

*Airport Planning and
Development Process*

*Analysis and Documentation
Report*

January 1997

APDP Implementation Team

EXECUTIVE SUMMARY

The Airport Planning and Development Process (APDP) links organizations, people, and processes together to provide coordinated leadership for airport development. It refines Airports' streamlining and organizational strategies that began evolving in the mid-1980's.

The APDP consists of three major process initiatives:

- National Planning
- Master Agreements for Federal Participation
- Performance Measurement

Although these initiatives hold significant benefits for our customers and stakeholders, to be successful we must use our personnel and information technology resources in new and innovative ways. Therefore, the reallocation of personnel resources and the judicious use of information technology are also important components of the APDP.

The APDP is not an attempt to save labor hours from our existing, limited resources. It *is* intended to improve our process so that it can continue to be responsive and effective in the face of continuing resource constraints and increasing program complexity. Planners will continue to provide valuable services, but will target planning efforts that reflect the Federal interest. Engineers will continue to play a key role, but their effort may be redirected away from the traditional project management role and towards performance analysis, early technical involvement in project formulation, and instructing and communicating requirements to the new members of the airport development team – our external stakeholders. Funds control and Airport Improvement Program (AIP) managers will see labor savings that will allow them to pursue career development in other areas such as compliance, revenue diversion, and performance measurement.

The FAA Airports organization must maintain the capability to provide expert advice to airport owners on matters including operational safety during construction, environmental compatibility, and airport development standards. No other private or public organization can be expected to maintain this level of proficiency. These value-added services enhance public trust while assuring consistent application of standards for the nation's airport system.

Most importantly, the APDP is a strategy that will enhance a team approach that supports our overall mission of leadership in airport system development.

The following is an example of how the APDP *might* operate in the near future with respect to safety areas:

The New National Airport Plan:

Describes Federal Interest. Zero accidents.

Identifies Initiatives. Establish standard safety areas at all commercial service airports.

Current Performance. 85% of all passenger flights operate on runways with standard safety areas.

Total Need. Increase measure to 100% of all passenger flights operating on runways with standard safety areas; estimated to cost \$800 million.

Scenario. Within 5 years, 95% of all passenger flights begin and end on runways with standard safety areas. Estimated cost: \$300 million.

Benefits:

- Mobilizes work force to improve safety area performance
- Describes realistic investment benefits

Performance Measures:

Ownership Teams Determine How To:

- **Collect data** During ALP updates; System planning; Standard reporting format.
- **Validate sources** Train, educate and inform FAA planners, consultants, and others.
- **Present performance information** Analyze safety areas that do not meet standards.

Data Collection Resources. Included as a part of ALP reviews and System Planning projects. Standard electronic files are established at the ADO and rolled up to regions and headquarters as needed.

Airport Capital Improvement Plan (ACIP):

Remains an important component of the APDP.

Requires A Team Effort. A team of planners, engineers, consultants, sponsors, states.

Identifies a Program of Improvements.

- Considers and promotes Passenger Facility Charge (PFC) applications that include safety area work.
- Considers closing unneeded runways with sub-standard safety areas while supporting lower priority AIP projects. Is focused on objective: safety areas.

Early Completion of Project Formulation. Validated cost estimates; environmental findings; airspace analysis, coordination with related work.

Early National Funding Decisions. Regional ACIPs based on performance improvement. HQ has complete, accurate description of needs and benefits. Congressional notifications are ready for the appropriation.

Master Agreement:

Signed After Congressional Notification.

Presents A Complete One-Year Picture Of Federal Assistance. Includes important safety area projects.

Grant Obligation is a Simple One-Page Document. All preliminary reviews, approvals, Assurances, Certifications, and special conditions are certified/completed in the Master Agreement.

Less Paperwork For Sponsors. Sponsor signs the Master Agreement once per year. The list of Master Agreement projects may be amended but the National Airport Plan and the ACIP will limit the need for amendments.

AIP Funds control is greatly simplified. Funds control consists of obligations and allotment balances only.

- Funds programming (Phase 2) is eliminated. Moved to the Master Agreement stage (Part II). No longer part of the grant process.
- Funds reservation (Phase 4) is eliminated. Since the grant obligation is simplified to one page, the need for a grant offer is eliminated.

Quicker, More Responsive Grant Obligations. Early project review and a simple obligating document allows grants to be awarded within days of receipt of bids.

Resource Reallocation:

Shift Employee Effort Towards System Performance. Improve the safety area system performance, regardless of available AIP funding.

Education and Outreach. Inform and educate stakeholders about project management and the importance of safety areas to the Federal interest.

Planners. Identify airports where safety area improvements have never been seriously studied.

Engineers. Look at high benefit safety area projects with an eye towards alternatives and opportunities which could ultimately save costs.

Project Management:

De-emphasize Traditional FAA Involvement. Participation in bidding, award, progress payments, change orders, as-built drawings, and final inspections as appropriate.

Stakeholder Involvement. Sponsors assume increased responsibility and assist with project management as appropriate. Stakeholders benefit from fewer delays. FAA monitors overall development program.

Increased Risk. Decreased FAA involvement means increased risks. Monetary risks only, not safety. FAA emphasizes preventing future problems rather than “fixing” past problems.

ADO Flexibility is Encouraged. Provide the resources needed to respond to the local situation.

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1. INTRODUCTION

1.1 INTRODUCTION

The Airport Planning and Development Process (APDP) links organizations, people, and processes together to provide coordinated leadership for the development and assessment of a national system of airports. It refines Airports streamlining and organizational strategies that began evolving in the mid-1980's. APDP effects a fundamental change in the way FAA Airports has traditionally done business and offers significant benefits for our customers and stakeholders.

The *FAA 1996 Strategic Plan* underscores the driving forces for change. FAA is facing extreme resource constraints and increasing demands on the aviation system. Despite these conditions, FAA is required to commit to performance plans with measurable accomplishments and focus on customer needs and stakeholder involvement. To meet our customers' expectations and fulfill requirements for better and more cost-effective service, FAA must improve efficiency and effectiveness as much as possible. The APDP is our plan to meet these challenges. This report documents APDP processes and presents an implementation strategy.

Three processes form the core of APDP: National Planning, Master Agreements for Federal participation, and Performance Measurement. These processes are linked by a common information technology infrastructure. Implementation of APDP requires Airports staff to shift their focus from individual development projects to the national system of airports and how airport development programs support the Federal interest. APDP recommends new and innovative ways to reallocate staff resources to support the new processes while continuing to provide leadership in developing airport improvement.

APDP is an integrated approach to airport development in the Federal interest. It provides a National Airport Plan that defines and sets goals for a national airport system based on a clear understanding of strategic goals, system needs, and performance improvements. The Plan is a framework for airport development programs and supports credible and defensible decisions for Federal investments. Performance measures are based on system performance goals and are collected at the project level. The impact of Federal funding decisions can be measured and used to justify project priorities. Projects are part of a development program and are selected based on national goals and local needs. The procedures for grant application and funds management are significantly streamlined and facilitate sponsor access to funds without sacrificing the requirement for FAA oversight.

APDP has been developed by teams of field and Headquarters staff. These teams provided technical expertise and a practical knowledge that ensured the initiatives, requirements, and expectations were meaningful and realistic. Executive guidance has been provided by the Associate Administrator for Airports, and industry representatives have been consulted and have provided feedback on the impact of the new processes. The wide range of Headquarters, field, and industry involvement is a great strength of the APDP. It has resulted in a process that strives to eliminate duplicative and redundant planning, programming and airport development

execution efforts; find new ways to tap all available resources; ensure that work products support related processes; and support an outcome of measurable results in airport development.

Many of the proposals included in APDP are not new. Several regions and Headquarters organizations have worked to implement initiatives identified here as part of the new process. Particularly in recent years, the pressures of downsizing within FAA Airports have produced many good ideas to streamline processes while continuing to provide adequate service. APDP ties these initiatives together in a systematic approach and provides a structure for implementing them.

1.2 GOALS AND OBJECTIVES

The goal of APDP is to implement an integrated process that advances airport development to support a national system of airports that meets the Federal interest.

APDP integrates planning, project execution and funding, and performance measurement supported by information technology and the reallocation of resources. Figure 1.1 illustrates the interdependence of these processes. The National Airport Plan is based on analysis of national needs and system performance measures, and provides a framework for funding decisions and the selection of programs included in master agreements. Programs funded through Master Agreements support the national system of airports. Measurement of the performance of the national system of airports is used in updating the national plan. A common information technology infrastructure links these activities. The allocation of resources can be realistically evaluated in the context of the overall APDP so that new processes are supported while continuing to provide leadership in developing airport improvement programs.

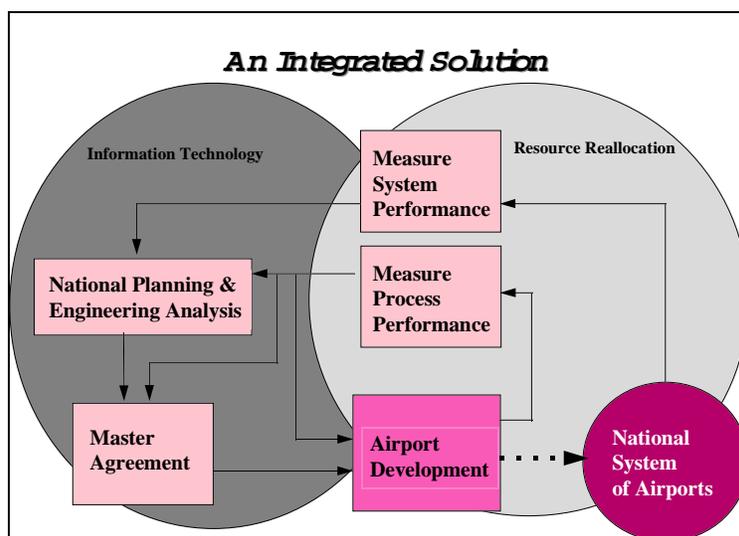


FIGURE 1.1 INTEGRATED SOLUTION

1.3 GUIDELINES

As the processes and procedures of APDP are further refined and put in place, the following guidelines will direct implementation activities.

- Continue to use teams composed of field and Headquarters staff to identify improvements and define new processes. Teams drawn from the field and Headquarters have proven to be the most effective in developing processes that are meaningful and realistic.
- Build partnerships with all stakeholders in APDP. Changes resulting from a new way of doing business cannot be managed at Headquarters or by Airports staff alone. The Airports organization must solicit stakeholders' ideas and their commitment to the success of the new processes. If input is requested, FAA must be prepared to address comments and incorporate changes as necessary.
- Introduce changes in an evolutionary manner so that improvements can be tested and evaluated. This allows new processes to be evaluated and adjusted before they are deployed Airports-wide.
- Use work that has already been done. Best practices from the Regions have been the source of many APDP improvements. Airports should continue to draw ideas from the field.
- Identify and address risks. APDP proposes far-reaching changes in the planning, funding, and management of airport improvements. It shifts the focus from individual projects to airport improvement programs. This poses a risk that problems in projects may not be detected by the FAA at an early stage and places substantially more responsibility on the sponsor and the project team. The risk can be mitigated by flexibility in the role that FAA plays. As APDP is implemented, projects must be evaluated on a case-by-case basis by the responsible FAA Airports staff to determine the appropriate level of FAA involvement.

1.4 RESOURCES

The Resource Reallocation team is analyzing the roles and responsibilities of the Airports organization and how they might be modified to increase value to our stakeholders and minimize routine actions. The goal is to define roles and functions so that Airports staff can use their expert judgment in managing programs while also meeting their legal responsibilities. This, in turn, should free resources to apply to the new APDP process. However, the redesign of Airports jobs and projected staff time savings will not account for the full increase in staff workload. Therefore, Airports must find additional ways to optimize its available human resources. APDP proposes to maximize the involvement of the stakeholders in developing and implementing new processes. FAA program managers must build stronger working relationships with airport sponsors, consultants, and other stakeholders to develop the national system of airports. FAA must offer training and guidance to sponsors so that they may assume more responsibility for project management.

FAA can anticipate funding requirements for training and travel. Travel funds will be needed to continue the successful partnership between the field and Headquarters. As APDP progresses, “ad-hoc” teams will convene to develop new innovations or to resolve problems posed by changes. Airports staff will also need to travel to meet with stakeholders and incorporate them into the APDP processes. Additionally, the Resource Reallocation team has already identified a requirement to create a training program for FAA Airports employees which emphasizes interpersonal skills, negotiating, communication, risk management, and partnership/team building, as well as technical expertise in airports. The team is working on identifying training courses, conferences and workshops for airport sponsors, consultants and other stakeholders in the new process.

1.5 ACCOUNTABILITY

APDP represents a systemic approach to planning for and granting funds to airport development programs. The national planning, master agreement, and performance measurement processes and products flow into and support each other. The national planning process provides a framework for integrating all parts of the APDP process. The performance measurement process provides the planning process with information that determines progress toward established initiatives and provides the basis for establishing new initiatives. National Planning initiatives and funding scenarios identify the projects that will have the greatest impact on the national system. These projects are included in Master Agreements and implementation is supported through AIP funds. A diagram of the APDP process is provided in Figure 1.2.

1.6 EXPECTATIONS

The APDP is far reaching and sets lofty goals and objectives for the future of our organization. Organizational and political reality will undoubtedly place limits on what we can expect to accomplish. However, with the APDP, we can weigh future initiatives and decisions against the structure of the APDP plan. We are already realizing some of these objectives. A new requirement for fewer position descriptions will consider the needs of the future work force as envisioned by Resource Reallocation. Requirements for the Airports Business Performance Plan and Government Performance and Results Act will use APDP performance measurement initiatives. Changes in the ACIP priority system will be influenced and supported by the concept of performance-based decisions.

Any future change in our national planning effort now has a very clear and meaningful structure from which to begin. Master Agreements and the concept of an approved program of development will influence future programs that are designed to provide and coordinate financial assistance for airport sponsors.

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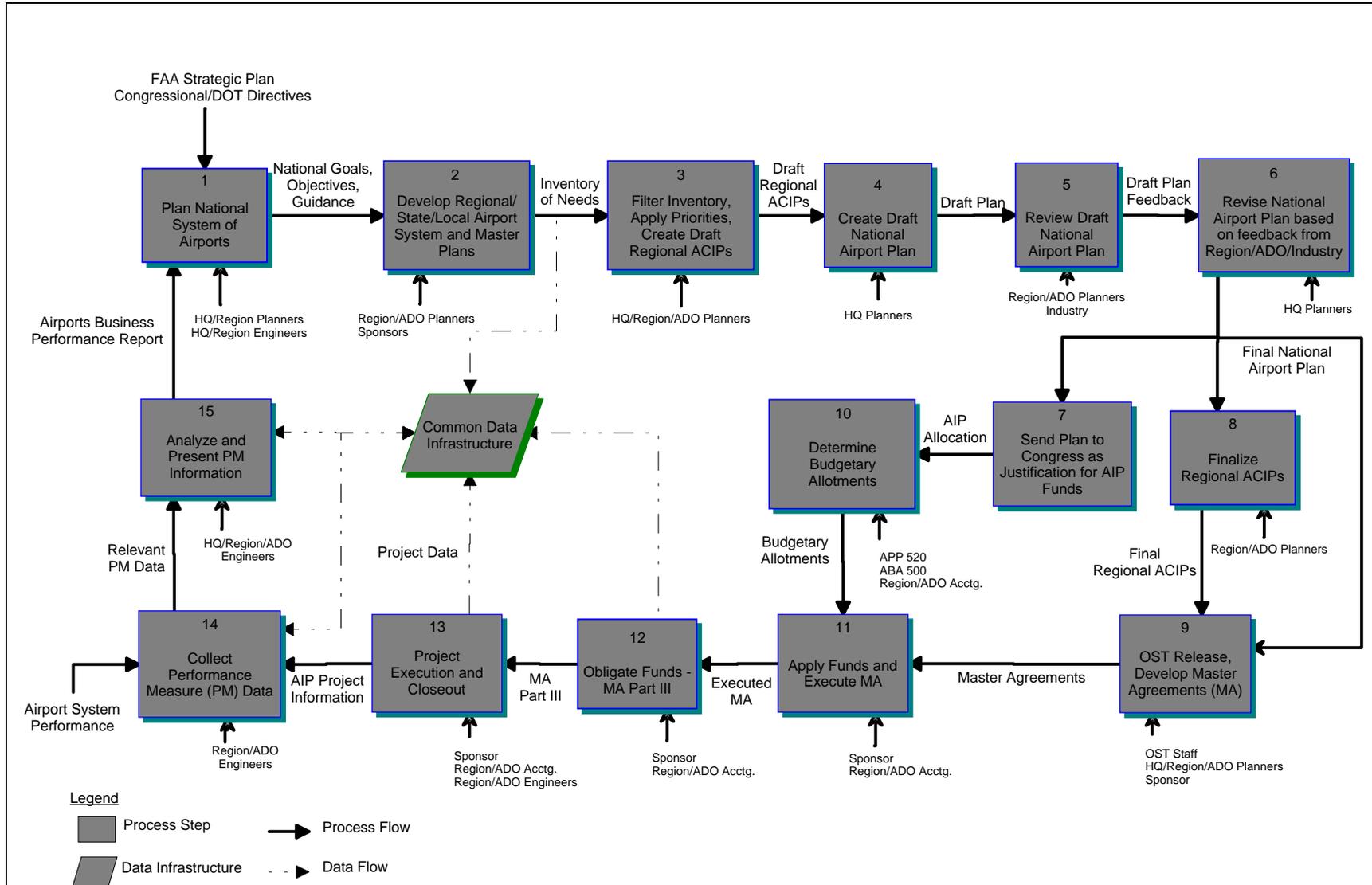


FIGURE 1.2 AIRPORT PLANNING AND DEVELOPMENT PROCESS

What does the APDP do to foster the goal of a national system of airports? This question is answered in some detail in Chapters 2–6 of this report. The advantages of APDP can be summarized briefly as:

Establishes a National Airport Plan that:

- defines the Federal interest
- integrates planning at all levels of airport development
- results in a comprehensive plan based on strategic goals, performance measures, and regional needs (ACIP)
- justifies funding levels
- provides a means to identify projects that support overall system improvements.

Formalizes a Master Agreement process that:

- uses a streamlined grant obligation
- significantly shortens the time from grant request to obligation
- streamlines funds management and eliminates funds reservations, funds programming, tentative allocations, and reprogramming funds at Headquarters level
- streamlines the grant process and eliminates pre-applications, notices to proceed, and refileing of terms and conditions with each grant
- streamlines the ACIP-OST release process.

Establishes a Performance Measurement process that:

- defines standardized procedures for the collection, validation, analysis, and presentation of performance data relating to the national system of airports
- determines progress toward Airports performance objectives and directs planning efforts to areas with the greatest need
- measures the impact of all airport system investment on such key factors as airport safety, environmental compatibility, and accessibility.

Shifts Airports resources away from individual grant management functions to support for the new APDP processes by:

- streamlining and consolidating existing project management activities
- identifying training opportunities to develop the technical and interpersonal skills necessary to interact much more directly with sponsors, aviation agencies, and other stakeholders in airport development.

Establishes an information technology environment that:

- defines and integrates a data infrastructure, computing infrastructure, and communications infrastructure
- ensures that information is standardized, entered once at its source, and then shared
- establishes seamless communications between all levels of the FAA and sponsors
- promotes cost-effectiveness through the use of commercial off-the-shelf products and network sharing of computing resources.

1.7 NEXT STEPS

There are serious consequences for not moving forward with APDP. AIP will continue to lack a quantifiable justification for public investment. Future AIP programs might continue at levels that may jeopardize the utility and safety of our airport system. The aviation trust fund may not be re-established. FAA budgets will not recognize the valuable role we play in FAA strategic goals and our operational resources may continue to be cut below acceptable levels. Our own work force may lose sight of the valuable role they play in the development of our nation's airport system.

Each of the subsequent chapters define a series of next steps for APDP implementation. The following chart summarizes the most important steps for each major component, and presents a schedule for the first six quarters of the implementation effort. Specific completion dates for these activities will be assigned at project initiation.

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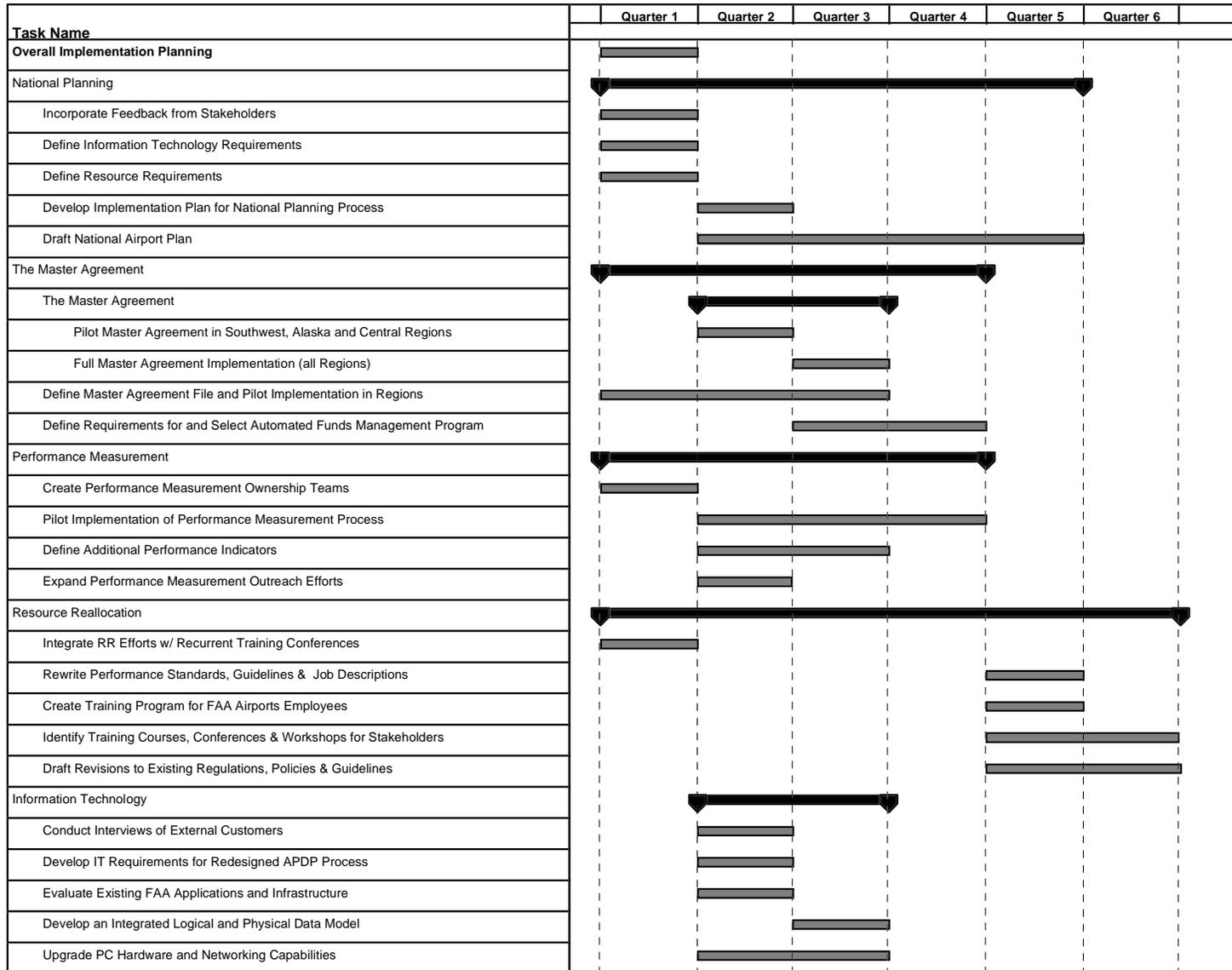


FIGURE 1.3 PROPOSED APDP IMPLEMENTATION SCHEDULE

1.8 REPORT ORGANIZATION

This report is organized in six chapters. Each chapter corresponds to a major process of APDP. The chapters are:

- Chapter 1 - Introduction
- Chapter 2 - National Planning Process
- Chapter 3 - Master Agreement Process
- Chapter 4 - Performance Measurement Process
- Chapter 5 - Resource Reallocation
- Chapter 6 - Information Technology.

In turn, each chapter follows the same general organization structure. The Information Technology chapter expands on this structure to address specific topics for a concept of operations. The section headings used in each chapter are defined as:

- Introduction - Gives a brief overview of the current status of the process.
- Goals and Objectives - Records the goals and objectives for each process.
- Guidelines - Lists any standards that govern the implementation of the process.
- Resources - Defines, at a high level, resources that are needed to implement the process.
- Accountability - Presents how the new process works using a process diagram, and highlights the major improvements.
- Expectations - Defines the benefits of implementing the new process.
- Next Steps - Lists the next actions to implement the process.

There are also twelve Appendices in this Analysis and Documentation Report:

- Appendix A is a list of acronyms.
- Appendix B presents a Concept of Operations for the National Planning Process.
- Appendix C documents the current planning process and presents a comparison between the “as-is” and “to-be” processes.
- Appendix D describes internal and external expectations for the new planning process.
- Appendix E gives the full text of the Master Agreement.
- Appendix F is an example of a Airport Capital Improvement Plan (ACIP) data sheet.
- Appendix G shows and documents the complete Master Agreement process flow.
- Appendix H is an introduction to Performance Measurement in the Airports organization.
- Appendix I presents a detailed account of the process used to identify the three performance measures recommended for initial implementation.
- Appendix J gives a full description of each initial performance indicator, including links to the FAA Strategic Plan and implementation approaches.
- Appendix K documents the research of the Resource Reallocation Sub-team in their efforts to determine the Airports activities required by law.

This analysis and documentation report does not address several topics that may be ultimately affected by APDP. These topics, though part of the process, are generally controlled by other FAA organizations or by the Department; they include the current organizational structure, resource allocations, and information systems within the Airports organization. The topics were excluded at this time because they were beyond the scope of the Airports organization or because they could remain intact and not affect implementation. They may be revisited as implementation progresses.

2. NATIONAL PLANNING PROCESS

2.1 INTRODUCTION

Although the United States built the finest airport system in the world through FAA leadership and partnership with the aviation community, improvements are required in the current airport development process to meet new challenges. According to the *FAA 1996 Strategic Plan*, “the number of airline passengers will increase from 578 million passengers in 1995 to 928 million in 2007. This increased demand will be placed on an aging system where key airports and terminal areas are already often congested.” The APDP responds to this situation by defining a new National Planning process that links FAA strategic goals, airport industry desires, and financial reality in a single process.

2.2 GOALS AND OBJECTIVES

The goal of the National Planning process is to develop a National Airport Plan for maintaining the safest, most efficient and responsive system of airports in the world. As it relates to the FAA’s Strategic Plan and the Airports Business Performance Plan, the National Airport Plan will contain much of the detailed blueprint for how the FAA and industry can plan, develop, and maintain this national system of airports over the next decade.

The objectives of the National Planning process are to:

- provide leadership for planning, developing, and maintaining a national system of airports;
- provide a mechanism for national, regional and local planning and industry in general to guide development of the national system of airports; and
- meet the needs of the future and demonstrate measurable progress at various funding levels.

2.3 GUIDELINES

The highest priority airport improvement efforts must be directly related to FAA strategic goals and objectives, and must demonstrate measurable improvements in system performance to justify Federal investment to all stakeholders. To achieve this outcome, the National Planning process provides a national perspective to local planning activities through development of the National Airport Plan. The Plan needs to include:

- a definition of the national airport system
- a description of the Federal interest in the national airport system
- goals and objectives for the national airport system
- current performance and forecasted demands on the national airport system
- a total inventory of airport needs
- initiatives for system improvement to meet goals and objectives
- total resource requirements for each initiative

- scenarios describing progress toward achieving initiatives at various specified performance improvement and funding levels.

A detailed Concept of Operations for the National Planning process can be found in Appendix B.

In addition to the above Airport Plan guidelines, the National Planning Sub-team has identified several critical success factors as guidelines for implementation of the new process. These factors are listed in Table 2.1.

Table 2.1 Critical Success Factors

Factor	Characteristics
Receive buy-in from customers and stakeholders	<ul style="list-style-type: none"> • Have necessary support from internal and external stakeholders to implement improvements and avoid roadblocks • Be able and willing to share information and identify the total inventory of needs that are both reliable and feasible projections
Adopt a planning process and product management approach	<ul style="list-style-type: none"> • Understand the congressional mandate and FAA’s vision and mission, set strategic direction and goals cascading to process/ product specific objectives and decision-making across and down the organization • Define, model and prioritize planning processes critical for mission performance • Practice “hands-on” senior management ownership of planning process and allow field personnel flexibility in performing jobs • Adjust organizational structures to better support planning process initiatives • Establish an assessment program to evaluate planning process and product management (e.g. national airport system performance)
Measure and track performance continuously	<ul style="list-style-type: none"> • Create organizational understanding of the value of measurement and how it will be used • Tie performance management to customer and stakeholder current and future expectations
Practice change management and provide central support	<ul style="list-style-type: none"> • Develop human resources management strategies to support new process that addresses needs of planners and engineers • Build information resources strategies and technology framework to support process change, especially for entering data at the source and maintaining data integrity and timeliness • Establish central support group to support reengineering efforts, outreach, and training efforts across the organization
Manage reengineering for results	<ul style="list-style-type: none"> • Phase in short- and long-term results that achieve set goals and objectives over the next two years

Figure 2.1 summarizes the comparison of the current National Plan of Integrated Airport Systems (NPIAS) to the future National Airport Plan. The NPIAS, presented to Congress every two years, is a list of unconstrained airport improvements. The proposed National Airport Plan includes airport improvements in the context of national goals and objectives for the overall system, provides for greater involvement from all stakeholders in developing and using the Plan, and focuses on the performance of the national airport system.

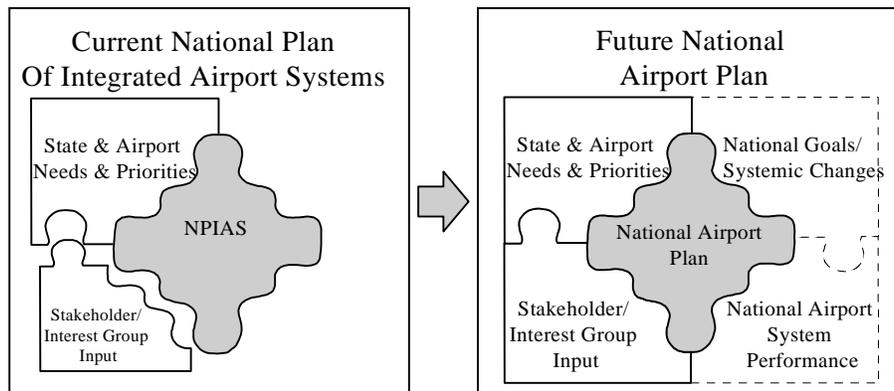


FIGURE 2.1 CURRENT NPIAS AND REDESIGNED NATIONAL AIRPORT PLAN

2.4 RESOURCES

The new National Planning process will be implemented initially using existing Airports resources. As part of the implementation effort, the team will determine areas that will require additional resources from both the FAA and stakeholders in order to fully implement the process and realize the expected benefits. Two areas in need of resources that have already been identified are technical training and travel funds to support adequate participation in airport improvement planning and design.

To design the new planning process, the National Planning Sub-team analyzed the current process and identified both its strengths and weaknesses. The results are presented in Appendix C, which documents the current planning process, describes the benefits of the new National Planning process, and outlines the differences in products between the two processes. This analysis will be a valuable resource for measuring the success and performance of the new planning process.

2.5 ACCOUNTABILITY

Development of the National Airport Plan begins with establishment of national goals, objectives and improvement initiatives based on the FAA Strategic Plan, Airports Business Performance Plan, stakeholder input, and the Airports Business Performance Report (see Chapter 4). Figure 2.2 presents a model of this process, identifying for each step the organizational groups responsible for performing the actions.

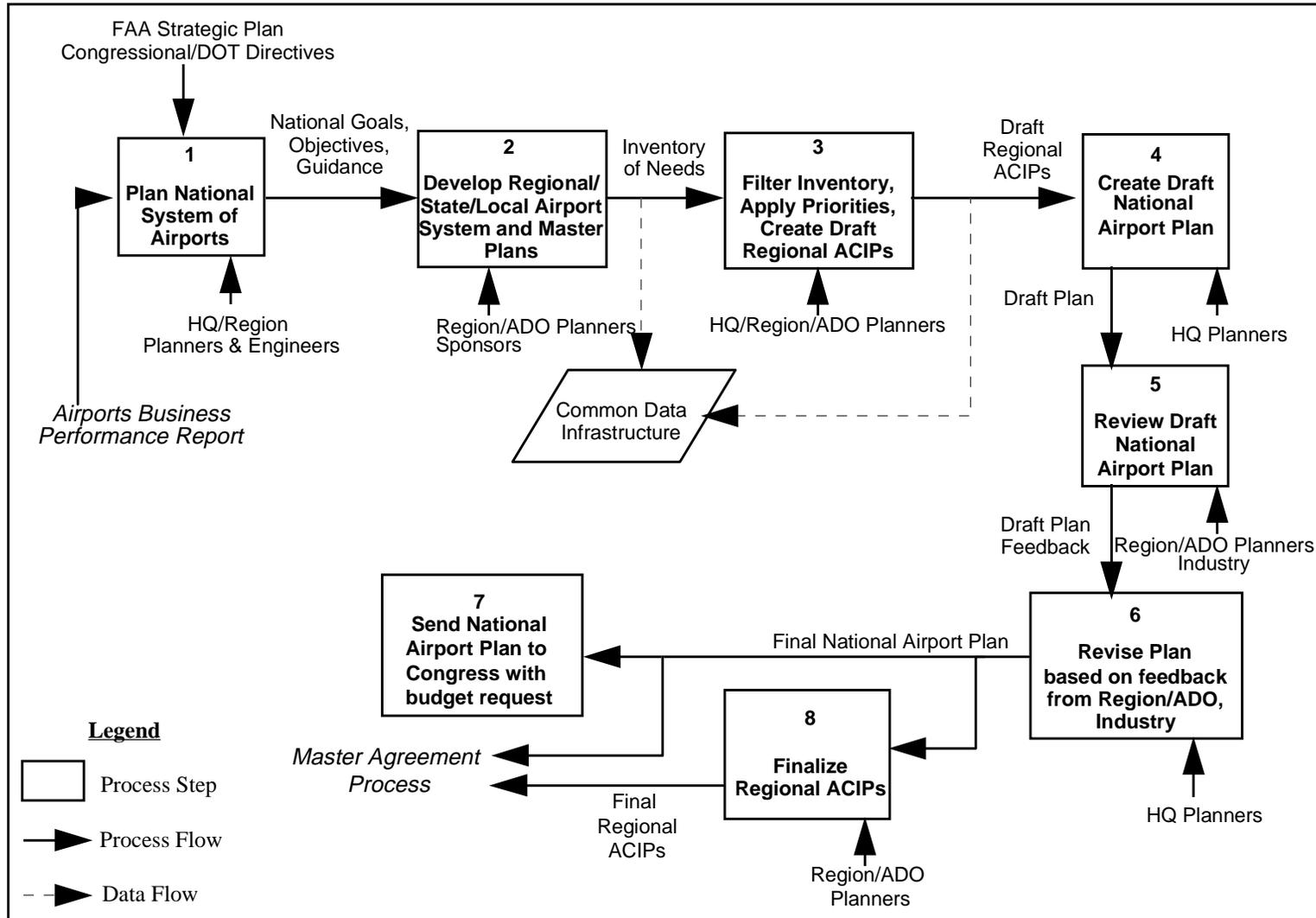


FIGURE 2.2 NATIONAL PLANNING PROCESS

Highlights of the new National Planning process are:

- **Proactive Planning.** The Airports organization both at the HQ and field level will play more of a leadership role in defining and promoting national goals, objectives, initiatives and performance measures for the national system of airports. Stakeholders will provide input to the goals based on their perspective.
- **Technical Expertise.** FAA Airports will provide technical expertise earlier in the planning process to ensure that development programs planned by airports are feasible and technically sound, and are related to a reasonable financial plan that considers all forms of investment.
- **National Inventory of Needs.** Local planners (e.g., airport, metropolitan/regional, and states) prepare their Airport System Plans, Airport Master Plans (AMPs), and Airport Capital Improvement Plans (ACIPs) with the assistance of FAA Airports personnel. The FAA will also promote, encourage, and document needed improvements based on national initiatives. The total inventory of needs includes all improvements that are planned for the national system of airports regardless of funding source.
- **Draft Regional ACIP.** FAA Airports field organizations will create draft regional ACIPs, considering national goals and initiatives and applying priorities to the total inventory of needs. The regional ACIP includes the highest priority projects and programs with required funding, expected performance improvement, and the initiative each would help to achieve.
- **Single Automated System.** The National Inventory of Needs and the Regional ACIPs are captured in a single automated system that supports standard and ad hoc queries and reports. The system is continually updated as the FAA receives information and the data are validated by assigned data stewards.
- **Comprehensive National Airport Plan.** The National Airport Plan is based on strategic goals for the national airport system, performance measurement, and regional ACIPs. The plan defines initiatives to improve system performance in order to meet national goals. Funding scenarios that address achievable performance improvements at various funding levels are described. The plan reflects the joint effort between the FAA Airports and stakeholders of the national airport system.
- **Funding justification.** Elements of the National Airport Plan will be updated on an annual basis and sent to Congress with the budget proposal to provide justification for different funding levels and to provide information that will enable Congress to assess the impact of funding decisions on system development.

In summary, the National Planning process provides the framework for integrating all parts of the APDP. The planning process will initially depend on the FAA Strategic Plan to identify initiatives and funding scenarios that will have the greatest impact on the national system. These projects will be included in the Master Agreement process, and implementation will be supported

through AIP and other funding sources. Performance measures will be used to determine progress toward established initiatives and provide the basis for establishing new initiatives. Finally, feedback from the performance measurement process will be used to continuously improve the planning process.

The Airports organization will determine the success of the National Planning process by its ability to answer questions from Congress and other stakeholders and promote effective use of the National Airport Plan in making airport planning decisions.

2.6 EXPECTATIONS

The National Planning Sub-team interviewed internal stakeholders and a few external stakeholders to review the current and future planning processes. The purpose of these interviews was to tailor the new process around stakeholder expectations for improvements and results. As a result, the redesigned National Planning process is expected to provide the following characteristics:

- A national system of airports that meets FAA strategic goals and objectives and addresses safety and growth demands.
- Timely and accurate data that answers Congressional and other industry inquiries on system performance.
- An open process that encourages more involvement of customers and stakeholders at all levels. Planning is done to improve the highest priority needs of the national system of airports and individual airports.
- An understanding of how well the existing system is meeting national goals and using this information to determine new initiatives.
- Technically and financially sound improvement options developed earlier in the process.
- FAA involvement with stakeholders to identify not only Federal but other funding sources to ensure the highest priority improvements for the national system are accomplished.
- Presentation of airport improvement needs to Congress as organized efforts to accomplish performance improvements in the national system of airports.

Details of the stakeholder interview analysis are provided in Appendix D. The appendix outlines the current and ideal perceptions for each stakeholder in airport development, and identify strategies for transition to the new National Planning process.

2.7 NEXT STEPS

To implement the National Planning process the National Planning Sub-team must complete the following tasks:

Table 2.2 Next Steps for National Planning Process

Task	Completion
Incorporate feedback from internal and external stakeholders	Q1
Define requirements for information technology necessary to support the process	Q1
Define the reallocation of resources needed to support the planning process	Q1
Develop implementation plan for National Planning process and define relationship between the NPIAS and the National Airport Plan	Q2
Draft the National Airport Plan	Q2-Q5

3. MASTER AGREEMENT PROCESS

3.1 INTRODUCTION

The current grant process focuses on individual projects and does not support a programmatic approach to airport development. Several factors make this grant process cumbersome to our sponsors, including the amount of documentation that must be submitted to support grant pre-applications and applications, the time from grant application to funds obligation, and issues in coordinating funds release. The new Master Agreement process deals with these problems through an agreement document between the FAA and airport sponsors.

3.2 GOALS AND OBJECTIVES

The goal of the Master Agreement process is to create an agreement document between FAA and airport sponsors for project funding and program execution. The overall outcome of the Master Agreement process is a set of procedures that respond to customer needs for management flexibility and timely distribution of funds. The process also simplifies the grant administration and funds control process for FAA, though it is not limited to grants administration – it also includes funds management and a redesign of the Office of the Secretary of Transportation (OST) project release process.

The objectives of the Master Agreement process are to:

- allow the FAA and airport sponsors to effectively plan future development
- simplify the funds control processes
- reduce the volume and redundancy of grant paperwork
- allow projects to be implemented faster
- eliminate impediments to early start of project design, such as the tentative authorizations
- maintain a file of assurances and certifications that sponsors are required to update only on an annual basis.

3.3 GUIDELINES

The Master Agreement process begins with the development and execution of the Master Agreement document by the FAA and the sponsor. The Master Agreement document replaces the pre-application and application. The three parts of the document are:

- **Part I - Standard Terms and Conditions.** Contains all terms and conditions that apply to the projects proposed by the sponsor for execution during the next budget year. Part I is signed by the FAA and the sponsor.
- **Part II - Projects Identified For Possible Federal Assistance.** Lists the projects proposed by the sponsor for completion during the next budget year and recognized by the FAA as in conformance with the sponsor's needs, and with the National Airport Plan.

- **Part III - Grant Agreement.** The grant document that obligates funds to the project(s) specified.

Full text of the Master Agreement can be found in Appendix E. As the Master Agreement is further defined and the process is tested in the Regions, the following principles should guide implementation:

- The Master Agreement process includes the OST project release process as well as funds management. Adjustments to the process should be evaluated in this broader context.
- The Master Agreement strives to include as many certifications, assurances, and standards up front so that they can be applied to all projects listed.
- Only projects that are in the current year of the Final FAA five year ACIP are eligible for inclusion in Part II of the Master Agreement. Projects must also have completed the required compliance and determinations.

3.4 RESOURCES

The Master Agreement process is expected to require far fewer resources than the current grant management process. It cancels many existing requirements including:

- pre-applications
- reservation of funds
- funds recovery and re-allotment by Headquarters.

Additionally, the Resource Reallocation Sub-team has identified several procedures, traditionally part of grants management, as unnecessary or necessary only under certain circumstances. These include:

- concurrence in consultant selection and approval of consultant contract
- participation in the pre-construction conference, and inspections of all projects
- requirements for application, notice to proceed, application for pre-payment, verification and issuance of partial payments.

Additional funding resources will be required to support the development of requirements and installation of the Automated Funds Management program and for the establishment of the Master Agreement and Entitlement and Discretionary databases (see following section). However, this should be a non-recurring expense.

The following processes have been streamlined in the Master Agreement process and should result in notable resource savings:

OST project release process. The final ACIP serves as the basis for the OST release package for Congressional notification. The OST project release process begins as soon as the appropriation is signed and before funds are allocated.

Allotment Balances. The responsibility for managing project shortfalls or funds recovery is assigned to the Region/ADO. FAA Headquarters is involved only as a last resort. The Region/ADO can authorize the application of funding from one project to another provided that both projects are under the same sponsor and that they both are listed in Part II of the Master Agreement. The sponsor need only generate a new Part III to begin the obligation process. The Region/ADO also has the authority to reprogram discretionary funds from one sponsor to another.

Shared Funds Management. After Part III – the grant document – is signed by both the sponsor and the FAA, the sponsor can begin to draw down funds. Funds will be managed similar to the Letter of Credit process. The sponsor provides monthly cost and schedule reports to the Region/ADO. FAA regularly monitors funds drawdowns and conducts project reviews on an “as needed” basis using reports from the sponsor and the Funds Management program and FAA judgment on the risk associated with each project. All transactions will be reconciled during project close-out.

3.5 ACCOUNTABILITY

Part I of the Master Agreement includes language that allows the sponsor to incorporate assurances and certifications as required by The Act and other statutes and regulations, as identified by notice published by the FAA in the *Federal Register*. The FAA will publish the assurances and certifications annually, and will maintain a database of filings and effective dates. Since the sponsor does not have to file this supporting information with each grant, paperwork is decreased by over 50%.

Requiring a list of projects in Part II reinforces a programmatic approach to airport improvements. Before projects are included in Part II, FAA and the sponsor agree on the overall improvement program for the airport and what elements should be included in the ACIP. If the FAA does not already have an ACIP data sheet on file for a project in the first two years of the five year ACIP, the sponsor will submit the ACIP data sheet for those projects. The ACIP data sheet includes a sketch, project justification and cost estimates. An example of the ACIP data sheet is in Appendix F.

Based on the annual appropriation and the goals established in the National Airport Plan, the FAA will finalize the ACIP for the current year and determine which projects will receive funding. Once the ACIP has been finalized and the OST release process has been completed, Part I and II of the Master Agreement can be executed. Only projects included in the current year of the final ACIP can be listed in Part II of the Master Agreement. Additionally, the process requires that projects have the requisite airport layout plan approval, NEPA compliance and Airspace determination before it is listed.

Once Parts I and II are executed, the sponsor can sign Part III – the grant document – and send it to the FAA. Sponsors may request funds for any projects listed in Part II. After the grant document is signed by both parties, the sponsor can begin to draw down funds automatically through the new Electronic Clearing House Operations (ECHO) system. Because the sponsor initiates the grant agreement, the FAA no longer issues a grant offer, waits for acceptance by the sponsor, or issues a notice to proceed.

The Master Agreement process encompasses more than just the agreement document. It also includes funds management and the OST project release process. Figure 3.1 shows a high-level view of the overall Master Agreement process; see Appendix G for the complete process flow and documentation. Highlights of the Master Agreement process are:

Master Agreement File. The Master Agreement file is an automated database accessible to all Airports staff. It contains the text and publication date of the current certifications, assurances, and standards, and all parts of the executed Master Agreements. However, until electronic signature becomes a reliable and legal instrument, the Regions or ADOs will maintain the signed paper copy of Parts I and III.

Automated Funds Management. Automated Funds Management standardizes funds tracking at all levels of the APDP process and replaces multiple funds tracking systems, including RGMS:

- approved functions for accounting, close-out and funds reprogramming
- information exchange with planning, performance measures, budgeting, and accounting in regions and Headquarters.

Automated Funds Management will be deployed FAA Airports-wide as an agency standard, and will expedite the maintenance and sharing of certain funds tracking information.

Entitlement and Discretionary Database. The Entitlement and Discretionary fund allotments are currently calculated in two separate Branches using two unrelated and unlinked spreadsheets. The Entitlement and Discretionary database will combine the two separate data sources into one automated file to support calculation and analysis of the Congressional apportionment formulas, the priority system, and internal discretionary formulas. Using one file, the allotment information can be transmitted to the Regions.

3.6 EXPECTATIONS

Initially, the Master Agreement will be the most visible and concrete product of the APDP. Implementation of the process will result in immediate benefits including:

- reduction of paperwork to support grant applications by over 50%
- reduction of cycle time from funds request (Part III) to obligation to one week
- reduction of grant management responsibilities and increase in program management for both Airports staff and sponsors
- reduction in funds tracking steps for Regions, ADOs, and Headquarters.

Additionally, the Master Agreement process will streamline the grant process and simplify funds management. Resources will be released that can be put to better use providing consultative services to sponsors and determining the scope of the national needs and Federal interest.

In the long-term, Master Agreement projects will support the Federal interest as defined in the National Airport Plan, and the impact of these projects on the national system of airports will be measured. Once this context has been established, the Master Agreement can be modified to support multi-year agreements (which was one of its original intents). The team believes that the National Airport Plan will adequately prescribe the goals, objectives, and priorities of the national system of airports and only those projects that meet those parameters will be funded. This provides a hedge against the issues raised with the Letter of Intent (LOI) process.

3.7 NEXT STEPS

To implement the Master Agreement process, the following activities must be completed:

Table 3.1 Next Steps for Master Agreement Process

Task	Completion
Pilot the Master Agreement document in three Regions: Southwest, Alaska, and Central. Initial use will be with a limited number of sponsors.	Q2
Implement Master Agreement in all Regions, based on lessons learned in pilot implementations.	Q3
Define the data requirements for the Master Agreement File. This effort should be coordinated with the analysis of the AA AIS and NAGIS systems.	Q1
Pilot the Master Agreement File database capabilities in Regions where the Master Agreement document is in place.	Q2-Q3
Define all data, functionality and connectivity requirements for the Automated Funds Management program.	Q3
Select a software package that meets the core functions for Automated Funds Management program and is compatible with FAA communications and technology architectures.	Q4

4. PERFORMANCE MEASUREMENT PROCESS

4.1 INTRODUCTION

The FAA has made significant capital investments in the nation's public airports over the last 50 years. Until recently, the Airports organization measured these investments in terms of the number of grants issued to airport sponsors or the total dollars spent on airport capital improvements. However, to demonstrate Federal program accountability, the team proposes a change in the focus of these performance measurements. Instead of measuring Federal inputs (money and people) to the process, Airports will begin measuring the outcomes (impact on the national system of airports) derived from *all* sources of airport investment. Not only is outcome-based performance measurement important for investment decision-making, it is also critical for communicating the impacts of Airports programs to external stakeholders and the flying public. Changing the orientation of performance measurement to assess outcomes is a significant paradigm shift for the Airports organization and is a central theme within the APDP reengineering effort. See Appendix H for a more detailed introduction to Performance Measurement within Airports.

4.2 GOALS AND OBJECTIVES

The goal of the Performance Measurement Process is to provide the tools, procedures, methods, and indicators necessary to allow planning and evaluation of airport improvements based on objective measures of system performance. Tied to the FAA Strategic Plan and the Airports Business Performance Plan, performance measures will act as the primary feedback mechanism for determining progress toward achieving FAA and Airports strategic goals and objectives. The Performance Measurement Process will link Master Agreements and the National Airport Plan into the integrated APDP.

The objectives of the Performance Measurement Process are to:

- provide a standardized mechanism for assessing the performance of the national system of airports relative to the strategic goals and objectives of FAA and the Airports organization
- provide objective, performance-based information to support the local, regional, and national planning process and assist in investment priority decisions
- measure the impacts of investment (regardless of source) on the national airport system both quantitatively and qualitatively, and communicate these impacts to all stakeholders in the APDP process
- capitalize on innovative information technology solutions to minimize data collection burdens and provide a common data infrastructure for internal and external stakeholders.

4.3 GUIDELINES

For the integrated APDP process to be effective, the indicators used to measure system performance must be directly related to the strategic goals and objectives of the organization. Based on the FAA Strategic Plan and the Airports Business Plan, the Performance Measurement Sub-team identified six strategic areas of airport development that are relevant to the Airports organization. These areas, presented in Figure 4.1, also reflect the high-level areas for measurement of airport system performance.

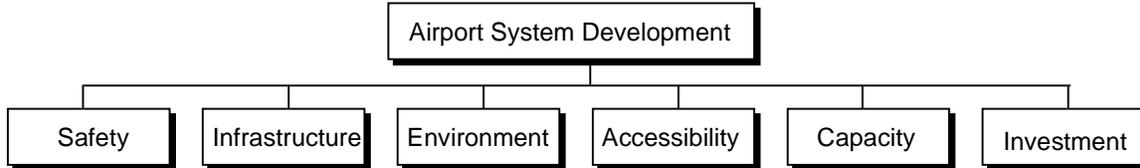


FIGURE 4.1 HIGH-LEVEL PERFORMANCE MEASUREMENT AREAS FOR AIRPORT SYSTEM DEVELOPMENT

For each high-level area, specific performance indicators were developed to measure progress toward achieving Airports objectives. Studies of best practices show that successful performance measurement systems initially consist of three to five basic, high-level indicators. Based on this guideline, the following performance indicators are recommended for initial implementation in the APDP process:

Table 4.1 Initial Recommended Performance Indicators/Measures

Performance Measurement Area	Performance Indicator/Measure
Safety	Percent of Federal interest runways that warrant upgrades to standard safety areas
Environment	Number of homes and public buildings exposed to > 65 Day-Night Level (DNL) in areas adjacent to airports
Infrastructure	Percent of landing areas in the Federal interest that are classified by airport category into broad system “health” ranges based on Pavement Condition Index (PCI)

Appendix I presents a detailed account of the process used to identify these initial measures. The three indicators are intended to be the beginning of a comprehensive performance measurement and improvement process for the Airports organization. As the organization becomes more proficient in the use of performance measures, the sophistication of the indicators will evolve and additional indicators will be added. These indicators were chosen for initial implementation for a number of reasons:

- each measure is directly related to FAA and Airports strategic goals and objectives, as stated in the FAA Strategic Plan and Airports Business Performance Plan
- the terminology of each indicator is well defined and easily understood by the various stakeholders

- initial implementation of these measures can leverage previous Airports performance measurement work, including pilot data collection efforts and the “Performance Measures for Our National System of Airports” report.

See Appendix J for a full description of each performance indicator, including links to the FAA Strategic Plan, data requirements, and implementation approaches.

4.4 RESOURCES

To support the new Performance Measurement process, the APDP team identified an innovative approach for assigning performance measurement responsibility. Performance Measurement Ownership Teams of 5-7 members will be created for each performance indicator. The teams will follow FAA’s integrated project team principles and will be responsible for the entire life-cycle (from definition through performance assessment) of particular performance measures. They will include representation from Headquarters, Regions, and ADOs and will be multi-disciplinary; comprised of a cross-section of planners, engineers, programmers, and others in the Airports organization. It is envisioned that these teams will also serve as a forum for mid-level leadership opportunities and career progression within the organization.

4.5 ACCOUNTABILITY

The Performance Measurement process is an integral part of the APDP and is closely linked to the National Planning process. Performance measurement will provide the “feedback” component of the APDP, linking all the elements of the reengineering effort into an iterative process for airport development. The overall Performance Measurement process model is depicted in Figure 4.2. The major process steps are described in the following paragraphs.

Determine Airports-Specific Objectives, Indicators, and Targets.

- National Planning will begin the process by translating the defined FAA strategic goals and objectives into Airports-specific objectives. For each objective, a corresponding performance indicator(s) will be defined to allow measurement of progress toward achieving the objective.
- Performance Measurement Ownership Teams will set specific performance targets that establish Airports’ expectations for system performance improvements over a given time period compared to the current standards or a baseline.

Define Data Requirements And Sources.

- Ownership teams will define the data requirements for their performance indicator considering internal and external data sources as well as the availability and the quality of the data. The challenge for these teams is to survey available data sources and identify core data sources required to support the performance indicators.

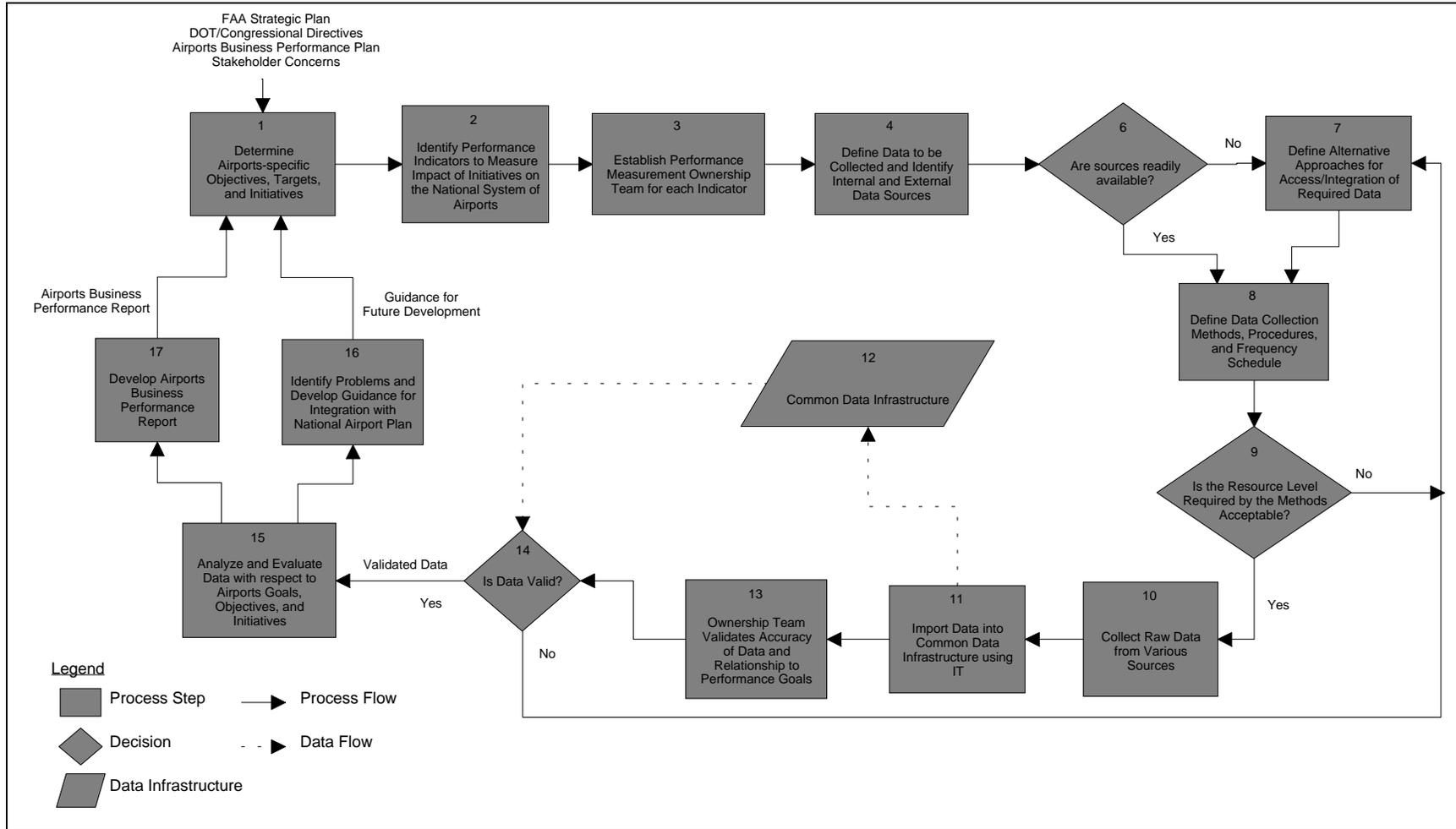


FIGURE 4.2 PERFORMANCE MEASUREMENT PROCESS

Define Data Collection Methods, Procedures, and Frequency.

- This activity outlines the individual steps necessary to access the data sources and collect the necessary data. In many cases, procedures will be prepared to formally document the data collection methods and the frequency of measurement. The procedures will ensure consistency and repeatability of the data collection process.
- To the extent possible, data collection procedures and methods will reflect the following desired characteristics:
 - New data sources will be considered only after existing data sources have been exhausted or determined to be inadequate
 - Data will be collected one time and at the source and integrated into normal business operations
 - Data will be entered or imported into a common information infrastructure
 - Data collection and management will be automated with information technology.

Collect Performance Data.

- Data collection activities will be performed by airport sponsors, state and local agencies, Airports personnel, and others as required. Most performance measures will require an initial set of data to be collected to establish a baseline for comparison.
- Performance data will either be entered directly into the common information infrastructure during collection or imported periodically from remote data sources. Imported data will be automatically checked for conformance with the specified format and predefined rules.

Validate Data.

- Surveys, spot checks, reviews, and on-site inspections will be conducted to assess the degree to which data collection activities are being conducted in the prescribed manner. Validation techniques will be defined in the data collection procedure, and will vary according to the type of performance indicator and the historical confidence in the data source. If situations arise that bring the quality or reliability of a data source into question, corrective action and improvements will be recommended by the Performance Measurement Ownership Team.

Analyze and Evaluate Performance Data.

- The Performance Measurement Ownership Team will evaluate the progress being made toward achieving performance objectives and targets. This process step aggregates data from across all Federal-interest airports, assessing performance trends, identifying root causes, and translating data into performance information that can be used by the National Planning process to establish guidance and direction.

- Based on their extensive knowledge of performance measurement areas, the ownership teams will have a significant role in developing approaches for improving the performance of the national system of airports.

Present Performance Information.

- The new Performance Measurement process will allow each ownership team to clearly demonstrate the progress being made toward achieving strategic goals and objectives. Presentation of performance information will reduce the ambiguity of the investment decision-making process and will improve local, regional, and national planning efforts.
- Methods of presenting or communicating performance analysis data will include the following:
 - National performance data and analysis information will be available across the national system of airports through the common information infrastructure
 - An annual Airports Business Performance Report will be prepared to provide a high-level perspective of the progress being made in key performance areas, significant trends, and results of root cause analyses
 - Performance information will be incorporated into national planning guidance documents.

4.6 EXPECTATIONS

The new Performance Measurement process will provide a variety of benefits to the Airports organization. Specifically, the Performance Measurement process will:

- link specific performance measures to Airports business objectives and FAA strategic goals and objectives
- enable the Airports organization to systematically identify, define, implement, and utilize performance measures in a standard manner across all airports
- accurately measure the efficiency and effectiveness of the Airports business processes, the type and quantity of products and services provided, and the impact of Airports programs on the condition of the national system of airports
- provide value-added information to support the local, regional, and national planning process and assist in the investment decision-making process
- be useful and understandable to internal and external stakeholders and the general public
- allow performance information to be accessed by all airports.

4.7 NEXT STEPS

The following activities should be initiated as part of the overall effort to implement the reengineered APDP:

Table 4.2 Next Steps for Performance Measurement

Task	Completion
Form Performance Measurement Ownership Teams for each of the three initial performance measures. Empower the teams to define, develop, and implement the procedures necessary to support the recommended performance indicators.	Q1
Initiate a pilot-scale implementation of the Performance Measurement process for the three initial measure and evaluate results. Demonstrate automated data collection techniques using information technology.	Q2–Q4
Continue to define other high-priority <i>outcome</i> performance indicators and outline necessary steps for implementation. In consultation with the other segments of the APDP, begin to define requirements for process and output measures.	Q2–Q3
Expand outreach efforts throughout the airport development community, and integrate feedback from industry and other stakeholders into the Performance Measurement process.	Q2

5. RESOURCE REALLOCATION

5.1 INTRODUCTION

Traditionally, FAA project managers spend a significant amount of effort on operational management of individual airport projects (i.e., plans, bids, construction progress, and grants administration), and have little time for involvement in project formulation. The primary purpose of the redesigned APDP process is to shift limited Airports resources away from these project management functions to project formulation and performance measurement activities. This reallocation represents a change in the day-to-day operation of the work force, and will require a new way of thinking about Airports employee roles.

5.2 GOALS AND OBJECTIVES

The primary goal of Resource Reallocation is to effectively reorganize available resources and personnel around the new APDP. While implementation of the National Planning and Performance Measurement processes will put an increased demand on Airports personnel, resource savings from the new Master Agreement process will provide only a partial recovery. Therefore, the Airports Organization must find additional ways to optimize its available human resources.

The objectives of the Resource Reallocation process are to:

- streamline and consolidate existing project management activities to allow Airports personnel to shift their attention to project formulation and performance measurement functions
- identify training opportunities for FAA employees to develop the technical and interpersonal skills necessary to interact much more effectively with airport sponsors, aviation agencies, and other stakeholders in airport development
- “establish and maintain mutual lines of communication with the public and with employees to promote understanding, awareness, and cooperation and to serve the interests of the traveling public” (*FAA Strategic Plan, Goal 10, 1996*).

Each of these objectives must be met to effectively respond to changing priorities with limited resources – enabling FAA Airports employees to continue their leadership and support in planning, developing, and maintaining a safe, efficient, economical and environmentally sound national system of airports.

5.3 GUIDELINES

To meet its first objective, the Resource Reallocation Sub-team first determined the minimum requirements for project management under the reengineered APDP. The team researched applicable legislation, Executive Orders, grant assurances, FAA Orders, OMB Circulars, Federal Aviation Regulations and other documents to determine which Airports activities are required by

law or regulation, and which are mandated by policy. A detail of these requirements and their corresponding regulation/policy source is presented in Appendix K.

The team then reviewed each “policy” activity to determine if the FAA Airports role in the activity added value to a project or if the activity should be considered for de-emphasis. “Policy” activities were defined as those prescribed in FAA Orders, Advisory Circulars, policy letters and similar documents that are more easily changed than federal law or regulation. Each activity was then classified into one of three categories:

- **Required by Law.** Those activities required by legislation, Executive Orders, OMB Circulars and FARs and similar documents, and considered unchangeable by the Resource Reallocation Sub-team.
- **Policy - Retain.** Activities that are prescribed in FAA Orders, Advisory Circulars, policy letters and similar documents, and are recommended for continued emphasis because of sound project management practice.
- **Policy - Optional.** Activities that are prescribed in FAA Orders, Advisory Circulars, policy letters and similar documents, but are recommended for de-emphasis because of little value added to the process.

Table 5.1 lists these activities, grouped according to the seven major categories involved in the conduct of the current grants management process. It is important to note that the tables represent the opinions of the Resource Reallocation Sub-team as to the requirement or value of each of the activities, and the team’s general recommendations. However, the team recognizes that each Airports Division in the 9 FAA Regions is different, as are each airport sponsor, airport consultant, and project. With the wide variety of FAA offices, airports, state organizations, consultants, contractors, and others who are part of the team that carries out airport planning and development projects, each activity must be viewed on a case-by-case basis by the responsible FAA Airports staff to determine the appropriate level of effort.

Examples of the differing levels of effort include:

- a project with a consultant who has worked for many years on a particular airport may need less FAA oversight, while a similar project with a consultant new to the airport may require significantly more FAA oversight,
- certain airport sponsors and consultants are more experienced with the FAA airport planning and development process than others, and therefore require less oversight,
- certain projects (such as soundproofing) are usually off the airport operating area, with little potential for safety impacts, and require less FAA oversight.

Furthermore, while the tables list activities that should be considered for de-emphasis, the FAA Airports staff must still maintain expertise in most of these areas. The FAA Airports staff is the primary source of expertise to assist airports sponsors, consultants and contractors with federal airport design, safety and construction standards as well as FAA Airport Improvement Program (AIP) and Passenger Facility Charge (PFC) requirements and procedures. The FAA Airports staff will be expected to respond to questions, review specific cases and assist with training sponsors and consultants in these areas. Maintaining a high level of training support will be essential to the successful implementation of the reengineered APDP.

It is also important to understand that the Airports Reengineering effort will not define which members of the FAA Airports staff should perform the various tasks associated with the reengineered APDP, or how individual FAA Airports offices should be organized. Some FAA Airports offices function best with staff specialists in the areas of planning, engineering, program specialists, and other positions. Other offices function best with each staff member performing all (or most) of the roles of planning, engineering, programming and the other Airports roles. It is the responsibility of the individual office managers to determine task assignments and office organization, based on the capabilities of their staff and other factors. Accordingly, the activity table outlines the general activities to be performed, but does not allocate tasks to any of the particular FAA Airports staff positions.

Table 5.1 Recommendations for APDP Activities

<i>Airport Planning and Development General Activities</i>	<i>FAA Airports Actions</i>	<i>Reqd by Law</i>	<i>Policy - Retain</i>	<i>Policy - Optional</i>
Programming Activities				
Finalize Annual ACIP	Apply Planning/Programming Funding Levels Verify Work Codes Apply Program Analysis Guidelines Initiate Program Meetings/Reports	X X	 X X X	
Coordinate Recommended Projects	Coordinate Projects with 200/400/500 Coordinate Environmental Coordinate Airspace Coordinate with Airport State Engineer		X X X X	
Tentative Allocation	Prepare PERDA Prepare Project Evaluation Prepare 107 (Phase 2) Route for Approval Enter into RGMS/NAGIS Ledger Entries Other Funds Control (Region Specific) Enter Talking Points Update ACIP (if necessary)		 X - MA X X	X - MA X - MA X - MA X - MA X - MA X - MA
Congressional Release	Run Volpe Report for Congressional Release Notify proper staff of released projects		 X	 X
Funds Reservation	Prepare 107 (Phase 4) Prepare 1413 Route to Accounting Enter into RGMS/NAGIS Ledger Entries Other Funds Control (Region Specific) Prepare Grant Offer Documentation Update ACIP (if necessary)	 X X - MA	X - MA X X - MA X X	 X
Grant Agreement	Prepare 107 (Phase 5) Enter into RGMS/NAGIS			X - MA X - MA
Reporting	Prepare Monthly Program Status Reports Prepare Annual ACIP Reports Prepare Quarterly Program Status Reports Prepare Annual Program Reports		X X X X	
Funds Control	Monthly Balance & Reconciliation of Ledgers Other Funds Control Reconciliation (Region Specific)		 X - MA	 X - MA
Project Close-Out	Prepare 107 Prepare 1413 Ledger Entries Other Funds Control (Region Specific) Enter into RGMS/NAGIS		 X X X - MA X - MA	 X - MA
Const./Equipment Purchase				
DBE Requirements	Ensure DBE Plan is on file and approved	X		
Consultant Selection	Accept Sponsor Certification for Consultant Contract Review Consultant Selection Approve the form of the Consultant Contract		X - MA	 X X
Const./Eqpmt. Purchase (cont.)				

<i>Airport Planning and Development General Activities</i>	<i>FAA Airports Actions</i>	<i>Reqd by Law</i>	<i>Policy - Retain</i>	<i>Policy - Optional</i>
Predesign Conference/Scoping	Attend Predesign Conference Coordinate FAA with sponsor during scoping		X	X
Airspace	Coordinate Airspace	X		
Engineering Design/Develop Plans & Specs	Review and Approve Design Accept Sponsor Certification for Engineering Design		X X - MA	
Construction Safety Plan	Review and Comment on Plan		X	
Procurement/Bid Process	Review Bid Summary Concur with Sponsor Recommendation Accept Sponsor Certification for Construction Contract Approve the form of the Construction Contract Accept Pavement Maintenance Program Produce Department of Labor Report		X - MA X - MA	X X - MA X X
Issue Grants	Issue Grants	X		
Payments	Make Interim Payments Make Final Payments	X X		
Preconstruction Conference	Participate in Conference Coordinate FAA participation in Conference			X X
Construction	Conduct Interim Inspections Conduct Final Inspections		X	X
Quality Control Testing	Review Quality Control Issues			X
Change Orders	Contract Modifications			X - MA
Close-Out Procedures	Perform Close-Out Procedures	X		
Land Acquisition Projects				
DBE Requirements	Insure DBE Plan is on file and approved	X		
Certification for Land Acquisition	Certification for land acquisition		X - MA	
Appraiser Selection	Review Appraiser Selection			X
Performing/Reviewing Appraisal	Accept Appraisal Certification		X - MA	
Environmental Audit	Encourage Environmental Due Diligence		X - MA	
Buyer/Seller Negotiation	Review Reasonableness of Buyer/Seller Negotiation	X		
Relocation Assistance	Review Reasonableness of Relocation			X
Title Review	Accept Quality of Title	X		
Issue Grants	Issue Grants	X - MA		
Payments	Make Interim Payments Make Final Payments	X X		
Project Close-Out	Perform Project Close-Out	X		
Planning Projects				
DBE Requirements	Insure DBE Plan is on file and approved	X		
Consultant Selection	Accept Sponsor Certification for Consultant Contract Review Consultant Selection Approve the form of the Consultant Contract		X - MA	X X
Scoping Process	Review Scope		X	
Issue Grants	Issue Grants	X - MA		
Payments	Make Interim Payments Make Final Payments	X X		
Planning Projects (cont.)				

<i>Airport Planning and Development General Activities</i>	<i>FAA Airports Actions</i>	<i>Reqd by Law</i>	<i>Policy - Retain</i>	<i>Policy - Optional</i>
Intermediate Reporting	Review and Comment on Intermediate Reports Review and acceptance of forecasts		X X	
Master Planning/Coordination Meetings	Attend Meetings		X	
Public Hearing	Attend Hearing			X
Draft Final Reports	Review and Comment on Final Reports		X	
Airspace Actions	Coordinate/circulate Airspace Action	X		
Acceptance of Final Report	Receive Final Report, Acknowledge		X	
Airport Layout Plan	Write Airport Layout Plan Approval Letter	X		
Project Close-Out	Perform Project Close-Out	X		
Environmental Projects				
DBE Requirements	Insure DBE Plan is on file and approved	X		
Consultant Selection	Select Consultant - EIS only Accept Sponsor Certification for Consultant Contract Review Consultant Selection - EA only Approve the form of the Consultant Contract	X	X - MA	X X
Scoping Process	Prepare Notice of Intent for Fed Register - EIS only Conduct Scoping Meetings - EIS only Review Scope of Work	X X	X	
Issue Grants	Issue Grant	X - MA		
Payments	Make Interim Payments (Options) Make Final Payments (Options)	X X		
Intermediate Reporting	Review and Comment on Intermediate Reports	X		
Coordination Meetings	Conduct / Attend Meetings		X - MA	
Public Hearings	Attend Hearings	X - EIS	X - EA	
Draft Final Reports	Issue Draft EIS - EIS only Prepare Notice of DEIS availability - EIS only Review responses to DEIS comments - EIS only Insure Final EIS gets signed and distributed - EIS only	X X X X		
Acceptance of Final Report	Receive / Review Final Report		X	
Prepare Decision	Prepare FONSI - EA only Prepare Record of Decision (ROD) - EIS only	X X		
Prepare Federal Register Notice	Prepare FR notice of Final EIS approval - EIS only	X		
Project Close-Out	Perform Project Close-Out	X		
Part 150 Noise Study Projects				
DBE Requirements	Insure DBE Plan is on file and approved	X		
Consultant Selection	Accept Sponsor Certification for Consultant Contract Review Consultant Selection Approve the form of the Consultant Contract		X - MA	X X
Scoping Process	Attend Scoping Meetings Review Scope		X	X
Issue Grant	Issue Grant	X - MA		
Payments	Make Interim Payments (Options) Make Final Payments (Options)	X X		
Intermediate Reporting	Review and Comment on Intermediate Report Approve Noise Maps	X	X	
Coordination Meetings	Attend Meetings		X	

<i>Airport Planning and Development General Activities</i>	<i>FAA Airports Actions</i>	<i>Reqd by Law</i>	<i>Policy - Retain</i>	<i>Policy - Optional</i>
Public Hearings	Attend Hearings		X	
Final Reports	Review and Comment on Draft & Reports		X	
Noise Maps	Approve Prepare FR notice for comments	X X		
NCP	Review	X		
Acceptance of Final Report	Receive Final Report		X	
Prepare ROA	Prepare record of Approval for AEE-300			X
Project Close-Out	Perform Project Close-Out	X		
PFC Activities				
Public Agency Develops List of Projects to be Funded with PFCs	Assist Sponsor in Development Advise on Consultation and Application Requirements		X X	
Public Agency consults with airlines and prepares PFC application	Advise and Assist as Needed, Review Draft Application	A	X	
FAA Receives Application and Reviews	FAA Determines Completeness FAA Prepares Letter of Completeness FAA Prepares and Files Federal Register Notice	X X X		
FAA Decision	Prepare Recommendation Package Prepare Record of Decision Issue Record of Decision		X X	X
Airport Notifies Airlines and Collections Begin	Airport Notifies Airlines and Collections Begin	A		
PFC Monitoring	Review/Issue Decision on Amendments Review Airport Quarterly Reports Review Airport Annual Audit Report Periodic Audit of Public Agencies/Air Carriers Advise Airport of Application/Project Deadlines Informal Resolution/Termination Use of Excess PFC Revenue Safety and Environmental Compliance Maintain Some Type of PFC Tracking System Prepare Application Closeout Report	X X X	X X X X X X X X	

Notes:

- 1) *Activities designated by “MA” are being retained, modified, or eliminated by the Master Agreement Process. See Chapter 3 for supporting information.*
- 2) *Activities designated by “EA” apply only to Environmental Assessment Projects.*
- 3) *Activities designated by “EIS” apply only to Environmental Impact Study Projects.*
- 4) *Activities designated by “A” shows only a portion of the action required by an airport or Public Agency.*

5.4 RESOURCES

For the new APDP to be successful, all stakeholders must be aware of the changes taking place, understand why they are necessary, and be able to communicate their concerns. To this end, the Resource Reallocation Sub-team has identified several opportunities for FAA Program Managers to build working relationships with airport sponsors, consultants, and other stakeholders in the development of the national airport system:

- **State Aviation Conferences.** Most states hold a periodic airports conference which lends itself as a forum for FAA to educate and be educated. Workshops led by the FAA, agencies, and consultants can be used to communicate changes in procedures.
- **Aviation Industry Conferences.** The American Association of Airport Executives (AAAE), Airports Consultants Council (ACC), National Association of State Aviation Officials (NASAO), and others conduct national and regional conferences as well as periodic training sessions and seminars nationwide. FAA access and participation can provide valuable educational and outreach opportunities for a broad segment of the airport development industry.
- **FAA Conferences.** The FAA holds conferences on many topics related to aviation, providing an opportunity for airport sponsors, consultants, media and industry groups to interact directly with the people involved in specific programs.
- **Individual Airport Liaisons.** FAA Program Managers receive their greatest practical education through relationships with individual airports. Knowledge gained from interaction with airport managers will allow the Program Manager to respond and reply to an airport's concerns more effectively.
- **University Training and Development.** A number of nationally recognized universities offer courses on Master Planning, System Planning, Noise Modeling, and other airport topics which may augment or replace existing FAA education.
- **FAA Academy.** The role of the Academy in training airport and FAA personnel is currently being studied, and may offer a wealth of opportunities once new courses are available to FAA, state, and local personnel and consultants.
- **Newsletters.** Most regional Airports Divisions publish a newsletter. This allows direct communication to people with whom they do not conduct regular business.
- **Electronic Accessibility.** Internet access and electronic communications will allow FAA to communicate much more efficiently with airports sponsors and consultants.
- **“Airport Capital Improvement Planning: Stewardship for Airport Development”.** This report dated February 16, 1996 describes a game plan for effective use of FAA resources in the development of the ACIPs.

5.5 ACCOUNTABILITY

Resource Reallocation is primarily a change management function. As such, the outputs of the process tend to focus on overcoming organizational resistance to changes in rules and the overall operating environment. Successful implementation of the APDP process will therefore depend on Airports’ ability to communicate, support, and incentivize change. Essential components of the new process include management support, open communication between all stakeholders, adequate training for new job functions, and proper motivation for Airports employees to perform new responsibilities as intended. The Resource Reallocation Sub-team is considering all of these factors in their ongoing efforts, and has incorporated them into their “Next Steps”.

5.6 EXPECTATIONS

The Resource Reallocation effort focuses primarily on two initiatives – realignment of the responsibilities of Airports personnel, and preparation of all FAA Airports employees for these redesigned roles. Though a difficult process, resource reallocation will ultimately provide an FAA Airports work force which:

- provides a value added service early in project development
- is multi-disciplined with strong interpersonal skills
- develops partnerships with sponsors, states, and industry
- continues a vital contribution to the Airports mission with limited resources.

5.7 NEXT STEPS

Though much of the future work and expectations will depend on results from the Planning and Performance Measurement Sub-teams, the Resource Reallocation Sub-team has identified several “next steps” in the implementation of the redesigned APDP process:

Table 5.2 Next Steps for Resource Reallocation

Task	Completion
Integrate Resource Reallocation efforts with Recurrent Training Conferences	Q1
Rewrite performance standards guidelines and simplify job descriptions for FAA engineers, planners, programmers, and managers to reflect the new process	Q5
Create a training program for FAA Airports employees which emphasizes interpersonal skills, communication, risk management, and partnership/team building, as well as technical expertise in airports	Q5
Identify training courses, conferences and workshops for airport sponsors, consultants and other stakeholders in the new process	Q5–Q6
Draft/submit revisions to existing Airports regulations, policies, and guidance to support implementation of the streamlined project management process	Q5–Q6
Continue to refine the minimum activities list for program accomplishment, providing more detailed guidance and alternatives for de-emphasized activities	continuous

6. INFORMATION TECHNOLOGY

6.1 INTRODUCTION

To meet increasing demands for streamlined processes and program accountability, the Airports organization must be able to collect, analyze, and share information throughout the APDP process. The ability to do this depends greatly on the capabilities of the APDP Information Technology (IT) infrastructure. The APDP's National Planning, Master Agreement, and Performance Measurement components each have unique requirements for the collection, structure, and use of data related to airport development – requirements that must be integrated into a cohesive system for use by a wide variety of stakeholders.

The existing Airports IT infrastructure has been adapted over the years to particular specifications for grants management and oversight activities. The result is that many “stovepipe” systems have been developed to respond to specific requirements at all levels of the Airports organization. The diversity of these data storage and management systems poses several problems with interoperability and information sharing. Data are often redundant or inconsistent across multiple systems, data collection methods are not well established, and system users often have difficulty exchanging information.

6.2 GOALS AND OBJECTIVES

The purpose of this section is to provide a recommended “blueprint” for how IT can be implemented to support the revised APDP process. The APDP IT infrastructure will provide a framework for the integrated development of the national airport system, and to assist where possible in the reallocation of staffing resources to implement the APDP. A primary goal of the APDP IT infrastructure is to provide the flexibility and scalability necessary to respond to growing demands on the APDP. These demands will increase almost immediately as the scope of National Planning and Performance Measurement expands, and as Airports personnel become more accustomed to their new APDP responsibilities.

The objectives of the redesigned IT infrastructure are to:

- Establish seamless communications between sponsors, field offices, regional offices and FAA headquarters, regardless of geographic location.
- Provide local, regional, and distributed databases for use in the National Planning, Master Agreement, Performance Measurement and other Airports processes.
- Ensure that key data are entered *once* at the source and standardized across all data levels, maintaining data integrity and minimizing redundancy.
- Replicate and synchronize distributed databases to provide stakeholders with fast access to the most current information.
- Maintain the integrity of the APDP database by establishing data access privileges which correspond to the role and functions performed by each user or stakeholder.

- Promote cost-effectiveness through use of commercial off-the-shelf (COTS) products and network sharing of computing resources.
- Maintain a flexible and scalable architecture so that changing needs and requirements can be easily integrated into the operating environment.

6.3 CURRENT IT INFRASTRUCTURE

An FAA Airports study completed in December 1995 described the Airports IT infrastructure and presented several findings about the incompatibilities and weaknesses of the system. Figure 6.1 shows the multitude of systems and data transfer interfaces in use throughout Airports.

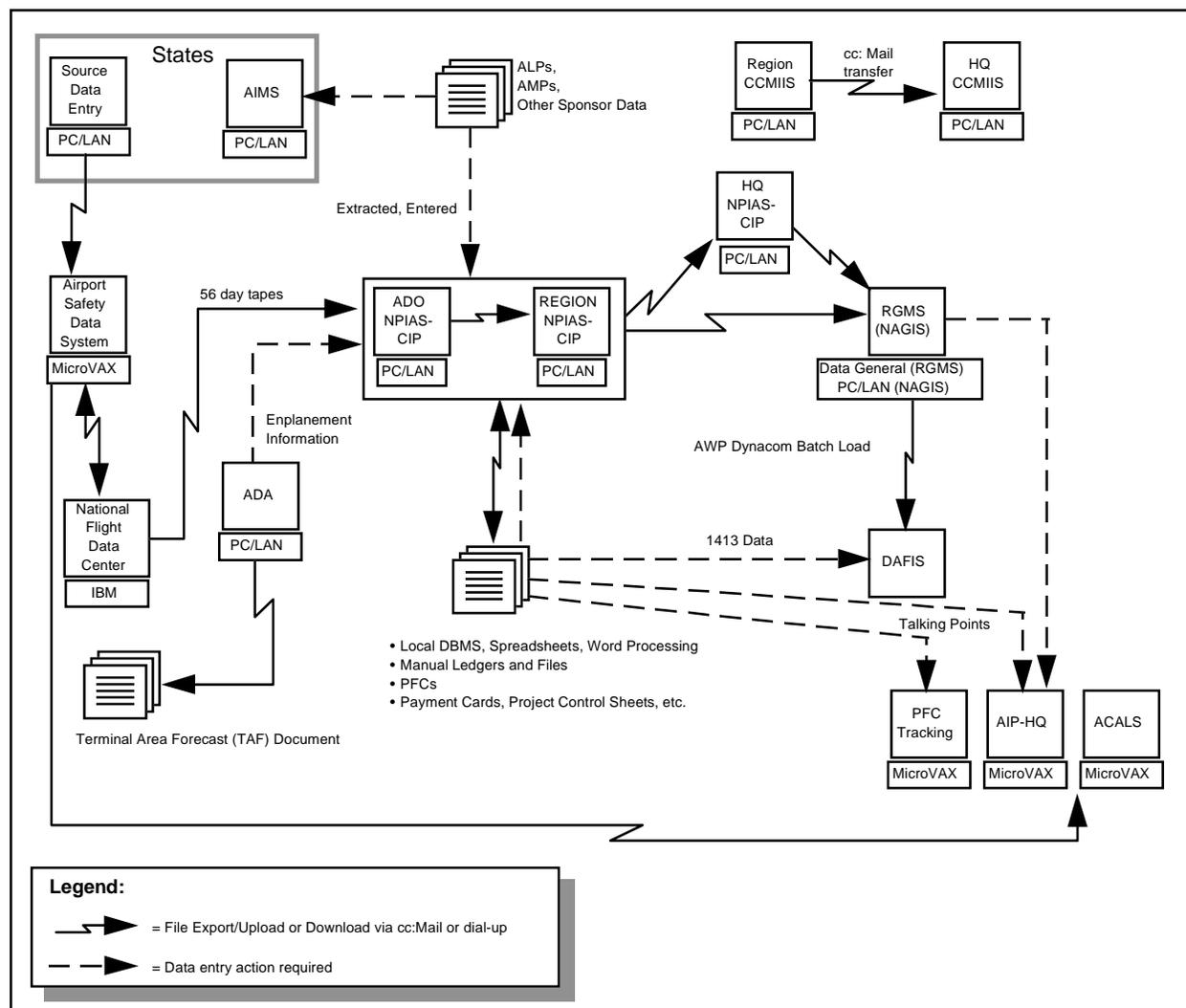


FIGURE 6.1 AIRPORTS IT INFRASTRUCTURE (DECEMBER 1995)

The Business Process Improvement Team identified and presented twelve limitations of this infrastructure in their *Information Technology: Findings and Recommendations* briefing of December 7, 1995. The findings of the BPI Team were:

- The existing suite of information systems is poorly integrated
- Redundant data is maintained across multiple systems supporting the process
- Airport sponsors and stakeholders cannot readily access or provide information electronically
- It is extremely difficult or impossible to satisfy demands for decision-support data
- Users do not have confidence in data accuracy for some data elements
- Information collection, handling, and dissemination is labor intensive
- Data standardization needs improvement
- It is difficult to gain a complete profile for each airport sponsor
- Data inconsistencies exist across systems
- Shared access to other planning and funding data is severely limited
- NPIAS-CIP and AIP databases are limited in their ability to describe airport development
- There are limited capabilities for electronic document dissemination, tracking, and storage.

6.4 GUIDELINES FOR AN IMPROVED IT INFRASTRUCTURE

To effectively respond to these limitations, an improved APDP IT infrastructure must provide full compatibility, integration, and data standardization between the local, regional and FAA headquarters levels. In addition, Airports personnel, sponsors, and consultants must have seamless access to the data and tools relevant to their individual APDP responsibilities.

The improved APDP IT system will connect all FAA Airports ADOs, Regions, and Headquarters via Local Area Networks (LANs) and a Wide Area Network (WAN). The LAN will connect all the PCs and peripheral devices in each local office to a local network server running distributed application software. Remote connectivity will be provided primarily through WAN connections to the ADTN2000 network, with backup connection provided via dial-up to the regional servers.

Figure 6.2 depicts a high-level architecture of the proposed APDP IT system.

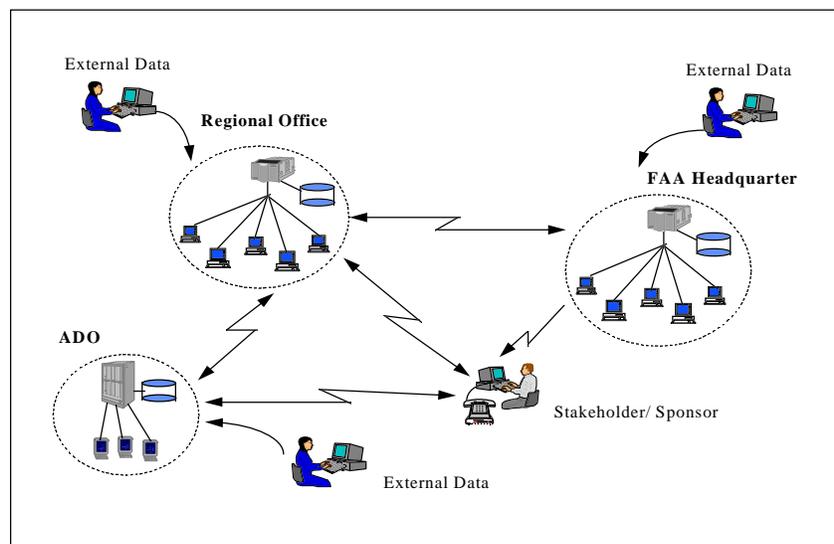


FIGURE 6.2 TARGET ARCHITECTURE

Data Infrastructure. The most important component of the new APDP infrastructure is the database architecture. Each process within the APDP will require storage and maintenance of data from a variety of sources, including sponsors, airport consultants, project managers, and external organizations (e.g. EPA, NTSB). For example, the Master Agreement process will need to track sponsor certifications, funds allotments, project descriptions and other information to support airport program development. Since these data sources and owners may vary considerably, standardization of management practices is essential to APDP implementation. A framework for effective data standardization includes:

- a uniform set of management functions for administrators, data stewards, data custodians and database administrators
- common data structures and naming conventions for all databases
- consistent definition and presentation of information throughout the organization.

Computing Infrastructure. The required flexibility and scalability of the APDP IT system necessitates the enforcement of open system standards in the computing infrastructure. A distributed architecture consisting of PCs or compatibles, servers/data processors, storage devices, and computer peripherals must be integrated at the ADO, RO, and FAA Headquarters levels to provide a feasible migration path for the future. This infrastructure will:

- use common or compatible computing platforms, including the hardware/software for the new IT infrastructure
- enforce standard interfaces that allow common access to be developed to other components, such as databases or communications
- provide file and data backup capability
- emphasize scalability, reliability and maintainability
- allow functional improvements to be made with minimum changes to existing systems
- permit easy integration of new, specialized capabilities and technologies.

Communications Infrastructure. Reliable, cost-efficient, and high-speed links are the focus of the new APDP communications infrastructure. Open System Interconnection (OSI) standards must be implemented into the APDP data link design to provide remote and direct access to the system from all Airports offices and external stakeholders. The key requirements for the communications framework are:

- continued use of TCP/IP as the standard protocol to transport information between all FAA offices with connections to the ADTN2000 system
- transparent access to data sources maintained by the APDP system, regardless of geographic location
- continued enforcement of network security procedures, including authentication, access rights, confidentiality, and integrity of data
- monetary support for establishing or enhancing existing links to offices not served by ADTN2000 (e.g. Helena, Montana).

Figure 6.3 shows a high-level representation of the IT telecommunications infrastructure.

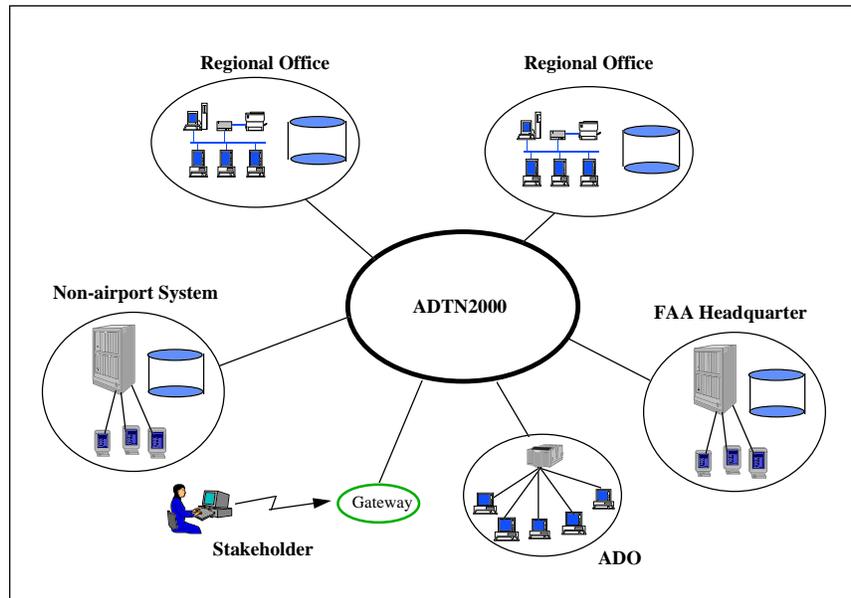


FIGURE 6.3 COMMUNICATIONS INFRASTRUCTURE

6.5 THE DISTRIBUTED DATABASE CONCEPT

One of the most attractive options for improving the APDP infrastructure is to implement a standardized, distributed database throughout the Airports division. This distributed database concept addresses several assumptions about the FAA Airports operating environment:

- 1) *Regions and ADOs will maintain local databases that are tailored to the needs of that region but are not necessarily relevant to the national airport system.* This is perhaps the most compelling argument against a completely centralized database. Though advances in telecommunications and Internet technology have enabled remote data management and organization, centralized maintenance of such diverse requirements is neither easy nor necessary. Selective replication of relevant data between databases will allow a national perspective to be established while preserving regional autonomy.
- 2) *A common data structure must be implemented throughout the Airports organization.* With such a diverse group of stakeholders, establishing and enforcing a common data structure may prove to be a difficult process. By replicating a common database to the regions and ADOs, the development of “home-grown” applications to handle similar functions will be minimized. A Data Dictionary completed for Airports in 1991 should be a valuable resource for establishing this commonality.
- 3) *A national database must provide several capabilities which do not exist in the current IT infrastructure.* The national database must allow Headquarters to enter data directly into the system, since a significant amount of airport operational and performance information will be generated, collected, and aggregated at the national (Headquarters) level. In addition, a single repository of national data is needed for some airport stakeholders to obtain information on

grants and funding decisions that cross regional boundaries. Finally, a backup/recovery database is essential for the regional databases in case of a disaster.

- 4) *A rapidly increasing number of stakeholders will require access to the APDP Infrastructure for both data input and information retrieval.* Flexibility and scalability are the key issues in this situation – a distributed database will allow users to be added in a modular fashion, cost-effectively matching the resource requirements to the performance demands.

The concept of operations for the distributed data infrastructure begins at the ADO level. Each ADO will have a collection of local databases supporting the National Planning, Master Agreement, Performance Measurement and other functions for that location. These databases will be selectively replicated to a regional database at predetermined intervals, allowing the regional staff access to current, aggregated data throughout their region. The nine regional databases, in turn, will be selectively replicated onto a national database. This national database may be physically located almost anywhere (such as Volpe in Boston or on FAA’s CORN computer in Plano, Texas) but must provide transparent data access to a variety of Airports stakeholders. Figure 6.4 gives a high-level representation of the distributed database concept.

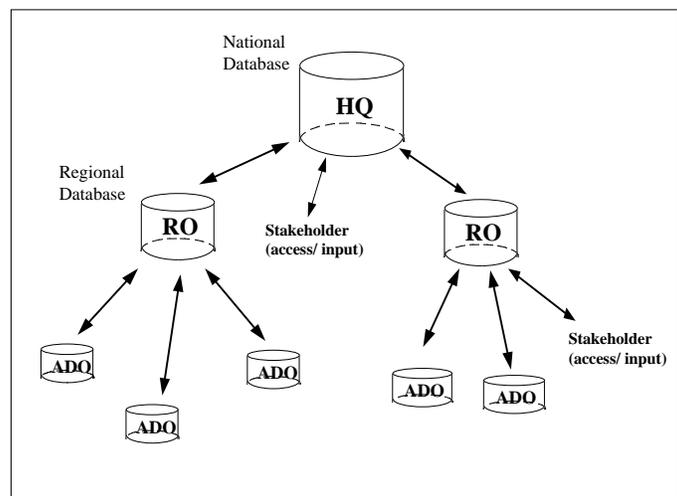


FIGURE 6.4 CONCEPTUAL DISTRIBUTED DATABASE ARCHITECTURE

Physical implementation of the distributed database architecture can be achieved in many ways. The improving quality of middleware components creates numerous opportunities for integrating heterogeneous hardware and software, and advances in data communication speeds allows more cost-effective sharing of Airports resources. The explosive growth of the Internet provides an additional low-cost medium for airport sponsors and consultants to input/retrieve information or interact directly with Airports personnel.

6.6 RESOURCES

These benefits will not be realized, however, without coordinated input from all stakeholders in the APDP process. Effort alone will not bring about the necessary changes – funds must also be obtained to support the acquisition and installation of new infrastructure components. Though budgets are tight across the federal government, the benefits of APDP system implementation will exceedingly outweigh the proposed costs. These benefits include the tangible cost savings from reductions in rework and redundancy, as well as the less tangible benefits of increased safety and performance in the national system of airports.

6.7 ACCOUNTABILITY

Initial implementation of the integrated IT infrastructure will be just the beginning of an ongoing maintenance and development life cycle – the system must be continuously monitored, tuned, upgraded, and adapted to new demands on the Airports organization. These maintenance responsibilities, though critical, are difficult to define for the proposed APDP system because the specific enterprise technologies and platforms have yet to be identified. However, as the IT infrastructure to support the APDP process is outlined in greater detail, assignments for responsibilities and schedules for the various management activities and evaluation processes will be added.

6.8 EXPECTATIONS

The “technical” benefits of an integrated IT infrastructure have already been discussed – elimination of data reentry and redundancy, consistent representation across multiple platforms, and transparency of data locations to users. However, the real benefits of this architecture will be realized through everyday interaction with the system. Ease of use, data accessibility, and other advantages will be extended to every participant in the National Planning, Master Agreement, Performance Measurement and other processes:

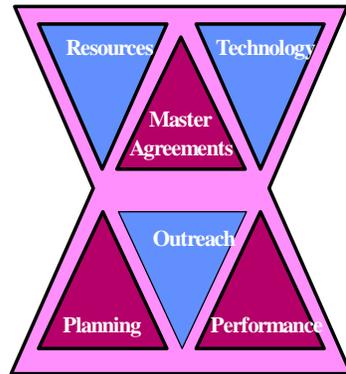
- Local and state planning agencies will have access to the information that they need to make informed investment decisions.
- Users will have confidence in the accuracy and completeness of Airports data.
- Industry and consumer groups will be aware of the background, definition, intent, and progress of federal initiatives for the national system of airports.
- Airports ADOs, Regions, and Headquarters will be able to share best practices, compare business processes, and identify common problems more effectively.

6.9 NEXT STEPS

Several next steps have been identified for the Airports organization in their efforts to implement the APDP IT infrastructure. Based on the guidelines presented in this document, many questions still exist about the resources, configurations, schedules, and constraints on the infrastructure design and development. Answers to these questions will be identified or implemented through the following activities:

Table 6.1 Next Steps for Information Technology

Task	Completion
Conduct interviews of external customers (airport sponsors and consultants) to determine their expectations and needs for access to Airports data. Information to be collected includes desired means of data access (Internet, dial-up, BBS, standalone packages), appropriate access rights, and data entry and validation responsibilities.	Q2
Develop the requirements for the National Planning, Master Agreement, and Performance Measurement processes in greater detail to allow definition of the supporting infrastructure. These requirements may include: <ul style="list-style-type: none"> • collaborative groupware, document management, and data analysis tools • access rights and data management capabilities • interaction with other FAA and external systems 	Q2
Evaluate the FAA’s existing applications and infrastructure to identify advantages/disadvantages of certain configurations. Incorporate lessons learned into the overall system design.	Q2
Develop a logical and physical data model for a fully-integrated Airports information infrastructure, based on the Data Dictionary developed in 1991. This activity will include mapping the logical relational data structures to specific physical locations throughout the system.	Q3
Upgrade the existing hardware base within Airports to take advantage of current client/server and telecommunications capabilities. This will include: <ul style="list-style-type: none"> • replacing all PCs with less than an originally installed 486 CPU with a minimum of 100 Mhz Pentium PCs • installing/replacing slower LAN cards with 10/100 Mbps LAN cards • installing LAN servers at ADOs with a recognizable need • Providing networking capabilities and Intranet/Internet access to ADOs/ROs 	Q2-Q3



*Airport Planning and
Development Process*

*Analysis and Documentation
Report -- Appendices*

January 1997

APDP Implementation Team

ACRONYM LIST

AAAE	American Association of Airport Executives
AAAIS	Alaska Automated Airport Information System
ABA	Office Financial Services
ACC	Airports Consultants Council
ACIP	Airport Capital Improvement Plan
ADO	Airports District Office
ADTN2000	Agency Data Telecommunications Network 2000
AIP	Airport Improvement Program
ALP	Airport Layout Plan
AMP	Airport Master Plan
APDP	Airport Planning and Development Process
APP	Airports Office of Planning and Programming
CAD	Computer Aided Design
CBT	Computer Based Training
CIP	Capital Improvement Program
COTS	Commercial Off-the-Shelf
DAFIS	Departmental Accounting and Financial Information System
EA	Environmental Assessment
ECHO	Electronic Clearing House Operation
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
GIS	Geographic Information System
HQ	Airports Headquarters Office
IT	Information Technology
LAN	Local Area Network
LOI	Letter of Intent
NAGIS	National Airport Grants Information System
NASAO	National Association of State Aviation Officials
NEPA	National Environmental Policy Act
NPIAS	National Plan of Integrated Airport Systems
OMB	Office of Management and Budget
OST	Office of the Secretary of Transportation
PERDA	Project Evaluation Review And Development Analysis
PC	Personal Computer
PCI	Pavement Condition Index
PFC	Passenger Facility Charge
RDBMS	Relational Database Management System
RGMS	Regional Grant Management System
RO	Airports Regional Office
TCP/IP	Transmission Control Protocol/ Internet Protocol
WAN	Wide Area Network

NATIONAL PLANNING PROCESS CONCEPT OF OPERATIONS

All the activities in the National Planning process will occur over the course of a year. Each step of the process will focus on one or more future fiscal years. The timeline for national planning activities that would occur in fiscal year 1998 is shown in Figure B.1.

FY98 funds will be obligated at the start of the fiscal year because the projects have been released by OST and are included in the sponsor's Master Agreement. Also at the start of the fiscal year, OST will be releasing projects for the next funding cycle, FY99, and the FAA field offices are adding these projects to the sponsor's Master Agreements.

The National Airport Plan for FY2000 and forward will be drafted in FY97 and sent out for comment to internal and external stakeholders. Feedback from stakeholders will be received in the first quarter of FY98 and Airports HQ will use the feedback to finalize the plan for the budget proposal to Congress in March FY98. The Regions and HQ will use the National Airport Plan to finalize the ACIPs for FY00-04 and send them to OST for release by the end of FY98. Airports HQ will draft the next National Airport Plan, FY01 and forward, based on the current Airports Business Performance Report, future condition projections and future plans in the Regional ACIPs. This draft Plan will be sent to stakeholders before the end of FY98 for comments and feedback.

Throughout the year, RO and ADO planners and engineers will be working with sponsors and states to plan technically sound improvements that reflect national goals, objectives and initiatives presented in the National Airport Plan. As information and project plans are provided to the FAA, the automated system of planning information is updated and data is verified by a designated data steward. Figure B.1 illustrates how planning activities focusing on varying future time periods are performed concurrently by Airports personnel.

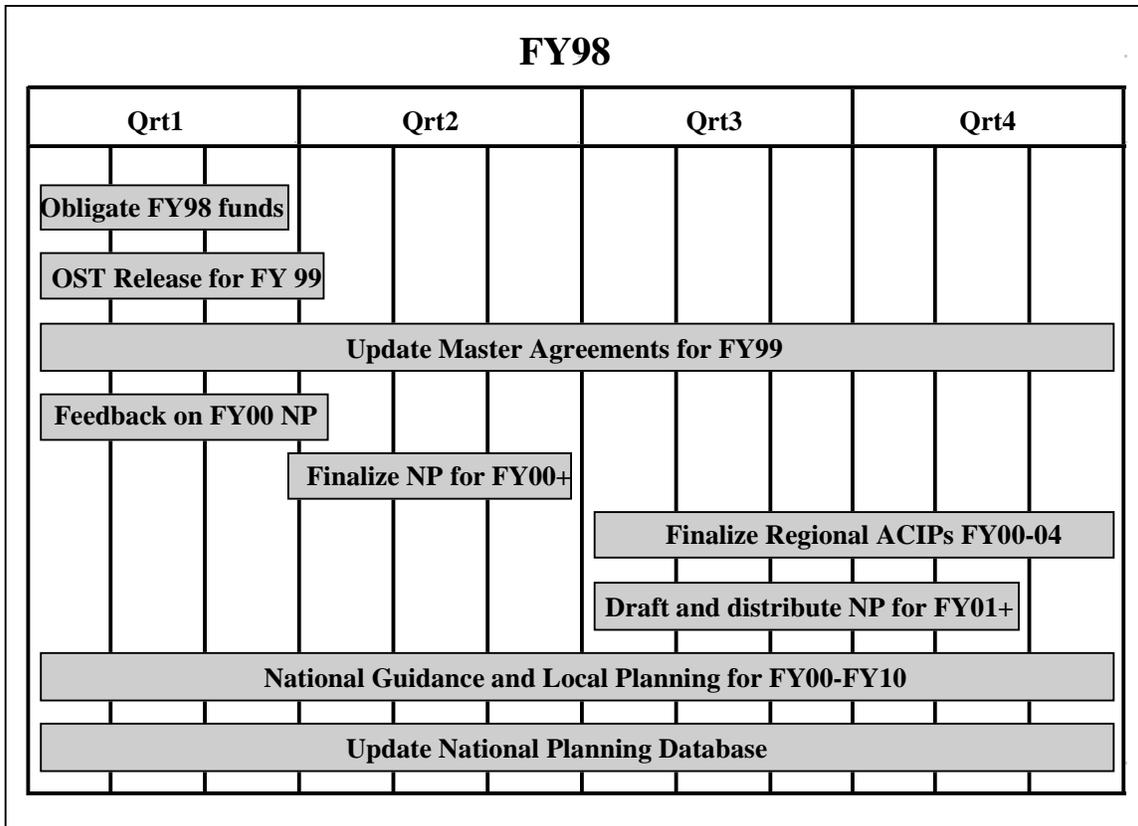


Figure B.1 Planning Activities During One Fiscal Year - FY98

Benefits Related to Timing of the Redesigned Planning Process

- The National Airport Plan, as a part of the budget process, will provide justification for requested funding and flexible funding scenarios that allow Congress to understand the impact of more or less funding.
- Specific planning guidance from HQ is available to the Regions/ADOs in the draft National Airport Plan 2 years in advance of AIP funding.
- OST release and finalizing regional ACIPs occur one year prior to the start of the fiscal year.
- AIP funds are obligated at the beginning of the fiscal year. Sponsors prepare projects to begin construction at the start of the fiscal year.
- Planning for the national system of airports occurs continually for the short-term (e.g., 1-2 years), and for the long-term (3, 5, 10 to 20 years) for systemic changes and initiatives.
- Regions and ADOs continually update and have access to accurate inventory of needs data in the planning database throughout the process.

The database used in the planning process will store planning data for each project in the inventory of needs. Subject areas and data fields that will be included in the system are summarized in Table B.1.

Table B.1 Project Information Requirements

Airport Identifiers	Relation to other Airports	Airport Statistics	Airport Operations (-10, 0,5,& 10 yrs)	Airport Planning	Improvement Projects
<ul style="list-style-type: none"> - Airport Name - City - County Code - County - State - Planning Org - ADO - Region - Owner - Sponsor Code - NPIAS No. - Site No. - LOC ID - MSA Code 	<ul style="list-style-type: none"> - Arpt Relieved - Arpt Replaced -Supplemented Arpt - Cross Reference 	<ul style="list-style-type: none"> - Current Capacity- Annual - Current Capacity- Hourly - Congestion Status - Date Revised 	<ul style="list-style-type: none"> - Service Level - Stage Length - Aircraft Type - Annual Aircarrier Enplanements - Annual Aircarrier Operations - Air Taxi Enplanements - R/W Length - Federal Interest - Design Type - Based Aircraft - Best Instrument Procedure - Annual Itinerant Operations - Annual Total Operations - Performance Assessment 	<ul style="list-style-type: none"> - New Airport - Special Location - New R/W (5,10 yr) - R/W Extension (5,10 yr) - Plans Completed; ALP MP Sys Plan Noise 	<ul style="list-style-type: none"> - Project Description - Entry Date - Purpose Codes - Component Codes - Type Codes - Total Cost Estimate - Yr Funding Requested For - Status - National Priority Code - User Priority - ADO Priority - Expected Performance Improvement

The National Airport Plan will be developed using an integrated top-down and bottoms-up approach. FAA planners and engineers will work with stakeholders to develop the plan from established national goals, objectives, initiatives and priorities and the Regional ACIPs with project information from the automated database system. The organization of the National Airport Plan is described in Figure B.2.

National Plan Outline	
– Executive Summary	
– Introduction	
– Section 1: National Interest	<i>Reference the FAA mission. Define the national interest in the national airport system.</i>
– Section 2: National System of Airports Goals and Objectives	<i>Reference goals and objectives in the FAA Strategic Plan and Airports Business Plan.</i>
– Section 3: National System of Airports Performance Assessment	<i>Summary of the analysis in the National Performance Report including the current performance of the national airport system, progress towards national goals for the system, problem areas with analysis related to probable causes, current system needs and future needs based on demand forecast.</i>
– Section 4: Improvement Initiatives	<i>A specific plan comprised of initiatives to correct deficiencies in the national airport system and prepare for future needs. Each initiative is defined and related to the achievement of performance targets for the national system, national interest, and national goals, objectives and priorities.</i>
– Section 5: Funding Scenarios	<i>Description of the total requirements to meet national initiatives. Several scenarios are provided that describe the degree to which each initiative would be met, the projects that would be done and the impact on performance of funding levels lower than the total requirements.</i>
– Appendices	

Figure B.2 National Airport Plan Outline

The National Airport Plan will demonstrate to Congress and other stakeholders how the FAA is taking a leadership role in planning, developing and maintaining the national system of airports. The information provided in Section 5 will be key to Congress understanding the impact of various funding levels on the national airport system. An example of Section 5 of the National Airport Plan is shown in Table B.2.

Table B.2 National Airport Plan for FY98 Funding Scenarios

		FY98-FY2007				TOTAL
		FY98	FY99	FY00	FY01-07	
A. INVENTORY OF NEEDS PROGRAM REQUIREMENTS						
<i>(Airports in the Federal Interest)</i>						
SAFETY		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
CAPACITY		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
SECURITY		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
REHABILITATION		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
ENVIRONMENTAL MITIGATION		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
UPGRADE EXISTING APTS		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
NEW AIRPORTS		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
TOTAL		\$\$\$	\$\$\$	\$\$\$	\$\$\$	\$\$\$
B. Funding Scenarios (Examples)						
		FY98-FY2007				TOTAL
		FY98	FY99	FY00	FY01-07	
Funding Scenario #1	Performance Improvement for Initiative	Total Scenario \$ = \$\$\$\$				Annual Performance Improvement = (%)
<i>SAFETY</i>						
Initiative 1- IMPROVE SAFETY AREAS		a% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
Initiative 2- INSTALL SMIGS		b% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
<i>CAPACITY</i>						
Initiative 3- IMPROVE TAXIWAYS AT APTS W/ 20,000+ HRS DELAY		c% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
Initiative 4- BUILD NEW RUNWAYS		d% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
<i>ACCESS</i>						
Initiative 5- GPS APT IMPROVEMENTS		e% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
Funding Scenario #2						Total Scenario \$ = \$\$\$\$
<i>SAFETY</i>						
Initiative 1- IMPROVE SAFETY AREAS		aa% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
Initiative 2- INSTALL SMIGS		bb% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
<i>CAPACITY</i>						
Initiative 3- IMPROVE TAXIWAYS AT APTS W/ 20,000+ HRS DELAY		cc% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
Initiative 4- BUILD NEW RUNWAYS		dd% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)
<i>ACCESS</i>						
Initiative 5- GPS APT IMPROVEMENTS		ee% improvement	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)	\$\$\$(%)

Part A of table B.2 is the total inventory of airport development needs for FY 1998-2007. The timing and extent of needs are based on passenger, cargo and air traffic growth; airfield and landside delay; safety and security initiatives; infrastructure maintenance; and other similar issues. These estimates can be used by all stakeholders to make decisions on how to finance airport development. Financing available to airport sponsors includes bond financing, federal

funds (AIP), state funds, internally generated cash flow, passenger facility charges and possibly private capital.

Part B identifies a number of AIP Funding Scenarios for consideration by Congress, OMB, OST and other decision makers. Each scenario identifies a series of improvement initiatives designed to address strategic airport needs. The cost of implementing each initiative and the resulting system improvement is noted for each FY. The projects that make up each initiative come from the inventory of needs, and are summarized in the individual initiative descriptions. The descriptions are included in Section 4 of this plan. These descriptions contain the purpose, expected duration, estimated cost through completion, expected benefits and projected improvement in system performance for each initiative.

In Funding Scenario #1, there are five initiatives which support FAA strategic goals for safety, capacity, and access, and provide the most cost effective performance improvements. Costs are summarized at the initiative level and then rolled up to provide the cost for the funding scenario by FY and total for initiative completion if over multiple years. Specific performance improvement is provided for the overall initiative and for each FY if completion requires multiple years.

An alternative funding scenario for the major initiatives is identified in Funding Scenario #2 of the table. Several alternative funding scenarios will be included. This provides decision makers with alternatives that require different levels of investment and offer different performance improvements. For example, a scenario might explain the impacts of stretching out funding over a longer period of time or show which areas of the program are recommended to be reduced if total funding needs are not provided.

CURRENT/REDESIGNED PLANNING PROCESS COMPARISONS

The current planning process illustrated in Figure C.1 below is primarily a bottoms-up planning process with minimal national guidance and uneven understanding of national goals, problems, and priorities.

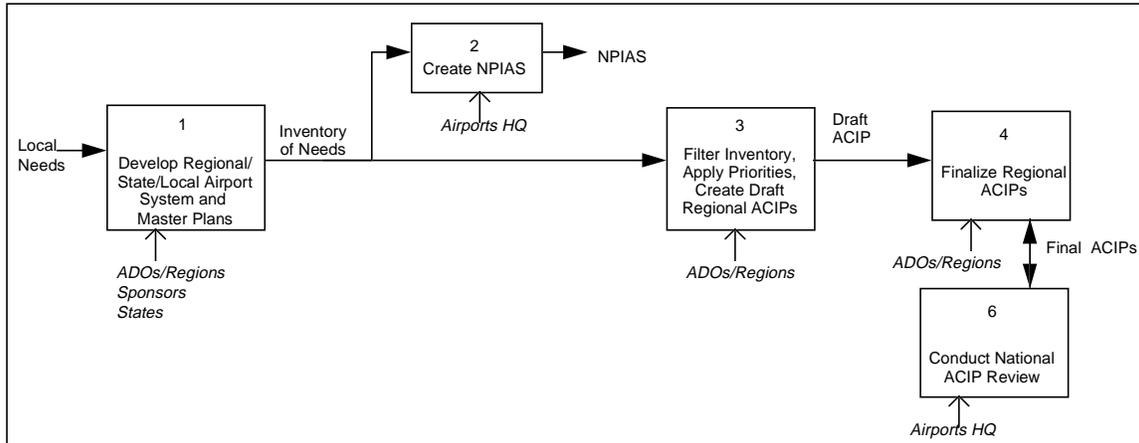


Figure C.1: Current Airports Planning Process

- Reactive planning from a local airport perspective.** The sponsors and states conduct planning studies with financial and technical assistance from the FAA. Planning is primarily driven by local airport needs. National system of airports requirements are assumed to be the sum of local airports needs within the context of the national priority system and standardized guidance.
- Incomplete Inventory of Needs.** The inventory of needs, organized by State and Airport Category, is presented to Congress in the NPIAS every two years. It serves as a federal estimate of AIP eligible development needs. Uniformly ADO/RO staff do not make comprehensive reviews of the NPIAS database. It is a compilation of airport system, master, and layout plans as well as a listing of desired improvements prepared by airport sponsors. Development is included that is not warranted and often needed development is omitted. Review of the database by HQ staff concentrates on major oversights but notes a high error rate in all data input.
- ACIP reflects regional AIP planning levels.** FAA Regions/ADOs use the national priority system and take local priorities into consideration. The projects with the highest priority and the greatest likelihood of being funded by AIP are included in the draft Regional ACIP.
- Regional Plans final when funding is available.** The Regional ACIPs for the next fiscal year are finalized either at the end of the current fiscal year or at the beginning of the next fiscal year. Final ACIPs are based on planning figures from Airports HQ.
- Funding decisions based on categories and priority formula.** Regional ACIPs are reviewed against the level of funding in each category set by Congress, special cases and LOI

obligations, and the national priority calculation to determine the projects that will be funded through AIP. The priority calculation is complicated, not well understood by FAA field personnel and stakeholders, and is believed to be biased.

The differences and associated benefits of the redesigned National Planning process over the existing planning process are summarized in Table C.1.

Table C.1 Current Planning Process and Redesigned National Planning Process Comparison

DIFFERENCES	BENEFITS
Emphasis on participation by FAA HQ, FAA field offices and stakeholders in the establishment of national goals, objectives, and initiatives for national airport system improvement.	FAA staff place increased emphasis on national goals and objectives in working with local/regional planners. National planning integrates goals and objectives with other planning efforts.
FAA HQ, FAA field personnel and stakeholders have common understanding of national goals, objectives, and priorities.	The process is open and includes more involvement of customers and stakeholders at all levels. Planning is done to improve the system of airports rather than just individual airports. All levels of the FAA will be on the same page.
Planning will rely heavily on information from performance measurement and assessment of progress.	All levels of the FAA will understand how well the existing system is meeting national goals before developing new improvement initiatives.
Engineers are more involved earlier in the planning stages. Engineering focus will be more proactive rather than reactive.	Alternatives for improvements are reviewed early in the process for feasibility to avoid progression of project plans that are not technically sound. More focus on cost saving design alternatives prior to project formulation. FAA's technical assistance will be reserved for sponsors who rely on FAA's expertise.
FAA will play more of a leadership role in the financing of all airport improvements.	FAA will work with stakeholders to identify not only Federal but other funding sources and encourage sponsors to use non Federal funds to finance projects that are determined to be the highest priority improvements for the national. Funding will cover multiple years.
Data stewards will be assigned and held accountable for the quality and timeliness of data.	Data are entered once at the source, are timely, and are of high quality. This will provide a single, verified source of information on which to base planning decisions.

DIFFERENCES	BENEFITS
Identifies inventory of needs, regardless of funding source, that is filtered according to national goals and objectives and organized under national initiatives.	Airport improvement needs are presented to Congress as organized efforts to accomplish performance improvements in the national system of airports, rather than as organized efforts to accomplish less critical improvements at state and local levels. Local airport improvement projects are directly tied to national goals and priorities.
New process includes a National Airport Plan which identifies: national inventory of needs; initiatives related to national goals and objectives to achieve performance targets; and alternative financing scenarios over multiple years and related benefits of development to the system.	Funding requirements by system improvement initiative and airport category provides Congress/OMB/others with budget justification and adequate information to judge the impact of their funding decisions.
ACIPs are finalized 1 FY in advance based on scenarios in the National Airport Plan and planning levels distributed by HQ.	OST release occurs 1 year prior to the start of the fiscal year based on final ACIPs and Federal funds are released at the beginning of the FY to implement the development program more effectively.

As part of the As-Is analysis, the National Planning Sub-team defined the products used in and created as part of the current planning process. These products are described in Table C.2 along with a description of how the product is different in the redesigned process.

Table C.2 Products in the Current and Redesigned Planning Process

Product Name	Current Planning Process	Redesigned Planning Process
	Product Description	Differences
National Plan of Integrated Airport Systems (NPIAS)/ National Airport Plan	The current NPIAS Report identifies approximately 3,300 airports significant to air transportation and includes estimates of AIP eligible development at the included airports. The report contains a section on condition & performance of the airport system, highlighting safety, capacity, pavement condition, financial performance, accessibility, and noise. The NPIAS report is sent biannually to Congress. The airport development information is maintained in the NPIAS database.	The National Airport Plan includes: complete inventory of airport improvement needs regardless of funding source; national goals and objectives; performance of the national airport system; initiatives for system improvement; projects and funding required to meet the initiatives; performance improvements expected from initiatives; and scenarios of projects that would be done and the expected system performance based on other funding levels.
Airport Capital Improvement Plan (ACIP)	Regional ACIPs list proposed airport improvements constrained by planning levels and filters including: appropriated AIP funding; national priority; need and justification; project readiness, availability of local matching funds; eligibility of work; community opposition; and compliance problems.	Regional ACIPs will include all the current information with the addition of the performance improvement expected from each project or program and the national initiative the project would help to achieve.
Capacity Enhancement Plan (Airport)	Plan identifies annual delay based on levels of operations. Output is a series of infrastructure, technology and operational recommendations with estimated annual delay savings.	Will be used more at the national level to assess how well the national system is performing and what improvements need to be made.
Regional Airport Capacity Plan	Will identify system impacts of a variety of options to address airport congestion.	No change in the new process.
Part 150 Studies	A study to determine the compatibility of airport operations and surrounding land uses. Compatible land use guidelines are presented in the FAR Part 150 document and are based on studies of human noise perception.	No change in the new process.
Site Selection Study	Evaluation of alternative sites for a new airport based on aeronautical, cost, environmental and other parameters. The process involves significant community and resource agency coordination. Final approval of a site is often a technical/economic and political decision.	No change in the new process.
Airport Layout Plan (ALP)	The ALP represents sponsor, state and FAA plans for development of an individual airport.	No change in the new process.
Airport Master Plans	Inventories the current condition of an airport and forecasts future conditions. Includes alternatives to handle and finance unmet demand.	No change in the new process.
State System Plan & Metropolitan System Plan	Identifies a system of airports that address the aviation needs and goals of a state or Standard Metropolitan Statistical Area(s). The plans establish the role of individual airports, and inventory their condition. A recommended plan of development and priorities among projects and airports is provided.	No change in the new process.
Airports Business Performance Report	Does not exist in the current process.	Provides an evaluation of the performance of the national system of airports, determines how well the system is meeting national goals, defines Airports contribution to achieving those goals, and highlights probable causes for problem areas.

INTERNAL AND EXTERNAL STAKEHOLDER EXPECTATIONS

Stakeholder	Stake	Current Perceptions	Basis for Perceptions	Impact on Airports	Ideal Perceptions	Strategies for Changing Perception
INTERNAL						
Senior Management	Ensure stakeholder interests and expectations are identified through participation in the process.	Administration and Congress feel that they don't know how effectively funds are being spent in relation to airport system improvements.	Comments by Congress, GAO, industry and the press.	AIP Program has been reduced and is threatened with extinction. Loss of AIP funds would reduce number of airport system improvements.	FAA playing a leadership role in improving national system of airports. Can show how effectively federal funds are spent in making needed and measurable improvements.	Reengineered Airports Planning process with improved quality and leadership. Resources directed to meet stakeholder interests and expectations more effectively and efficiently.
Airports HQ Planners	Prepare National Plan of Integrated Airport Systems (NPIAS) based on information from the ADOs/ ROs, airports, & other sources.	ROs/ADOs do not consider NPIAS database and Report to Congress important. Result is data submitted to HQ is incomplete & inaccurate. HQ updates NPIAS data & produces Report to Congress with little support from regions. FAA focus is on AIP not national system development.	Regions do not rely on or give priority to NPIAS database. The NPIAS: 1) does not provide a plan for development of a national airport system 2) does not provide a total \$ estimate of development, and 3) is still considered a "wish list" although 75% of NPIAS projects are in the ACIP.	Congress receives conflicting estimates of development (ATA, AAAE/ACI, FAA) . Asks questions that currently can't be answered. Needed improvements in the airport system may be underfunded.	The National Airport Plan provides a clear picture of the total needs of the National System of Airports and provides a defined plan for meeting system development needs.	National Airport Plan has the information needed by Congress and FAA to plan from a national system perspective. Create a process that 1) holds people accountable for correct data 2) provides data to answer Congressional and others questions 3) makes FAA accountable to measurable results.

Stakeholder	Stake	Current Perceptions	Basis for Perceptions	Impact on Airports	Ideal Perceptions	Strategies for Changing Perception
ADO/RO Planners	<p>Work with local airports to plan and analyze improvements and development.</p> <p>Plan for use of AIP funds for high priority projects.</p>	<p>Too much game playing with priorities, little or no connection to national system, only performance measure is getting money out.</p> <p>Process does not work for development of proactive plan.</p> <p>Regulations and no multiple funding year authorization are constraints.</p> <p>Cumbersome and ineffective automation.</p> <p>Priority system's bias toward safety causes safety projects with a small impact to be funded first while capacity projects that would result in a large positive impact on the system are not funded.</p>	<p>Stakeholder influence-forcing parochial local decisions.</p> <p>Pressures can become "political realities" lowering the overall credibility of the process.</p> <p>Continuing problems with office automation.</p> <p>Information discrepancies between systems.</p> <p>No long term capital investment plan that can be used by FAA or stakeholders to be effective in the investment of fiscal or people resources in support of airport development.</p>	<p>Projects with exaggerated requirements and/or political backing get funded at the expense of improvement projects that would have a more significant impact on national system performance. Airport owner is only paying 5% so has no incentive to control costs.</p> <p>Problems with the priority system and manipulation of the priority system negatively impact planning decisions and reduce the FAA's ability to determine the highest priority to the national airport system. In general, the most needed short term projects are funded.</p>	<p>FAA taking a more proactive role in planning the national system of airports, determining ways to improve safety and airport efficiency.</p> <p>Federal Interest defined in terms of airport system performance objectives.</p> <p>A national priority system that allows projects to compete fairly.</p> <p>Identify benefits with specific projects.</p> <p>Performance measures to reduce impact of politics and focus on areas that are priorities.</p> <p>Clearly defined program presented to Congress.</p>	<p>Define a process where HQ provides emphasis on desired results and lets the field work to accomplish them.</p> <p>Produce a National Airport Plan that identifies system goals, objectives, and needs in performance areas.</p> <p>Establish areas of priority to allow concentration of efforts.</p> <p>Integrate airport planning with intermodal planning.</p> <p>Provide 1 working automation system.</p> <p>Measure ability to get what we plan accomplished.</p>

Stakeholder	Stake	Current Perceptions	Basis for Perceptions	Impact on Airports	Ideal Perceptions	Strategies for Changing Perception
ADO/RO Engineers	<p>Provide engineering and technical expertise to the Airport Planning and Grants process.</p> <p>Coordination with sponsors, consultants and states to prepare airport capital improvement plans.</p>	<p>Engineers losing their technical expertise due to emphasis on administration.</p> <p>FAA Airports needs national goals and plans.</p> <p>More resources and training are needed (e.g., people, and workable computer systems).</p> <p>Additional engineering is more cost beneficial than additional planning.</p> <p>FAA can't rely solely on outside engineering expertise.</p>	<p>Lack of coherent direction from upper management.</p> <p>Available information systems are redundant, cumbersome, and inefficient.</p> <p>Insufficient time to do useful engineering work, little technical training or updating is provided and travel funds have been cut.</p> <p>Skills of some of the consulting firms are lacking. They are motivated to make money not to ensure safety.</p>	<p>Airport sponsors do not always receive quality engineering expertise in planning airport improvements because of the lack of consultant skills and the reduction in travel funds for FAA engineers.</p>	<p>Allocation of resources to effective design and project management.</p> <p>Increased positive interaction between stakeholders and FAA.</p> <p>One database nationwide for planning where sponsors provide all input electronically. Stakeholders have access to all planning information.</p> <p>Regions differ and need broad guidelines rather than rigid prescriptive measures.</p>	<p>Include field offices in national planning and setting priorities.</p> <p>Continue to support need for technical expertise/ Provide technical training.</p> <p>Level playing field, no priority gaming.</p> <p>Engineers attend at least 75% of pre-design and pre-construction conferences to deal with safety and technical issues.</p> <p>Require sponsor to provide their capital plan to create the inventory of needs.</p>

Stakeholder	Stake	Current Perceptions	Basis for Perceptions	Impact on Airports	Ideal Perceptions	Strategies for Changing Perception
EXTERNAL						
Airport Sponsors	As airport owners, interested in local airport growth and revenue. Request AIP funds to support development and improvement of their airports.	FAA does not provide enough resources to meet needs of their airports for planning and grant services as well as development. Unhappy with the priority system. Unable to fund needed work except safety and rehabilitation.	Reductions in AIP funding. Lack of funds for smaller airports. Complex priority system that appears to be biased. Reductions in FAA travel funds.	Sponsors are forced to spend their improvement funds on projects that are pushed for political reasons at the expense of projects that are priorities to meet the airport needs and to improve the national airport system. Sponsors won't consider national interest needs if there is no chance of federal funding.	National planning process that is open, fair and comprehensive. FAA playing a leadership role in helping sponsors secure federal and private financing of airport improvements. Most important projects are funded.	Open and fair national planning process that reconciles competing stakeholder interests in developing a national system of airports.
National Association of State Aviation Officials (NASAO)	Represents state interests in aviation.	TBD	TBD	TBD	TBD	TBD
Air Transport Association of America (ATA)	Represent airlines interest.	TBD	TBD	TBD	TBD	TBD
Airports Operators Council International (ACI)	Focuses on issues related to large airports.	TBD	TBD	TBD	TBD	TBD
American Association of Airport Executives (AAAE)	Represents individuals at airports and the interests of small airports.	TBD	TBD	TBD	TBD	TBD



Agreement No.:
MA-3-48-0064-01-92
Date: 12/1/99

MASTER PROGRAM AGREEMENT

An agreement by and between Cities of Dallas and Fort Worth Texas acting through their Agent the Dallas/Fort Worth International Airport Board, hereinafter referred to as -Sponsor- , and the Federal Aviation Administration, for and on behalf of the United States, hereinafter referred to as FAA

PART I - STANDARD TERMS AND CONDITIONS

Whereas, the Sponsor has submitted an airport development program to be funded in part with Federal financial assistance; and

Whereas, the FAA, after a review of said program, has determined that the projects listed in Part II, attached hereto and made a part hereof, meet the needs of the National Air Transportation System, and said projects are supportable under the Airport Improvement Program, with Federal financial assistance.

STANDARD CONDITIONS

Now, therefore, the parties agree as follows:

1. No obligation for Federal financial assistance is established as a result of this agreement. Federal obligation will occur as a result of notification by Sponsor and approval for obligation by the FAA contingent on the availability of funds under Title 49 United States Code, hereinafter referred to as The Act, as may be modified by any other Act of Congress. Part III to this agreement contains the required submittal by Sponsor to establish an obligation for Federal financial assistance.
2. Any project approved for Federal obligation by FAA shall be carried out in accordance with The Act.
3. By signature when requesting funds under Part III, Sponsor will be incorporating certifications and assurances as required by The Act, and other statutes and regulations, as identified by notice published by the FAA in the *Federal Register*. The duration of said assurances and certifications shall commence with the date of obligation of any funds by the FAA and end as identified in the applicable assurances and certifications.
4. The allowable costs of any project approved by the FAA for obligation purposes shall not include any costs determined by the FAA to be ineligible for consideration as to allowability under The Act.

5. Sponsor shall take all steps, including litigation if necessary, to recover Federal funds spent fraudulently, wastefully, or in violation of Federal antitrust statutes, or misused in any project approved for Federal obligation and upon which any Federal funds have been expended. For the purposes of this agreement and any subsequent Federal obligation action, the term Federal funds means funds however used to be disbursed by the sponsor that were originally paid pursuant to any project obligation approval or any other Federal grant agreement. It shall obtain the approval of the Secretary as to any determination of the amount of the Federal share of such funds. It shall return the recovered Federal share, including funds recovered by settlement, order or judgment, to the Secretary. It shall furnish to the Secretary, upon request, all documents and records pertaining to the determination of the amount of the Federal share or to any settlement, litigation, negotiation, or other efforts taken to recover such funds. All settlements or other final positions of Sponsor, in court or otherwise, involving the recovery of such Federal funds shall be approved in advance by the Secretary.

6. The United States shall not be responsible or liable for damage to property or injury to persons which may arise from, or incident to, compliance with this agreement or any subsequent project approval for obligation.

7. The term of this agreement shall expire on _____ (insert date not to exceed the life of the authorizing legislation), unless sooner terminated by mutual agreement or by completion of all projects identified in this agreement.

8. Unless otherwise approved by the FAA, the sponsor will not acquire or permit any contractor or subcontractor to acquire any steel or manufactured products produced outside the United States to be used for any project for airport development or noise compatibility for which funds are provided under this grant. The sponsor will include in every contract a provision implementing this special condition.

9. It is mutually understood and agreed that if, during the life of the project, the FAA determines that the grant amount exceeds the expected needs of the sponsor by \$5,000 or five (5%) percent, whichever is greater, the grant amount can be unilaterally reduced by letter from the FAA advising of the budget change. Conversely, if there is an overrun in the eligible project costs, FAA may increase the grant to cover the amount of overrun not to exceed the statutory fifteen (15%) percent limitation for a primary airport, or 25 (25%) percent of the total increase in allowable project costs attributable to the acquisition of land or interests in land, whichever is greater for others. The FAA will advise the sponsor by letter of the increase. Upon issuance of either of the aforementioned letters, the maximum obligation of the United States is adjusted to the amount specified.

10. If a letter of credit is to be used, the sponsor agrees to request cash drawdowns on the authorized letter of credit only when actually needed for its disbursements and to timely report such disbursements as required. It is understood that failure to adhere to this provision may cause the letter of credit to be revoked.

11. Approval of the project is conditioned on the sponsor's compliance with the applicable air and water quality standards in accomplishing project construction and in operating the airport. Failure to comply with this requirement may result in suspension, cancellation or termination of Federal assistance under this agreement.

12. For a project to replace or reconstruct pavement at the airport, the sponsor shall implement an effective airport pavement maintenance management program as is required by Airport Sponsor Assurance Number 11. The sponsor shall use such program for the useful life of any pavement constructed, reconstructed, or repaired with Federal financial assistance at the airport. As a minimum, the program must conform with the provisions in the attached outline entitled: "Pavement Maintenance Management Program."

13. If this project contains more than \$250,000 of paving, the Sponsor agrees to perform the following:

- a. Furnish a construction management program to FAA prior to the start of construction which shall detail the measures and procedures to be used to comply with the quality control provisions of the construction contract, including, but not limited to, all quality control provisions and tests required by the Federal specifications. The program shall include as a minimum:
 1. The name of the person representing the sponsor who has overall responsibility for contract administration for the project and the authority to take necessary actions to comply with the contract.
 2. Names of testing laboratories and consulting engineer firms with quality control responsibilities on the project, together with a description of the services to be provided.
 3. Procedures for determining that testing laboratories meet the requirements of the American Society of Testing and Materials standards on laboratory evaluation, referenced in the contract specifications (D 3666, C 1077).
 4. Qualifications of engineering supervision and construction inspection personnel.
 5. A listing of all tests required by the contract specifications, including the type and frequency of tests to be taken, the method of sampling, the applicable test standard, and the acceptance criteria of tolerances permitted for each type of test.
 6. Procedures for ensuring that the tests are taken in accordance with the program, that they are documented daily, and that the proper corrective actions, where necessary, are undertaken.
- b. Submit at completion of the project, a final test and quality control report documenting the results of all tests performed, highlighting those tests that failed or did not meet the applicable test standard. The report shall include the pay reductions applied and reasons for accepting any out-of-tolerance material. An interim test and quality control report shall be submitted, if requested by the FAA.
- c. Failure to provide a complete report as described in paragraph b, or failure to perform such tests, shall, absent any compelling justification, result in a reduction in Federal participation for costs incurred in connection with construction of the applicable pavement. Such reduction shall be at the discretion of the FAA and will be based on the type or types of required tests not performed or not documented and will be

commensurate with the proportion of applicable pavement with respect to the total pavement constructed under the grant agreement.

- d. The FAA, at its discretion, reserves the right to conduct independent tests and to reduce grant payments accordingly if such independent tests determine that sponsor test results are inaccurate.

SPECIAL CONDITIONS

I. PROJECTS INVOLVING DISPLACEMENT OF PERSONS PRIOR TO JULY 1, 1972.

The United States shall pay the full amount of the first \$25,000 of the costs to the sponsor of providing payments and assistance for a displaced person under sections 206, 210, 215, and 305 of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, P.L. 91-646. Payment will be conditioned on segregation by the sponsor of such costs from the basic land acquisition costs and upon application for payment in the manner and form prescribed by the FAA.

II. NAVIGATIONAL AIDS.

Unless ownership is assumed by the Federal Aviation Administration in accordance with applicable law, the sponsor must provide for the continuous operation and maintenance of any navigational aid funded under the AIP during the useful life of the equipment; and check the facility prior to its commissioning to assure it meets the operational standards. The sponsor must also remove, relocate, or lower each obstruction on the approach or provide for the adequate lighting or marking of the obstruction if any aeronautical study conducted under FAR Part 77 determines that to be acceptable; and mark and light the runway, as appropriate. The Federal Aviation Administration will not take over the ownership, operation, or maintenance of any sponsor-acquired equipment, except for instrument landing systems as provided by law.

III. FRICTION MEASURING DEVICES.

The sponsor assures that it will properly calibrate, operate, and maintain the friction measuring equipment in accordance with the manufacturer's guidelines and instructions and AC 150/5320-12. The friction measuring equipment and tow vehicle (if applicable) shall not be used for any other purpose other than for conducting friction measuring tests on airport pavement surfaces and directly related activities, such as training and calibration.

IV. PROJECTS ON PRIVATELY OWNED PROPERTY.

No payment shall be made under the terms of this grant agreement for work accomplished on privately owned land until the sponsor submits the agreement with the owner of the property required by Assurance 5d of the Part V, Assurances and such agreement is determined to be satisfactory. As a minimum, the agreement with the private owner must contain the following provisions:

A. The property owner shall subject the construction work on the project to such inspection and approval during the construction or installation of the noise compatibility measures and after completion of the measures as may reasonably be requested by the Secretary or the sponsor.

B. The property owner shall assume the responsibility for maintenance and operation of the items installed, purchased or constructed under this grant agreement. Neither the Federal Aviation Administration nor the sponsor bears any responsibility for the maintenance and operation of these items.

C. If Federal funds for the noise compatibility measures are transferred by the sponsor to the owner of the private property, or the owner's agent, the property owner shall agree to maintain and make available to the Secretary or the sponsor, upon reasonable request, records disclosing the amount of funds received and the disposition of those funds.

D. The property owner's right to sue the owner of _____ Airport for adverse noise impact will be abrogated if the property owner deliberately or willfully acts to reduce or destroy the effectiveness of the noise compatibility measures during the useful life of such measures. This obligation shall remain in effect throughout the useful life of the noise compatibility measures, but not to exceed 20 years from the date of the sponsor's acceptance of Federal aid for the project.

V. ACQUISITION OF RUNWAY PROTECTION ZONE.

A. Acquisition of Fee Title to Runway Protection Zone.

The sponsor agrees to prevent the erection or creation of any structure or place of public assembly in the runway protection zone, as depicted on the Exhibit A Property Map except for navigaids that are fixed by their functional purposes or any other structure approved by the FAA. Any existing structures or uses within the Runway Protection Zone will be cleared or discontinued unless approved by the FAA.

B. Acquisition of Aviation Easement of the Runway Protection Zone.

The Sponsor agrees to take any and all steps necessary to ensure that the owner of the land within the designated Runway Protection Zone will not build any structure in the runway Protection zone that is an airport hazard or which might create glare or misleading lights or lead to the construction of residences, fuel handling and storage facilities, smoke generating activities, or places of public assembly, such as churches, schools, office buildings, shopping centers, and stadiums.

VI. AIR AND WATER QUALITY STANDARDS.

Approval of the project is conditioned on the sponsor's compliance with the applicable air and water quality standards in accomplishing project construction and in operating the airport.

Failure to comply with this requirement may result in suspension, cancellation, or termination of Federal assistance under this agreement.

VII. PRIVATE SPONSOR AUDITS.

The sponsor shall provide for an audit of this grant project to be made at the completion of the grant objective in accordance with accepted standard audit practices. Copies of the audit will be sent to the Department of Transportation Office of Inspector General designated by the Federal Aviation Administration office responsible for administering the grant.

VIII. ARFF STRUCTURAL EQUIPMENT

The sponsor agrees that:

- a. It will house and maintain the structural firefighting equipment in a state of operational readiness;
- b. It will provide the necessary staffing to operate the vehicles and equipment;
- c. It will train personnel to the appropriate levels of NFPA-1001, Standard for Firefighter Professional Qualifications, and NFPA-1002, Fire Apparatus Driver/Operator Professional Qualifications or the appropriate level of their State Firefighter Certification requirements, where such requirements exist;
- d. It will have in place an emergency alarm system that distinguishes between structural emergencies and aircraft emergencies;
- e. It will limit the use of the structural firefighting vehicle to on-airport emergencies;
- f. It will amend emergency plans to reflect the acquisition of the vehicle and equipment if the existing plan does not reflect on-airport facilities for structural firefighting capability;
- g. Aircraft Rescue and Firefighting (ARFF) services take precedence over all other emergency services it chooses to offer as a result of this acquisition;
- h. It will test structural vehicles and equipment in a manner similar to tests prescribed for ARFF vehicles and equipment; and,
- i. It will ensure that all future on-airport building construction comply with appropriate building standards requiring use of fire resistant materials and construction methods, appropriate exits to the outside or safe areas, and where appropriate, built-in fire protection.

No obligation for Federal financial assistance is established as a result of this agreement. Federal obligation will occur as a result of notification by Sponsor and approval for obligation by the FAA contingent on the availability of funds under The Act, as may be modified by any other Act of Congress.

UNITED STATES OF AMERICA
FEDERAL AVIATION ADMINISTRATION

_____/s/_____
Manager Date

Dallas and Fort Worth Texas Airport Development Office

Cities of Dallas and Fort Worth Texas acting through their Agent the Dallas/Fort Worth International Airport Board

Date

Executive Director
(Title)

PART II - PROJECTS IDENTIFIED FOR POSSIBLE FEDERAL ASSISTANCE

<i>Project:</i>	<i>Estimated Project Cost (in millions)</i>	<i>Estimated Federal Eligible (in Millions)</i>	<i>Applicable Special Condition Reference</i>
Construct Runway 16/34E:			
1.a Acquire Mandatory Land	\$66.7	\$50	VI
1.b Acquire Noise Land	\$66.7	\$50	VI
1.c Conduct Environmental Mitigation (Soundproofing)	\$18.7	\$14	VI
2. Grading and Drainage	\$26.7	\$20	VI
3. Extend Taxiways ER, EL and ARFF Roads	\$9.3	\$7	VI
4. Conduct Demolition	\$4.0	\$3	VI
5. Construct Taxiway Bridges	\$5.3	\$4	VI
6. Relocate Valley View Drive	\$4.7	\$3.5	VI
7. Relocate TU 138KV Powerline	\$4.3	\$3.2	VI
8. Construct South RPZ.	\$6.0	\$4.5	VI
9. Construct Wetlands Mitigation	\$1.1	\$0.8	VI
10. Paving and Electrical	\$46.7	\$35.0	
	\$260.2	\$195.0	

SPECIAL CONDITIONS:

Project 1 through 9 - Ref. VI: AIR AND WATER QUALITY STANDARDS.

Approval of the project is conditioned on the sponsor's compliance with the applicable air and water quality standards in accomplishing project construction and in operating the airport. Failure to comply with this requirement may result in suspension, cancellation, or termination of Federal assistance under this agreement.

PART III - GRANT AGREEMENT/OBLIGATION

Pursuant to, and in accordance with the Master Program Agreement dated 12/1/99, I certify that bids have been received in accordance with applicable regulations, that the Cities of Dallas and Fort Worth Texas acting through their Agent the Dallas/Fort Worth International Airport Board has sufficient funds to proceed and complete the following project(s), and that it will proceed without undue delay to accomplish the project(s):

Project	Funding (Millions)
1.a Acquire Mandatory Land	\$12.50
1.b Acquire Noise Land	\$6.00
2. Construct Grading and Drainage	\$16.00
3. Extend Taxiways	\$4.00
4. Demolition	\$3.00
Requested Funds	\$41.50

I certify and assure to such certifications and assurances, as required by Title 49, United States Code., and other statutes and regulations, by reference, in accordance with the notice published by the FAA in the *Federal Register*, dated 10/1/99. The duration of said assurances and certifications shall commence with the date of obligation of any funds by the FAA and end as identified in the applicable assurances and certifications

Special conditions cited in part I and referenced to specific projects in Part II are applicable and binding herein.

UNITED STATES OF AMERICA
FEDERAL AVIATION ADMINISTRATION

_____/s/_____
Date

Manager
Dallas and Fort Worth Texas Airport Development Office

Cities of Dallas and Fort Worth Texas acting through their Agent the Dallas/Fort Worth International Airport Board

Date

Executive Director
(Title)

OBLIGATION**(To be completed by FAA)**

Letter of Credit: Yes: ___ No: ___
 New: ___ Increase: ___ Final: ___
 Increase: ___ Decrease: ___

Fund Type	Appropriation Funding Splits	Year Funded	Sponsor Code	Appropriation Balance	Cumulative Balance
84.R	\$ 1,000,000.00	1992		0	\$0
84.A	\$ 18,000,000.00	1992		0	\$0
84.1	\$ 22,500,000.00	1992		101,326,076.88	\$101,326,076.88
Total	\$ 41,500,000.00				

Fund Type	Previous Amount	+/- Amount Requested	Revised Amount
84.R	\$ 10,000.00	0.00	10,000.00
84.A	\$ 0.00	20,000.00	20,000.00
84.1	\$ 30,000.00	-5,000.00	25,000.00
Total	\$ 40,000.00	15,000.00	55,000.00

Federal Funds : \$41,500,000Project No. **MA-3-48-0064-01-01**Contract No. DTFA32-**92**-C-05532

Authorized Certifying Officer _____

ASW-42E

PART III - GRANT AGREEMENT/OBLIGATION

Pursuant to, and in accordance with the Master Program Agreement dated 12/1/99, I certify that bids have been received in accordance with applicable regulations, that the **City of Hootowl acting through its agent the Hootowl International Airport Board** has sufficient funds to proceed and complete the following project(s), and that it will proceed without undue delay to accomplish the project(s):

Project:	Funding (Millions)
1.a Acquire Mandatory Land	\$10.00
1.b Acquire Noise Land	\$7.00
2. Construct Grading and Drainage	\$4.00
4. Extend Taxiways	\$3.00
5. Construct Bridges	\$4.00
6. Relocate Valley View Drive	\$3.50
7. Paving and Electrical	\$14.00
Requested Funds	\$45.50

I certify and assure to such certifications an assurances, as required by Title 49, United States Code,, and other statutes and regulations, by reference, in accordance with the notice published by the FAA in the *Federal Register*, dated 10/1/99. The duration of said assurances and certifications shall commence with the date of obligation of any funds by the FAA and end as identified in the applicable assurances and certifications

**City of Hootowl acting through its agent the
Hootowl International Airport Board**

(Title)

Date: _____



REQUEST FOR FEDERAL ASSISTANCE
FEDERAL AVIATION ADMINISTRATION
CENTRAL REGION \ AIRPORTS DIVISION

1. **AIRPORT CAPITAL IMPROVEMENT PLAN (ACIP) DATA SHEET**

An ACIP Data Sheet (see reverse side) must be submitted for each work item listed on the sponsor's ACIP - Include the name of the airport, the local priority of the requested work and the work item description. Contact the State Airport Planner responsible for your state regarding which fiscal years they are working on.

SKETCH - color-coded sketch which depicts and identifies the scope of the proposed project.

JUSTIFICATION - the justification should be brief and describe the need, objectives, method of accomplishment, and the benefit expected to be obtained from the assistance.

COST ESTIMATE - the total cost estimate (including, engineering, administrative, legal, and appraisal costs, etc.) must show unit costs, aggregate in square yards (S.Y.), concrete paving in square yards (S.Y.) and asphaltic paving in tons. Separate the costs for land acquired in fee and land acquired in easement. NOTE: cost estimates cannot include an amount for contingencies. Attach additional sheets if necessary.

Satisfying environmental requirements and a current FAA-approved Airport Layout Plan (ALP) are prerequisite for work reflected in the current year and next year program.

If required, evidence of State and Regional Clearinghouse coordination should be provided with the ACIP Data Sheet. If requesting Federal assistance for snow removal equipment, please include an inventory of the existing equipment and calculations based on Chapters 4 & 5 of the Airport Winter Safety and Operations Advisory Circular (AC) 150/520-30 and the Airport Snow and Ice Control Equipment AC 150/220-20 showing the minimum equipment needed along with the ACIP Data Sheet.

ACIP DATA SHEET

AIRPORT		LOCAL PRIORITY		UPDATED	
WORK ITEM					

SKETCH:

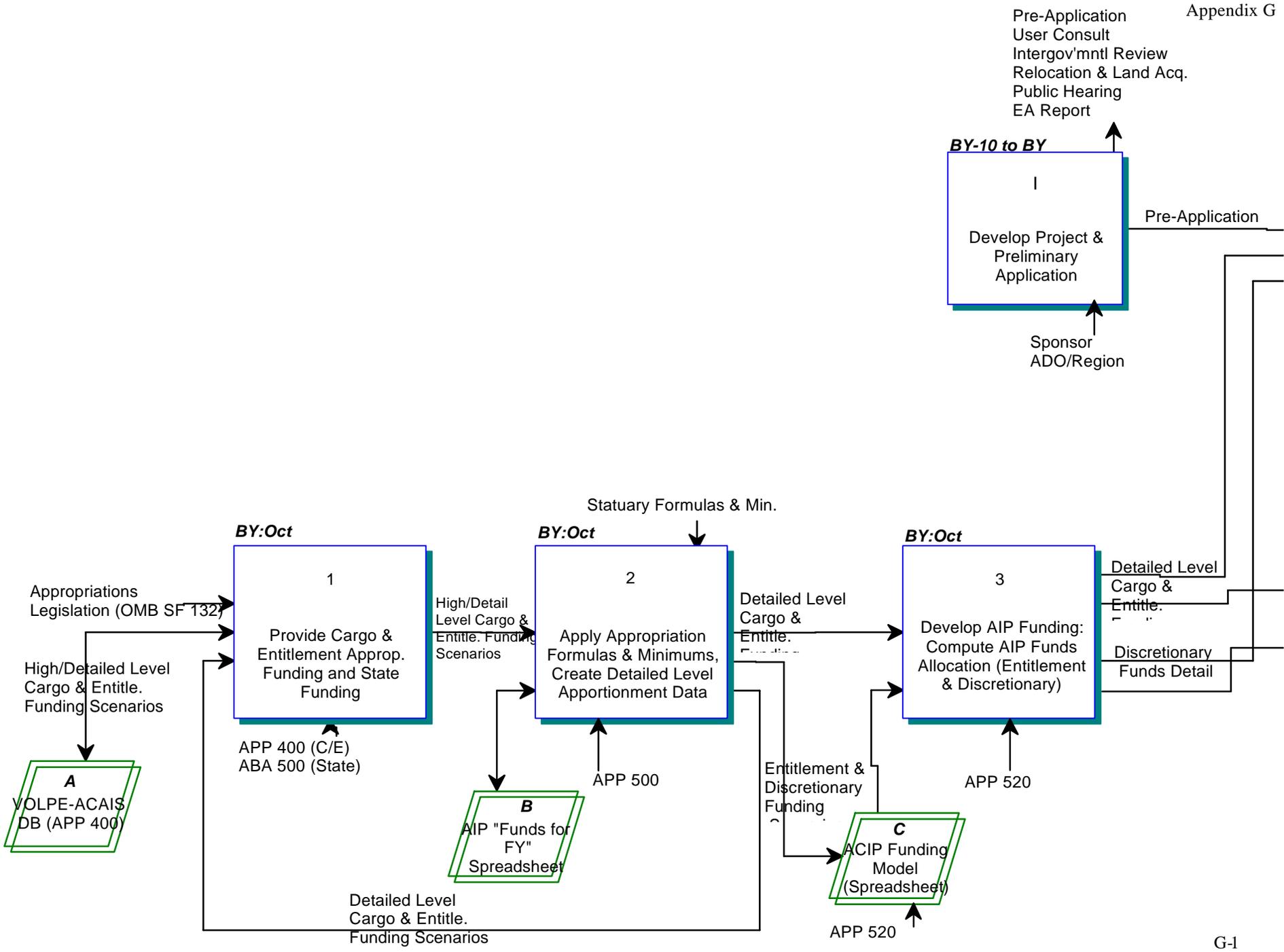
JUSTIFICATION:

SPONSOR SIGNATURE: _____ DATE: _____

COST ESTIMATE:

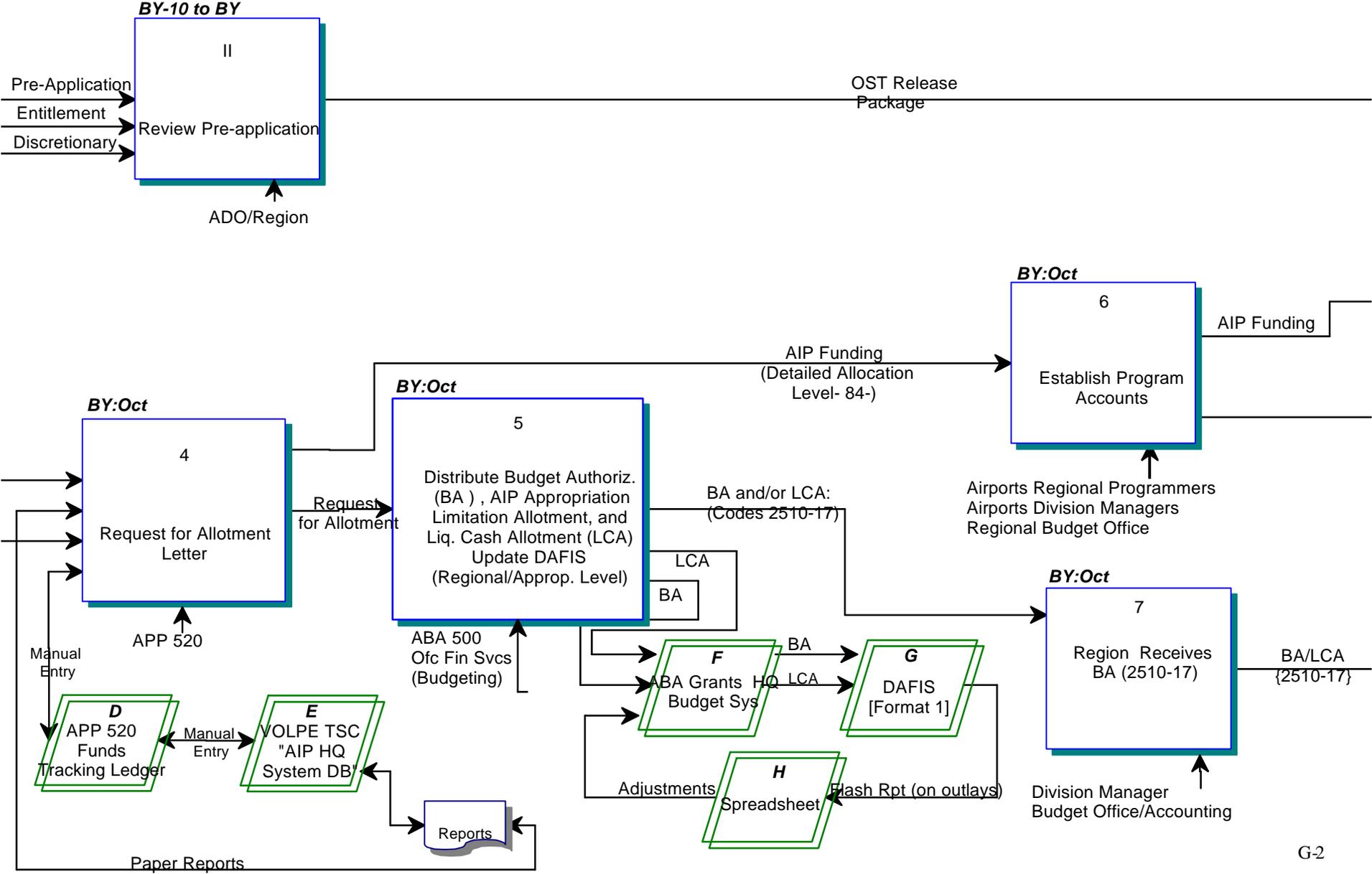
FAA USE ONLY

PREAPP NUMBER	GRANT NUMBER	NPIAS CODE	WORK CODE	FAA PRIORITY	FEDERAL \$

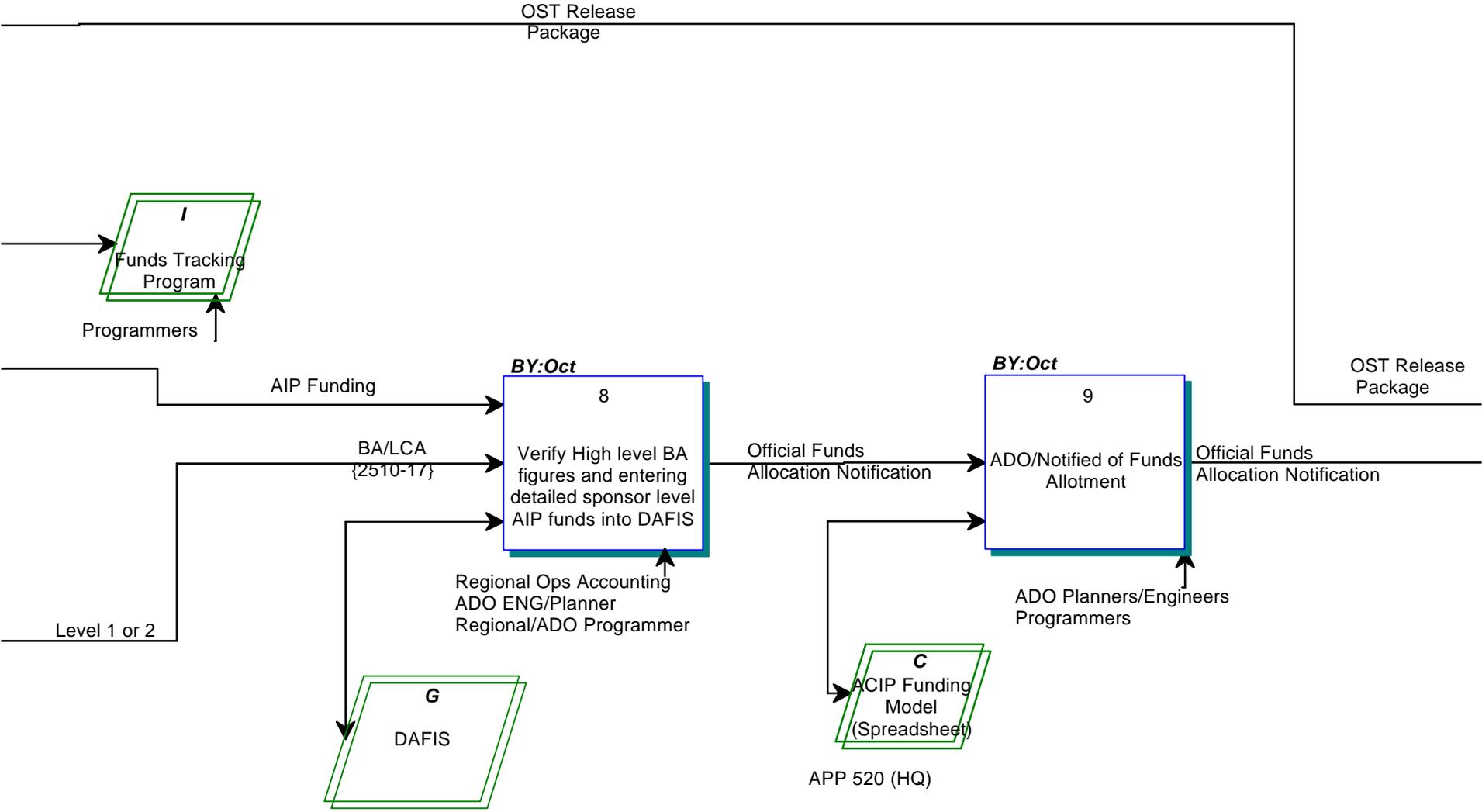


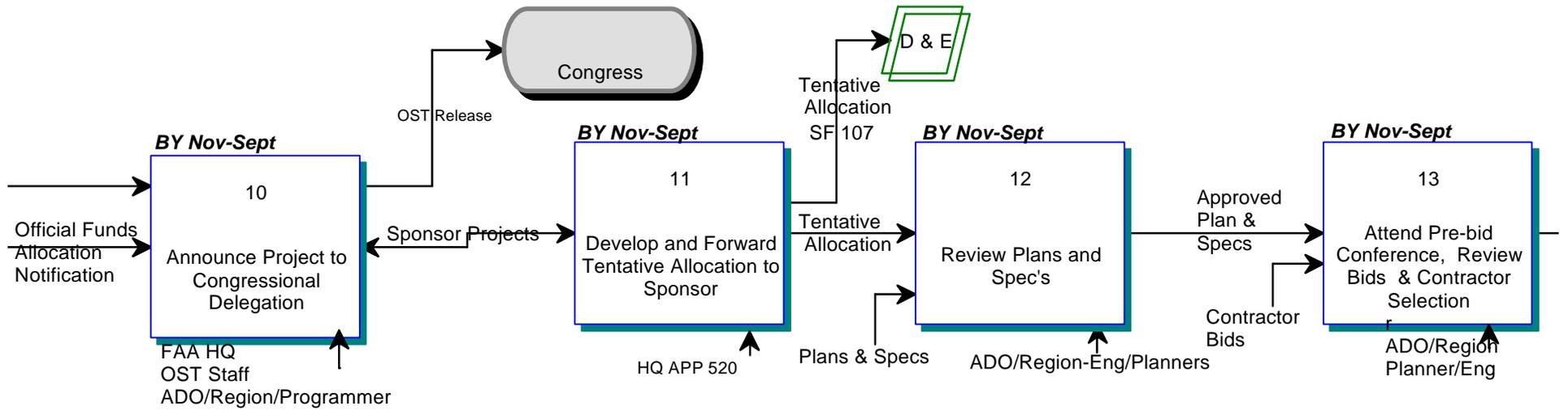
PHASE I

Funding Scenarios



PHASE 2/3

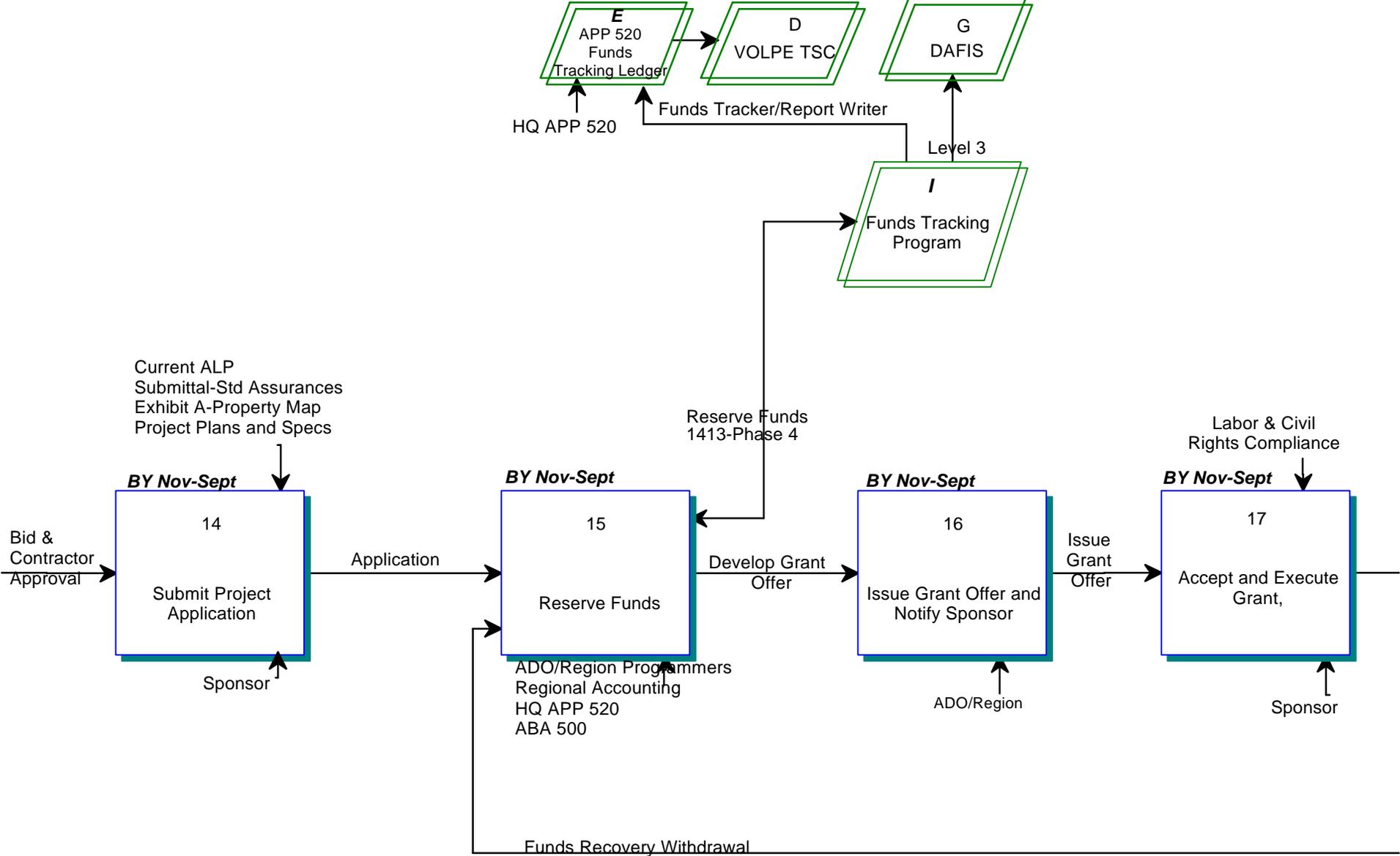




PHASE 6

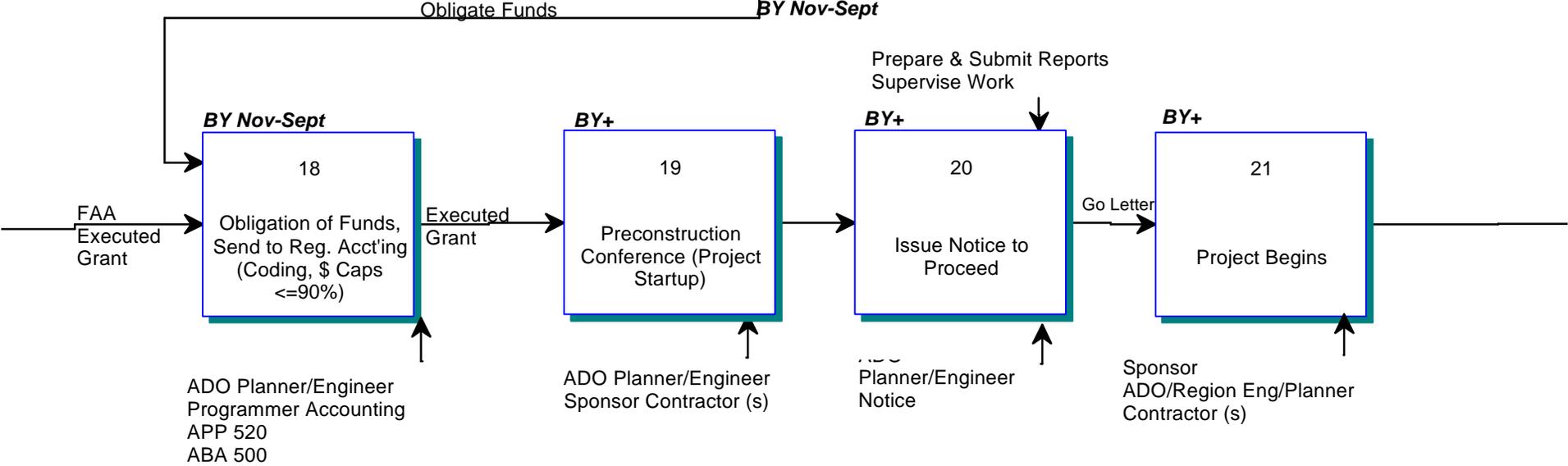
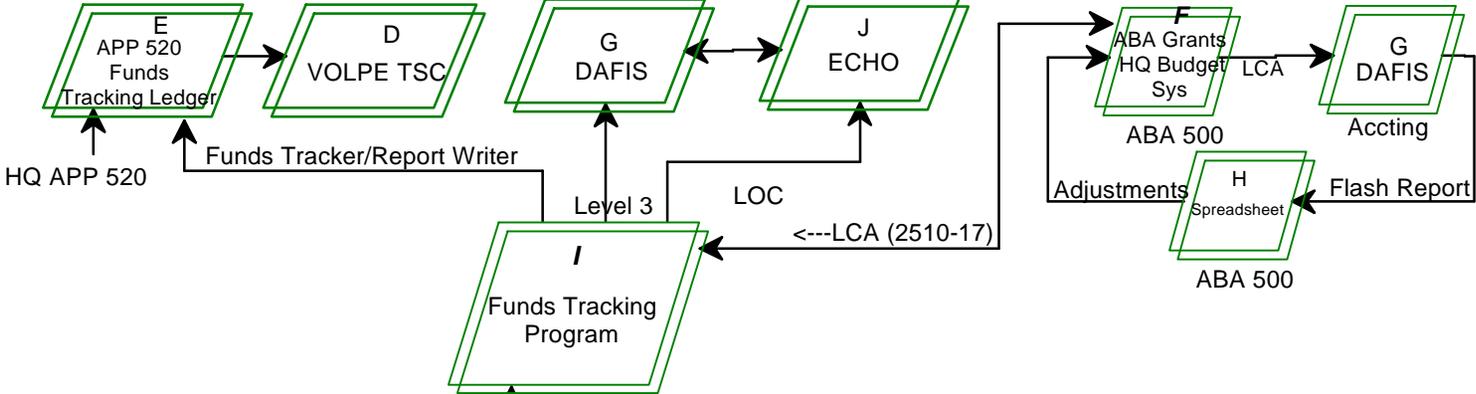
PHASE 4

Financial Project Control Subprocess

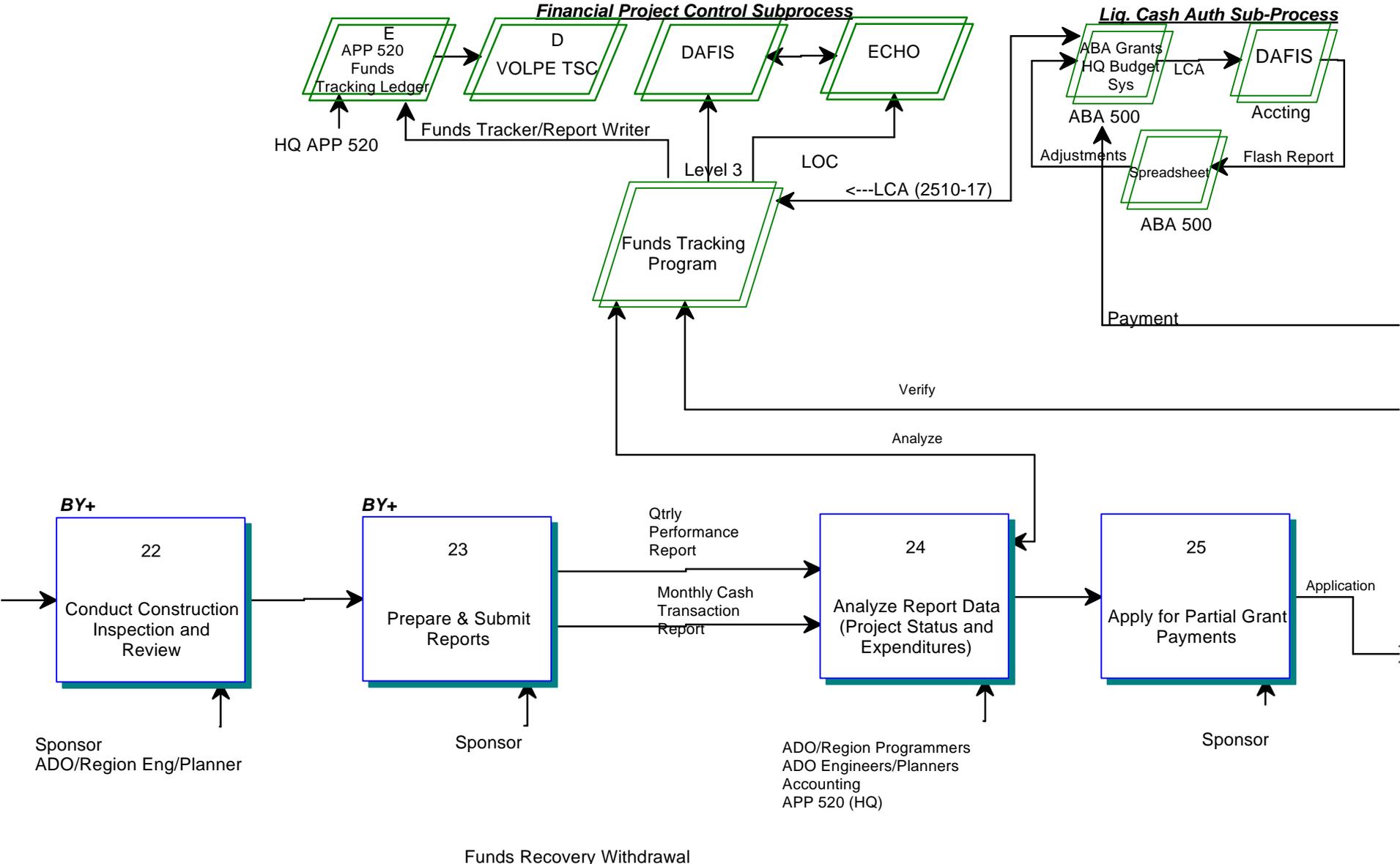


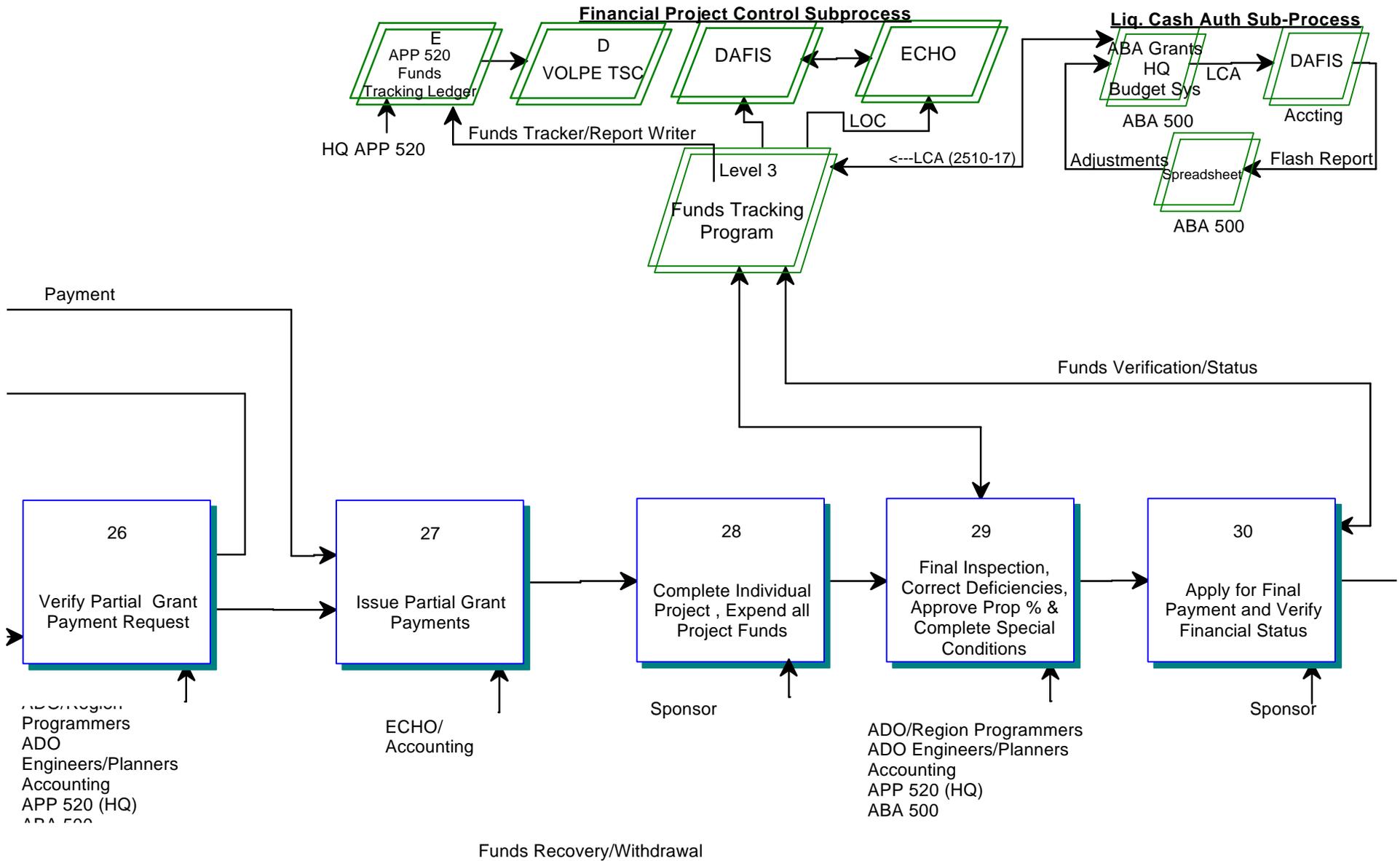
Financial Project Control Subprocess

Liq. Cash Auth Sub-Process

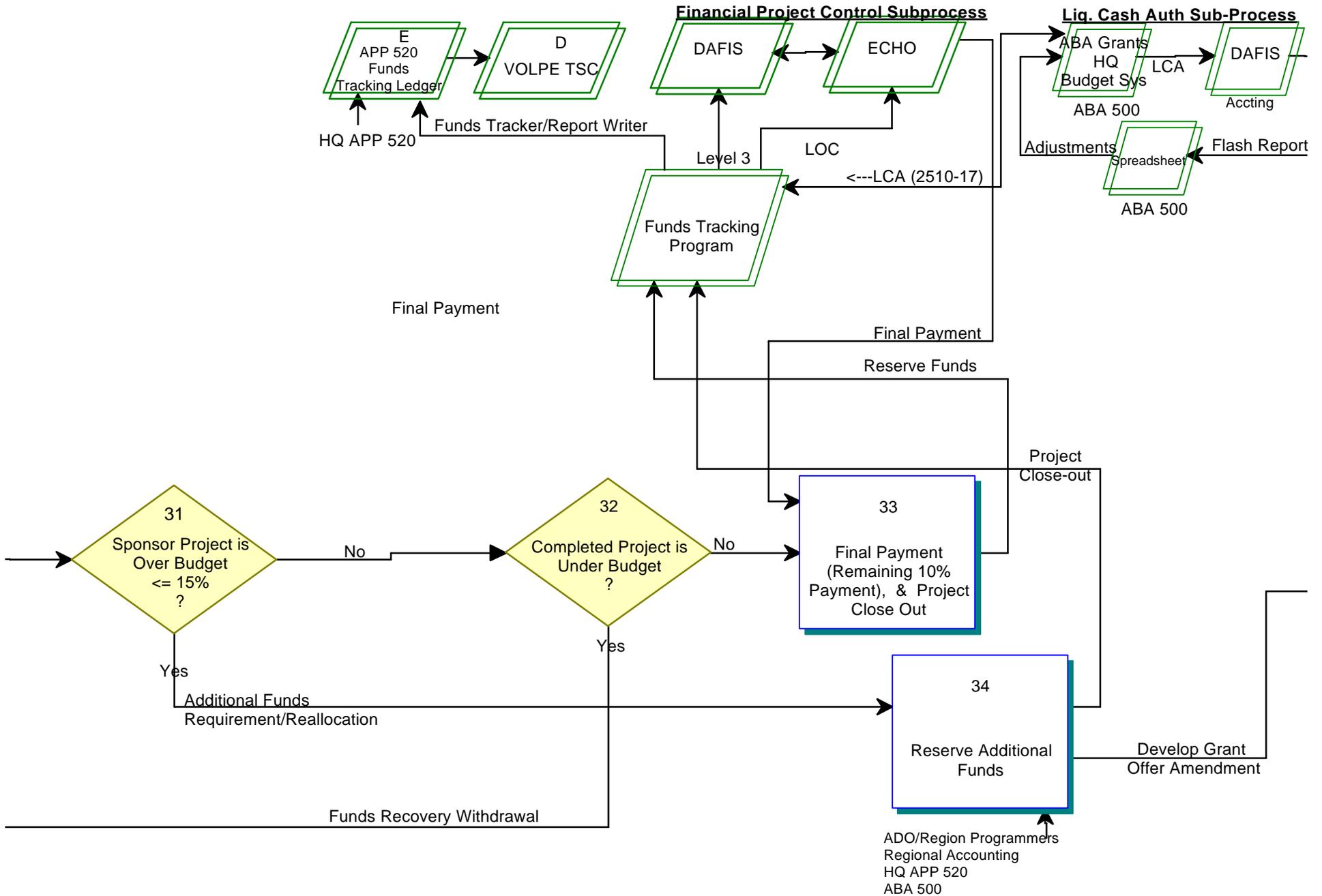


Funds Recovery Withdrawal





PHASE 8



As-Is Grant Issuance and Management Process Glossary

Process #	Process Name	Description
1	Provide Cargo and Entitlement Appropriation Funding and State Funding	ACIPs are finalized prior to the start of the fiscal year based on funding scenarios in the national plan and provided to HQ for review and comment. ACIPs used in the Grant process help develop and update project status prior to the start of Gov't fiscal year and Congressional appropriation release. INPUTS: Appropriation legislation (OMB SF 132), VOLPE ACAIS APP 400 high/detail cargo & entitlement funding scenarios OUTPUTS: High/detail cargo & entitlement scenarios - {#2} MECHANISMS: APP 400 and ABA 500 (state funding)
2	Apply Appropriation Formulas and Minimums, Create Detailed Level Apportionment Data	FAA HQ-APP 500 receives APP 400 and ABA 500 (State) input and Congressional Appropriation Legislation and recalculates high/detailed level apportionment data using the "Excel AIP Funds for FY Spreadsheet". INPUT: Appropriation legislation (OMB SF 132), VOLPE ACAIS APP 400 high/detail cargo & entitlement funding scenarios. OUTPUTS: Detailed level cargo & entitlement approp scenario(s) -{#3} MECHANISMS: APP 500
3	Develop AIP Funding: Compute AIP Funds Allocation (Entitlement and Discretionary)	FAA HQ-APP 520 receives APP 500 Apportionment Entitlement scenario (s) and calculates Discretionary and recalculates Entitlement to compute detailed Discretionary funding detail. INPUT: APP 500 entitlement apportionment scenarios OUTPUTS: Discretionary funds detail, detailed level cargo & entitlement funding - {#4 & II} MECHANISMS: APP 520
4	Request for Allotment Letter	APP 520 receives detail funding allocation and manually re-enters data in "VOLPE TSC AIP HQ System DB", generating high level "Request for Allocation" (forms/reports) for ABA 500 (Office of Financial Services-Budgeting). Additionally, detail level AIP funding allocation is generated and sent to ADO/Regional (Field) Office Programmers. Detail/high level funding report data is entered and tracked manually throughout the life of the Grant within the "HQ paper Ledger", and within the "VOLPE TSC System". INPUT: Discretionary funds detail, detailed level cargo & entitlement funding, manual report input OUTPUTS: "Request for Allotment" high level - {#5} Detailed level AIP funding allocation - {#6} MECHANISMS: APP 520
5	Distribute Budget Authorization (BA), AIP Appropriation Limitation Allotment, & Liq. Cash Allotment (LCA). Update DAFIS (Regional and Approp. level)	ABA 500 receives high level allotments, enters into "ABA Grants HQ Budget System", "DAFIS" (FAA Airports Accounting System), "ABA Grants HQ Budget System" and a stand alone "Excel Spreadsheet". Official BA SF 2510-17 {(appropriation level (high level)) is manually generated and sent to Regional offices. ABA 500 directly enters BA and LCA data into DAFIS using remote HQ connect. INPUT: "Request for allotment" high level - {#4} OUTPUTS: Official BA - SF 2510-17 - {#7}, BA and LCA input to "DAFIS" and "ABA Grants HQ Budget System" MECHANISMS: ABA 500

Process #	Process Name	Description
6	Establish Program Accounts	Regional Office receive and establish Sponsor Grant program accounts (detail level) using manual tracking tools (paper ledger and Excel spreadsheets). Other offices have migrated to independent database tracking tools. The ADO is then provided detailed AIP funding data. INPUT: Detailed level AIP funding allocation - {#4} OUTPUTS: AIP funding allocation - {#8}, “Funds Tracking Program” MECHANISMS: ADO/Regional Programmers/Planners & Budgeting/Mgmt
7	Region Receives BA (2510-17)	From Process Activity #5, Regional Office receives Official BA and/or LCA (SF 2510-17) from ABA 500. Regional Accounting Office is notified and verifies the high level “DAFIS” account entries against BA and notifies the ADO of the BA. INPUT: Official Budget Authorization (BA - 2510-17) - {#5} OUTPUTS: BA/LCA (SF 2510-17) - {#8} MECHANISMS: Regional Accounting &/or Budget Office
8	Verify High Level BA Figures and Enter Detailed Sponsor Level AIP Funds Into “DAFIS”.	The Regional Office receives detailed AIP funding allocation from {#6} and enters detail level funding by sponsor and notifies ADO of Official - “Notification of Funds Allotment” INPUT: AIP funding - {#6}, BA/LCA (2510-17) - {#7} & DAFIS OUTPUTS: Official funds notification (ADO) - {#9} MECHANISMS: Regional Accounting, Engineer/Planner and Programmer
9	ADO Notified of Funds Allotment.	ADO receives “Notification of Funds Allotment” and provides project data to FAA HQ for OST release to Congressional delegation. INPUT: Official funds allocation notification - {#8} OUTPUTS: Official funds allocation for OST release - {#10} MECHANISMS: ADO Eng/Planner/Programmer, FAA HQ & OST Staff
10	Announcement Project to Congressional Delegation	The ADO/Region forwards the Pre-application and funding allocation to FAA HQ, who in turn provides this information to OST, who prepares and releases Grant project data to appropriate Congressional Delegation (s). FAA HQ APP 520 is notified of OST release. INPUT: OST Notification Release - {II}, official funds allocation notification - {II and #9} OUTPUTS: Congressional OST release - {#11} APP 520 “Grant Funds Tracking” MECHANISMS: FAA HQ, OST Staff & ADO Eng/Plan & Programmers, APP 520
11	Develop and forward Tentative Allocation (TA) to Sponsor	Official Notification initiates APP 520 to track funds using the APP 520 “Funds Tracking paper Ledger” and the “VOLPE TSC AIP HQ System DB”. The “VOLPE TSC System” generates the SF 107 (TA) which is provided to each region representing the official TA. INPUT: Sponsor projects - {#10} OUTPUTS: TA - SF 107 - {#12} MECHANISMS: APP 520
12	Review Plans and Specifications	ADO/Regional Office reviews Sponsor projects plans and specifications and gives Sponsor approval to proceed (“Go Letter”). INPUT: TA - {#11} Sponsor plans and specifications OUTPUTS: Approved plan and specifications and contractor bids MECHANISMS: ADO/Region Engineer/Planner

Process #	Process Name	Description
13	Attend pre-bid Conference, Review Bids & Contractor Selection	As required, ADO/Regional Office aids in planning and attends pre-bid contractor conference, reviews contractor bid requests and proposal responses and, ultimate contractor selection. INPUT: Approved plans and specifications - {#12} OUTPUTS: Bid and contractor approval - {#13} MECHANISMS: ADO/Region Engineer/Planner
14	Submit Project Application	Sponsor takes approved plans and specifications, contractor approved bids and completes necessary paperwork for official project application and forwards to ADO and/or Regional Office. INPUT: Bid and contractor approval - {#13} OUTPUTS: application - {#15} MECHANISMS: Sponsor CONTROLS: Current ALP, submittal of standard assurances & project plans & specifications
15	Reserve Funds	ADO/Regional Office receives completed sponsor application, places 7/18/96 on file, provides application to Regional Programmer and APP 520. APP 520 enters specific project funding information into APP 520 "Funds Tracking Ledger (Paper)" and enters manually into "VOLPE TSC AIP HQ System DB" and generates SF 1413 that is provided to the Regional Programmer who also enters the same project funding data into their own individual "Funds Tracking tool" (Paper, Spreadsheet or customized DB). APP 520 and/or Regional Programmer sends SF 1413 to Regional Accounting who enters specific project funding data into "DAFIS". The ADO/Regional Office will then move forward with paperwork for the Grant Offer. INPUT: Application - {#14} OUTPUTS: SF 1413 reservation of funds, "Funds Tracking Program" and interface with (DAFIS, VOLPE TSC and APP 520 Funds Tracking Ledger) Development of grant offer - {#16} MECHANISMS: ADO/Region Programmers, APP 520, ABA 500, Regional Accounting and Sponsor
16	Issue Grant Offer and Notify Sponsor	ADO/Regional Office completes Grant Offer and provides to Sponsor for review and signature. INPUT: Develop grant offer - {#15} OUTPUTS: Issue grant offer - {#17} MECHANISMS: ADO/Region
17	Accept and Execute Grant	Sponsor reviews and signs Grant Offer and returns to ADO/Regional Office INPUT: Issue grant offer - {#16} OUTPUTS: Executed grant offer - {#18} MECHANISMS: Sponsor
18	Obligation of Funds, Send to Regional Accounting (Coding \$ Caps <=90%)	FAA ADO/Regional Office signs and returns Grant Offer to Sponsor and provides a copy to APP 520, ABA 500 and Regional Programmers who notify Regional Accounting. APP 520, and Regional Programmer establish fund tracking through (APP 520 Fund Tracking Ledger, VOLPE TSC, DAFIS and ECHO), using paper and electronic fund tracking tools. ABA 500 monitors Liquidating Cash Authorization (LCA) levels through the use of "ABA Grants HQ Budget System", "DAFIS" and "manual spreadsheet". INPUT: Executed grant offer - {#17} Obligation of funds (funds tracking program) OUTPUTS: Executed grant - {#19} Obligation of funds (funds tracking program) MECHANISMS: ADO/Region (Planner/Engineer), Programmer, APP 520, APP 500 and Regional Accounting.

Process #	Process Name	Description
19	Preconstruction Conference (Project Startup)	FAA ADO/Regional Office attends, advises and participates in preconstruction Conference. INPUT: Executed grant - {#18} OUTPUTS: Project start-up activities - {#20} MECHANISMS: ADO/Region (Planner/Engineer), Sponsor Contractor (s).
20	Issue Notice to Proceed	ADO/Regional Office issues to Sponsor official notice to proceed. INPUT: Project start-up - {#19} OUTPUTS: Go letter, notice to proceed - {#21} MECHANISMS: ADO/Region (Planner/Engineer) and Sponsor.
21	Project Begins	Sponsor receives Go Letter, starts project work, notifies contractor (s) and start expending funds. INPUT: Go letter, notice to proceed - {#20} OUTPUTS: Project work - {#22} MECHANISMS: Sponsor , ADO/Reg. (Planner/Engineer) & Contractor (s).
22	Conduct Construction Inspection	Sponsor participates with ADO/Region in the project construction inspection and review. INPUT: Project work - {#21} OUTPUTS: Construction inspection/review activities - {#23} MECHANISMS: Sponsor , ADO/Region (Planner/Engineer).
23	Prepare and Submit Reports	Sponsor prepares and submits standard report (s), customized by local and specific ADO/Regional Office/Sponsor defined requirements. INPUT: Sponsor project data OUTPUTS: “Quarterly Performance Report” and “Monthly Cash Transaction Report” - {#24} MECHANISMS: Sponsor
24	Analyze Report Data (Project Status and Expenditures)	ADO/Region Programmers analyze sponsor reports using “Funds Tracking Programs” and provide report data to APP 520. ABA 500 down loads “DAFIS” Accounting data, uses “ABA Grants HQ Budget System” and “manual spreadsheet”, interfaces with Field Programmers and/or Field Accounting staff to manage LCA. INPUT: Qtrly performance report - {#23} Monthly cash transaction report - {#23} OUTPUTS: Analyze (funds tracking program) - funds tracking program MECHANISMS: ADO/Region Programmers, ADO Engineers/Planners Accounting, APP 520 (HQ)
25	Apply for Partial Grant Payment	Sponsor completes and submits request to FAA ADO/Regional Office for payment/reimbursement for portion of work performed and/or completed. INPUT: Analyzed report - {#24} OUTPUTS: Payment request - {#26} MECHANISMS: Sponsor
26	Verify Partial Grant Payment Request	As required ADO/Region Programmers, Accounting, APP 520 and ABA 500 (LCA) verify and coordinate with Engineers/Planners and Sponsor payment/reimbursement request. INPUT: Payment Request - {#25} OUTPUTS: Determine payment acceptability/approval - {#27} MECHANISMS: ADO/Region Programmers, ADO Engineers/Planners Accounting, APP 520 (HQ), ABA 500

Process #	Process Name	Description
27	Issue Partial Grant Payment Request	If request is approved, ADO/Region will request Accounting to issue partial Grant payment (progress payment) to Sponsor. Currently, the ECHO system is being utilized and installed across the Airports Division. ECHO enables payment to occur electronically and reduces number of required FAA steps. INPUT: Verified payment request - {#26} OUTPUTS: Payment MECHANISMS: ECHO and/or Accounting, APP 520 (HQ)
28	Complete Individual Project, Expend all Project Funds	Sponsor completes project and/or expends all project funds. INPUT: Payment - {#27} OUTPUTS: Project completed and/or funds expended - {#29} MECHANISMS: Sponsor
29	Final Inspection, Correct Deficiencies, Approve Prop % & Complete Special Conditions	ADO/Region conducts final inspection of project work and works with Sponsor to correct any deficiencies. Approval and/or verification of proportion or percentage of work completed is verified using "Funds Tracking Programs", with APP 520 and ABA 500 coordination. Sponsor completes special condition certification and submits to ADO/Region. INPUT: Project completed and/or funds expended - {#28} OUTPUTS: Final inspection and special conditions - {#30} MECHANISMS: ADO/Region Programmers, ADO Eng/Planners, Accounting, APP 520 (HQ) and ABA 500 and Sponsor.
30	Apply for Final Payment and Verify Financial Status	Sponsor applies for final payment and ADO/Region verifies financial status of final payment. INPUT: Final inspection and special conditions - {#30} OUTPUTS: Funds verification - {#31}, if project is not over budget - #32, {if sponsor project requires additional funds - #34} MECHANISMS: Sponsor and ADO/Region
31	Sponsor Project is Over Budget <= 15%?	If Sponsor project is over budget, additional fund requirements/reallocation is needed {#34}, if not Sponsor should have completed project and is under or at budget, thus {#32} applies for final payment and ADO/Region verifies financial status of final payment. INPUT: N/A OUTPUTS: #32 or # 34 MECHANISMS: This is a decision box and does not require mechanisms
32	Completed Project is Under Budget?	If Sponsor completed project is under budget, then final payment is made (up to 10% can be withheld) - {#33}. If not, additional funds remain after project completion, generating a funds recovered/withdrawn (from Sponsor) - {#15}. INPUT: #31 OUTPUTS: #33 or #15 MECHANISMS: This is a decision box and does not require mechanisms
33	Final Payment (remaining 10% Payment) and Project Close-out	Final payment occurs by reserving funds, initiated at the ADO/Region using "Funds Tracking Program (s) and with ECHO providing electronic funds transfer to Sponsor. If ECHO has not been installed, Accounting will be notified and a paper check will be cut and issued to the Sponsor. In both cases this transaction will be recorded by APP 520, ABA 500, Accounting (ECHO or others), and by ADO/Regional Programming "Funds Tracking Program". Project close-out occurs after all steps are completed. INPUT: #32 OUTPUTS: Project ends MECHANISMS: ADO/Region Programmers, ADO Eng/Planners, Accounting, APP 520 (HQ) and ABA 500

Process #	Process Name	Description
34	Reserve Additional Funds	If additional funds are required {from #31}, then the ADO/Region will request additional funds (from other recoveries and discretionary sources). If funds are not available project is terminated and close out occurs. INPUT: #31 sponsor project is over budget <=15% OUTPUTS: Development grant offer amendment - {#35} or funds tracking program. MECHANISMS: ADO/Region Programmers, Accounting, APP 520 (HQ) and ABA 500
35	Amend Grant and Notify Sponsor of Additional TA	ADO/Region will generate and issue Grant Amendment and notify Sponsor, Regional Accounting, APP 520, ABA 500 and update funds tracking program with TA data. INPUT: Grant offer amendment - {#34} OUTPUTS: Development & issuance of grant offer amendment - {#36} MECHANISMS: ADO/Region Programmers, Accounting, APP 520 (HQ) and ABA 500
36	Accept and Execute Grant Amendment	Sponsor reviews and signs (executes) Grant Amendment Offer and returns to ADO/Regional Office. INPUT: Grant amendment offer - {#35} OUTPUTS: Sponsor executed grant amendment - {#37}. MECHANISMS: Sponsor
37	Obligation of Funds, Send to Regional Accounting (Coding, \$ Caps <= 90%)	Sponsor completes final project work and expends Grant Amendment amount. ADO/Region submits final payment request to Accounting and coordinates with ABA 520 and ABA 500. INPUT: Executed grant amendment - {#36} and sponsor complete final project work OUTPUTS: Final payment request (ECHO/Accounting) - {funds tracking program/activities}. MECHANISMS: ADO/Regional Programmers, APP 520, ABA 500., Accounting (DAFIS/ECHO) and Sponsor
38	Final Payment	Either Accounting or most likely ECHO will issue final payment to Sponsor and project close out will occur. INPUT: Final payment request - {#37} OUTPUTS: Final payment - {ECHO and/or Accounting}, funds tracking program MECHANISMS: ADO/Regional Programmers, APP 520, ABA 500., Accounting (DAFIS/ECHO) and Sponsor
I	Develop Preliminary Project	Sponsor works with ADO/Region to determine future year project needs, as well as completing required steps in order to submit Pre-application documents for current year requests to FAA ADO/Region. INPUT: Controls and sponsor needs OUTPUTS: Pre-application - {II} MECHANISMS: Sponsor and ADO/Regional CONTROLS: Pre-Application, User Consultants, Intergovernmental Review, Relocation & Land Acquisition, Public Hearing, EA Report
II	Review Pre-Application	ADO/Region receives, reviews and submits OST Release package to FAA HQ staff who releases package to the Congressional Delegation. INPUT: Pre-application - {I} entitlement and discretionary funds detail - {#3} OUTPUTS: OST release package - {#10 and Congress Delegation} MECHANISMS: ADO/Regional Office

PERFORMANCE MEASUREMENT OVERVIEW

Performance measurement is a process by which organizations monitor the progress toward achieving specified goals and objectives. Performance measurement systems are comprised of the resources, procedures, data sources, collection methods, analysis techniques, and information technology needed to support an organization's performance measurement activities. The reengineered APDP will use performance measures as a basis for decision-making and a means to identify the direction and impact of national airport system improvement efforts.

A basic understanding of performance measurement, the legislative drivers for performance measurement, and the types of performance measurement is necessary to fully appreciate the proposed APDP performance measurement process. The following two subsections outline the chief legislative actions relating to performance measurement, describe the types of performance measurement, and illustrate how performance measures are being applied to the Airports organization.

Performance Measurement Legislation

The application of performance measurement practices to Federal government programs is supported by actions in both the Legislative and Executive branches. Some of the most significant actions are outlined below:

- ⇒ The *Chief Financial Officers (CFO) Act of 1990* requires that the CFO of each agency provide for the systematic measurement of performance. Though the Act originally dealt with performance measurement in the general sense, implementing instructions issued by the Office of Management and Budget (OMB) provides for the linkage of performance measures to organizational goals and missions. The OMB guidance also requires performance data to be presented in annual financial statements and calls for auditors to assess the reliability and validity of data in those statements.¹
- ⇒ The *Government Performance and Results Act (GPRA) of 1993* requires that Federal agencies conduct strategic planning and measure progress towards mission accomplishment. Requirements of GPRA related to FAA include:
 - FAA Strategic Plan for program activities must be submitted to OMB no later than September 30, 1997. The plan must include a comprehensive mission statement, general goals and objectives, and a description of how the goals and objectives are to be achieved.
 - Annual Performance Plan covering each program activity set forth in the FAA budget must be submitted beginning in fiscal year 1999. This plan must establish measurable performance goals for each activity and provide a basis for comparing actual program results with these goals.

¹ Chief Financial Officers Act

- Program Performance Report detailing performance for the previous fiscal year must be submitted annually beginning no later than March 31, 2000. This report will outline the actual program performance achieved compared with the goals expressed in the Annual Performance Plan.²

⇒ *OMB Circular A-11, Preparation and Submission of Budget Estimates* requires that agencies incorporate performance information into budget decisions and submissions to Congress. The circular provides guidance on GPRA implementation, specifying that budget requests must be justified through the use of performance goals and program evaluation plans.

The net requirements of these actions are that each agency must plan, execute, measure, and report the performance of all major agency activities based on a set of mission-related performance criteria. Congress anticipates using this performance data to determine the relative effectiveness and efficiency of Federal programs; allowing the Government to increase public accountability, improve agency management, and support budgetary decision-making. The performance measurement process proposed for FAA-Airports is consistent with, and in several areas, exceeds the requirements outlined in GPRA.

Types of Performance Measurement

As defined in Table H.1, four basic types of performance measurement were identified by the Sub-team: Input, Process, Output, and Outcome.

Table H.1. Types of Performance Measurement

Performance Measurement Types	Description
Input Measure	Recording of the resources, time, and staff utilized by an organization or program.
Process Measure	Recording the efficiency and effectiveness of an organization's work processes. Typical measures include cycle time and cost effectiveness.
Output Measure	Tabulation, calculation, or recording (quantitative or qualitative) of the actual level of products and/or services realized.
Outcome Measure	Assessment of the results, effects, or impacts of a program activity compared to the program's intended purpose.

To avoid confusion, two additional terms warrant discussion. As defined in GPRA, *performance indicators* are the particular values or characteristics used to measure output or outcome. Another term, *performance measures*, is often used synonymously with performance indicators even though no standard definition for the term has been recorded in public law. No distinction is made between *performance indicators* and *performance measures* in this report.

² Requirements Outlined in the Government Performance and Results Act, 1993

Collectively, the input, process, output, and outcome measures provide an overall, high-level perspective of the organization's performance. Specific performance indicators (measures) are used to objectively assess operational efficiency, level of products or services generated, and the results realized from program activities.

Figure H.1 illustrates the distinction between the different types of performance measurement in the context of the Airports organization.

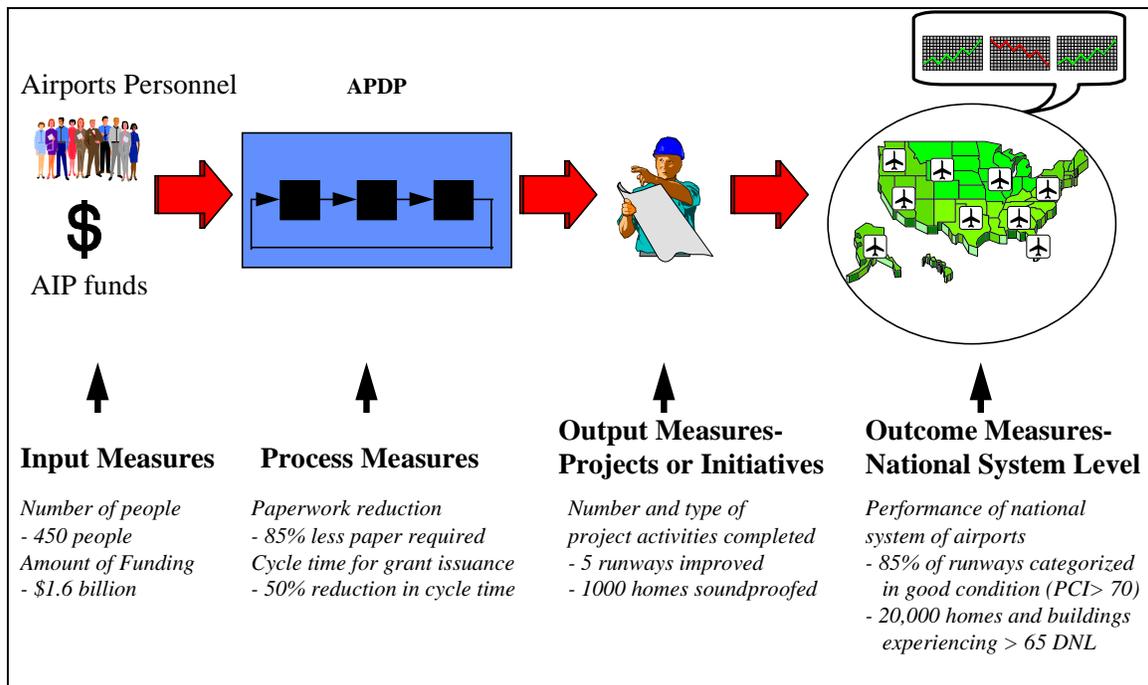


Figure H.1. Types of Airports Performance Measurement

The Airports organization has traditionally focused on input and output measures with little or no effort directed toward *process* and *outcome* measures. Changing the focus of performance measurement to outcome measurement is a significant paradigm shift and is central to the APDP reengineering effort. It is recognized that quantifying the number of dollars expended or the number of grants issued to airport sponsors does not provide insight into the impacts that Airports' programs have on the national system of airports. Similarly, input and output measures alone do not reflect the efficiency and effectiveness of the process used to transform the inputs into products and services.

Implementing a combination of outcome measures to describe the performance of the national system of airports will allow the Airports organization to effectively plan and evaluate capital investment in airports from a national perspective.

WORKSHOP RESULTS FOR PERFORMANCE MEASUREMENT

Background

The Performance Measurement Sub-team was formed as a result of recommendations from the FAA Airports Business Process Improvement Project initiated in July of 1994. The original Improvement Team delivered a business case and implementation plan in March of 1995, outlining several goals and objectives for the development and use of performance measures throughout the Airports organization. The Performance Measurement Sub-team was formed to meet these objectives, and was tasked with developing the policies and procedures necessary for Performance Measure development to be carried out by the Airports organization. The initial stages of this effort were achieved in a workshop held at the FAA Team Technology Center from April 20-23, 1996, and a follow-on workshop held during the Recurrent Planning Conference from May 21-23, 1996. The remainder of this appendix outlines the actions and results of these workshops.

The Performance Measurement Sub-team

The Performance Measurement Sub-team consists of Airports personnel from across the nation and throughout the organization, as shown in Table I.1.

Table I.1. Performance Measurement Sub-team Roster

Performance Measurement Sub-team Roster		
Ed Agnew	Sub-team Leader	ASW (RO)
Jeff Rapol	Civil Engineer	HQ (AAS)
Stan Lou	Manager, Financial Assist.	HQ (APP)
Ken Ball	Program Analyst	HQ (APP)
Brad Davis	Manager, Engr./Safety	ANE (RO)
Rusty Chapman	Manager, Planning/Dev.	ASO (RO)
Barbara Johnson	Planner	ANM (ADO)
Larry Kiernan	Program Analyst	HQ (APP)

Development Stages

Scoping

The initial job for the Performance Measurement Sub-team was to clearly define the bounds of the development efforts. The team began by establishing a vision for a National System of Airports - what are the important characteristics? How do these characteristics relate to the “success” of the Airports organization? Through a brainstorm session, the team defined that a successful national system of airports must:

- Maintain Infrastructure
- Promote Safety
- Support Accessibility
- Minimize Noise Impacts
- Avoid Delays
- Provide Intermodal Connections
- Focus Resources on Areas of National Interest
- Provide National Uniformity
- Promote Environmental Compatibility
- Accommodate System Growth
- Size to Need
- Supply Flying Needs of Public
- Provide Economic Benefits
- Consider Population Growth
- Adapt to Users (Passengers and Pilots)
- Minimize Cost

The next scoping step for the team was to identify an initial list of performance measurement “areas” that related to the desired performance characteristics. The team used an iterative approach to developing these areas, defining first six high-level areas of the federal interest which encompass the goals established in the FAA Strategic Plan. The breakdown of these areas is shown in Figure I.1 below.

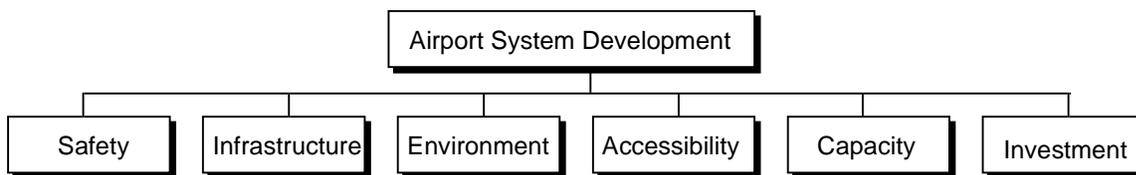
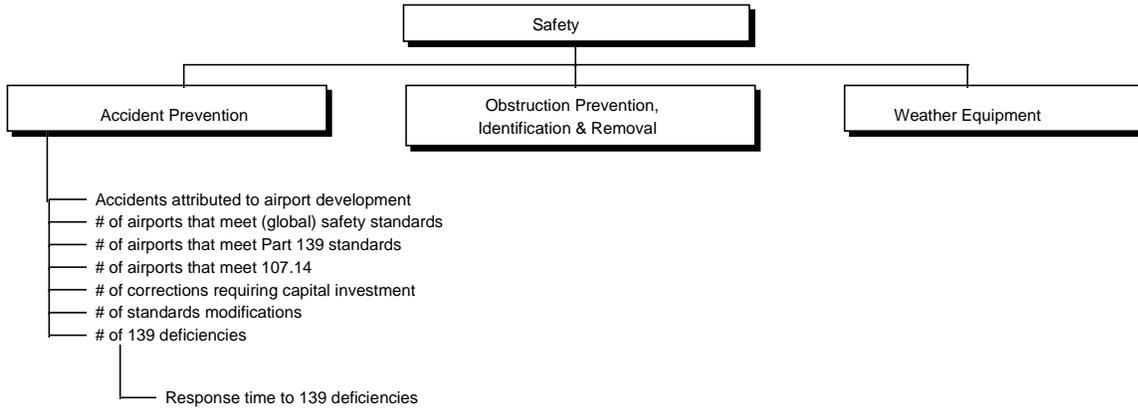


Figure I.1. Performance Measurement Areas for Airport System Development

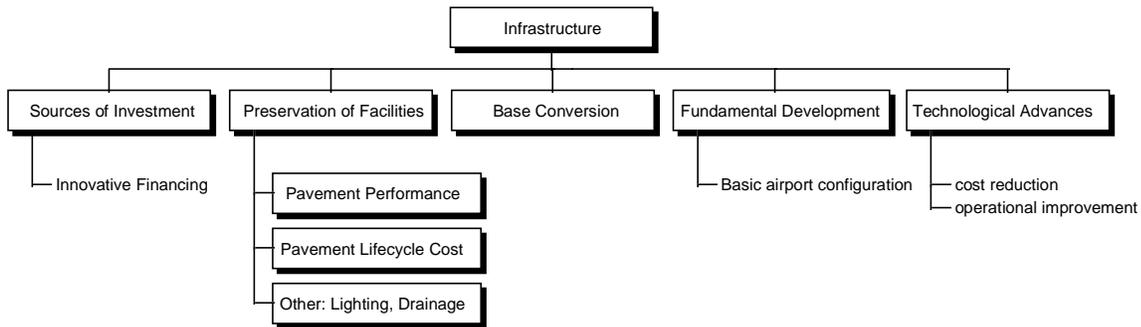
Component Identification

Having identified the high-level areas of interest, the Performance Measurement Sub-team then decomposed each area into its relevant subcomponents. For example, the “Safety” area was broken down into three subheadings: Accident Prevention, Obstruction Prevention, Identification & Removal, and Weather Equipment. This was a rapid facilitated exercise, intended to bring out many ideas in a short time frame. Previous performance measurement research (documented in the “Performance Measures for Our National System of Airports: 1996 and Beyond” report) was especially helpful in prompting discussion among the team. This research formed the basis for many of the performance measurement areas and their associated indicators. The following diagrams were developed “real-time” and remain unchanged from their workshop form.

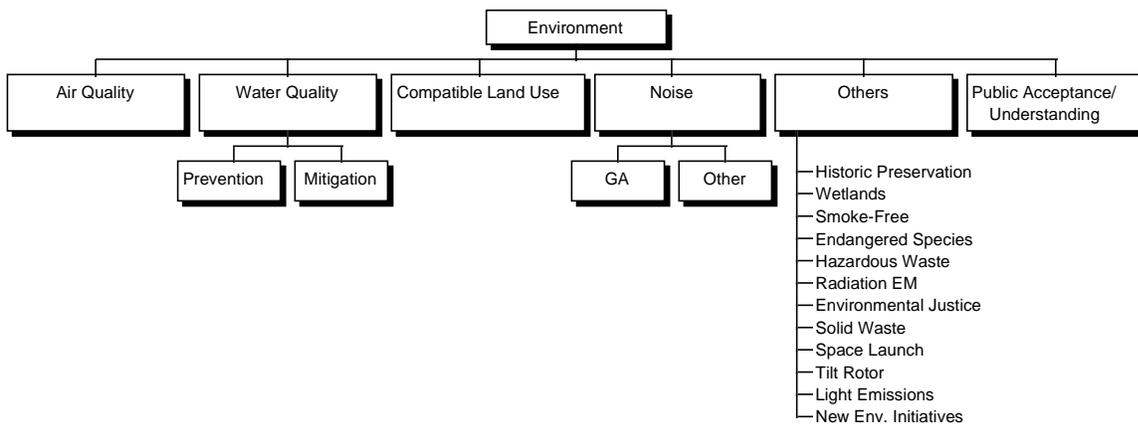
Safety Diagram



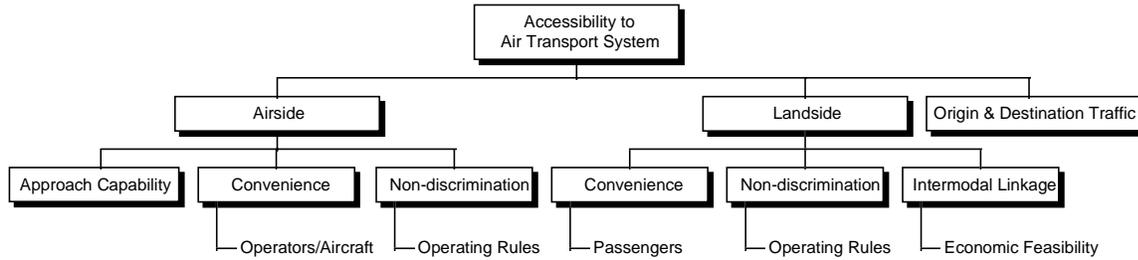
Infrastructure Diagram



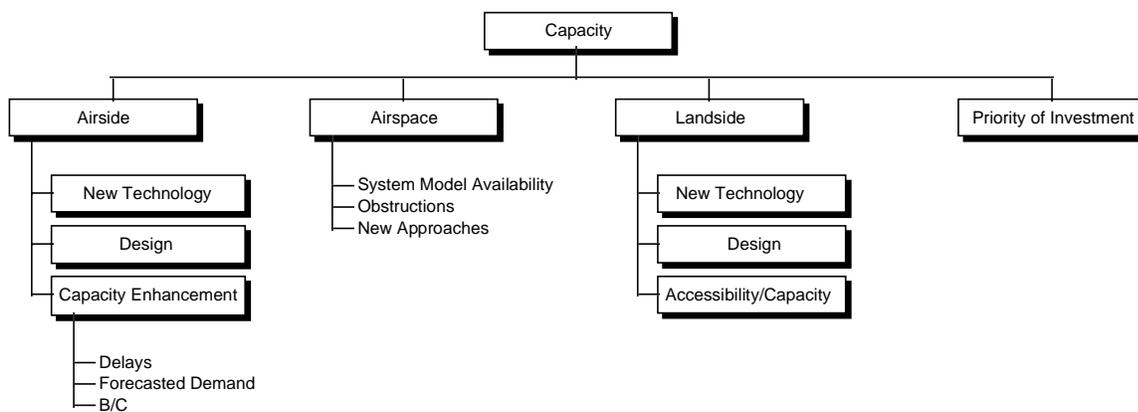
Environment Diagram



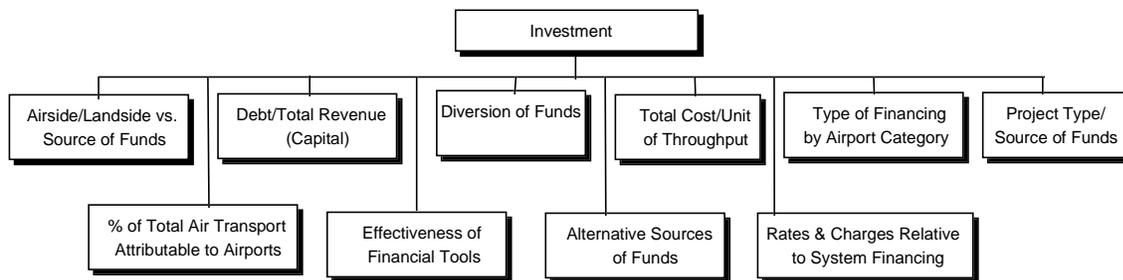
Accessibility Diagram



Capacity Diagram



Investment Diagram



As shown above, each major area was decomposed into specific measurable attributes of the national system of airports. However, initial review of these diagrams may raise some questions concerning the differing levels of decomposition. For example, the “Accident Prevention” component of Safety is broken down into several factors, while the “Weather Equipment” component is not decomposed at all. These differences were consciously allowed by the Performance Measurement Sub-team, in order to illustrate the differing level of importance of these areas to the Airports organization.

Ranking

Through the iterative identification process, the Performance Measurement Sub-team was able to define over 60 measurement areas in the federal interest, corresponding to the lowest levels of decomposition in the above diagrams. The next stage of the Sub-team effort was to rank each area in terms of its importance to the National System of Airports. The goal of this exercise was to prioritize the measurement areas so that initial development efforts could be targeted toward those areas with the greatest impact on the airport system. The team used a Groupware application to conduct the initial ranking of these areas, which consolidated the team members' input and returned a prioritized list. To cut the list to a manageable size, the team chose to concentrate their efforts on the top twelve (12) items³:

- 1) Safety - Accident Prevention - Airports that meet Safety Standards
- 2) Safety - Accident Prevention - Accidents attributed to Airport Operating Environment
- 3) Infrastructure - Preservation of Facilities - Pavement Performance
- 4) Safety - Obstruction Prevention, Identification & Removal
- 5) Safety - Accident Prevention - Airports that meet Part 139 Standards
- 6) Environment - Noise Impacts
- 7) Capacity - Airside Delays
- 8) Infrastructure - Preservation of Facilities - Maintenance of Lighting, Drainage
- 9) Investment - Type of Financing by Airport Category
- 10) Infrastructure - Fundamental Development - Basic Airport Configuration
- 11) Infrastructure - Technological Advances - Cost Reduction
- 12) Capacity - Landside Accessibility

Initial evaluation of the twelve areas reveals that the concerns of the team accurately reflect the strategic and operational goals of the FAA. The FAA has continually stated that ensuring safety is their primary goal – the team in turn has chosen Safety in four of its top five measurement areas.

Initial Development

The final task achieved during the April workshop was the initial definition and development of performance indicators for the top three performance measurement areas: Airports that meet Safety Standards, Accidents attributed to Airport Operating Environment, and Pavement Performance. Using a Groupware topic commenter, the Performance Measurement Sub-team answered nine questions for each of the areas:

- 1) How does the measure link to the FAA Strategic Plan and the Airports Business Performance Plan for airport development?
- 2) What is the basis for the performance measure?
- 3) What data is needed?

³ *Note: the precise wording of these twelve measurement areas may have been modified for clarity from their original form in the breakdown diagrams*

- 4) How will the data be collected?
- 5) How often will it be measured?
- 6) Who will be responsible for each step in the process?
- 7) What mechanisms are needed to support the data collection?
- 8) How will the data be validated?
- 9) How will the data be analyzed and presented? (data \Rightarrow information)

This approach was extended after the April workshop to fully define and develop each of the top twelve performance measurement areas. Each team member was designated as a performance “champion” for one or more measurement areas, and was tasked with any research necessary to define a complete measurement process for the appropriate area(s).

The results of these individual efforts were circulated and reviewed by the team during the May workshop. After careful consideration, the Performance Measurement Sub-team targeted three of the twelve areas for initial implementation. The three areas are:

- Safety - Accident Prevention - Airports that meet Safety Standards
- Infrastructure - Preservation of Facilities - Pavement Performance
- Environment - Noise Impacts

There were several reasons why the team chose to focus on these measurement areas. First, they are all strategically important to accomplishing FAA mission objectives. Safety standards are the FAA’s primary means of accident prevention; pavement must be maintained to protect both the federal investment and the safety of passengers; and noise impacts are directly related to public perception of the airport system. Second, previous work has been completed or is ongoing in each area. Airport compliance with safety area standards is currently being reviewed; many airports already use sophisticated Pavement Maintenance Management Systems (PMMSs) for tracking pavement conditions; and the number of buildings exposed to excessive airport noise is tracked by Part 150 Noise Studies. Lastly, the team is confident that the necessary data in these areas is accessible to begin initial performance measurement efforts immediately.

The definition of these data sources and their corresponding performance measurement processes were fully developed for each of the three areas. These results are presented in Appendix J of the Analysis and Documentation Report.

PERFORMANCE MEASUREMENT AREA DESCRIPTIONS

J.1. Safety Standards

The FAA has continually developed standards for US airports to ensure that our airport system is the safest in the world. Correspondingly, the Performance Measurement Sub-team has targeted airport compliance with these safety standards as a significant concern for the Airports organization. Figure J.1 presents the hierarchy of the 'safety standards' performance measurement area and the Sub-team's choice of a performance indicator. (The focus of this indicator on runway safety areas will be established in the *Implementation Approach*).



Figure J.1. Safety Standard Performance Measurement Hierarchy

Link to FAA Strategic Plan (1996) and Airports Business Performance Plan

This performance measure hierarchy is linked to the FAA Strategic Plan and Airports Business Performance Plan as follows:

- *FAA Strategic Plan Goal 1: System Safety -- Zero Accidents. Eliminate accidents and incidents in aviation and protect public safety and property in space transportation systems by targeting the most critical areas.*
- *FAA Strategic Objective: FAA will measure its safety program performance by whether the aerospace community can reduce the number of accidents in which airport condition or operation is a cause or factor.*
- *Airports Business Performance Plan: Airport Safety and Certification. Ensure that airports meet minimum safety and operating standards in order to prevent accidents from occurring on airports.*
- *FAA Strategic Goal 2: Human Factors Safety -- Zero Accidents. Eliminate human factors as a causal factor in accidents and incidents.*
- *FAA Strategic Objective: FAA will reduce human factors related to aviation incidents which include runway incursions and vehicle/pedestrian deviations.*
- *Airports Business Performance Plan: Airport Safety and Certification. Install required airfield signs in accordance with standards.*

Basis for Measurement

The usual or traditional way of evaluating safety performance would be to analyze historic accident and incident data which identifies the airport condition or operation as a causal or contributing factor. However, when looking at the issue of accidents and incidents associated with airport condition or operation, these numbers have historically been so low that any analysis becomes statistically invalid. Furthermore, the accuracy of the information currently available related to airport conditions and operations is often questionable.

Current airport design and operational standards have evolved over the years based on all available accident and incident data, coupled with computer modeling of aircraft performance characteristics and application of risk assessments. Compliance with these standards thus implies that an airport's operating environment poses an inherent level of safety, based on the statistical analysis of historical accident and incident causes. Consequently, the Performance Measurement Sub-team believes that a valid approach to measuring Airports' performance toward national safety goals is to evaluate conformance with FAA established standards.

One concern with this approach is whether existing standards accurately reflect the safety needs of the national system of airports. The team believes that the vast majority of current standards are reasonably consistent with these safety needs. Therefore, although there is a need to continually evaluate the standards through research, testing and evaluation, it is outside the initial scope of the current performance measurement effort (but will be addressed in implementation).

Performance Indicator

The indicator used to measure airport compliance with FAA safety standards is given in Table J.1 along with the assumptions made by the Performance Measurement Sub-team.

Table J.1. Safety Standards - Performance Indicator and Assumptions

Performance Indicator	Assumption
<i>% of runways in the federal interest that warrant upgrades to standards</i>	<i>Compliance with approved standards is a valid determinant of an airport's ability to prevent accidents, incidents, and aircraft damage</i>

It should be recognized that the "standards" referred to in the above indicator is a high-level grouping of FAA standards that are applicable to the airport operating environment. These standards apply to various airport characteristics, and include safety areas, visual aids, obstruction identifications, and other elements of airport safety. The applicable standards are outlined in Table J.2 as part of the data requirements section.

Data Requirements and Sources

Table J.2 identifies the specific data requirements for the pavement condition performance indicator. The table also identifies the corresponding data sources and organization that has ownership over the data source.

Table J.2. Safety Standards - Data Requirements, Sources, and Owners

<i>% of runways in the federal interest that warrant upgrades to standards</i>		
Data	Sources	Owners
<i>Definition of safety area standards</i>	<i>AC 150/5300-13, FAR Part 139</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of marking, lighting, and signing standards</i>	<i>FAR Part 139, existing ACs</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of OFZ standard</i>	<i>AC 150/5300-13</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of RPZ standard and control</i>	<i>AC 150/5300-13</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of separation standard</i>	<i>AC 150/5300-13</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of runway line of sight standard</i>	<i>AC 150/5300-13</i>	<i>FAA (HQ/Regions)</i>
<i>Definition of obstruction/approach surfaces standards</i>	<i>AC 150/5300-13</i>	<i>FAA (HQ/Regions)</i>
<i>List of deficiencies on runways in the Federal interest</i>	<i>5010/Part 139 inspection reports FAA certification/compliance files Sponsor ALP, Master, System Plans ON SITE INSPECTIONS</i>	<i>FAA (HQ/Regions) FAA (HQ/Regions) Sponsors FAA (HQ/Regions)</i>

Measurement Process

In defining the measurement process, the Performance Measurement Sub-team recognized that a standardized review activities based on annual inspections will only be a part of the deficiency identification process. The Airports organization must be constantly alert to the chance that deficiencies may arise anytime. The activities associated with identifying all standards deficiencies is outlined in Table J.3 below.

Table J.3. Safety Standards - Measurement Activities

<i>% of runways in the federal interest that warrant upgrades to standards</i>		
Activity	Responsible Party	Supporting Mechanisms
<i>Determine safety standard deficiencies during annual on-site inspection or through review of ALPs, Master Plans, and property maps.</i>	<i>FAA Certification staff (Part 139 Airports) FAA Airports Planners and Engineers (all federal interest airports)</i>	<i>Certification Report Sponsor Representative FAA inspection report (common Access format) State System Plan on-site inventory of deficiencies</i>
<i>Forward inspection report to Regional Office.</i>	<i>FAA Certification staff FAA Airport Planners and Engineers</i>	<i>Postal/electronic mail</i>
<i>Receive inspection report, input into regional & national database.</i>	<i>FAA Regional Office</i>	<i>NPIAS/CIP database Safety area database (compatible with NPIAS)</i>

Validation of Data

The validation of safety deficiency data depends primarily on the detail and accuracy of FAA inspection efforts. One benefit is that FAA employees will control the data collection process, reducing the risk of misleading or erroneous submissions from sponsors. The drawback is that such collection can be resource-intensive, and still must depend on the accuracy of sponsor ALPs and System Plans. It will certainly be a challenge for the Airports organization to provide an acceptable level of data integrity within current resource restrictions. However, efforts from the Resource Reallocation and Information Technology Sub-teams will provide the means to implement the necessary performance measurement infrastructure.

Presentation of Performance Information

The total inventory of deficiencies will be broken down by deficiency type, airport type and runway use category. This information will be compared to previous years, with trends documented and used by planners to set priorities for development. The direct input of the data into the NPIAS/CIP (at either the Region or ADO level) moves the deficiency data directly into an implementation plan. Prioritization of deficiency correction projects should be based on a national formula with a benefit cost ratio formulated in formal policy. The use and appropriateness of alternatives to standards (such as declared distances for safety areas) should be included in the annual analysis of accident prevention effectiveness.

Implementation Approach

FAA Certification Staff and Airports Planners and Engineers currently evaluate airport conformance to safety standards via on-site inspections and ALP reviews. However, there is no common database which identifies these deficiencies and correction needs for the national system of airports. The Performance Measurement Sub-team has identified three immediate initiatives for providing such a capability:

- **Add deficiency codes to NPIAS/CIP project information.** The NPIAS/CIP database has the ability to track deficiencies through identification of correction projects (and a corresponding deficiency code). Direct input of deficiency data into NPIAS/CIP will allow two things: FAA representatives will be able to report at any time on the total need to correct airport deficiencies, and FAA planners will have the information immediately available for project prioritization.
- **Initially track only runway end safety area deficiencies.** The Performance Measurement Sub-team recognizes that it would be impossible to track all safety standards with current resource levels. Therefore, initial efforts will be focused on tracking deficiencies only in safety areas. Since the 1995 Performance Inventory will provide safety area data for Part 139 runways at large hub airports, there will be some historic data already developed. This effort could then be expanded to inventory all commercial service and general aviation airports.

- **Establish an Airports Accident Investigative Team.** When defining the chosen performance indicator, the Performance Measurement Sub-team made the assumption that the safety standards used are a valid determinant of an airport's ability to prevent accidents, incidents, and aircraft damage. This assumption must be continually revisited to ensure that it remains both valid and useful. It will be the goal of the Airports Accident Investigative Team to perform this function. The team will utilize any available accident, incident, obstruction, and navigation information to determine if the dimensions of each standard are appropriate and if the correct standard is applied at each airport. HQ will be responsible for changing the standards in a responsive manner relative to the annual recommendations of the Investigative Team.

J.2 Noise Impacts

The environmental impact of airport operations was identified by the Performance Measurement Sub-team as one of the top areas of concern for the national system of airports. Specifically, the Sub-team identified ‘noise impacts’ as the most important environmental issue facing the Airports organization. Figure J.2 presents the hierarchy of the ‘noise impact’ performance measurement area and the specific performance indicator used to measure it.

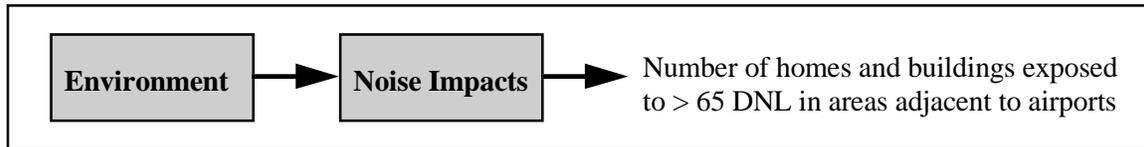


Figure J.2. Noise Impacts Performance Measurement Hierarchy

Link to FAA Strategic Plan (1996) and Airports Business Performance Plan

This performance measure hierarchy is linked directly to the FAA Strategic Plan and the Airports Business Performance Plan as outlined below:

- *FAA Strategic Plan Goal 7: Provide strong leadership regarding the environmental impacts of aviation and commercial space transportation.*
- *Airports Business Performance Plan: Reduce the impact of aircraft noise by 80 percent (based on population) by 2000, through an optimal mix of new aircraft certification standards, operational procedures, land use initiatives, and technology.*
- *FAA Strategic Objective: Minimize adverse environmental impacts that might occur from proposed Federal actions in ways which are consistent with the FAA’s principal mission of promoting safe and efficient civil aviation.*

Basis for Measurement

For more than 25 years, FAA, Congress, and the public have been concerned about the impact of aircraft noise on communities near airports. By direction of Congress, the FAA, in conjunction with other federal agencies, has established a guideline of 65 DNL (day-night sound level) as the level at which noise is objectionable for residential purposes. This guideline is specifically defined in Federal Aviation Regulations (FAR) Part 150, "Airport Noise Compatibility Planning." Measurement of the national airport system performance relative to noise impacts will follow the guidelines set forth in FAR Part 150.

FAR Part 150 prescribes the procedures, standards, and methodology governing the development of airport noise exposure maps and airport noise compatibility programs. It specifically prescribes a system for (a) measuring noise at airports and surrounding areas, and (b) determining exposure of individuals to noise that results from the operations of an airport. The noise

exposure methodology is considered highly reliable in terms relating projected noise exposure to the surveyed reaction of people to noise.

Consistent with guidelines set forth in FAR Part 150, residential structures are considered "exposed" to noise if located in areas greater than 75 DNL or are between 65 and 75 DNL and are not soundproofed.

Performance Indicator

This indicator used to measure the 'noise impact' performance area is highlighted in Table J.4 along with the assumptions made by the Performance Measurement Sub-team. The Sub-team believes this indicator will accurately reflect national trends in the population impacted by airport noise.

Table j.4. Noise Impacts - Performance Indicator and Assumptions

Performance Indicator	Assumptions
<i>The number of homes and public buildings exposed to noise above the 65 DNL adjacent to airports.</i>	<i>A reduction in the number homes and public buildings exposed to unacceptable noise levels indicates a higher degree of environmental compatibility.</i>

Data Requirements and Sources

The performance indicator is based on data generated through Part 150 noise studies. To successfully implement this performance indicator, Part 150 noise studies (which are voluntary) will need to be conducted in a standard manner at a very high percentage of federal interest airports. Part 150 noise studies must also be current (approved within the last 3-5 years) and provide noise contours for the year 2000. The data sources and the owners are highlighted in Table 5.

Table J.5. Noise Impacts - Data Requirements, Sources, and Owners

<i>Noise Impacted Structures</i>		
Data	Sources	Owners
<i>Inventory of noise impacted homes, schools, and other public buildings.</i>	<i>Part 150 Noise Studies Sponsor funded Noise Studies (e.g., local funds including PFCs)</i>	<i>FAA (HQ, Regions, & ADO's) Sponsors.</i>

Measurement Process

The process for collecting noise impact data will require Airports personnel to work closely with sponsors and local authorities. To be effective for purposes of performance measurement, Part 150 and Local Noise Studies will need to provide more detailed data regarding affected structures and population than is currently required. The major measurement process activities associated with this indicator are shown in Table J.6.

Table J.6. Noise Impacts - Measurement Activities

<i>Inventory of Noise Impacted Structures</i>		
Activity	Responsible Party	Supporting Mechanisms
<i>Inventory all noise impacted homes and public buildings in Part 150 and Local Noise Studies.</i>	<i>FAA Airports Program Manager/Planner</i>	<i>None.</i>
<i>Input data into regional database</i>	<i>FAA Airports Program Manager/Planner/ Environmental Specialist</i>	<i>Regional database</i>
<i>Compare baseline data with year end data.</i>	<i>FAA Airports Program Manager/Planner/ Environmental Specialist</i>	<i>Regional database. AIP Grants and PFC Records of Decision that contain noise projects.</i>

Validation of Data

The Sub-team determined that validation of data by FAA personnel should be a required step in the measurement process. Data should not be accepted, especially if submitted through innovative reporting systems, without verification that it is consistent with approved methods contained in the appropriate Part 150 or Local Noise Study.

Presentation of Performance Information

The noise impacts on the population will be presented as the number of homes and public buildings exposed to greater than 65 DNL. The nationally aggregated number of homes and public buildings will be presented, tracked at least annually and compared to a baseline year. Projected improvements will also be tracked so that actual versus forecasted performance improvement can be monitored. Internally, Airports can present aggregated regional data or inventories of noise impacts at individual airports. This information may be displayed in a variety of formats to illustrate the areas that contribute the highest levels of noise impact.

Implementation Approach

The Sub-team recommends the following actions for implementation of this measure:

- **Review Part 150 regulations** for conducting noise studies and revise as necessary to ensure that the regulations define the need for determining noise impacts. Incorporate requirements for data collection, reporting, format, and frequency.
- **Collect baseline noise impact data across the system of airports.** Comparison of this data with year end data will require that the sponsors be able to provide more detail on the number of homes and buildings removed from exposure under by local actions.
- **Demonstrate innovative data collection methods** to allow noise impact data to be provided directly to the FAA (requiring validation before use).

J.3 Pavement Performance

The primary purpose of airport pavement is to provide adequate load-carrying capacity and good ride-quality for its design life, without placing restrictions on aircraft operations. All pavements undergo gradual deterioration, which is attributable to many factors. This deterioration can be catalogued and managed through a Pavement Maintenance Management System (PMMS). A PMMS not only evaluates the present condition of a pavement but predicts its future condition through the use of a pavement condition index (PCI). Figure J.3 shows the origin of the ‘Pavement Performance’ indicator chosen by the team for initial implementation.

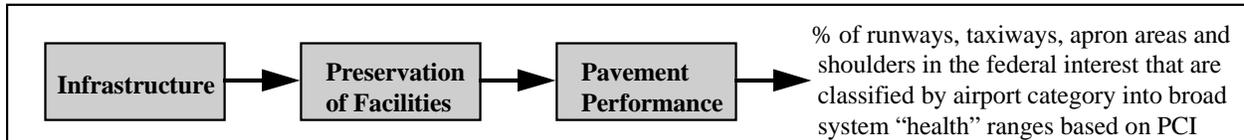


Figure J.3. Pavement Performance - Performance Measurement Hierarchy

Link to FAA Strategic Plan (1996) and Airports Business Performance Plan

The hierarchy shown in Figure 8 is derived directly from several elements of the FAA Strategic Plan and Airports Business Performance Plan:

- *FAA Strategic Plan Goal 1: System Safety -- Zero Accidents. Eliminate accidents and incidents in aviation and protect public safety and property in space transportation systems by targeting the most critical areas.*
- *FAA Strategic Objective: Reduce the number of accidents in which airport conditions or operation...is a cause or factor.*
- *FAA Strategic Objective: Reduction of operational restrictions on aviation movement of passengers, goods, and services.*
- *Airports Business Performance Plan: Airport Safety and Certification. Ensure that airports meet minimum safety and operating standards in order to prevent accidents from occurring on airports.*
- *Airports Business Performance Plan: Protect Federal Investment. Increase expenditures of AIP funds for pavement reconstruction and lighting rehabilitation.*
- *Airports Business Performance Plan: Airport Standards. Develop and enforce airport design, construction and equipment standards that reflect current technologies and aviation needs.*
- *Airports Business Performance Plan: Airport Development. Foster and develop the aviation infrastructure that will meet the needs of the aviation industry and the traveling public.*

Basis for Measurement

A basic component to measuring the performance of pavements is the ability to track a pavement's deterioration and determine the cause of the deterioration. This requires an evaluation process that is objective, systematic, and repeatable. The pavement condition index (PCI) is a rating system that is based on the quantity, severity, and type of deterioration visible on the pavement surface. A standard method for performing the condition survey on airports has been adopted by the American Society for Testing and Materials (ASTM). The PCI is a rating of the surface condition of a pavement and is a measure of functional performance with implications of structural performance. Periodic PCI determinations on the same pavement will show the change in performance level with time. As shown in Table J.7, the PCI is reported a scale of 0-100 and is divided into seven rating ranges. These ranges can be likened to the "health" or "well being" of the pavement:

Table J.7. PCI Ratings

0-10	10-25	25-40	40-55	55-70	70-85	85-100
Failed	Very Poor	Poor	Fair	Good	Very Good	Excellent

The PCI plays an important role in the decision-making process regarding maintenance and repair of pavements. When incorporated into a PMMS, it helps in setting priorities and schedules, allocating resources, and budgeting (that is, it can be used to showcase performance and accountability by providing data for life-cycle cost analysis for various maintenance and rehabilitation alternatives).

The FAA has emphasized the use of a PMMS through the issuance of guidance via Advisory Circulars, and has responded to recent changes in legislation that require federally-funded airports to have an effective PMMS in operation. The emphasis is necessary to target Federal funds in a cost effective manner that is systematic and documentable, and can identify budget requirements necessary to maintain pavements at an acceptable level of serviceability.

Performance Indicator

The utility of the PCI in ranking development priorities depends greatly on its acceptance as a determinant of pavement performance. Since objective comparisons can only be made between similar data sets, it is essential that all airports in the federal interest follow a standard method for defining the "health" of their runways and other pavement areas. To this end, the Performance Measurement Sub-team has identified the indicator in Table J.8 for immediate implementation:

Table J.8. Pavement Performance - Performance Indicator and Assumptions

Performance Indicators	Assumptions
<i>Percentage of Runways, Taxiways, Apron areas, and Shoulders in the federal interest that are classified by airport category into broad system "health" ranges based on PCI</i>	<i>Standard method for reporting airport pavement condition data is available. A reasonable correlation can link accidents to pavement condition.</i>

The primary emphasis of this indicator is to put all airports in the federal interest on equal “footing” so that informed decisions can be made between development projects. Since PMMSs at individual airports are widely heterogeneous, FAA Airports must have a consistent means of rating pavement areas and communicating with stakeholders. Use of the PCI will provide this means, by allowing national performance baselines to be established and providing a common reference for discussion. As more airports use the PCI, decision-making will become less subjective and will better reflect the priorities of the national system of airports.

Data Requirements and Sources

To minimize the data collection burden on airport sponsors, the Performance Measurement Sub-team decided to initially concentrate on the most important component of an airport’s pavement infrastructure – the runways. Focusing on runway areas will simplify early performance measurement by allowing any additional collection of pavement performance data to be integrated with ongoing inspection efforts. The specific data that need to be collected are outlined in Table J.9.

Table J.9. Pavement Performance - Data Requirements, Sources, and Owners

<i>Percentage of Runways, Taxiways, Apron areas, and Shoulders by airport category that are classified by airport category into broad system "health" ranges based on PCI</i>		
Data	Sources	Owners
<i>Inventory of runway, taxiway, apron, and shoulder pavements</i>	<i>Airport PMMS</i>	<i>Airport Owners States</i>
<i>Condition of pavements.</i>	<i>List of pavement distresses by type and severity</i>	<i>Airport Owners</i>

Measurement Process

The importance of runway safety across all airport operating environments allows us to make some general assumptions about the availability of performance data. The first assumption made by the Performance Measurement Sub-team is that all airports in the federal interest are using a PMMS to some degree. Second, that these airport sponsors are able to report on the general condition of their pavement areas and of their runways in particular. The last assumption is that the airport owners and states are willing to share this pavement condition information.

Though the team is initially concentrating on runway information, the data collection process remains the same for other airport pavement surfaces. This process is outlined in Table J.10.

Table J.10. Pavement Performance - Measurement Activities

<i>Percentage of Runways, Taxiways, Apron areas, and Shoulders by airport category that are classified by airport category into broad system "health" ranges based on PCI</i>		
Activity	Responsible Party	Supporting Mechanisms
<i>Collect location, dimensions, and type of runway, taxiway, apron, and shoulder pavements</i>	<i>Airport Owners</i>	<i>Engineering consultants PMMS</i>
<i>List pavement distress type and severity</i>	<i>Airport Owners</i>	<i>PMMS</i>
<i>Calculate condition of pavements from distress type and severity</i>	<i>Airport Owners</i>	<i>PMMS</i>

Validation of Data

Dealing with inconsistencies between data types will be a primary challenge in the initial roll-out of this performance indicator. The number of sponsors using the MicroPAVER program is uncertain, and many airports (especially the large ones) have undoubtedly developed their own PMMSs over time. These PMMSs may not be compatible with each other or the FAA, causing potential problems with extracting appropriate performance data. Additionally, the accuracy of data submitted by sponsors may be questionable, based on the size, function, and complexity of the individual airport. The Performance Measurement Sub-team has considered data validation issues throughout their effort, and have addressed these concerns in their recommendations for implementation.

Presentation of Performance Information

Pavement Performance data will be presented in the annual National System of Airports Performance Report. Though the specific format of this information will depend on current initiatives, the report will:

- compare pavement related accidents to system health
- identify key pavement distresses that could contribute to accidents
- identify the budget necessary to achieve an overall increase in system health or reduction in key distresses
- compare existing pavement strength data to new changes in aircraft weights and gear configurations
- identify the budget necessary to raise pavement strength characteristics at airports planning to accommodate new and larger aircraft
- indicate the progress of developing new enhanced pavement design criteria and construction specifications
- identify the relative impact of performance related construction specifications on construction contract costs
- identify overall budget and pavement needs to improve efficiency and safety.

Implementation Approach

Based on the decision to concentrate only on runway pavement areas, the Performance Measurement Sub-team has defined the following approach for initial implementation of this indicator:

- **Begin roll-out using 5010 data exclusively.** Since the data in 5010 reports is maintained by the FAA National Flight Data Center, data consolidation and formatting issues are avoided. However, this is not a viable long-term option because 5010 data only includes runway pavement areas and often lacks specific condition information.
- **Survey the airport sponsor community** to determine the data types and formats currently supported by their individual PMMSs. This step is a necessary prerequisite to defining an integrated data management platform.
- **Develop IT module for distributed data entry at the airport sponsor level.** This IT module will integrate survey results and technological trends into a mechanism for sponsors to enter pavement data directly into a central data infrastructure. Designing the module for specific target platforms will ease the definition of access rights, allowable field values, and form structures. There are several promising options for implementation of this step, including conventional database programs and emerging Internet-enabled applications.

RESOURCE REALLOCATION MINIMUM PROJECT REQUIREMENTS

Following is the basis for the Resource Reallocation sub-team's recommendations regarding minimum requirements for project management under the new process:

Project Management Requirements Based on Law

(Sponsor contracts - equipment, construction, consultants, bids, etc.)
(ALP - approval, airspace, etc.)

49 CFR 18, Uniform Administrative Requirements to State and Local Governments, provides policy and procedures to be used by sponsors.

Section 47107, paragraph (A)(17), Airport and Airport Improvement Act, defines types of service contracts that must be awarded consistent with Title IX of the Federal Property Administrative Services Act of 1949 (Brooks Act).

National Environmental Act requires Federal agencies to prepare EIS or select the consultant that prepares the EIS.

In summary, no current legislation that requires FAA approval of project contracts under the AIP was discovered.

(DBE Requirements)

49 USC Section 47113(b) requires that 10 percent of AIP amounts available in a fiscal year shall be expended with small business concerns owned and controlled by socially and economically disadvantaged individuals.

49 USC Section 47113 (c) requires that The Secretary shall establish minimum uniform criteria for State governments and airport sponsors to use in certifying whether a small business concern qualifies under this section.

49 USC Section 47113(d) requires each state or airport sponsor annually shall survey and compile a list of small business concerns referred to in (b) above and the location of each concern in the State.

14 CFR Part 158, Passenger Facility Charge, does not require DBE if the project contains no Federal funds.

In summary, project manager must require a certification (or equivalent) assuring 10% DBE participation if the project contains Federal funds.

(Land Acquisition)

49 CFR Part 24.4(a) requires that prior to approving any grant which results in real property acquisition or displacement, the sponsor must provide appropriate assurances that they will comply with the Uniform Act.

Therefore, FAA project managers must receive an appropriate assurance from the sponsor; or Subpart G certification states that a State or sponsor can certify that it will comply with the Act in lieu of providing the assurances requires by Section 24.4.

49 CFR 24.4(b) requires that the Federal agency will monitor compliance with this part, and the sponsor shall take whatever corrective action to comply with the Uniform Act. The Federal agency may apply sanctions. (There is no definition of the level of monitoring, and the FAA Order 5100.37A, Section 1-56, further states that FAA may accept sponsor certification of compliance, and that FAA review should be made as necessary to assure adequate sponsor compliance.)

Therefore, FAA project managers must monitor compliance with the Uniform Act.

49 CFR 24.7 allows for a waiver of any requirement that is not required by law (on a case-by-case basis).

Therefore, FAA project manager must evaluate requests for waivers when received.

49 CFR 24.603(a) states the responsibilities of the Federal funding agency for monitoring and corrective action. It states that the Federal lead agency shall monitor from time-to-time state agency (which is the sponsor) implementation of programs or projects conducted under the certification process.

Therefore FM project managers must monitor from time to time the land acquisition process.

49 CFR 24.603(b) further states that the Federal lead agency should withhold financial assistance if the state agency (sponsor) fails to comply with the certification.

Therefore, if an FAA project manager finds that a sponsor fails to comply with the assurances or certification, then they should withhold funding assistance.

The general finding of this review on land acquisition is that there are only a few requirements that FAA Airports project managers must follow in the management of AIP and PFC land acquisition projects. These requirements are included in the Uniform Relocation Act and Part 24. Basically FAA project managers must (1) receive an assurance or certification from a sponsor that they will comply with the Uniform Relocation Act, (2) monitor the sponsor's conformance with the Uniform Relocation Act from time to time, (3) withhold financial assistance if the sponsor fails to comply, and (4) provide technical assistance on an as-requested basis.

(PFC Requirements)

49 USC 40117, Subsection (h)(2), Passenger Facility Fees, states, "The Secretary periodically shall audit and review the use by an eligible agency of passenger facility revenue..." to determine whether it is being used as provided in Section 40117.

49 USC 40117, Subsection (d)(2) and (3) indicates that PFC revenue must be used on eligible airport-related projects that meet one of the objectives of the PFC program and are adequately justified.

These requirements may be met by reviewing the public agency's quarterly reports and annual audits to ensure the revenue is being used on the projects approved in the applications; therefore, FAA involvement in the management of individual projects is not required.

FAR Part 158.71(a), Passenger Facility Charges, states that, “the Administrator may periodically audit and/or review the use of PFC revenue by a public agency...to ensure that the public agency is in compliance with the requirements of {the law and the regulation.}”

This subsection seems to implement the intent of subsection 40117(h) (2) of the law; however, it states “may” instead of “shall.”

As with the law, there does not appear to be any requirement for FAA involvement in the management of individual projects. Periodic monitoring of project implementation may be done in order to ensure compliance with the law and regulation. However, the preamble states that "FAA expects to rely primarily on the audits performed for the air carrier and public agency. In conclusion, there does not appear to be any requirement in the law or regulation for FAA to manage individual PFC funded projects. Clearly, the intent of the law and regulation seems to be to limit federal involvement in the PFC process once an application is approved. However, FAA would still be involved in ALP, airspace and environmental actions associated with the projects.

Project Management Requirements Based on Policy

(Sponsor contract - equipment, construction, consultants, bids, etc.)

(ALP - approval, airspace, etc.)

AC 150/5100-14C, "... Consultant Services for Airport Grant Projects," recommends guidelines for sponsor's use in selecting consultants, states FAA will not participate in negotiation process and FAA's role is to make judgments on the reasonableness of compensation.

FAA Order 5100.38A, AIP Handbook, requires preaward review by FAA when (1) the sponsor does not comply with the standards promulgated in 49 CFR 18.36, (2) proposed contract is to be awarded on sole source basis, (3) apparent low bidder under a formally advertised procurement is determined by the sponsor to be nonresponsive, or a review of the bid abstract reveals the possibility of bid improprieties.

5100.38A, Section 1200.(B) lists six situations where ADO has the option to impose preaward review.

In summary, policy currently demands contract review under certain unusual circumstances. Policy also provides the ADO the option for such review.

(DBE Requirements)

FAA Order 5100.38A, paragraph 1422, AIP Handbook, requires all sponsors, as a condition of project approval, to assume certain DBE obligations as set forth in 49 CFR Part 23. Complaints alleging discrimination under the DBE program should be referred to the Regional Civil Rights Office.

In summary, all actions required in AIP Handbook and 49 CFR Part 23 are sponsor action or Civil Rights Office action.

(Land Acquisition)

FAA Order 5100.37A, Section 1-51, Land Acquisition and Relocation Assistance for Airport Projects, requires that prior to approving a grant for real property acquisition or displacement, the sponsor must provide assurances that comply with 49 CFR Part 24.

5100.37A, Section 1-54 requires that the FAA require that sponsors maintain records for three (3) years from the date of the last payment under this project

This is usually part of the certification.

5100.37A, Section 1-56 restates the monitoring and corrective action requirements that are contained in 49 CFR Part 24, and state that FAA may accept sponsor certification.

5100.37A, Section 3-13 requires that a sponsor provide evidence of adequate title to FAA for land interest acquired.

Therefore, FAA must receive evidence of adequate title for land acquired.

5100.37A, Section 2-36 allows FAA to determine if hazardous material on a site should be reflected in the appraised market value.

5100.37A, Section 2-31 encourages sponsors to submit complex and questionable appraisals to FAA for review and for FAA technical assistance with appraisal practices.

5100.37A, Section 6, 2-51 through -53 provides guidance for appraisal review by FAA. This review is not required. Section 2-53 states that random sampling of sponsor projects should be made to provide an overview of the sponsor's appraisal process. This same section states that appraisals submitted to the FAA do not have to be retained by FAA as project files.

5100.37A, Section 2-55 provides guidance on withholding of funds when the requirements of the laws and regulations have not been followed by the sponsor.

5100.37A, Section 3-10 requires FAA approval for purchase of a life estate interest in land.

5100.37A, Section 3-15 requires FAA approval for private individuals as negotiators.

5100.37A, Section 3-34 requires FAA to determine the level of participation in settlement and litigation expenses.

5100.37A, Section 3-42 requires FAA approval for functional replacement (unique case).

5100.37A, Section 4-26 requires FAA concurrence with requiring an occupant to vacate in less than 90 days.

5100.37A, Section 4-32 requires the sponsor to furnish FAA information on an agency (other than the sponsor) that will provide relocation assistance.

5100.37A, Section 4-51 allows for periodic review of sponsor relocation assistance procedures and provides guidelines, but does not require anything.

May 5, 1996

Assignment: Research Laws, regulations, orders, etc., to determine the action required for administration of **AIRSPACE ACTIONS** for FAA Airports Project Managers.

Documents Reviewed:

Federal Aviation Act of 1958 (As amended through the years. I reviewed the most recent copy I have from December 1988.)

Airport and Airway Improvement Act (as amended)

49 CFR Part 77, Objects Affecting Navigable Airspace

49 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports

FAA Order 7400.2D, Procedures for Handling Airspace Matters

FAA Order 5100.38, AIP Handbook

Summary of Findings:

Our original premise in reviewing the responsibilities of Airports "program managers" was that we must continue to perform those tasks required by laws and regulations, but that we had flexibility to change tasks that are include in internal FAA Orders. However, in this case, the airspace review procedures and responsibilities are detailed in the Order 7400.2D. Furthermore, the Order was coordinated and jointly approved by the Associate Administrators for Air Traffic, Airways facilities, Regulation and Certification (Flight Standards), System Engineering and Development, and Airports. Therefore, if it is necessary to change this Order to re-engineer the way we manage projects, we could have a significant undertaking.

The general finding of this review is that there are many requirements that FAA Airports Project Managers must follow in the management of AIP and PFC airspace review. These requirements are included in the Order 7400.2D, which gets its authority and applicability from the Federal Aviation Act of 1958 and the subsequent Part 77 and Part 157.

There are two types of Airspace Cases, Rulemaking and Non-Rulemaking.

Rulemaking cases are those such as designation, alteration or revocation of airspace by rule, regulation or order. Rulemaking cases include developing a formal docket, notice to the public in the Federal Register for comments, publishing the final rule, etc. Rulemaking cases are managed by Air Traffic in FAA Headquarters (usually) and there is only occasional required for input/comments from Airports. (No further discussion of Rulemaking is necessary for this paper.)

Non-Rulemaking cases can be broken down into about three (3) types of cases: Obstruction Evaluation cases off airports (OE), Navigational Aid cases (NR), Airport study cases (NRA).

- ♦ Obstruction Evaluation airspace cases which are off airport property are the principle responsibility of the Air Traffic Division in each region. (Reference Order 7400.2D, Chapter 4, Section 1, 4-6.) Notification of proposed obstructions is required under FAR Part 77. Proponents file FAA Form 7460-I, notice of Proposed Construction or Alteration with the applicable regional Air Traffic Division, and Air Traffic is responsible for coordinating with the other operational divisions. The Airports Division reviews the proposal with regard to existing airports and planned or future development programs on file (Ref. 7400.2D, Chapter 5., 5-10 and Chapter 7., 7-2) and comments as appropriate. The final determination is written by Air Traffic (unless there is an objection for other than an obstruction reason, then the objecting division writes the final determination Ref. 7400.2D Chapter 4, 4-6).
- ♦ Navigational Aid cases (federal and non-federal) are the principle responsibility of the Airways Facilities Division in each region. As with OE cases above, the Airports Division responsibility is to review and comment as appropriate. There are no specific actions that the Airports project manager must normally take regarding NR cases.
- ♦ Airport Study Cases are the cases that are initiated by the Airports Divisions and are the responsibility of Airports to coordinate, make a determination and notify the proponent of the decision. They are required in accordance with FAR Part 157, the AIP and PFC programs. (Order 7400.2D, Chapter 10, 10-1 includes a long list of cross-references as the basis for the authority and responsibility in the Federal Aviation Act of 1958.) The FAA Airports Division must make a determination as to what "effect a proposal may have on compliance with the overall Airports Program and on safe and efficient utilization of navigable airspace by aircraft." (Order 7400.2D, 10-2)

Order 7400.2D, Chapter 10, Section 10-10 provides a fairly comprehensive list of the various types of Airport airspace cases, paraphrased as follows:

- a. Airport proposals submitted under FAR Part 157 (usually for non-federally obligated airports),
- b. AIP requests for aid,

- c. Notices of construction or alteration at existing airports,
- d. Disposal of Federal surplus real property,
- e. Airport Layout Plans,
- f. Military proposals for military airports used only by the armed forces,
- g. Proposals on joint-use (civil/military) airports,
- h. Proposed designation of precision instrument landing runways,
- i. Airport site selection feasibility studies,
- j. Any other airport case when deemed necessary to assess safe and efficient use of navigable airspace by aircraft and/or the safety of persons and property on the ground.

Of the list above, items b., c., e., h., i., and j. are airspace actions that require action by the Airports project managers for AIP and PFC projects. (Note that the other bullet items are Airports responsibility, but not considered part of AIP or PFC projects.)

Conclusion: No specific list of project work items to be emphasized, deleted, etc. for airspace actions was developed at the April re-engineering team meeting (as there was with the other categories of AIP/PFC development). The following is a list of the specific airspace actions that the Airports Division project managers are required to perform for ALP and PFC projects. (Note that this list is only for the AIP/PFC projects, not the entire list of Airports Division airspace responsibilities.)

1. Airports project managers must review and comment on off-airport OE airspace cases that impact the existing and future safety, efficiency and operation of airports. (If Airports objects to proposals that are not obstructions, then Airports is responsible for the determination and response.)
2. Airports project managers must review and comment on notifications of proposed navigational aids and changes thereto coordinated by Airways Facilities as NR airspace studies (as the navigational aid NR cases relate to AIP and PFC projects.)
3. Airports project managers must coordinate proposed AIP and PFC grant projects. (Note that some projects are exempt from the coordination such as land, equipment, etc., but generally there is a requirement to coordinate most projects.)
4. Airports project managers must coordinate proposed construction or alterations of existing airports. (In our Region, this is usually accomplished by coordination of the ALP or an update to the ALP, which is the same as item 5. below.)

5. Airport project managers must coordinate and approve Airport Layout Plans (ALP) for federally obligated airports.
6. Airport project managers must coordinate precision instrument runway designations (usually accomplished as part of coordination of a Master Plan and/or ALP update.)
7. Airport project managers must coordinate new airport site selection studies.
8. Airport project managers must coordinate other airspace actions as necessary for the safe use of navigable airspace and safety of persons and property on the ground. (This is a "catch-all" from Order 7400.2D, but it could be interpreted to include coordination of AIP/PFC safety and phasing plans, and other such items.)

