ACRP

REPORT 58

AIRPORT COOPERATIVE RESEARCH PROGRAM

Sponsored by the Federal Aviation Administration

Airport Industry Familiarization and Training for Part-Time Airport Policy Makers

TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

AIRPORT COOPERATIVE RESEARCH PROGRAM

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Airport Industry Familiarization and Training for Part-Time Airport Policy Makers

DELTA AIRPORT CONSULTANTS, INC.
Richmond, VA

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AIRPORT COOPERATIVE RESEARCH PROGRAM

Airports are vital national resources. They serve a key role in transportation of people and goods and in regional, national, and international commerce. They are where the nation's aviation system connects with other modes of transportation and where federal responsibility for managing and regulating air traffic operations intersects with the role of state and local governments that own and operate most airports. Research is necessary to solve common operating problems, to adapt appropriate new technologies from other industries, and to introduce innovations into the airport industry. The Airport Cooperative Research Program (ACRP) serves as one of the principal means by which the airport industry can develop innovative near-term solutions to meet demands placed on it.

The need for ACRP was identified in *TRB Special Report 272: Airport Research Needs: Cooperative Solutions* in 2003, based on a study sponsored by the Federal Aviation Administration (FAA). The ACRP carries out applied research on problems that are shared by airport operating agencies and are not being adequately addressed by existing federal research programs. It is modeled after the successful National Cooperative Highway Research Program and Transit Cooperative Research Program. The ACRP undertakes research and other technical activities in a variety of airport subject areas, including design, construction, maintenance, operations, safety, security, policy, planning, human resources, and administration. The ACRP provides a forum where airport operators can cooperatively address common operational problems.

The ACRP was authorized in December 2003 as part of the Vision 100-Century of Aviation Reauthorization Act. The primary participants in the ACRP are (1) an independent governing board, the ACRP Oversight Committee (AOC), appointed by the Secretary of the U.S. Department of Transportation with representation from airport operating agencies, other stakeholders, and relevant industry organizations such as the Airports Council International-North America (ACI-NA), the American Association of Airport Executives (AAAE), the National Association of State Aviation Officials (NASAO), and the Air Transport Association (ATA) as vital links to the airport community; (2) the TRB as program manager and secretariat for the governing board; and (3) the FAA as program sponsor. In October 2005, the FAA executed a contract with the National Academies formally initiating the program.

The ACRP benefits from the cooperation and participation of airport professionals, air carriers, shippers, state and local government officials, equipment and service suppliers, other airport users, and research organizations. Each of these participants has different interests and responsibilities, and each is an integral part of this cooperative research effort.

Research problem statements for the ACRP are solicited periodically but may be submitted to the TRB by anyone at any time. It is the responsibility of the AOC to formulate the research program by identifying the highest priority projects and defining funding levels and expected products.

Once selected, each ACRP project is assigned to an expert panel, appointed by the TRB. Panels include experienced practitioners and research specialists; heavy emphasis is placed on including airport professionals, the intended users of the research products. The panels prepare project statements (requests for proposals), select contractors, and provide technical guidance and counsel throughout the life of the project. The process for developing research problem statements and selecting research agencies has been used by TRB in managing cooperative research programs since 1962. As in other TRB activities, ACRP project panels serve voluntarily without compensation.

Primary emphasis is placed on disseminating ACRP results to the intended end-users of the research: airport operating agencies, service providers, and suppliers. The ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties, and industry associations may arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by airport-industry practitioners.

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The members of the technical panel selected to monitor this project and to review this report were chosen for their special competencies and with regard for appropriate balance. The report was reviewed by the technical panel and accepted for publication according to procedures established and overseen by the Transportation Research Board and approved by the Governing Board of the National Research Council.

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FOREWORD

By Michael R. Salamone
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Few airports have adequate budgets with which to develop a method to familiarize part-time policy-making leadership and key policy stakeholders on the myriad issues that affect airport policy decisions. Many airports are unable to send part-time commissioners, board members, new policy leaders, or other policy-related stakeholders to conferences or seminars to learn and discuss the regulatory or national-political framework within which airports must operate. The FAA, responsible for providing regulatory oversight for all airports, cannot interpret all nuances of their regulations to fit individual airport governance, purpose, or motivation models. It is understood that part-time airport policy leadership may not need to know all of this information to the same degree of those who are working full-time within the airport, terminal, or airfield environment. *ACRP Report 58* provides an overview of policy issues affecting airport administrative and operational decisions and provides airport policy leaders, stakeholders, and policy-related decision makers a common framework to understand administrative and operational necessity, thereby helping them make better informed policy decisions.

ACRP Report 58 addresses 20 topics germane to airport management organized into four broad subject areas: (1) general—things policy makers should know about their role, their duties, and basic information about airports; (2) the airport—topics related to the airport, including what is on the airport, who uses it, how it is operated, how it is planned for future growth, and how its neighbors are protected; (3) financial—airport budgets, capital improvement financing, and other financial aspects of the airport business; and (4) rules—the many rules and regulations that govern airport activities.

A typical familiarization and training program for a new policy maker generally includes an orientation briefing about the airport organization, a report of airport issues, and a tour of airport facilities and activities. ACRP provides a primer report of issues affecting the airport industry as well as a customizable orientation program in the form of a Microsoft PowerPoint presentation.

The PowerPoint presentation can be downloaded from http://www.trb.org/Main/Blurbs/166244.aspx.

CONTENTS

1 **Chapter 1** Introduction

3 **Chapter 2** Issue Papers

4 1. The Roles of Airport Policy Maker and Airport Manager
6 2. Principles of Governance
8 3. Partners and Relationships
10 4. Your Airport in Context
12 5. Understanding and Conveying the Value of Your Airport
14 6. A Pilot's Perspective of the Airport
16 7. Basic Elements of Your Airport
18 8. Your Airport in Action
20 9. What It Takes to Operate Your Airport
22 10. Planning and Developing Your Airport
26 11. Protecting and Preserving the Airport and Its Environs
28 12. National Issues with Local Significance
30 13. Sources and Uses of Operating Funds
32 14. Funding Capital Improvements
36 15. Your Airport as a Business
38 16. Purchasing Goods and Services for Your Airport
40 17. Use of Airport Revenue
42 18. What's Expected of Airport Tenants and Users
44 19. Complying with Federal Grant Assurances
46 20. Alternate Uses and Restrictions of Your Airport

50 **Appendix A** The Aviation Library

52 **Appendix B** ACRONYMS—The Language of Airports

54 **Appendix C** Suggested Outline of an Airport Orientation Briefing

Note: Many of the photographs, figures, and tables in this report have been converted from color to grayscale for printing. The electronic version of the report (posted on the Web at www.trb.org) retains the color versions.

CHAPTER 1

Introduction

The administration and governance of an airport can prove quite challenging to a newly appointed policy maker or an airport manager without previous airport experience. While many serving in these roles possess some aviation experience or business background, few assume these positions with a broad understanding of the myriad of issues that affect the operation, maintenance, and development of aviation facilities.

In order to be effective and engaged, it is vital for an airport policy maker to understand the scope and magnitude of federal, state, and local issues that affect and influence the delivery of aviation services in their communities. This document is designed to offer policy makers and administrators with a concise, yet thorough, overview of these broad issues in order to provide context and orientation to their roles and responsibilities. Moreover, it serves as a means to underscore the fact that effective policy makers generally embrace the value of their airport and willingly serve as an advocate for its mission and success. This advocacy occurs in concert with the need for policy makers to support airport management; to understand, expect, and acknowledge the need for sound fundamental business practices in the delivery of airport services; and to garner an appreciation and respect for the many rules and regulations that govern airport activities.

A typical familiarization and training program for a new policy maker generally includes an orientation briefing about the airport, a primer report of airport issues, and a tour of airport facilities and activities. This document provides an overall orientation program as well as primer report. In addition, airport industry groups, such as the American Association of Airport Executives, Airports Council International, and state aviation organizations, help orient new policy makers through conferences and special programs.

How this Document is Organized

This document consists of four elements:

- A **primer** addressing 20 issues germane to airport management organized into four broad subject areas:

  General — things policy makers should know about their roles, their duties, and basic information about airports;

  The Airport — issues related to one airport, including what is on the airport, who uses it, how it is operated, how it is planned for future growth, and how its neighbors are protected;

  Financial — airport budgets, capital improvement financing, and other financial aspects of the airport business; and

  Rules — the many rules and regulations that govern airport activities.

- **Reference material** to enable the reader to obtain additional information on aviation and airport issues (Appendix A).

- **Acronyms** often used in the airport industry (Appendix B).

- A **proposed outline** for a briefing that an airport administrator might use to provide orientation material to new policy makers and/or other key stakeholders (Appendix C).

This document is structured to be user-friendly with each issue discussed in two to four pages under headings entitled: Key Point, Discussion, and Application. The Key Point section offers a quick statement of the issue being reviewed while the Discussion element offers a broad overview of the issue. The purpose of the Application section is to provide suggestions for further learning as well as tips on how to apply what one has learned. There are several issues where certain concepts overlap other issue papers. In these instances the reader will find cross-references to other issue papers. The tabs along the sides of each issue paper help the reader locate other papers within the document.

For purposes of the primer, the term "part-time policy maker" refers to those persons not directly involved in the full-time management of airports, and includes airport board/commission/authority members, advisory groups, city councils, county boards, economic development boards, elected officials, and other key participants in airport policy discussions. The term "airport manager" refers to the manager, director, or the staff that provides day-to-day oversight and direction of the airport.

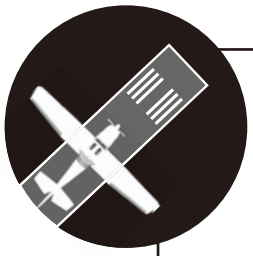
The terms "airport owner", "airport sponsor", and "airport operator" are used interchangeably in this document. When airport owners receive state or federal grants for airport development, they are typically referred to as an airport "sponsor." "Airport operator" refers to the airport owner's role in the many aspects of airfield operations.

CHAPTER 2

ISSUE PAPERS

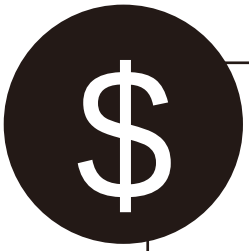
GENERAL

1. The Roles of Airport Policy Maker and Airport Manager
2. Principles of Governance
3. Partners and Relationships
4. Your Airport in Context
5. Understanding and Conveying the Value of Your Airport
6. A Pilot's Perspective of the Airport



THE AIRPORT

7. Basic Elements of Your Airport
8. Your Airport in Action
9. What It Takes to Operate Your Airport
10. Planning and Developing Your Airport
11. Protecting and Preserving the Airport and Its Environs
12. National Issues with Local Significance



FINANCIAL

13. Sources and Uses of Operating Funds
14. Funding Capital Improvements
15. Your Airport as a Business
16. Purchasing Goods and Services for Your Airport
17. Use of Airport Revenue

RULES

18. What's Expected of Airport Tenants and Users
19. Complying with Federal Grant Assurances
20. Alternate Uses and Restrictions of Your Airport

1. The Roles of Airport Policy Maker and Airport Manager

Key Point

Successful airports are characterized by an effective working relationship between airport policy makers and management. In this context, it is important that policy makers understand and appreciate the respective roles and responsibilities of each. In general, policy makers establish broad goals and objectives for management to accomplish. In turn, airport management implements programs aimed at achieving these goals and objectives while operating the airport on a day-to-day basis.

Discussion

In the United States, it is typical for a city, county, or other public body to own and operate public airports. The appointed officials of these entities serve as airport policy makers often organized as an airport board, commission, authority, or local governing body.

Typical roles and responsibilities of the policy-making body and airport management are shown below:

Governing Body/Policy Maker	Airport Management/Manager
Establishes policy	Implements policy
Sets goals	Runs the airport day-to-day
Identifies strategies for fulfilling the vision	Reports to the governing body
Executes contracts	Operates the airport safely and efficiently
Serves as airport advocate	Maintains the airport and its facilities
Approves plans and programs	Prepares financial plans
Assigns and oversees the airport manager's responsibilities	Oversees public relations
Selects consultants and service providers	Makes provisions for passengers and the public
	Recommends and enforces rules and regulations
	Oversees planning and construction projects
	Secures new business

Airport policy-making boards generally have several documents that govern their activities, including:

- Bylaws — rules of order and protocol for documenting official acts;
- Contracts and ordinances — defines the board's relationship with the airport users and tenants;
- Rules and regulations — outline the board's relationship with airport users not otherwise bound by contracts and ordinances (see Issue Paper - Rules # 18: What's Expected of Airport Tenants and Users);
- Job descriptions — position descriptions for airport staff;
- Code of ethics — establishes policies as required by local/state law regarding the conduct of board members; defines conflicts of interest; and
- Annual budget — outlines anticipated revenues and expenditures.

Application

Effective airport policy makers:

- ✓ Serve as airport advocates who understand and communicate the value of the airport to the community (see Issue Paper- General # 5: Understanding and Conveying the Value of Your Airport);
- ✓ Direct and support airport management;
- ✓ Are cognizant of the key financial information about their airport;
- ✓ Understand and have a tolerance for the myriad of federal, state, and local regulations; and
- ✓ Respect the board's governing principles (see Issue Paper- General # 2: Principles of Governance).

2. Principles of Governance

Key Point

Members of airport governing bodies are charged with adhering to basic fundamental democratic principles of governance. These principles enable policy makers to effectively discharge their fiduciary duties, maintain public trust, and ensure that both individual actions and decisions, made as a whole, are at all times ethical and conform to both criminal and civil law.

Discussion

Airport governing bodies develop and adopt a "Code of Ethics" to govern their personal conduct, deliberations, and actions as a whole. Governing bodies also adopt policies and procedures for the conduct of their meetings. These measures are affirmed each calendar or fiscal year by recorded formal action.

In addition to broad-based principles of governance, states and localities have laws that govern how public officials are to conduct themselves. These laws promote accountability and transparency by allowing the general public to be fully informed about the actions of the governing body, with public access provided to how decisions are made and how funding is allocated. While they may vary by state and locality, local laws generally address the following:

- Obligations and expectations associated with the discharge of duties;
- Prohibited conduct including the acceptance of gifts and favors;
- Restrictions on the acquisition and use of real estate;
- Conflict of interest disclosures related to financial holdings and interests;
- Freedom of Information Act (FOIA) requirements for advertising meeting dates and locations, conduct of meetings, and retention/release of public records and documents.

In addition to basic principles of governance, policy makers should be aware of the many rules and regulations that govern airport activities. See Issue Papers 18-20 for a discussion of many of these.

Risks and Liabilities

Public entities and those that serve them are exposed to certain risks and liabilities. Newly appointed policy makers especially may not understand their responsibilities or their liability if they or the policy-making body take improper actions. Typical claims brought against a public entity, its employees, and volunteers are for alleged or actual breach of duty, neglect, error, misstatement, or omission in the course of public duties. These might relate to award of contracts, employee termination, an aircraft accident, or any other activity under the purview of the airport owner, policy-making board, or airport management. Insurance companies offer protection for individuals from this exposure.

Recommended practices that policy makers can take to help limit their liability include:

- Act within the authority granted by the governing documents and relevant statutes;
- Avoid all conflicts of interest. This includes disclosing conflicts of interest and recusing oneself from participating in a vote where the member has a conflict of interest;
- Attend the meetings of the policy-making body (board/commission, authority, etc.). Absence from a board meeting does not necessarily release one from the responsibility for decisions made. A pattern of absence may increase an individual's liability because they cannot demonstrate a dedication to the obligations of the position;
- Stay informed about issues and deal with them in a timely manner. Board members are often more at risk for taking no action than for taking the wrong action for the right reasons;
- Ensure a record of all votes. It also helps to show when the board made serious consideration of an action before the action was taken;
- Make a record with respect to all issues that arise at meetings. This includes attaching experts' reports and counsel opinions to minutes of the meeting;
- Ensure the policy-making board keeps comprehensive and up-to-date personnel policies; and
- Review and understand financial statements and ensure employment and income taxes are paid.

Application

✓ Request that airport management and legal counsel provide an overview of the ethics and laws related to your role as a policy maker;

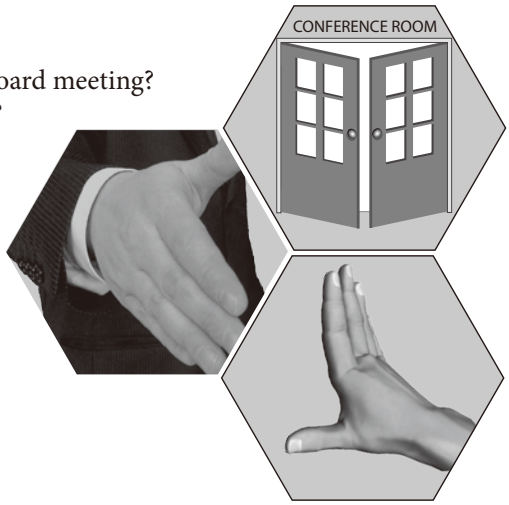
✓ Anticipate ethical issues such as:

Can I accept a gift from a major airport tenant?
Can we keep the public away from the upcoming controversial board meeting?
Can we award a small marketing contract to the mayor's brother?

✓ Additional information sources:

The American Association of Airport Executives (AAAE) Code of Ethics:
www.aaae.org/membership/codeofethics.cfm

The National Association of Counties (NACO) Code of Ethics:
http://www.naco.org/Counties/Pages/CodeofEthics.aspx



3. Partners and Relationships

Key Point

Airports are typically owned and operated by local governments; however, it is not a lonely endeavor. State aviation agencies, the Federal Aviation Administration (FAA), the Transportation Security Administration (TSA), and airport industry groups are strong partners that provide technical guidance, set important standards, and in some cases help fund capital development. States, FAA, and TSA also regulate and control many aspects of aviation and airports. In addition to these organizations, there are many individual and stakeholder groups that airports impact. Local airport policy makers should have an awareness of the airport's relationships with these partners and stakeholders.

Discussion

Users, stakeholders, and industry groups all influence airport operations and plans. Correspondingly, state aviation agencies, the FAA, and TSA exert the greatest influence on airports and are more fully described below.

States generally have a staff dedicated to airport and aviation support — typically a department, division, or aeronautics agency. Many states have a formal grant program and can assist local airports with planning, maintenance, construction, land acquisition, terminal development, security projects, and some or all of the local financial share of federal grants. Some states also license airports based on state standards.

FAA is the federal agency charged with the regulation and safety of civil aviation. FAA's primary roles and responsibilities include:

- Operating the air navigation and air traffic control systems (owning facilities on some airports);
- Administering a multi-billion dollar Airport Improvement Program for the planning and development of airports (see Issue Paper # 14 - Financial: Funding Capital Improvements);
- Certifying pilots, aircraft, and commercial airports;
- Maintaining standards for development of airports;
- Regulating air travel;
- Publishing the National Plan of Integrated Airport Systems (NPIAS); and
- Promoting environmental compatibility of aircraft, flight procedures, airport operations, and airport development.

Airports primarily interface with an FAA Airports District Office or Regional Airports Division on most issues. FAA's Air Traffic Organization often assists with matters related to navigational aids, air traffic control, and development of instrument flight procedures.

TSA is the federal agency responsible for overseeing aviation security and issues rules and regulations for airports serving commercial air carrier and cargo operations. Although there are no similar regulations for general aviation airports, TSA has published guidelines for these facilities.

A primary feature of airport relationships is the span of control and authority vested in these government organizations. The following table provides examples of federal, state, and local government control and oversight:

State and Local Control	Federal Control
Airport ordinances and resolutions	Navigable airspace (exclusive control)
Zoning and land use	Aircraft, pilot, and airport certification
Building codes	Aircraft noise standards
Rules and regulations	Regulation of airports
Minimum standards	Regulation of pilots and aircraft
Taxes and impact fees	Noise abatement and mitigation

Application

✓ Become familiar with the state aviation organization and know how it can help.

✓ Work with the airport manager to understand key relationships, especially FAA.

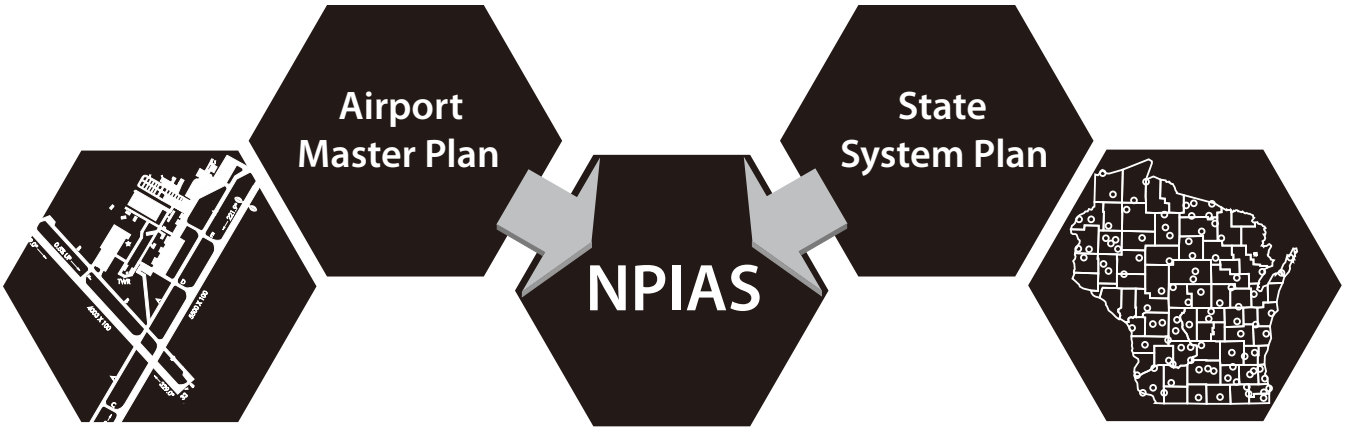
4. Your Airport in Context

Key Point

The National Airspace System (NAS) is a complex collection of air navigation and air traffic control facilities, systems, equipment, and airports located throughout the United States. The U.S. Congress recognized the importance of ensuring that all communities and citizens have access to air transportation by establishing the NAS and provides funding for its ongoing development, operation, and maintenance.

Discussion

The NAS includes approximately 500 commercial service airports and 2,800 public-use general aviation airports located across the nation as designated by the FAA in the NPIAS. Airports included in the NPIAS are eligible for federal financial assistance through the FAA-administered Airport Improvement Program (AIP). AIP grants provide much of the funding for airport capital improvement projects that enhance capacity, safety, and security, preserve existing infrastructure, and mitigate environmental impacts.



Airports are classified in the NPIAS as follows:

- Commercial service — scheduled airline service with more than 2,500 passengers annually;
- Primary airports — commercial service airports with more than 10,000 passengers annually. Primary airports also are classified as large, medium, small, and non-hub based on their percentage of the nation's passengers;
- General aviation — minimal or no scheduled airline service, boarding less than 2,500 passengers annually; and
- Reliever — general aviation airports specially designated to reduce congestion at nearby busy primary airports.

An airport's classification plays an important part in how FAA allocates funding for airport development under its grant program (see Issue Paper#14 – Financial: Funding Capital Improvements).

FAA identifies the following basic principles of the NPIAS. Many of these are based on law and are reflected in FAA's programs, regulations, and policies. The NPIAS holds that airports should be:

- Safe and efficient, located at optimum sites, and developed and maintained to appropriate standards;
- Affordable to both users and government, relying primarily on user fees, and placing minimal burden on the general revenues of federal, state, and local governments;
- Flexible and expandable, able to meet increased demand and to accommodate new aircraft types;
- Permanent, with assurance that they will remain open for aeronautical use over the long-term;
- Compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents in neighboring areas.

An old phrase among airport managers is that "If you have seen one airport, you have seen ONE airport!" This is intended to express the uniqueness of all airports, a fact that adds to the challenge of managing and leading public aviation facilities. Airports can vary significantly relative to airport activity, infrastructure needs, and airspace requirements. Some states develop a state airport system plan that may group airports based on their roles, geographical areas of influence, and infrastructure needs. The state system plan will help guide state aviation officials in making resource and funding decisions.

Application

✓ Learn how well your airport meets the basic goals of the NPIAS.

✓ Learn about your airport's current and planned classification and how that relates to FAA grant funding.

✓ Find out if your state has a system plan and learn about your airport's role within that plan.

✓ Become familiar with how your airport compares with other nearby airports.

5. Understanding and Conveying the Value of Your Airport

Key Point

The value of an airport to a community can be significant because it provides access to the national airspace system and serves the needs of businesses, the flying public, emergency medical activities, aerial firefighting, aerial agriculture, search and rescue operations, law enforcement, and other uses. An airport generates considerable direct and indirect economic value to a community by generating jobs, services, and taxes. Promoting the airport in the community, making the public aware of its value, and generally building good relations with stakeholders is critical to the airport's successful operation.

Discussion

The Value of an Airport

Commercial service airports obviously provide great value to the airlines and their customers. However, both commercial service and general aviation airports provide access to the national air system for a wide range of general aviation uses including:

- aerial agricultural applications
- aerial firefighting
- aerial mapping
- air ambulance
- air taxi/passengers on-demand
- air tours
- business/corporate uses
- damage assessments
- delivery of fresh food
- disaster relief
- drug enforcement
- emergency medical service
- external load hoisting
- flight instruction
- forestry management
- government use
- overnight packages
- personal/recreation
- pest control
- power line inspections
- search and rescue
- sight-seeing
- traffic advisory
- transporting human organs
- weather observations
- wildlife management

All airports :

Attract businesses. The airport is an important element in the attraction and retention of businesses. It serves as a gateway for the community by providing air access for business and corporate activities.

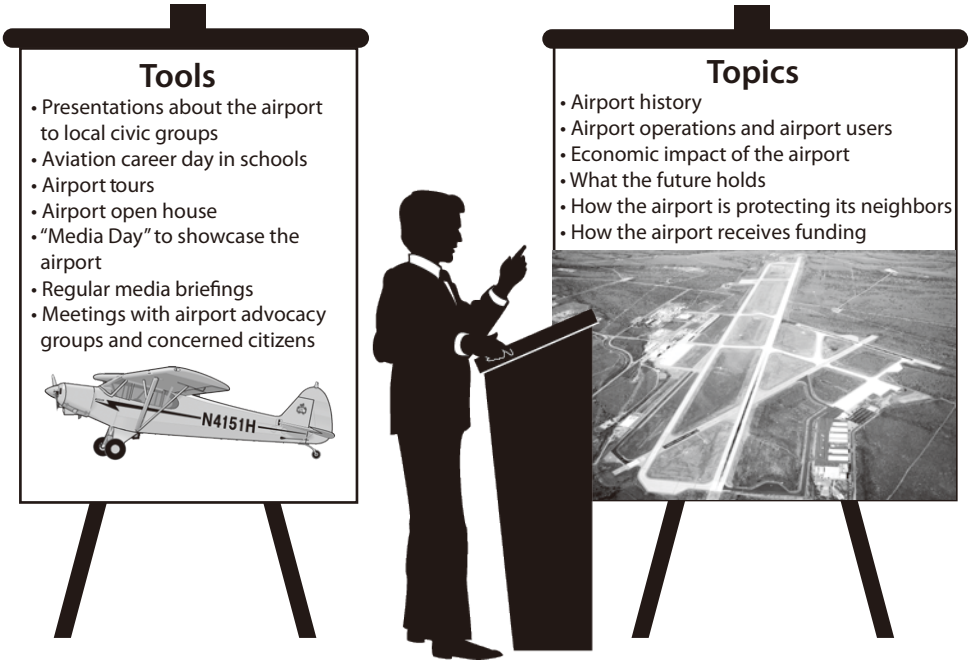
Support aviation-related firms and businesses. The airport supports businesses that provide aviation-related services. These businesses employ people, pay taxes, and attract visitors.

Serve individual needs. The airport provides air access to the local community for emergency airlift, personal recreation, business, or commercial purposes.

The National Business Aviation Association reported in 2010 that business aviation contributes $150 billion to U.S. economic output and employs more than 1.2 million people. Many local governments and states have undertaken economic impact studies for their airports. These studies assist with strategic economic investment decisions, evaluation of airport expansion alternatives, and informing decisions about land use and commercial projects in the vicinity of the airport. They also support public relations programs for educating policy makers, airport users, and the general public about the economic value of the airport.

Promoting the Airport

Promoting the airport within the community and building a positive relationship with local media are essential to achieving success for your airport. Public relations activities not only communicate the airport's vision, goals, and value, but also address potential negative opinions of the airport and aid with addressing emergency situations when they arise. Effective community outreach programs often include the following tools and topics:



Application

- ✓ Educate yourself about the airport's vision, the value of the airport, and who uses it.
- ✓ Share information with others about the value of the airport.
- ✓ Build a relationship with local airport advocacy groups, concerned citizens, airport neighborhood groups, and locally elected officials.
- ✓ Learn who local, state, and federal decision makers are and be prepared to work with the airport manager to promote your airport's needs to these individuals.
- ✓ See publications and websites from airport industry groups.

6. A Pilot's Perspective of the Airport

Key Point

Pilots are the most important users of an airport; therefore, it is important to understand their perspective primarily as it relates to the adequacy of the airport's infrastructure and how its layout and systems contribute to their flying experience. These systems include the runway(s), runway approach procedures in poor visibility conditions, air traffic control and communications systems, and other support systems for the pilot.

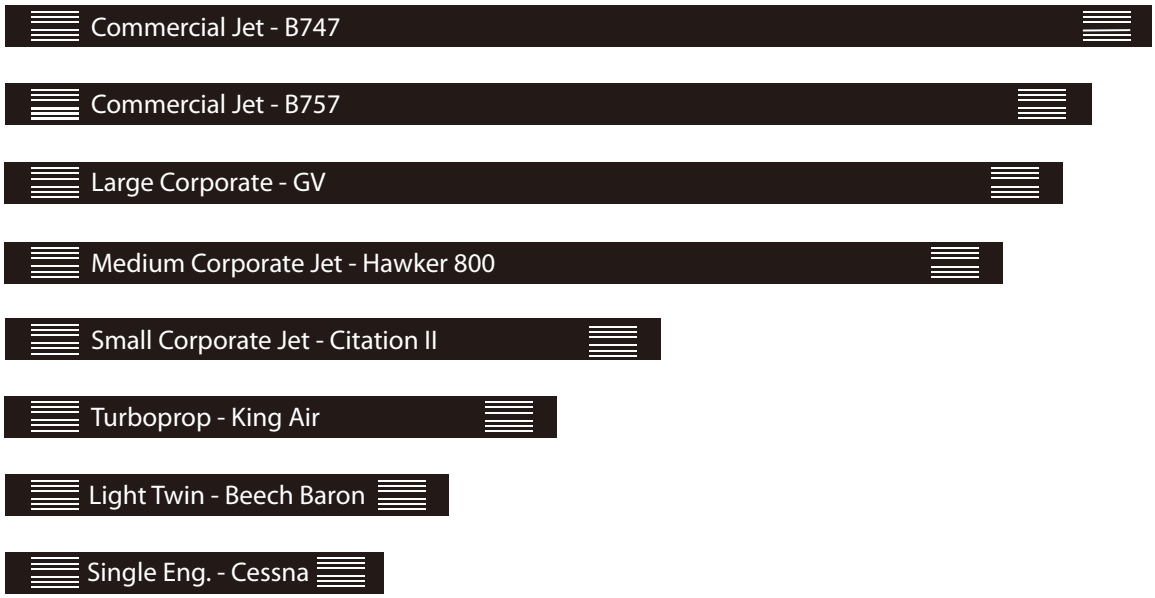
Discussion

The Runway

The airway system and airports can be particularly confusing for non-pilots, but a policy maker should know that the rules of the sky are integrally linked to the design criteria for airports and the specific categories of aircraft they serve. Once a particular aircraft type or class is documented as "routinely" using an airport (more than 500 annual combined aircraft takeoffs and landings) then that aircraft or family of aircraft represents the "critical design aircraft" for airport development — specifically the runway and airfield geometry.

Pilots understand the performance characteristics of their aircraft and will review the runway's length, width, and pavement strength to ensure their flight operations will be safe. Common terminology that pilots and air traffic controllers use relative to runways are "preferred" and "primary" runways. The primary runway is normally the one that is longest and/or has the best navigational aid capability. The preferred runway is often the primary runway but might be another runway based on the pilot's location on the airfield and wind conditions.

Airport management works with the FAA to monitor airport activity and periodically updates the Airport Layout Plan (ALP) to meet the demand. The required runway length is a typical topic of discussion tied directly to the critical design aircraft. The following graphic depicts the relative runway length requirements for takeoff of specific aircraft, ranging from 3,000 to 12,000 feet.



Runway Approach During Poor Visibility

Air Traffic Control and Pilot Communications

Runway Approach Capability During Poor Visibility

Pilots cannot land on runways during poor visibility conditions unless they are appropriately licensed and the runway has an instrument approach procedure. These procedures are published by the FAA and achieved with the help of navigational equipment such as a localizer, full instrument landing system, or satellite based procedures.

Air Traffic Control and Pilot Communications

Some airports have an air traffic control tower (ATCT) where ATCT staff communicates with pilots to ensure aircraft are properly separated when taking off or landing. When there is no ATCT or it is closed, pilots use a Common Traffic Advisory Frequency to communicate with one another. Airport staff also advise pilots of unusual conditions such as closed taxiways or runways by issuing Notices to Airmen.

A Pilot's Perspective on Airport Safety

Airport staff, engineers, and planners can help provide a safe environment for pilots by having good airfield signage and marking that meets FAA standards, by eliminating confusing or complex geometry on the airfield, and providing takeoff and landing paths free of obstructions. Examples of complex geometry that can create runway incursions are when several taxiways and one or more runways meet at one intersection.

Application

✓ Talk to pilots that use your airport to find out their views about how safe and efficient your airport is and what improvements may be needed.

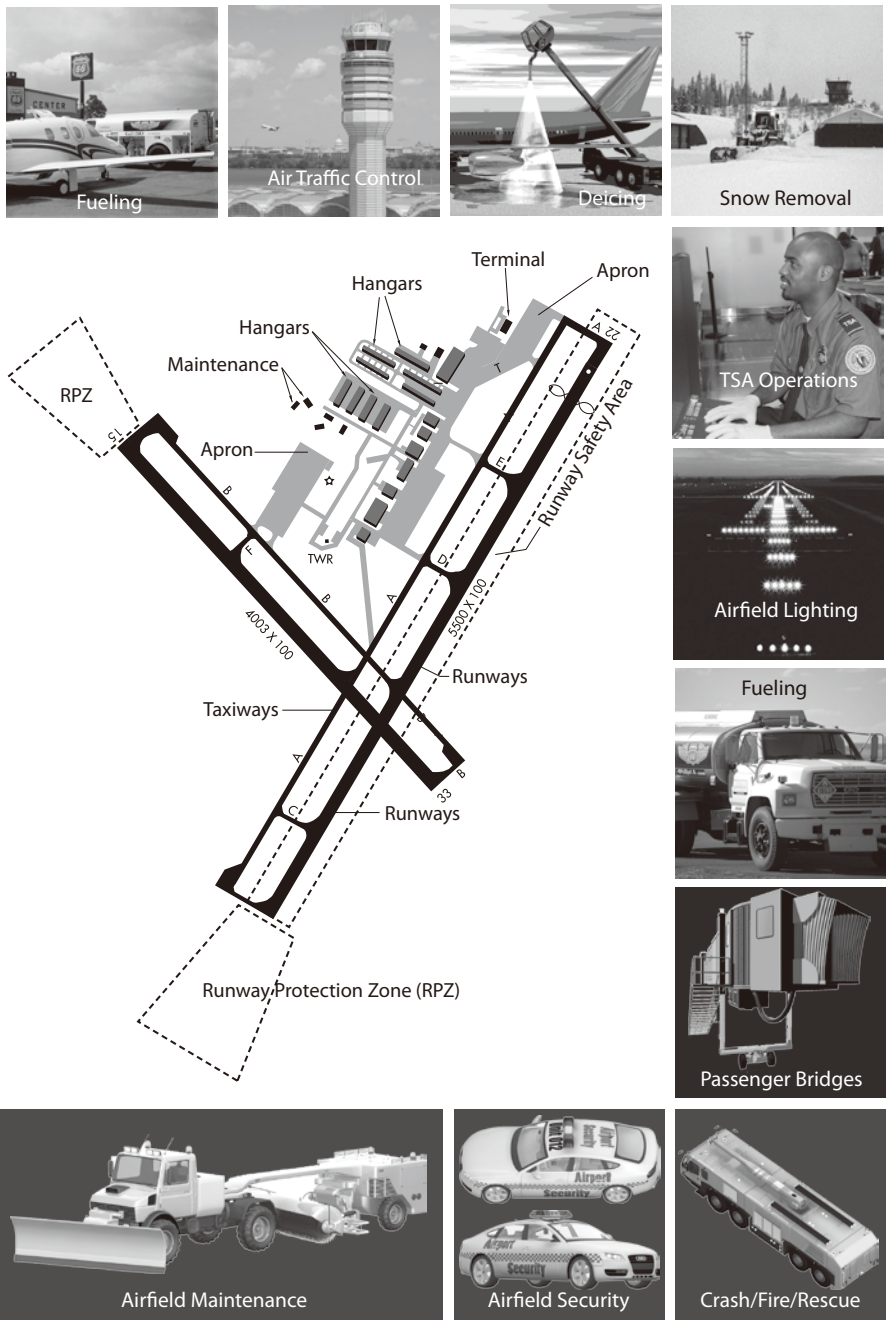
✓ Learn more about a pilot's view from the Aeronautical Information Manual:

http://www.faa.gov/air_traffic/publications/ATPubs/AIM/aim.pdf.

7. Basic Elements of Your Airport

Key Point

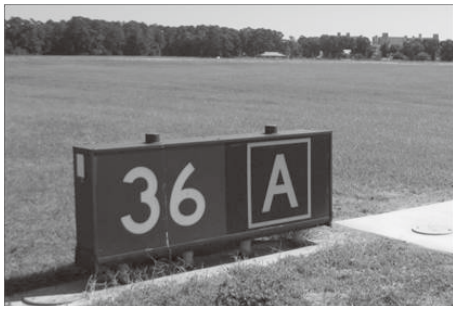
An airport's infrastructure is often discussed in terms of landside and airside facilities. The airside of an airport is planned, developed, and managed to accommodate the movement of aircraft around the airport as well as to and from the air. The landside of an airport is planned, developed, and managed to accommodate the movement of ground-based vehicles, passengers and cargo, parking lots, garages, entrance roads, and non-secure areas. The basic elements of small general aviation airports are obviously much different than large commercial service airports. Following is a diagram depicting the basic airside elements of an airport:



Discussion

The airport owner ensures landside features such as access roads, circulatory roads, and auto parking are of sufficient capacity and are appropriately maintained to meet passenger and customer needs. Other features seen on the landside of an airport include both aviation and non-aviation related businesses, support buildings, and facilities.

Terminal areas provide the critical link between the airside of the airport and ground access. The terminal area provides the facilities and processes to efficiently move passengers, crew, and cargo onto and off aircraft. There are many different commercial building layout configurations used around the country. When airports experience growth, some terminal buildings are expanded, whereas it may be necessary to build new terminal areas at other airports. Typical components of a commercial terminal building include curbside activities, ticketing, concessions, baggage handling, passenger screening/security, concourses, holding areas, gates, and jetways to aircraft. A typical general aviation terminal building will include a service counter, waiting area, pilot's lounge, flight planning, and a conference room.



Airside and airfield components of an airport include aircraft parking areas, taxiways, runways, lighting systems, signage, marking, and navigational and visual aids. Pavement edge lighting and airfield signs provide directional and situational guidance to pilots. In addition, facilities that aid in the safe operation of the airport are located on or close to the airfield, such as aircraft rescue fire fighting (ARFF) facilities, snow removal, aircraft deicing stations, fuel facilities, and weather reporting equipment.

There are also important land features such as runway protection zones (RPZs) in the approaches to runways to help protect people and property from aircraft operations. Airport owners should own adequate land interest in the RPZs to keep them free of development not compatible with airports. Areas around the runways and taxiways that are designed to accommodate aircraft that overrun, undershoot, or veer off the pavements create another safety feature.

The size of runways and taxiways are determined largely by the critical aircraft performance characteristics at the airport's elevation and hottest average temperature. Small general aviation airports at lower elevations typically may have a 4,000-foot long runway. A medium size general aviation airport, possibly classified as a reliever airport, may have a runway of 5,500 feet or more that enables it to service small business jets. Commercial air carrier runways serving large aircraft on long range flights might be 9,000 feet in length. The weight and gear configuration of the aircraft using the airport dictate the required pavement structure and thickness.

Application

- ✓ Tour the basic elements of both the landside and airside of your airport.
- ✓ Become familiar with what it takes to operate the airport (see Issue Paper #9 – The Airport: What It Takes to Operate Your Airport).
- ✓ See your ALP to become familiar with your airport's layout.

8. Your Airport in Action

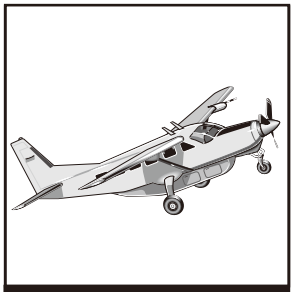
Key Point

Airports possess their own unique financial, political, operational, and environmental challenges. Some are small and fairly calm while others are large and bustling with activity for much of the day. Although unique as standalone entities, all airports link communities to the national air transportation network and are seen as places of action and commerce since their primary role is to safely transport people and cargo.

Discussion

Airport activities can be separated into four broad categories.

Air Carrier and Related Activities



General/Corporate Aviation and Related Activities

Government Activities

Airport Owner Activities

Air carriers, whether an airline or cargo carrier, decide which markets they serve by weighing projected revenue to be generated against the estimated cost of providing service. Airlines focus on the size of the actual and potential market, fuel costs, landing fees, counter and office rentals, and costs associated with launching service in a new community.

General aviation services are usually provided by a fixed-base operator (FBO). An FBO may be a private enterprise or city/county/state owned. FBOs generally offer fuel, oil, and aircraft maintenance services. Full-service FBOs offer a variety of other revenue generating services such as aircraft rentals and sales, charter flights, pilot training, and specialty maintenance. FBOs also typically provide an area in their facility for flight planning, weather briefings, and a computer terminal for automated flight activities. In addition to FBOs, some airports have Specialized Aviation Service Operators (SASOs) which offer a single or complementary service such as aircraft rental and flight training.

Government activities on an airport may include air traffic control, maintenance of navigational equipment, passenger security, customs, and federal inspection. At some airports, air traffic control may be handled by a private company rather than FAA employees.

See Issue Paper # 9 – The Airport: What it Takes to Operate Your Airport for information about **airport owner activities** relative to operating the airport. Air carrier airports and a few general aviation airports have on-site aircraft rescue and fire fighting capability, with associated personnel. They also may have on-site snow removal equipment, de-icing capability, and maintenance operations.

The table below illustrates the wide variety of services and activities typically found at an airport. As shown, these activities vary based upon the size and type of airport. Smaller air carrier airports may not have all of the activities shown and some general aviation airports may have more services than shown, while some of the federal activities may be limited to only certain airports.

Type of Activity/ Service	Air Carrier Airport (Large Hub/ International)	Air Carrier Airport (Small)	General Aviation Airport (Busy/Reliever)	General Aviation Airport (Small)
Airlines	✓	✓		
Passenger terminal	✓	✓		
General aviation terminal	✓	✓	✓	
Food service	✓	✓	✓	
Taxis on site	✓	✓		
Concession shops	✓	✓		
Charter service	✓	✓	✓	
Fixed-base operator full-service	✓	✓	✓	
Fixed-base operator minor service				✓
Cargo facilities	✓	✓		
Flight training	✓	✓	✓	
Medivac facilities	✓	✓		
Air traffic control	✓	✓	✓	
Federal customs/ inspection	✓			
Federal passenger security operations	✓	✓		
Airport rescue and fire fighting operations	✓	✓		
Airport maintenance on-site	✓	✓		
Snow removal/ de-icing	✓			

Application

✓ Tour your airport to become aware of its activities, services, and tenants.

9. What It Takes to Operate Your Airport

Key Point

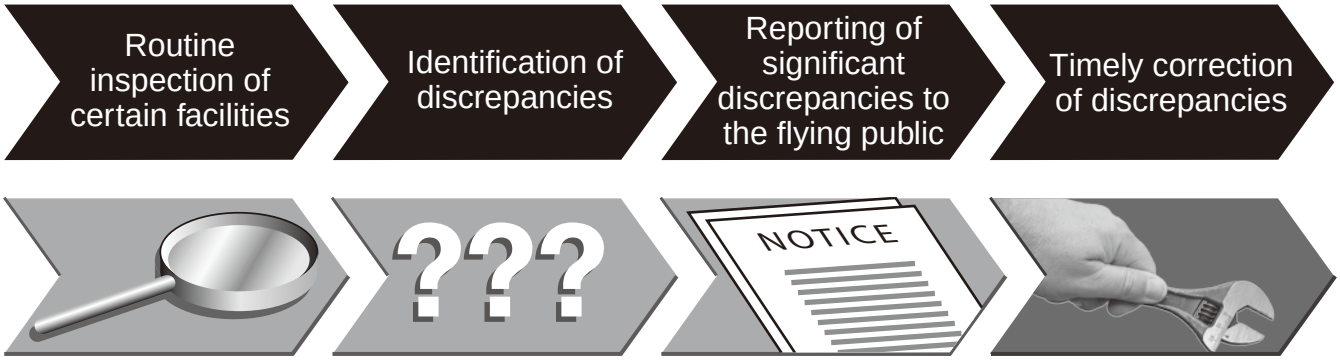
The complexity of operating an airport obviously varies depending upon the type and size of airport. Large commercial service airports may have an organization with full staffs handling ***finance, administration, planning and engineering, landside operations, terminal building operations, and airside operations***. Small general aviation airports may handle all of these functions with very few people. A primary goal for all airports is to have an effective operations program that generally focuses on airfield safety, security, maintenance, and emergency preparedness.

Discussion

Just as pilots are required to receive an FAA certificate demonstrating their "competency," certain airports are required to do the same. Federal Aviation Regulations (FAR) Part 139 outlines these "competency" requirements and applies to airports that serve scheduled air carrier aircraft with more than nine seats or unscheduled air carrier operations in aircraft with more than 30 seats. Elements of **all** airport safety programs should focus on operational airfield safety and include the condition and adequacy of several airfield elements, as shown in the Sample Inspection Checklist on the following page.

The most costly requirement of FAR Part 139 is the provision of aircraft rescue and firefighting services. The FAA regulation specifies minimum equipment, how quickly this equipment and personnel must respond to an emergency, and minimum training for firefighters. FAA staff perform a periodic inspection of certificated airports and a simulated emergency ARFF drill to determine if the staff and equipment can meet the required response time.

In addition to the regulatory requirements for certificated airports, **all** airports should maintain and operate a safe airport. This is best done in the course of daily operations of the airport, with a process that includes:



Other elements of a good airport operations program include a communications protocol with the airport traffic control tower staff (if there is one), a program to prevent runway incursions, management of wildlife hazards, issuance of notices to airmen when needed, personnel training, and noise abatement procedures.

Sample Inspection Checklist

Sample Inspection Checklist					
Date:	Day:		✓ Satisfactory		
Time:	Inspector:		X Unsatisfactory		
FACILITIES	CONDITION	✓	FACILITIES	CONDITION	✓
Pavement areas	Pavement lip over 3"		Fueling operations	Fencing/gates/signs	
	Hole 5" diam, 3" deep			Fuel marking	
	Cracks/spalling/bumps			Fire extinguishers	
	FOD: gravel/debris/etc.			Grounding clips	
	Rubber deposits			Fuel leaks/vegetation	
	Ponding/edge dams		Snow and ice	Surface conditions	
Safety areas	Ruts/humps/erosion			Snowbank clearance	
	Drainage/construction			Lights and signs obscured	
	Objects/frangible bases			NAVAIDS/fire access	
Marking and signs	Visible/standard		Construction	Barricades/lights	
	Hold lines/signs			Equipment parking	
	Frangible signs		ARFF	Equipment/crew avail.	
Lighting	Obscured/dirty/faded			Communications/alarm	
	Damaged/missing		Public protection	Fencing/gates	
	Inoperative			Signs	
	Faulty aim/adjustment		Wildlife hazards	Dead birds	
Navigational aids	Rotating beacon			Flocks of birds/animals	
	Wind indicators		Obstructions	Obstruction lights	
	Runway end ID lights			Cranes/trees	
	Visual approach indicator				

Part 139 certificated airports are required to have an ***emergency plan***; however, **all** airports should have a plan for how to handle emergencies. The plan should be coordinated closely with other regional emergency plans and agencies. Emergencies can range from an aircraft incident to a natural disaster.

Similar to the safety requirements of airports, the TSA has specific regulatory requirements for the secure operation of air carrier airports. These include controlling access to the airport operations area, perimeter security, and law enforcement. The airport owner outlines the security program and procedures in an Airport Security Manual that is approved by TSA. TSA also provides advisory information for security of general aviation airports.

Application

✓ Request that airport management provide an overview of the airport's operations programs and emergency plan.

10. Planning and Developing Your Airport

Key Point

When developing the physical elements of your airport, it is important to have a thoughtful, comprehensive, and well-coordinated plan to guide growth aligned with the airport's vision. An ALP is the document that depicts your airport's 20-year plan for growth. The ALP depicts the existing and proposed airport land uses and infrastructure and is sometimes prepared as part of an airport master planning process. Airport sponsors also prepare an airport capital improvement plan (ACIP) that outlines the cost, funding, and timing for each capital item. The ACIP is often in a spreadsheet format, while the ALP shows the proposed development in a graphic/drawing format. The FAA requires an airport sponsor to maintain a current ALP as a condition to receiving federal grant assistance. The FAA and state funding agencies also require submission of an annual ACIP, typically covering the next five years of projects. The ACIP is updated at least annually, while the ALP is updated as frequently as active development is being undertaken, but typically every five years.

Discussion

The typical process for airport development is to plan the project or development, assess its potential environmental impacts, design the project, and then construct it. Development of the ACIP normally parallels this process. As new or more detailed information is available, the funding plan may change.

Airport Master Plans

Some airport owners prepare or update a comprehensive airport master plan with significant public and community involvement. The primary elements of an airport master plan include:

- inventory of existing facilities;
- development of 20 year forecast of aviation activity;
- identification of facility requirements to meet anticipated aviation activity;
- consideration of alternatives;
- overview of environmental impacts;
- analysis of financial feasibility;
- preparation of an ALP, showing the 20-year proposed development.

Master plans also consider state or regional system plans which assist with understanding how the airport fits in a larger region or area, both now and in the future.

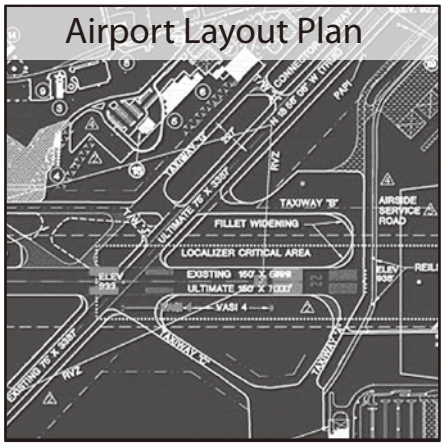
Airport Layout Plans

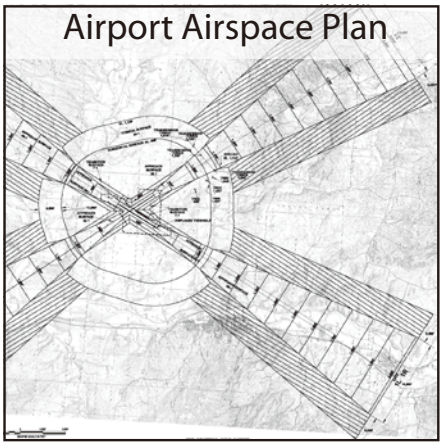
An ALP is important because it serves as:

- A **guide** to what, where, and when certain facilities should go on an airport;
- A **blueprint** for airport land use and development in accordance with FAA criteria;
- A **public record** of future and present aeronautical requirements;
- A **tool** to facilitate discussions with the FAA about Airport Improvement Program grant funds.

The ALP shows runways, taxiways, aprons, buildings, navigation aids, pertinent safety clearances, and anticipated timing for each proposed facility. While use of the term "ALP" typically refers to the primary drawing sheet, the ALP actually consists of an entire set of drawings which includes:

- **Airport Layout Plan Drawing** — existing and proposed facilities (the primary drawing);
- **Terminal Area Plan** — enlarged view of terminals, aprons, hangars, and auto access/parking;
- **Airport Airspace Plan** — protected "imaginary" surfaces in airspace surrounding the airport;
- **Land Use Map** — existing and future land use on and around airport property; and
- **Airport Property Map** — airport property boundary, inner parcels, and adjacent properties. Includes acquisition history, existing and proposed easements, and future land acquisition.





When FAA approves an ALP it is concurring with the airport owner's plan for airport development. The plan generally meets FAA geometric design criteria; however, this does not mean FAA concurs with the funding of proposed development. The FAA also considers the overall utility and efficiency of the proposed layout when reviewing the ALP. The airport land will be effectively used to meet aeronautical demand and revenue needs, and the existing/proposed airfield is of sufficient capacity and an efficient layout.

The airport sponsor must develop, operate, and maintain the airport in accordance with the latest approved ALP. FAA or state approval of an ALP is not a commitment that they will fund the development shown on the ALP. Also, they will often "conditionally" approve an ALP pending final completion of environmental documents and issuance of a finding of no significant environmental impact.

Airport Capital Improvement Plan (ACIP)

The ACIP is the primary tool for systematically identifying, prioritizing, and assigning funds to support development and capital needs for an airport. The FAA relies on the ACIP to serve as the basis for the distribution of limited grant funds under the AIP. A sponsor's ACIP represents their five-year program for planning and development at their airport.

An ACIP is important because it serves as:

- A **guide** for FAA, state, airport, and other agencies to evaluate funding needs;
- A **resource** for FAA when evaluating an airport's needs versus those of an entire region;
- A **tool** for FAA and the state to effectively plan and program funding over the long term;
- A necessary **instrument** for applying for FAA and most state grant funds.

For more discussion about types of actual funding, see Issue Paper #14 – Financial: Funding Capital Improvements.

Environmental Impacts

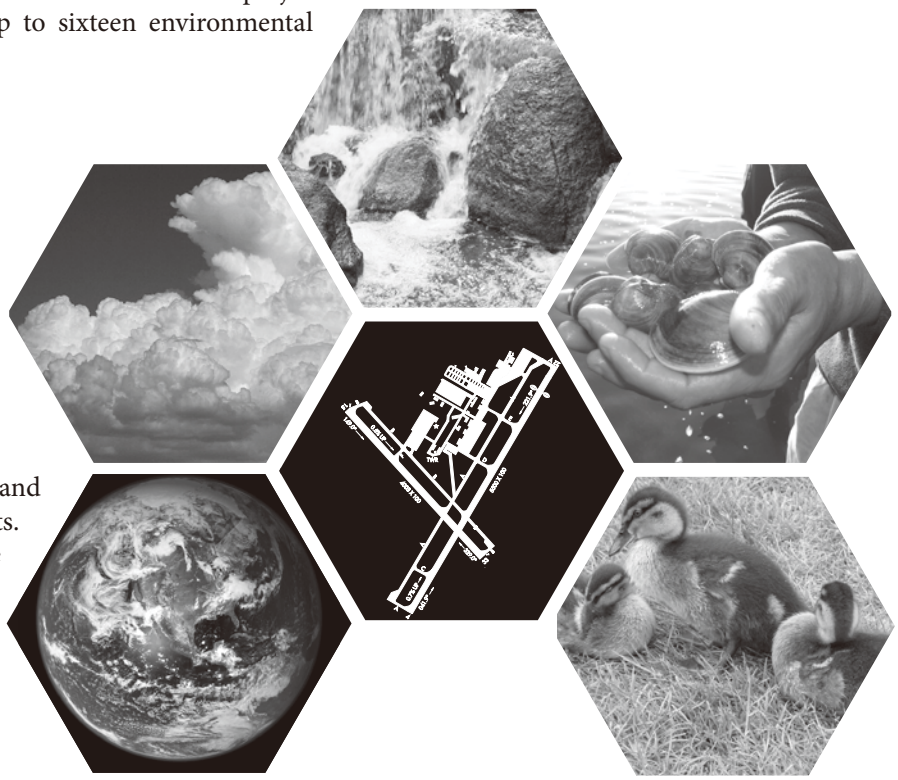
Prior to undertaking a project, the airport is responsible for ensuring that it is in compliance with applicable environmental laws, regulations, and processes. FAA requirements for addressing environmental impacts are based on federal law and regulations and require one of three types of documentation of a project's environmental impacts and mitigation, including:

1. Categorical exclusion (example project: apron overlay);
2. Environmental assessment (example project: runway extension at a general aviation airport); and
3. Environmental impact statement (example project: new air carrier runway at a large hub airport).

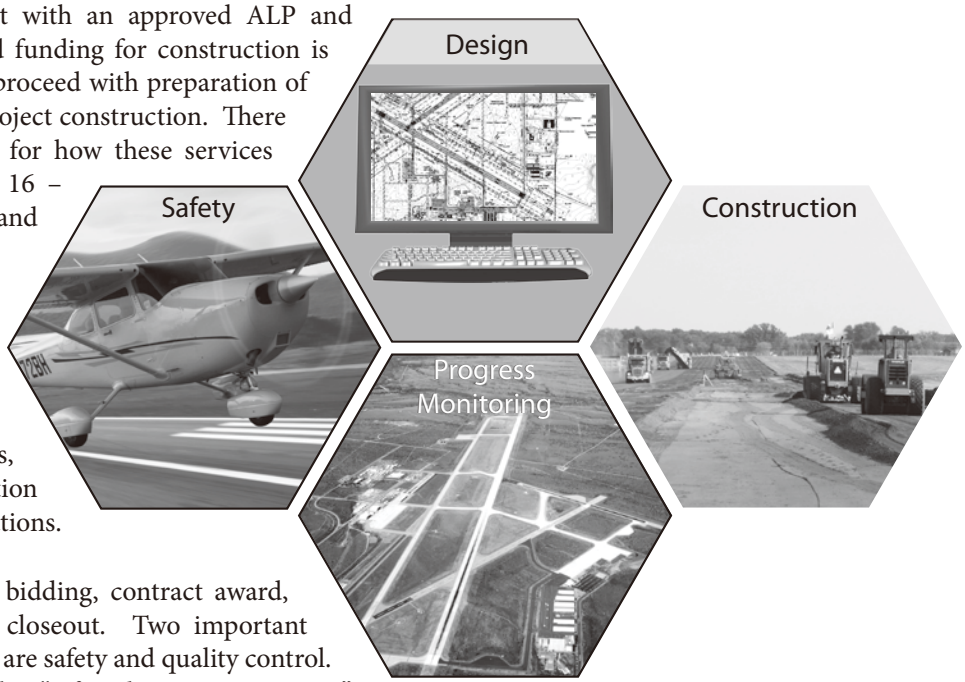
FAA prescribes in detail how to prepare these documents. A project's impact is normally examined relative to up to sixteen environmental impact categories, including:

- air quality,
- noise,
- hazardous materials,
- wetlands,
- fish and wildlife,
- prime farmland, and
- historical, architectural, cultural significance.

In addition, there may be unique local, state, and regional environmental review requirements. The environmental approval process can take much longer than anticipated because of these many impact categories, as well as the required coordination with local, state, and federal agencies, and public involvement.



Project Design and Construction



Assuming projects are consistent with an approved ALP and have environmental approval and funding for construction is fairly certain, sponsors normally proceed with preparation of detailed design documents and project construction. There are specific federal requirements for how these services are procured (see Issue Paper # 16 – Financial: Purchasing Goods and Services for Your Airport).

The design process typically includes selection of a consultant, a predesign conference, design review meetings with the airport owner and key airport stakeholders, an engineer's report, and preparation of construction plans and specifications.

The construction phase includes bidding, contract award, actual construction, and project closeout. Two important requirements during construction are safety and quality control. Airport safety is addressed through a "safety during construction" plan that is part of the contract documents. This plan ensures that contractor personnel and equipment stay away from active runways and taxiways. Quality control of the construction is normally addressed through appropriate resident inspection and testing of construction materials. For example, pavement materials and earthwork are tested to ensure what is actually placed meets specifications. There is also a final inspection at the completion of the project where airport, state, and federal officials confirm the project is complete and associated grants can be administratively closed.

Application

- ✓ Become familiar with the airport's vision and its ALP.
- ✓ Keep your ACIP real. It should not be a wish-list, but rather a realistic, achievable plan based on demonstrated need.
- ✓ Embrace a goal to always meet safety standards when developing the airport.
- ✓ Be a responsible steward of the environment.

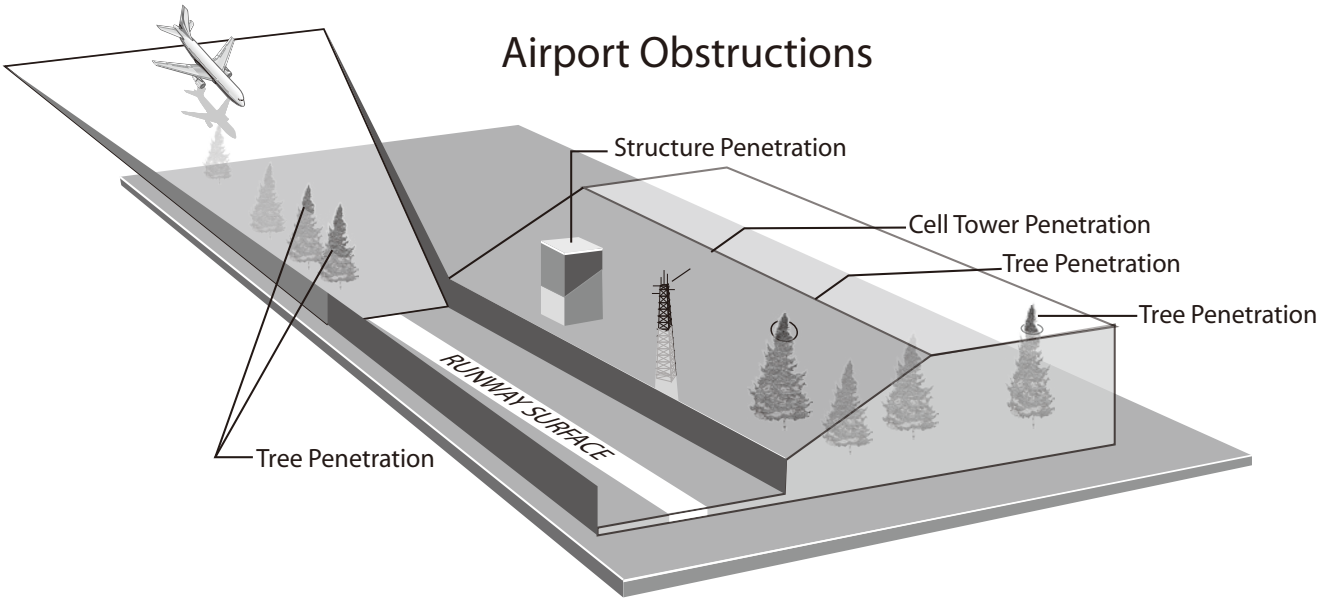
11. Protecting and Preserving the Airport and Its Environs

Key Point

It is common for a community to develop around an airport and encroach on the land and airspace that is often critical to the airport's longterm viability. Prevention of incompatible uses around the airport is critical because of their potential to impact airport operations and vice versa. Primary tools available to local governments to prevent incompatible development include zoning, land use plans, ordinances, building permits, and land acquisition.

Discussion

The three areas of primary concern for both the protection and safety of an airport are height of objects (typically called "obstructions"), aircraft noise impacts, and hazards created by the presence of wildlife.



Obstructions

Tall objects such as cell towers, water tanks, wind farms, or trees that penetrate airspace where aircraft fly are obviously not appropriate. FAA's Regulation Part 77, Objects Affecting Navigable Airspace, defines "imaginary surfaces" that generally should be kept free of penetrations. One of these imaginary surfaces is the approach slope to the runway threshold.

Both zoning and the building permitting process are used to help prevent tall objects around airports. FAA may also deem a proposed object a hazard, which in most cases will halt the issuance of a building permit. A common form of zoning associated with airports is the development of an airport zoning ordinance. These are typically sponsored by local municipalities or state statute. When feasible, they should include both height and land use restrictions to adequately protect the airport, safe movement of aircraft, and persons that live or work in the vicinity of the airport. Proponents of proposed structures near airports are required to obtain FAA approval prior to construction. Local governments should institute a process where this coordination is done early in the planning process.

Noise

Considerable progress has been made over the past 20 years to reduce aircraft engine noise; however, this issue remains as a point of controversy between airports and their neighbors. The public is concerned not only about the total amount of noise to which it is exposed, it is also concerned about the number of flights that pass over their home, the individual noise levels emitted from aircraft, the time of day or night aircraft pass over, and the aircraft's height in proximity to the ground. Through a federal Interagency Committee on noise, FAA selected 65 day-night noise level (DNL) as the threshold of significance. DNL is a composite rating of noise that considers nighttime aircraft noise as normally more of a nuisance than day-time noise. This DNL rating includes consideration of the noise of multiple aircraft takeoffs and landings, with those at night counting 10 times those in the day. Many airports have prepared noise maps that identify the DNL contours for their airport. Communities use these noise maps to guide the adoption of responsible land use plans and zoning to protect both the airport and its neighbors.

Techniques used to mitigate aircraft noise impacts include:

- Work with FAA to modify flight track location to overfly corridors of compatible land use;
- Establish voluntary runway use programs, maximizing certain runways and flight tracks when weather and activity permit;
- Manage time and location of aircraft engine run-up operations; and
- Acquire or soundproof noise-impacted properties such as residences, churches, and schools.

A land use could be deemed incompatible due to noise sensitivity or due to the need to keep certain areas surrounding an airport clear of structures and congregations of people. RPZs (see Issue Paper #7 – The Airport: Basic Elements of Your Airport) protect people and property on the ground. These areas are located at the end of each runway and the airport owner should hold sufficient property interest to achieve and maintain the area clear of all incompatible land use, objects, and activities.

Wildlife Hazards

Activities on or near the airport that attract wildlife such as deer and birds should be avoided or managed to prevent aircraft hazards. Many airports use fencing and employ vegetation practices to keep out land animals. FAA has specific guidelines for the management and location of bird attractants such as landfills and water areas. FAA's airport safety experts can advise airport management about policy and practices related to wildlife hazards. Local zoning codes should be amended to reduce or restrict wildlife attractants such as ponds in the vicinity of the airport.

Project Assessments

Federal law generally requires the airport sponsor to identify and mitigate any environmental impacts caused by proposed airport development projects. The airport owner works directly with FAA staff to ensure this requirement is met.

Application

✓ Learn what measures your local government has taken regarding land use planning and zoning around the airport.

12. National Issues with Local Significance

Key Point

Proposed or changing federal programs, regulations, and Congressional actions hold the potential for profound financial and operational impacts on airports. While airport governing bodies are focused on issues specific to their facility, it is essential that they have a basic knowledge about pending national legislative and regulatory matters and new programs germane to aviation and airports. Keeping informed on emerging national issues and how they may affect local operations is essential for all policy makers in order for them to govern effectively.

Discussion

Some of the significant national issues that hold the potential to have the greatest local impact are:

- ***Sustainable funding for airport development and use of federal aviation tax revenues.*** Many airports depend heavily on federal funding for activities such as airport development, federal operation and maintenance of air traffic control systems and navigational aids, and airport security. The lack of sustainable funding for these types of activities would negatively impact many airports. Local policy makers need to be aware of the current status of the federal authorization for aviation taxes, revenue and programs, as well as the annual appropriation of funding.
- ***FAA, TSA, and other federal agency legislation, regulations, and policies.*** There are often proposed changes to federal law, regulations, and policies relative to airport operations and development. These typically involve safety, security, or environmental requirements that may impact airports. Local policy makers need to be aware of proposed or pending changes that may impact their local airport.
- ***FAA management of the Air Traffic Control System and transition toward satellite-based navigation.*** This "next generation" navigation system is referred to as NextGen and is a transformation of the entire aviation system to a satellite-based system capable of handling future aviation demand. The airport system — from the runway, to the taxiway, apron, gate, terminal, and access from the air — will benefit from the NextGen transition. Airports will see increased safety, greater design flexibility, better use of existing capacity, and reduced environmental impact. Local policy makers should become aware of how NextGen is impacting their airport, both currently and in the future.

- ***Trends in aircraft development and their impact on airport operations and airport development***. Just as aircraft have evolved from the Wright Flyer to jets, industry continues to develop new aircraft types. These may range from very light jets to very large wide-bodied aircraft. Airport planners stay abreast of these changes since they impact the existing and future infrastructure needs of airports. Local policy makers need to work with airport management and anticipate how these changes might impact the operational and infrastructure requirements for their airport.

Airport staffs typically engage their Congressional representatives in discussions on these and other pertinent issues through correspondence and on-site briefings about how federal legislative or regulatory actions will impact local airports. In addition, many airports rely on organizations such as the American Association of Airport Executives (AAAE), Airports Council International (ACI), National Association of Counties (NACO), and National League of Cities to provide relevant documents, data, and status reports on both legislative and regulatory decisions. This interface provides Congressional representatives and federal agencies with insights and information they need to make appropriate and informed decisions. In the end, it is vital that local airport policy makers take every opportunity to engage their Congressional representatives to provide them with information on how the decisions they make on broad national aviation issues will impact their local constituents.

Application

✓ Remain aware of national issues that impact local airport operations. Attend conference sessions where these issues are discussed. Also, review information and positions of industry groups on these matters.

✓ See the AAAE Federal Affairs website: http://www.aaae.org/federal_affairs/.

13. Sources and Uses of Operating Funds

Key Point

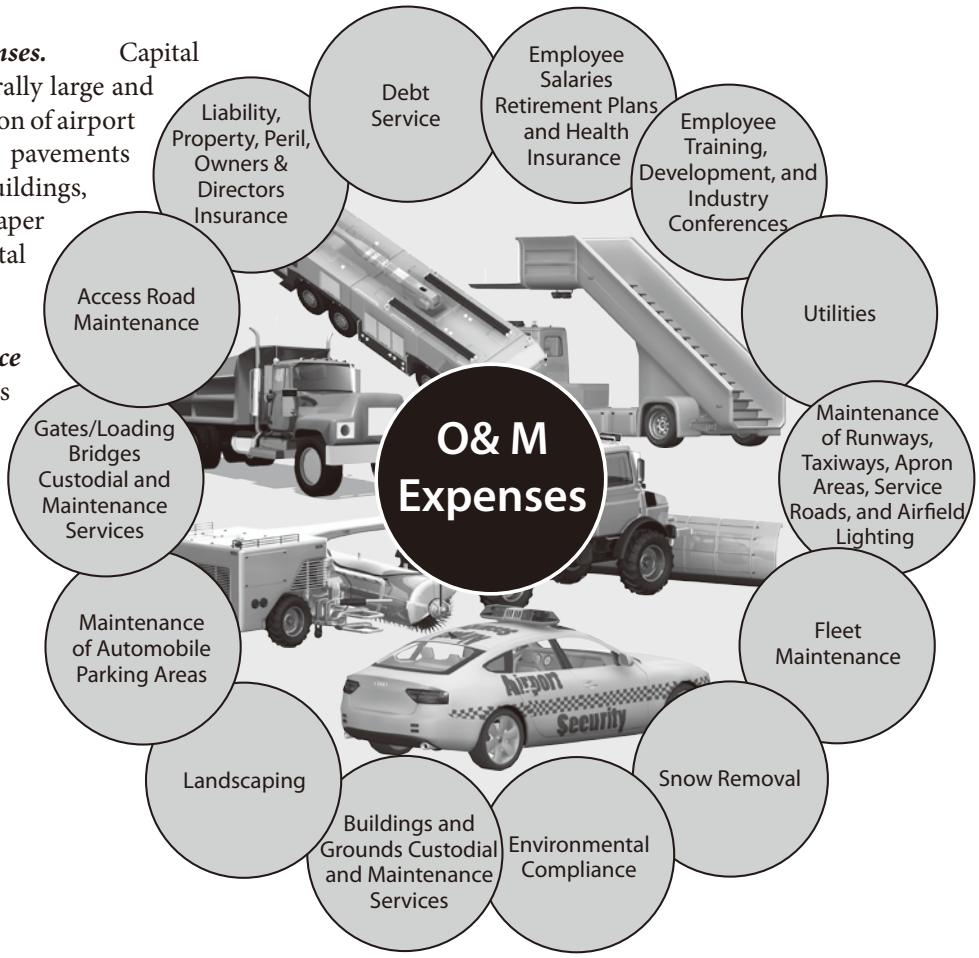
To ensure the effective and efficient delivery of aviation services to the community they serve, airport governing bodies develop and implement financial management policies and procedures, including an annual operating budget, for operating expenditures and revenues. While the size and type of airport generally dictate the scope and scale of the operating budget, the governing body should review and evaluate financial records on an ongoing basis. This review should include appropriate oversight of airport finances and a comparison of actual performance to the adopted budget. Equally important is the need to retain a qualified financial expert (internal/external auditors) to conduct an annual review of the airport's financial records and activities to ensure compliance with generally accepted accounting principles, state and local financial audit requirements, and federal grant assurances and obligations.

Discussion

Airport expenses normally fall into two areas:

Capital improvement expenses. Capital improvement expenses are generally large and relate to improvement or expansion of airport infrastructure, such as airfield pavements and lighting systems, terminal buildings, equipment, and land (see Issue Paper #14 – Financial: Funding Capital Improvements).

Operation and maintenance expenses (O&M). O&M costs normally occur on a regular basis and are required to maintain the current operations of the airport.



Sources of airport **revenue** include:

- Airfield — landing fees, aircraft parking, and fuel flowage;
- Terminal concessions — restaurants, travel services, specialty shops, amusements, automobile parking, hotels, and ground transportation;
- Airline leases — all areas leased by the airlines;
- Other leases — fixed-base operators, governmental units, industrial areas, cargo operators, and non-aeronautical leases;
- Non-operating revenue — sale or lease of properties owned by the airport but not needed for airport operations, interest earned on investments, local taxes, and federal/state grants; and
- Airport resources — such as sub-surface mineral rights.

As a recipient of federal grant-in-aid funding, airport operators are obligated to:

- Establish aeronautical rates and charges at a level such that the facility is as self-sufficient as possible. Nonetheless, rates charged to users for airport premises and facilities are generally set to ensure that the revenues derived from such use cover the airport's cost of providing the service and are used exclusively for airport operations;
- Use airport-generated revenue for airport purposes (see Issue Paper #17 – Financial: Use of Airport Revenue).

Application

✓ Become familiar with your airport's annual budget, specifically how it generates revenue and its major expenditures.

✓ Be prepared to make tough decisions during difficult times.

✓ Be aware of your annual audit process.

✓ DO NOT illegally use airport revenue for non-airport expenses. Anticipate being pressured to do otherwise.

✓ Recognize that an airport is a business and managing a well-thought budget is very important (see Issue Paper #15 – Financial: Your Airport as a Business).

14. Funding Capital Improvements

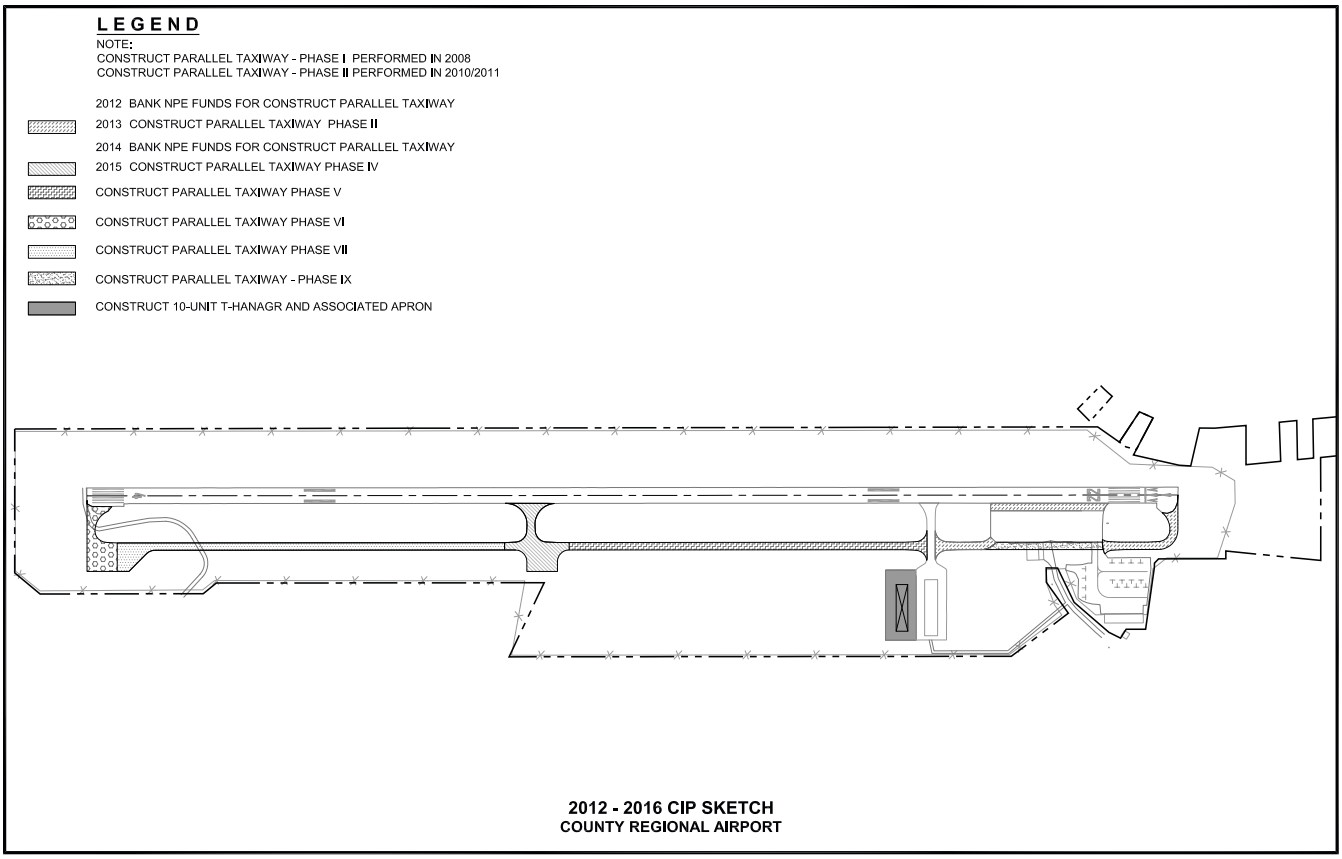
Key Point

Proposed funding for the implementation of an airport's capital improvement program is outlined in the airport's ACIP. Airport development funding is principally provided through:

- FAA AIP grants;
- State grants;
- Passenger Facility Charge (PFC) revenues (commercial airports only);
- Third party private financing;
- Issuance of bonds or other forms of debt; and
- Local and/or airport reserve funds.

Each of these programs has its own requirements. The primary prerequisites for federal grants are that the work is legally eligible for federal funding, justified based on actual need, consistent with an approved ALP, and complete funding is expected to be available. Execution of capital plans are multi-year endeavors requiring extensive planning, coordination,and review by federal, state, and local agencies. The scope and magnitude of airport capital programs vary significantly based upon the identified needs of the specific airport.

Sample ACIP Sketch



Discussion

Airport Capital Improvement Plan

Airport sponsors prepare an ACIP that outlines the cost, type of funding, and timing for each capital item. The FAA and state funding agencies require submission of an annual ACIP, typically covering five years of projects. The ACIP is the primary tool for systematically identifying, prioritizing, and assigning funds to critical airport development. The FAA relies on the ACIP to serve as the basis for the distribution of limited grant funds under the AIP.

AIP

The FAA provides grants to airports through the AIP. Important elements of the AIP include:

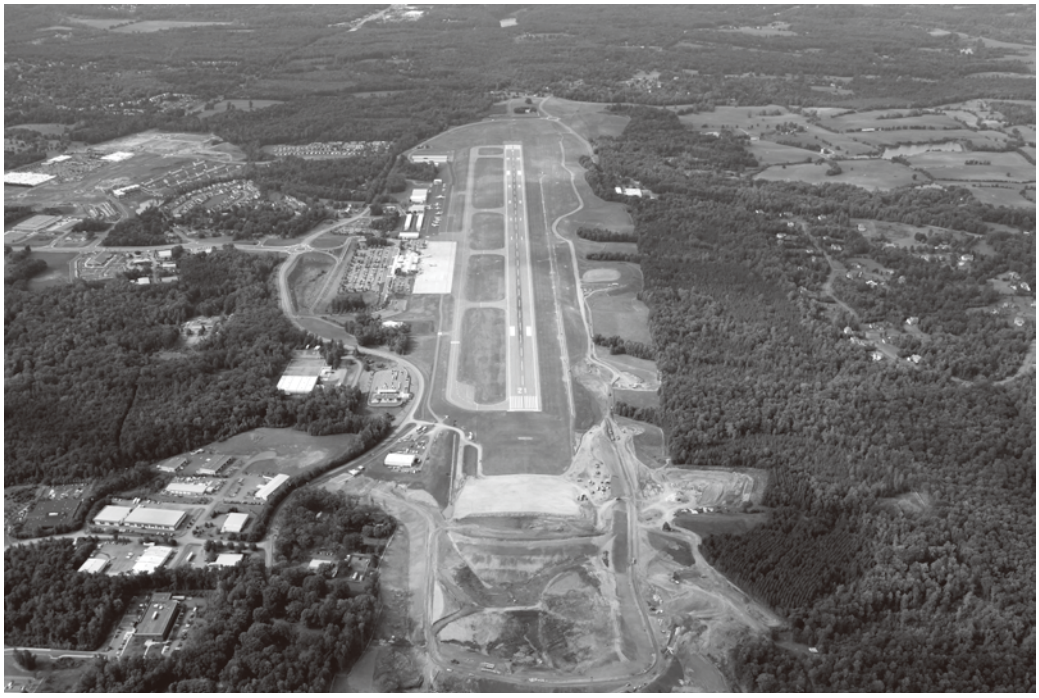
1. ***Source of Funds:*** Funding is derived from user fees (e.g. passenger ticket taxes and fuel taxes) that are established by Congress and flow to the Federal Aviation Trust Fund. In addition to establishing the type and level of aviation user fees, Congress also enacts legislation that establishes annual authorization and appropriation levels for distribution of AIP funds. The FAA utilizes these legislative directives to make grant awards to airport sponsors.

2. ***NPIAS Inclusion:*** In order to receive an AIP grant, an airport must be included in the NPIAS.

3. ***AIP Eligibility:*** The project must be eligible under the law. AIP grants are used for the planning and development of airports including infrastructure, land acquisition, and noise compatibility programs. AIP funds cannot be used for airport operating expenses. The following table provides examples of the types of AIP eligible and ineligible projects:

Eligible Projects	Ineligible Projects
Runway construction/rehabilitation	Maintenance equipment and vehicles
Taxiway construction/rehabilitation	Offices and office equipment
Apron construction/rehabilitation	Fuel farms (with some exceptions)
Airport marking, lighting, and signage	Decorative landscaping
Airport regulatory safety/security projects	Artwork
Airfield drainage	Aircraft hangars (with some exceptions)
Land acquisition	Industrial park development
Automated aviation weather observation and reporting systems	Marketing plans
Some navigational aids	Training
Aviation planning studies	Maintenance or repairs of buildings
Environmental impact studies	Movable furniture
Runway safety area improvements	Employee salaries
Airport layout plans	Employee parking lots
Access roads located on airport property	Roads not exclusively for airport purposes
Removal of airport hazards	Non-public aircraft aprons

4. ***Airport Layout Plan Consistency:*** AIP grant work items are required to be consistent with an FAA approved ALP, have undergone a thorough environmental impact review, and must conform to federal standards for the design and construction of airport improvement and/or acquisition of land or equipment (see Issue Paper #10 – The Airport: Planning and Developing Your Airport).



5. ***Demonstration of Need:*** Projects must be justified based on actual need. For example, a project to lengthen a runway should be based on a demonstrated need of at least 500 annual combined takeoffs and landings by the critical aircraft that needs the longer runway. The purpose of AIP is not to support a goal of "build it and they will come," but rather to meet current demand.

6. ***Type of Funds:*** Both commercial and general aviation airports receive entitlement grant funds and can also compete for discretionary funds. FAA entitlement grants for commercial airports are based on the number of enplaned passengers as well as the volume of cargo generated at the airport. Funding for general aviation airports is based on the amount of development that an airport has identified within the NPIAS. In the year 2010, the maximum entitlement amount a general aviation airport could obtain was $150,000 per year. General aviation airports can also compete for AIP grants through state apportionment allocations. Each state receives an apportionment for general aviation airports based on the size and population of the state. Discretionary funds are generally awarded based on project priorities, with required safety and security needs receiving the highest ranking and consideration.

7. ***Grant Assurances:*** Upon acceptance of an AIP grant, an airport sponsor pledges to adhere to a number of assurances as a condition for receiving federal funds. These assurances represent a binding legal agreement between the federal government and the airport sponsor (see Issue Paper # 19 – Rules: Complying with Federal Grant Assurances).

The AIP is administered by FAA's Office of Airports through a regional Airports Division or Airports District Office. In fiscal year 2010, 10 states, under a special Congressionally approved provision, administered the AIP program in lieu of the FAA. These "block grant" states include Georgia, Illinois, Michigan, Missouri, New Hampshire, North Carolina, Pennsylvania, Tennessee, Texas, and Wisconsin.

State Grants

Most states offer an airport grant-in-aid program to provide matching funds for AIP allocations. In addition, some have robust grant programs that provide funding assistance for such items as airfield/building maintenance projects and other initiatives typically not eligible for federal aid.

Passenger Facility Charge (PFC) Program

Commercial airports are permitted to assess a fee on passengers known as a passenger facility charge (PFC). The airport sponsor must apply to the FAA for the authorization to impose and use PFC revenues and they generally range from $3 to $4.50 per flight segment with a maximum PFC of $18.00 per roundtrip ticket. Airlines collect PFCs through the ticketing process and transmit collected funds to airport sponsors to finance construction of airport improvements.

Third Party Private Financing

Provided an airport's enabling legislation authorizes such activity, third-party financing of airport improvements is also available to provide needed infrastructure to support aviation activity. This form of financing typically involves the lease of airport land to a private entity for construction and operation of aircraft hangars, automobile parking areas, or cargo handling facilities. Private developers construct the facilities at little or no cost to the airport in accordance with standards developed by the airport. At the end of the land lease, the facility reverts to the ownership of the airport sponsor.

Issuance of Bonds or Other Forms of Debt

The issuance of bonds is the single largest source of funding for airport improvements; however, generally only large and medium hub commercial service airports can undertake this form of financing. These larger facilities generate sufficient revenues to fund operations and retire the debt service resulting from the issuance of the bonds, unlike small, non-hub and general aviation airports.

For smaller airports, it is possible to obtain debt financing for projects by "piggy-backing" local general obligation bond issues if the local governing body will allow the airport to participate. Finally, commercial loans and/or "pooled" projects sponsored through state-backed programs also may be available.

Local Funds and Airport Revenue

In some instances, the local governing body allocates resources from its general funds to support airport improvement projects. However, the availability of these funds can be limited given the scarcity of local funds, competition from other needs in the community, and opposition from citizen interest groups.

Commercial airports generate revenue for capital projects from landing fees, airport leases, concessions, and automobile parking fees. Primary sources of revenue for general aviation airports are fuel flowage fees, hangar land leases, FBO leases, agricultural leases, and other non-aeronautical leases; however, revenues derived from these activities normally do not exceed the cost of operating the airport and are therefore not available for capital improvement projects.

Application

- ✓ Recognize that the total demand for AIP resources far exceeds available funds. Work with FAA to seek funding for projects but be realistic and acknowledge the eligibility and justification requirements of AIP.
- ✓ Develop a well-thought and reasonable ACIP for development of your airport.
- ✓ Become familiar with your state airport capital improvement funding program and learn how it complements AIP and how it can assist when AIP funds are not available.

15. Your Airport as a Business

Key Point

Airports operate in an environment extensively regulated by federal, state, and local governmental agencies and possess a host of characteristics that mirror public utilities. However, it is important that policy makers understand and affirm the need to employ good business practices to achieve success in the delivery of aviation services to the public. These practices are discussed below, but are generally driven by the airport's vision, mission, and strategic plan.

Discussion

A typical business process includes the following:

Vision. Visions vary of course, but many focus on the airport being seen as the front door to the community, a gateway to the world, and a premier provider of customer service.

Mission. A typical airport mission might be to serve the aviation needs of the community, safely and efficiently.

Strategic Plan. A good strategic plan establishes the direction and priorities of the airport. The depth of an airport's strategic plan normally varies depending upon its size and challenges, but the elements of this plan generally include those shown to the right.

Annual Goals. Broad objectives and goals typically flow from the individual tasks included in the airport's strategic plans.

Annual Budget. Budgets focus on expenses and revenues (see Issue Paper # 13 – Financial: Sources and Uses of Operating Funds). Policy makers need to understand the importance of striving to ensure that the airport operations be as financially self-sufficient as possible. Not only is this objective founded in sound business practice, the FAA mandates this in the assurances made part of its grant agreements (see Issue Paper # 19 – Rules: Complying with Federal Grant Assurances).

Airport Business Practices

Airport Rates and Charges. Establishing nondiscriminatory rates and charges for use of airport facilities and amenities on fair and reasonable terms and conditions is not only a good business practice but is mandated by the FAA for those airports accepting AIP grants. Other principles of airport rate-making procedures as dictated by the FAA include:

- Using revenue derived from the airport solely for airport capital and operating costs (see Issue Paper #17 – Financial: Use of Airport Revenue);
- Charging fair market value for non-aeronautical use of airports; and
- Being aware that federal law and policies on reasonableness of fees and economic discrimination do not apply to non-aeronautical uses.

Performance Measurement. Many airports establish standards and then measure performance. Customer service is an example of one such activity. Benchmarking is also a common practice, especially for large airports, to help determine how it is performing relative to other peer airports. By conducting surveys and measuring performance, the governing body is ensuring, to the greatest extent possible, that the highest quality aviation services are provided to the public.

Rules and Regulations and Minimum Standards. The adoption and use of airport minimum standards, rules, and regulations and leasing policies clearly define and clarify roles, responsibilities, expectations, and obligations to those seeking to conduct business or utilize airport property (see Issue Paper #18 – Rules: What's Expected of Airport Tenants and Users).

Human Resource Plan. A good business plan will normally include elements related to human resources and staffing needs. This plan focuses on the need to provide continuous learning and professional development of airport staff as well as employment of other best management practices.

Transparency. Enactment and employment of basic business practices are also necessary in order for the airport governing body to conduct its business in the most transparent and responsible manner possible. Codifying policies and procedures for accounting practices, the procurement of goods and services, and acceptable avenues for investment of airport funds ensures that the general public as well as management staff and members of the airport's governing body clearly understand how the airport conducts its affairs.

Application

- ✓ Become familiar with the business practices your airport employs.
- ✓ Embrace the principles noted above and support airport management in its daily implementation of them.
- ✓ Support development and training of staff, even with tight budgets.
- ✓ Compare your airport's business practices to other airports of similar size and with similar goals.

16. Purchasing Goods and Services for Your Airport

Key Point

Airports purchase a wide array of supplies, services, equipment, and even land. Because public funds are expended for these items, state and local laws and regulations have been established to govern how these purchases are made. Correspondingly, federal regulations (49CFR Part 18) dictate the award of design engineering contracts, construction contracts, land acquisition procedures, and equipment purchased through the AIP. Those charged with making decisions about procurement need to be aware of these regulations.

Discussion

Basic procurement principles airports follow include:

- Purchase quality goods and services;
- Obtain best possible prices for goods and services;
- Deliver goods and services when and where needed;
- Assure a continuing supply of needed goods and services; and
- Give suppliers a fair opportunity to compete.

Goods

State and local procurement requirements generally govern the purchase of airport supplies and other goods needed for the day-to-day operation of the airport.

Architecture/Engineering Consultant Services

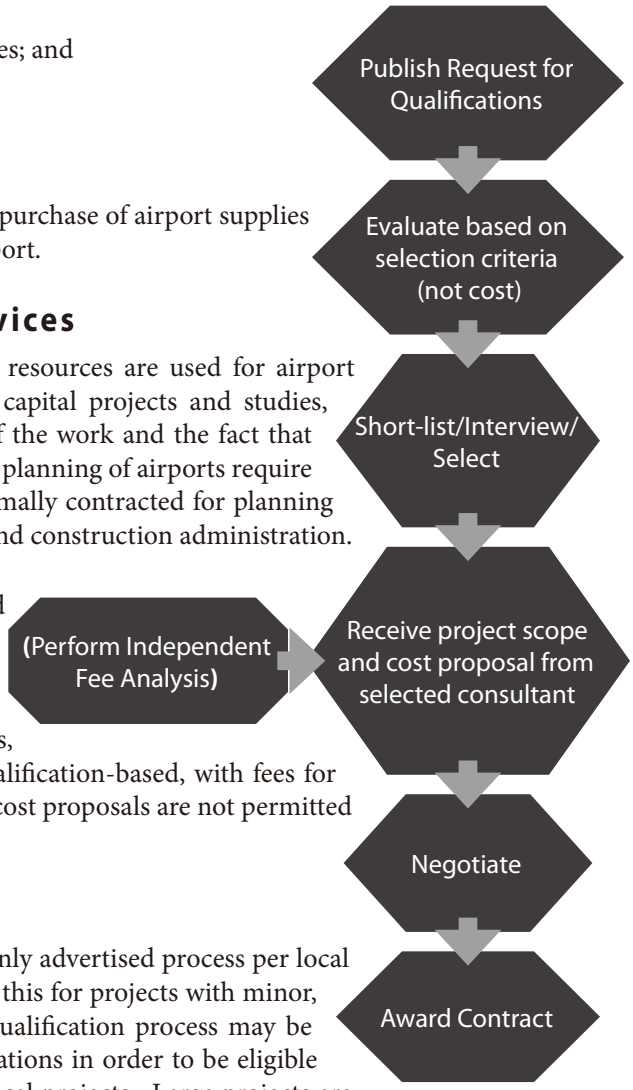
It is the sponsor's responsibility to ensure qualified technical resources are used for airport architectural, engineering, and planning services. For most capital projects and studies, consultants are typically utilized due to the technical nature of the work and the fact that most airports lack sufficient in-house resources. The design and planning of airports require specialized experience and qualifications. Consultants are normally contracted for planning studies, preparation of environmental reviews, project design, and construction administration.

The cost of consultant services is an allowable cost under AIP and most state programs, provided the costs are associated with an eligible planning, development, or equipment project, and the consultant services are procured in accordance with federal and state procurement regulations. For AIP and most state programs, selection of architectural and engineering services must be qualification-based, with fees for services negotiated after selection is made. Selections based on cost proposals are not permitted if AIP participation in the cost of consultant services is desired.

Construction

Construction contractors are normally selected through an openly advertised process per local law to seek the lowest qualified bidder. There are exceptions to this for projects with minor, inexpensive scopes of work. Also, in some instances, a pre-qualification process may be used whereby contractors submit their experience and qualifications in order to be eligible to submit a price-based bid. This is typically used for large critical projects. Large projects are sometimes procured under non-traditional methods. An example of this might be where one firm receives a contract to design and construct the project.

Procuring Professional Services



Construction contractors need to be properly licensed and bonded and must comply with the construction plans and specifications developed for the project. The construction plans show the project requirements in a graphic form, while the specifications describe in greater detail the requirements of the materials to be used, testing/quality assurance methods, how work is measured and accepted for payment, schedule/time, and employee wage rates requirements.

Projects funded under AIP are developed in accordance with FAA policies, standards, and specifications. FAA has the responsibility of determining whether or not all construction work accomplished under the AIP is in accordance with federal standards.

Equipment

Equipment needed on an airport to ensure its safe operation is eligible for AIP or state funding. Suppliers are solicited through an open bidding process with award made to the lowest qualified bidder. Examples of equipment used on an airport to ensure its safe operation include snow removal equipment and vehicles, aircraft rescue and fire-fighting (ARFF) equipment and vehicles, and airport lighting equipment. Acquisition of these items must meet applicable FAA and state standards, and be necessary as demonstrated by snow removal plans, applicable ARFF index, etc.

Land

Procedures established in the Uniform Acquisition and Relocation Act govern how an airport sponsor acquires property through AIP. These procedures include:

- Establishing through an appraisal process the fair market value of the property to be acquired before negotiations with the landowner are conducted;
- Conducting an environmental audit of the proposal property and including results in the appraisal report;
- Taking the land through condemnation should negotiations fail to secure an agreement; and
- Providing an adequate relocation assistance program for those residents and businesses displaced by the acquisition as is obligated under the Uniform Act.

Businesses on Your Airport

Other services such as FBOs, rental car agencies, food service tenants, and other concessionaires, are typically competitively bid and procured based on the highest qualified bid. The airport receives rent, payment, or a share of revenue for these types of services.

Disadvantaged Business Enterprises (DBE)

In order to receive AIP funding, an airport must have a DBE program that establishes goals for minority/disadvantaged business participation in AIP-funded projects and procurements, as well as all concessions (even though AIP funds are not utilized for concessions).

Application

- ✓ Be very conscious of the fact that federal/state programs and the law specify procurement requirements, which are to be followed by the airport in purchasing goods and services.
- ✓ See FAA Advisory Circular 150/5100-14 for more information about the selection of architectural, engineering, and planning consultant services for airport grant projects.

17. Use of Airport Revenue

Key Point

It is critical that policy makers for your airport understand that once an airport receives grant-in-aid funding through the AIP, federal law prohibits using airport-generated revenue for non-airport uses. Use of airport revenue in this fashion is referred to as revenue diversion because airport-generated funds are being used for purposes other than airport capital or operating costs.

Revenue diversion is the use of airport revenue for purposes other than airport capital or operating costs. With the exception of a few grandfathered situations, revenue diversion violates federal law.

Discussion

Airport revenue includes:

- Fees, rents, charges, or other payments received by the airport sponsor;
- Proceeds from the sale or disposal of airport property;
- Revenue received from sponsor activities at the airport; and
- State and local aviation fuel taxes in effect after December 30, 1987.

Revenue generated by a tenant in the normal course of that tenant's business is the tenant's revenue, not airport revenue. The airport sponsor's revenue from the tenant's occupancy and business rights is normally paid in the form of fees, rentals, lease agreements, etc. and is considered to be airport revenue. Revenue generated from natural resources such as sub-surface minerals is considered to be airport revenue; however, contact the local FAA Airports office for specific policy.

FAA policy and federal law identify several specific examples of permitted uses of airport revenue including:

- Capital development of airport facilities;
- General operating costs of the airport;
- Operating costs such as the promotion of public and industry awareness of the airport's facilities and services; and
- Operating costs for the promotion of new air service and competition at the airport, but not directly subsidizing air carrier operations.

FAA policy and the law identify specific examples of revenue diversion, such as:

- Direct or indirect payment by the airport that exceeds the fair and reasonable value of those services and facilities provided to the airport;
- Inconsistent or inequitable costs allocated to the airport by a local governing body providing services to the airport;
- General economic development;

- Marketing and promotion unrelated to airport operations;
- Rental of land to, or use of land by, the airport sponsor for non-aeronautical purposes at less than fair market value rent;
- Impact fees assessed by any governmental body that exceeds the value of services or facilities provided by the airport;
- Use of airport funds to support community (non-airport) activities, participate in community events, or use airport property for commercial purposes; and
- Direct subsidy of air carrier operations. Prohibited direct subsidies do not include waivers of fees or discounted landing or other fees during a promotional period. However, the airport owner must offer the same promotional fee, waiver, or discount to all similarly situated users of the airport willing to provide the same type and level of new service consistent with the promotional offering.

There are many other examples of permitted and prohibited uses of airport revenue. Local FAA offices can assist airport sponsors to better understand the legal requirements relative to the use of airport revenue. FAA can also advise about the few grandfathered situations where certain airports are legally permitted to divert revenue from the airport.

Application

✓ Be careful. From time to time, you will be approached by local officials or constituents to use airport-generated revenue for non-airport purposes. This is generally illegal.

✓ For further reference, see Chapter 15, FAA Airport Compliance Manual, Order 5190.6B, September2009: http://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/media/5190_6b_chap15.pdf.

18. What's Expected of Airport Tenants and Users

Key Point

Airport owners should establish and enforce rules and regulations in order to ensure the safe, orderly, and efficient operation of their airport. These measures should apply to all persons using the airport. Also, airport owners should establish minimum standards for commercial aeronautical activities conducted at the airport. Utilization of these tools promotes uniform rates and charges for aeronautical activities on the airport, makes good business sense, and positively contributes to airport safety, quality of services, and compliance with the federal prohibition against exclusive rights.

Discussion

Airport rules and regulations and minimum standards:

- promote safety in all airport activities;
- maintain higher quality of service for airport users;
- protect airport users from unlicensed and unauthorized products and services;
- promote orderly development of airport land;
- prevent disputes between aeronautical providers and reduces potential complaints;
- protect the airport owner by ensuring service providers maintain a minimum level of insurance coverage, thereby reducing the airport owner's liability.

Airport Rules and Regulations

Following are some basic topics airport owners should consider when developing airport rules and regulations.

- ✓ Fire Safety
- ✓ Removal of Disabled Aircraft
- ✓ Non-Airworthy Aircraft
- ✓ Wreckage
- ✓ Aircraft Registration and Operating Rules
- ✓ Use of Hangars
- ✓ Personal Conduct on Airport Premises
- ✓ Access Control
- ✓ Courtesy Vehicles
- ✓ Limos, Taxis, Vehicles/Pedestrians
- ✓ Hazardous Materials and Liquids
- ✓ Self-Fueling Regulations
- ✓ Environmental Restrictions
- ✓ Insurance Requirements
- ✓ Flying Clubs, Skydiving
- ✓ Aerial Advertising
- ✓ Agricultural Operations
- ✓ Minimum Standards for Commercial Activities

Minimum Standards

Airports should publish minimum standards for commercial aeronautical activities. These normally include leasehold size, building/hangar sizes, hours of operation, and requirements for personnel, equipment, and insurance. Standards should:

- Impose conditions that ensure safe and efficient operation of the airport;
- Be reasonable, not unjustly discriminatory, attainable, uniformly applied, and reasonably protect the investment of providers of aeronautical services who meet minimum standards;
- Be relevant to the activity to which they apply;
- Provide opportunity for newcomers who meet minimum standards to offer their aeronautical services within the market demand for such service.

Special Considerations

Airport owner as provider of services. The airport owner may elect to provide any or all of the aeronautical services at an airport; however, these services are often best provided by profit-motivated private enterprises. The exceptions are usually those cases in which an airport owner elects to provide fuel service or aircraft parking. If it does so, it may not refuse to permit an air carrier, air taxi, flight school, or individuals to fuel their own aircraft with their own personnel and equipment.

Insurance. One of the many important requirements that an airport sponsor must consider when developing minimum standards is insurance requirements for commercial aeronautical service providers. Policies typically cover three areas: hangar keeper's liability, premises, and product liability.

Non-aeronautical activities. There is no requirement to include non-aeronautical activities in minimum standards since those activities are not covered by federal grant assurances.

Saying "No". Airport owners may deny airport users the opportunity to conduct specific aeronautical activities because of safety or efficiency; however, such determinations generally require FAA concurrence prior to imposing such restrictions.

Disputes. Occasionally, disputes relating to the application of minimum standards will occur. While the FAA does have a process established to adjudicate formal complaints of unjust discrimination, it is in the best interest of the airport owner and tenant to work to resolve the issue locally, or consider mediation.

Through-the-fence activities. A through-the-fence operation is when an entity on property adjoining the airport has direct access to airport facilities. FAA discourages these operations and the airport owner is under no obligation to allow them. They have the potential to undermine minimum standards and can jeopardize the airport's ability to meet federal grant assurances regarding safety and economic self-sufficiency.

Application

✓ Become familiar with your airport's rules and regulations and minimum standards for commercial aeronautical activities. If there are none, consider working with the airport manager to adopt them.

✓ Make sure your airport rules and regulations and minimum standards are reasonable and non-discriminatory to aeronautical services.

19. Complying with Federal Grant Assurances

Key Point

Airport sponsors must make certain assurances to the federal government when federal grant funds are received. These assurances are part of the contract between the FAA and the airport sponsor and are based on federal law.

The airport owner agrees to accept certain obligations in exchange for federal money or land. Airport owners risk loss of future federal funds and civil action if they fail to comply with these obligations.

Discussion

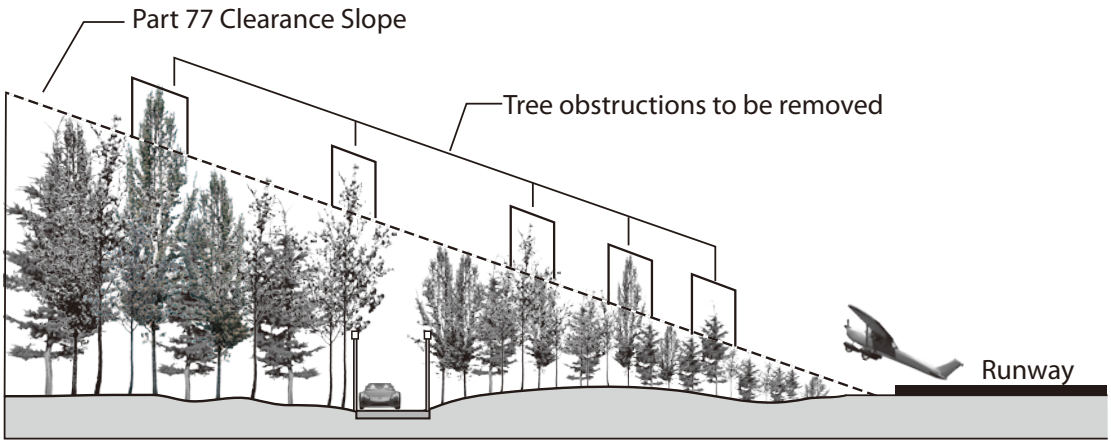
Typical federal grant agreements contain over 30 assurances. Below are a few of the more important ones that relate to the use, operation, and maintenance of the airport. These remain in effect throughout the useful life of the facilities, normally 20 years. Obligations related to the funding of land acquisition remain in force in perpetuity. See Issue Paper 14 – Financial: Funding Capital Improvements for more information about how to get grant funds and what kinds of projects are eligible. These grant assurances are found within the specific grant agreements retained in the airport office and the local FAA office that administers the grants.

Exclusive Rights Prohibition. Do not grant or permit any exclusive right to conduct any aeronautical activity at the airport, such as sale of aviation fuel, air taxi and charter operations, aircraft storage, etc. However, the airport sponsor as airport owner may provide these activities exclusively.

Maintenance of the Airport. Preserve and maintain the airport in a safe and serviceable condition.

Operation of the Airport. Operate the airport in a safe manner and for the benefit of the public.

Protection of Approaches. Prevent the growth or establishment of obstructions (e.g., trees, cell towers, buildings, etc.) to the aircraft approaches to the extent reasonably possible (see Issue Paper #11 – The Airport: Protecting and Preserving the Airport and Its Environs).



Compatible Land Use. Take appropriate action, to the greatest extent possible, to restrict the use of lands in the vicinity of the airport to activities and purposes that are compatible with normal aeronautical operations (see Issue Paper #11 – The Airport: Protecting and Preserving the Airport and Its Environs).

Availability on Fair and Reasonable Terms. Operate the airport for the use and benefit of the public and make it available to all types, kinds, and classes of aeronautical activity on fair and reasonable terms and without unjust discrimination (see Issue Paper #18 – Rules: What's Expected of Airport Tenants and Users).

Adherence to the ALP. Develop, operate, and maintain the airport in accordance with the latest approved ALP (see Issue Paper 10 – The Airport: Planning and Developing Your Airport). In addition, airport land shown on the latest property map (referred to by FAA as an "Exhibit A" property Map) cannot be disposed of or encumbered without prior FAA approval.

Use of Airport Revenue. Use all airport revenues for the capital or operating costs of the airport. If the airport is owned by a municipal agency instead of an authority, separate accounts are required for audit purposes (see Issue Paper 17 – Financial: Use of Airport Revenue for a more complete discussion of this important grant assurance).

Fee and Rental Structure. Maintain a fee and rental structure for airport facilities and services to make the airport as self-sustaining as possible. This must be fair market value for non-aeronautical activities.

Pavement Preventive Maintenance. Implement a proactive and responsible pavement maintenance–management program to maximize the useful life of all federally funded airfield pavement areas. These programs ensure maximum life expectancy for pavements so scarce dollars can be effectively utilized.

Application

- ✓ Become familiar with the formal grant assurances with which airport sponsors agree to comply when accepting federal grant funds. Your airport manager or the FAA Airports District Office can provide the full text of the current assurances. They also can be found in the AIP Handbook, Order 5100.38.
- ✓ Anticipate from time to time having to say "no" to proposals that conflict with the grant assurances. Examples:
  - » Spending airport revenue to help build or operate the city's animal control facility;
  - » Giving a local businessperson exclusive right to sell fuel at the airport;
  - » Deeding airport land over to a third party without FAA approval;
  - » Deeding airport land to a furniture company and not receiving fair market value.

20. Alternate Uses and Restrictions of Your Airport

Key Point

Airport policy makers are sometimes asked to consider restricting the use of the airport or to disallow certain activities. Policy makers are also sometimes asked to approve the use of airport land and/or facilities for purposes not clearly related to its purpose as an airport. A key consideration that a policy maker must make in considering these proposals is whether or not the questionable use or restriction is aeronautical or non-aeronautical in nature. Generally, aeronautical uses should not be restricted unless clearly for safety or efficiency reasons. Also, non-aeronautical use of airport land and facilities may be warranted for revenue generation provided FAA first approves the use, fair market value is received, and the use is consistent with the FAA approved airport layout plan.

Discussion

Airport Restrictions

The sponsor of any airport developed with federal financial assistance is required to operate the airport for the use and benefit of the public and to make it available to all types, kinds, and classes of aeronautical activity on reasonable terms and without unjust discrimination. However, the sponsor may prohibit or limit any non-aeronautical use, and even aeronautical use, if the restriction is reasonable and necessary for the safe operation of the airport or necessary to serve civil aviation needs of the public. The FAA, not the airport owner, maintains the authority to approve or disapprove aeronautical restrictions based on safety and/or efficiency at federally obligated airports.

Many attempts have been made to restrict unwanted aeronautical operations, but an airport owner must ensure such restrictions are reasonable limitations consistent with FAA policy. Although the airport owner may not be able to prohibit the activity, there are specific actions (i.e., specify voluntary times of operations, charge reasonable use fees, require appropriate insurance, etc.) the airport can take to better manage the activities.

Some of the types of aeronautical uses that airport owners consider or are asked to consider restricting include:

- Aircraft perceived to be excessively noisy or large;
- Nighttime aircraft operations;
- Parachute jumping;
- Ultralight vehicle operations;
- Banner towing; and
- Glider operations.

Generally, airports cannot restrict certain aircraft perceived to be noisy, nor can they restrict nighttime operations. There are complex regulatory requirements for doing this and one should contact FAA's Airports District Office or FAA Regional Airports Division before considering such action. Some airport owners have been successful in getting pilots to voluntarily restrict flying to certain times of day or to use certain flight tracks. Again, one should contact FAA when considering this.

Alternative Uses of Airport Land and Facilities

Airport owners have been successful in attracting and managing non-aeronautical uses of airport property and facilities, helping to generate revenue, and remaining within FAA policy guidelines. An airport may not be closed for purposes of non-aeronautical events such as a county fair, sports car rally, or similar event, but if the event incorporates promotion of aviation or does not restrict normal airport operations, then much greater latitude is available.

Some examples of allowable airport-promotion events with non-aeronautical uses:

- Combining auto shows or related events with an airshow;
- Hosting a fly-in event along with other community activities; and
- Renting a hangar for community or private events with proper airfield and aircraft security ensured.

Application

✓ Support airport management in situations where it makes sense to disallow non-aeronautical use of the airport.

✓ Anticipate airport neighbors asking if the airport can be closed at night or closed on the weekend. The short answer is "no."

Appendices

Appendix A: The Aviation Library

A large library of documents exist to help direct and guide airport activities. In addition to local and state resources, there are federal regulations, advisory circulars, and orders, and industry group publications. Information about these follows.

Local

Useful information at the local level includes:

- The airport's layout plan and master plan;
- The airport's rules and regulations;
- The airport's minimum standards; and
- Local ordinances and land use plan.

State

Several state aviation offices have published guidance and websites that provide useful information regarding aviation airport programs.

Federal

An extensive set of federal regulations govern aviation activities, including airports, pilots, general aviation, and airlines. These are found in the U.S. Code of Federal Regulations (CFR). The CFR is broken into various titles that in turn are divided into Parts. All federal regulations can be found on the web at http://www.gpoaccess.gov/cfr.

The following are some of the most frequently referenced regulations:

Title 14 Part 1	Definitions and Abbreviations
Title 14 Part 77	Objects Affecting Navigable Airspace
Title 14 Part 91	General Operating and Flight Rules
Title 14 Part 121	Air Carrier Certification
Title 14 Part 135	Operating Requirements for Commuter and On-Demand Aircraft
Title 14 Part 139	Certification and Operations: Land Airports Serving Certain Air Carriers
Title 14 Part 150	Airport Noise Compatibility Planning
Title 49 Part 18	Uniform Administrative Requirements for Grants
Title 49 Part 1542	Airport Security

The FAA makes available a series of advisory circulars (ACs) to help persons understand and apply standards for the planning, operation, maintenance, design, and construction of airports. The ACs specific to airports are compiled into the "150" series of ACs. They can be found on the FAA website at http://www.faa.gov/airports/. A few often used ones are:

150/5100-14	Architectural Engineering, and Planning Consultant Services for Airport Grant Projects
150/5190-5	Exclusive Rights and Minimum Standards for Commercial Aeronautical Activities
150/5300-13	Airport Design

FAA uses orders to provide guidance and set forth policy and procedures to be used in the administration of their programs. Although orders are generally to help FAA internal staff, they are available to the public. A few of the most useful ones relative to airport programs are:

Order 5050.4	National Environmental Policy Act Implementing Instructions for Airport Actions
Order 5100.38	Airport Improvement Program Handbook
Order 5190.6	FAA Airport Compliance Manual

Aviation Industry Groups

Aviation industry groups such as the AAAE and the Aircraft Owners and Pilots Association (AOPA) have published helpful guidance for airports. One example is AOPA's *Guide for Airport Advocates.*

Airport Cooperative Research Program (ACRP)

In addition to this primer on airport issues for the part-time policy maker, ACRP has published several useful reports and guidebooks. Their publications may be found at http://www.trb.org/ACRP/Public.

Examples are:

Report 15	Aircraft Noise: A Toolkit for Managing Community Expectations
Report 16	Guidebook for Managing Small Airports
Report 18	Passenger Air Service Development Techniques
Report 28	Marketing Guidebook for Small Airports
Report 32	Guidebook for Addressing Aircraft/Wildlife Hazards at General Aviation Airports

Appendix B: ACRONYMS – The Language of Airports

Someone new to the business of airports can quickly get frustrated with the sea of acronyms. It is common to hear or read something like: "FAA's ADO says the EA, FONSI, ACIP, and ALP need to be finished before they can approve PFC or AIP funds for the ILS, RPZ land, and RWY project." Below are some of the more common acronyms that are used.

ACIP – Airport Capital Improvement Plan. An airport owner's representation of the funding and prioritization of their multi-year (normally three to five years) program for planning and development at their airport.

AIP - Airport Improvement Program. A program that provides financial grants-in-aid for airport development projects such as runways, taxiways, aircraft parking aprons, terminal buildings, and land acquisition associated with airport development including runway protection zones and approach protection.

ALP - Airport Layout Plan. A plan (drawings) for an airport showing boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes, the location and nature of existing and proposed airport facilities and structures, and the location on the airport of existing and proposed non-aviation areas and improvements thereon.

AOA – Airport Operations Area. Those areas inside the airport boundaries that directly support aircraft and airport operations, including both movement and non-movement areas.

ARFF - Aircraft Rescue and Firefighting. A special category of firefighting that involves the response, hazard mitigation, evacuation, and possible rescue of passengers and crew of an aircraft involved in an airport ground emergency.

ATCT – Airport Traffic Control Tower or Air Traffic Control Tower. The facility used by personnel to control air traffic at the airport.

DBE - Disadvantaged Business Enterprise. A federal program developed to ensure firms owned and controlled by minorities may take part in contracts supported with federal funds.

DNL - Day-Night Noise Level. Sound level measured in relative intensity of sound, or decibels (dB), on the "A" weighted scale (dBA). This scale most closely approximates the response characteristics of the human ear to sound. The higher the number on the scale, the louder is the sound. DNL represents noise exposure events over a 24-hour period. To account for human sensitivity to noise between the hours of 10 p.m. and 7 a.m., noise events occurring during these hours receive a "penalty" when the DNL is calculated. Each nighttime event is measured as if 10 daytime events occurred.

EA - Environmental Assessment. An assessment of the environmental effects of a proposed action for which federal financial assistance is being requested or for which federal authorization is required. The EA serves as the basis for the FAA's environmental impact statement or finding of no significant impact.

EIS - Environmental Impact Statement. A document prepared under the requirements of the National Environmental Policy Act of 1969. The EIS represents a federal agency's evaluation of the effect of a proposed action on the environment.

EMAS - Engineered Materials Arresting System. Materials of closely controlled strength and density placed at the end of a runway to stop or greatly slow an aircraft that overruns the runway. A commonly used material is a lightweight, crushable concrete. When an aircraft rolls into an EMAS arrestor bed, the tires of the aircraft sink into the lightweight concrete and the aircraft is decelerated by having to roll through the material.

FAA - Federal Aviation Administration. The United States Department of Transportation's agency for aviation. In addition to regulating airports, aircraft manufacturing and parts certification, aircraft operation, and pilot certification ("licensing"), the FAA operates air traffic control, purchases and maintains navigation equipment, certifies airports, and aids airport development, among other activities.

FBO - Fixed-Base Operator. A business operating at an airport that provides aircraft services to the general pubic, including but not limited to: sale of fuel and oil; aircraft sales, rental, maintenance, and repair; parking and tie-down or storage of aircraft; flight instruction; air taxi/charter operations; and specialty services, such as instrument and avionics maintenance, painting, overhaul, aerial application, aerial photography, aerial hoists, or pipeline patrol.

FONSI - Finding of No Significant Impact. An administrative determination by the FAA that a proposed action by the airport sponsor will have no significant impact on the environment.

FSDO - Flight Standards District Office. An FAA field office serving an assigned geographic area and staffed with flight standards personnel who serve the aviation industry and the general public on matters relating to the certification and operation of air carrier and general aviation aircraft. Activities include general surveillance of operational safety, certification of airmen and aircraft, accident prevention, investigation, and enforcement.

GA - General Aviation. All civil aviation (excluding military) except that classified as air carrier or air taxi. The types of aircraft typically used in general aviation activities vary from multi-engine jet aircraft to single-engine piston aircraft.

GPS - Global Positioning System. Satellite-based navigation system operated by the Department of Defense, providing extremely accurate position, time, and speed information to civilian and military users. Based on a "constellation" of 24 satellites, GPS will replace ground based navigation systems (e.g., VHF omnidirectional range, instrument landing system) as the primary worldwide air navigation system in the 21st century.

IFR - Instrument Flight Rules. A set of regulations and procedures permitting qualified and current IFR pilots to penetrate clouds and low-visibility conditions. Aircraft must be equipped with radio and navigation instruments operating under air traffic control flight plans and clearances. Flights are monitored and traffic separated by air traffic control usually by radar. (See VFR.)

ILS - Instrument Landing System. A precision instrument approach system utilizing radio transmitters at the runway ends that provide precise descent and course guidance to the runway, permitting aircraft to land during periods of low ceilings or poor visibility.

NAS - National Airspace System. A complex collection of air navigation and air traffic control facilities, systems, equipment, and airports located throughout the United States.

NAVAID - Navigation Aid. A device or process to help with navigation.

NEPA - National Environmental Policy Act. One of the federal laws that outlines policies to protect our environment. It establishes policy, sets goals, and provides a means for carrying out policy. Further, the NEPA process makes sure that environmental information is available to public officials and citizens before decisions are made and actions are taken on development projects.

NPIAS - National Plan of Integrated Airport Systems. An FAA plan that identifies existing and proposed airports significant to national air transportation and thus eligible to receive Federal grants under the Airport Improvement Program (AIP). It also includes cost estimates for needed development of each airport.

PAPI - Precision Approach Path Indicator. A lighting system that provides the pilot with a safe and accurate glide slope on final approach to the runway.

PFC – Passenger Facility Charge. Fees that commercial airports charge passengers to help fund FAA-approved projects.

RPZ - Runway Protection Zone. A trapezoidal area at ground level at the end of a runway, intended to be kept free of obstructions and any uses that might cause a congregation of persons.

RSA - Runway Safety Area. A cleared, drained, graded, and preferably turfed area symmetrically located about the runway which, under normal conditions, is capable of supporting snow removal, firefighting, and rescue equipment and of accommodating the occasional passage of aircraft without causing major damage to the aircraft.

RWY - Runway. A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction, rounded off to the nearest 10 degrees, e.g., Runway 01, Runway 25.

TSA – Transportation Security Administration. The federal agency charged with protecting the nation's transportation systems to ensure freedom of movement for people and commerce.

VFR - Visual Flight Rules. A defined set of FAA regulations covering operation of aircraft primarily by visual reference to the horizon (for aircraft control) and see-and-avoid procedures (for traffic separation). VFR weather minimums for controlled airspace require at least a 1,000-foot ceiling and three miles visibility except for "special VFR" clearances to operate "clear of clouds."

Appendix C: Suggested Outline of an Airport Orientation Briefing

1. Airport History and Mission Statement
2. Organizational Structure
3. Charter/By-Laws/Enabling Legislation
4. Finances/Budget
   - Income Sources: Airlines/General Aviation/Parking/etc.
   - Expenses
   - Reserves
   - Bonds/Debt
5. Capital Improvement Funding
   - FAA
   - State
   - Local
   - PFC
6. Airport Statistics, Forecasts, and Activity
   - Passengers
   - Fuel Sales
   - Operations
   - Service Area
   - Information About Airlines/FBO Services/Terminal Services
   - Top Destinations
7. Projects - Now and the Future
   - Planning the Airport Layout Plan
   - 5 Year ACIP Review
   - Procedure for award of contracts
   - Procurement of professional services
8. Operations
   - ARFF
   - Snow Removal
   - Security
9. Role of Airport Policy Maker and Airport Management Staff
10. Homework/Take Home Items
    - Annual Financial Report
    - Executive Summary – Master Plan
    - Minutes of Board Meetings
    - Enabling Legislation
    - Board Members List
    - Mission Statement
    - ACRP Primer Report

Follow the briefing with an airport tour.

Abbreviations and acronyms used without definitions in TRB publications:

AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	Air Transport Association
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S.DOT	United States Department of Transportation