0.0	7.8	19.6	21.6	7.8	43.1	51.0
C. Enforce Existing Laws	5.14	8.0	4.0	4.0	12.0	18.0	18.0	4.0	40.0	44.0
D. Change Airport Operating Procedures	6.02	0.0	0.0	0.0	6.1	14.3	10.2	10.2	59.2	69.4
E. Consult Other Airports	5.69	2.0	2.0	0.0	12.0	12.0	12.0	12.0	50.0	62.0
F. Study the Problem	5.25	14.0	4.0	10.0	4.0	18.0	10.0	12.0	42.0	54.0

(Q-20) What type of environment issues impact operations at your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Restrictions	4.86	12.5	4.2	8.3	12.5	20.8	14.6	10.4	29.2	39.6
B. Environmental Regulations	4.55	22.4	10.2	12.2	14.3	16.3	4.1	14.3	28.6	42.9
C. Environmental Impact Studies	5.20	6.4	4.3	2.1	17.0	17.0	6.4	14.9	38.3	53.2
D. Noise Abatement Regulations	6.10	2.1	2.1	0.0	6.3	8.3	0.0	27.1	56.3	83.3
E. Environmental Organizations	5.76	4.1	2.0	2.0	12.2	8.2	4.1	20.4	51.0	71.4
F. Legal Actions	6.08	2.1	2.1	0.0	6.3	4.2	10.4	20.8	56.3	77.1
G. Airport Inspections	5.60	2.0	2.0	0.0	12.2	16.3	8.2	14.3	46.9	61.2
H. Public Inquiries	5.90	2.1	2.1	0.0	6.3	12.5	8.3	18.8	52.1	70.8

(Q-21) How do environmental issues impact operations at your airport?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Limit Services That Can be Provided	5.61	10.6	6.4	4.3	6.4	8.5	6.4	17.0	51.1	68.1
B. Business Opportunities are Lost Due to Restrictions	5.75	10.0	6.0	4.0	4.0	6.0	8.0	20.0	52.0	72.0
C. Compliance with Regulations Places Costs on Operation	4.70	20.8	13.2	7.5	7.5	17.0	11.3	9.4	34.0	43.4
D. Resources are Diverted from Capital	4.96	15.7	11.8	3.9	7.8	19.6	3.9	15.7	37.3	52.9
E. Creates Excess Paperwork	4.04	35.3	25.5	9.8	7.8	11.8	9.8	7.8	27.5	35.3

(Q-22) What are the main surface accesses to your airport?

	Percentage		
	Yes	No	Don't Know
A. Interstate Highway	23.9	76.1	0.0
B. State Highway	71.7	28.3	0.0
C. County Highway	60.4	39.6	0.0
D. Gravel Road	65.2	32.6	2.2
E. Railway	19.0	81.0	0.0

(Q-23) What type of improvements are necessary to the surface access of your airport?

	Percentage		
	Yes	No	Don't Know
A. Connect with Interstate Highway	4.3	93.5	2.2
B. Connect with State Highway	18.8	77.1	4.2
C. Connect with County Road	6.4	89.4	4.3
D. Widen Existing Road	35.3	62.7	2.0
E. Pave Existing Road	42.0	54.0	4.0
F. Add More Lamp Posts	19.6	76.1	4.3
G. Add More Road Signs	46.8	51.1	2.1

(Q-24) Do you have a need for any of the following information?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Federal and State Grants Available for Small Airports	2.76	55.6	42.6	13.0	14.8	11.1	3.7	3.7	11.1	14.8
B. Writing Grant Proposals for State and Federal Agencies	3.15	45.3	34.0	11.3	20.8	11.3	0.0	7.5	15.1	22.6
C. Planning for an Air Show	4.69	19.6	11.8	7.8	13.7	7.8	15.7	11.8	31.4	43.1
D. Promoting the Airport	3.19	40.4	25.0	15.4	21.2	15.4	7.7	7.7	7.7	15.4
E. How to Expand the Airport	3.52	38.5	21.2	17.3	17.3	11.5	11.5	7.7	13.5	21.2
F. Land Acquisition, Zoning, and Easements	4.04	29.4	17.6	11.8	11.8	19.6	9.8	5.9	23.5	29.4
G. How to Improve Airport Services	3.65	37.3	17.6	19.6	9.8	23.5	7.8	5.9	15.7	21.6
H. Expanding Your Charter Air Service	5.00	16.3	6.1	10.2	12.2	14.3	4.1	12.2	40.8	53.1
I. Developing a Regional Airline	5.78	8.0	2.0	6.0	6.0	10.0	8.0	10.0	58.0	68.0
J. How to Bring Other Businesses to the Airport	3.36	39.6	22.6	17.0	15.1	20.8	9.4	1.9	13.2	15.1
K. Air Freight Utilization in North Dakota	4.38	24.0	14.0	10.0	12.0	20.0	4.0	12.0	28.0	40.0
L. Income Statistics for the Community	4.51	22.4	6.1	16.3	12.2	18.4	10.2	6.1	30.6	36.7
M. Education Statistics for the Community	4.71	20.4	4.1	16.3	8.2	22.4	8.2	6.1	34.7	40.8
N. Results of Studies on Rural Aviation in North Dakota	3.76	39.2	23.5	15.7	11.8	13.7	3.9	7.8	23.5	31.4
O. Heliport Development	5.33	4.1	4.1	0.0	12.2	20.4	8.2	16.3	38.3	55.1
P. North Dakota Aviation Related Environmental Impact Studies	4.47	0.4	6.1	14.3	10.2	24.5	10.2	10.2	24.5	34.7
Q. Hangar Development	3.76	28.6	16.3	12.2	20.4	18.4	10.2	8.2	14.3	22.4
R. North Dakota Airport Maintenance Schedule and Forecast	3.82	28.6	18.4	10.2	26.5	12.2	4.1	6.1	22.4	28.6
S. North Dakota Aviation Capital Improvement Plan	3.67	39.2	17.6	21.6	13.7	19.6	0.0	5.9	21.6	27.5
T. Determining the Air Service Needs of the Community	3.88	32.0	14.0	18.0	22.0	12.0	4.0	6.0	24.0	30.0
U. Aircraft and Powerplant Schools in North Dakota	5.23	8.3	4.2	4.2	10.4	14.6	14.6	16.7	35.4	52.1
V. Aircraft Owners in the Community	3.73	36.7	18.4	18.4	16.3	16.3	2.0	6.1	22.4	28.6

(Q-25) Which source do you contact when seeking aviation related information?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. North Dakota Aeronautics Commission	1.75	82.1	58.9	23.2	3.6	12.5	1.8	0.0	0.0	0.0
B. Aircraft Owners and Pilots Association	5.00	10.0	2.0	8.0	14.0	16.0	14.0	16.0	30.0	46.0
C. Research or Educational Institutions in North Dakota	5.54	2.1	2.1	0.0	14.6	12.5	10.4	16.7	43.8	60.4
D. Local Airport Authority	2.75	51.9	26.9	25.0	25.0	9.6	3.8	1.9	7.7	9.6
E. Federal Aviation Administration	3.17	47.2	20.8	26.4	13.2	18.9	7.5	1.9	11.3	13.2
F. North Dakota Department of Health	5.55	6.1	2.0	4.1	6.1	12.2	14.3	22.4	38.8	61.2
G. American Association of Airport Executives	6.04	10.0	2.0	8.0	0.0	6.0	4.0	18.0	62.0	80.0
H. Experimental Aircraft Association	5.96	4.1	0.0	4.1	6.1	8.2	8.2	18.4	55.1	73.5
I. Land Acquisition, Zoning, and Easements	6.02	2.0	0.0	2.0	0.0	10.2	20.4	16.3	51.0	67.3
J. Hangar Development	5.16	10.2	4.1	6.1	10.2	18.4	10.2	12.2	38.8	51.0
K. How to Bring Other Businesses to the Airport	5.31	12.5	4.2	8.3	8.3	6.3	16.7	16.7	39.6	56.3
L. How to Improve Airport Services	4.92	12.5	6.3	6.3	14.6	14.6	12.5	12.5	33.3	45.8

(Q-26) If a research center were established to assist you in collecting data or assist your airport operations, what benefits would you expect from such a center?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Assist in Acquiring Funding	2.67	55.6	37.0	18.5	14.8	16.7	3.7	1.9	7.4	9.3
B. Assist Rural Economic Development Programs	3.33	39.2	25.5	13.7	17.6	19.6	5.9	3.9	13.7	17.6
C. Serve as an Aviation Research Site	3.76	32.7	20.4	12.2	14.3	22.4	6.1	4.1	20.4	24.5
D. Career Development	4.29	20.4	8.2	12.2	12.2	24.5	16.3	6.1	20.4	26.5
E. Maintain Data Banks	4.22	26.0	8.0	18.0	6.0	32.0	6.0	8.0	22.0	30.0
F. Provide Forecasts	4.08	26.0	14.0	12.0	16.0	18.0	12.0	6.0	22.0	28.0
G. Conduct Surveys	4.00	25.5	15.7	9.8	13.7	21.6	15.7	5.9	17.6	23.5
H. Maintain Rural Aviation Statistical Database	4.08	30.0	14.0	16.0	8.0	20.0	14.0	8.0	20.0	28.0
I. Assist with Environmental Compliance	3.92	34.7	16.3	18.4	10.2	18.4	6.01	10.2	2.4	30.6
J. Assist Airports with Development Plans	3.27	41.2	27.5	13.7	19.6	15.7	3.9	5.9	13.7	19.6

(Q-27) Which of the following concerns might impact your airport operations?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Increased Regulations	2.38	60.4	43.4	17.0	18.9	9.4	3.8	5.7	1.9	7.5
B. Lack of Operating Funds	2.08	73.1	53.8	19.2	11.5	5.8	3.8	1.9	3.8	5.8
C. Lack of Information	3.65	31.4	19.6	11.8	11.8	23.5	17.6	5.9	9.8	15.7
D. Lack of Community Support	3.13	44.4	25.9	18.5	11.1	13.0	25.9	3.7	1.9	5.6
E. Impact to the Environment	3.86	28.0	22.0	6.0	10.0	24.0	14.0	12.0	12.0	24.0
F. Lack of Air Service	4.37	30.6	24.5	6.1	2.0	16.3	12.2	4.1	34.7	38.8
G. Availability of Aircraft Fuel	3.49	47.1	27.5	19.6	9.8	9.8	3.9	11.8	17.6	29.4
H. Not Enough Jobs	4.16	22.0	14.0	8.0	16.0	26.0	6.0	6.0	24.0	30.0
I. High Cost of Owning an Aircraft	2.17	68.5	53.7	14.8	11.1	13.0	1.9	0.0	5.6	5.6
J. Not Enough Research and Development	4.22	12.0	8.0	4.0	22.0	30.0	12.0	8.0	16.0	24.0
K. Operation Liability	2.80	54.9	33.3	21.6	11.8	17.6	5.9	0.0	9.8	9.8
L. Tax Reform	3.20	42.9	26.5	16.3	18.4	12.2	14.3	0.0	12.2	12.2
M. New Legislation	2.94	50.0	30.0	20.0	16.0	14.0	10.0	0.0	10.0	10.0
N. Continued Financial Support from Local & Federal Government	2.02	76.5	52.9	23.5	11.8	3.9	2.0	0.0	5.9	5.9
O. Lack of Economic Development Fund	3.35	41.2	23.5	17.6	13.7	19.6	9.8	2.0	13.7	15.7
P. Safety of Airport Systems	3.63	38.8	18.4	20.4	10.2	16.3	16.3	2.0	16.3	18.4
Q. Inadequate Pilot Weather Briefing Systems	4.02	32.0	14.0	18.0	10.0	20.0	8.0	8.0	22.0	30.0
R. Limited Air Freight Services	4.86	16.3	6.1	10.2	12.2	12.2	16.3	8.2	34.7	42.9
S. Maintain Profitability	3.22	49.0	29.4	19.6	13.7	9.8	7.8	3.9	15.7	19.6
T. Access to Federal Aviation Administration Services	3.40	42.0	24.0	18.0	18.0	12.0	8.0	2.0	18.0	20.0
U. Inadequate Essential Air Service Funding	4.37	23.9	15.2	8.7	8.7	19.6	13.0	8.7	26.1	34.8

(Q-28) How could you help resolve these concerns?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. Work Closely With the Economic Development Program	3.02	45.3	26.4	18.9	2.8	15.1	5.7	5.7	7.5	13.2
B. Help Recruit Businesses to the Airport	3.18	42.0	24.0	18.0	20.0	18.0	4.0	6.0	10.0	16.0
C. Help Promote Aviation in North Dakota	2.72	49.1	26.4	22.6	26.4	13.2	5.7	0.0	5.7	5.7
D. Be More Active in the Community	3.52	28.0	18.0	10.0	28.0	20.0	8.0	2.0	14.0	16.0
E. Seek Assistance from Federal and State Regulatory Agencies	3.18	40.0	24.0	16.0	22.0	16.0	8.0	6.0	8.0	14.0
F. Eliminate Burdensome Regulations	2.14	74.0	54.0	20.0	10.0	6.0	0.0	4.0	6.0	10.0
G. Work Closely With National Aviation Organizations	3.48	32.0	16.0	16.0	24.0	18.0	12.0	2.0	12.0	14.0
H. Write Letter to Legislators	3.39	37.3	19.6	17.6	19.6	17.6	7.8	7.8	9.8	17.6
I. Reform Aircraft Tort and Liability Laws	2.33	69.2	51.9	17.3	7.7	7.7	7.7	0.0	7.7	7.7
J. Keep Airport Authority Aware of Issues	2.55	58.5	32.1	26.4	17.0	15.1	3.8	0.0	5.7	5.7

(Q-29) Which issues are important to you about having this airport in your community?

	Mean	Percentage								
		1+2	A Lot		Some			None		6+7
			1	2	3	4	5	6	7	
A. It is the Activity Center of the Town	4.58	14.0	2.0	12.0	18.0	22.0	8.0	16.0	22.0	38.0
B. It is One of the Main Means of Transport	4.29	26.5	10.2	16.3	8.2	20.4	12.2	10.2	22.4	32.7
C. It is a Training Site of Future Pilots	4.26	30.0	14.0	16.0	10.0	12.0	12.0	10.0	26.0	36.0
D. It Provides Air Freight Service	5.10	18.4	12.2	6.1	4.1	12.2	12.2	8.2	44.9	53.1
E. It is Critical to the Farming Industry	2.51	66.0	43.4	22.6	7.5	7.5	9.4	3.8	5.7	9.4
F. It is Important to Our Community Development Program	2.62	58.5	43.4	15.1	9.4	15.1	9.4	0.0	7.5	7.5
G. It is a Means of Pleasure and Recreation	2.42	63.6	34.5	29.1	12.7	12.7	7.3	1.8	1.8	3.6
H. It Provides Air Medical Service	3.08	52.8	35.8	17.0	11.3	11.3	1.9	9.4	13.2	22.6

APPENDIX B

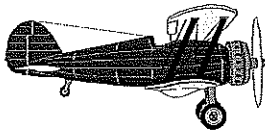
Survey of Aviation Activity In North Dakota Airports

Survey of Aviation Activities in

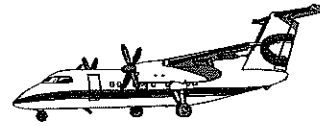


Airports

Rural and Small Urban



Aviation



Research Program

Instructions

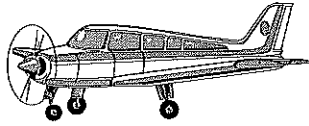
1. Please read and answer all questions carefully.
2. Select the response that best represents your feelings. You are encouraged to comment on your answers.
3. There are no right or wrong answers and you may select more than one answer unless otherwise indicated.
4. To ensure anonymity, your name will not appear on any part of the published results.
5. When you have completed the survey, place it in the stamped, self addressed business reply envelope and mail it back.
6. Please return the survey as soon as possible.

**If you have any questions, please contact
Riaz Aziz
Upper Great Plains Transportation Institute
P.O. Box 5074
Fargo, ND 58105
(701) 237-8058
(701) 241-1945 FAX**

Airport: _____

City: _____

County: _____



Your Role



(Q-1) How many years have you been involved in the aviation industry? (indicate number of years of study, volunteer, and work experience combined) _____ years.

(Q-2) How many years have you been involved with this airport? (indicate number of years of volunteer and work experience combined) _____ years.

(Q-3) How many hours a week on average do you spend on aviation related business?
_____ hours.

(Q-4) How much of your business activities at this airport are spent on the following? (circle number)

	<i>All</i>		<i>Some</i>			<i>None</i>	
A. Financial	1	2	3	4	5	6	7
B. Planning	1	2	3	4	5	6	7
C. Management	1	2	3	4	5	6	7
D. Economic Development	1	2	3	4	5	6	7
E. Supervision	1	2	3	4	5	6	7
F. Public Relations	1	2	3	4	5	6	7
G. Maintenance	1	2	3	4	5	6	7
H. Others: _____	1	2	3	4	5	6	7
I. Others: _____	1	2	3	4	5	6	7



Airport Services



(Q-5) What type of services are available at your airport? (circle number)

	Yes	No	Don't know
A. Aircraft Maintenance	1	2	3
B. Aircraft Fuel	1	2	3
C. Aircraft Sales	1	2	3
D. Aircraft Rental	1	2	3
E. Flight Training	1	2	3
F. Aircraft Maintenance Training	1	2	3
G. Scheduled Air Service	1	2	3
H. Ultralight Flying	1	2	3
I. Air Freight	1	2	3
J. Food and Beverage Service (not including vending machines)	1	2	3
K. Automotive Rental	1	2	3
L. Weather Computer	1	2	3
M. Parachute or Sky Jumping	1	2	3
N. Fire and Rescue	1	2	3
O. Hangar Rental	1	2	3
P. Aerial Photography	1	2	3
Q. Aircraft and / or Aircraft Part Manufacturing	1	2	3
R. Air Taxi	1	2	3
S. Pilot Services	1	2	3
T. Crop Spraying	1	2	3
U. Avionics	1	2	3
V. Air Shows and Flight Demonstrations	1	2	3
W. Others: _____	1	2	3
X. Others: _____	1	2	3

(Q-6) How has the use of your airport by the following groups changed in the past 10 years?

(Q-6A) How do you see the future Use of your airport by these groups?

		Increased	Decreased	No Change	Don't Know	Increased	Decrease	No Change	Don't Know
A.	Scheduled Airlines	1	2	3	4	1	2	3	4
B.	General Aviation	1	2	3	4	1	2	3	4
C.	Hotel / Motel / Resorts	1	2	3	4	1	2	3	4
D.	Automotive Rental	1	2	3	4	1	2	3	4
E.	Local Taxi (cab) Service	1	2	3	4	1	2	3	4
F.	Medical Services	1	2	3	4	1	2	3	4
G.	Tourism	1	2	3	4	1	2	3	4
H.	Food and Beverage	1	2	3	4	1	2	3	4
I.	Retail	1	2	3	4	1	2	3	4
J.	Farming	1	2	3	4	1	2	3	4
K.	Corporate Aviation	1	2	3	4	1	2	3	4
L.	Aircraft Maint. Purchase	1	2	3	4	1	2	3	4
M.	Pilots Purchasing Fuel	1	2	3	4	1	2	3	4
N.	Flight Instruction	1	2	3	4	1	2	3	4
O.	Sky Patrol	1	2	3	4	1	2	3	4
P.	Purchase of Air Taxi Service	1	2	3	4	1	2	3	4
Q.	Ultralight Flying	1	2	3	4	1	2	3	4
R.	Air Shows & Flight Demos.	1	2	3	4	1	2	3	4
S.	Parachute or Sky Jumping	1	2	3	4	1	2	3	4
T.	Air Freight	1	2	3	4	1	2	3	4
U.	Game Counting	1	2	3	4	1	2	3	4
V.	Aircraft and / or Aircraft Part Manufacturing	1	2	3	4	1	2	3	4
W.	Others: _____	1	2	3	4	1	2	3	4
X.	Others: _____	1	2	3	4	1	2	3	4

(Q-7) If the overall use of your airport has increased in the past 10 years, indicated the three most important factors that have contributed to this increase.

A. _____

B. _____

C. _____

(Q-8) If the overall use of your airport has decreased in the past 10 years, indicated the three most important factors that have contributed to this decrease.

A. _____

B. _____

C. _____

(Q-9) Which of the following industries do you believe benefit from your airport? (circle number)

	<i>Substantial</i>			<i>Some</i>			<i>None</i>		
A. Mail Service	1	2	3	4	5	6	7		
B. Flight Schools	1	2	3	4	5	6	7		
C. Fixed Base Operators	1	2	3	4	5	6	7		
D. Business Travelers	1	2	3	4	5	6	7		
E. Vacation Travelers	1	2	3	4	5	6	7		
F. Hotel / Motel / Resorts	1	2	3	4	5	6	7		
G. Car Rental	1	2	3	4	5	6	7		
H. Taxi (cab) Service	1	2	3	4	5	6	7		
I. Medical	1	2	3	4	5	6	7		
J. Recreation (fishing, hunting, ect.)	1	2	3	4	5	6	7		
K. Food and Beverage	1	2	3	4	5	6	7		
L. Retail	1	2	3	4	5	6	7		
M. Cargo	1	2	3	4	5	6	7		
N. Farming	1	2	3	4	5	6	7		
O. Law Firms	1	2	3	4	5	6	7		
P. Banks	1	2	3	4	5	6	7		
Q. Parts and Supply	1	2	3	4	5	6	7		
R. Hardware and Lumber Supply	1	2	3	4	5	6	7		
S. Energy and Mining	1	2	3	4	5	6	7		
T. Oil Exploration and Drilling	1	2	3	4	5	6	7		
U. Educational and Research Centers	1	2	3	4	5	6	7		
V. Others: _____	1	2	3	4	5	6	7		
W. Others: _____	1	2	3	4	5	6	7		

(Q-10) Which air service needs of your community are being met by your airport?

	<i>All</i>		<i>Some</i>			<i>None</i>	
A. Scheduled Air Service	1	2	3	4	5	6	7
B. Air Taxi Service	1	2	3	4	5	6	7
C. Aircraft Rental Service	1	2	3	4	5	6	7
D. Medical Air Service	1	2	3	4	5	6	7
E. Corporate Air Service	1	2	3	4	5	6	7
F. Hangar and Tie Down Rental Service	1	2	3	4	5	6	7
G. Pilot Services	1	2	3	4	5	6	7
H. Flight Instruction Service	1	2	3	4	5	6	7
I. Others _____	1	2	3	4	5	6	7
J. Others _____	1	2	3	4	5	6	7

(Q-11) What is needed at your airport to better serve your community? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Scheduled Air Service	1	2	3	4	5	6	7
B. Airspace and Approach Protection	1	2	3	4	5	6	7
C. Air Freight	1	2	3	4	5	6	7
D. Medical Air Service	1	2	3	4	5	6	7
E. Paved Runway	1	2	3	4	5	6	7
F. Control Tower	1	2	3	4	5	6	7
G. Fire and Rescue Operation	1	2	3	4	5	6	7
H. Weather Information Service	1	2	3	4	5	6	7
I. Flight Instruction Service	1	2	3	4	5	6	7
J. Aircraft Maintenance Service	1	2	3	4	5	6	7
K. Hangar and Tie Down Rental Service	1	2	3	4	5	6	7
L. Aircraft Rental Service	1	2	3	4	5	6	7
M. Air Taxi Service	1	2	3	4	5	6	7
N. Others: _____	1	2	3	4	5	6	7
O. Others: _____	1	2	3	4	5	6	7



Economic Growth



(Q-12) • How does your airport contribute to the economic growth of the community? (circle number)

	A Lot			Some			None		
A. Provides Jobs	1	2	3	4	5	6	7		
B. Provides Air Service Access to Other Communities	1	2	3	4	5	6	7		
C. Collects Airport User Tax, Landing Fees, and Tenant Tax	1	2	3	4	5	6	7		
D. Provides Air Taxi Service to Businesses	1	2	3	4	5	6	7		
E. Sponsors Air Shows and Demonstrations	1	2	3	4	5	6	7		
F. Serves as a Base for Crop Sprayers	1	2	3	4	5	6	7		
G. Provides Air Freight Service	1	2	3	4	5	6	7		
H. Provides Air Medical Service	1	2	3	4	5	6	7		
I. General Aviation Services (fuel, aircraft & hangar rentals ect.)	1	2	3	4	5	6	7		
J. Others: _____	1	2	3	4	5	6	7		
K. Others: _____	1	2	3	4	5	6	7		

(Q-13) How can your airport enhance its contribution to the economic development of the community? (circle number)

	A Lot			Some			None		
A. Provide Additional Jobs	1	2	3	4	5	6	7		
B. Improve Airport Services	1	2	3	4	5	6	7		
C. Improve Air Service	1	2	3	4	5	6	7		
D. Develop Community-Owned Air Service	1	2	3	4	5	6	7		
E. Maintain a Full-Time Airport Manager if None Exists	1	2	3	4	5	6	7		
F. Increase Operation Hours	1	2	3	4	5	6	7		
G. Establish a Regional Air Freight Distribution Center	1	2	3	4	5	6	7		
H. Build or Update Terminals	1	2	3	4	5	6	7		
I. Others: _____	1	2	3	4	5	6	7		
J. Others: _____	1	2	3	4	5	6	7		



Community Support



(Q-14) Indicate how the community has shown its support for your airport? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Local City Mill Levy	1	2	3	4	5	6	7
B. Long-Term Commitment	1	2	3	4	5	6	7
C. Help Bring Business to the Airport	1	2	3	4	5	6	7
D. Lobby Legislators	1	2	3	4	5	6	7
E. Enthusiasm	1	2	3	4	5	6	7
F. Volunteer Work	1	2	3	4	5	6	7
G. Assist With Promoting the Airport	1	2	3	4	5	6	7
H. Others: _____	1	2	3	4	5	6	7
I. Others: _____	1	2	3	4	5	6	7

(Q-15) How can the community improve its support to your airport? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Solicit Funding From Local Businesses	1	2	3	4	5	6	7
B. Sponsor Airport Development Programs	1	2	3	4	5	6	7
C. Commit to Long-Term Development	1	2	3	4	5	6	7
D. Lobby Legislators	1	2	3	4	5	6	7
E. Provide More Volunteer Services	1	2	3	4	5	6	7
F. Help Insure State Financial Contribution	1	2	3	4	5	6	7
G. Others: _____	1	2	3	4	5	6	7
H. Others: _____	1	2	3	4	5	6	7



Funding Source



(Q-16) What are the funding sources for your airport? (circle number)

	Yes	No	Don't Know
A. Federal Government	1	2	3
B. State Government	1	2	3
C. County Government	1	2	3
D. Federal Aviation Administration	1	2	3
E. North Dakota Aeronautics Commission	1	2	3
F. Airport is Leased to a Single Private Operator	1	2	3
G. Airport Tenant Fees	1	2	3
H. Farmland Rental	1	2	3
I. Others: _____	1	2	3
J. Others: _____	1	2	3

(Q-17) How do you believe funding can be enhanced for your airport? (circle number)

	A Lot			Some			None		
A. Apply for Grants	1	2	3	4	5	6	7		
B. Economic Development Grant	1	2	3	4	5	6	7		
C. Solicit Funding from Businesses	1	2	3	4	5	6	7		
D. Solicit Funding from the Community	1	2	3	4	5	6	7		
E. Request Funding Increase from the State Government	1	2	3	4	5	6	7		
F. Request Funding Increase from the Federal Government	1	2	3	4	5	6	7		
G. Request Funding Increase from Federal Aviation Admin.	1	2	3	4	5	6	7		
H. Establish Fair User Fees	1	2	3	4	5	6	7		
I. Sponsor More Air Shows and Demonstrations	1	2	3	4	5	6	7		
J. Others: _____	1	2	3	4	5	6	7		
K. Others: _____	1	2	3	4	5	6	7		



Environment



(Q-18) Are there any potential impacts to the environment resulting from operations at your airport? (circle number)

	A Lot		Some			None	
A. Impact with Birds in Flight	1	2	3	4	5	6	7
B. Impact with Wildlife on Ground	1	2	3	4	5	6	7
C. Impact to Wetlands	1	2	3	4	5	6	7
D. Noise Pollution Impact to Wildlife	1	2	3	4	5	6	7
E. Air Pollution	1	2	3	4	5	6	7
F. Air Traffic Density	1	2	3	4	5	6	7
G. Fuel Tank Leaks	1	2	3	4	5	6	7
H. Ground Water Contamination	1	2	3	4	5	6	7
I. Storm Water Run-Off	1	2	3	4	5	6	7
J. Soil Contamination	1	2	3	4	5	6	7
K. Others: _____	1	2	3	4	5	6	7
L. Others: _____	1	2	3	4	5	6	7

(Q-19) Which of the following would help reduce impact to the environment resulting from operations at your airport? (circle number)

	A Lot		Some			None	
A. Develop New Regulations	1	2	3	4	5	6	7
B. Consult With State or Federal Agencies	1	2	3	4	5	6	7
C. Enforce Existing Laws	1	2	3	4	5	6	7
D. Change Airport Operating Procedures	1	2	3	4	5	6	7
E. Consult Other Airports	1	2	3	4	5	6	7
F. Study the Problem	1	2	3	4	5	6	7
G. Others: _____	1	2	3	4	5	6	7
H. Others: _____	1	2	3	4	5	6	7

(Q-20) What type of environmental issues impact operations at your airport? (circle number)

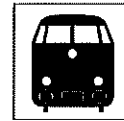
	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Restrictions	1	2	3	4	5	6	7
B. Environmental Regulations	1	2	3	4	5	6	7
C. Environmental Impact Studies	1	2	3	4	5	6	7
D. Noise Abatement Regulations	1	2	3	4	5	6	7
E. Environmental Organizations	1	2	3	4	5	6	7
F. Legal Actions	1	2	3	4	5	6	7
G. Airport Inspections	1	2	3	4	5	6	7
H. Public Inquiries	1	2	3	4	5	6	7
I. Others: _____	1	2	3	4	5	6	7
J. Others: _____	1	2	3	4	5	6	7

(Q-21) How do environmental issues impact operation at your airport? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Limit Services That Can be Provided	1	2	3	4	5	6	7
B. Business Opportunities are Lost Due to Restrictions	1	2	3	4	5	6	7
C. Compliance with Regulations Places Costs on Operation	1	2	3	4	5	6	7
D. Resources are Diverted from Capital	1	2	3	4	5	6	7
E. Creates Excess Paperwork	1	2	3	4	5	6	7
F. Others: _____	1	2	3	4	5	6	7
G. Others: _____	1	2	3	4	5	6	7



Access



(Q-22) What are the main surface accesses to your airport? (circle number)

	Yes	No	Don't Know
A. Interstate Highway	1	2	3
B. State Highway	1	2	3
C. County Highway	1	2	3
D. Gravel Road	1	2	3
E. Railway	1	2	3
F. Others: _____	1	2	3
G. Others: _____	1	2	3

(Q-23) What type of improvements are necessary to the surface access of your airport? (circle number)

	Yes	No	Don't Know
A. Connect with Interstate Highway	1	2	3
B. Connect with State Highway	1	2	3
C. Connect with County Road	1	2	3
D. Widen Existing Road	1	2	3
E. Pave Existing Road	1	2	3
F. Add More Lamp Posts	1	2	3
G. Add More Road Signs	1	2	3
H. Others: _____	1	2	3
I. Others: _____	1	2	3



Information



(Q-24) Do you have a need for any of the following information? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Federal and State Grants Available for Small Airports	1	2	3	4	5	6	7
B. Writing Grant Proposals for State and Federal Agencies	1	2	3	4	5	6	7
C. Planning for an Air Show	1	2	3	4	5	6	7
D. Promoting the Airport	1	2	3	4	5	6	7
E. How to Expand the Airport	1	2	3	4	5	6	7
F. Land Acquisition, Zoning, and Easements	1	2	3	4	5	6	7
G. How to Improve Airport Services	1	2	3	4	5	6	7
H. Expanding Your Charter Air Service	1	2	3	4	5	6	7
I. Developing a Regional Airline	1	2	3	4	5	6	7
J. How to Bring Other Businesses to the Airport	1	2	3	4	5	6	7
K. Air Freight Utilization in North Dakota	1	2	3	4	5	6	7
L. Income Statistics for the Community	1	2	3	4	5	6	7
M. Education Statistics for the Community	1	2	3	4	5	6	7
N. Results of Studies on Rural Aviation in North Dakota	1	2	3	4	5	6	7
O. Heliport Development	1	2	3	4	5	6	7
P. North Dakota Aviation Related Environmental Impact Studies	1	2	3	4	5	6	7
Q. Hangar Development	1	2	3	4	5	6	7
R. North Dakota Airport Maintenance Schedule and Forecast	1	2	3	4	5	6	7
S. North Dakota Aviation Capital Improvement Plan	1	2	3	4	5	6	7
T. Determining the Air Service Needs of the Community	1	2	3	4	5	6	7
U. Aircraft and Powerplant Schools in North Dakota	1	2	3	4	5	6	7
V. Aircraft Owners in the Community	1	2	3	4	5	6	7
W. Others: _____	1	2	3	4	5	6	7
X. Others: _____	1	2	3	4	5	6	7

(Q-25) Which sources do you contact when seeking aviation related information? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. North Dakota Aeronautics Commission	1	2	3	4	5	6	7
B. Aircraft Owners and Pilots Association	1	2	3	4	5	6	7
C. Research or Educational Institutions in North Dakota	1	2	3	4	5	6	7
D. Local Airport Authority	1	2	3	4	5	6	7
E. Federal Aviation Administration	1	2	3	4	5	6	7
F. North Dakota Department of Health	1	2	3	4	5	6	7
G. American Association of Airport Executives	1	2	3	4	5	6	7
H. Experimental Aircraft Association	1	2	3	4	5	6	7
I. Land Acquisition, Zoning, and Easements	1	2	3	4	5	6	7
J. Hangar Development	1	2	3	4	5	6	7
K. How to Bring Other Businesses to the Airport	1	2	3	4	5	6	7
L. How to Improve Airport Services	1	2	3	4	5	6	7
M. Others: _____	1	2	3	4	5	6	7
N. Others: _____	1	2	3	4	5	6	7

(Q-26) If a research center were established to assist you in collecting data or assist your airport operations, what benefits would you expect from such a center? (circle number)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Assist in Acquiring Funding	1	2	3	4	5	6	7
B. Assist Rural Economic Development Programs	1	2	3	4	5	6	7
C. Serve as an Aviation Research Site	1	2	3	4	5	6	7
D. Career Development	1	2	3	4	5	6	7
E. Maintain Data Banks	1	2	3	4	5	6	7
F. Provide Forecasts	1	2	3	4	5	6	7
G. Conduct Surveys	1	2	3	4	5	6	7
H. Maintain Rural Aviation Statistical Database	1	2	3	4	5	6	7
I. Assist with Environmental Compliance	1	2	3	4	5	6	7
J. Assist Airports with Development Plans	1	2	3	4	5	6	7
K. Others: _____	1	2	3	4	5	6	7
L. Others: _____	1	2	3	4	5	6	7



Issues and Concerns



(Q-27) Which of the following concerns might impact your airport operations? (circle one)

	<i>A Lot</i>		<i>Some</i>			<i>None</i>	
A. Increased Regulations	1	2	3	4	5	6	7
B. Lack of Operating Funds	1	2	3	4	5	6	7
C. Lack of Information	1	2	3	4	5	6	7
D. Lack of Community Support	1	2	3	4	5	6	7
E. Impact to the Environment	1	2	3	4	5	6	7
F. Lack of Air Service	1	2	3	4	5	6	7
G. Availability of Aircraft Fuel	1	2	3	4	5	6	7
H. Not Enough Jobs	1	2	3	4	5	6	7
I. High Cost of Owning an Aircraft	1	2	3	4	5	6	7
J. Not Enough Research and Development	1	2	3	4	5	6	7
K. Operation Liability	1	2	3	4	5	6	7
L. Tax Reform	1	2	3	4	5	6	7
M. New Legislation	1	2	3	4	5	6	7
N. Continued Financial Support from Local & Federal Government	1	2	3	4	5	6	7
O. Lack of Economic Development Fund	1	2	3	4	5	6	7
P. Safety of Airport Systems	1	2	3	4	5	6	7
Q. Inadequate Pilot Weather Briefing Systems	1	2	3	4	5	6	7
R. Limited Air Freight Services	1	2	3	4	5	6	7
S. Maintain Profitability	1	2	3	4	5	6	7
T. Access to Federal Aviation Administration Services	1	2	3	4	5	6	7
U. Inadequate Essential Air Service Funding	1	2	3	4	5	6	7
V. Others: _____	1	2	3	4	5	6	7
W. Others: _____	1	2	3	4	5	6	7

(Q-28) How could you help resolve these concerns? (circle number)

	<i>A Lot</i>		<i>Some</i>		<i>None</i>		
A. Work Closely With the Economic Development Program	1	2	3	4	5	6	7
B. Help Recruit Businesses to the Airport	1	2	3	4	5	6	7
C. Help Promote Aviation in North Dakota	1	2	3	4	5	6	7
D. Be More Active in the Community	1	2	3	4	5	6	7
E. Seek Assistance from Federal and State Regulatory Agencies	1	2	3	4	5	6	7
F. Eliminate Burdensome Regulations	1	2	3	4	5	6	7
G. Work Closely With National Aviation Organizations	1	2	3	4	5	6	7
H. Write Letter to Legislators	1	2	3	4	5	6	7
I. Reform Aircraft Tort and Liability Laws	1	2	3	4	5	6	7
J. Keep Airport Authority Aware of Issues	1	2	3	4	5	6	7
K. Others: _____	1	2	3	4	5	6	7
L. Others: _____	1	2	3	4	5	6	7

(Q-29) Which issues are important to you about having this airport in your community? (circle number)

	<i>A Lot</i>		<i>Some</i>		<i>None</i>		
A. It is the Activity Center of the Town	1	2	3	4	5	6	7
B. It is One of the Main Means of Transport	1	2	3	4	5	6	7
C. It is a Training Site of Future Pilots	1	2	3	4	5	6	7
D. It Provides Air Freight Service	1	2	3	4	5	6	7
E. It is Critical to the Farming Industry	1	2	3	4	5	6	7
F. It is Important to Our Community Development Program	1	2	3	4	5	6	7
G. It is a Means of Pleasure and Recreation	1	2	3	4	5	6	7
H. It Provides Air Medical Service	1	2	3	4	5	6	7
I. Others: _____	1	2	3	4	5	6	7
J. Others: _____	1	2	3	4	5	6	7

A survey cannot cover everything that is important to you. Please use this space for comments you would like to make about topics in this survey and suggestions you may have on how we could improve future surveys.

If you would like to receive results of this survey, please complete the following:

First Name: _____ Last Name: _____ Middle: _____
Company Name: _____ Title: _____
Address: _____
City: _____ State: _____ Zip Code: _____

*Your time is greatly appreciated.
Results will be available in six to nine months.*

