



# AIRPORT CAPITAL IMPROVEMENT PLANNING:

Stewardship for Airport Development

September, 1997



## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

### ***FORWARD:***

The enclosed document, "Airport Capital Improvement Planning: Stewardship for Airport Development", was originally written in October, 1995. It documented an effort to implement the concept of capital improvement planning with the airport development industry.

Beginning in 1996, FAA undertook a serious review and revision to its priority ranking and project selection process. The results, known as the National Priority System (NPS), was published as new policy in the Federal Register Notice dated August 25, 1997. This document has been revised to be consistent with the new policy.

Changes fall under three categories:

1. The NPS begins to implement system performance measurement in the ACIP process, while the original document only suggested that performance measurement be considered.
2. The term "special need" has been changed to "extraordinary need" to provide better clarification for the concept.
3. The Appendix has been replaced with the new NPS national priority rating.

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**EXECUTIVE SUMMARY:**

This document summarizes efforts of the Federal Aviation Administration (FAA) Office of the Associate Administrator for Airports to implement the concept of Airport Capital Improvement Planning (ACIP). It is based on the experiences of the FAA's Office of Planning and Programming, Financial Assistance Division. Data for this report was gleaned from field visits with regional offices, state organizations, conferences, recurrent training courses, and Airport Improvement Program (AIP) administration. Work to implement ACIP began in 1990 when an internal FAA working group was established to write an order for the ACIP. The Order, 5100.39, Airport Capital Improvement Plan, was primarily intended to move AIP discretionary funding decisions from an historical base to a needs base to ensure that the highest national priorities are funded. The Order also stresses the need for a calculated priority system and the need for state and sponsor involvement.

The need to continue effective needs based Federal investment decisions has since been reinforced by the Government Performance and Results Act of 1993, and Executive Order 12893, Principles for Federal Infrastructure Investments ( January, 1994).

The complexities of airport development make implementation of the concept difficult as compared to other programs administered by FAA. In fact, the emphasis here is that ACIP is not a program, but it is actually a *process*. To be successful, the ACIP process needs to be the cooperative effort of many diverse partners who assist with the development of our national airport system. These partners are referred to as the Airport Development Team.

The goal of Airport Capital Improvement Planning is the development of an airport system such that the highest priorities and needs are identified and funded using all available the funding sources. Although AIP funds are emphasized here, the concept applies to *all* funding sources. AIP provides a decreasing share of airport development needs nationwide. New funding sources such as PFC collections, and innovative financing mechanisms will complicate airport development funding decisions. Regardless of the funding source, the FAA must continue to provide an oversight role that keeps all airport development activity focused on the federal interest. The ACIP provides a forum whereby all funding sources and needs can be collected and analyzed by each member of the Airport Development Team.

A calculated, objective priority system that reflects the federal interests is our best tool for insuring that funds are expended on the highest priorities nationwide. A priority calculation should never be the only factor to be considered before making funding

decisions. It is only one criterion which is important because it provides an objective beginning for the decision process. Extraordinary needs are those valid projects that could never be captured by a priority calculation. Extraordinary needs will be funded regardless of the priority calculation and will require special care and judgment by the Airport Development Team. Differences between local and federal priority calculations can and should be analyzed and incorporated into improvements to the priority calculation.

The ACIP process is the collection, coordination, analysis and funding decisions for airport development needs. Existing FAA staff resources alone cannot provide the comprehensive, quality ACIP required by our airport development industry. We need to learn to tap the resources of each member of the Airport Development Team. The Airport Development Team includes airport sponsors, consultants, states, other federal government agencies, FAA organizations such as Airway Facilities and Flight Standards, and local, state, and federal legislative bodies. The FAA Airports organization needs to take a leadership role in the coordination of the effort of the Airport Development Team.

In order to tap these resources, we must first understand the role of each partner in airport development and we must understand *their* processes and how they impact airport development. Next, we must be flexible to work within the processes of our partners to the maximum extent possible. This is the concept of *Value-On-Value*. We take the value of each partner and add it to the value already provided by others to eliminate redundancy and to obtain the best information for the ACIP. The Value-On-Value concept assists us with the collection and coordination of airport development needs, and it provides the Airports organization an opportunity to give meaningful guidance to the other members of the Airport Development Team regarding the federal interest and a realistic funding outlook.

The ultimate goal of the ACIP is improved planning and execution of airport development with an emphasis on the federal interest. This goal can be achieved through the cooperative effort of each of our Airport Development Team partners.

# ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT

## Table of Contents:

<b>EXECUTIVE SUMMARY:</b>	<b>5</b>
Table of Contents:	7
<b>1. INTRODUCTION</b>	<b>9</b>
1.1. Airport Development Is Complex	9
1.2. Partnerships in Airport Development	12
<b>2. GOALS AND OBJECTIVES OF ACIP</b>	<b>15</b>
2.1 Objectives	15
2.2 Expectations	16
2.3 Not a Simple Solution	17
<b>3. GUIDELINES</b>	<b>18</b>
3.1. ACIP Development	18
3.2. Priorities	22
3.3. Priority System Limitations	24
3.4. Special Needs	26
3.5. Analysis	27
3.6. The ACIP Submittal	37
<b>4. RESOURCES</b>	<b>41</b>
4.1. Adding Value-On-Value	41
4.2. The Airport Development Team	41
4.3. The Airport Planning Process	44
4.4. Information Technology	44
4.5. The ACIP Cycle	45
<b>5. ACCOUNTABILITY</b>	<b>49</b>
<b>6. EXPECTATIONS</b>	<b>50</b>
<b><u>APPENDIX: THE ACIP NATIONAL PRIORITY RATING CALCULATION</u></b>	<b>52</b>

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## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

### **1. INTRODUCTION**

The mission statement of the Federal Aviation Administration's (FAA) Office of the Associate Administrator for Airports (Airports) is:

*Provide the leadership and support necessary to plan, develop and maintain a system of airports in the United States that safely, efficiently, economically, and environmentally meets the U.S. needs to transport people and goods by air; and to foster the use of United States safety and uniform technical standards by airports abroad.*

In order to meet the growing demands on airport capacity, improve public safety, and maintain a balance between transportation needs and environmental impacts, the FAA's Airports organization must continue to improve and advance its roles in planning a national system of airports, supporting airport sponsors, states and local governments, assessing and communicating the benefits of the Airport Improvement Program (AIP), supporting FAA strategic goals, and serving as steward of public funds. Airport Capital Improvement Planning (ACIP) plays a key role in the accomplishment of this mission.

ACIP is a *process* which is designed to help identify, plan, fund, and execute airport system development in such a way as to ensure that the highest and greatest needs are met with limited funding. The original concept of ACIP proposed by FAA focused on the distribution of Airport Improvement Program (AIP) grant discretionary funds. However, the ACIP concept applies to all airport development needs and all funding sources, regardless of federal funding participation. The AIP contributes a decreasing percentage of the total airport development needs (currently at about 25%). Local revenue sources, bonds and Passenger Facility Charge (PFC) collections are needed to make up for the deficiencies of AIP funding. If FAA's Airports organization is to continue to provide leadership to plan, develop and maintain a system of airports, it must broaden its focus well beyond the tradition of an airport development grant program. The ACIP provides the means to bring together *all aspects* of airport development to describe, communicate, and prioritize airport development that ensures successful accomplishment of the FAA Airports mission.

#### **1.1. Airport Development Is Complex**

**Airport Users.** Our airport system provides a diversity of vital air transportation services. Large passenger carriers, cargo carriers, commuters, air taxi operators, general aviation, and business users each require a unique service from the airport system.

Airports are classified into various roles to fulfill these needs. FAA's National Plan of Integrated Airport Systems (NPIAS) groups airports into four (4) service levels. States often use an airport system planning process to identify airport classifications that are significant for the state. Airport role classifications segregate airport needs based on the primary user of the airport. Using the NPIAS classifications: General Aviation airports

are primarily designed to meet the needs of the pilot-owner of small business or pleasure aircraft. Reliever airports tend to be developed to meet the more demanding general aviation needs of larger businesses. Commuter airlines and air taxis are significant users of Commercial Service airports. Regional, national, and international passenger air carriers dominate Primary airports.

Airport classification is important because it allows us to identify development needs among similar airport types. With an understanding of the system-wide needs of each airport type, judgments can be made as to how available funding can or should be distributed among the airport types. Our classification of airports, and how we perceive the needs of their diverse users should not be thought of as stagnant. The aviation industry is constantly changing. New users with unique needs can quickly become the dominant user at certain airports. Air cargo growth over the last few years is a good example. Air cargo needs are unique and our classification systems may need to evaluate those needs separately to get a true understanding of our airport system needs. Other factors that may need consideration for airport classifications are air carrier hub locations, origin and destination airports, seasonal demand locations, and communities where airports provide vital emergency and essential services.

**Needs Identification.** Many organizations who plan and execute airport development use a system to prioritize and rank projects. Projects can be described by their primary contribution to the airport system: Safety projects increase the level of safety provided to the airport user. Rehabilitation projects are intended to maintain the current system in an acceptable condition. Many projects are needed to meet current airport design and operational standards. Environmental work, particularly noise mitigation, must be considered to ensure that the airport is a good neighbor for the nearby community.

**Funding Sources.** Airports play an important role in the economic well being of the communities they serve. Airport users and businesses that provide aviation related services derive direct benefit from the airport. Indirect economic benefits to the entire community have been calculated to be many times the direct benefit. Benefits of emergency and essential air transportation access may not be quantifiable. While the entire community benefits, airports are not popular neighbors. Airports and airport development can be some of the most controversial issues in any community. For these reasons as well as the significant capital investment requirement, airports are normally publicly owned and financed.

Public ownership entails a wide variety of financing mechanisms which include local government revenue, user fees, revenue bonds, and state and federal grants. Airport users can also contribute private funding to airport development and non-aviation government agencies can sometimes provide funding that contributes to the development of an airport system. Since airports are for the most part publicly owned and financed, accountability of funds expenditures is high. This is especially true in our modern world of tight, debt laden government budgets, and increasing costs for airport development.

## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

**The Airport Capital Improvement Plan (ACIP).** The challenge for effective Airport Capital Improvement Planning is to develop a plan of airport development, using all available resources, which produces airport system improvements by identifying the highest needs and priorities of airport users and the airport community. The ACIP must also strive to solicit resources to achieve the development of a safe, efficient, economic, and environmentally sound airport system as envisioned by our Airports mission statement.

An ACIP is needed to meet these challenges. It provides a comprehensive document of airport development needs and funding plans. It represents the only prudent way to develop a funding strategy for allocating limited AIP and other public funds for airport development.

FAA Order 5100.39, Airport Capital Improvement Plan, was issued in June, 1993. It was written in recognition of the challenge of FAA's role of fostering airport development and for the use of AIP funds. The Order provides only general guidance for the coordination, development and analysis of an Airport Capital Improvement Plan. Many details and specific instructions were not included because of the complex nature of airport planning and development. However, the Order does represent one significant change in the business of Airports: *It moves the AIP funding decision process from a historical based distribution of funds to one based on needs as defined by a national priority rating.* This change has and will continue to provide significant challenges and benefits to our national airport system for years to come. It does not make anyone's job easier, but it does help us, government and industry, to make the best use of public funding to ensure that we will have the best possible system of airports.

**A Stewardship for Airport Development.** This document fills in some of the details that were intentionally left out of Order 5100.39. We have learned much through the implementation of this process. While nothing in this document should be considered to be mandatory, it does provide a common point of understanding for anyone who is involved with developing, coordinating, and analyzing the ACIP. Finally, the success of a process as complex as the national airport system requires a cooperative effort from many people and organizations associated with airport development. Hence the word "stewardship" or trust for airport development, because our ultimate success will be determined much more by a stewardship than by any rules, regulations, or mandates.

## 1.2. Partnerships in Airport Development

The complex nature of airport planning, financing, and development generates an equally diverse aggregation of individuals and organizations who actually participate in the development of our airport system. These organizations and individuals range from politicians, investment bankers, national associations, and government agencies to consultants, contractors, maintenance departments, and inspectors. Each must understand their role in the airport development process and each must understand how their actions and decisions can benefit or hinder the work of others who contribute to the system.

**The Airport Development Team.** An important component of our process is the partnerships required to effectively develop the airport system. However, before we can build partnerships and outreach, we must understand who makes up the Airport Development Team (ADT) and how they relate to us and the overall process. The Airport Development Team is everyone involved in the development of our airport system. This includes all FAA organizations, states, sponsors, and consultants. It also includes the US Congress, industry groups, local and state governments, and airport maintenance and operations personnel.

FAA Airports must provide leadership that builds ADT partnerships with these diverse interests. Missed opportunities to communicate and coordinate between the partners will be costly and time consuming, resulting in redundant and duplication of effort. Working to add value to the process by fully utilizing the value already provided by each partner offers the best opportunity for efficiently meeting the challenges of the future air transportation system.

**FAA.** The FAA Airports organization is primarily field-oriented and is capable of working closely with individual airports and airport sponsors. In addition, FAA offers a wide range of services and functional responsibilities which impact the ACIP.

**Communication.** An important function of the ACIP is to communicate airport development needs. The Office of Planning and Programming does this on a national level. Most often, this information is provided to government budget offices and Congress. Information may be provided on development and funding plans for (1) individual locations, districts, or states, and (2) system wide needs and benefits. Airports District Offices (ADO) provide a vital communication link between airport sponsors and all other partners on the Airport Development Team. Good working relationships with airport sponsors and airport communities are essential to anticipating and identifying needs, resolving problems, and coordinating development proposals and funding requirements.

**ACIP development.** Regions and Airports District Offices (ADO) compile ACIP information from states, sponsors, and other sources into a regional ACIP. Regions make initial AIP funding decisions by filtering development requests

## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

based on national guidance, timing, need, region wide demands, and other considerations. Regions also identify and promote certain projects of extraordinary need that require AIP funding consideration.

**ACIP analysis.** ACIPs from each region are analyzed by the Office of Planning and Programming with respect to (1) set-asides and other requirements established by AIP legislation, (2) purpose, goals, and objectives of the AIP, and (3) annual appropriations. AIP funds allocation decisions result from this analysis.

**The airport safety/certification** function identifies and validates the highest needs for inclusion in the ACIP. Although the specific national priority calculation is subject to change, our view of safety related development, as articulated by Airports mission statement, will remain as the highest priority for funding. Therefore, safety improvements will receive first consideration for funding and implementation.

**Environmental determinations** are crucial to the timing of airport development, even when it is fully justified and a high priority. Actual accomplishment of development as scheduled in the ACIP is often dependent on a timely environmental finding.

**Coordination** with Airway Facilities and other regional offices is needed to ensure that the full benefit of the proposed airport development will be realized. Unanticipated airspace conflicts and needed air navigational aid improvements must be coordinated well in advance of the actual improvement.

**States** can provide a three-fold contribution to airport development:

**Aviation and/or transportation departments** make important contributions to the state's airport system. Some states have very strong organizations, with responsibilities for grant and regulatory programs. These states may be more than willing and capable of compiling ACIP needs for the smaller airports in the state. Even states without a specific airport or air transportation department usually have some oversight responsibilities under transportation or highways departments.

**State sponsored airports.** Many states own and operate at least one airport. Although not always true, some states may have a large staff dedicated to the management and operation of the airport system which can be valuable partners for the development of the ACIP.

**State Governments** can exercise influence over airport development, especially with respect to general aviation airports, even when they do not have a strong airport organization. Channeling act states have direct say in federally funded airport development. States often contribute a matching share to airport sponsors

participating in AIP grants. State wide zoning laws and land use regulations also can promote or inhibit airport development.

**Airport Sponsors, Operators, and Local Governments.** Airport sponsors develop airports. While the other components of the Airport Development Team assist and regulate, they do not have ultimate responsibility for airport development. A recent trend is for some sponsors to pass airport operations responsibilities to private firms under a third party management agreement. Local governments often establish local authorities to manage community airports. An understanding of sponsor organizations, contractual relationships, local governments, and their decision process is a critical link in the success of the ACIP.

**Airport Users.** Airport development would not be necessary if there were no airport users. Airlines, general aviation, and business aircraft operators have varying degrees of influence over the airport sponsor (and the remainder of the ADT). However, each must have access to our public use national airport system.

**US Department of Transportation and the Office of Management and Budget** have oversight responsibilities for the federal role in air transportation. They are the Administration's agent for promoting legislative proposals and funding needs to Congress.

**The US Congress** is ultimately responsible for the level of AIP funding. Confusion or misunderstanding in Congress relative to the needs and benefits of the ACIP may result in regulations, rules and funding levels that will not achieve the best result for our airport transportation system.

## **2. GOALS AND OBJECTIVES OF ACIP**

Airport's mission is to "provide leadership and support necessary to plan, develop and maintain a system of airports...". Leadership and support are desirable objectives, but if they are not accompanied by successful airport development, they are meaningless. Similarly, the goal of Airport Capital Improvement Planning is ultimately the development of a national airports system. Processes, procedures, programs, and resources to develop and improve the ACIP are meaningless if it is not implemented. Therefore, all decisions for the coordination, development and communication of the ACIP must be examined against the likelihood of improving the development of our airport system. Also, successful airport development is not the same as maximizing the federal dollar through the AIP grant process. Timelines of airport development is often more critical than the funding source and early decisions regarding funding are always desirable regardless of the ultimate source.

To fully support airport development, the ACIP needs to be realistic, timely, understandable, informative, responsive, dynamic, flexible, and proactive with a systems approach that is consistent with planning, environmentally sensitive issues, and which is capable of removing roadblocks.

### **2.1 Objectives**

Since the ACIP is a process, there are a number of objectives that must be achieved to support the overall goal:

- Establish common policies and procedures that meets the needs of the FAA, individual states, sponsors, and users.
- Identify the steps of program planning and formulation from inception through execution and understand how they contribute to the ACIP. Identify milestones and decision points that effect timing and the ultimate success of ACIP implementation.
- Develop guidance for the involvement by FAA and state/airport technical staff at each step of the ACIP development process. Technical staff includes those individuals with engineering, safety operations, environmental, and land acquisition expertise.
- Use ACIP to replace AIP grant pre-applications.
- Integrate the ACIP with the project development process (environmental, design, land, etc.) so that each step can start well in advance to provide for the timely execution of grants and airport development.

- Use ACIP review and analysis to move grant approvals and funding decisions to an earlier phase of the airport development process.
- Continue to improve the ACIP until it is a good multi-year document of future work with a good possibility for funding.
- Identify specific technical involvement FAA should have at the planning, formulation, and design phase to ensure that all reasonable alternatives are considered and to improve planning cost estimates.

## 2.2 Expectations

Each member of the Airport Development Team desires a variety of products from the ACIP:

**Airport sponsors and states** benefit from early and accurate AIP program information. Nearly every funding mechanism available to sponsors takes longer to acquire than AIP grants. Grants are also the most desirable because the funding is essentially debt-free. However, each sponsor realizes that AIP funding is limited and each would benefit from early advice by working to arrange for alternate funding and financing when AIP funding seems unlikely. This kind of information will also go a long way towards alleviating the administrative burden of preparing for AIP projects. In its ultimate form, the ACIP may provide the capabilities to program AIP projects directly and without a host of forms and paperwork.

**FAA** needs the ACIP to provide an accurate description of airport needs, and a realistic, complete plan to meet those needs. This information forms the foundation for decisions regarding the AIP.

**Coordinated airport development** is equally important to organizations not directly responsible for airport development. ACIP utilization can complete state intergovernmental and user coordination, achieve compatibility with user group organizations, and anticipate environmental requirements. Internally, it can will provide a meaningful correlation with the Airway Facilities Capital Investment Plan (CIP).

**Budgetary documentation** can be enhanced by an improved ACIP. Historically, FAA has had a limited ability to describe AIP budget requirements to the Department of Transportation (DOT), Office of Management and Budget (OMB), and Congress. This limitation stems from an inability to describe specific improvements to the airport system that will or could result from various funding levels. A realistic multi-year ACIP, constrained by anticipated funding levels, can begin to provide this information as a by-product of the airport development process. The ACIP can describe the level of funding needed to reach certain airport development priorities over several years, and can predict



## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

our ability to meet those needs at various funding levels. This information will be of great benefit to the FAA budget office when preparing for and justifying the annual AIP appropriation.

**A limitation.** The FAA currently uses data structures, including NPIAS-CIP, which are not designed to describe specific improvements. Instead, they were designed to describe the types of work and the associated funding only. For instance, FAA can quantify funding for work such as runway pavement rehabilitation, but there is no existing data structure that can describe how much pavement either will be improved, or is needed to be improved in the near future. This is an inherent limitation of the priority model currently being used by FAA. A better model might be based on performance improvements where each development proposal can be weighed against a measurable system improvement rather than a priority ranking system.

### **2.3 Not a Simple Solution**

There is no simple solution for improving the ACIP and ultimately our airport development process. Effective partnerships will be mandatory. Definitive guidance from FAA may not be beneficial at this stage of ACIP implementation. FAA, state and industry involvement at all levels is needed for success. We must be able to enlist the help of individuals and organizations throughout the Airports organization, FAA, and outside who are dedicated to improving our process and to defining our future role in the development of a national airport system.

### 3. GUIDELINES

#### 3.1. ACIP Development

**FAA Order 5100.39, Airport Capital Improvement Plan.** The steps required by 5100.39 for compiling the ACIP are summarized below:

1. Start with an inventory of airport development needs (work items). This is the same information that is in the National Plan of Integrated Airports Systems (NPIAS). This information is normally obtained from Airport Master Plans and Airport System Plans, but other sources are also important.
2. Sort the inventory by priority.
3. Apply anticipated funding to the airport development work items in priority order. Funded work items make up the ACIP.
4. Meet and review the ACIP with sponsors. Make adjustments that are mutually agreeable.
5. FAA makes discretionary funding projections and decisions based on national priorities and other special airport development needs.
6. Repeat steps 1 through 5 as necessary to reflect changing needs and available funding.

**A Needs Based Decision Process.** The ACIP Order is intended to move from an historical based distribution of AIP funds to a needs based distribution. The background section of the Order states "... FAA must distribute funds to regions in a way that ensures, nationally, the highest priority projects are being funded." The Order also specifies use of a calculated national priority rating to maintain consistency for evaluating national needs.

Preparation of an ACIP is relatively simple if funding targets are provided. As individual plans are compiled into larger plans, each is pared down as higher level funding targets come into play. However, preparation of ACIPs using target funding levels may not identify all the highest needs nationally. The airport and aviation industry are very dynamic. There may be extraordinary needs which the funding targets (based on historical spending) do not recognize. Preparation of the ACIP using target funding levels always raises the question: "What if additional funds were to become available that would raise our target?" The result is that contingency lists are developed. These contingency lists may contain projects which rank higher than many of the projects included in the plan under the original target. As this continues to happen, we move away from a process that ensures the highest priority projects are being funded.

**A Multi-Year Picture.** The ACIP must completely identify all needs and the relative priority of those needs to ensure that the highest needs are being addressed. Therefore, use of historical funding levels, which may be arbitrary considering the dynamics of the industry, is not a good approach for the ACIP. Instead, the ACIP needs to be a multi-year plan that includes and prioritizes all needs for the foreseeable future. Only with a complete picture of the needs both nationally, and over a period of several years, can we make truly informed decisions about the funding of our highest needs. A needs based distribution of funding using a calculated, objective priority system, is effective at identifying the highest needs and it is generally well supported by airport development program managers. An objective priority system is an objective description of the relative merits of airport development and is of great benefit when working with proponents of airport development. It is much easier to point to an objective priority score than to need to rely on words that may sound like the proposal does not have merit or that it has been arbitrarily excluded from consideration.

**Project Screening.** After raw needs have been identified, we need to think about actually accomplishing the project when it is added to the ACIP. Several factors should be considered before committing a project to the ACIP:

1. **Justification.** Is the Master Plan current and is the project consistent with the Airport Layout Plan? Is the project eligible for federal participation? Does the project meet or exceed standards? If the project appears to exceed standards, how is this justified? Special written justification may be needed to begin the project approval process.
2. **Sponsor Performance.** Are there any outstanding airport compliance issues that may delay or prevent proposed development?
3. **Financial Planning.** Is there a local commitment of funding? Will State funds and/or other non-federal funding sources be necessary? If so what is the likely timing for the funding.
4. **Engineering Requirements.** Are costs realistic? Are they based on the best alternative? Should the development be a phased program of several projects? Are waivers or special permits needed? Consider the time required to develop construction plans and specifications, the bidding process, and contract execution.
5. **Environmental Requirements.** What environmental assessment/permits are needed and what environmental impact will the project have? Will environmental requirements have an impact on the project schedule. Consider timing of mitigating requirements, i.e. tree clearing in winter while ground is frozen. Should an Environmental Assessment (EA) be listed separately in the ACIP. Are there any environmental objections to the project?

**Project identification.** Various methods are used to identify projects for the ACIP:

- National ranking criteria
- State and local ranking criteria
- Project formulation and timing considerations

Local ranking criteria should be the primary tool for the development of preliminary ACIPs. Various methods can be applied to ensure that local needs are properly accounted for. A matrix of priority calculations and ranking factors (including the national priority calculation) can be used to identify projects which consistently rank near the top. Another method would be to rank projects based on the national ratings first, then review the top local needs to ensure that these projects receive adequate consideration. Some organizations proceed with project formulation, including environmental studies, and design work before the project is actually included in the ACIP in hopes that project timing considerations will influence the selection of the project for funding.

**Adjustments.** After initial screening and identification of projects, there are three alternatives for modifying the ACIP to plan for the funding of important projects:

- Eliminate low need projects from further consideration. However, needs based decisions cannot provide funding for unknown needs.
- Reduce the cost of projects through changes to the scope, phasing, or design alternates. While phasing tends to *increase* total project costs, it may be desirable to limit funding needs for the near term.
- Delay the project to a future year.

Each of these has the effect of removing some need from a particular year in the national ACIP. Reductions in need will mean that available funding will be able to reach further down the *national* needs priority list.

**Project timing** is an important consideration that allows flexibility when funding decisions are based on needs. Airport development needs cannot be expected to stay constant from year to year. If they were, a historical distribution of funding would be totally adequate. Instead, needs are expected to change from year to year. These changes are due to new requirements and regulations, new technology, and new opportunities and emerging markets for air transportation. A multi-year plan can identify future needs, and projects can then be scheduled for the year where they have the best chance for funding in relation to the other needs in the regional and/or national ACIP.

**Project phasing.** The most popular means of adjusting the scope of a project is to establish a phasing plan. This strategy lowers the need for any given year and thereby increases its chances for funding. Phasing to limit the size of annual AIP grants is also desirable to FAA's national program managers. The national AIP is always under close

## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

scrutiny by Congress, industry groups and auditors and large annual grants can attract attention. However, it may not be in the best interest of the sponsor or the FAA to phase all airport development projects. AIP policy requires that each grant result in a useful unit of work. Mobilization costs and other factors may raise the total cost of a phased project beyond reason. Large projects that cannot be phased are the type of projects that must be identified early in the ACIP so that adequate justification and analysis can be performed before an actual funding decision is required.

**Exclusion** of a project from AIP funding consideration in the ACIP may not seem to be an attractive choice, but it does have some benefits. If a project is removed from the ACIP (shown as not using AIP funds), it is no longer being considered for AIP funding. Removal could happen because the project is not eligible, not justified (exceeds standards), or because the priority rating ranks so low on the national needs list that AIP funding is highly unlikely. In any case, as soon as the project is removed, it can begin to be considered for funding from other sources. The reason for this is that the AIP grant is the most popular form of financing. It is essentially free money. As long as the possibility for AIP funding exists (by identifying AIP funds in the ACIP), proponents will not want to pursue other funding mechanisms. The sooner an unrealistic project is removed, the sooner work can begin that will secure other funding, and the airport development (the ultimate goal of the ACIP) can take place as originally planned.

**Reconnaissance level engineering** may be necessary to scope out a project before it is placed in the ACIP. This process takes place of (or refines) master planning efforts depending upon the status of the master plan and the complexity of the project. Reconnaissance engineering could do a preliminary site survey, validate costs, explore design alternatives, and evaluate phasing and other factors including environmental that may effect the timely completion of the work. This is important information for developing the ACIP and for scheduling the start of the formulation and design phases.

### 3.2. Priorities

Priorities are the most controversial and beneficial element of the ACIP. They provide a level playing field for all airport development needs.

A good priority system is an important tool for performing objective analyses. For maximum effectiveness, priority systems must be calculated based on easily available data that has wide acceptance. Priority systems that require subjective scores in place of hard data tend to become subjective because the score itself becomes the data used to calculate the priority. For example, we could have a priority system that gives certain scores for a sponsor's ability to apply for and accept a grant in an acceptable time frame. A scoring system might be established by giving one point for each of the following criteria:

- Compliance issues resolved
- Environmental completed
- Design consultant selected
- Scope of work completed
- Local funds available
- Consistent with AMP and ALP

If all of these items were completed at the time the project is scored, a value of "6" would be given. The information which makes up the score should be readily available so that the score can be verified. This information should be placed in a separate database or data file as a record of how it was scored. Incidentally, this particular data can also be very useful for project tracking and status reporting. Dual use for data is an important side benefit of collecting the information in the first place. Today's information technologies make it possible to link data from several sources automatically to achieve a calculated priority score. Ranking of projects based on an objective, calculated priority system is fundamental to the analysis of the ACIP.

The National Priority System (NPS) ACIP national priority rating is presented in the Appendix. An objective, calculated priority system, similar to the ACIP national priority calculation is our best tool for insuring that funds are expended on the best projects. The priority calculation is designed to ensure protection of the federal interest by emphasizing system performance factors. Even though FAA's priority calculation may not be perfect is not perfect and it has been criticized, it is viewed as needed to effectively explain the majority of our funding decisions. The national priority calculation must reflect federal interests. Some local interest may be different than the federal interest. These differences account for some of the criticism of the national calculation. However, it may be possible to factor local priorities into the national funding decision process provided that they are objective, calculated, and generally rank projects in a manner consistent with the national calculation.

## *ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT*

Airport's mission statement clearly spells out the federal interest for airport development: safety, efficiency, economy, and environmental compatibility. No one will argue that safety is our number one priority. It is also easy to get consensus that after safety, we should be protecting our existing facilities (rehabilitation etc.) and completing work to improve our system to meet current standards (for safety and efficiency sake) before we should focus on expanding the system. Many states have adapted their own priority systems that generally reflect this order of priorities.

Differences with state and local priority or ranking systems are important and should be regularly analyzed for possible improvements to the national priority calculation. As the availability of funding diminishes, the differences between any two priority systems will be accentuated. If funds are able to reach 90% of all needs on anyone's priority list, then everyone will be happy 90% of the time. This situation could be much different however, if funds are available to meet only 50% of the needs.

Objective analytical priority systems (instead of subjective priority rankings) are seen as an important tool to defend well thought out airport development program decisions against special interests and subjective pressures. Political interests are an important factor to consider at the state and local level as well as the national level. Sometimes, the political process is seen as a deterrent to any priority system. However, recent experience with the ACIP indicates that we are continuing to fund essential safety equipment in part because it receives a high priority ranking which is easy to defend. In general, application of an objective priority system to the ACIP is improving the airport development process even though priority systems may never live up to the ideal.

Notwithstanding political considerations, priorities can be classified according to the stakeholder's viewpoint:

1. The local community is only concerned with direct economic benefit that will be derived from the airport improvement.
2. The state is interested in economic development, job creation, and economic viability from a state wide perspective.
3. On a national level, FAA has a national perspective on the airport system. Airport development supported by the local community and the state may not be of interest nationally, depending upon the definition of the Federal interest.

**Local Priorities.** It may be possible to develop a local or state priority system that basically complies with the NPS national priority rating AIP priority system (as does the ACIP national priority calculation), but addresses specific needs of the state. If nothing else, this system could be used as a measure for the distribution of state apportionment, entitlement, supplemental AIP and other funding.

If there is a serious disconnect between local/state and national priorities, then maybe the national priority system is incorrect and needs to be changed. In other words, we might look at how states want to expend funds to develop their airports, and adjust the national priority system accordingly. Many factors, limited only by imagination, can be incorporated into an effective priority system. The most effective priority systems will be those that are objective, calculated and that (from a federal viewpoint) reflect the federal interest. Adjustments to the priority system begin with a subjective observation. Each project that is judged to be a valid need which does not receive a high priority score should be examined for the factors which are overlooked by the priority system. If there is a consistency to these factors, it may be possible to program these factors into the priority calculation to improve its reflection of true needs.

### 3.3. Priority System Limitations

**One Tool.** Ultimately, a priority system alone is not the best way to make funding decisions for airport development. Objective priority systems will never be able to perfectly describe the needs. Many of our funding decisions must reflect political reality. They also will take into account the special needs of individual airport sponsors as we build our partnerships and relationships to ensure the long range success of the national airport system. The priority system is only one tool that should be used in the funding decision process. Its objectivity lets us judge all needs on an equal footing, but it must never be the only judge of merit for funding.

**Extraordinary Special Needs.** Section 3.5 Analysis, describes the process for applying the priority system to make funding decisions. This process makes decisions based on (1) priorities, and (2) extraordinary needs. In general, if a project does not rank high on the priority list, it could still be funded if it were considered to be an extraordinary need. However, low ranking extraordinary needs cannot be allowed to dominate the process if we are serious about a needs based distribution. This could happen if there are no clear rules on when a project is acceptable as an extraordinary need. Many projects may be well planned, validated, and even designed but may not receive funding because of a low priority rating. This situation is quite frustrating because if the needs or funding outlook do not change, there is no way to advise the sponsor of the likelihood of funding, even when it is judged have merit for funding. We have no guaranteed mechanism for reaching low priority but meritorious projects today except by designating them as an extraordinary need. See Section 3.4 for a more detailed discussion of extraordinary needs.

**System Accountability.** Exclusive use of a priority system for funding decisions tends to remove accountability and responsibility for actual airport program development. Projects with the highest priority rating get funded. The more high priority projects included in the ACIP, the more funding a region, state or sponsor can expect. This is not desirable if the purpose is to appropriate the maximum amount of funding and not to develop the best airport system. States and regions need to be accountable for their entire



## ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT

system to ensure that future levels of funding will be able to maintain and develop the existing system at an adequate level of safety, efficiency, environmental compatibility, and economy.

For example, if two (2) general aviation airports are located close together with easy road access between them, either one is probably expendable from a system perspective. Ideally, one of these airports should be excluded from the NPIAS. However, the decision making process often leaves both in the NPIAS. From a national priority perspective, similar projects at both airports rank the same. From a regional perspective, neither project should rank as high as projects at other similar airports that play a more crucial role in the airport system.

In some cases, it may be very desirable to move the funds designated for the unnecessary high priority work to lower priorities that may make more sense for the system. However, we may fund the project anyway because it means more funding for our system and our sponsors even though it may not be the most responsible choice. On the other hand, if regions and states can construct a priority system that meets the requirements of the ACIP order (calculated, consistent, quantitative) they could calculate priorities such that nearby airports receive half the value as others. This would tend to move funding to a more important locations in the system while encouraging the nearby sponsors to work together to consolidate their facilities.

**System Performance.** In order to ensure accountability from a Federal investment perspective, priority systems must emphasize system performance improvement. Some projects that offer a significant system performance payoff may be excluded from funding consideration by an arbitrary application of a low priority rating. It may be appropriate to set a priority rating cutoff below the point of available funding in order to provide flexibility to provide the maximum system performance improvement at any investment level. In any case, all decisions for the application of priority ratings must consider the impact on system performance.

**Cost Sensitivity.** Priority systems that do not account for the cost or value of the proposed development can lead to heavy handed funding decisions. Projects which rank at the top of the priority list will get funded, regardless of the cost estimates, while important lower priority work that may carry a minimal price tag will be overlooked. From a practical standpoint, it may be desirable to limit the actual amount of AIP funds provided to a given project or location in one year. This is a subjective decision that may be made based on the sponsor's ability to phase the work or to maintain an appearance of equity towards the remainder of the system needs. On the other hand, once the decision is made to fund work at a certain location, work elements may surface (such as land acquisition) that the sponsor has a great desire to include in the project but may not rank high enough to be funded. Again, this is a subjective call that must balance the need to ensure that funds are used on the highest priorities with our relationships with airport sponsors.

### 3.4. Extraordinary Special Needs

No priority system could ever totally and accurately identify the most important or highest needed development work. There will always be special unique conditions where the true value of a project cannot be measured. Therefore, any process designed to identify need and distribute funding accordingly must be able to take into account these exceptional projects. Extraordinary Special needs are defined as this type of project.

**Definition.** Extraordinary Special needs are projects that are believed to merit funding, regardless of their relative priority calculation. These projects typically include Letters of Intent (LOI) and "phased" projects where it is important to complete a development program to derive an acceptable level of benefit for the airport and the national system.

Extraordinary Special needs are a critical piece of the funding decision making process. We must identify all extraordinary special needs as the first step of the process.

Otherwise, the Special needs (including LOI commitments) that will have not been accounted for will disrupt the ACIP entire process. Therefore, it is very important that we work to identify all extraordinary needs as early as possible. The Early identification of special needs serves a two functions: First, they let funding decision makers see the complete picture of extraordinary needs and priorities before making funding decisions. Second, they allow the Airport Development Team to begin an investigation, analysis and justification of the project in time to present the best chance for winning final funding approval.

**Guidance.** The Following criteria can be used to identify common extraordinary need projects:

- Letter Of Intent (LOI) projects. These projects have a formal "commitment" on the part of FAA to provide future year funding.
- Phased projects are should be limited to those that were funded as phased projects in prior years. Phased projects yet to start or those projects that were not previously identified in the ACIP as phased should require a written justification and explanation of all past and future funding requirements. Phased projects can be a hidden pitfall for airport development program funding, because they can start . Often times, a project will start as a phased project without a clear understanding of the full cost and timing of the project. Although AIP grants are intended to result in a usable unit of work, phased projects by their very nature apply tremendous pressure to keep the funding stream going.

Phased projects may often be significant airport development programs that will provide an important system performance improvement. Accordingly,

they may well rank above the priority cutoff and not need to be considered as extraordinary needs.

Phased projects should not be confused with phased *development*. Phased development, or stage development as shown in master plan studies, should not be considered to be a phased project.

- Congressional place name projects can be considered to be extraordinary needs. However, these projects should be limited to those that are believed to be absolutely necessary to meet congressional mandates.
- Other projects may also be identified where a special need is believed to exist and where the need may not otherwise be identified by the priority system. These extraordinary needs are those projects that must be funded regardless of the funding level or priority rating. As with phased projects, a separate justification should be prepared for each of these projects for management review.

### **3.5. Analysis**

Two types of analysis can be performed on ACIP data. First, a year by year analysis provides information for making an actual commitment, allotment, or allocation of funds within specific budget limitations and requirements. Second, we can look at trends for future development needs. This information is important because it provides planning information to help the Airport Development Team to decide if and when funding for a particular project is likely.

Analysis of airport development plans for determining funding and for documenting budgetary needs must be objective. An objective analysis is valuable because it makes the decisions and results easy to explain and easy to defend. Priority systems and information technology tools lend themselves to objective analysis. Since the role of the ACIP is to ensure that the highest national needs are funded and developed, the analysis must be able to clearly identify national needs so that all decisions are made against a consistent baseline of knowledge and understanding.

It is difficult and unrealistic to directly compare the needs from all categories of airports and airport development. Therefore, the ACIP is analyzed separately for different types of airports and categories of development as follows:

1. General Aviation
2. Reliever
3. Commercial Service (And Commercial Reliever)
4. Large And Medium Hub Primary
5. Small Hub Primary

- 6. Non-Hub Primary
- 7. System Planning
- 8. Noise Projects

This process simplifies judgments within categories. Overall development program goals and objectives are then used to determine the relative amount of funding available or needed for each category.

### **Current Year Funding Analysis**

FAA Order 5100.39, "Airport Capital Improvement Plan" (ACIP) describes procedures that are intended to result in the distribution of AIP funds to the highest priority projects nationally. The primary vehicle for achieving this goal is the allotment of AIP funds to FAA regions where the grants offers are made. The amount of funding that is allotted to each region is based on an acceptable planned program of grant awards that has been prepared by each region. Once the allotment has been received, regions begin working with airport sponsors to formulate the proposed projects and to ensure a grant award by the end of the fiscal year.

**AIP Funding Requirements.** The AIP authorization is large and complex. The AIP fosters as much as \$1.9 billion (FY-92) in airport development annually. In 1992, these funds were applied to 1,434 grants that were awarded to 971 different airport sponsors across the country. Funds are made available as apportionment (or entitlement) and discretionary funds. Apportionment funds are distributed to states, airport sponsors, and individual airports based on legislative formulae. Discretionary funds are divided into no fewer than seven (7) categories that are established by the 1996 legislative authorization. The rules for applying these funds to AIP grants are very complicated. An airport could use as many as five (5) different AIP entitlement and discretionary fund sources for a single project.

An analysis for each airport/development type gives an indication of the development needs for each. However, the AIP authorization requires that certain discretionary funds be set-aside for various categories (Reliever, Commercial Service, Noise, etc.) Obviously, authorization requirements and development needs may not totally agree. Judicious application of the authorization rules must be used to move funding between airport/development types to ensure that fund allotments address national needs as much as possible. For instance, Reliever discretionary funds may only be used at reliever airports, while non-commercial service funds may be used at either general aviation or reliever airports. And "other" discretionary funds may be used at all airport types. Figure 1 below shows how AIP discretionary fund categories were distributed between airport/development types in the second-half FY-94 AIP program.

# ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT

Figure 1.

AIRPORT/DEVELOPMENT TYPES									
DISCRETIONARY FUND SOURCES	NOISE	RELIEVER	COMM. SERVICE	SYSTEM PLANNING	LRGE/MED PRIMARY	SMALL PRIMARY	NON-HUB PRIMARY	GENERAL AVIATION	TOTAL DISCRETIONARY
COM. SERVICE (1)	N/A	N/A	11.272	N/A	N/A	N/A	N/A	N/A	11.272
NON-HUB (2)	N/A	N/A	0.000	N/A	N/A	N/A	25.033	N/A	25.033
SMALL HUB (3)	N/A	N/A	N/A	N/A	N/A	6.259	N/A	N/A	6.259
CAPACITY (4)	N/A	0.000	N/A	N/A	131.318	0.000	0.000	N/A	131.318
OTHER (5)	N/A	37.250	15.570	N/A	5.032	30.342	12.640	.370	101.204
RELIEVER (6)	N/A	26.156	9.000	N/A	N/A	N/A	N/A	N/A	35.156
NON COM. SERV. (7)	N/A	0.000	N/A	N/A	N/A	N/A	N/A	12.535	12.535
MILITARY (8)	N/A	0.000	0.000	N/A	1.000	13.359	1.087	3.800	18.246
NOISE (9)	92.980	N/A	N/A	N/A	N/A	N/A	N/A	N/A	92.980
SYS PLANNING (10)	N/A	N/A	N/A	6.358	N/A	N/A	N/A	N/A	6.358
TOTALS (11)	92.980	63.406	35.842	6.358	136.350	49.960	38.760	16.705	440.362

(all amounts in millions of dollars)

**Funding decisions** are usually based on three criteria:

- Funds availability,
- Prioritized needs, and
- Extraordinary Special needs that require consideration regardless of priority rating.

The results of the analysis is a function of these criteria. Changes to any one will effect the final funding distribution. The procedures for applying these criteria are straight forward: Funds for extraordinary special needs are "set aside" for each airport/development category. The remainder of the available discretionary funds are distributed to the highest priority projects remaining in the ACIP. The priority distribution uses a priority "cut-off" for each airport/development category. Extraordinary Special needs are not required to be above the priority cut-off, nor is there any consideration given to the relative priority rating of extraordinary special needs.

**A Performance Measure.** A simple measure of the success of the funding distribution to meet the goal of the ACIP is to compare the amount of funding distributed based on priorities with the amount distributed based on extraordinary special needs that fall below the priority cut-off. The greater the percentage of funds distribution based on priorities only, the more successful the ACIP in funding the highest needs. Although extraordinary special needs can be argued to be the highest needs, a priority based distribution is much more defensible and needs little explanation. As the expected funding levels increase, a larger percentage of the funds can be distributed based on priorities alone (a desirable situation). Also, as funding *decreases*, the prioritized needs may *decrease* also as alternative construction and funding options are explored.

Comparison of a distribution based on priorities and extraordinary special needs gives an identification of how well the allotments will actually result in funding of the highest priorities nationally. For instance, in the second-half FY-94 AIP program, funds were allotted to regions to ensure that 88% of the discretionary funding was designated for the highest priority projects. The remainder - 12% - was used to cover extraordinary special needs that were below the priority cut-off.

Extraordinary Special needs *should* stay constant once they are identified in the ACIP defined. However, if extraordinary special needs become relatively high compared to the total available funding, we may want to limit them to ensure that an adequate level of funds are distributed to our highest priorities. This situation happened for FY-95. The first attempt to identify extraordinary special needs resulted in an unacceptably low distribution based on priorities. Eventually, extraordinary special needs were limited to phased and congressional place named projects only.

## ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT

The Priority-Performance report (Figure 2) shown below provides guidance and communicates a national picture of likely funding. This report shows discretionary funding by airport type and FAA region based on assumptions about national discretionary funding levels. Each category is sub-divided by priority and extraordinary special need amounts. All airport development proposals can be examined to see how they "stack up" against FAA regions and the national average.

Figure 2.

### ACIP PRIORITY MODEL: PRIORITY PERFORMANCE

1995				Noise				Reliever				Commercial Service				System Planning				Large/medium Hub			
Region	priority	x-need	total	priority	x-need	total	priority	x-need	total	priority	x-need	total	priority	x-need	total	priority	x-need	total					
ANE	2.000	2.000	4.000	2.427	0.000	2.427	1.325	2.500	3.825	0.215	0.000	0.215	0.000	0.000	0.000								
AEA	10.560	0.000	10.560	13.768	0.000	13.768	1.437	0.580	2.017	1.763	0.000	1.763	24.706	38.800	63.506								
ASO	22.004	4.500	26.504	3.115	2.894	6.009	0.270	0.000	0.270	2.830	0.000	2.830	0.585	26.370	26.955								
AGL	43.535	0.470	44.005	6.603	14.315	20.918	3.686	0.000	3.686	2.031	0.000	2.031	0.000	19.350	19.350								
ACE	8.320	0.000	8.320	0.180	4.896	5.076	1.964	1.449	3.413	0.463	0.000	0.463	1.085	6.000	7.085								
ASW	7.000	6.205	13.205	3.380	7.845	11.225	0.090	0.100	0.190	1.123	0.000	1.123	10.395	53.500	63.895								
AWP	29.707	2.150	31.857	3.044	12.470	15.514	0.000	0.600	0.600	1.464	0.000	1.464	3.500	20.778	24.278								
ANM	14.500	3.500	18.000	0.000	0.500	0.500	0.311	1.200	1.511	1.102	0.000	1.102	2.000	40.483	42.483								
AAL	0.000	0.000	0.000	1.030	0.000	1.030	5.500	0.000	5.500	0.650	0.000	0.650	0.000	0.000	0.000								
Totals	137.626	18.825	156.451	33.547	42.920	76.467	14.583	6.429	21.012	11.641	0.000	11.641	42.271	205.281	247.552								
FUND LEVEL			156.451	76.467			21.012			9.393			247.552										
COMMITMENT			18.825	42.920			6.429			0.000			205.281										
PRIORITIES			137.626	33.547			14.583			11.641			42.271										
			0.000	0.000			0.000			-2.248			0.000										
PRIORITY %			88%	44%			69%			100%			17%										
Cut-Off:			81	52			63			123			40										

1995				Noise				Reliever				Commercial Service				System Planning				Large/medium Hub			
Region	priority	special	total	priority	special	total	priority	special	total	priority	special	total	priority	special	total	priority	special	total					
ANE	2.000	2.000	4.000	2.427	0.000	2.427	1.325	2.500	3.825	0.215	0.000	0.215	0.000	0.000	0.000								
AEA	10.560	0.000	10.560	13.768	0.000	13.768	1.437	0.580	2.017	1.763	0.000	1.763	24.706	38.800	63.506								
ASO	22.004	4.500	26.504	3.115	2.894	6.009	0.270	0.000	0.270	2.830	0.000	2.830	0.585	26.370	26.955								
AGL	43.535	0.470	44.005	6.603	14.315	20.918	3.686	0.000	3.686	2.031	0.000	2.031	0.000	19.350	19.350								
ACE	8.320	0.000	8.320	0.180	4.896	5.076	1.964	1.449	3.413	0.463	0.000	0.463	1.085	6.000	7.085								
ASW	7.000	6.205	13.205	3.380	7.845	11.225	0.090	0.100	0.190	1.123	0.000	1.123	10.395	53.500	63.895								
AWP	29.707	2.150	31.857	3.044	12.470	15.514	0.000	0.600	0.600	1.464	0.000	1.464	3.500	20.778	24.278								
ANM	14.500	3.500	18.000	0.000	0.500	0.500	0.311	1.200	1.511	1.102	0.000	1.102	2.000	40.483	42.483								
AAL	0.000	0.000	0.000	1.030	0.000	1.030	5.500	0.000	5.500	0.650	0.000	0.650	0.000	0.000	0.000								
Totals	137.626	18.825	156.451	33.547	42.920	76.467	14.583	6.429	21.012	11.641	0.000	11.641	42.271	205.281	247.552								
FUND LEVEL:			156.451	76.467			21.012			9.393			247.552										
COMMITMENT:			18.825	42.920			6.429			0.000			205.281										
PRIORITIES:			137.626	33.547			14.583			11.641			42.271										
			0.000	0.000			0.000			-2.248			0.000										
PRIORITY %				44%			69%			100%			17%										
Cut-Off:			81	52			63			123			40										

1995			1995			Small Hub			Non-Hub			General Aviation			Totals		
Region	Region		Region	Region		priority	x-need	total	priority	x-need	total	priority	x-need	total	priority	x-need	total
ANE	ANE		ANE	ANE		0.000	5.731	5.731	0.000	0.000	0.000	0.000	4.000	4.000	5.967	14.231	20.198
AEA	AEA		AEA	AEA		5.788	10.000	15.788	4.243	10.000	14.243	2.056	1.837	3.893	64.321	61.217	125.538
ASO	ASO		ASO	ASO		1.072	28.004	29.076	1.310	2.000	3.310	5.642	0.951	6.593	36.828	64.719	101.547
AGL	AGL		AGL	AGL		1.073	0.450	1.523	3.269	12.884	16.153	1.993	0.650	2.643	62.190	48.119	110.309
ACE	ACE		ACE	ACE		0.000	0.353	0.353	0.000	3.373	3.373	0.000	0.000	0.000	12.012	16.071	28.083
ASW	ASW		ASW	ASW		0.787	0.000	0.787	1.067	23.304	24.371	0.104	0.345	0.449	23.946	91.299	115.245
AWP	AWP		AWP	AWP		1.743	3.000	4.743	0.000	1.139	1.139	1.989	0.495	2.484	41.447	40.632	82.079
ANM	ANM		ANM	ANM		0.000	0.000	0.000	6.809	0.000	6.809	0.350	1.500	1.850	25.072	47.183	72.255
AAL	AAL		AAL	AAL		0.000	0.000	0.000	4.730	5.000	9.730	2.000	0.000	2.000	13.910	5.000	18.910
Totals	Totals		Totals	Totals		10.463	47.538	58.001	21.428	57.700	79.128	14.134	9.778	23.912	285.693	388.471	674.164
FUND LEVEL	FUND LEVEL		FUND LEVEL	FUND LEVEL				58.001			79.128			23.912			671.915
COMMITMENT	COMMITMENT		COMMITMENT	COMMITMENT				47.538			57.700			9.778			388.471
PRIORITIES	PRIORITIES		PRIORITIES	PRIORITIES				10.463			21.428			14.134			285.693
								0.000			0.000			0.000			-2.249
PRIORITY %	PRIORITY %		PRIORITY %	PRIORITY %				18%			27%			59%			42%
Cut-Off	Cut-Off		Cut-Off	Cut-Off		40			40			62					
Small Hub			Non-Hub			General Aviation			Totals								
priority	special	total	priority	special	total	priority	special	total	priority	special	total	priority	special	total			
0.000	5.731	5.731	0.000	0.000	0.000	0.000	4.000	4.000	0.000	4.000	4.000	5.967	14.231	20.198			
5.788	10.000	15.788	4.243	10.000	14.243	2.056	1.837	3.893	64.321	61.217	125.538	64.321	61.217	125.538			
1.072	28.004	29.076	1.310	2.000	3.310	5.642	0.951	6.593	36.828	64.719	101.547	36.828	64.719	101.547			
1.073	0.450	1.523	3.269	12.884	16.153	1.993	0.650	2.643	62.190	48.119	110.309	62.190	48.119	110.309			
0.000	0.353	0.353	0.000	3.373	3.373	0.000	0.000	0.000	12.012	16.071	28.083	12.012	16.071	28.083			
0.787	0.000	0.787	1.067	23.304	24.371	0.104	0.345	0.449	23.946	91.299	115.245	23.946	91.299	115.245			
1.743	3.000	4.743	0.000	1.139	1.139	1.989	0.495	2.484	41.447	40.632	82.079	41.447	40.632	82.079			
<del>0.000</del>	<del>0.000</del>	<del>0.000</del>	<del>6.809</del>	<del>0.000</del>	<del>6.809</del>	<del>0.350</del>	<del>1.500</del>	<del>1.850</del>	<del>25.072</del>	<del>47.183</del>	<del>72.255</del>	<del>25.072</del>	<del>47.183</del>	<del>72.255</del>			
0.000	0.000	0.000	4.730	5.000	9.730	2.000	0.000	2.000	13.910	5.000	18.910	13.910	5.000	18.910			
10.463	47.538	58.001	21.428	57.700	79.128	14.134	9.778	23.912	285.693	388.471	674.164	285.693	388.471	674.164			
		58.001			79.128			23.912			671.915			671.915			
		47.538			57.700			9.778			388.471			388.471			
		10.463			21.428			14.134			285.693			285.693			
		0.000			0.000			0.000			-2.249			-2.249			
		18%			27%			59%			42%			42%			
40			40			62											



### **Future Year Trend Analysis**

Annual funding distribution decisions receive the most attention, scrutiny and criticism. However, the real value provided by the ACIP is the ability to look into the near future (3-5 years) and be able to make *reasonable* decisions about the likely funding of proposed development.

**Three Variables.** As explained earlier, there are three variables or factors are used to make judgments regarding the distribution of funds: (1) anticipated funding levels, (2) prioritized need, and (3) special needs. These variables are not independent of one another. As one changes, each of the others is likely to change also. For example, if the likely funding were to increase we would probably see a rise in needs in the form of an increasing number of development proposals. The NPIAS estimates that there are approximately \$6 billion in eligible development needs annually, yet AIP is only able to fund about 25% of those needs based on a \$1.5 billion dollar program. In FY 1996, the sum of all requested funding (needs) in the ACIP was approximately \$2.2 billion. It is easy to see that if the AIP funding level were anticipated to be \$2 or \$3 billion, the requested amount would increase also. In other words, needs tend to increase with increasing funds availability. The reverse is also true: Needs tend to decrease as expected funding decreases. This can be explained by realizing that other funding sources are available and that more economical development alternatives will receive more serious consideration.

**A Fourth Variable.** While these three variables effect the year to year decision making process, there is a fourth variable that introduces even more complexity to the multi-year aspect of the ACIP - The planning horizon. The ACIP is a list of specific airport development proposals based on anticipated funding levels. The primary source for the development proposals are airport planning studies. Airport planning studies have a fixed planning horizon - say 10 to 20 years. Lets assume that we are diligent in our planning and ensure that all master plans were completely updated every 10 years. This means that the average master plan at any given point in time would be five years old. The planning horizon for the resulting ACIP, which is based on the master plans would only be completely valid for a 15 year period. Between 15 and 20 years, up to half of our airports would not have any needs shown in the ACIP because it is extends beyond the current master plan. This tendency would be exaggerated if some of our master plans were greater than 10 years old and if the planning horizon for the detailed identification of development needs were shorter than 20 years.

**Decreasing Needs.** In any case, we can expect the ACIP to show *decreasing* needs as it looks further into the future. Stretch it to 20 years, and there are no needs! This was a very real problem with the publication of the NPIAS in recent years. Until the 1995 addition of the NPIAS, needs were described in two time frames: 1-5 years, and 6-10 years. The 6-10 year needs were always reported as less than the 1-5 year period. This made AIP funding needs difficult to explain to Congress even though it was caused by the limited horizon of our planning studies, and not by actual decreasing needs. Macro

planning analysis of enplanements, operations, demographics, etc. can be applied to show increasing needs in the out years, but without a specific planning study, we cannot know which specific proposals are likely to fill those needs.

**A Solution.** Our best solution for analyzing future year trends is to start an iterative process, where the results of one iteration are used to prepare for the next. Ideally, a project will be entered into the ACIP several years before it is anticipated to begin (year X). After all ACIP data for year X is compiled, we should have a picture of how the projects look with respect to anticipated funding levels, priorities, and special needs. As the ACIP is updated and our project moves closer to becoming reality, we may want to make adjustments to the ACIP based on our perception of the funding outlook. We may want to delay the project, look for alternatives, or move other projects to make more room for our project. This process continues from year to year so that when the project is ready to begin, there is little uncertainty about the funding source.

**The Need For Consistency.** A real concern for developers of the ACIP is the sudden emergence of unanticipated, high priority needs. The ACIP needs to provide funding for these projects. When we do provide funding, other needs already in the ACIP that were expected to be funded may end up "below the funding line". Consistent and diligent planning from every member of our Airport Development Team can help eliminate these concerns. A real concern from a national perspective is the impact of mandated safety improvements. If a safety requirement becomes reality, and implementation is mandated over a short period of time, we potentially have an unanticipated high priority need that can have a serious impact on our ACIP. The implementation of new airport signing requirements in the early 1990's is an example. Millions of dollars were expended on the installation of signs in FY-92 and FY- 93 that may not have been anticipated in 1991. Any work that can be done to plan for these needs and to explain the potential impact to Congress and other funding agencies can go a long way towards improving the development of our national airport system.

**An ACIP Score Sheet.** All of these uncertainties do not lend themselves to the use of planning levels for the out years. Although use of planning levels is preferred because it gives a specific funding target, the uncertainties are too high to leave to the judgment of any one organization (such as FAA headquarters). Our best approach is to produce a score sheet compilation of all the factors and to let each proponent use their own judgment as to the likelihood of funding.

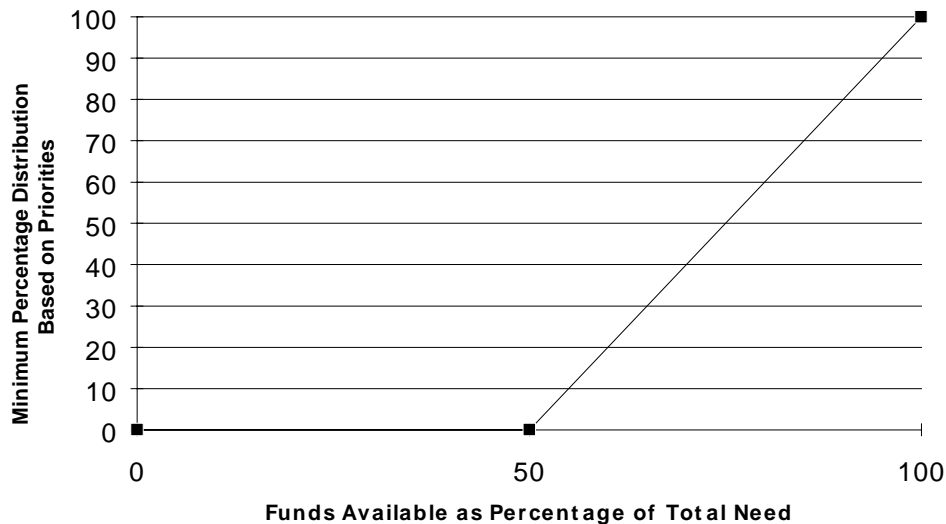
Lets examine how we might construct this score sheet.

### **One Year**

Figure 2, ACIP PRIORITY MODEL: PRIORITY PERFORMANCE, summarizes the ACIP for a given year. Figure 2 scores the ACIPs of individual regions, but it could be modified to score individual states, cities or metropolitan areas, or geographic regions, such as east coast, west coast and central US. This chart describes anticipated funding levels, a priority cut-off for each category of airport, an amount for extraordinary special needs, and a percentage of funds distributed based on priorities alone (Priority %). The priority percentage calculation is a measure of our ability to distribute funding to the highest needs. A sufficiently high percentage of funds distributed based on priorities alone will instill confidence that overall, we are funding the highest needs nationally. However, as anticipated funding levels *decrease*, this percentage tends to *decrease* as well.

One way to interpret extraordinary special needs is to recognize that they may actually be a reflection of differing ranking systems and that the more funding is available, the less important the difference. If we have sufficient funding to reach all of our needs, then how we rank them is unimportant, all of our projects, including extraordinary special needs will be funded. Lets assume that two ranking systems are completely out of sync. Of 10 projects under consideration, each could identify a list of at most 5 projects before common projects would be included in both lists. If our anticipated funding level were 50% of our needs, then it might be possible to have a priority distribution of zero percent. All five of the *lowest* ranking priorities would be identified as extraordinary special needs. As the funding level to needs percentage increases above 50%, the *minimum* priority percentage distribution would increase from zero to 100 percent as shown on the next page below:

Figure 3.



In FY-96, the ACIP identified a total need of \$2.2 billion based on an anticipated funding level of \$1.5 billion. Using these figures, the minimum distribution based on priorities alone would be 18%. However, as pointed out in section 3.2, most ranking systems developed by states reflect a general consensus that safety and rehabilitation projects should precede expansion projects. Therefore, we should never expect any two priority systems to be completely out of sync. If two ranking systems concur 50% of the time, then our minimum priority distribution based on either ranking system would double (to 36% using the FY-96 numbers).

This analysis is not intended as a definitive measure of extraordinary special needs, but should give an understanding of how to view extraordinary special needs as funding levels and total needs change. Also, if we were able to perform an analysis of the compatibility to any two ranking systems (local versus national for example), we might be able to get a much clearer picture and measure of our extraordinary special needs.

### Future Years

As mentioned previously, needs shown in the ACIP can be expected to diminish in the future, not because the needs will go away, but because they have not yet been identified. Perhaps the best way to account for this apparent reduction in needs is to assume that all planning is consistent and that the funding levels should be prorated against the needs reduction. If total needs in a future year of the ACIP fall off to 50% of their current year level, then (for analysis purposes only) the anticipated funding level for that year should be 50% of the current year

funding. All other analyses and scoring of the ACIP - priority cut-off, and extraordinary special needs can be analyzed based on the reduced needs and reduced funding level. This approach is based on the assumption that since all plans are consistent, then needs that are not actually identified will surface in proportion to the needs that are already identified. This way, if a proposed development project in an out year looks like a good candidate for funding, it should remain a good candidate as the project moves towards the current year. A similar methodology can be used if in fact the ACIP shows an *increasing* need in future years.

### **3.6. The ACIP Submittal**

The Airport Capital Improvement Plan is not a plan, it is a *process*. It is a process whereby needs are collected and analyzed against anticipated funding and decisions about which projects are most likely to be funded are made through a cooperative, coordinated effort by the Airport Development Team. The process needs to be iterative because of the dynamic nature of airport development and the constant pressure to reduce and justify public expenditures.

This section discusses an outcome of the process - an actual plan of airport development based on anticipated funding. After we have identified our needs and the likelihood of funding, we need to take the next step towards actually accomplishing the airport development. A formal ACIP submittal to local, state, and Federal governmental authorities is the next step.

#### **The ACIP Checklist**

The following checklist should be used to prepare a thorough and complete ACIP.

##### **1. Identify projects.**

Include all needs for the next five years. It is important to anticipate infrastructure preservation projects and future safety needs, as well as capital expansion projects in the future years. A complete project description package should be on file and readily available to all interested parties. This package should include:

- The specific location, including an airport location sketch.
- Costs estimates
- Project schedule. Specify when it is needed and any relation to other scheduled or needed airport development work.
- Project justification. This could be an excerpt from the master plan or more detailed information if it is a special need project.

## **2. Costs.**

Accurate costs estimates are very important to the success of ACIP. An analysis of unknowns and contingencies associated with a development proposal may indicate that reconnaissance engineering should be completed before the project schedule reaches the near term. Review and identify funding sources and funding procedures:

- Local
- State
- AIP Entitlement and Discretionary
- Passenger Facility Charge Collections

## **3. Airport Layout Plan (ALP)**

Ensure that the ALP is up to date and contains the proposed development. Development proposals not shown on the ALP normally require some sort of master plan update and should be scheduled in the ACIP well before the work is desired. Determine the status of ALP approval and any necessary airspace review. Initiate action on these items as necessary.

## **4. Environmental**

Lack of complete environmental approval is the leading cause for the deferral of planned AIP grant awards. An early review of the environmental risk associated with a development proposal should be completed prior to including a development item in an ACIP submittal. If the environmental analysis and approval has not been completed, factor this into the overall development schedule. Detailed environmental work should be included as a separate item in the ACIP. Be careful not to underestimate the time required to complete complex environmental studies, such as an Environmental Impact Statement (EIS).

## **5. Land Acquisition**

Airport sponsor ownership is a requisite for any development work. All land acquisition requirements should be a separate entry in the ACIP. An analysis of obstacles to land acquisition, such as uncertain property records or local opposition are important considerations to the timing of land acquisition and the resulting development.

**6. Consultants and Construction Documents**

Review the status of the consultant selection, design work and bidding schedules.

**7. Eligibility**

Some work may not be eligible for federal or state participation. And there may be a relationship between eligible and ineligible work. Determine how ineligible work will be funded so as not to delay eligible work or vice versa.

**8. Consultation**

Although airport development is coordinated and reviewed with airport users and the public during the master planning process, it is important to provide for a second consultation as the project gets closer to reality. Consultation can prevent unnecessary delays to the project and may be required by the funding program.

**9. Reasonableness**

After reviewing each of the above items, determine that the project will actually be ready with the planned funding. Is the total funding request reasonable? Although ACIP is intended to ensure that the highest needs are funded nationally, there are limits to the actual amount of funding from any one source (such as AIP) that can be expected for a given location. An examination of historical trends may be helpful here. If the total funding request appears to be unreasonable, consider delaying and/or phasing specific proposals over a longer period of time.

**A Replacement for the AIP Pre-application**

The ACIP can add measurable value to the airport development process if it is used as a replacement to the AIP Pre-application. The Pre-application is used to initiate a tentative allocation of AIP funding. The tentative allocation provides an indication to the sponsor of an expectation of a grant award. It also is used to initiate formal FAA review and approval of the project for federal participation. This review includes such things as airspace, environmental, ALP, and land determinations. In the past, many pre-applications were submitted for projects that did not have a reasonable expectation of funding. Pre-applications were also submitted separately for each development proposal. This created redundant and unnecessary documentation of project needs that can be replaced by an annual ACIP submittal.

An ACIP submittal that essentially replaces the AIP pre-application and takes advantage of the value already afforded by the ACIP would include the following features:

- 1. Annual submittal.** Nearly all funding processes use an annual cycle. The ACIP is intended to facilitate compilation of all needs prior to making funding decisions. Therefore, an annual submittal would be logical to facilitate this process. Each new submittal (or update, if necessary) should replace any ACIP on file with the funding agency. These procedures will keep the latest information always available in one location, thereby eliminating some of the confusion and redundancy associated with multiple pre-applications.
- 2. Sponsor and Site-Specific Information.** The primary purpose of the pre-application is the request by an airport sponsor to enter into a grant agreement. Much of this information does not change from project to project:
  - Standard Form 424.
  - Disadvantaged Business Enterprise (DBE) plan status.
  - Airport user coordination documentation.
  - Intergovernmental coordination certification.
  - A drawing showing all development proposed to be funded in the upcoming fiscal year. This drawing includes all development in the first year of the ACIP. Although a separate sketch will suffice, an electronic version of the approved ALP, annotated with the proposed development, might prove to expedite submittal and review.
- 3. Development Program Information.** FAA Form 5100.30, Airport Capital Improvement Plan, contains project specific information:
  - Project year and description.
  - Cost Estimates of major and unique items of development.
  - Project milestones.
  - Requested and/or planned funding sources.
  - Environmental status.

A detailed project justification should not be a necessary part of the ACIP submittal since its inclusion in the ACIP as fundable indicates a justified project. However, in special cases such as special needs and controversial projects, it may be desirable to submit a special justification along with the ACIP. In any case, a detailed project justification and scope should remain on file for review as needed.



## **4. RESOURCES**

In the previous sections, we have addressed what needs to be done for a successful Airport Capital Improvement Planning process, and why it is important. In this section we will discuss *how* to accomplish it. A national ACIP process is quite complex, yet a good process holds many benefits for the ADT. We must do a high quality job in order to meet the challenges of the future.

High quality means it must be meaningful to everyone who contributes to the development of the ACIP. It must not be allowed to become an administrative task where the collection and processing of data becomes the main focus. The emphasis at every step must be the ultimate goal of ACIP - development of our national airport system.

### **4.1. Adding Value-On-Value**

The ACIP requires that each member of the Airport Development Team (ADT) provide a real value-added service to the development of the national airport system. The ACIP needs to tap the valuable contribution that each member of the Airport Development Team can provide. For *maximum* effectiveness, we all need to learn to coordinate the activities of ourselves and others so that we add our value directly to the value already being provided by our partners. We also need to learn to accept and trust the local decision making process. This is the best way to reduce redundancy and to provide the high quality and meaningful ACIP that is required to meet the challenge of the future. This is the concept of Value-On-Value.

The Value-On-Value concept requires that each of us understand and trust the processes of our partners on the Airport Development Team and that we work together as much as possible. Timing is the most crucial element in obtaining the maximum value from our partners. Information that is developed and processed has its highest value at the point and time it is collected and analyzed. Whenever we ask ourselves or others to re-compile information that has already been collected and processed, we are adding a redundant, costly step and the information probably will not be as good as it was when it was new. Therefore, we need to be as flexible as possible when working with our partners.

### **4.2. The Airport Development Team**

A key factor for adding Value-On-Value is to understand who are the members of the Airport Development Team and to understand *their* processes of how they go about the business of contributing to the airport system. A better understanding of each organizations concerns and constraints must be developed. Participation in the processes of other organizations is an excellent way to improve understanding and to eliminate misconceptions.

Introducing new people and organizations to the ACIP process is an important step in building relationships and working effectively with the Airport Development Team. It is important to know your audience when promoting or discussing ACIP. Some audiences are much more sophisticated than others. A simple, promotional brochure may be very helpful in getting the basic message across to our newest partners.

In Section 1, we identified who the team members are and outlined their role in the ACIP. Here we will provide some insights on how the team may be able to work together effectively to build a meaningful ACIP.

### **FAA**

The key FAA personnel are the engineers and planners who work directly with airport sponsors and provide assistance for airport development issues. FAA's most valuable product is the ability to provide information through established contacts and working relationships with airport sponsors, state organizations, FAA and other federal agencies that play a significant role in the development of our airport system. The FAA Airports employee plays a leadership role as the FAA advocate for airport development.

#### **Planning Support**

- Evaluates airport system and master plan studies for Airport Layout Plan (ALP) consistency, project justification, and eligibility.
- Coordinates with and evaluates input from states and sponsors.
- Attends FAA coordination meetings with AF, AT and Flight Standards, and others.
- Anticipates needs on issues such as environmental, land, compliance, safety and engineering requirements.
- Promotes planning and environmental activities for future years.
- Recommends changes in the ACIP as needed to keep it current and effective.

#### **Engineering Support**

- Evaluates engineering feasibility, costs, scheduling, and eligibility.
- Attends ACIP coordination meetings.
- Monitors compliance issues early in the process to prevent future delay to grant awards, etc.
- Anticipates needs on issues such as environmental, land, compliance, safety and planning requirements.

## ***ACIP: STEWARDSHIP FOR AIRPORT DEVELOPMENT***

- Advocates upcoming development and assists with project formulation, scheduling, and coordination.
- Recommends changes in the ACIP as needed to keep current and effective.

### **Other FAA Support**

Other activities not directly associated with ACIP development can make a significant contribution to the overall success of ACIP:

- PART 139 inspections
- 5010 inspections
- Pavement condition surveys
- Design standard surveys
- Compliance inspections

### **States**

There is a wide range of capabilities that states and state aviation organizations can provide to the ACIP. Some states have complete airport development grant programs with a thorough ACIP process already in place. Others may have minimal staff that is part of a general transportation department.

States play an important role for planning airport development at general aviation airports. ACIP should be a cooperative effort between states and the FAA. We need to work together to combine our efforts into a joint state-FAA process that simplifies the process and increases communication of funding plans and needs. There may be some skepticism on the part of sponsors of general aviation airports who fear too much state involvement. We will need to work hard to emphasize how the process will benefit each sponsor, then follow-up with action that demonstrates the benefit. A strong state-FAA partnership can play an important role in overcoming many sponsor concerns.

### **Airport Sponsors**

Airport sponsors play an obvious role in the ACIP since they actually do the work to develop the airport system. However, everyone directly involved with or employed at an airport can contribute to development of the ACIP. This includes personnel from sponsor's design, construction, and maintenance staff. State aviation organizations who provide these services on a statewide level can also provide valuable information from a statewide perspective. Airport operations and maintenance personnel are *an extremely* valuable resource for assessing airport development needs and for providing insights on feasibility.

### **Airport Users**

Airport users such as airlines, air taxi services, fixed based operators and corporate airport users are another good source of information on current needs and future trends from an airport user perspective. Many airports have established user groups that advise airport management. These groups range from pilot associations to airline committees with formal responsibilities to review and recommend airport development proposals.

### **4.3. The Airport Planning Process**

Development of the Airport Capital Improvement Plan both precedes and follows formal master plans, system planning, and other formal and informal planning efforts. Routine coordination of the ACIP with sponsors and states can uncover needs not previously identified by these formal planning efforts. On the other hand, refinement of project scopes, costs, and timing after the master planning study are appropriate components of ACIP as proposed development moves closer to reality.

It is important to understand that identification of a development item in the master plan is only the first step in the ACIP process. The master plan documents the basic need and justification of the project. During master planning, financial constraints should be minimized to get a true picture of airport needs and sponsor desires. Reconnaissance level engineering should be included during planning efforts for priority development during the near time frame (0-5 years). ACIP takes it to the next step by assigning a system wide rank or priority and by applying likely funding levels. It is at this point that the sponsor can begin to make decisions regarding the source for the funding and a detailed schedule for project accomplishment. There may be a perception in local communities that all development included in the master planning document will be funded through AIP. When looking at any proposed airport development, we need to communicate a realistic and analytic view from a system wide perspective before we commit to funding. Hence the need for the ACIP.

System planning also plays a role in the identification of airport needs. System planning can play an even more important role in understanding and communicating system wide needs. These needs are not location specific, but they could be used to help with special justification for individual airport development proposals. System plans offer a good opportunity to easily communicate system needs and priorities to all levels of the Airport Development Team.

### **4.4. Information Technology**

The national ACIP contains a large amount of data. Once the data is assembled, it must be processed into meaningful information so that quality and timely decisions can follow. We must learn to take full advantage of modern information technologies to allow this to happen.

Electronic data communication offers a valuable tool for communicating needs and for collecting information that is used to compile the ACIP. We must become astute at transmitting and receiving electronic information with our Airport Development Team members as it becomes available. Once the information is received, it needs to be stored so that it can be quickly retrieved for data analysis, and for providing relevant information

to management decision makers. Often, there is not enough time to compile a detailed analysis and report in the traditional way to allow our management to make timely decisions. An information technology process that routinely collects and processes airport development data will be able to provide critical information in a timely manner.

Section 3.5, Analysis, suggests only one technique for compiling the data into meaningful information. There are many more such as workload and personnel resource allocation, and analysis of proposed investment levels for different system components such as safety equipment and pavement rehabilitation.

Priority calculations could and should begin to use any relevant information that provides a better understanding of the true needs. The national priority calculation (Appendix), uses information from the NPIAS-CIP database only. However, in today's information rich environment, it should be relatively easy (compared to just a few years ago) to tap into all kinds of information to fine tune our priority calculations. Such things as demographics, airport access, airline schedules and destinations, and peak load factors could be added to the priority calculation matrix. Any priority system should be considered to be valid as long as it is ranks projects in roughly consistent with mission goals and objectives, the same order as the existing calculation (safety, rehab., standards, expansion) and that it be calculated and objective.

#### **4.5. The ACIP Cycle**

The ACIP cycle is the process by which information is collected, analyzed, and eventually made a part of the airport development funding plan (ACIP). The cycle usually is annual since most budgets for airport development are based on the fiscal year. The ACIP cycle is a resource because it can be adapted to pull the best information from each member of the Airport Development Team.

##### **Value-On-Value**

If we can develop an ACIP cycle that maximizes the concept of Value-On-Value, we will have a very valuable resource indeed. It takes advantage of the best information available at every step of the process. We need to be able to tap the information as soon as it is collected. If not, the information needs to be stored and made available for later recall to be used in the development in the ACIP. If we can understand the process of every member of our Airport Development Team, then we can work within *their* processes to bring the latest and best information forward for the ACIP as soon as it becomes available.

If we can schedule our time to work with our team members at key moments in their process, we can also provide valuable guidance on how each need and proposal might be satisfied. Our biggest challenge in working the ACIP with our sponsors is that of credibility. Sponsors who are led to believe that certain development will be funded only to have their plans changed by limited foresight will loose interest in continuing to work

towards a quality ACIP. By customizing our ACIP cycle to the activities and processes of our partners, we can maximize our influence over their development plans, and we can learn and understand the truly important local priorities so that those needs will not be overlooked in the decision process.

Here are some examples of Airport Development Team processes that should be included in the ACIP cycle to the maximum extent possible:

- Airline committee meetings.
- Many airport sponsors and states communicate regularly with the public, communities, users and air carriers. Although the primary purpose of the communication may be for reasons other than the development of a capital improvement plans, they can provide valuable insight into the needs and desires of the airport community and users.
- Airport leasing, zoning changes, and building permitting processes for property on or near airports.
- State aviation department community meetings.
- Airport maintenance and operations group and association meetings.
- Information collected from mailings by different members of the Airport Development Team
- Each and every FAR Part 139 inspection and safety related meeting.
- Budgetary meetings and procedures associated with the local, state, and federal fiscal years. Fiscal years do not always coincide and differing schedules must be taken into account.
- Construction season bidding schedules. Bids finalize development costs and offer a good opportunity to begin firming plans for the upcoming fiscal year.
- Internal FAA Airway Facilities and Air Traffic meetings.

### **ACIP Development Steps**

The steps outlined here are not intended to be strictly followed in the development of the ACIP. Rather, they are general guidelines for developing a process that taps the greatest value each partner has to offer while providing a structure for ACIP development.

#### **1. Start ACIP: Re-evaluation**

- Notification letters to sponsors and state directors (and others).
- Internal review and coordination of the existing ACIP.

**2. Complete Initial Markup**

- Consolidate internal reviews.
- Perform management analysis.
- Management team review.

**3. Complete Working Plan and Distribute**

**4. Begin Stakeholder Coordination Meetings**

- Conduct state and sponsor meetings.
- Informational meeting for airport and consultant groups.
- Informational meeting at regional or headquarters office.

**5. Start Draft ACIP**

- Assemble and analyze results of the coordination meetings.
- Management team review.
- Revise ACIP.
- Perform management analysis.
- Management team review.

**6. Finalize ACIP and Distribute**

A written plan or schedule of how each organization in the Airport Development Team will accomplish the annual ACIP cycle is recommended. This plan should be designed to take full advantage of all related processes already in place. FAA field offices and states should work together to build and develop a common plan since many of their functions overlap. Every opportunity that could help understand needs, collect information, or provide guidance can pay big dividends in the final development of our airport system.

**ACIP Meeting Strategies**

The ACIP cycle requires meetings with our Airport Development Team members. This is the best way to communicate and understand needs and constraints. While ACIP meetings are important, they must be folded into the existing process as much as possible to avoid the tendency of the ACIP to become a "program" with an agenda of its own and not focus on airport development. The following strategies are important to consider when scheduling ACIP meetings:

- Meeting preparation. Identify participants and allow enough time to have as many as possible attend. Data and relevant information should be available ahead of time. Provide a purpose and agenda for the meeting.
- States are FAA's partners and allies. They are closest to the issues and can provide information and insights that are unique to the state. All ACIP meeting planning should be coordinated with state officials.

- Political winds change rapidly in state and local governments. When new officials are elected or appointed, priorities and agenda's often change. Use political changes as a chance to be proactive to meet early and discuss issues with the newly elected or appointed officials.
- Consider your audience. Introducing new people and organizations to the ACIP process is an important step. Build your presentation around the participants background and knowledge of capital improvement planning.
- The ACIP must be considered to be the sponsor's and state's plan primarily. Permit the states to make decisions on as much of the plan as possible for small airports. FAA's role should primarily be guidance. The more relevant information the FAA can bring to these meeting, the more effective the guidance will be.
- Educate states and sponsors to develop an ACIP strategy that maximizes all funding resources. Be sure they understand the priority system, so they will not make commitments that cannot be delivered.



## **5. ACCOUNTABILITY**

Certain indicators point towards the successful implementation of the ACIP. These indicators are documents and procedures that incorporate the ACIP concept into many of the activities of our day to day business. Since the ACIP cycle is annual, an annual review and status report of the ACIP process is a good way to maintain implementation accountability. Some indicators and measures of ACIP implementation are suggested below:

- An annual ACIP development schedule that is customized to maximize Value-On-Value and incorporates many of the activities of our Airport Development Team.
- Strategies and promotional literature for introducing the concept of the ACIP to officials new to airport development.
- Development, refinement and promulgation of a priority calculation that complies with the recommendations of section 3.2, Priorities. Compliant priority calculations developed by states and FAA regions are an indicator of a commitment to the ACIP process.
- Distribution of a detailed multi-year analysis of the ACIP per section 3.5.
- Use of the ACIP as a replacement for the AIP pre-application.
- A joint state-FAA plan and strategy for implementing ACIP.

## 6. EXPECTATIONS

After we have defined what we need to do, why it is important, and how we can successfully tap resources for a complete and thorough ACIP, we should have an expectation of a benefit for our overall goal - the development of our national airport system.

Perhaps the most important expectation would be early identification and recognition of development needs. This is important because the ACIP helps establish funding needs, both federal and local. It also encourages the early development of strategies and options to meet funding requirements. The ACIP establishes a game plan for the successful implementation of the project. It provides for early advancement and staging of the project requirements such as: environmental, land acquisition, engineering and construction. Development needs that are identified *early* in the ACIP process should have a better chance of being funded and completed as planned than needs that are not identified until late in the process. This is not to say that all projects will actually be funded, or that they will be funded through an AIP grant, but that their chances are improved. There is no data to corroborate this expectation at the present time, but as full implantation of the ACIP process is completed, we would expect to see these kinds of results.

Since the ultimate goal of the ACIP is the successful development of our national airport system, the ACIP must be a mechanism that ensures success is achieved. It will ensure this success by identifying system wide needs so that all Airport Development Team members can understand where we are and where we need to go to be successful. In other words, the ACIP must be used as a budgetary document for communicating system needs to our elected officials and others who can provide the necessary capital investment. The multi-year nature of the ACIP will be used to ultimately achieve this success. Through the diligent identification, documentation, and planning of our airport system needs by each of our Airport Development Team members, we will provide credible and substantiated information that will be recognized as an important component of the budget process. We achieved some of this success in 1995 when Congress recognized that the use of the national priority calculation for the distribution of AIP funds represents an improvement in the accountability of the expenditure of public funds.

The Airport Capital Improvement Planning process can ensure the successful development of our airport system, even in difficult financial times, if we all can work together through a common effort to achieve our common goal.



## THE ACIP NATIONAL PRIORITY RATING CALCULATION

The ACIP is a process which helps identify, plan, fund, and execute airport development in such a way as to ensure that the highest and most critical needs are met with limited funding. It communicates needs and funding plans for airport sponsors, states, FAA, and others who have a stake in the development of the national airport system.

The National Priority System (NPS) is a tool by which FAA evaluates projects, contained in the ACIP, for AIP funding. NPS uses many factors: national plans; goals and objectives; anticipated AIP funding levels; a numerical project rating; and other regional and/or local factors.

In order to implement the ACIP and NPS concepts, a standard database has been established. This database (NPIAS-CIP) provides a common data structure to compile and analyze airport development needs. It is used by FAA to help determine the distribution of AIP discretionary funds in compliance with Title 49 USC.

The ACIP uses a national priority calculation as prescribed by Order 5100.39. Priority numbers are calculated based on the size and type of airport (service level) and the type of project (as described by the NPIAS-CIP project codes). The national priority calculation:

- (1) Provides a standard means to sort projects from high to low priority
- (2) Is used to measure how well funding plans (the ACIP) address the highest priority needs.
- (3) Imitates the existing AIP priority system. It does not represent a significant departure from the AIP priority system established by the Airport Improvement Program Handbook, Order 5100.38a.
- (4) Is not intended to be the sole gauge for project approval

No priority system could ever perfectly describe national needs and priorities. For example, the current ACIP national priority calculation does not account for cost-benefit data nor does it use forecast or historical growth factors. Regions and Airport District Offices are in the best position to identify individual projects that warrant AIP funding consideration.

The following general equation is used to calculate the national priority rating

$$\text{Priority Rating} = (k5 * P) * [(k1 * APT) + (k2 * P) + (k3 * C) + (k4 * T)]$$

Where:

<u>k1 = 1.00</u>	<u>k4 = 1.20</u>	<u>C = Component</u>
<u>k2 = 1.40</u>	<u>k5 = 0.25</u>	<u>T = Type</u>



LA = Land = 7pts

NA = New Airport = 4pts

OT = Other (refers to varying project elements, ie. fuel farms, airport drainage, etc.) = 7pts

PB = Public Bldg (refers to noise mitigation measures for public buildings) = 7pts

PL = Planning = 7pts

RW = Runway = 10pts

SB = Seaplane = 9pts

TE = Terminal = 1pt

TW = Taxiway = 8pts

VT = Vertiport = 4pts

T = Type Points (0 to 10 pts)

60 = Outside 65 DNL = 0pts

65 = 65 - 69 DNL = 4pts

70 = 70 - 74 DNL = 7pts

75 = Inside 75 DNL = 10pts

AC = Access to Airport = 7pts

AD = Administration Costs = 0pts

AQ = Acquire Airport = 5pts

BO = Bond Retirement = 0pts

CO = Construction = 10pts

DI = De-Icing Facility = 6pts

DV = Development Land = 6pts

EX = Extension/Expansion = 6pts

FF = Fuel Farm Development = 2pts

FR = Runway Friction = 9pts

IM = Improvements to Existing Infrastructure = 8pts

IN = Instrument Approach Aid = 7pts

LI = Lighting = 8pts

MA = Master Planning = 9pts

ME = Metropolitan Planning = 7pts

MS = Miscellaneous = 5pts

MT = Environmental Mitigation = 6pts

NO = Noise Plan/Suppression = 7pts

OB = Obstruction Removal = 10pts

PA = Automobile Parking = 1pt

PM = People Mover = 3pts

RF = Aircraft Rescue Fire Fighting (ARFF) Vehicle = 10pts

RL = Rail = 3pts

SE = Security = 6pts

SF = Runway Safety Area = 8pts

SG = Runway/Taxiway Signs = 9pts

SN = Snow Removal Equipment = 9pts

SR = Sensors = 8pts

ST = State Planning = 8pts

SV = Airport Service Road = 6pts

SF = Safety Zone (RPZ) = 8pts

VI = Visual Approach Aid = 8pts

VT = Construct V/Tol RW/Vert Plan = 2pts

WX = Weather Reporting Equipment = 8pts

Applying the above relationship produces a numerical value between 0 and 100 depending upon the associated values for APT, P, C and T. In general, projects with higher numerical values are most consistent with national goals. It is anticipated that periodically the individual point values and equation coefficients may be adjusted slightly to reflect modified system needs and priorities and experience gained in using the revised NPS.

Purpose Category DefinitionsSafety/Security

DEFINITION: This category includes items required by regulation in 14 CFR Part 107, 14 CFR Part 139 or the Airport Certification Manual and those safety/security items that cannot be accommodated by any other operational procedures to maintain an equivalent level of safety/security. Also included is airport hazard removal/marketing.

Statutory Emphasis Programs

DEFINITION: This category includes items included in Title 49 USC, such as, runway grooving, friction treatment, and distance-to-go signs on all primary and secondary runways at commercial service airports; vertical visual guidance systems on all primary runways; and runway lighting, taxiway lighting, sign systems, and marking for all commercial service airports.

Reconstruction/Rehabilitate

DEFINITION: This category is defined as development required to preserve, repair, or restore the functional integrity of eligible airport infrastructure.

Environment

DEFINITION: This category includes actions necessary to carry out the statutes set forth in the National Environmental Policy Act (NEPA) and 14 CFR Part 150. Such actions are defined within Environmental Assessments (EA), Environmental Impact Statements (EIS), and/or Noise Compatibility Programs (NCP).

Planning

DEFINITION: This category includes the preliminary studies needed to define and prioritize specific airport needs. Items such as airport system and master planning are included in this category.

Capacity

DEFINITION: This category includes development required to increase system capacity by increasing the airport's capacity beyond its present designed activity level. In this case, system capacity is defined as increasing capacity at individual airports experiencing or expecting to experience 20,000 hours or more of delay.



### Standards

DEFINITION: Development to bring existing airports up to recommended FAA design standards based on the current design category.

### Other

DEFINITION: This category includes development items other than those necessary to safely operate an airport or for improvement of airside capacity. Items such as people movers, rail systems, access roads, parking lots, fuel farms, and training systems are included in this category. The national priority calculation follows:

$$(P*(Apt+C+1)+T)*10+Apt$$

Where:

P = Purpose Points (0 to 5 Pts),

C = Component Points (1 to 6 Pts) , And

T = Type Points (1 to 3 pts) are derived from the ACIP Point Value Table

Apt = Airport Points (1, 2, 3, or 6 pts) are calculated as follows:

### Primary And Reliever Airports

Large And Medium Hub = 1 Pt.

Small And Non Hub = 2 Pts.

Commercial Service = 3 Pts.

### General Aviation

#### Aircraft\* / Operations\*

100 Or 40,000 = 1 Pt.

50 Or 20,000 = 2 Pts.

20 Or 8,000 = 3 Pts.

<20 Or <8,000 = 6 Pts.

\*- Aircraft are based aircraft. Operations are total itinerant operations.