

CONTRACTOR'S FINAL REPORT

**Prepared for ACRP 01-20
A Handbook for Procuring and Managing
Professional Services**

**Transportation Research Board of the
National Academy of Science**

**TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMY OF SCIENCE
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FORWARD

<By Theresa Schatz.>

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INTRODUCTION

Current Challenges

There are many challenges that influence how airports procure and manage professional services. The challenges range from the larger context of regulatory, political and economic changes at the federal and state levels to the changing workforce and public demands for new and better services at the local level.

Funding constraints are requiring airports to reexamine what services they are able to provide better, cheaper and faster by internal staff and those that can be more efficiently and effectively provided by Professional Service Providers (PSP). As a result, many are redefining their core missions and carefully requiring a systematic review of how they are organized vertically and horizontally to procure and manage professional services.

Political and economic pressures are forcing airports to operate in a fishbowl. Airport agencies are profoundly impacted by public perception and political changes. Perception of transportation services as cost-effective, responsive to customers and accountable has been brought into question in recent years. Public perception drives political action. The response has been to implement more stringent policies and processes that often create more conflicts, and erode relationships among critical partners

Agencies and PSP need to take the time to understand each other's mission, strategic focus, goals and desired outcomes, and must develop a process for both to be successful. This requires strong relationships between many stakeholders, as well as clarity of purpose, to achieve the desired outcomes.

Additionally, with declining resources, agencies have become more steadfast on regulation, implementing tighter contracting and pricing policies and procedures, sacrificing strategic planning, that is only undermining those very relationships needed to address the demand to deliver services faster, cheaper and better. The inherent problem with this new direction is that the services that agencies and the public depend on actually require more coordinated and collaborative partnerships between PSP and public agencies. These partnerships, if they are to be successful, need to be based on trust and understanding.

An airport's organizational structure and approach to PSP varies based on size, location and authority. Authorities tend to be more pro-active as they operate in a system more isolated from political demands. They are able to develop partnerships, identify a variety of funding resources and utilize a mix of regulations and policies to accomplish their mission. Airports organized under government agencies such as cities or counties (referred to here as Airport Government Agency or AGA), tend to be more exposed and more vulnerable to public perception, political influences, and tend to be reactive to changes and demands. Also, AGAs compete with other departments for the same pool of local funding; impeding flexibility in their procurement and management process.

An unforeseen yet real consequence of these constraints and challenges is a breakdown in the connections between the procurement and management process and the relationships among those who manage PSP. Some of the more prominent disconnects are the connections between

the procurement and management people and processes to manage PSP. The disconnects occurring in relationships are partially driven by organizational changes but also exacerbated by eroding connections and communications between and among agencies, PSPs, internal departments, stakeholders and customers. The erosion of relationships among these participants is fueled by constrained financial resources, shifting political priorities and changing workforce. Therefore, now more than ever, it is necessary to:

- Be flexible and adaptable.
- Come to a mutual understanding of needs and resources on both sides of the table and develop a strategic approach to use professional services effectively to compliment the mission and resources of an organization.
- Develop sound strategic direction for the organization, people and process to manage relationships and procure and manage PSP.
- Establish realistic goals, outcomes and measures.
- Be accountable, transparent and flexible in the approach to procure, contract and manage PSP and agency performance.
- Establish an effective communication strategy to keep everyone informed and engaged to manage change and risk efficiently.

Opportunities

The need to be cost-effective, efficient, flexible, transparent and accountable rests solidly in the approach an organization takes to procure and manage professional services to achieve agency goals and outcomes. The procurement and management of PSP is integral to the delivery of services and should reflect an agencies' mission and goals and must be formally and procedurally connected with each other to achieve results.

It is prior to procurement that an agency identifies its needs, goals and project delivery method as it relates to "core" responsibilities and then subsequently defines the need for professional services. The agency then sets forward the strategic approach toward PSP, defining its goals and results. The beginning of the relationship between agencies and PSP is established at this point and formalized during procurement and realized during management of PSP contracts.

Demystifying the procurement process and opening the channels of communication are keys to successful PSP contracts and results. Transparency and clarity of process can save time and money for both the agency and the PSP.

The procurement phase defines the tools to be used which are based upon agency policy and procedures and of course governing laws and policies. As PSP services are diverse by nature, involving a wide variety of tasks and professionals, the tools also need to be diverse and flexible, carefully selected to allow for clarity in objective and delivery of services. An understanding of prevailing laws, procedures and policies will assist in selecting the right fit for the right task. The procurement process needs to be clearly crafted and communicated to all stakeholders, internally as well as externally. The inclusion of legal, audit and contract professionals throughout the procurement process can enable a clear, accountable and transparent process that allows PSP a full understanding of the agency mission, goals and objectives while also creating the clarity of purpose and process necessary to deliver needed services.

Providing as much information and access as possible - prior to solicitation - saves everyone time and money in responding to agency needs and opens the door to more creativity. To that end, the development and management of scope-schedule-cost, contract type, selection process and negotiation can ultimately determine a sound selection and clear path to achieve goals.

To achieve that end, PSP need information from agencies regarding their approach, objectives, service needs, and most importantly, both parties need to agree on expectations and deliverables and maintain continual open communications throughout the life of the contract.

Decoupling scope from cost from schedule will increase change orders, add risk and jeopardize results.

A carefully designed procurement process and a well-defined contract will set the tone and direction for the management of PSP. As important, a sound procurement process can also decrease risk and change orders, and ensure a successful delivery of the project in

terms of scope-schedule-cost. The practice of keeping scope, cost and schedule together from strategic planning through close-out is critical for managing change and controlling risk. For this reason, scope-schedule-cost will be referenced as one word throughout this document.

Therefore, the Handbook identifies the benefits of integrating a philosophy of Flexibility, Accountability, Communication, Transparency, and Strategic Direction (referred to as FACTS) into the organizational approach and process to procure and manage professional services as described below.

- **Flexibility** – Balance the need to adjust in changing times, work in dynamic political and economic environments, collaborate with changing expectations, and have an accountable process that allows for negotiation and management of various contracting venues and expected services from various expert service providers. Fit the best process to the service desired.
- **Accountability** – Provide stakeholders with a clear, concise, cost-conscious and effective process for contracts, and facilitate an open and clear process to validate spending, manage performance and mitigate conflicts.
- **Communication** – Foster regular, open and honest communication among the providers of professional services. Establish a line and method of communications early, during the procurement and management of professional services and PSP contracts process leads to trusted relationships with the stakeholders and a better understanding of needs and expectations.
- **Transparency** – Needs, expectations and requirements need to be clearly defined and communication must be open, honest and clear on how, why, when and with whom processes, procedures and products are developed to achieve buy-in among all participants. Convey the rules and procedures and set clear expectations to increase productivity and reduce the potential for conflicts.
- **Strategic Direction** – Harness and fit the resources, partners and funds available for the projects to meet agency goals. The need to meet expectations does not diminish when funding is limited; instead, airport owners/operators are challenged to be innovative in the way they procure and obtain services in a manner that maximizes available funding to

realize the goals and needs of the airport. The strategic direction should identify, evaluate and coordinate new and existing partners in the process.

Research Objectives

The objective of this research is to develop a Handbook that identifies best practices for procuring and managing professional services. The Handbook outlines key approaches and processes that establish sound practices for relationships between agencies and PSP as well as for the procurement and management elements of professional service contracts in a manner that achieves agencies needs and expectations.

A number of questions were raised through the research and outreach efforts in development of this Handbook.

- How are agencies organizing and redefining their process and approach to procuring and managing professional services with limited or reduced resources?
- What are the challenges to building strong partnerships for effective contracting relationships between agencies and contracting professionals?
- How can the procurement process be effectively aligned with management practices and vice-versa?
- What tools and techniques are available to simplify the process while maintaining the integrity of the delivery of the services?
- What are the best practices in the industry that guide airports in developing an approach based on FACTS to procure and manage professional services?

The Handbook is intended to be useful for all airports, regardless of size, location or governing structure. It demonstrates the importance of a clearly written and executed policy and process to develop effective procedures for procurement and management of professional services. It outlines the importance of having clear roles and responsibilities, a flexible approach to developing and managing scope-schedule-cost of services, a transparent and accountable process for soliciting, selecting and contracting services; and a communication plan for maintaining a trusting relationship and predictable performance in the delivery of those services.

Overview of Research Approach

The work undertaken in this study was conducted in two parts. The first part, Tasks 1-4, focused on collecting and analyzing available information and research. The second part, Tasks 5 and 6, focused on developing the Handbook for Procuring and Managing Professional Services.

Task 1. Literature Search and Review. A review was conducted of the available relevant data related to procurement practices, solicitation, negotiation and contracting as well as on the management side on organization, performance and cost management, project controls, risk, change, quality and document control, evaluation, asset management, strategic and capital planning. The search included: aviation-related industries, other transportation sectors (city, state and regional entities), and other industries such as professional services providers. During this

process, we examined over 300 documents. The bibliography in Appendix C cites the most appropriate and pertinent sources.

The research also included an evaluation of software packages used at various institutions related to the procurement process (including eProcurement systems, cost estimating templates and web-based collaboration). The intent was to identify technology used to enhance efficiency, effectiveness and communication in the procurement process.

Task 2. Develop Data Collection Plan. Based on findings from Task 1, airport candidates representing a diverse cross section of hub size, governing structure and FAA regions, along with a sample of public transportation agencies, were selected for further outreach. An interview form was developed to correspond with chapters anticipated for the Handbook. The interview form focused on: organization and approach; procurement of professional services; negotiating and contracting professional services; managing professional services; and open-ended questions on best practices, lessons learned, challenges, opportunities and advice to colleagues in the industry. The form was pre-populated with available data from the literature and candidate web sites in advance of the interview and subsequently divided into three sections. Part 1 contained instructions on the use of the form and the purpose and objectives of the research. Part 2 was the portion of the form prefilled in advance by the study team using documented data. Part 3 contained the remaining questions that were the focus of the scheduled interview.

Task 3. Execute Data Collection Plan. The goal of the interview process was to obtain missing data (Part 3 of the questionnaire) and to glean new information on best practices and lessons learned. The data collection plan was crafted to minimize inconvenience to participants and to optimize discussion time during each interview. This was achieved through the research team's partial completion of the interview forms based on data collected during the literature review. The forms were subsequently sent to each candidate for validation in advance of the interview, and then the actual interviews were conducted in person or over the phone. The forms were then revised based on the data gathered in the interview. Follow up email messages were sent to selected candidates to obtain missing data or documents including information on technology.

The intent of the interview was to focus on:

- Gathering information relevant to procuring, managing, communication, information technology,
- Distinguishing between process and practices – real life applications, and
- Identifying best practices used by the agencies and obtaining advice to colleagues in the industry.

It was critical to attain a representative sample of candidates as well as to capture as best as possible information on both the procurement and management sides of professional services as these were often done by different departments. Most of the interview participants on the management side typically were from the engineering, planning and design areas of agencies as the vast majority of candidates did not procure legal, human resource, financial and technology professional services, and if they did it was episodic, not routine.

Task 4. Interim Report. The interim report explains the results of the research and outreach efforts and presents major findings, key observations and an outline of the chapters for the Handbook.

Task 5. Develop a Handbook. The Handbook identifies key aspects of organizational structure and the relationship among and between the procurement and management of professional services. It includes additional references and guides on specific aspects of procuring and managing professional services along with sample documents.

The research team conducted a web-based focus group with aviation industry experts representing a diversity of airports to review and test the concepts, recommendations and processes developed for the Handbook. The team incorporated the comments received from the focus group into the final Handbook. A summary of the webinar presented to the focus group along with their responses is attached to this report in Appendix I.

Task 6. Final Report. The final report summarizes all efforts involved in carrying out this research project and developing the Handbook.

Contents of This Report

This report outlines the results of the research and outreach efforts.

- **Summary of Research Findings** provides a brief overview of relevant findings in the review of more than 300 documents and interviews conducted with four transportation agencies and 11 airport agencies representing 31 airports, along with the major findings and conclusions for both the literature search and outreach efforts.
- **Key Observations on Procuring and Managing Professional Services** presents a summary of key observations made during the research, an assessment based on key findings and conclusions from the interviews, successful strategies and approaches used and key components for procuring and managing professional services.
- **Outline of Handbook** presents an outline of the chapters and appendices included in the Handbook, which is published as a separate document from this report.

Refined Approach

The outreach component of the study identified many best practices and lessons learned from those in the industry to creatively and effectively utilize available resources (human resources and financial) to achieve mutual understanding, expectations and results. During the outreach effort the team found that:

- The response to the interviews was better than anticipated. Participants welcomed the opportunity to share information and their experience. Discussions with agencies familiar with ACRP/TRB were most effective due to their understanding of the research approach and value of the research.
- The majority of agencies freely offered information and found value in the research.
- In-person interviews were the most effective for obtaining information.
- The interviews provided useful information on the differences between the documented processes in the literature and on web sites as compared to actual practice.
- The research and outreach efforts were able to identify additional reference resources for inclusion in the Handbook that provide more detailed guidance about selected topic areas for referrals on “how to” manuals.
- There is a distinct difference in how and what types of professional services are procured and managed between authorities AGAs.

Based on the research, the approach to the DCP was refined based on the following.

- The final tally of interview candidates was adjusted based on lack of response from some candidates. Access to sufficient information available in the literature made additional interviews unnecessary.
- Due to the amount of services scoped and budgeted, the interviews often required more than one person and one department to interview. Information on the procurement of Legal, Financial, IT and HR services was only available when airport agencies had centralized procurement and even then, airport agencies typically used their own staff and secured PSP for special projects (see Table 4).
- Legal, Financial, IT and HR professional services are typically performed in-house or on an as-needed basis. These services were generally procured for special projects as one-time solicitations.
 - **Human Resource** (HR) professional services were mostly procured on an as-needed basis for a one-time system change or organizational review, such as the implementation of a PeopleSoft system.
 - **Legal** services were typically procured directly and contracted on retainer for specified services, such as arbitration, as most agencies have their own legal counsel and resources.
 - **Financial** services typically performed externally by PSP are bond certifications, bond ratings, auditing and financial management.
 - **Information Technology** (IT) services, such as implementation of enterprise software, were procured through the same competitive selection process as other

professional services, or through a separate department within the agency, or were not outsourced at all.

Individual departments that procure Legal, HR, IT and Financial services were not interviewed in light of the additional time that would be required, the relatively small number of PSP typically retained in these areas, and the marginal amount of data expected to be garnered.

SUMMARY OF FINDINGS FROM THE RESEARCH

There is substantial research on organizational approaches, guiding principles, process, and procedures to procure and manage professional services. There are many manuals, guidance documents, and regulations with excellent references and sample forms either in the literature or on the internet regarding procurement and management practices. The outreach efforts identified the “practice” side of policy and process and provided valuable information on the challenges and opportunities to improve the process and relationships among the participants.

Overview

The research team conducted a high level review of over 300 documents in the following areas for literature:

- Findings from the ACRP 1-10 Handbook for Collaborative Airport Capital Planning
- Material related directly to the procurement and management of professional services at airports
- Business management practices and experience with software used for electronic procurement, contract management, project management and sourcing management
- Aviation-related industry practices in procuring and managing professional service
- Other transportation sectors current practices on procuring and managing professional services (i.e., highway, rail, bridges, tolls)
- Private industry practice

The team consulted the available published literature and the internet on current methods, resources and best procurement and management practices, including local, state and federal government agency websites, including:

- Relevant TRB/ACRP reports
- Airport plans and manuals
- Transportation agencies’ plans, processes and manuals
- Other institutions’ plans, processes and manuals
- Business practices related to project management and implementation
- Effective collaboration techniques
- Information technology

Internet search and web sites were reviewed on airport, municipal and state procurement, including the following Procurement Trade Associations:

- Airport Purchasing Group (APG)

- National Association of State Procurement Officers (NASPO)
- National Institute of Governmental Purchasing (NIGP)
- National Purchasing Institute (NPI)
- U.S. Communities Government Purchasing Alliance and Association of Procurement Technical Assistance Centers (APTAC)

The research into these websites identified valuable information useful to the outreach efforts and understanding of the differences between policy and practice (an observation noted later). For example, the NIGP recently completed a NIGP 2010 Public Procurement Benchmarking Survey available through their website (www.nigp.org). A survey of procurement practices was posted on the website of the National Association of State Procurement Officials (NASPO) (www.naspo.org), which examines the current procurement practices in various states and offers insight on the various initiatives implemented by these states.

The research team conducted a high level review of research on the procurement and management of professional services as performed by other governmental agencies and relevant industries, most notably for Airport Trade Organizations, Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), Federal Transit Administration (FTA), United States Department of Transportation (USDOT) and United States Government Accountability Office (USGAO), and the following notable TRB documents.

- ACRP Report 16: Development of a Guidebook for Managing Small Airports
- ACRP Report 21: Capital Project Delivery Methods
- ACRP Report 13: Integrating Airport Information Systems
- NCHRP Synthesis 385: Information Technology for Efficient Project Delivery

Findings from ACRP 1-10

The ACRP 1-10 project provided a foundation for both the research and outreach efforts. The ACRP 1-10 preliminary and detailed survey identified a number of candidates for the ACRP 1-20 outreach efforts who used practices that met goals for a representative sample and for which the research team had existing contacts and information. In addition, the ACRP 1-10 project provided a number of relevant documents from the literature search that are also valid for this Handbook focused on strategic organization, collaboration and process. It also had useful information related to strategies, techniques and methods for project definition and scope development, cost estimating and scheduling.

Additional Research Consulted

In addition to the Annotated Bibliography in Appendix A, an expanded bibliography of notable documents consulted in the research is included in the Final Report (see Appendix C). Of particular value to Handbook users are various “how to guides” as described in Table 1 of this report. Through the course of the interviews, some participants offered to share model documents from their own organizations, which have been included as an appendix in the Handbook.

Salient Findings from the Literature Review

The approach to reviewing the literature was broad and detailed, including agencies and organizations with experience in the diverse arenas of strategy, procurement and management processes, tools and methods and partnerships. The intent was to identify the best organizational approaches, processes, practices and techniques used in the industry and lessons learned. During this process, more than 125 websites were examined and more than 300 documents were identified for review. This section will detail the key findings from the research as follows.

- An outline of key findings focused on the each of the critical components of procuring and managing professional services with a notation of the sources used to developed those findings. The research included documents from non-aviation transportation agencies. Transportation agencies are under stricter and more formal obligations to be transparent and accountable to the public on their approaches, process and methods and therefore more documentation was easily obtained without requiring an interview.
- An overview of the manuals and reference documents with useful steps on various components of procurement and management of PSP.

Key Findings from the Literature

A variety of compelling procurement practices were gleaned from the literature review. The following is a representative sample of practices described in the literature. The titles of the referenced sources are displayed in the accompanying sidebar for each section (See Appendix C for full bibliography).

Organization and Approach

Clear, open, and honest **communication** is vital to all successful team endeavors. **Partnering** is important to realizing a successful project, alleviating problems such as delayed submittals, and keeping the project on track. Key stakeholders should be identified early and should meet regularly to identify and resolve problem areas quickly.

According to the National Institute of Governmental Purchasing (NIGP), there are three pillars that should guide any successful government procurement. **Public Trust** is the first, as government employees are held to a far higher standard of conduct than their private sector and non-profit counterparts. **Public Service** requires that procurement officers make the best use of available financial and human resources and good governance requires government employees to use their authority

Organization and Approach

“Improving the Quality of Airport Projects: Best Practices”, Airport Consultants Council (ACC)/ Federal Aviation Administration (FAA)

“NIGP Values and Guiding Principles.” National Institute of Governmental Purchasing, Inc. (NIGP).

“Seven Steps To Performance Based Acquisition - Executive Summary”, Government Services Administration (GSA)

“State & Local Government Procurement: A Practical Guide”, National Association of State Procurement Officers (NASPO)

“United States Air Force Project Managers’ Guide for Design and Construction”, United States Air Force

without bias and to use honesty, expertise, and fortitude to pursue the public interest. **Justice demands that public procurement professionals must exercise judgment to balance competing interests among all stakeholders so that decisions and actions are proper, impartial, fair and appropriate.**

Central procurement officers cannot function effectively without **appropriate delegation of authority**. Establish measurements to assess performance of procurement process. Establish **written procedures in simple, concise language**. Create cross-functional **integrated project teams** for each procurement to unite technical expertise of procurement and program staff.

Prevailing Laws, Regulations, and Funding

Airports must have a **comprehensive understanding of their own agency policies as well as local, state and federal laws** and regulations pertaining to the procurement process. The Law Librarians' Society of Washington, D.C. maintains a website containing links to each state's regulations.

Two critical federal documents which those involved in airport procurement either are or must be familiar with are the Federal Acquisition Regulations (FAR) and the Federal Aviation Administration (FAA) Advisory Circular (AC) 150-5100-14d regarding Architectural, Engineering, and Planning (AEP) Consultant Services for Airport Grant Projects.

FAR prescribes policies and procedures regarding acquisition and management of all competitive and noncompetitive negotiated services; FAR applies to all contracts and orders for services regardless of the contract type or kind of service being acquired. Provisions of this comprehensive set of policies include competition and acquisition planning, required sources, contractor qualifications, socioeconomic programs, contract methods, types and negotiation.

FAR includes a Statement of Guiding Principles for the Federal Acquisition System: **satisfy the customer** in terms of **cost, quality, and timeliness** of the delivered product or service. Use of contractors who have a track record of **successful past performance** or who demonstrate a **current superior ability** to perform; promote **competition**; **minimize administrative** operating costs; conduct business with **integrity, fairness, and openness**; fulfill **public policy objectives**.

Laws, Regulations and Funding

Federal Acquisition Reform Act of 1995

Federal Acquisition Regulations (FAR)

"Federal Aviation Administration (FAA) Advisory Circular (AC) 150-5100-14D Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects", Federal Aviation Administration (FAA)

Government Performance and Results Act of 1993

Selection of Architects and Engineers Act (aka Brooks Act)

Services Acquisition Reform Act (SARA) of 2003

The Law Librarians' Society of Washington, D.C.,
<http://www.llsdc.org/state-leg>

FAA AC-150-5100-14d describes the Qualifications Based Selection (QBS) process for professional services provided for FAA grant projects. The Advisory Circular has detailed description of the types of services covered under this AC. The AC also provides guidance on developing selection committees, selection criteria, the selection process, negotiating the scope and fee, contract format and provisions, methods of contracting and allowable costs, alternative project delivery methods. There is specific guidance on selecting consultants to prepare Environmental Impact Statement (EIS) to meet the requirements of the National Environmental Policy Act (NEPA).

The Selection of Architects and Engineers Act, also known as the “Brooks Act”, is just one of many laws, regulations and statutes that affect the procurement process for any federal agency. The Brooks Act requires that architectural and engineering services be performed under the **direct supervision of a professional architect or engineer** licensed in the state in which the services are to be performed; and that contracts be awarded in accordance provisions of the Brooks Act. Architectural and engineering contracts must be negotiated with **fair and reasonable prices** with full consideration of scope, complexity, professional nature, and estimated value of the services to be rendered. **At least three firms** must be considered in the selection process for the agency to review anticipated concepts and compare alternative methods for furnishing services. Selection must be based on **published criteria**.

Other relevant federal legislation includes the Services Acquisition Reform Act (SARA) of 2003 which governs the process for federal acquisition workforce and training, adaptation of business acquisition practices, contract incentives and performance-based contracting; the Government Performance and Results Act of 1993 which directs federal agencies to develop policies regarding strategic plans, annual performance reports and managerial accountability and flexibility; the Federal Acquisition Reform Act of 1995 promotes **full and open competition** for federal government contracts by simplifying existing procurement laws and requiring **non-disclosure of procurement information**.

Strategic Planning and Guiding Principles

Trained professional facilitators can take a group of people with diverse interests and backgrounds, brought together to work on a project and transform them into a focused team with a comprehensive plan of action, specific deliverables to be achieved, and clear roles and responsibilities.

Federal regulations require a **quality based selection (QBS)** process for selecting consultants for projects funded with FAA Airport Improvement Program (AIP) funds. This includes consultant selection and procurement by sponsors, states, and the FAA’s regional airports divisions.

The General Services Administration (GSA) outlines a seven step process that an agency can take for performance-based acquisitions: establish an **integrated solutions team**, **describe the problem** that needs solving, examine private-sector and public-sector solutions, develop a **performance work statement (PWS)** or **statement of objectives (SOO)**, decide how to **measure and manage performance**, **select the right contractor** and manage performance.

There are a number of benefits to using performance-based acquisition (PBA). Performance-based acquisition increases the likelihood of meeting mission needs, provides better value and enhanced performance, reduces protests and performance risk. Performance-based acquisition is focused on intended results, not process. This method gives the consultant flexibility in proposing a solution and thus encourages better competition and a wider variety of solutions. Performance-based acquisition encourages buy-in and shared interests. Shared incentives permit innovation and cost effectiveness. Surveillance is less frequent and more meaningful.

NASPO outlines ten key principles for establishing an ethical procurement process at any government agency: be **independent**, act only in the **public interest**, remain a trustee of the public's money, **follow the law**, strive for **efficiency**, protect the **economy**, take nothing – ever, do **not socialize** with vendors, maintain **confidentiality** and do **not play favorites**. FAR Volume I, Part 3 outlines policies regarding improper business practices and personal conflicts of interest.

Information Technology

Information Technology can then be used as a complement to save both money and time through streamlined processes and improved efficiency. Some airports and government agencies are currently using web technology, including webinars and interactive websites, to collect and exchange real-time data and to facilitate communication throughout the procurement process, as well as to provide vendors with a better understanding of the agency's needs.

Strategic Planning and Guiding Principles

Federal Acquisition Regulations (FAR)

“Improving the Quality of Airport Projects: Best Practices”, Airport Consultants Council (ACC)/ Federal Aviation Administration (FAA)

“Seven Steps To Performance Based Acquisition - Executive Summary”, Government Services Administration (GSA)

“State & Local Government Procurement: A Practical Guide”, National Association of State Procurement Officers (NASPO)

“United States Air Force Project Managers' Guide for Design and Construction”, United States Air Force

Information Technology

“State & Local Government Procurement: A Practical Guide”, National Association of State Procurement Officers (NASPO)

Electronic procurement software (eProcurement) is also available for automating the entire procurement process. eProcurement is useful for ensuring supplier diversity and for managing vendors and notification of opportunities. Typical components include Purchasing, Spend Analysis, Sourcing, Vendor Invoicing and Payment. Most eProcurement systems provide sophisticated security for protecting data and confidentiality. Some jurisdictions have laws that stipulate that proposals and bids be submitted as hard copy documents; legislators may need to reevaluate these laws as electronic procurement evolves and expands.

The State of Florida uses an **online exchange for buyers and vendors**, MyFloridaMarketPlace. In operation since 2003, the system is a source for centralized procurement activities and streamlines interactions between vendors and state government entities.

The Commonwealth of Virginia's eVA system is another online, electronic procurement system. This web-based vendor registration and purchasing system allows state agencies and local governments to electronically conduct purchasing and sourcing activities for goods and services. Sourcing functionality supports sealed, unsealed, and reverse auction procurements and includes public posting, vendor invitations via email and efax, **accepting electronic bids/quotes and proposals**, and placing orders/contracts electronically. Purchasing functionality includes online requisitioning, contract ordering, dynamic approval workflow, electronic orders delivered to the PSP and online receiving.

Project Definition and Project Delivery

An airport's Capital Improvement Program (CIP) identifies required projects and prioritizes these needs. The Federal Aviation Administration evaluates all requests for aid based on eligibility, justification, cost, priority assessment and schedule. In order to guide investment decision-making effectively, the CIP should be well thought out, realistic and based on an approved Airport Improvement Program (AIP). It should also contain responsible project cost estimates.

Project descriptions need to be concise and comprehensive and should address all aspects of the project that may influence project delivery method selection. The project description will serve to communicate the decision to interested stakeholders and to justify the decision if issues arise years later. Begin by identifying all **major internal and external stakeholders and define their roles and responsibilities** for the project. **Solicit stakeholder**

Project Definition/Project Delivery

"Airport Cooperative Research Program (ACRP) Report 21: A Guidebook for Selecting Airport Capital Project Delivery Methods", Touran, Ali, D. Gransberg, et. al.

"Airport Cooperative Research Program (ACRP) Report 49: A Handbook for Developing, Implementing and Overseeing Airport Capital Plans", Cullen, Laurie, A. d'Amato, N. LaFarge

"Airport Owner's Guide to Project Delivery Systems – 2nd Edition", Airports Council International-North America (ACI-NA), Airport Consultants Council (ACC) and the Associated General Contractors of America (AGC)

"Improving the Quality of Airport Projects: Best Practices", Airport Consultants Council (ACC)/ Federal Aviation Administration (FAA)

"Seven Steps To Performance Based Acquisition - Executive Summary", Government Services Administration (GSA)

input on project goals, scope and functional requirements at the beginning of the project definition phase and continue to obtain feedback throughout the project planning process. It is imperative to identify the user’s needs early in design, not during project implementation/construction. Understand the problem that is the driver for the project; be sure to assess the project size and ramifications from all angles and apply the “**so what?**” test when developing a performance work statement.

Due to differences in governing authorities and regulations as well as the dynamic nature of funding sources and tenant needs, the appropriate delivery approach for each project will vary. Factors in determining the best program management approach include: **available in-house staffing levels and experience, available external consulting staffing levels and experience, airline agreements, funding sources and other constraints, agency, federal and state regulations.**

The traditional use of Design-Bid-Build (DBB) has recently been replaced in part by alternative project delivery methods such as Design Build (DB) and Construction Management at Risk (CMR) as legal limitations have changed. The risks and benefits of various project delivery methods should be closely examined as they relate to each specific project and the needs of the agency, and the project delivery method should be selected as early in the process as possible, since some of the benefits of alternate project delivery methods will be diminished as the project moves forward.

Scope-Schedule-Cost

A process which develops credible cost estimates will include research (know your audience and what you need to estimate), assessment (done in an iterative process), analysis (enough to inspire confidence in the estimate) and presentation (including comprehensive documentation).

There are twelve steps you can take to develop high quality cost estimates as outlined in the “Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs” from the Government Accountability Office (GAO).

1. Define estimate’s **purpose**, required level of detail, and overall scope
2. Develop estimating **plan** including approach, estimate timeline, team and master schedule
3. Define program characteristics, technical **baseline**, technology implications, acquisition strategy
4. Determine **estimating structure** including work breakdown structure (WBS) and cross checks for likely cost/schedule drivers
5. Identify ground rules and **assumptions**; clearly define what the estimate includes/excludes, identify assumptions and constraints

Scope-Schedule-Cost

“GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs”, Government Accountability Office (GAO)

“National Cooperative Highway Research Program (NCHRP) Report 574: Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction”, Anderson, Stuart, K. Molenaar, C. Schexnayder

6. Obtain current and relevant **technical, programmatic, cost, and risk data**
7. Develop point estimate and compare it to an **independent cost estimate**
8. Conduct **sensitivity analysis**
9. Conduct **risk and uncertainty analysis**
10. **Document** the estimate, including development steps, purpose, assumptions, methodology and rationale
11. Present estimate for **approval**
12. Update the estimate to reflect **actual costs** and changes

There are various strategies to be used in developing a cost estimate. The National Cooperative Highway Research Program (NCHRP) Report on “Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction” outlines specific strategies for developing cost estimates for highway projects which are relevant to all types of projects. The process of managing cost estimates continues throughout the entire project. Engage external stakeholders and review all conditions that may impact the project cost. Devise a change management plan for controlling scope, cost and schedule. Develop a risk management plan to identify project risks early and identify actions to mitigate their impacts on the project. Select the appropriate project delivery method for your project. Implement a document control process. Use qualified, trained staff to develop estimates. Ensure that all estimates are reviewed by multiple staff members for accuracy.

Procurement - Process & Procedures

The Federal Transit Administration describes steps to take during each stage of an effective procurement process in the “Best Practices Procurement Manual”. Prepare **written codes of standards** of conduct. Require **financial disclosure** statements and/or **non-conflict** certifications. Obtain certifications of compliance with **professional codes of conduct**. Prepare **written procedures** for addressing personal and organizational conflicts of interest. **Define the project clearly**, consider advance restrictions and consult with legal counsel to mitigate potential conflicts.

Solicitation and Selection

Clear and unambiguous language must be used in statements of work, and the solicitation should include a wide pool of consultants. Selections should be made by a qualified evaluation committee based on the evaluation of qualifications using predetermined criteria which is clearly communicated to all PSP prior to solicitation. The evaluation, scoring and award process should be thoroughly transparent and well-documented.

Procurement Process and Procedures

Airport Consultants Council’s (ACC) Excellence in Procurement Award

“Best Practices Procurement Manual”, Federal Transit Administration (FTA)

Solicitation and Selection

“Best Practices for Awarding State Contracts”, State of New Jersey Office of the State Comptroller (NJOSC)

“State & Local Government Procurement: A Practical Guide”, NASPO

Healthy competition (an adequate number of qualified responses) is the basis for attaining best value in the public procurement process. The evaluation process must be **flexible but remain equitable** to all offerors. Clear **comprehensive documentation** of the evaluation process, including **criteria used and decisions made**, leads to fairness, transparency, accountability and public confidence in the process. **Clearly defined specifications and statements of work** are critical to successful procurement, and are best **developed in partnership** between procurement officer and project manager, with requirements **defined early in the process**.

Contracting and Negotiating

Full and open competition leads to a fair and reasonable price and provides the most **comprehensive input on the technical aspects** regarding the various methods to perform the work.

Ambiguous contract provisions dilute responsibility and cause misunderstanding between the agency and other contractual parties. Providing **too little information** in the project documents can lead to **cost overruns** during the execution of the contract. **Accurate forecasts rely on reliable estimates and unambiguous contract provisions**.

Project Management, Project Controls, QA/QC

Successful project management requires **coordination of team members, thorough project planning, and careful oversight** of the delivery process to deliver projects on time, on budget, with good quality.

The tools for effectively managing the design and construction delivery process include strategies and tactics to control scope, cost, and schedule to ensure the final product meets the client's expectations and functions for the project.

Effective project management requires that the project team have a **strong understanding of the project environment, how the project affects people and how people affect the project**. Project teams must be **familiar with applicable laws**, budgets and funding, and must possess **interpersonal skills to lead, motivate, coordinate, communicate, negotiate, and solve problems and disputes**.

Construction projects are an integral part of airport operations, but the special circumstances inherent to working at an airport result in production costs that are much higher than non-aviation projects. Airports should: **solicit needs from stakeholders**, then **coordinate and prioritize** those needs. Engage stakeholders **early in the process**. Include staff who are fully

Contracting and Negotiating

"Basics of Competition and Contract Types", Federal Acquisition Institute (FAI)

"National Cooperative Highway Research Program (NCHRP) Report 574: Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction", Anderson, Stuart, K. Molenaar, C. Schexnayder

"State Contracting For Professional Services: Procurement Process Practices Generally Adequate to Minimize Cost-related Risks", State of Maine

knowledgeable of the technical requirements of a project as well as an understanding of the industry and how projects are executed. **Educate consultants** about all relevant agency operations and procedures.

As outlined in the Caltrans Project Management Handbook, **project charters clearly outline the agency's expectations** for a project and provide guidance for planning and execution.

The IBM Center for the Business of Government has identified straightforward procedures for effective management of PSP in "Effectively Managing Professional Services Contracts: 12 Best Practices".

- All expectations must be clearly defined.
- A partnership should be developed with the PSP during contracting.
- The bidding and awarding process should be fair and open.
- PSP should be educated in the agency's process.
- Create an integrated project team.
- Agency and PSP staff should have clearly defined roles and expectations.
- Staff turnover should be actively managed.
- PSP should be motivated and rewarded through contract incentives.
- PSP performance should be regularly reviewed and feedback provided during the project.
- The agency and PSP should communicate regularly during the project.
- Training and information should be thoroughly disseminated during the project.
- Develop after action reports to document lessons learned for future projects.

Risk Management

Project risk can be defined as an unexpected occurrence from internal or external sources (weather, community pressure, contractor non-performance) that can get in the way of meeting goals for scope, cost and schedule and may affect project performance. According to the "Introduction to FTA PMO Risk Assessment Process" by the Federal Transit Administration, "risk management is controlling that uncertainty to limit its impact on reality."

Assess the risk of selected contractor services as part of the **acquisition planning process**, and modify existing acquisition **guidance and training** to address when to use and how to oversee

Project Management, Project Controls, QA/QC

"Caltrans Project Management Handbook", California Department of Transportation (Caltrans)

"Effectively Managing Professional Services Contracts: 12 Best Practices", IBM Center for the Business of Government

"Managing Airport Construction Projects: Providing an Efficient Framework For Operators", Booz Allen Hamilton

National Institute of Building Sciences (NBIS) Whole Building Design Guide (WBDG), www.wbdg.org/project

"A Guide to the PMBOK Guide Body of Knowledge", Project Management Institute

"Project Planning, Management and Delivery", National Institute of Building Sciences (NBIS) Whole Building Design Guide (WBDG)

those services in accordance with federal acquisition policy. Define contract requirements to **clearly describe roles, responsibilities, and limitations of selected contractor services** as part of the acquisition planning process. **Assess program office staff and expertise** necessary to provide sufficient oversight of selected contractor services.

Agencies that use \$500,000 or more in federal awards per year must conduct an independent single audit in accordance with Office of Management and Budget (OMB) Circular A-133; agencies that use less than \$500,000 of federal funds in a year will follow audit requirements prescribed by local and state regulation. AIP grant recipients must maintain relevant project accounts and financial records by identifying all federal awards received and expended. Agencies must also maintain internal controls to ensure that federal awards are managed in compliance with laws, regulations, and the provisions of contracts or grant agreements.

Agencies should **consider adopting a tracking system to manage audit findings and track corrective actions** to ensure they are implemented as proposed and confirms that corrective action has been taken. This minimizes likelihood of recurring findings that can lead to fines, schedule delays, fraud, waste, or abuse.

Agencies should not rely solely on contractual audit rights. The contracting officer should **establish internal controls or procedures, prior to the commencement of contract performance**, for any variable features of a cost-reimbursement, time-and-materials or requirements contract.

Managing risk is essential in the successful procurement and management of professional services. The project manager should continue to **manage risk throughout the life of the project**. Risk management plans and policies need to be incorporated into the procurement process to deal with the variety of risks that may arise. Agencies should carefully review terms and conditions used to determine risk allocations. Baseline reviews should take place prior to or immediately after the award is made as well as whenever there is any major change. Agencies should address considerations of safety, security, and risk

Risk Management

“Best Practices in the Management of Design Errors and Omissions”. NCHRP

“Capital Programming Guide v2.0”, Office of Management and Budget (OMB)

Federal Aviation Authority, Airport Obligations: Audit Requirements, http://www.faa.gov/airports/central/airport_compliance/audit/

“Federal Transit Administration (FTA) Risk Assessment”, Federal Transit Administration

“Federal Transit Administration Best Practices Procurement Manual”, Federal Transit Administration

“General Services Administration (GSA) Acquisition Manual”, General Services Administration

“Improved Assessment and Oversight Needed to Manage Risk of Contracting for Selected Services”, Government Accountability Office (GAO)

“Introduction to Federal Transit Administration (FTA) Project Management Oversight (PMO) Risk Assessment Process”, Federal Transit Administration

“Office of Management and Budget (OMB) Circular A-133: Audits of States, Local Governments and Nonprofit Organization”. Office of Management and Budget

management in acquisition strategy meetings, source selections, award fee structures, and project surveillance.

The National Cooperative Highway Research Program (NCHRP) outlines important steps in “Best Practices in the Management of Design Errors and Omissions”. Recommendations include: a) provide **early notification to the consultant** of a design problem, b) **engage the consultant** in advising on a potential solution, c) allow for an **analysis of the benefit of potential cost** recovery versus the administrative cost of obtaining that recovery, including non-monetary effects when appropriate, d) establish **multiple levels of negotiation, review, decision, and appeal**, e) provide for **alternative dispute resolution** if desired, and f) stress **documentation** of key events, decisions, and communications.

Project Close-Out

Airport planning, design, construction, and consultant performance standards are not always so black and white as to preclude professional differences in interpretation. A healthy **disagreement can be productive if it fuels discussion and leads to new ideas** and innovations. However, when a disagreement becomes a roadblock, the involved parties must **work together to overcome their differences** if the project is to move forward.

A contract is not complete until all deliverables and services in the contract have been delivered and accepted by the agency, all payments have been made and all administrative tasks accomplished. The close-out process can include review and resolution of amendments, liquidated damages insurance claims, settlement of subcontracts by prime contractor, inspections and acceptance tests, cost audits and completion of a contractor performance report.

Project Close-Out

“Best Practices Procurement Manual”,
Federal Transit Administration (FTA)

“Improving the Quality of Airport
Projects: Best Practices”, Airport
Consultants Council (ACC)/ Federal
Aviation Administration (FAA)

Use a contract close-out checklist to keep track of the various steps required in the close-out process; generate a contractor performance report to use when making future selections; ask legal counsel to review the close-out file; and be sure that all administrative steps have been accomplished prior to final payment, such as obtaining proof of insurance coverage and documentation of warranty and guarantee.

Consistent Themes in the Literature

- Transparency and accountability inspire public confidence in the process.
- Appropriate delegation of authority promotes accountability and efficiency.
- Establish written procurement procedures in simple, concise language and communicate the process to all stakeholders.
- Professional service contracts should be the result of partnerships between the agency and the provider of the professional service.
- “Cradle to Grave” procurement begins as soon as the need to procure a professional service is identified until the contract has been closed out.
- Regular communication between all stakeholders including agency and PSP, along with clearly defined roles and responsibilities, are crucial to successful procurement of professional services.
- Integrated project teams should combine program/project staff who are fully knowledgeable of technical requirements with staff from procurement, contracting, legal and audit departments.
- Attract as expansive a pool of qualified proposers as possible for each solicitation to receive the best quality, value and variety of solutions.
- Specifications should be written in clear, unambiguous language.
- The selection process should be documented and communicated to all involved parties. Evaluation criteria should be determined in advance of solicitations; committee members should be qualified to evaluate proposals; the evaluation process should be clearly explained to evaluators and competing PSP; the scoring process and award should be well-documented and archived.
- Ambiguous contract provisions dilute responsibility, and too little information in the contract leads to cost overruns during execution.
- Accurate forecasts rely on reliable estimates and unambiguous contract provisions.
- Systematically monitor PSP performance and provide feedback both internally and directly to the PSP in order to improve future solicitations and services.
- Establish project controls and procedures, prior to the commencement of contract performance, to manage risk throughout the life of the contract.
- Actively manage staff training and development and monitor turnover.
- The principles for managing the procurement process remain the same regardless of any software or system used to streamline it. The primary action before (or instead of)

EARLY is the time to do it:
Identify and engage stakeholders; define expectations; define the project, specifications, and statement of work; select the project delivery method; notify stakeholders of errors or problems.

CLEARLY is the way to do it:
Communication between stakeholders; assignment of roles & responsibilities; definition of expectations, projects, specifications, statements of work, solicitations, evaluation criteria and processes, contract terms, procurement policies and procedures.

OFTEN is the frequency: regular and in-person meetings, bringing in the right team of people to listen, understand and collaborate.

implementing new technology is a thorough assessment of current practices and development of a comprehensive standardized process which is thoroughly communicated to all parties.

- Maintaining a procurement section on an agency’s website that provides public access to RFPs and upcoming opportunities can enhance transparency and improve vendor management and increase sourcing options.
- eProcurement systems can improve efficiency. Regardless of the system used, it should be reliable, scalable and interoperable with existing systems and should provide an easy user interface.

Manuals and Reference Documents

During the course of the literature search, a number of excellent resources were identified that provide step by step guidance regarding various aspects of procuring and managing professional services that will be useful for a variety of airport agencies. The Handbook highlights best practices gathered from experience in the field as well as provide reference to appropriate manuals, guidebooks, plans and model documents that can provide further guidance to airports.

Table 1 outlines a brief overview of reference material available for more detailed guidance in these topic areas.

TABLE 1: REFERENCE RESOURCES BY TOPIC AREA

Topic Area	Reference Resources
Asset Management	“International Infrastructure Management Manual”, National Asset Management Steering (NAMS) Group, 2006.
Auditing	“AASHTO Uniform Audit & Accounting Guide For Audits of Architectural and Engineering Consulting Firms”, American Association of State Highway and Transportation Officials (AASHTO), 2010.
Capital Planning	ACRP Report 49: “Collaborative Airport Capital Planning Handbook” October, 2010. “Capital Programming Guide v2.0”, Office of Management and Budget (OMB), June 2006.
Change Management	NCHRP Web Only Document 137: “Guidance for Transportation Project Management”, 2009.
Contract Management	ACRP Report 33: “Guidebook for Developing and Managing Airport Contracts”, 2011. “Creating Momentum In Contract Management: The Acquisition Innovation Pilot Handbook”, Private Sector Council, November 2006. Fisher, Sandra, et. al., “Effectively Managing Professional Services Contracts: 12 Best Practices”, 2006. “State and Local Government Procurement”, National Association of State Procurement Officials (NASPO), 2008.
Cost Management	NCHRP Report 658: “Guidebook on Risk Analysis Tools and Management Practices to Control Transportation Project Costs” June, 2010.
Finance	ACRP Synthesis 1: “Innovative Finance and Alternative Sources of Revenue for Airports” January, 2007. ACRP Synthesis 13: “Effective Practices for Preparing Airport Improvement Program Benefit-Cost Analysis”, 2009.
Performance Management	NCHRP Results Digest 361: “State DOT Public Transportation Performance Measures: State Of The Practice And Future Needs”, September 2011.

Topic Area	Reference Resources
Use of Technology	ACRP Report 59: “Information Technology Systems at Airports—A Primer”, 2012. “Best Practices for Requests for Proposals (RFPs)”, State of Indiana Office of Technology, December 2008.
Project Controls	“GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs,” USGAO, March 2009. NCHRP Report 574: “Guidance for Cost Estimation and Management for Highway Projects During Planning, Programming, and Preconstruction”, 2007. “Project Delivery and Controls”, National Institute of Building Sciences (NIBS) Whole Building Design Guide (WBDG).
Project Delivery Mechanisms	“Airport Owners’ Guide to Project Delivery Systems, 2 nd Edition”, Airports Council International-NA, Airport Consultants Council and the Associated General Contractors of America, 2012. ACRP Report 21: “A Guidebook for Selecting Airport Capital Project Delivery Methods”, 2009.
Project Management Guidebooks	“Caltrans Project Management Handbook”, October, 2007. Hendrickson, Chris, “Project Management for Construction: Fundamental Concepts for Owners, Engineers, Architects and Builders”, 2008. NCHRP Web Only Document 137: “Guidance for Transportation Project Management”, 2009. “PMBOK (Project Management Body of Knowledge)”, Project Management Institute, 2008.
Quality Control	Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5370-10F: “Standards for Specifying Construction Of Airports” (Section 100), 2011.
Risk Management	“Best Practices in the Management of Design Errors & Omissions”, National Cooperative Highway Research Program (NCHRP), Transportation Research Board (TRB), March 2009. “Caltrans Project Risk Management Handbook”, Caltrans, May 2007. NCHRP 20-24: “Executive Strategies for Risk Management by State Departments of Transportation”, 2011. ACRP Synthesis 30: “Airport Insurance Coverage and Risk Management Practices”, 2011.
Selection Method	“Caltrans Consultant Selection Guidebook” January, 2002. Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5100-14D: “Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects”, Federal Aviation Administration, 2005. “Qualifications-Based-Selection: Guide: A Guide Including Local Government Policy and Procedures for Selecting Architects, Engineers and Land Surveyors” July, 2000. “Qualification Based Selection...An MTAS Guide for Procuring Professional Engineering Services in Tennessee”, Tennessee Municipal Technical Advisory Service (MTAS), July 2010. “Procurement Desktop Procedure: Small Purchases for Architectural Engineering (A&E)”, Sound Transit, Seattle WA, November 2009.
Strategic Planning	ACRP Report 20: “Strategic Planning in the Airport Industry” October, 2009.
Sustainable Design	ACRP Synthesis 10: “Airport Sustainability Practices” May, 2008. ACRP Report 42: “Sustainable Airport Construction Practices”, 2011.

Salient Findings from the Outreach Efforts

The Selection Process for Agency Candidates

An important objective in the research was to obtain a representative sample of survey respondents in terms of size, geography/FAA region and governing structure. The goal was to achieve a response rate of at least 50 percent from that list. Candidates for the survey were selected based on findings from the ACRP 1-10: Handbook for Collaborative Airport Capital Plans research as well as a review of over 300 documents of best practices in the transportation industry. Table 2 details the list of 16 agencies representing 41 airports that were identified for interviews.

TABLE 2: SELECTED AIRPORT AGENCIES INTERVIEW CANDIDATES

Agency & Code Name	Representation (Size, FAA Region, Governing Structure)
Agency A	Medium/Small Alaskan Region State Government
Agency B	Large/GA Southern Region County Government
Agency C	Large Southwest Region Municipal Government
Agency D	Medium/GA Great Lakes Region Quasi-Government
Agency E	Medium/GA Southern Region Quasi-Government
Agency F	Large/GA New England Region Quasi-Government
Agency G	Medium/GA Southern Region Quasi-Government
Agency H	Large Eastern Region Quasi-Government
Agency I	Large/GA Western Pacific Region Municipal
Agency J	Large/Non-Hub Eastern Region Quasi-Government
Agency K	Medium Northwest Mountain Region Municipal Government

Agency & Code Name	Representation (Size, FAA Region, Governing Structure)
Agency L	Large/GA Eastern Region Municipal Government
Agency M	Medium/GA Northeast Region Quasi-Government
Agency N	Small Southern Region State Government
Agency O	Large Western Pacific Region Municipal Government
Agency P	Small Southern Region County Government

The interview sample achieved the diversity goal based on size, governing structure and FAA Region for airports as outlined below:

- **Size:** 11 large-hub airports, 9 medium/small-hub airports and 21 non-hub/GA airports
- **Governing Structure:** Agencies operated 7 under quasi-government, 5 under municipal, 2 under county and 2 under state governing structures
- **FAA Region:** Agencies representing airports from FAA regions including 1 from the Alaskan region, 3 from Eastern, 2 from New England, none from Central, 5 from Southern, 1 from Great Lakes, 1 from Southwest, 2 from Western Pacific and 1 from Northwest Mountain

The interview sample for non-airports was determined by those state/county departments of transportation (DOTs) with documented best practices and the interview questions were likewise focused on collecting that data and information. A summary of non-airport candidates is included on Table 3.

TABLE 3: SELECTED NON-AIRPORT AGENCIES INTERVIEW CANDIDATES

Candidate	Best Practice	Documentation
Non-Airport Agency A	Documentation of procedures, standards and process, all of which are available on line.	Comprehensive manuals: project management handbook, risk management guidebook, sample template for risk registers and plans, work plan standards for delivery of capital projects, local assistance procedures manuals for consultant selection.
Non-Airport Agency B	Won a procurement award from NPI in 2009, 2010 and 2011.	Well written documents, policies and process for selection committees, acquisition of A&E services and ethics guidelines.
Non-Airport Agency C	Exceptional transparency in the procurement of professional services.	Well documented processes on website. Online prequalification form and instruction for professional services.

Candidate	Best Practice	Documentation
Non-Airport Agency D	Model for performance management used by many organizations.	Information systems are connected across disciplines, making it easier to manage professional services procurement – systems that justify why services are needed are connected to systems that support the procurement process, and these are connected to the implementation of the projects.
Non-Airport Agency E	Provides a manual for local agencies to adhere to rules and regulations related to procurement of goods and services.	The manual includes several useful checklists and process flow diagrams. It also includes some templates that can be adapted for items such as consultant evaluation forms. It also lists useful resources, contacts, and documents.

The Interview Form

Candidates were provided with the interview form in advance of the scheduled interview to reduce impacts on their time and to afford more time to engage them in a dialogue on their experience, innovations and practices during the actual interview. The interview form was broken down into three distinct parts:

- **Part 1: Project Purpose** – instructions on how to use the interview form, the purpose of the research and objectives of the interview process.
- **Part 2: Documented Data based on Literature** – prefilled by the research team and provided to candidates in advance to validate findings.
- **Part 3: Interview Questions** - focused on obtaining missing data and gaining more information on best practices and lessons learned.

Results of Airport Agency Outreach Efforts

The interviews yielded excellent information on procurement and management process. The candor and open conversations have provided more depth and context on both the procurement and management sides of professional services, highlighting the differences between the literature and practice.

The goal of the outreach effort was to engage as many airport agencies as possible without compromising the diversity of the sample and to complete the interviews within the budgeted time and fee. The team anticipated interviewing people from both the procurement and management side of airports who had control over the professional services identified in the scope.

It is important to note that many of the airport agencies interviewed, especially those managed by an AGA, typically only procured and managed design services (i.e., architecture, engineering, environmental and planning). Most of the AGAs interviewed did not procure or manage their own Legal, Financial, Information Technology (IT) or Human Resources (HR) services. Instead,

these AGAs typically utilized the appropriate department within the larger government agency to procure those services. This organizational structure made it difficult to gather data during the interview process relevant to all of the professional services listed in the scope. The team determined that further interview of those departments at airport agencies that did not directly procure or manage professional services would yield minimal information and would provide limited value for the Handbook.

In accordance with the DCP, interviews were scheduled throughout February 2012. Five airport agencies from the original 16 targeted agencies were non-responsive. Based on the volume of data available in the literature on the non-responsive candidates and due to the agencies' non-responsiveness despite a large amount of time and effort expended on seeking their inclusion, those five non-responsive airport agencies were not included in the interview process.

Table 4 presents a summary of the airport agencies interviewed, which departments were interviewed, the number of interviews, and a brief description of the types of services procured. Three important elements of each airport agency characterized their procurement and management practices.

- The size and authority of an airport agency influenced whether they had control over Legal, IT, HR and Financial Professional Service Providers (PSP) as well as their ability to staff those needs internally.
- Airport authorities typically had a central procurement department for procuring all PSP services; these authorities seldom solicited outside resources for non-design services.
- AGAs with a centralized procurement office located within the governmental body typically delegate design services to the aviation department to procure and manage. The aviation department will use the central procurement office or other departments in the organization for all other non-design service needs.

TABLE 4: AIRPORT INTERVIEW PARTICIPANTS

Name and Code	Interview Actions	Types of Services Procured
Airport Agency 1	Management (Planning) (1) phone interview	<ul style="list-style-type: none"> • Central procurement • AGA (state) • HR and IT functions are performed internally; Legal services through Attorney General's office; only bonding services procured for Finance
Airport Agency 2	Procurement/ Management (Aviation) (1) phone interview	<ul style="list-style-type: none"> • No central procurement • AGA (county) • Other county departments solicit Legal and HR; IT and Financial are handled under the CFO for all departments

Name and Code	Interview Actions	Types of Services Procured
Airport Agency 3	Procurement Department & Airport Development and Engineering (2) phone interviews	<ul style="list-style-type: none"> • Central procurement • AGA (shared municipal) • Legal, HR, IT and Financial are mostly provided internally
Airport Agency 4	Procurement, Contracting, Legal Financial, Management, and Operations (1) phone interview	<ul style="list-style-type: none"> • Central procurement but limited staff – use team approach • Authority • Legal performed in-house; HR and IT procured only as needed; Financial only 15% outsourced
Airport Agency 5	Procurement & Management (1) phone interview	<ul style="list-style-type: none"> • Central procurement • Authority • Procure all services (Design, HR, Legal, IT, and Financial)
Airport Agency 6	Procurement & Project Controls (1) in-person interview and (1) phone interview	<ul style="list-style-type: none"> • Central procurement located in Capital Programs • Authority • Capital Programs procures Design services; Central Services procures Legal, HR, IT, and Financial
Airport Agency 7	Management (1) phone interview	<ul style="list-style-type: none"> • Central procurement with limited staff – mostly administrative • Authority • Legal, HR, IT and Financial services are procured by each of those departments
Airport Agency 8	Procurement & Management (3) separate phone interviews	<ul style="list-style-type: none"> • Central procurement – cradle to grave approach • Authority • Procures all services (Design, Legal, HR, IT, and Financial)
Airport Agency 9	Management (Aviation Design & Construction) (1) in-person interview	<ul style="list-style-type: none"> • Central procurement for the City (departments manage after execution) • AGA (municipal) • Procures all services (Design, Legal, HR, IT, and Financial)
Airport Agency 10	Procurement & Capital Programs (2) phone interviews	<ul style="list-style-type: none"> • Central procurement • Authority • Procures all services (Design, Legal, HR, IT, and Financial) but individual departments manage contracts
Airport Agency 11	Management/Procurement (Aviation) (1) in-person interview	<ul style="list-style-type: none"> • Central procurement for the City • AGA (municipal) • Aviation Department procures Design services. Financial services, Legal, HR and IT are procured by other City Departments

Of the five state/regional DOTs targeted, only one DOT was removed because the documented data available in the literature search was sufficient to obtain background information used in the Handbook. As a result, the four agencies in Table 5 became the focus of the non-airport interviews.

TABLE 5: NON-AIRPORT INTERVIEW PARTICIPANTS

Agency	Number of Interviews
Non-Airport Agency 1	(1) phone interview
Non-Airport Agency 2	(1) phone interview
Non-Airport Agency 3	(1) phone interview
Non-Airport Agency 4	(1) phone interview

Participation Analysis

The removal of five airport agencies due to non-responsiveness did not significantly impact the diversity of the sample. The literature review for this project, along with prior data obtained for ACRP 1-10, provided noteworthy documentation on the organization, processes and practices used at these non-interviewed airport agencies.

The outreach efforts yielded a strong response rate and the sample achieved the airport diversity goal. Table 6 illustrates the targeted and actual responses by airport size, with an overall response rate of 76 percent. Note that this table was evaluated by airport rather than by agency. Many of the airport agencies in the interview sample own/manage multiple airports.

TABLE 6: RESPONSE RATE BY SIZE

Size (By Airport)	Target	Actual
Large-hub (L)	11	10
Medium (M) / Small (S)	9	5
General Aviation (GA)/ Non-hub (N)	21	16
TOTAL AIRPORTS	41	31

Table 7 shows the breakdown of airport agencies by governing structure. The team interviewed at least one participant from every category (county, municipal, quasi-government and state) for an overall airport agency response rate of 69 percent.

TABLE 7: RESPONSE RATE BY GOVERNING STRUCTURE

Governing Structure (By Agency)	Targeted Agencies	Actual Agencies
County (C)	2	1
Municipal (M)	5	3
Quasi-Government (Q)	7	6
State (S)	2	1
TOTAL AGENCIES	16	11

Table 8 classifies each airport agency by FAA region. Seven out of nine FAA regions were represented by the interview participants. The literature review did not identify any agencies in the Central Region as interview candidates, and the lack of responses created an absence of representation from the Northwest Mountain region; however, the overall airport agency response rate was maintained at 69 percent.

TABLE 8: RESPONSE RATE BY FAA REGION

FAA Region (By Agency)	Targeted Agencies	Actual Agencies
Alaska (AK)	1	1
Eastern (EA)	3	3
Central (CE)	0	0
Great Lakes (GL)	1	1
New England (NE)	2	1
Northwest Mountain (NM)	1	0
Southern (SO)	5	3
Southwest (SW)	1	1
Western Pacific (WP)	2	1
TOTAL AGENCIES	16	11

In summary, the outreach efforts were successful in exceeding the goal of 50% participation by size, governing structure and FAA region. As stated earlier, the information collected during both the ACRP 1-10 and 1-20 projects for all airport candidates yielded significant data on processes and practices and may be useful to include in the Handbook.

Major Findings and Conclusions

Tables 9 and 10 represent a summary of the salient themes that emerged from the interviews based on organizational context, procurement (selection, negotiation and contracting) and management of professional services. A brief overview of themes and trends in information technology systems used to support the procurement and management of professional services is described below.

Technology for Procurement

Many larger agencies are utilizing formal eProcurement technology such as Oracle iSupplier, BuySpeed, and AMS Advantage. Some agencies have created their own custom eProcurement systems. Web-based eProcurement systems automate, standardize and streamline the procurement process and enhance both transparency and accountability. These systems provide a communication tool between buyers and vendors that can increase the pool of qualified vendors. eProcurement systems can decrease administrative costs and increase efficiency by speeding up business processes and reducing administration time. Typically, no software installation is required and the systems are accessible 24/7 from any computer that has access to the internet.

Almost every agency regardless of size now posts procurement information such as solicitations, RFPs, awards and diversity program information on their websites; some sites provide detailed consultant manuals as well as live or pre-recorded proposal presentations. One agency requires

electronic submission of all proposals and responses to non-bid contract opportunities using their custom procurement website.

One agency uses the Job Order Contracting (JOC) system, which allows organizations to get numerous projects done quickly and easily through multi-year contracts. That agency also participates in BidSource, a website which provides potential proposers to have access to government contract opportunities through an electronic bid notification system.

Procurement and Management

Table 9 summarizes a few findings on the procurement and management of professional design services based on recognition from national awards, best practices noted from ACRP 1-20, and a taste of some preliminary themes gleaned from the outreach process. The NPI award in the following table refers to two procurement awards. The Annual Achievement of Excellence in Procurement (AEP) award from the National Procurement Institute (NPI) is presented to agencies that display innovation, professionalism, productivity, eProcurement, and leadership attributes. The ACC award refers to the Excellence in Procurement award from the Airport Consultants Council (ACC) conferred upon agencies that demonstrate open, streamlined procurement processes, select the best qualified firms, and create successful working relationships with consultants to improve the quality of services.

TABLE 9: SUMMARY OF AIRPORT FINDINGS

Candidate	Procurement Awards	Previous Findings from ACRP 1-10	Interview Findings
Agency 1	<ul style="list-style-type: none"> • Won NPI award 2 years in a row. 	<ul style="list-style-type: none"> • Did not participate in ACRP 1-10. 	<ul style="list-style-type: none"> • Majority of projects funded by the FAA AIP grants and selection process follows FAA requirements. • Comprehensive professional services agreement manual. • Transparent selection process, scoring sheets and selection meeting notes are provided to proposers upon request.
Agency 2	<ul style="list-style-type: none"> • Won NPI award in 2009 & 2011. 	<ul style="list-style-type: none"> • Comprehensive documents demonstrating sophistication in managing process and procedure. 	<ul style="list-style-type: none"> • County manages and is involved in all procurements. • Aviation Department manages design services. • Sunshine Law requires open selection process. • Uses Qualifications-Based Selection process for PSP contracts. • Incorporated a Dispute Resolution Board into contracts to provide an independent, third-party review of any disputes prior to claims.
Agency 3	<ul style="list-style-type: none"> • Won NPI award from 2009 until 2011. 	<ul style="list-style-type: none"> • Comprehensive information in program and project management section of ACRP 1-10 response, which is the section where most agency staff manage professional services contracts. 	<ul style="list-style-type: none"> • The airport is run as a business. • Procurement and management of PSP tied to strategic policy. • Auditing and Legal Departments are involved in the selection and management of the PSP. • Consultants are limited in their roles and must decide on either pursuing work in design or construction management to prevent conflicts on projects. • Airport has a “Cone of Silence” rule and will not discuss an RFP, externally or internally, from advertisement until after award. This rule provides a level playing field for all proposers during the selection process. • Employees are encouraged to be entrepreneurial and look for improvements in the business process of the Airport. • Biggest challenge is the economy and the financial health of the airlines.
Agency 4		<ul style="list-style-type: none"> • Uses many methods for project selection, including quantitative method. 	<ul style="list-style-type: none"> • State managed and strategic policy driven. • Well-coordinated and integrated team approach. • Focused on improving the flexibility, transparency, and accountability of the selection process. • Airport has a “Cone of Silence” rule – potential proposers are prohibited from contacting staff during the procurement process. • Clear and constant communication with service providers.

Candidate	Procurement Awards	Previous Findings from ACRP 1-10	Interview Findings
			<ul style="list-style-type: none"> • Focus on knowledge transfer.
Agency 5		<ul style="list-style-type: none"> • Uses many methods for project selection, including quantitative method. 	<ul style="list-style-type: none"> • Authority to make decisions and control the process determined at the top. • Legal and Finance Departments are involved in the selection process. • Use technology to make the procurement process accountable and transparent
Agency 6		<ul style="list-style-type: none"> • Comprehensive manuals for managing professional services, including separate ones for each Project Manager, professional services firms and construction contractors. • Only airport in the ACRP 1-10 research with a project implementation manual. • Exhibited transparent and accountable procurement process and selection meetings are open to the public. • Apply quantitative methods for project selection. 	<ul style="list-style-type: none"> • Authority with control over airports, harbor and roads. • Clear, transparent and accountable process with PSP. • Integrated procurement and management teams. • Have formal capital programming, which provides a strategic plan for the airport. • The selection meeting is transparent and open to the public. • All debriefs are also done in public, open meetings. • Retained a project management firm to provide cost, schedule and project controls.
Agency 7	<ul style="list-style-type: none"> • Won ACC award in 2009. 	<ul style="list-style-type: none"> • Uses many methods for project selection, including quantitative method. 	<ul style="list-style-type: none"> • Authority controlled. • Limited procurement staff who work closely with management. • Clear and constant interaction with PSP. • PMO firm provides QA services on projects.
Agency 8		<ul style="list-style-type: none"> • Balance customer service, airline rates, financial ratings, strategic plan in project selection. 	<ul style="list-style-type: none"> • Authority with control over procurement and management. • Flexible procurement process – will use a blend of Federal and industry procedures. • Clear and transparent communication with service providers. • Cradle-to-grave approach to the process. Managers stay with a project from Planning to Construction and are involved in the RFP selection process. • Retained a project management firm to provide cost, schedule and project controls.
Agency 9		<ul style="list-style-type: none"> • Comprehensive information in program and project management section of ACRP 1-10 response, 	<ul style="list-style-type: none"> • Under municipal government control. • Extensive use of Design Build delivery system for projects. • Lump sum fee is the model practice.

Candidate	Procurement Awards	Previous Findings from ACRP 1-10	Interview Findings
		which is the section where most agency staff manage professional services contracts.	<ul style="list-style-type: none"> • Use a qualification based selection process. • Use team approach and work closely with PSP – hold weekly meetings with PSP to review progress and resolve issues.
Agency 10	<ul style="list-style-type: none"> • Won NPI award every year from 2007 until 2011. 	<ul style="list-style-type: none"> • Provided compelling practices in ACRP 1-10 handbook in the areas of program and project management including regular use of project charters and project risk assessments. 	<ul style="list-style-type: none"> • Authority with control over airports, tunnels, bridges. • Follow a 10-year capital program and projects are ranked in terms of need and importance. • Close interaction between procurement and management. • Transparent and clear process to work with service providers. • Formal evaluation process at the completion of the contract. These evaluations are shared with the PSP and used during future selection committee evaluations.
Agency 11		<ul style="list-style-type: none"> • Uses many methods for project selection. 	<ul style="list-style-type: none"> • Under local government control. • Qualifications-based Selection process used for design services. • Only use cost plus-fixed fee type for contracts (design services). • Close interaction between procurement and management. • All proposals must be submitted electronically through website. • All RFPs are available on the website for review and download. Any addenda are also posted on the website.

In procuring and managing PSP, several airports had notable best practices that could be utilized by other airports. Some of the notable best practices along with the agencies currently implementing the practices are highlighted in the table below:

TABLE 10: BEST PRACTICES FOR AIRPORTS

Best Practice
Devise and promulgate a formal strategic direction to align resources with the procurement and management process
Use alternate project delivery systems to accelerate schedules, decrease costs and shift risk from agency to PSP
Electronic submission of proposals can improve tracking, speed the process and increase transparency
Use a transparent selection process to inspire public confidence
Involve the audit and legal departments in the procurement and management process for fewer amendments and disputes
Institute a formal dispute resolution process to deal with contract changes and claims in a manner that reduces litigation
Use third-party firms to provide independent project controls and cost estimating support as an additional resource for agency managers
Follow the “Cone of Silence” rule during the procurement process to prevent the appearance of conflict of interest

Table 11 summarizes some of the most notable findings that complement the approach taken by many airport authorities and AGA cited above.

TABLE 11: SUMMARY OF NON-AIRPORT FINDINGS

Candidate	Interview Findings
Non-airport Agency 1	<ul style="list-style-type: none"> • Names of selection committee members are made public, but the use of the “Cone of Silence” protects impartiality and prevents any appearance of influence. • Makes strong investment in training; views procurement staff as professionals which results in better outcomes. • Selection Committee includes two voting members that are subject matter experts from private or non-profit agencies. • Extremely transparent and accountable process due to adherence to Sunshine Laws.
Non-airport Agency 2	<ul style="list-style-type: none"> • Recently implemented the electronic submittal of proposals • Auditors and Attorneys are involved in the development of the scope to provide expertise • Selection committee scoring sheets are published and publicly available after contract award. • Rarely interview during the selection process to reduce the cost for proposers and streamline process. • Use cost plus-fixed fee type for contracts (design services) • Require a performance evaluation at the completion of each contract.
Non-airport Agency 3	<ul style="list-style-type: none"> • Formalized Quarterly Progress Review process for projects. • Use a formalized cost estimating and validation process during scope development, procurement, and contract management to ensure budget compliance throughout the process. • Risk Management involved in the scoping, selection, procurement, and management of contracts. • Use formal charters in the management of projects. • Formal document archiving process – use Livelink Project Electronic Content Management (ECM).
Non-airport Agency 4	<ul style="list-style-type: none"> • Focused on unbundling to benefit small, local businesses; cannot provide preferential status to locals but use mentoring and outreach. • Use indefinite delivery and master contracts for certain projects as this allows a quick response. • No set contract terms and conditions “boilerplate” – consultants are allowed to select the individual terms of their contracts from a standard list and negotiate the final terms with the agency. • Use owner controlled insurance (OCIP) to manage risk.

Common Denominators and Divergent Practices in Procurement

A number of interesting themes emerged from this research that provided useful direction for the Handbook:

- **Common Denominators:** areas commonly used; concerns, innovations or best practices; all of which will service as basic guideposts for reference and understanding.
- **Divergent Practices:** key issues or topics with contrasting or contradictory practices. It is these findings that were the most intriguing as many respondents cited the same rationale to use dissimilar practices. Divergent practices are an area of detailed discussion in the Handbook.

Common Denominators

The outreach efforts identified three main areas of common practice: Organization, People/Partnerships/Relationships, and Process.

Organization and Approach: Guiding Principles

- Authorities are more transparent about the selection, contracting and debriefing processes, have more tools available and greater control over resources than their AGA counterparts.
- AGAs typically do not directly contract PSP for Legal, IT or HR services. These services are typically administered by a central government department.

People/Partnerships/Relationships

- Qualified and well trained staff is recognized as critical components of the procurement process especially in the context of recent cutbacks in training funds. There were limited accounts of providing formal training for project managers. A few agencies noted that as the volume of work increases and staff resources decline, project managers are assuming more responsibility for procuring and managing contracts without formal training.
- Almost unanimously, respondents commented on the importance of communication to develop better understanding of each other's needs and to control scope-schedule-cost.

Process and Procedures

- There is recognition of the need to be more flexible in the procurement process; however, there is uncertainty on how to translate that into practice and many agencies harbor concerns about litigation.
- Scope and budget are the main drivers for determining agencies' needs. Almost unanimously, the agencies interviewed understand that a good, solid scope will reduce changes, costs and disputes as the contract progresses. The budgeting process is the central driver in determining when contracts can be started.
- Selection criteria is, for the most part, the same for all agencies interviewed, with a focus on the qualifications of key staff, qualifications of the project manager, qualifications of firm (including sub-consultants), relevant projects and past performance.

- Incentives and penalties are almost uniformly not used for PSP contracts. Respondents typically cited cost that the cost and time required to administer incentives and penalties outweighed any benefits.

Divergent Practices

- Nothing ever stays the same. A well-documented process (although critical) does not necessarily transition to new leadership. Adoption of methods to enhance transparency and accountability is often clouded by concerns of litigation.
- The approach to including local business and Disadvantaged, Minority, or Women-Owned Business Enterprises varies considerably, especially across different markets.
- Methods of applying contract restrictions vary considerably.
- Fee Type. The same rationale for selecting either Lump Sum versus Cost-Plus Fee type (e.g., ease of audits and administrative oversight) was applied by various interview respondents to both fee types.

Common Denominators and Divergent Practices in Management

Common Denominators

- Project controls are often performed by third-parties, which gives responsibility to one designated, independent entity to perform critical oversight, monitoring and evaluation.
- A well-defined, high-quality scope of work will reduce the amount of change orders during the project.
- Communication between the agency, PSP, and stakeholders is a recognized key to a successful project management and delivery. In addition, engaging the various stakeholders in the periodic reviews of the designs will reduce potential requests for changes to scope-schedule-cost as the projects move forward.
- Project managers rely on experience and do not receive formal training for managing professional service contracts.
- Contract changes can result from previously unknown site conditions or can be generated by tenants and other internal stakeholders.

Divergent Practices

- Strategic planning and performance management are not widely formalized or communicated to internal departments.
- An organization's approach to contracting and their strategic direction sets the tone and communication base for management of the project, yet many agencies did not recognize this relationship.
- Most agencies did not integrate legal and audit departments in the oversight and management of contracts, which consequently impacts scope-schedule-cost, litigation, flexibility and communication.
- Given the constrained financial context, the role of project controls is becoming more important and yet the approach is variable.

- Communication and coordination with the PSP and between internal stakeholders throughout the process is often not formalized.
- Many agencies use project managers interchangeably as contract managers, without any formal training.
- Schedules. The scheduling of work can be affected both by the internal budgeting process and by the FAA grant schedule, yet many agencies did not have a well-developed process.
- Cost Estimating. The approach to estimating costs varies considerably and is not a prescribed process at most agencies.
- Quality control is rarely a formalized process, and most have no consistent roles or procedures.
- Consultant Evaluations. The approach to performing and sharing the performance evaluations with PSP is often clouded by concerns of litigation.
- Close-out of Contracts. Airport agency actions range from a formal close-out process to not closing-out contracts in case other related tasks are eventually needed.

Outreach Efforts: Best Practices and Lessons Learned

The interviews process also included an opportunity for the respondents to share best practices, areas of innovation, challenges as well as advice they would give their colleagues on effective communication strategies both with PSP and with airport agencies. A few of the salient best practices noted during the interviews are detailed below.

- Integrate a formalized Strategic Planning in the procurement and management of professional service contracts.
- Integrate legal and audit departments in the selection, oversight, management and close-out of the contracts.
- Establish mutually agreed upon performance expectations for the PSP and formalize in the procurement documents.
- Hold periodic performance evaluation meetings with the PSP to discuss issues and possible improvements by both the agency and the PSP.
- Perform formal close-out of contracts including a final performance evaluation of the PSP.
- Implement a formal quality control system with the PSP. The quality control can be performed by a third party or the agency.
- Perform periodic formal reviews of the deliverables by the agency and stakeholders to ensure that the delivered project will meet the required needs and strategic plans of the agency.
- Limit PSP to one phase (planning, design, and construction management) of work by the agency for projects. This limitation avoids potential conflicts of interest for the PSPs and allows them to focus on their strengths.
- Use an independent third-party firm to review change orders and resolve potential disputes between the agency and PSP.

- Implement a formal cost estimating system for projects. With the limited funds available to agencies both locally and federally, a reliable cost estimate of projects is necessary to ensure the funds are available to proceed with the project.
- Provide formal training to the project managers in the procurement and management of professional service contracts. The training should include internal training specific to the requirements of the individual airport and external training to focus on innovations throughout the aviation industry.
- Establish an open and fair dialogue with the PSP early, clearly and often. Communication is a key to success.
- Establish mutual trust between the agency and PSP.
- Match the right people for the right task/job. Everyone communicates differently. Include multiple staff in meetings to obtain multiple perspectives.
- Establish an honest and trusted relationship at the beginning and throughout the process. Take the time to establish good relationships.
- Be consistent in dealing with PSP and treat all firms the same way.

Agencies offered candid advice to professional services providers based on their experience and best practices.

- Understand the airport's mission. Learn the process at the airport and work within their process.
- Customer service is the key – go back to the basics. Keep the ultimate mission and priorities top of mind.
- PSP need to work with the process and not try to get around it – do not end run, let the process work.
- Do not sell tomorrow's project today - deliver the current project – focus on what is important for the agency now.

Summary of Research Findings – Common Ground

In summary, the literature and outreach efforts identified a number of common themes that will provide useful guideposts for airports. Areas where there were divergent practices and disconnects are further clarified in the Handbook. Some of the more salient findings between the literature review and the outreach efforts as it relates to the procurement and management are outlined in Table 12.

TABLE 12: SYNTHESIS OF LITERATURE REVIEW AND OUTREACH EFFORTS

Key Findings		Procurement			Management		
Literature Review	Outreach Efforts	Organization	People and Partnerships	Process	Organization	People and Partnerships	Process
<i>Organization and Strategic Approach</i>							
Appropriate delegation of authority promotes accountability and efficiency.	Employees encouraged to be entrepreneurial and improve business processes	X	X	X	X	X	X
Systematically monitor PSP performance; provide feedback both internally and to PSP to improve future solicitations and services.	Formal evaluation process, shared with PSP; requires performance evaluation at completion of contract; formalized Quarterly Progress Review process	X	X	X	X	X	X
Transparency and accountability inspire public confidence in the process	Transparent open selection process; selection meeting open to public; debriefs done in public meetings; transparent clear process to work with PSP; extremely transparent and accountable process; selection committee scoring sheets are publicly available after contract award.	X	X	X	X	X	X
Unambiguous contract provisions promote accountability and limit incidence of disputes	Seek feedback from PSP regarding inconsistent/ambiguous contract provisions.	X		X	X		X
<i>People and Partnerships</i>							
Actively manage staff training, development and turnover for better outcomes	Strong investment in training; view procurement staff as professionals.		X	X		X	X

Key Findings		Procurement			Management		
Literature Review	Outreach Efforts	Organization	People and Partnerships	Process	Organization	People and Partnerships	Process
Integrated project teams combine project staff, procurement, contracting, legal and audit for development of tighter scope-schedule-cost and to reduce future conflicts	Audit & legal involved in selection & management of PSP; use coordinated integrated team; legal & finance involved; close interaction between procurement & management; risk management involved in procuring & managing PSP.	X	X	X	X	X	X
<i>Process and Procedures</i>							
Establish project controls and procedures, prior to the commencement of contract performance, to manage risk throughout the life of the contract	Dispute resolution board; formal change management process; 3 rd party firm for cost, schedule, project controls; PMO firm for QA; formalized cost estimating and validation process	X		X	X		X
Project charters clearly outline the agency's expectations for a project and provide guidance for planning and execution	Uses formal charters for managing projects, regularly use project charters and project risk assessments.	X		X	X		X
Develop concise written procedures and processes, and communicate to all stakeholders	Comprehensive PSP manual provided on agency website.			X			X
Avoid conflict of interest, even appearance of conflict, establish transparency and accountability and to create a level playing field	Use "Cone of Silence" from advertisement until award, PSP limited to one phase of work (planning, design or CM).	X	X	X			

Key Findings		Procurement			Management		
Literature Review	Outreach Efforts	Organization	People and Partnerships	Process	Organization	People and Partnerships	Process
An expansive pool of qualified proposers leads to the best quality, value and creative solutions	Use website postings, automated email announcements and other communication methods to cast a wide net of proposers (all participants). Provide as much information and clarity in direction to PSP <i>in advance of the solicitation</i> will allow for more creative and cost-effective responses.	X	X	X			
Technology can enhance transparency, efficiency and tracking; website postings can improve vendor management and increase sourcing options	Agencies post RFPs and opportunities on website; proposal are submitted electronically; use Livelink electronic tool in formal document archive.			X			

Distinctions and Commonalities

Notable and distinct differences exist among the regions, size and between authorities and AGA in terms of their organization, resources and use of methods that influence how each approaches procurement and manages PSP and their contracts. The research found that many of these differences are based on lack of strategic direction, lack of resources and information, misunderstandings, and perhaps, in some cases biases formed from bad experiences (e.g., litigation) with contract outcomes or project delivery. There are also some basic principles and practices that drive the effective procurement and management and delivery of PSP that prevail despite these differences and can be harnessed to improve the process, sharing of information and relationships between agencies and PSP and those are highlighted in the column on Common Ground.

Regional Characteristics

There are distinct patterns in the philosophy, approach and relationships between agencies and PSP by region. Three noteworthy divergent practices are: the use of fee type, the requirements for inclusion of M/D/W Business Enterprises, and the application of contract restrictions.

- **Fee Type.** The research showed that fee types used by airports varied significantly by region. In the Northeast Region, airports generally use the cost-plus fixed fee for all contracts. The reason for the use of this fee type was to meet auditing requirements and

to better control the PSP cost. In the Southwest Region, airports generally use lump sum fee for all contracts. Again, the reason provided was to meet auditing requirements and to better control the PSP cost. It is clear based on these responses that the auditing requirements can be met using either cost-plus fixed fee or lump sum fee types. In reality, the fee type should match the type of contract being procured. Lump sum fee type should be used for projects with well-defined scopes and schedules. By having a well-defined scope and schedule, the PSP can provide the airport with a cost that is reasonable and also well-defined. Cost-plus fixed fee type should be used for complex projects that the scope and schedules are still being developed. This will allow the airport to better control the project costs until the scope is fully defined. Once the scope is fully defined, the PSP will be able to provide the airport with a realistic cost and schedule for the project completion.

- **Minority/Disadvantaged/Women Owned Business Enterprises (M/D/WBE).** The research showed that the requirements to include M/D/WBE also varied regionally. In the East, the requirement to include M/D/WBE firms was standard. In the West, the requirement was for the inclusion of local firms and was not based on the firm's ethnicity. In reality, the requirement for M/D/WBE and/or local firms is a decision based on political (local, Federal, State) requirements and less on the individual airports. The research indicated that airports are generally concerned with hiring PSP that are qualified, can perform the required work, and meet any local diversity requirements.
- **Contract Restrictions.** The inclusion of contract restrictions, such as overhead, escalation, and overtime caps, were used more often in the Eastern Region for cost-plus fixed fee type contracts. The Western Region did not need to include contract restrictions because of the use of lump sum fee. The reality is that contract restrictions cause additional work for the airport in the review of the monthly invoices for compliance.

Size (Hub – large/medium/small, non-Hub, and General Aviation)

The size of an airport has a direct impact on the services and available resources (people, funding and technology) necessary to operate. The larger Hub airports need additional AIP funding to meet the passenger and flight service demands. Some of the commonalities for all airports are the value of open communication, sharing of information and seeking strong partnerships to allow for growth and useful tools for resources sharing as everyone is facing the same challenges of funding and labor shortages.

Governing Structure

The organization of an airport agency has an impact on communication, prioritization of strategic directions and relationships with PSP. Table 13 provides a brief summary of some of the typical distinctions between authorities and AGAs as well as identifies areas each share in common.

**TABLE 13: DISTINCTIONS AND SIMILARITIES
BETWEEN AUTHORITIES AND AGAs**

Key Findings	Authorities	Airport Government Agencies	Common Ground
Organization			
Mission and goals	Financially self-sustaining; diversity of service (ports, bridges, etc), quality service	Both financially self-sustaining and revenue generators – value added.	Same goal - quality projects, better services and cost savings
Leadership and clear strategic approach	Budgeting process is self contained and can be customized	Budgeting process follows the local government approval process.	Same goal - budgeting process should be standardized and have a clear direction
Department Structure	Operate in a closed system under one management structure with multiple departments, making it easier to establish a communication network. For example, procurement and auditing are integrated with all areas of the authority.	AGAs are one of many departments, typically not located within same physical area, each department has non-aviation related focus. This makes cross-communication more challenging.	Communication and cooperation across departments are recognized as keys to successful procurement and management.
Funding and Finance	Self-sustaining, not taxpayer based.	Self-sustaining, not taxpayer based.	All need to do better with less, all are seeking new partnerships as FAA funding declines.
People and Relationships			
Labor Force Composition	Not dominated by union labor force, pay scale favorable to integrating PSP professionals and therefore more understanding as people have been both sides tables. Able to implement system of performance management.	Large pool of union labor force, variable civil service requirements, long-tenures staff, minimal direct experience working in private sector.	Focus on managers and team leaders (typically union exempt).Strategic direction and clear roles and responsibility can clarify goals, process and expectations.

Key Findings	Authorities	Airport Government Agencies	Common Ground
Workforce characteristics	Mix of public and private sector experience. Typically better relationships with PSP.	Union dominated, control outside airport department. Typically unfamiliar with PSP culture and mission and goals.	Strategic direction and process led by managers in both. Airport managers need to understand the goals of PSP. PSP need to understand the goals of the airport to improve the process.
Staff Focus	Staff trained in Aviation practices and sole focus is the airport	Staff trained in practices of multiple departments and focused on the local government.	Unanimous understanding that training is critical on professional development, ethics, contract management, etc.
Process			
Information sharing	Transparent procurement process and openly provide feedback to PSP	Closed procurement process and feedback only provided to PSP after formal request (FOIA).	Exchange of Information between PSP and Airports will improve the procurement and management process

Therefore, despite organization, size, authority and resource base (human, financial and technology), there are many commonality that airport agencies share that will allow for creative approached to meet challenges of the new challenges of being better with less.

KEY OBSERVATIONS ON PROCURING AND MANAGING PROFESSIONAL SERVICES

The Forces of Change and the Disconnects

There are strong forces at work impacting the way airports are organized to do business. On the one hand, there are significant federal and state political and economic changes that are resulting in funding constraints, pressure to do business more efficiently and to deliver services with less resources. Airport agencies are responding to those changes while also facing their own workforce, operational and organizational challenges due to declining resources, stricter rules and regulations and changing demographics. On the other hand, PSP are facing similar challenges in addition to agency constraints while also striving to meet new demands for acceleration and innovation with less resources on the table.

Resource constraints and lack of effective communication can erode relationships and can create misunderstandings among PSP, stakeholders, funding agencies and the public.

Federal and State Political and Economic Changes

As noted earlier, the traditional rules and available funding at the federal and state levels are changing. As funding declines, rules and regulations that govern available funding have become more stringent. The reduction in funding at the federal level adds more pressure at the state and local level for airports to be more selective on spending and more creative in developing partnerships to fund necessary projects. Public perceptions are driving regulation and have increased the complexity of procuring and managing PSP with requirements for processes to demonstrate accountability, transparency and cost savings. This shift is changing the way business is conducted for both airports and PSP.

The economic constraints to do better with less and respond to growing demands for services are resulting in airports re-evaluating missions, re-assessing their organizations “core” functions and transferring more and more functions to PSP. Staff responsibilities are shifting and services are shifting to meet new demands.

Technology provides access to an enormous amount of information, some of which is relevant and some distracting if not misleading. Easy access to technology has increased the public’s expectation for airports to provide real-time information. Airport agencies are challenged to meet these expectations often without the resources, process and staff trained to address the myriad of needs. It is increasingly important for agencies to have clear and concise communications, to address this growing problem of information overload. Airport agencies are spending more time managing and responding to immediate demands for correct information in order to avoid the potential for litigation resulting from misleading or a lack of information.

Local Workforce and Stakeholder Changes

Many agencies are losing staff to either retirements or downsizing, requiring a re-evaluation of what the agency is able to perform internally and where it needs support from PSP to deliver services. Reductions in staffing levels at airports are posing operational impediments, such as knowledge transfer, succession planning, and effective management of assets and resources (human, financial and technological). Current resource limitations have an obvious impact on the staffing and training necessary to effectively procure and manage PSP. Identifying the right people with the right skills to serve on selection panels and to manage the PSP procurement, contracting and management of services is increasingly difficult.

The consequence of these shifting demands plays out differently depending upon the airport's organization, process, people and relationships. For many, these changing times have resulted in re-organizations, changes in use of PSP and the implementation of different policies and regulations. Without a clearly identified direction and communication of purpose and process, the results can lead to increased confusion and misunderstanding, erosion of process, and a breakdown in the communications necessary to achieve the new demands and requirements.

Response to Challenges and Change

The research found that many airport agencies are struggling with these changing forces and relentless demands for information. In response many agencies are changing their process in ways that create confusion and misunderstanding with their PSP without addressing their organizational approach, reevaluating their core services, or assessing the effective use of their people and partnerships.

Many disconnects in rationale and divergent practices were revealed during the outreach process that relate to the procurement and management of professional services. Agencies noted the same rationale to justify opposing practices based on a lack of information, misunderstanding of processes, or as a response to political concerns or potential litigation; creating a set of intriguing series of misconceptions and misunderstandings.

As a result, an unforeseen direction the research has taken is to address some of the prevailing misconceptions identified during the interviews. The following list illustrates the various areas where airports noted either conflicting goals or misinterpretations of process and disconnects between the partners. Many of the misconceptions identified below are a result of agencies not having a strategic approach, engaging the right partners or having the best information at hand. In other words, using available resources affectively to manage the external forces and change.

Misconception #1: Flexibility, Accountability, Communication, Transparency, and Strategic Direction (FACTS) Conundrum

A number of airports interviewed for this research project cited their concerns about incorporating flexibility, communication and transparency into their approach to procurement, expressing fears that it would increase the cost of doing business as well as make agencies vulnerable to litigation.

Reality

Contrary to this perception, airport agencies that made information publicly available such as selection criteria, selection committee notes, debriefings, regular communication and evaluation of PSP were not only more accountable and transparent but also reported fewer disputes and limited litigation. Although it takes time to implement organizational changes to achieve these results, many agencies have found that litigation, costly changes and inadequate outcomes will decrease, not increase, when the FACTS methodology is put in place.

As public and political pressure increases to improve delivery with fewer resources, there is a greater need for agencies to demonstrate sound accountability and transparency in their processes to gain the confidence of stakeholders. The more open and communicative an agency is, the less confusion and erosion of trust occurs and therefore more reliable results are obtained.

Agencies should be more flexible, accountable, communicative, transparent, and strategic to adapt to changing times and meet new and growing demands in a cost-effective manner. The FACTS approach can be implemented without compromising operations and performance when there is strong leadership with a commitment to provide resources and people up front. In fact, the benefits of integrating a FACTS approach to procuring and managing professional services can result in an improved process that reduces the cost and time involved and increases the public's confidence in the agency.

Misconception #2: Anyone Can Do The Job

The research found that as resources become more constrained and the size of the workforce declines, staff is taking on more procurement and management responsibilities with the assumption that they can do both jobs. The workload is not declining but the available staff and training is declining. There is a tendency in agencies experiencing these changes to consolidate these very different functions under one manager.

Reality

It takes a team to procure and manage PSP, and various skill sets, experience and training within the team are required to procure and manage professional services. It is clear from the research that having the right people, appropriately trained and skilled, to perform the required services is at the heart of achieving the best results.

A skilled and competent manager of procurement does not necessarily have the appropriate experience, resources, relationships and training to effectively manage PSP performance and oversee contract implementation, and vice versa.

At airports with limited staffing and funding, it may not be feasible to convene a comprehensive internal procurement and management team. Some practical solutions to this situation would include cross training available staff in multiple functions, sharing resources with other airports in the region, or hiring a third-party to handle the process.

Misconception #3: Keeping PSP at Arm’s Length Leads to More Protection for the Airport

One consequence of increased regulations guiding procurement has been the separation of airport managers from PSP. Many of the agencies interviewed for this research noted concerns about the appearance of collusion or favoritism as well as concern for disputes and litigation.

Reality

The research showed agencies that clearly explained the process and communicated expectations early developed successful partnerships with PSP. Almost every agency interview commented on the importance of developing and maintaining strong communications and relationships with PSP to effectively manage change, address risk, avoid conflicts, and monitor quality and performance. Those airport agencies that engaged in constant communications with PSP actually had fewer conflicts, change orders and disputes, and experienced more effective delivery of scope-schedule-cost as a result of their efforts. An open and transparent communication with PSP achieved a better understanding of project purpose and expectations of performance.

Misconception #4: Audits Result in More Stringent Regulations

The research identified organizational disconnects where oversight by audit and legal created a reactive approach to both procurement and management of PSP. Many respondents cited concern with meeting audit expectations, and therefore created more stringent processes that reduced flexibility and communications between departments to avoid any conflicts. Some of the disconnects were either due to an organizational separation of departments or poor understanding of the benefits of better partnerships.

Reality

Agencies that developed strong partnerships between procurement/management and auditing/legal staff throughout the entire process extolled the value added by that participation, as it provided useful insight into ways to increase flexibility, accountability and transparency.

Partnerships developed with audit and legal aided procuring and managing departments in selecting the best project delivery methods, fair and equitable contracting terms and conditions, and clarity of the process to manage scope-schedule-cost.

Misconception #5: One Size Fits All – The Recipe Approach

As agencies face declining workforce, increased regulations and workload, the tendency has been to simplify the process to facilitate the management of the process and delivery of services by using one system, method or recipe for procurement and management of PSP.

Reality

The problem with the “one size fits all” approach is that all services are not the same. The selection of a procurement and project delivery method should fit the need and be adapted to the desired outcome and the type of PSP required. For example, one fee type will not fit all procurement processes. The research revealed many discrepancies on the use of fee types and contract restrictions for professional services. For example, airport agencies applied fixed fee

(lump sum) and cost-plus for similar services. The rationale stemmed from concerns around auditing, and yet those who used fixed fee had auditing oversight in place without a problem.

There are many tools in the toolbox and each needs be used in the appropriate circumstances to get the best result. Adapt the procurement and contracting method to the need to obtain reliable results as well as innovation without adding undue burden, confusion or costs to the process.

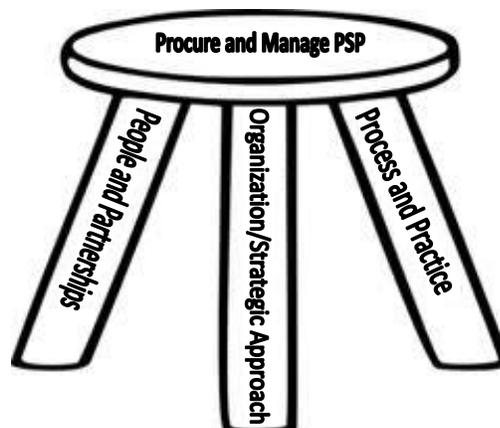
Projects that are more complex, have many unknown conditions or require creativity to find innovative solutions will require a more sophisticated procurement process with terms and conditions that support those situations. Conversely, for routine and simple projects, procurement and terms and conditions should allow for streamlined, cost-effective selection and management.

Engage the right partners to share the resources and work to develop the right approach, method and tools to address the diversity of services needed.

Key Observations

Based on the research, outlined in the previous chapters, the following three key observations guided the development and organization of the Handbook. The three legs that support the platform for effective procurement and management of PSP are: organization and approach; people and partnerships; and, process and practice as illustrated in Figure 1.

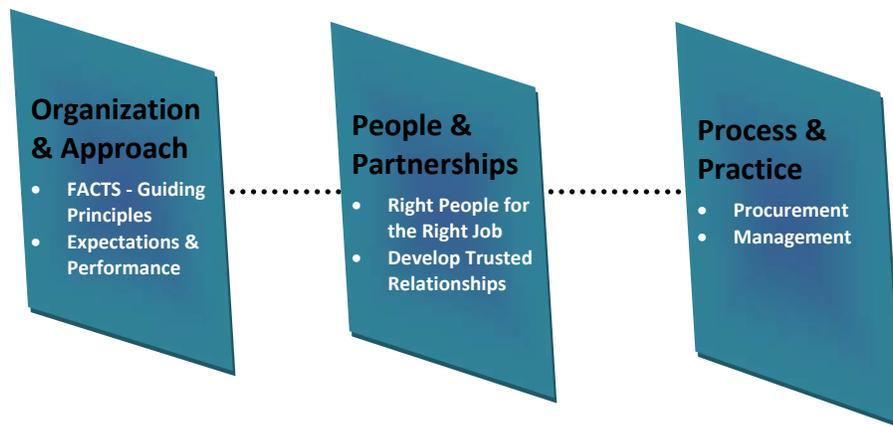
FIGURE 1: THE THREE LEGGED STOOL



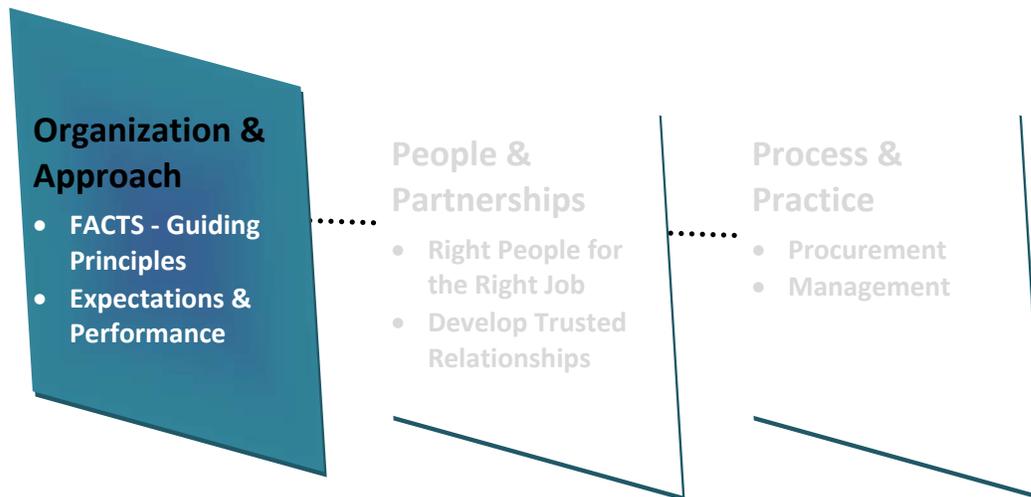
- First, an airport agency needs a well-structured organization and strategic approach that sets forward guiding principles to develop and manage growth and effectively utilize both internal and external resources.
- Second, for an airport agency's guiding principles and established practices to be successful, it requires the right people with strong relationships both within the agency and with its partners. Effective communication and partnerships translate into trusted relationships.

- Third, an airport agency needs a clear and concise process that both delineates when to seek outside PSP and guides the procurement and management of PSP. These processes have to be written, flexible, accountable, effectively communicated, and transparent (FACTS) to be successfully translated into practice.

The following observations will identify the rationale and value of having strong organization and approach that is aligned with the people and relationships to develop and implement a process to procure and manage professional services and PSP contracts. It will also identify key areas to address the disconnects that arise among the process and participants as well as expose some problems with prevailing misconceptions along the way. The observations will be developed based on these three identifiers: Organization & Approach, People & Partnerships, Process & Practice.



Observation #1: Organization and Approach

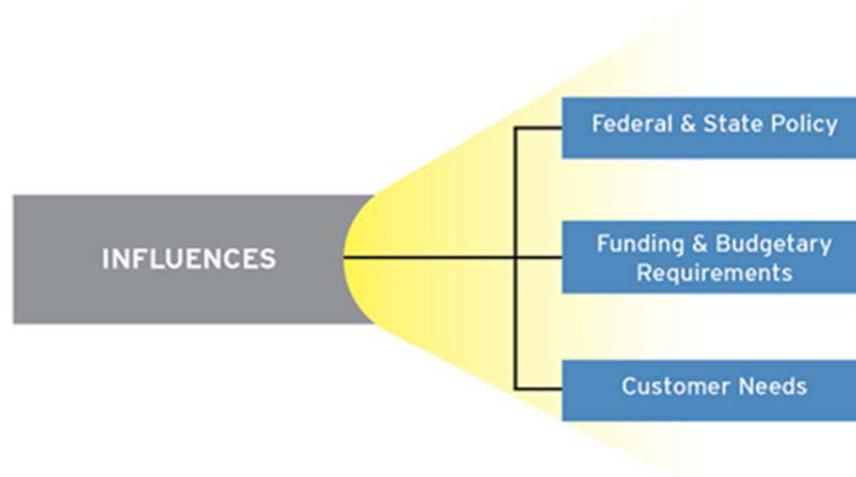


The first observation is that airport agencies need to harness all available resources and to refine their organization and strategic approach based on the FACTS principle. As airport agencies seek to respond to growing demands, greater scrutiny by the public with less resources, it is imperative to assess how the organization is structured and what resources (human, financial and technology) are available to meet those demands. It requires a renewed evaluation of what services are best performed internally and what processes are in place to effectively procure and manage those retained by PSP.

Agencies need to be mindful of the external forces impacting expectations of performance and the delivery of services. Those forces include: federal and state prevailing laws, legislation, regulations; funding sources and budgetary obligations: rules and limitations; and of course the customer needs: agency departments, stakeholders, airlines, tenants and the traveling public.

In order to build a more effective organization that will deliver exceptional services as well as increase confidence and investment, it is necessary to effectively harness resources, which first requires a clear understanding of the motivations, needs and expectations of external forces. External political, economic and demographic forces will drive the priorities and structure of an agency, requiring it to develop a strategic approach to manage those forces and guide the people and process efficiently to meet demands and deliver services (see Figure 2).

FIGURE 2: INFLUENCES ON ORGANIZATIONS



It is vital to have a clear understanding of the legal and regulatory authority and the available tools that allow for flexible and innovative approaches to procuring and managing professional services. There may be a need to be modify or develop new partnerships or policies to address the changing demands and funding. Any modification to existing regulations, authority or process will necessitate a strong organizational approach and adjustment to resources (people, funding and technology) to communicate the direction and expectations for performance.

Begin with a clear vision and strategic orientation and communicated approach toward an integrated flexible, accountable, transparent and strategic direction to defining scope, budget and schedule. Expectations must be effective embraced and performance expectations established to achieve the FACTS are outlined below.

- **Flexibility** – Balance the need to adjust in changing times, work in dynamic political and economic environments, collaborate with changing expectations, and have an accountable process that allows for negotiation and management of various contracting venues and expected services from various expert service providers. Ability to fit the best process to the service desired.
- **Accountability** – Provide stakeholders with a clear, concise, cost-conscious and effective process for contracts, and facilitate an open and clear process to validate spending, manage performance and mitigate conflicts.
- **Communication** – Foster regular, open and honest communication among the providers of professional services. Establish a line and method of communications early, during the procurement and management of professional services and PSP contracts process leads to trusted relationships with the stakeholders and a better understanding of needs and expectations.

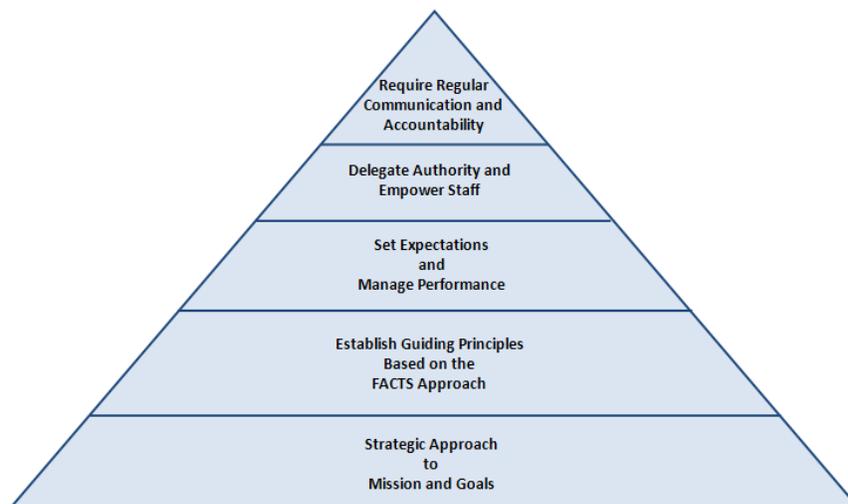
- **Transparency** – Needs, expectations and requirements need to be known and discussion of same needs to be open, honest and clear on how, why, when and with whom processes, procedures and products are developed to achieve, buy-in and confidence by all participants. Know the rules and procedures and set clear expectations increases productivity and reduces potential for conflicts.
- **Strategic Direction** – Harness and fit the resources, partners and funds available for the projects to meet agency goals. The need to meet expectations does not diminish with the limited funding available but challenges the airport owners/operators to be innovative in the way they procure and obtain services in a manner that maximizes available funding to realize the goals and needs of the airport. The direction should also identify, evaluate and coordinate new and existing partners in the process.

As agencies redefine their core missions based on decreased funding and workforce and increased expectations, it is useful to engage many partners to define both the direction and the plan for the next chapter of the organization. For example, as an organization reshapes to adapt to today’s constraints, they also should be keeping an eye toward tomorrows opportunities. Succession planning and partnerships are important organizational tools for growth. The services provided by PSP today may not necessarily be appropriate in the future especially if there is a strategic approach to building more capacity at the agency. Therefore, continual evaluation of core responsibilities, staff resources and procurement and management strategies need to be flexible and reflect that organizing principle.

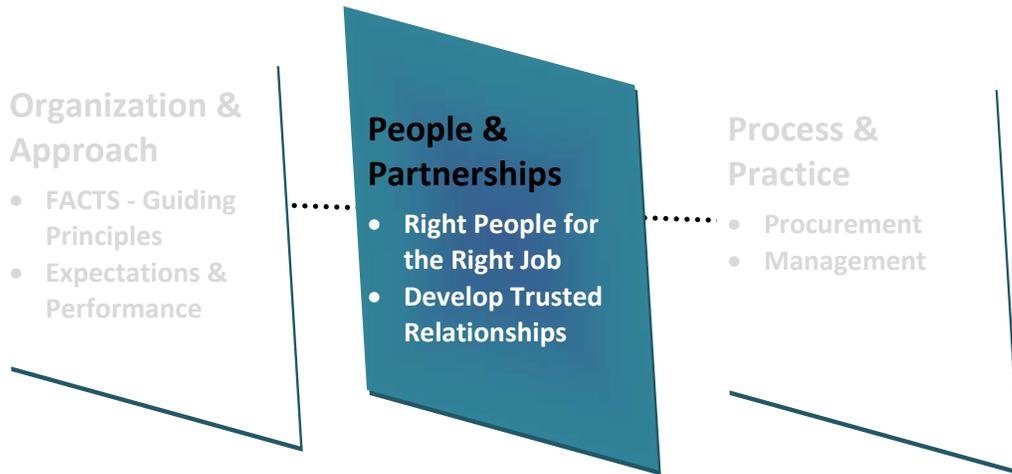
The successful procurement and management of professional services is intrinsically linked to the agency’s approach. A strong mission with clearly established goals and expectations of performance require the organization to identify the best managers and to provide the resources and tools as well as to delegate the necessary authority to empower the managers to effectively meet those expectations and to deliver the best services (see Figure 3).

Empower staff and delegate responsibility to appropriate people with the tools and resources to deliver, measure, and account for performance.

FIGURE 3: ESTABLISH A STRONG FOUNDATION



Observation #2: People and Partnerships



The second observation highlights that open and interactive communication with people and partners can facilitate a successful process. The faster, cheaper and better modus operandi brings the type and quality of information, the method and manner of communication to the forefront. How information is shared and communicated is fundamental to establish an understanding of needs, expectations and deliverables.

Relationships are being challenged with declining workforce and growth of impersonal communication devices. Technology has supplanted the traditional in-person dialogue and one on one interaction with email directives or snap shot updates via internet. Information is increasingly provided without context, review and understanding, evident in the media (fast and simple), on the internet, or even in the form of agency mandates.

Form a basis of understanding.
Ask questions and share
information and expertise.

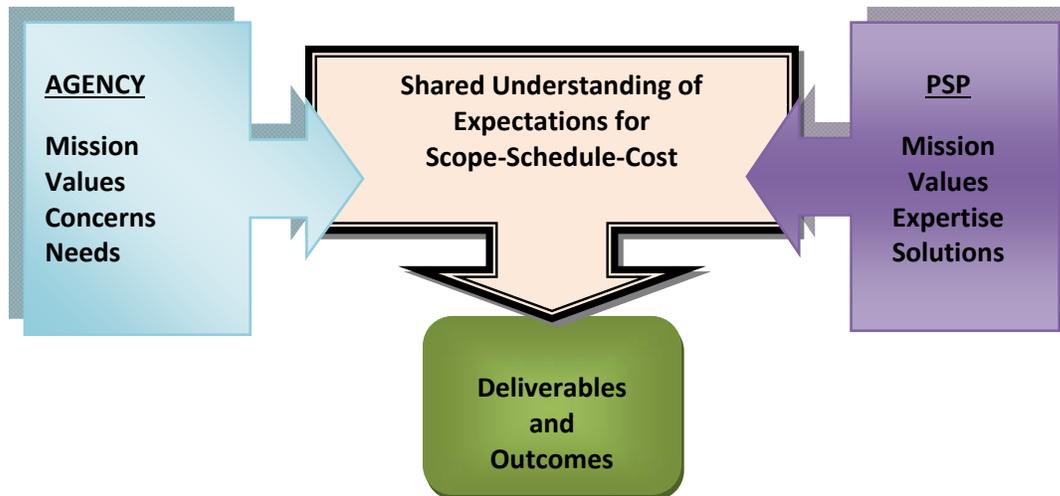
Fundamentally, human contact is the most effective means of communication. Meetings and dialogue are critical to addressing the procurement and management of professional services. The transfer of information should not rely solely on the written word. Have the conversation in person within and among the participants, early and often. Keep the channels of communication open and constructive on process and outcomes.

People and Partnerships = Trusted Relationships

It is readily apparent from the research that a formal and clearly defined approach that sets achievable expectations for performance, communication and accountability is vital for success. It begins with taking the time to understand agency and PSP orientation to needed services. Then to take the step to sharing ideas, resources and expectations on scope-schedule-cost, such as: what is known, what is the risk, developing a plan to manage change and setting developing deliverables. This establishes the basis for a common ground in relationships. It is equally important to have the right people to develop strategic partners as a precursor to trusted

relationships (see Figure 4). The power of having relationships built upon trust, understanding and a shared visions and expectations of outcomes can save time, money and stress.

FIGURE 4: ACHIEVING COMMON GROUND



The first step is to take the time to learn the agency’s organization and people; their skills, expertise and motivations. Are the people in the right jobs and do they have the right expertise and training to manage increasingly complex tasks with less resources? What is the composition of the airport, supporting departments, stakeholders, partners, and to what degree are these entities integrated to share resources?

Meet, Talk, Learn,
Agree, Act

The composition of the management team and ability for them to be a resource for each other is essential to deliver better with less. Knowing this composition of the workforce, experience, organization of labor, growth opportunities, training and educational requirements allows for better sharing of resources. Taking the time early, clearly and often to learn of needs and concerns will set the stage for identifying resources and approach to delivery of services. A few tools that may facilitate an assessment of the agency and its resources include: developing a strategic organization chart, project charters, matching resources and having the conversation.

Organizational Chart. An organizational chart identifies key decision-makers, authority and delineates managers and their relationships. An organizational chart also illustrates the human resources available. Critical elements to identify include, point of contact, chain of command, and can also indicate availability when tailored to a project or service. Agencies need to know who to go to if problems arise or needs change so that people and resources can be adjusted to mitigate any adverse impacts on scope-schedule-cost.

Mapping relationships can be an effective way of identifying the right people and teams for the best relationships and results. This should be done on both sides of the table. Agencies and PSP are not comprised one person. Each has a number of key managers and decision makers that

bring different views, priorities, concerns and skills to the table based on their respective role and experience. Taking the time to learn the players and understand their needs will save time later in the event changes or problems arise. An agency organizational chart is also a useful tool to share with PSP so they can organize and respond effectively. Likewise having an organizational chart to select and manage a PSP is a useful tool to clarify availability, lead expertise and staff resources available.

Typically, agencies will require PSP to furnish organizational charts in their proposals detailing all this information and for that very same reason that agency managers need to have this information on both the procurement and management side. Making this organizational chart available to PSP allows respondents to solicitation to better understand agency needs and resources to develop an effective scope-schedule-cost.

Project Charters. Project charters can be worthwhile tools for identifying roles, responsibilities and authority for formalizing partnerships in managing complex projects. They require at a minimum:

- A clearly stated purpose, scope, and agency/partner organization(s),
- Define the membership, roles and responsibilities;
- Establish meeting schedules and quorums and outline operating guidelines; and,
- Define key milestones.

They also may and should include a process for identifying and managing change, risk and dispute resolution.

Identifying Resources and Matching Needs. This exercise will require reaching beyond one's area of expertise and engaging others to better define the need/problem as well as to develop methods and a process to effectively address the need. As everything cannot be known ahead of time, making the best connections and sharing resources is critical to managing change and risk.

For example, there is a limit to how much is known about site conditions, but taking the time to talk to those familiar with the area and managing or operating in the site may help limit the unknowns or change a procurement to learn more and define a project with better information. On the other end, external forces may require early delivery of a project. Reaching out to agency partners to learn what each other's concerns are as well as defining the best method to develop scope-schedule-cost may reveal a new way to procure or amend a procurement method to achieve those results. It will require a careful conversation of process and risk and communicating that to participants, but expectations will be clear. The bottom line is to put a system in place to communicate regularly, monitor performance and make adjustments throughout the process to save time and money.

People: Select the right people in right jobs with the right skills, experience, training and authority to manage the process, PSP contracts, projects and services. Some basic actions to guide the identification and placement of people are as follows.

- Select, train and authorize the right people to procure and manage professional services and to create a platform for collaborative interaction throughout the life of the professional service contract.
- Roles and responsibilities need to be defined and in some cases redefined. Strong strategic direction needs to be established up front and communicated to managers and professional service providers regularly and often. The organization and managers need to maintain focus on process, people, and relationships as well as maintain high integrity and commitment to achieving desired outcomes/results.
- Expectations need to be clearly communicated and established to avoid unnecessary project changes, risk and lower quality.
- Recognize that agencies and PSP are not comprised of just one person. Each has a number of key managers and decision makers that have different views and priorities based on their role and experience. Know the players and their needs, skills and resources.
- Understand mutual needs and shared values. This may require bringing different people to the table. Have the conversation, ask questions, identify the needs, concerns and goals of key players, and come to a shared understanding of needs, expectations and deliverables.
- Match people for effective outcomes. Everyone communicates, listens and understands differently. Effective outcomes are best defined and delivered through utilizing the diversity of skills and understandings of different people. Collaborate. Work together to identify the best approach and solution. One size does not fit all. Each situation is different, and available tools and resources change constantly.
- Be open to change and new ideas, work with partners to test ideas and develop process to manage risk but also to identify and track opportunities.
- Evaluation of performance is important. Engage in an evaluation process. Formalize regular meetings to allow for continual monitoring of performance and refinement of actions and practices. Tracking performance and exchanging lessons learned will enhance the ability of the agency and PSP to manage change, modify actions and improve performance.
- Proactively implement succession planning. Service needs and workforce are dynamic and changing. Look ahead; grow your staff to manage change and relationships for tomorrow.

Partnerships: As traditional funding sources decline, the more critical it is to develop new partnerships. Resistance to developing partnerships is often based in either not knowing who is available or can be trusted, or because of concerns with giving up control and authority. Partnerships should be formed with internal departments, stakeholders and PSP. Key relationships need to be identified, defined and understood. Each party needs to learn from each other their goals, objectives, and needs as well as to set and agree to expectations around performance.

Understanding the relationships that exist in each organization is especially important for sharing resources – people, financial or technology. For example, agency relationships with their funders can make a difference in the flexibility they can bring to a process. Managers relationships with decision-makers such as a CEO or a legislator also can influence the flexibility in regulations and confidence in the organization for be innovative and use funds reliably.

- **Agency and Stakeholders** – There needs to be mutual understanding of each other’s roles and responsibilities, constraints and opportunities. There might be ways to share resources or modify approaches to fulfill needs but it cannot be done in a vacuum and without regular interaction and conversation. Establish good partnerships with internal stakeholders, especially with audit, legal, finance and human resources departments in the agency with the knowledge of essential tools and resources to support and deliver services such as:

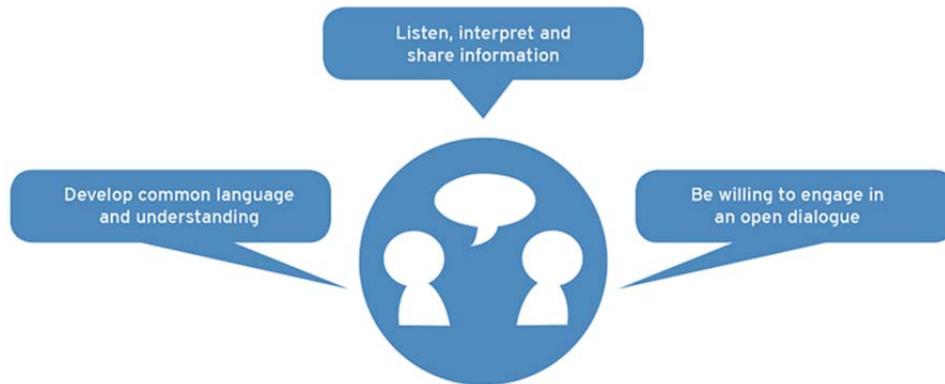
Engage the right partners to define needs, concerns and ideas; work together on an approach; meet often to monitor and review process.

 - Finance: developing a best cost estimate through research on industry standards and collective agency experience;
 - Audit: defining a procurement method that meets needs and is accountable and transparent to all participants;
 - Legal: advising on language to use in contract that is of common interest to both parties; and/or,
 - Human Resources: identifying staffing resources and training to better support the process.
- **Agency and PSP** – This relationship needs to be founded on a mutual understanding of purpose, role and expected outcomes. There needs to be trust and good communication. The more complex an assignment and especially for long-term assignments, the relationship between airports and their PSP becomes more critical. – Like a marriage – do not enter lightly. The rules need to be clear, the process transparent and performance accountable to meet established expectations, and communicate early, clearly and often.
- **Public and Agency/Airport** – The public is demanding transparency. The primary mission is meet customer expectations, whether that is the traveling public or the airline or tenant. All have different needs and concerns. Understanding what information is needed and providing it is a simple and easily accessible format.

Communication Strategy

It is appropriate at this juncture to take a step back and review a few basic tenets of effective communication for achieving a mutual understanding (see Figure 5). Communication forms the basis for trust and partnerships that are necessary during changing political and economic times and throughout the course of each project. Document the process and communicate changes often and regularly during a project. Have as much face to face interaction as possible to ensure that expectations are mutually agreed upon and that scope-schedule-cost milestones and deliverables will be achieved.

FIGURE 5: EFFECTIVE COMMUNICATION



Each participant has different skills, concerns and ideas, so match the appropriate people to communicate and develop a shared understanding of needs, approaches and expectations. The process for identifying the best people will be different for each situation. For example, appropriate selection committee members will vary based on agency or department need. People with a different set of skills are needed to negotiate a contract. A management team will need to possess different administrative and technical skills critical for developing the procurement and management process. It is important to know the players and what they bring to the discussion. Finally, as the process is not a one-time event, it will require that a formal system of communication be established through regular reports and meetings, with the goal of identifying issues early to better address ongoing concerns.

Basic elements of effective communication include:

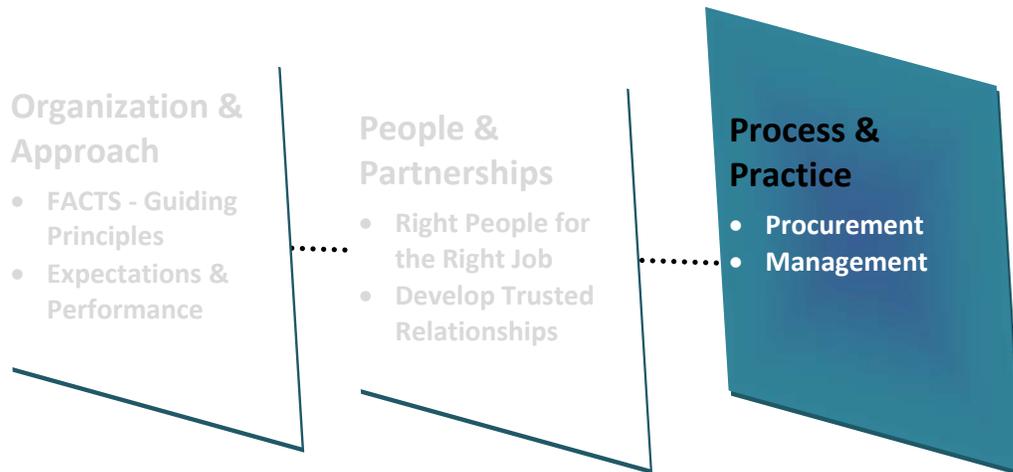
- ***The Art of Listening.*** There has to be motivation on both sides to listen and understand other’s perspectives and to agree upon expectations and approaches.
- ***Develop a Common Language for Goals and Values.*** Use unbiased, clear terminology that each party understands. For example, use language that talks about “profit” or “lump sum” or “acceleration” in a simple and clear manner so the terms, value and approach are understood. Key to understanding common goals and defining the value of the service is to take the time to clearly define and agree upon terminology and expectations of services needed. Agencies and PSP must share a mutual agreement on terms and outcomes.
- ***Diversity Quotient.*** Bring different people with diverse skills and backgrounds to the table. Everyone learns, sees and understands differently. Bringing together different expertise and perspectives allows for a broader and more comprehensive view of needs and concerns while also opening the door to more creative and strategic solutions. One example is the accommodation of the various needs of people with disabilities. Include members of that community at the table to share their insights with owners, managers and PSP who do not have direct experience or understanding of the barriers.
- ***“Be Open to New Ideas”*** The “we’ve always done it this way” mentality is at the heart of some the most frustrating organizational challenges. Learn the motivations, training,

skills and willingness to change of the people involved in procuring or managing a professional service. For example during negotiations, Are the people involved in the negotiation well-prepared, do they understand the goals, are they able to listen and be open to new approaches where both sides can mutually agree and be successful?

- **Ego.** The ultimate end of collaboration begins with ego. Assess whether the people involved are able to share in the process of learning, understanding and exchanging ideas. Team members must be willing to participate with respect and openness in shaping the direction and managing the process.
- **Succession Planning.** Inevitably, people move on to other positions or retire. Fostering growth and developing talent is critical to sustaining any organization – agency or PSP. Creating opportunities for training and engagement is an important part of developing good managers and leaders.
- **Play to Each Other’s Strengths.** Work with the knowledge and experience of team members to explore opportunities for innovation and develop better solutions. Understand the competencies and interests of the individuals involved. For example on the PSP side, technically trained staff may have the innovative solution with the right support and interaction among their peers. Those same individuals may not be interested in working with the public or in public speaking. On the agency side, individuals may know the process well but may not be interested in having the conversation with PSP.
- **Set the Context and Tone Carefully for the Conversation.** Provide the best environment for a productive conversation to occur. Determine the desired outcome: result-focused (partnership, collaboration, insight) or compliance-focused (provide direction, establish oversight, exert control). Be clear on the approach to appropriately set the parameters and tone of a meeting.

Professional service providers are selected not just for their qualifications alone, but also based on the specific need and desired outcome. A requirement for a routine service is distinctly different from a need for a creative and innovative solution. When creativity and innovation is needed, the solicitation and selection of a PSP will need to be commensurate with what is expected. Determine in advance what you are willing to pay for a service, understand the risks and expected duration. Risky, high-demand projects will require a more sophisticated approach. “Right-size” each project. Define the task, select the right people to manage it on the agency side, and then tailor the process to get the best results.

Observation #3: Process and Practice



The third observation is that airport agencies need to establish a procurement and management *process* that is based on the FACTS principle. At this point, it is important to be able to draw on all the tools, resources, regulations and partners available to all participants to allow the flexibility to adapt to changing circumstances and needs. The process should be flexible to use the best contracting method for the service, accountable to the agencies stakeholders, effectively communicated to the staff and PSP, transparent to the public, and meet the strategic direction of the airport.

Develop a Process that reflects the Airport Agency's Mission and Goals

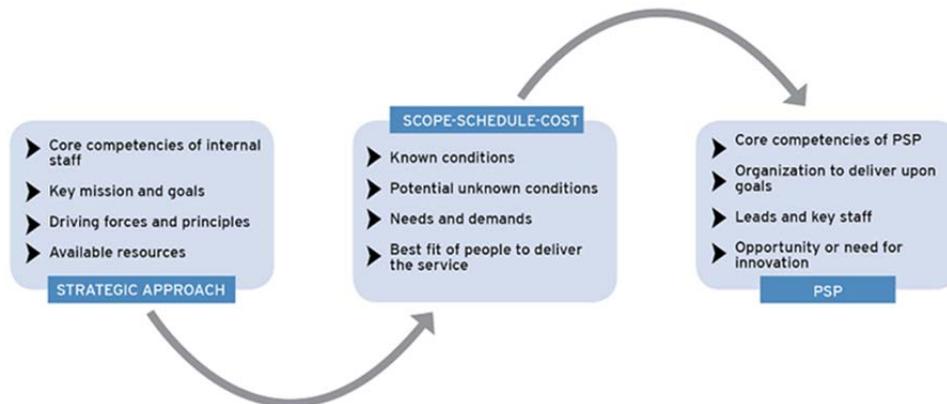
For the process to manage and procure PSP to be effective, the approach needs to be concise and based on the strategic direction of the airport. The strategic direction should define the current mission and the future goals of the airport. The procurement process is the first step to meeting the current mission and future goals of the airport. Also critical in the procurement process is the practice of keeping scope, cost and schedule together from strategic planning to close-out. For this reason, scope-schedule-cost will be referenced as one word.

- Scope: must be well-defined and provide clarity in purpose and objectives, developed through an engaged and interactive process, managing the range from simple to complex.
- Schedule: plan for all operational requirements, funding and budget mandates while anticipating and managing change and risk factors.
- Cost: develop forecasts using reliable and adjustable data and sources while managing the expectations of stakeholders and maintaining clear, concise and regular communication.

The ability to prepare a well-defined, concise scope-schedule-cost for a project is the first step to a successful procurement. Based on the research, the decoupling of scope-schedule-cost is the single biggest contributor to project change orders, cost overruns, and schedule delays.

As described in Observation #1, a well-communicated strategic approach that clearly defines needs sets the foundation necessary to align the resources to develop scope-schedule-cost. Observation #2 demonstrated the importance of establishing an iterative process to actively engage PSP to learn and refine the scope-schedule-cost (see Figure 6).

FIGURE 6: COLLABORATIVE AND INTERACTIVE APPROACH TO DEVELOP SCOPE-SCHEDULE-COST



The process to procure and manage professional services will encompass a set of procedures that provides a roadmap to identify the need for PSP and set expectations and monitor performance. The formula for a successful procurement process (see Figure 7) includes four steps.

1. **Written Documentation.** Establish and formalize all procedures in writing; document the purpose, rationale, expectations and outcomes of the procurement. Establish strong and flexible procedures that set expectations up front for project controls, delivery, and close-out and to formalize the management of risk, change and performance. Procedures should include steps that require accountability, evaluation and review and that are consistent, reliable and regular in their occurrence.
2. **Effective Communication.** As processes and procedures change over time, a mechanism must be in place to communicate these changes to both internal and external stakeholders, including staff and departments within the agency, tenants, PSP and the public to ensure transparency and so that everyone knows the rules. Set expectations up front. To develop a good practice, a set of written procedures on how to get the job done must be developed at the agency level and communicated across departments. This requires effective communication that clearly sets expectations of performance and improvement from all involved.
3. **Training.** As organizations, funding and resources are constantly shifting; rules and regulations are also changing. It is critical that training be provided regularly for staff to be fully aware of the changing rules from ethics to funding requirements. Training needed for procurement staff is not necessarily the same as training required for PSP

managers. For contract officers, it is essential that they know the prevailing rules, laws and regulations and also are able to understand how and when to utilize the best method for service and outcome. On the management side, project managers need to understand not only how to execute their contracts but also must have a clear understanding of different project delivery mechanisms and how to contract for the best result.

4. **Tools and Technology.** Resources must be made available to execute the process, communicate effectively, empower staff to procure and manage professional services, and provide continuous feedback and improvement. Resources include tools such as manuals, organization charts, model documents and forms, and technology such as software and websites for effectively carrying out procurement processes, eliciting information and educating stakeholders. For example, a procurement officer should have appropriate software to distribute RFPs, notify professional service providers of upcoming opportunities, perform quantitative analysis, create and manage budgets and schedules, and access data required to effectively procure and manage PSP. Figure 7 illustrates a simple formula to guide the procurement and management process.

FIGURE 7: FORMULA FOR A SUCCESSFUL PROCUREMENT



Procurement

The procurement section of the Handbook includes basic techniques as well as areas for further consideration in the following: pre-solicitation, solicitation, selection, negotiating and contracting. Based on the research, the following three requirements are recommended for a successful procurement process (see Figure 8).

1. Develop cooperative, communicative and respectful relationships with PSP and with external and internal stakeholders.
2. Establish selection procedures and methods for streamlining the process and refining the scope.
3. Establish contract language and mechanisms for controlling scope-schedule-cost as well as for addressing change, risk and disputes.

FIGURE 8: KEYS TO A SUCCESSFUL PROCUREMENT AND MANAGEMENT PROCESS



Since aviation owners and operators are regulated by the FAA and rely on the FAA AIP program for funding of large projects, it is important to understand the context and partnerships necessary for a successful procurement process. The key phases of procurement and the necessary pre-conditions for execution of the process begin with identifying and utilizing available regulatory mechanisms and partnerships from pre-solicitation to execution of a contract.

Regulatory Context and Partnerships

Because the aviation owners and operators are regulated by the FAA and rely on the FAA AIP program for funding of large projects, it is important to understand the context and partnerships necessary for a successful procurement process.

- Understand regulatory and resource constraints and opportunities, especially the FAA's selection requirements for the use of AIP funding.
- The resources of procurement departments can be used to facilitate interaction and oversight. Procurement departments are either centralized (typically in city or state government) or decentralized (typically at quasi-government or authorities). The PSP needs to understand the limitations of each organizational procurement department and work within the local requirements.
- Develop partnerships to allow for a sharing of resources and delivery of services.
- Open doors of communication and make all information available to partners. Engagement and communications should be constant from inception through contracting for clear identification and agreement of goals and expectations for the process.
- Provide information to all interested PSP of the needs (scope, cost and schedule) so as to allow for the PSP to be creative in their response.

The following are key steps to a successful procurement process (see Figure 9) in the various stages of the process. These steps will be beneficial for use with procurements funded by FAA AIP grants or by airport funds.

Pre-Procurement Strategies

- ***Project Definition.*** This should clearly define the service needs (planning, AGE, on-call, etc.) and have a detailed project description that is agreed upon by invested stakeholders. The project definition should set budget and schedule expectations. It should provide enough detail to ensure that the PSP understand the project requirements and expectations.
- ***Project Delivery Mechanism.*** The project delivery method should be established prior to solicitation. The selection of the delivery method should be based on the type of work to be performed and the advantages (cost and schedule) to be obtained by using an alternate delivery method, such as Design Build or Construction Management at Risk. If the project delivery method is selected after the start of the procurement process, some of the benefits from the alternate delivery method might not be realized.
- ***Cost Estimates.*** Use historical information and industry standards to identify the range of acceptable cost prior to development of scope. Understand available funding sources and the budgetary constraints during the scope evaluation and refinement.
- ***Develop Scope-Schedule-Cost as one Connected Item.*** Decoupling of scope-schedule-cost will impact reliability of PSP performance and delivery of services. Both comparative and historic, if available, project data should be used in preparing the scope, cost and schedule.

Solicitation Strategies

- ***Selection Process and Schedule.*** The process should be tailored to the need and reflective of the airport agency's mission and goals for budget and schedule.
 - A detailed project description, scope and schedule should be included in the solicitation. This information is useful for the responders to develop quality proposals to meet the tasks and deliverables required.
 - Criteria should be clearly defined and the level of importance noted.
 - Allow PSP a minimum of three weeks to respond and be considerate of holidays.
 - Interviews are only needed in the selection process for large, complex projects and should be used to elicit new information from the proposers. An interview should not be used for procurements of routine, low cost projects.
 - A level playing field should be maintained by the agencies for all potential firms. A "Cone of Silence" regarding the project should be instituted by the agencies from the time advertisement to award to protect all involved.
 - All proposers should be provided with a debrief. The debriefing should be an in-person meeting, provide a review of the proposal, and provide useful feedback for future proposals.
- ***Selection Criteria.*** Should be established in advance and shared with PSP. The scoring matrix should be transparent and reflect the agency's strategic approach and service

needs without a bias to any one firm. Typical criteria may include: understanding of the project and needs; key personnel, qualifications and experience; firm's qualifications and recent experience; availability and ability to meet agency goals for schedule. Additional criteria may want to consider attention to quality control and project controls depending on the complexity of the project and type of service needed.

The criteria and method of evaluation can include either qualitative (H/M/L or rank 1st/2nd/3rd) and/or quantitative criteria (numerical value to each criteria and possible weight). Weighting the criteria is useful and requires an agreement of the committee to satisfy each stakeholders priorities and needs. The selection criteria should be clearly and concisely communicated to the PSP as part of the solicitation.

- ***Establishing Selection Committees.*** The selection committee should have technical experience with the proposed work and all members should be trained on proposal/submittal reviews. There is value in having select members continue on post-selection during management as an oversight mechanism. Selection committee members must be free of conflict of interest and knowledgeable of the project's technical requirements. The committee should have at least 3 members and there should be rules of conduct established to provide guidance throughout the process. This continuity also provides valuable direct insight into experience to guide future selection, contracting and management processes.
- ***Evaluation of Proposals and Short listing.*** The scoring is based on the selection criteria. Develop a shortlist of three firms maximum and less if necessary. It takes time, effort and expense to prepare for proposals and being considerate early of who has met or exceeded the requirement is respectful. Interviews should only be scheduled if there is a need for further information or on a complex assignment. There also may be a need to actually meet the project managers and team based on project demand or to further clarify an approach or solution. Provide clear direction on the purpose of the interview and the information sought and share the evaluation criteria – if possible – in advance of the interview. Allow PSP at least two weeks to prepare – again depends on the complexity of the project.
- ***Selection Process.*** Will depend upon the size and complexity of the project. Thresholds need to be established for amount of fee relative to required proposal development. The level of effort and cost of a project should determine a path for complexity of the selection process and need for an interview.
- ***Interviews and Final Selection.*** Adequate time needs to be allowed for each interview and the scoring of interviews. PSP should be informed of when a decision will be reached. All parties should be notified in writing in a timely manner of the decision. Respondents should be provided with the scores for both their proposal and interviews. There should be opportunity afforded for individual debrief for both the interview and proposal.
- ***Tools and Technology to Enhance Communication and the Process.*** Electronic distribution of the solicitation materials should be considered. This will allow a wider range of potential proposers and provide a level playing field to all.

Negotiations are an important part of the contracting process as they allow an opportunity for both agencies and PSP to develop a share and mutually agreed upon understanding of what is expected as well as to decide how to manage change and share risk. PSP are best served when they know in advance the agency's contracting requirements and are able to prepare to work with the agency to modify and/or qualify key components that may impact the management and delivery of services.

Negotiations

- ***Setting the Rules.*** Contract negotiations should be completed within 30 days of selection to allow for the appropriate commitment and deployment of staff and resources by the agencies and PSP to be scheduled and delivered. A concise and clear process, well communicated in advance has a positive effect on negotiations.
- ***Negotiation Team.*** The agency project manager should lead a team in the negotiations with the PSP. The project manager should have contract experts available and be prepared with scope, fee (IFE), and schedule for the project. No one does it alone. Prepare completely – all information available – know what is flexible and what is not. Prepare to compromise if it meets mutual outcomes.
- ***Change Management.*** Scope-schedule-cost should always be discussed in relation to one another. A change to one can impact the others.
- ***Risk Identification.*** It is best to clarify risk early and understand the source and manage the process. An assessment of project risk and understanding of where you are vulnerable should be evaluated initially during the contracting, then at the beginning of the contract and at key milestones in the project schedule. Each agency will have a good sense of where risk is greater based on historical experience. For example, typical areas include:
 - The public expectations and activism
 - Funding sources, FAA funding on hold or state budgeting changes.
 - Other internal stakeholders such as tenants calling the shots on terminal design.
 - Unforeseen site conditions or working in an area where no work has been done previously.

Identify, assess and determine who and how each risk will be managed and monitored prior to contract execution as it will affect compensation and contract terms and restrictions. The evaluation of each risk should be made and defined as follows:

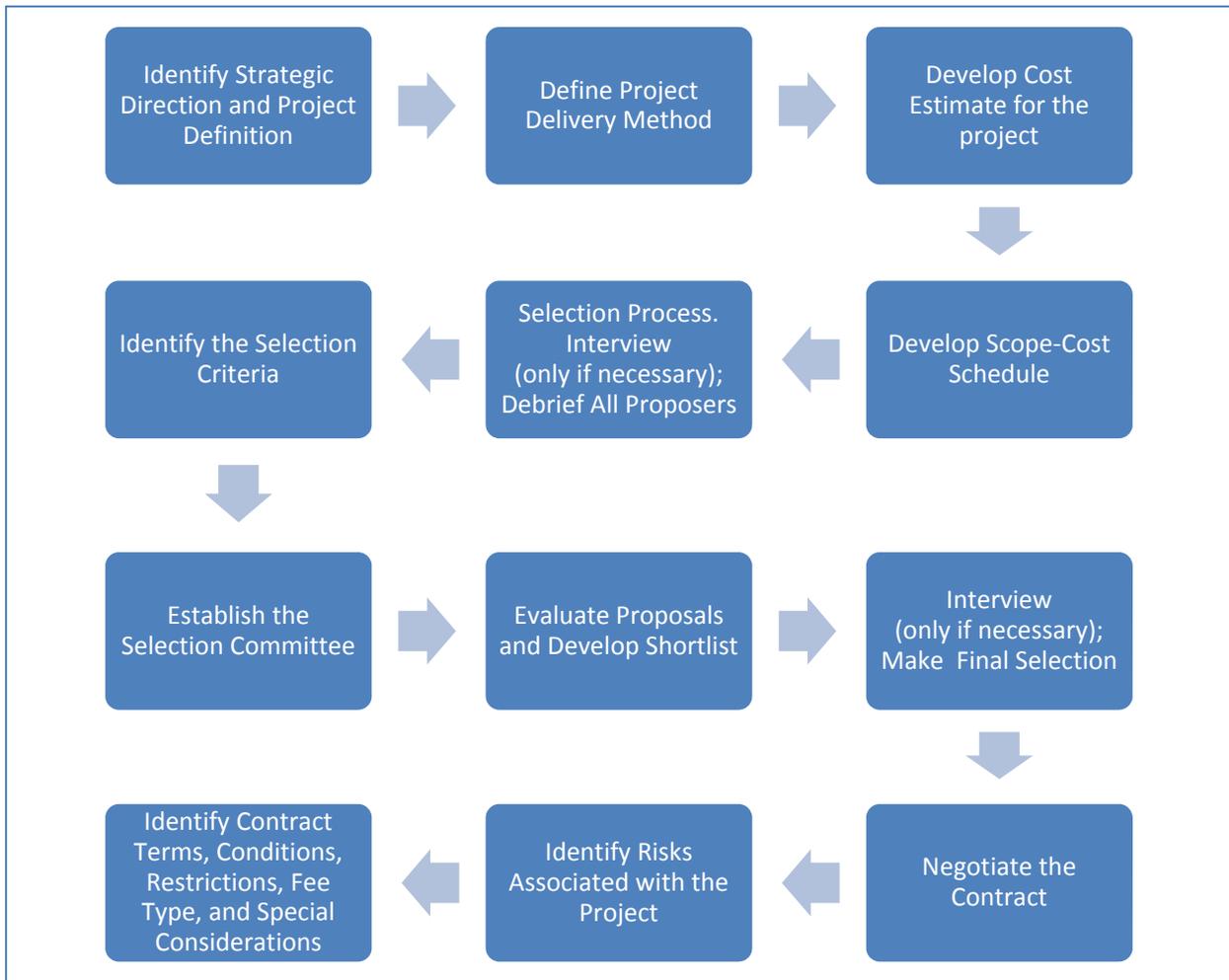
- Avoidance – what is the plan to eliminate risk
- Transference – what is the method to transfer to whom and under what circumstances
- Mitigation – early action and remediation and primary responsibility
- Acceptance – who is taking it on and what is the contingency plan.
- ***Compensation.*** The fee type and method of payment should be defined and communicated to the PSP, including any contract restrictions. There should be an openness to engaging in the conversation with the PSP regarding compensation as all projects/services are not the same.
- ***Quality Assurance and Quality Control.*** The requirements for quality assurance/quality control should be defined and the expectations of the agency communicated to the PSP.

Recent requirements for acceleration and restrictions for PSP contracts have a direct impact on the role, function, and method of providing QA/QC.

Contracting Strategies

- ***Standards of Performance.*** Utilize accepted Standards of Performance published by agency to guide the process.
- ***Contracting Authority.*** Decisions of who should approve and manage a contract should be based on the value of the services and delegated appropriately allowing for sufficient oversight and management. Less expensive, less complex services, non-controversial project delivery methods should be delegated to lower levels of management.
- ***General Contract Conditions.*** These conditions should be flexible to address need and be provided to PSP in advance of response. Some typical terms to include:
 - Standard of care, correction of errors
 - Compensation, project financing
 - warranties, insurance, legal liabilities
 - dispute resolution
 - documentation – ownership, exclusive property, confidentiality
 - termination – convenience, cause
- ***Contract Restrictions.*** The use of restrictions, such as salary caps, overhead caps, escalation, overtime limit, and set asides for local or DBE firms, should be applied on a limited basis. The agencies should understand that contract restrictions can reduce the number of PSP that will submit proposals and increase the amount of review by the agency to enforce the restrictions.
- ***Accountability Checks.*** Engage legal and audit to guide the development and use of contract mechanism and language to better fit need and resources available. Allow for adequate time for internal partners to review and modify.
- ***The Fee Type.*** The selection of a fee type (lump sum vs. cost-plus) should be determined based on the type of services to be performed.
- ***Special Considerations.*** Strategies to encourage change and innovation and address special considerations. If an agency is seeking innovation, acceleration or the use of alternative partnerships, then the contract needs to be carefully negotiated and agreed upon with PSP and stakeholders.

FIGURE 9: STEPS FOR A SUCCESSFUL PROCUREMENT PROCESS

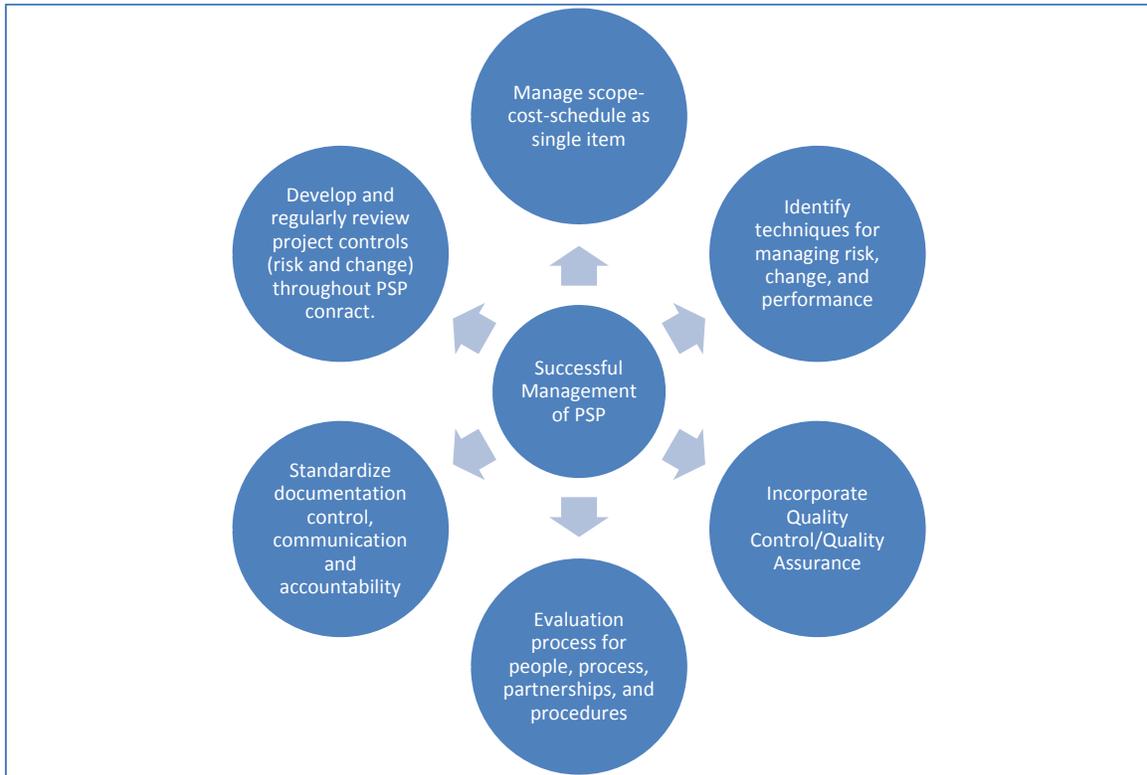


Management

The management section of the Handbook includes basic techniques as well as areas for further improvement. Based on the research, the following six requirements are recommended for the successful management of PSP contracts (see Figure 10). They require the mutual agreement on the following actions.

- Scope-schedule-cost
- Change management plan
- Risk management plan
- Communication Plan that details a regular meeting and coordination schedule
- Deliverables

FIGURE 10: KEYS TO SUCCESSFUL MANAGEMENT OF PSP

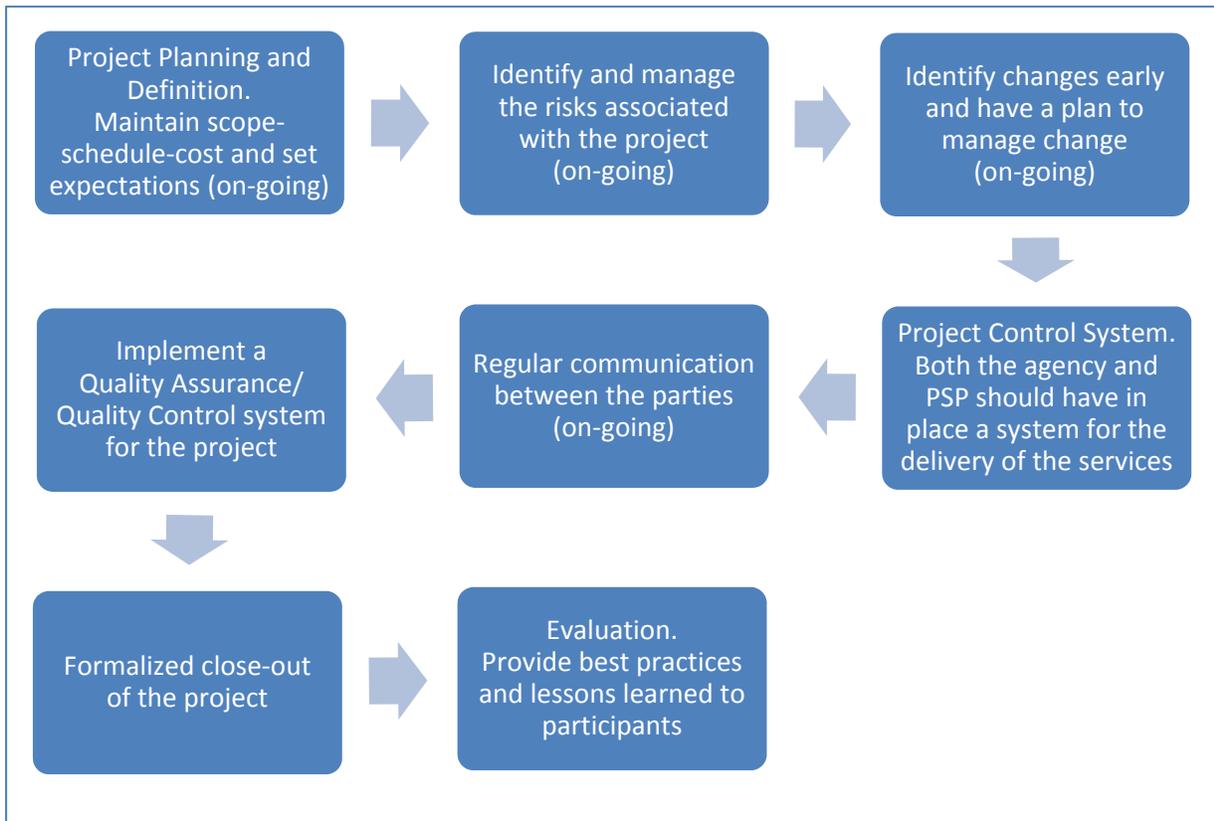


Based on these requirements, the following key steps should be considered in the formulation of a successful management process and are included in the Handbook (see Figure 11):

- ***Project Planning and Definition.*** Scope, Schedule and Cost are clearly linked and well defined and understood by managers and stakeholders. The project planning and definition will set the expectations for the project. The project should be managed with these expectations in mind.
- ***Risk Assessment and Management Plan.*** Validate areas for risk to scope-schedule-cost and therefore delivery of service.
- ***Change Management Plan.*** Develop a clear and transparent process for managing change. Identify change early in the project and resolve any changes as soon as possible to avoid potential disputes.
- ***Project Controls Function.*** Both on the agency and PSP side – each should have a system to account for, and manage the delivery of the contracted service.
- ***Communication Plan.*** Establish regular in-person meetings to monitor and evaluate progress as well as regularly document reports of meetings and monthly progress. Written progress reports, typically required as part of invoicing, need to identify the following basic items:

- Scope-Schedule-Cost: status updates, potential changes along with the source and the impact of the changes on the budget and schedule should be identified early, potential delays, or new directions reviewed
- Status of deliverables: submissions and percent complete
- Meetings held or needed (team, agency, public, stakeholders, etc.)
- Decisions and Actions taken at meetings
- **Quality Assurance and Quality Control (QA/QC).** Depending upon the size and capacity of the agency there needs to be at a minimum, agency validation of the PSP services and deliverables. Agencies can retain a 3rd party to peer review or establish a set of checklists and procedures required by PSP upon submittals. The clearer the procedures and agreed upon expectations (e.g., payment rules for revisions and resubmittals), then both parties will understand and accept the consequences. Depending upon the assignment, PSP should be expected to prepare and submit a QA/QC plan for agency approval.
- **Formalized Close-out Process.** Establish a formal procedure to financially close-out a project upon completion of project deliverables.
- **Evaluation.** Establish and formalize an evaluation process for PSP, staff and the process. The evaluation process should allow for in person reviews and the results should be discussed openly and freely between the agency and the PSP. The evaluation should be used to establish lessons learned from the project. The lessons should be incorporated into future procurements.

FIGURE 11: STEPS FOR SUCCESSFUL MANAGEMENT OF A PSP



Based on the research, the most successful procurement and management processes of PSP contracts at airports integrated these steps into their process. In addition, airports with successful processes followed the FACTS principles. Their processes were flexible, using the best contracting method for each service; accountable to agency stakeholders; effectively communicated to internal and external stakeholders; transparent to the public; provided a level playing field for all proposers; and followed the strategic direction for the current mission and future goals of the airport.

OUTLINE OF HANDBOOK

The intent of this Handbook is not to provide a “how to guide” for scope development, procurement, cost estimating, scheduling, contract negotiations, project close-out, or management of professional services, as many sophisticated, thorough and detailed manuals already exist on these subjects. Rather, the intent is to provide a Handbook that identifies critical organizational principles, policies, procedures, strategies and standards for procuring and managing professional services.

The Handbook prominently profiles best practices, lessons learned and innovative ideas of what to avoid, incorporated throughout the Handbook at appropriate locations to demonstrate how agencies have implemented a recommended practice.

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Research Approach

Diversity of professional services

Current trends and practices in procurement and management

Common denominators and divergent practices

Chapter 2: Organization and Approach

Organizational Structure

Strategic Approaches

Integrity, Ethics and Conflict of Interest

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Risk Assessment and Management Plan

Change Management Plan

Quality Assurance and Quality Control (QA/QC)

Performance Management

Auditing Oversight

Project Close-out and Evaluation

Tools and Technology for Managing Professional Services

Reference Resources

Forms

Handbook Appendices

Appendix A: Bibliography includes an alphabetical listing of all reports, documents and websites used to develop the findings and recommendations in the Handbook.

Appendix B: Glossary of Terms, Abbreviations and Acronyms includes a list of key terms and relevant terminology used to describe and delineate processes and procedures in this Handbook.

Appendix C: Model Documents includes documents used by airports that might be useful to other agencies to guide the development, procurement and management of professional services.

Appendix D: Sample Forms includes generic forms that agencies can adapt for their specific use in procuring and managing professional services.

Appendix E: FAA Forms includes mandatory forms and guidance documents published by the Federal Aviation Administration (FAA) for use in procuring and managing professional services using Airport Improvement Program (AIP) funds.

APPENDIX A

**ANNOTATED BIBLIOGRAPHY
SUBMITTED WITH
DATA COLLECTION PLAN**

ANNOTATED BIBLIOGRAPHY



ACI Policy and Recommended Practices Handbook: Airport Automation and e-business, Airports Council International – North America (ACI-NA), November 2009.

This handbook describes ACI's policy on using eBusiness including electronic procurement. The handbook covers topics such as airport websites, common use technology, security systems, information and communications technology infrastructure at airports and other eBusiness tools.

Administrative Regulation-General Procurement Procedures, City of Phoenix, AZ, May 2009.

This document provides information and resources for contracting with the City of Phoenix. The document includes role/function of city council and director for approval of funding and contracts, contracting procedures for commodities, professional and non-professional services (including requisition process, selection process, negotiations, and contract execution).

Airport Owner's Guide to Project Delivery, Airport Consultants Council (ACC), October 2006.

This guide provides a description of project delivery systems and definitions for common terms related to project delivery methods. It includes best practices and guidance to airports to select the most advantageous project delivery system. Project oversight, contract language and financing methods are also provided.

American Institute of Architects (AIA) Guide to Federal Procurement, American Institute of Architects.

This guide provides current and accurate information about how to identify and obtain work with the federal government. The guide provides guidance to those firms that have never worked for the federal government before. It includes a detailed description of the federal seven-step qualifications-based selection (QBS) process for selecting architectural and engineering (A&E) firms.

American Productivity and Quality Center (APQC) Open Standards Benchmarking Glossary of Terms, American Productivity and Quality Center (APQC), 2010.

A comprehensive list of definitions commonly used in accounting, finance, business technology and manufacturing processes.

Analysis of Issues Pertaining To QBS, American Council of Engineering Companies (ACEC), 2009.

This analysis justifies the use of Qualifications-Based Selection (QBS) for procuring architectural and engineering (A/E) services. Selection of A/E services through the QBS process ensures better control over cost and performance. Based on the data analyzed, the authors contend that QBS should continue to be the procurement method of choice for public agencies contracting for A&E services.

Anastasopoulos, Panagiotis; Islam, Mouyid Bin; Volovski, Mathew; Powell, Jarret; Labi, Samuel, TRB Annual Meeting: Comparative Evaluation of Public-Private Partnerships in Roadway Preservation, Purdue University, January 2011.

Public-private partnerships (PPP) or P3s are useful in improving the quality of products and reducing costs and may also assist in reducing project duration, improving technology and techniques, encouraging innovation and reducing impacts on communities. This article proposes a decision-making framework for evaluating the use of various project delivery mechanisms including PPPs for projects based on a series of variables such as cost savings and duration.

Basics of Competition and Contract Types, Federal Acquisition Institute (FAI), January 2010.

The Federal Acquisition Institute (FAI) describes the benefits of competition, explains the statutory exemptions from competition, and identifies when contract types may/should be used for acquisition.

Best Practices for Requests for Proposals (RFPs), State of Indiana Office of Technology, December 2008.

The IN Office of Technology developed this document that outlines a recommended process and best practices for developing RFPs for information technology (IT) projects.

Boxer, A. Matthew, Best Practices for Awarding State Contracts, State of New Jersey Office of the State Comptroller, March 2010.

The New Jersey Office of the State Comptroller has compiled a list of best practices to ensure transparency, accountability and efficiency in awarding professional services contracts. The recommended best practices include expanding the number of qualified contractors for each solicitation; writing clear and concise scopes of work; making selections based on clearly communicated, predetermined, merit-based evaluation criteria developed by a qualified evaluation committee; creating a process that is transparent to evaluators and competitors; and documenting and archiving data on the scoring process and awards.

Bureau of Transit and Local Roads, Procurement Manual for the Acquisition of Good and Services under General Transit Administration Grant Programs, Wisconsin DOT Division of Transportation Investment Management, March 2009.

State and federal regulations regarding procurement of goods and services are complex, detailed, and often change to reflect changes in legislation. Local governments have a difficult time staying abreast of the current rules and regulations regarding procurement when using federal funds. This manual is designed to assist local government officials who are using federal funds meet all federal requirements so that their federal funding is secure.

Buying Smart: Blueprint for Action, National Association of State Procurement Officers (NASPO), September 1998.

This report highlights three novel strategies used by state governments in information technology procurement: Best Value (selecting the most advantageous offer by evaluating and comparing all relevant factors in addition to cost or price), Procurement Partnerships (sharing risk between agency and vendor to complete a project) and Problem-Oriented Solicitations (before writing an RFP, agencies perform a detailed needs assessment, solicit RFI and generate a detailed scope that includes mechanisms for accountability and cost containment). The report highlights five suggestions for states to improve their procurement process, including simplify the procurement process, prepare your infrastructure to best utilize electronic commerce, use Best Value procurement methods, develop partnerships, and use solicitations to solve problems.

CalTrans Local Assistance Procedures Manual: Consultant Selection, CalTrans, July 2009.

This guidebook prepared by the California Department of Transportation (Caltrans) outlines procedures for consultant selection from scope development to consultant selection.

Cameron, M., Booz Allen Hamilton, Developing Performance Criteria, General Services Administration (GSA).

Many federal agencies and legislative and acquisition policies require the use of performance-based service acquisition (PBS). This article outlines a conceptual framework for defining performance criteria

for professional services by reviewing the challenges inherent in applying PBS successfully in the professional services industry.

Capital Programming Guide v2.0, Office of Management and Budget (OMB), June 2006.

OMB developed this guide to help federal agencies set up a capital programming process using long-term planning and a budget process that is disciplined and integrated to achieve goals with the lowest life-cycle costs and least risk.

Chaplain, Cristina T., NASA Needs to Better Assess Contract Termination Liability Risks and Ensure Consistency in Its Practices, United States Government Accountability Office (GAO), July 2011.

In order to determine the impact that potential termination liability costs may have on the National Aeronautics and Space Administration (NASA) during a period of major changes in the agency, the GAO reviewed NASA's policies regarding contract termination liability, interviewed contracting officers and analyzed contractor correspondence. The GAO recommended that NASA develop clear and consistent guidelines for funding and monitoring potential termination risks and that they communicate this information to their acquisition professionals.

City of Peoria, AZ - Procurement Administrative Guidelines, City of Peoria, AZ, March 2010.

These administrative guidelines are an overview for the procurement of materials management, with a detailed focus on a step-by-step process including how to address errors and mistakes.

Code of Ethics for Engineers, National Society of Professional Engineers (NSPE), July 2007.

The code of ethics for engineers includes the fundamental canons, rules of practice and professional obligations.

Connecticut DPW Consultant's Procedure Manual: Consultant Selection, Connecticut Department of Public Works (DPW), June 2008.

The CT Department of Public Works developed this manual on the selection, proposals, and bidding procedures to assist the DPW and the public in understanding how public contracts are awarded on an impartial, equitable, and rational basis. The goal of this manual is to insure the integrity of all selection and bidding processes and to define the roles and responsibilities of the various participants.

Construction Services Agreement, City of Tucson, AZ, 2005.

This document contains an example construction contract and sample forms that provide an explanation of contract requirements, documents, and contract execution.

Consultant Selection Request for Qualifications Template, Airport Consultants Council (ACC), July 2010.

This document provides a basic framework of a request for qualifications (RFQ) that an airport can use to cater to a specific project and solicitation requirement. It includes hotlinks to other useful resources for airports to use in preparing RFQs and RFPs.

Contracting Officer Representatives: Managing the Government's Technical Experts to Achieve Positive Contract Outcomes, U.S. Merit Systems Protection Board, December 2005.

This report presents the results of a U.S. Merit Systems Protection Board survey of Contracting Officer Representatives (CORs) from ten agencies. These findings and recommendations offer insight into ways to more effectively manage contracts with better outcomes. The report provides recommendations for CoRs to manage procurement more effectively such as formally delegating the authority to work on particular contracts, ensuring that CORs receive adequate training and allowing CORs to perform all pre-

award and post-award technical tasks of the contract. The document also contains a detailed discussion of contracting including definitions, processes, the role of CORs, and recent trends.

Contracting with the City of Tucson, City of Tucson, AZ, September 2007.

This document provides information and resources to vendors for contracting with the City of Tucson. This document includes staff, organizational structure, mission statement, policies, hours of operation, website, and contract types and terms.

Cullen, Laurie, A. d'Amato, N. LaFarge, ACRP Report 49: Collaborative Airport Capital Planning Handbook, Transportation Research Board, 2011.

This handbook describes the collaborative process for developing, implementing and overseeing of airport capital plans. This document outlines practices and procedures related to capital plan development, program management, project management, best management practices, and performance metrics, including information technology. It contains a significant level of detail on practices for managing professional services.

Design Guidelines – Administrative Procedures, Hartsfield-Jackson Atlanta International Airport, City of Atlanta, Department of Aviation, Bureau of Planning & Development, January 2010.

This document provides administrative design guidelines for new or rehabilitated airside and landside facilities at ATL. This document includes guidelines for managing design consultant scope of work development, scope of work modifications, design and construction scheduling, design deliverables and response to client comments, design calculations, bid phase requirements, and construction phase services requirements. This document also includes guideline waiver request forms, design submittal checklists, and other administrative forms as Appendices.

Doke, Jr., Marshall J., Competition Requirements in Public Contracting: The Myth of Full and Open Competition, General Services Administration (GSA), 1995.

GSA discusses the purpose and benefits of competitive bidding for government contracts. The article includes topics such as lowest reasonable cost, fair opportunity to all vendors, promotion of innovation and enhanced quality, and avoidance of fraud and favoritism.

Environmental and Engineering Programs Design Office, Consultant Services Manual, Washington State DOT, June 2011.

Engaging professional services is a key part of most transportation project delivery process. The need to secure these services in an effective and efficient manner can be a critical element in the success of the project. This manual provides guidance concerning the authorization, selection, and use of consultants for Personal Services and Architectural and Engineering (A&E) contracts and/or supplements.

Federal Acquisition Reform Act of 1995, U.S. Congress, 1995.

The goal of the Federal Acquisition Reform Act of 1995 (H. R. 1038) was to ensure full and open competition for federal government contracts by improving and simplifying existing procurement laws, including clarification of provisions regarding non-disclosure of procurement information.

Federal Acquisition Regulations (FAR) - Volumes 1 and 2, Federal Acquisition Regulations (FAR), March 2005.

This March 2005 edition is a complete reissue of the Federal Acquisition Regulation (FAR). It includes all Federal Acquisition Circulars through 2001-27. The FAR is the primary regulation for use by all Federal Executive agencies in their acquisition of supplies and services with appropriated funds. Volume I contains Parts 1 through 51, which includes: Improper Business Practices, Conflicts Of Interest,

Competition and Acquisition Planning, Contracting Methods, Contract Types, Socioeconomic Programs, General Contracting Requirements, Special Categories of Contracting (e.g. Construction and Architect-Engineer Contracts) and Contract Management. Volume II contains Part 52 (Solicitation Provisions and Contract Clauses), Part 53 (standard and optional forms) and the Index.

Federal Acquisition Streamlining Act of 1994 (FASA), U.S. Congress, 1994.

The Federal Acquisition Streamlining Act (FASA) of 1994 (S. 1587) streamlines the acquisition laws of the federal government for civilian agencies and the armed services. Provisions include competition statutes (planning, solicitation, evaluation, and award, types of contracts and consideration of contractor past performance), truth in negotiations, research and development projects, procurement protests, contract administration (contract financing and allowable contract costs), audit and access to records, claims and disputes, simplified acquisition threshold, acquisition management (performance based management and results-oriented acquisition process) and small business and socioeconomic laws.

Federal Aviation Administration (FAA) Advisory AC 150/5100-14d AEP Consultant Services for Airport Grant Projects, Federal Aviation Administration (FAA), 2005.

This FAA AC describes the QBS process for professional services that is required for FAA grant projects. The AC has detailed description of the types of services covered under this AC. The AC also provides guidance on developing selection committees, selection criteria, the selection process, negotiating the scope and fee, contract format and provisions, methods of contracting and allowable costs, and alternative project delivery methods. There is specific guidance on selecting consultants to prepare EIS documents to meet NEPA requirements.

Federal Aviation Administration (FAA) Procurement and Contracting Under AIP: Federal Contract Provisions, Federal Aviation Administration (FAA).

This is an FAA web page with hotlinks to a variety of documents related to this topic. This outlines the contract provisions that must be included in A&E contracts for FAA funded projects.

Federal Funding Accountability and Transparency Act of 2006 (FFATA), U.S. Congress, September 2006.

The Federal Funding Accountability and Transparency Act of 2006 (FFATA) (Public Law 109-282) requires full disclosure of all entities and organizations receiving federal funds. The act stipulates that the Office of Management and Budget (OMB) will operate a searchable website ("USA Spending") freely accessible to the public that includes information on all federal awards including transaction type, funding agency, program source and description.

Federal Transit Administration Best Practices Procurement Manual, FTA, 2001.

A manual for third party procurements for projects that receive FTA funding. The manual includes suggested methods, techniques and procedures for procurement processes as well as examples and case studies of agencies that have executed these recommended practices well. This manual contains comprehensive model documents for procurement processes.

FTA Risk Assessment, FTA, May 2004.

A PowerPoint presentation that summarizes the definitions related to risk assessment, outlines the risk analysis and subsequent risk mitigation processes, and discusses the status of the FTA risk assessments that have been conducted to date.

Government Performance and Results Act of 1993, U.S. Congress, 1993.

This Act provides for the establishment of strategic planning and performance measurement in the federal government. This act directed federal agencies to develop policies regarding strategic plans, annual performance reports and managerial accountability and flexibility.

Grothaus, J.H., T.J. Helms, et. al., ACRP Report 16: Guidebook for Managing Small Airports, Transportation Research Board, 2009.

This report deals with several factors affecting small airports. It presents a broad array of relevant material in a way that will assist airport managers and other stakeholders in understanding small airport management. It highlights critical issues including financial management, oversight of contracts and leases, safety and security, noise control, community relations, compliance with federal grant conditions, facility maintenance, and capital improvements.

GSA Acquisition Manual, General Services Administration (GSA), 2004, amended 2009.

This document includes agency acquisition policies and practices, contract clauses, solicitation provisions, and forms that control the relationship between GSA and contractors and prospective contractors. It also includes definition of terms and chapters on improper business practices, competition, contractor qualifications, requirements documents and acquisition planning.

HNTB Corporation, HNTB Manual of Professional Practice, 2010.

The manual is a guide to HNTB's practices and procedures and its sophisticated approach to pursuing and managing projects. The guide describes how HNTB employees can ensure the "4for4" performance pledge, which is that every project will be quality work, on time within budget to the client's satisfaction every day. The manual provides an overview of the project management process, from client and project evaluation to proposal preparation, legal and risk management considerations, quality management, and all phases of planning, design, and construction.

How to do Business with the City of San Francisco, City of San Francisco, CA, March 2006.

This document is a question and answer format that addresses the City of San Francisco procurement process and provides information for vendors wishing to contract with the City of San Francisco. The document includes a foreword, policies, web links, contacts, resources on the city website (Bid and Contract Database), invoicing, awards/purchase orders, deliveries and a list of city references.

Implementing Order No.: 3-34, Miami-Dade County - Formation and Performance of Selection Committees, Miami-Dade County, December 2010.

This document sets forward established procedures for the formation and performance of selection committees in competitive procurement processes for Miami-Dade County, including the acquisition of architectural and engineering services.

Improving the Quality of Airport Projects: ACC/FAA Best Practices, ACC and FAA, 2008.

This best practices manual is the result of a joint task force between ACC and FAA to develop recommended guidelines for the consultant and FAA professional community to work together on projects on behalf of the airport sponsor. Best practices are included for relationships/communication, conflict resolution, consultant selection/procurement, environmental processing, planning, CIP development, pre-design/project formulation, design, project implementation and project closeout.

Is Your Selection Process Attracting the Right Consultants? Best Practices, Benefits and Insights to Using a Qualifications Based Selection (QBS), ACC, February 2009.

A PowerPoint presentation prepared by the ACC that describes the qualifications-based consultant selection process and the benefits of using it.

Koebergen, Herman, Nomination for the Alliance for Innovation's Award for the City of Peoria, Arizona's Performance Information Procurement System, City of Peoria, AZ, 2008.

After years of dissatisfaction with the low bid project delivery method for capital projects, the City of Peoria revised statutes to allow for the use of Design-Build, Construction Manager-At-Risk and Job Order contracting methods. The city then developed the performance information procurement system (PIPS) that consists of six stages to identify a potential best value vendor and allow for the transfer of risk to the vendor based on performance not just price. They are currently testing this process on 25 projects and evaluating its success.

Lukic, Evan A., Performance Review of Purchasing Division's Practices, Broward County Auditor, December 2005.

This is a summary report of the findings from an audit performed by the Broward County Auditor of the Purchasing Division's policies and procedures. The audit discovered several deficiencies within the Purchasing Division related to procurement practices and overall efficiency.

Markow, M. J., Best Practices in the Management of Design Errors & Omissions, National Cooperative Highway Research Program (NCHRP), Transportation Research Board (TRB), March 2009.

This NCHRP report is a comprehensive document that describes and evaluates best practices in procurement and management of professional services.

Maryland Aviation Administration (MAA) 2010 Design Standards Volume I Of III, Maryland Aviation Administration, October 2010.

This document contains guidelines, standards, procedures and policies relating to design and construction at MAA facilities. The document includes scoping requirements, design submittals review requirements, airport layout plan coordination, sensitive security information considerations, permitting requirements, coordination with MAA, Maryland Department of the Environment (MDE) and FAA, construction document standards, CAD/GIS standards, specification requirements, security considerations, bidding/procurement guidelines, design criteria, construction administration procedures, and sample forms, specifications and details.

Metropolitan Washington Airports Authority Contracting Manual, Second Edition, Metropolitan Washington Airports Authority (MWAA), 2008.

This document provides information and resources for contracting with MWAA. The document includes a foreword, contracting and solicitation process, contract types and procedures, contract programs (DBE/MBE), contract administration, concession contracts and points of contact. The document also outlines the RFP review and evaluation process, evaluation committee and evaluation steps and contains standard forms and sample documents.

Metropolitan Washington Airports Authority: Contracting Practices Do Not Always Comply with Airport Lease Requirements, (GAO), March 2002.

MWAA operates Washington Dulles International Airport and Ronald Reagan Washington National Airport under a lease with the federal government. The lease requires MWAA to use published competitive procedures in awarding all contracts for supplies and services exceeding \$200,000 and all

concession contracts. This 2002 report by the GAO found that MWAA did not satisfy its obligation to publish the procedures it uses to award contracts competitively. The report recommended that MWAA take steps to ensure that its published procedures were always up-to-date, that they adequately explain its contracting practices to prospective contractors, and that they follow those procedures to award contracts and concession franchises.

Miami-Dade County - Ethics Guide, Miami-Dade County.

Miami-Dade County's Commission on Ethics and Public Trust established a County Code requiring contractors to adopt a Code of Business Ethics and Ordinances for working with county agencies. This document sets forth procedures for invoicing and payment of contracts, citing state laws and county rules and regulations on conflict of interest, lobbying, cone of silence, and false claims and campaign finance.

National Defense Authorization Act of 1996 (Also Known As "Clinger-Cohen Act"), Public Law 104-106, U.S. Congress, 1996.

This Act was intended to reform acquisition laws of the federal government. The Act is divided into five sections: Divisions A, B and C pertain to the Department of Defense, military construction and national security; Division D relates to federal acquisition reform; and Division E pertains to information technology management reform. Specific provisions include procurement integrity, value engineering, acquisition workforce, cooperative purchasing, acquisition of information technology, and performance- and results-based management.

NIGP Values and Guiding Principles, National Institute of Governmental Purchasing (NIGP), April 2010.

This document covers a collaborative review of values, principles, and standards of practice for public sector procurement. As part of its vision to help create a world in which public procurement practitioners are highly regarded members of a respected professional order, the National Institute of Governmental Purchasing (NIGP) developed this document. After considerable discussion and debate, a Task Force identified three pillars by which these values should be directed. Understanding that these pillars may not be applicable across all governments, but that they serve the basis for democratic governance, the following pillars were adopted as the basis for which the subsequent values and principles were to serve: public trust, public service, and justice.

NPI 2009 Achievement of Excellence in Procurement Best Practices Awards, National Purchasing Institute (NPI).

This webpage summarizes the public agency award recipients by category for procurement best practices. This will be a good source of potential agencies to interview for best practices in procurement.

Pennington, Richard, Comparative Review of State IT Procurement Practices, National Association of State Procurement Officers (NASPO), September 2010.

This white paper, prepared by the NASPO IT Procurement Work Group, reviews state practices in IT procurement. Twenty-five states responded to a survey regarding solicitation and contract provisions in IT procurement, including issues of liability, intellectual property rights, warranty, use of performance bonds, and negotiation of vendor-proposed exceptions to standard terms and conditions. This document compares and summarizes these survey results and provides examples of best practices and lessons learned.

Procurement Desktop Procedure: Small Purchases for Architectural Engineering (A&E), Sound Transit, Seattle WA, November 2009.

This document provides guidance on procuring small purchases of A&E services using the QBS method according to the Brooks Act. It includes guidance on scope of work, fee estimate, selection committee, evaluation criteria and contract negotiation.

Procurement Workshop, Finance and Administrative Services Department Purchasing Division, Broward County, FL, January 2011.

A PowerPoint presentation that outlines the changes to the BCAD Procurement Code and Ordinances relating to Requests for Letters of Interest (RLIs) and Requests for Proposals (RFPs).

Professional Services Council (PSC), Professional Services Council Acquisition Policy Survey, October 2010.

The PSC is the national trade association of the government professional and technical services industry. The PSC and Grant Thornton LLP have conducted a survey on federal government acquisition policy every two years since 2002. The survey authors recommended that government agencies improve communication and collaboration between oversight and operations; balance oversight resources with resources to plan, award and administer contracts effectively; avoid imposing one-size-fits-all mandates; and improve transparency and accountability.

Qualifications-Based Selection: A Guide Including Model Local Government Policy and Procedures for Selecting Architects, Engineers and Land Surveyors, ACEC-IL, July 2000.

This document provides an overview of Federal Brooks Act and Illinois laws pertaining to QBS, explanation of QBS, and a guide to the review process (selection committee, evaluation, ranking, award, negotiation). Appendices include sample documents and text of laws.

Reed, Anne and S. Carter, Performance-Based Acquisition Requires the Six Disciplines of Performance-Based Management, Acquisition Directions Advisory, May 2004.

Performance-based acquisition requires a uniquely disciplined approach to managing contract performance. Performance-Based Management (PBM) is an implementation-focused application involving six disciplines: cultural transformation, strategic linkage, governance, communications, risk management and performance monitoring. PBM provides a structured approach, mechanisms for reporting, integration of stakeholders and a framework to account for results.

Report of the Acquisition Advisory Panel to the Office of Federal Procurement Policy and the United States Congress, GSA, January 2007.

The Acquisition Advisory Panel reviewed laws, regulations, and federal acquisition policies including the use of performance-based contracting and government-wide contracts. The panel recommended changes necessary to ensure the continuing financial and ethical integrity of government acquisition of goods and services. This report includes chapters on commercial practices, improving implementation of performance-based acquisition (PBA) in the federal government, interagency contracting, small business, the federal acquisition workforce, appropriate role of contractors supporting government, and a report on federal procurement data.

Rollins, Sharon L., Qualification Based Selection...An MTAS Guide for Procuring Professional Engineering Services in Tennessee, Tennessee Municipal Technical Advisory Service (MTAS), July 2010.

The MTAS details a step-by-step guide for municipal officials to procure architecture, engineering, land surveying and other professional services promoting the use of qualification-based selection processes.

The guide provides a nine-step detailed framework for defining projects, forming selection committees, issuing RFP/RFQ, reviewing proposals, interviewing teams and negotiating contracts for Tennessee municipal officials as well as discussing the legal dimensions of the process.

Selection of Architects and Engineers (40 U.S.C. 1102) (Formerly known as the Brooks Architect-Engineers Act), U.S. Congress, 2002.

This Act requires that architectural and engineering services be awarded in accordance with prescribed selection procedures to ensure that the selected contractor demonstrates competence and qualifications for the type of professional services required at fair and reasonable prices.

Services Acquisition Reform Act of 2003 (SARA), U.S. Congress, 2003.

The purpose of this Act was to improve the process for the acquisition of federal services. This Act addresses issues of acquisition workforce and training, adaptation of business acquisition practices, contract incentives and performance-based contracting.

Seven Steps To Performance-Based Acquisition - Executive Summary, General Services Administration (GSA).

This guide presents the benefits of performance-based acquisition and outlines seven essential steps to acquire performance-based services, which are establishing an integrated team, describing the problem, examining solutions, developing a work statement, developing a statement of objectives (SOO), establishing performance measures, making the appropriate selection, and managing performance. Collaboration is promoted between finance, technical, contracting, logistics, legal, and program offices, and the five phases of teamwork are reviewed.

Shane, Jennifer and J. Gransberg, TRB Annual Meeting: Project Delivery Method Impact on Final Project Quality: Perceptions in the Transportation Industry, Iowa State University, November 2010.

A review of 19 agencies representing airports, transit and highways evaluating their successful experience using the traditional Design-Bid-Build, Construction Manager-At-Risk (CMR), and Design-Build (DB) project delivery mechanisms. The paper concludes that the most important factors in the successful outcome of projects is based on the qualifications and experience of the team, the ability to get early constructor involvement and the use of guaranteed maximum price in CMR and DB projects reaped the best success.

Shields, Dale, M., Glossary of Acquisition Terms, Federal Acquisition Institute (FAI), December 1998.

A comprehensive glossary of accounting terms prepared for the Federal Acquisition Institute.

Shriver, Silvia, Miami-Dade County - Acquisition of Professional Architectural and Engineering Services, Miami-Dade County, Administrative Order No 3-39, June 2003.

This order established standard procedures for departments to implement, classify, track, monitor and report all phases of capital construction projects including planning, design and construction, unless specifically exempted by state or federal law. It requires that all departments utilize a centralized information system to provide real-time project status updates and reports.

State and Local Government Procurement: A Practical Guide, National Association of State Procurement Officers (NASPO).

This comprehensive manual from NASPO provides wide-ranging guidance on state and local procurement. Topics include strategic procurement planning and leadership, specifications, solicitation, competition, evaluation, award, contracting, cooperative purchasing, green procurement, and eProcurement.

State Contracting For Professional Services: Procurement Process – Practices Generally Adequate to Minimize Cost-related Risks, Maine Legislature's Office of Program Evaluation and Government Accountability (OPEGA), 2008.

A review of Maine State contracting for professional services identified opportunities to reduce costs and improve procurement practices for a variety of departments with recommendations for procedural and legislative reform. Findings included documentation of problems with sole source justifications, lack of policies on contract renewals, the financial risk of cooperative agreements and inconsistencies between statutes, policy and practice.

Summary of Cone of Silence, as Amended, Governing the Procurement of Goods and Services, Miami Dade County Commission on Ethics and Public Trust, Administrative Order 3-27, February 2002.

The Cone of Silence is a provision of the Miami-Dade County Code that prohibits oral communications regarding requests for proposals during the bid process between potential service providers and the selection committee and certain other staff; written communication is not restricted.

Survey of State Government Purchasing Practices: Executive Summary, National Association of State Procurement Officers (NASPO), 2009.

The Executive Summary of NASPO's 2009 survey of 45 states explores purchasing practices in state government. The survey covered questions regarding procurement authority, standard specifications, bidders' list practices, solicitation practices and development, contracting procedures and contract management, electronic purchasing, vendor registration, RFP distribution, contract administration, cooperative purchasing, multi-award contract practices, preference policies, ethics codes, confidentiality, information technology purchasing, strategic sourcing, and alternative project delivery methods.

Touran, Ali, D. Gransberg, et. al., ACRP Report 21: A Guidebook for Selecting Airport Capital Project Delivery Methods, Transportation Research Board, 2009.

This report reviews important factors to consider regarding professional services in the context of choosing a project delivery method, such as design-bid-build, construction manager at risk, and design-build.

United States Air Force Project Managers' Guide for Design and Construction, National Institute of Building Sciences (NBIS) - Whole Building Design Guide (WBDG), November 2007.

This is a project manager's manual for managing design and construction projects for the USAF. It covers planning and programming, design, construction contract documents, construction, and project closeout and includes guidance on selection for A&E services.

WBDG Project Delivery and Controls, National Institute of Building Sciences (NIBS) - Whole Building Design Guide (WBDG).

This article describes the critical role of managing scope, cost, schedule and quality control on project outcomes, including strategies, tools and techniques for managing the design and construction delivery processes.

WBDG Project Delivery Teams, NIBS - WBDG.

This article describes the important role of project delivery teams and the key components in assembling teams, contracting and acquisition, defining roles and responsibilities, team management and project management practices and standards.

WBDG Project Planning, Management and Delivery, NIBS - WBDG.

This article explores the critical components of project planning, management and delivery with a focus on leadership and strategic planning.

WBDG Strategic Project Planning and Development, NIBS - WBDG.

This article provides an overview of strategic project planning and management processes including project requirements, delivery methods, project management plans, delivering and measuring building quality, construction stage management and the use of building information modeling (BIM).

WBDG Select Appropriate Design Professionals, NIBS - WBDG.

An integrated design process is critical for a quality product that meets building and community needs. The selection of pre-design and design services for federal projects can follow QBS or Design Competition processes. This articles summarizes the process used in each method.

Williamson, Scott, M. Lawrence, J. Mueller, TRB Annual Meeting: The State of the Art of Value for Money Analysis: Determining the Value of Public-Private Partnerships, Jack Faucett Associates, August 2010.

The use of public private partnerships (P3s) in the transportation sector are growing due to their ability to ease funding and financing constraints, transfer risk and at times provide large up front payments. P3s however vary greatly in their application and have many trade-offs and risks for the public sector. This research explores the value of money processes used in three countries, the United Kingdom, Australia and Canada and the current state of practice in the US. The case studies provide guidance and lessons learned.

APPENDIX B

GLOSSARY OF TERMS, ABBREVIATIONS AND ACRONYMS

Glossary of Terms



Accelerated Project Delivery: project delivery approach that reduces the overall time from conception to completion.

Accountability: the process of demonstrating progress on tasks, actions and performance metrics against stated targets, goals and objectives established to fulfill the mission of the organization. Accountability is the responsibility of each individual assigned to tasks to monitor and report on what and how it has been achieved or fallen short.

Actual Cost: actual hourly rate for each person performing services multiplied by the actual hours worked. Also known as “direct cost” or “direct labor”.

Adjusted Bid: the process whereby an evaluation process assigns point values according to a rating system and the qualitative aspects of proposals are scored on a scale of 0 to 100 points and price is then divided by that score to yield an adjusted bid.

Advisory Circular (AC): a document published and issued by the Federal Aviation Administration (FAA) that provides guidance to airports on the implementation of FAA regulations, policies and procedures.

After Action Review: examination of lessons learned from completed projects and contracts that can be documented and applied to improve future endeavors.

Agency: any formalized unit of government having administrative, programmatic, legal, fiduciary, and/or regulatory functions granted to it through legislation, governmental mandate, or other means and for which it receives or generates revenue.

Agreement: a formal document that states a shared understanding of roles and responsibilities, expectations and obligations between two or more parties. It can range from a written agreement among and between internal departments, to an executive order signed by an elected official that requires coordination, communication and collaboration of defined parties to deliver a specific product. It can take the form of a Memorandum of Agreement signed by participating entities, or a Memorandum of Understanding that binds parties to a specified outcome, or a Charter or Covenant that defines a process and its targeted outcomes.

Airport Agency: includes both Airport Government Agencies (AGA) and Authorities (quasi-government).

Airport Capital Plan (ACP): the document that defines the financial and programmatic expenditures for the capital programs and projects proposed to meet facility needs as well as agency mission and goals for a multi-year period. The ACP includes the scope, cost and schedule data for the programs and projects.

Airport Government Agency (AGA): includes all airports under the management of a city, county or state government entity.

Airport Improvement Program (AIP): grant program administered by the Federal Aviation Agency (FAA) to fund improvements related to airport safety, capacity, security, and environmental concerns. Funds can be used on eligible projects for professional services such as planning, surveying, and design.

Alternative Dispute Resolution: process of forging an agreement between conflicting parties without litigation, often with assistance of a third party.

Alternative Project Delivery Methods: methods of designing and constructing a project other than the traditional Design-Bid-Build.

Architectural and Engineering (A&E) Professional Services: professional services provided by a registered architect or professional engineer to support the design or construction of a horizontal or vertical infrastructure project, including pre-design and design for horizontal and vertical infrastructure, landscape architecture and urban design, cost estimating and scheduling, construction administration and management, resident inspection, survey, geotechnical investigative services, wind/shadow/solar analysis, etc.

Authority: quasi-government agency.

Benchmarking: the process of comparing an agency's or individual's performance metrics to best practices from similar industries. Dimensions typically measured are quality, time, and cost. Improvements from learning mean doing things better, faster, and cheaper.

Best Value Bid: weighting of qualifications criteria with total cost for the selection of professional services.

Best Value Selection: selecting the most advantageous offer by evaluating and comparing all relevant factors in addition to cost or price.

Brooks Act of 1972: sets forth a “Qualifications-Based Selection (QBS)” process requiring architectural and engineering firms to compete for government contracts on the basis of experience and technical expertise, rather than simply on cost.

Budget: a detailed outline of cost to perform and deliver the service outlined in the contract scope, by task and by person hours. The budget must coincide with the fee type and include rates, overhead, escalation factors, etc.

Capital Improvement Plan (CIP): a plan that guides capital investment of funds in airport infrastructure, usually over a five-year period.

Capital Project: a group of activities from planning through construction uniquely identifying a constructed or modified fixed asset.

Change Order: a written amendment executed by an authorizing agent covering modifications to the scope, cost or schedule associated with a contract.

Collaboration: a dynamic real-time interaction that is iterative and evolutionary where people come to a shared understanding about a process, product or event.

Communication: an action to dispense and/or exchange information from one person to another that can take place either through in-person meetings or by electronic or hard copy reports.

Cone of Silence: the prohibition of oral communications between the agency and potential professional service providers from the time that a solicitation is advertised until contract award.

Conflict of Interest: a situation when an individual or organization has interests, or may appear to have interests, on both sides of a decision where one interest could affect their ability to be objective in exercising official duties.

Construction Manager At Risk (CM@R): replaces the general contractor (and/or is qualified under a general contractors license) and bids the work out to local trade contractors and is compensated to work cooperatively through the design phase to a guarantee maximum project budget and schedule.

Construction Manager: responsible for overseeing the construction of a project.

Contract: a mutually binding legal document that sets forward the terms, conditions and services between the agency and the PSP.

Contract Fee Type: see “Fee Type”.

Contract Restrictions: constraints that may include salary rates, overhead rates, fee types, or overtime limits.

Contracting: an agreement between two or more parties that is written and enforceable by law.

Cost Estimate (Fee Estimate): an approximation of the probable cost of a project computed on the basis of available information.

Criteria: a rule or principle upon which something can be measured or evaluated.

Deliverables: the product of the services rendered. This can include designs plans, technical memorandum, reports, and any other physical and tangible product required to fulfill the assignment.

Design-Build (DB): alternate project delivery method where one entity is in charge of the design and construction of a public construction project. Typically the entity is a team consisting of at least one PSP and one construction firm.

Design-Bid-Build (DBB): the traditional form of project delivery for public agencies in which there are three distinct and separate project phases including design, bidding and construction.

Design-Build-Operate-Maintain: a public agency contracts with an entity to design, construct, operate and maintain a facility for a defined period of time. Payment beyond construction completion is contingent on meeting performance criteria relating to the function of the facility that are defined before the contract begins. This method creates an incentive for the contractor to build a higher quality facility since the contractor will have to operate and maintain it for the defined period of time.

Design Criteria: includes concise, performance-oriented drawings and or specifications of a public construction project. Examples include site plans, survey information, cost and budget estimates, schematic drawings, site development requirements, provisions for utilities, stormwater, parking, etc., software requirements, manuals referenced, policies and procedures necessary to develop and deliver plans.

Design Professional: any licensed professional in the fields of architecture, engineering and land surveying.

Design Services: refers to architecture, engineering, environmental and planning; may include site analysis, programming, schedule, cost estimating, BIM, LEED certification and commissioning in addition to pre-design services.

Direct Cost: the actual hourly rate for each person performing services multiplied by the actual hours worked. Also known as “direct labor” or “actual cost”.

Direct Labor: actual hourly rate for each person performing services multiplied by the actual hours worked. Also known as “direct cost” or “actual cost”.

Earnings Ratio: gross revenue minus expenses divided by direct payroll.

eProcurement: refers to software systems which are typically web-based that automate, standardize and streamline the procurement process including vendor management and advertisement of solicitations.

Escalation Factor: rates to perform contracted services that include increases in billing rates, labor estimates and expense estimates beyond the current salary year as well as any anticipated overhead percentage if deemed appropriate.

External Forces: entities that can impact performance or project delivery such as: federal and state prevailing laws, legislation, regulations; funding sources and budgetary obligations: rules and limitations; agency departments and funders, airlines, tenants and the traveling public.

Facility Performance Evaluation (FPE): a continuous process of systematically evaluating the performance and/or effectiveness of one or more aspects of buildings in relation to issues such as accessibility, aesthetics, cost-effectiveness, functionality, productivity, safety and security, and sustainability.

Flexibility, Accountability, Communication, Transparency, Strategic Direction (FACTS):

- Flexibility – the ability to adjust to change, work in dynamic political and economic environments and collaborate with changing partners
- Accountability – implementation of a clear, concise, cost-conscious and effective process to validate spending, manage performance and mitigate conflicts
- Communication – the exchange of information from one person to another either in person, through electronic means or by hard copy documentation
- Transparency – open and clear communication on how, why, when and with whom processes and procedures are developed; information and expectations conveyed to stakeholders
- Strategic Direction – the agency’s current mission and future goals aligned with procurement practices to define expectations and effectively manage resources and staff

Federal Acquisition Regulations (FAR): the primary regulation for use by all federal agencies in their acquisition of supplies and services with appropriated funds.

Federal Property and Administration Services Act of 1949: the law that established the General Services Administration (GSA), and it includes the Brooks Act, which states that qualifications-based selection procedures must be used in the selection and engagement of consultants.

Fee: a factor that provides for the financial gain a PSP is permitted to make while providing services. The total labor costs are multiplied by this numerical factor to calculate the profit a PSP makes on services provided. It can be “fixed” or vary depending on the fee type. Also known as “profit”.

Fee Type: the compensation mechanism that describes how a firm will be paid for delivering the scope of services. Each contract Fee Type has the following three components:

1. The “direct cost” or the “direct labor” (a.k.a. “actual cost”), which is the actual hourly rate for each person performing services multiplied by the actual hours worked.
2. The “indirect cost” or “overhead” (a.k.a. “multiplier”), which is a factor that covers overhead expenses of running an office like utilities and rent as well as employee benefits like health care and retirement. The actual hours worked are multiplied by this numerical factor to calculate the “total labor cost” (a.k.a. “loaded costs”).

3. The “fee” or the “profit”, which is a factor that provides for the financial gain a PSP is permitted to make while providing services. The total labor costs are multiplied by this numerical factor to calculate the profit a PSP makes on services provided. It can be “fixed” or vary depending on the fee type.

Each contract fee type allows a different combination of these three components as described below.

- **Cost Plus-Fixed Fee:** the PSP is compensated for the actual hours worked multiplied by the overhead plus a fee representing their profit that varies based on the actual compensation. The overhead and profit factor values are typically specified in the contract.
- **Cost Plus-Incentive Fee:** the PSP is compensated for the actual hours worked multiplied by the overhead plus a fee representing their profit. The PSP earns the profit when defined performance criteria are met. The performance criteria are typically defined in the contract.
- **Cost Plus-To-Maximum:** the PSP is compensated for the actual hours worked multiplied by the overhead plus a fee representing their profit that varies based on the actual compensation. The overhead and profit factor values are typically specified in the contract.
- **Cost-Reimbursement:** the PSP is compensated for actual costs (labor and materials) plus a fee representing their profit.
- **Lump Sum:** the PSP agrees to provide the defined scope of services for an agreed upon price (a.k.a. “fixed fee”) that includes direct cost, indirect cost and fixed fee.
- **Indefinite Delivery:** compensation is provided for supplies and services when exact times and quantities are not known when the contract is executed.
- **Time and Materials:** compensation is provided for direct labor hours at a specified fixed hourly rate and materials at cost.

Financial Professional Service: includes bond underwriting, debt management, investment services, financial planning, financial negotiations, capital planning, budgeting, financial audits, etc.

Flexibility: willingness to adapt processes based on performance metrics and feedback received from stakeholders and openness to change in response to shifting political priorities and funding that can be expected during any business cycle.

Full and Open Competition: all qualified vendors are permitted to compete for award of a contract, often through either a sealed bid or competitive proposal.

Goal: the result or achievement toward which an organization’s efforts are directed.

Government Performance and Results Act of 1993: provides for the establishment of strategic planning and performance measurement in the federal government. This act directed federal agencies to develop policies regarding strategic plans, annual performance reports and managerial accountability and flexibility.

Gross Margin: net earnings from operations (gross margin divided by revenue equals profit).

Guaranteed Maximum Price (GMP): when the builder and owner agree on a target or maximum price for the construction.

Guideline: a practice that is not mandatory and suggests a future course of action.

Human Resources (HR) Professional Service: includes development and training, employee benefits, recruitment, retention, retirement, collective bargaining, licensing and certifications, organizational structure and administration (e.g. audits), etc.

Incentives: provides financial benefits for exceeding goals such as accelerated schedule, under budget, innovation. Most commonly applied only to construction projects.

Independent Fee Estimate (IFE): cost estimate performed by independent third-party to determine fair and reasonable fee; should include direct labor, work hours, rates, overhead, non-salary expenses and profit (fee).

Indirect Cost: a factor that covers overhead expenses of running an office like utilities and rent as well as employee benefits like health care and retirement. The actual hours worked is multiplied by this numerical factor to calculate the “total labor cost” (a.k.a. “loaded costs”). Also known as “overhead” or the “multiplier”.

Information Technology (IT) Professional Service: includes computer hardware and software development, deployment, operation and maintenance, telecommunications, email, internet access and management, help desk, network development, management and security, etc.

Integrated Project Team: a multi-disciplinary team responsible and accountable for planning, budgeting, procurement and management of a project in order to best achieve its cost, schedule, and performance goals.

Legal Professional Service: includes contract development and negotiations, lease negotiations, bond counsel, real estate negotiations, human resource issues, employee benefits, litigation assistance, regulatory and compliance assistance, etc.

Lessons Learned: documented past experiences used to change future actions and to refine performance metrics and targets in an agency.

Life-Cycle Costing: the practice of accounting for the costs and revenues that will be generated in the phases of a product life cycle that typically include development costs, the revenues from a mature market, and disposal costs.

Local Business: business located within a fixed distance of the agency; certain agencies may provide an advantage or have a minimum goal for use of local businesses.

Minority/Women/Disadvantaged Business Enterprises (M/W/D BE): for-profit small business concerns where socially or economically disadvantaged individuals own at least 51% interest and control the management and daily business operations.

Modification: a written amendment executed by an agency covering modifications to an agreement.

Multiplier: a factor that covers overhead expenses of running an office like utilities and rent as well as employee benefits like health care and retirement. The actual hours worked is multiplied by this numerical factor to calculate the “total labor cost” (a.k.a. “loaded costs”). Also known as “indirect cost” or “overhead”.

Negotiating: interactive procedure for establishing expectations between the agency and PSP, framing the terms of engagement and expressing the desired outcomes of professional services.

Non-Disclosure Form: standard agreement between two parties that all employees of both parties will maintain confidentiality of sensitive information

Notice to Proceed: a formal written document issued by an agency authorizing a consultant to formally begin work on a contract. The notice should state the amount of the contract and the beginning and end dates of the assignment in the contract.

Overhead: a factor that covers overhead expenses of running an office like utilities and rent as well as employee benefits like health care and retirement. The actual hours worked is multiplied by this numerical factor to calculate the “total labor cost” (a.k.a. “loaded costs”). Also known as “indirect cost” or “multiplier”.

Partnership: an arrangement where parties agree to cooperate to advance their mutual interest

Penalties: contract provisions that impose financial or other consequences for non-performance or late delivery, most commonly applied to Construction contracts.

Performance-Based Acquisition (PBA): contracting approach focused on results in which performance is assessed against outcome rather than level of effort performed.

Performance-Based Selection: the use of metrics tied to a strategic plan that identifies organizational goals and measures performance against those goals then applied to the selection of professional services. These can be both qualitative and quantitative but must be tied to a measurable performance criteria.

Performance Management: the process of maintaining performance based management and creating a results-driven environment to maximize the performance of airport organizations, processes and systems.

Performance Measures: a quantitative or qualitative measure of an agency’s performance that supports a range of stakeholder needs from customers to employees. Traditionally, many metrics are financial-based, focused on the performance of the organization, linked with the agencies business strategy, and derived to measure critically defined success factors and demonstrate value. Developing performance metrics follows three basic steps: establish business framework (goals and objectives, process, products/outputs), develop measures and establish targets against which the results can be quantified.

Performance Monitoring: the analysis and reporting status of project cost, schedule and performance on a regularly scheduled basis through the life of the project.

Planning/Environmental Professional Service: includes feasibility studies, capacity modeling and evaluations, environmental assessment documents, environmental permitting, asbestos or lead inspections, subsurface investigations, hazardous waste site cleanup, wetlands delineation, environmental audits, spill prevention plans, storm water management plans, land acquisition, right-of-way, noise and/or air quality monitoring, historic/archeological/cultural resources, sustainability, etc.

Power of Attorney: the person within an organization with the legal and/or administrative authority as bestowed by the organization (agency or PSP) to sign a contract.

Pre-Bid Conference: a meeting with contractors in which the agency discusses a proposed project and shares technical and procedural information with prospective PSP.

Pre-Design Services: may include site selection, project definition, existing facilities' surveys, geotechnical investigations, environmental studies and reports, feasibility reports and programming studies.

Pre-Qualification Certification: the annual certification process conducted by or on behalf of an agency that may include technical certification, affirmative action plan verification, vendor registration, and supplemental information.

Procurement: includes all stages of the process to obtain professional services, beginning with the determination of need, description of requirements, selection and solicitation, contract award, contract administration and contract close-out.

Professional Service Providers (PSP): includes all design consultants and providers of legal, financial, human resources and information technology services.

- **Architectural and Engineering (A&E)** includes pre-design and design for horizontal and vertical infrastructure, landscape architecture and urban design, cost estimating and scheduling, construction administration and management, resident inspection, survey, geotechnical investigative services, wind/shadow/solar analysis, etc.
- **Financial** includes bond underwriting, debt management, investment services, financial planning, financial negotiations, capital planning, budgeting, financial audits, etc.
- **Human Resources (HR)** includes development and training, employee benefits, recruitment, retention, retirement, collective bargaining, licensing and certifications, organizational structure and administration (e.g. audits), etc.
- **Information Technology (IT)** includes computer hardware and software development, deployment, operation and maintenance, telecommunications, email, internet access and management, help desk, network development, management and security, etc.
- **Legal** includes contract development and negotiations, lease negotiations, bond counsel, real estate negotiations, human resource issues, employee benefits, litigation assistance, regulatory and compliance assistance, etc.
- **Planning/Environmental** includes feasibility studies, capacity modeling and evaluations, environmental assessment documents, environmental permitting, asbestos or lead inspections, subsurface investigations, hazardous waste site cleanup, wetlands delineation, environmental audits, spill prevention plans, storm water management plans, land acquisition, right-of-way, noise and/or air quality monitoring, historic/archeological/cultural resources, sustainability, etc.

Professional Services: includes services such as planning for a study, design of a facility, construction oversight and counsel or advice on political, legal and financial matters. Professional service disciplines include planning, environmental, architectural and engineering, information technology, construction administration and management, financial planning and analysis, legal counsel and other key disciplines, such as human resources, government or public relations or communications.

Profit: gross revenue minus overhead minus payroll minus expenses.

Program Manager: the person responsible for plans, funding, schedules, and timely completion within cost limitations of a program comprised of two or more projects. Planning responsibilities include developing acquisition strategies and promoting full and open competition and can typically involved in multiple projects or all phases of one project (real estate, financing, design, construction and occupancy).

Project Charter: a document that formally authorizes a project that links the project to ongoing work in the organization and gives the Project Manager the authority to allocate resources to execute the project. The key components of a project charter may include a business needs statement, purpose, scope, authority and dispute resolution language as well as detailed membership, roles and responsibilities, meeting format and rules for quorum, operating guidelines and key milestones. Some charters may reference the agency's mission, goals and strategic plan as well as organizational factors and constraints.

Project Close-Out: the completion and settlement of the project, including addressing all issues from turning the facility over the Operations & Management Department (O&M) and wrapping up contract issues with the consultant and the contractor to finalizing the financial information to confirm the total final project cost. These issues may include obtaining the O&M and training manuals, certificate of substantial completion, certificate of occupancy, as well as addressing punch list items, contractual issues, functional issues, and guarantee and warranty issues.

Project Contingency/Reserve: a dollar amount set aside on a project to fund risk associated with the uncertainty in the project scope, cost or schedule.

Project Controls: the features of a project that must be managed and controlled in order to deliver a project successfully. They include scope, cost, funding, schedule, quality, resources (labor and materials), communication and correspondence, risk, and procurement.

Project Delivery: the method for assigning responsibility to an organization or an individual for providing design and construction services.

Project Description: an overview of the scope of a project including the goals and objectives of the assignment. This may include a map defining the limits of the improvements and the assumptions of the assignment by providers.

Project Evaluation: the method for collecting, analyzing, and using information to determine the manner and extent to which a program or a project achieves its intended objectives. The assessment process integrates lessons learned and suggestions that are documented so that knowledge is captured and organized in a way that will benefit future projects.

Project Management: the means for coordinating the process of design and construction of a project (planning, staffing, organizing, budgeting, scheduling, and monitoring).

Project Manager: a person who coordinates the planning, execution and/or closeout of a project.

Project Request List: a comprehensive, draft list of all potential projects including scope, order and total cost of projects and proposed funding sources by fiscal year.

Public-Private Partnerships (PPPs or P3s): refer to contractual agreements formed between public agencies and private entities to allow for greater private sector participation in the delivery of projects.

Purchase: the acquisition of goods and services the purchase or lease of personal property or the lease of real property.

Purchase-to-Pay: a system that automates the process of procurement from the first steps of needs identification to actual procurement of goods and services to invoicing and payment.

Quality Assurance/Quality Control (QA/QC): quality control is the process to review all factors involved in quality work; quality assurance is the process of creating a plan to ensure that quality control procedures are implemented.

Qualifications-Based Selection (QBS) Process: an equitable, rational, objective process that enables a client to obtain highly qualified professional services at a fair and reasonable cost.

Qualitative Selection: use of low, medium or high ratings for ranking.

Quantitative Selection: use of numerical ratings for ranking, such as “100, 50, 30” or “1 to 10”.

Reimbursable Expenses: agreed upon compensation for additional labor, overhead, expenses or sub-consultant services.

Reporting: the process of demonstrating progress in achieving targets, goals and results, which can be done formally through documentation and reports or in meetings where information is exchanged and adjustments are made collaboratively, if necessary.

Request for Information (RFI): a formal, properly advertised solicitation in accordance with governing laws through which an owner collects data from potential providers for a specific service. They are often used prior to and with RFQs and RFPs.

Request for Proposals (RFP): a formal, properly advertised solicitation in accordance with governing laws through which an owner details the scope of services required and requests representative project experience, staff profiles and other legal registration and licensing documents upon which an owner selects a professional services provider.

Request for Qualifications (RFQ): a formal, properly advertised solicitation in accordance with governing laws through which an owner requests data on the qualifications of a company, its staff and representative project experience upon which an owner develops a list of qualified professional services provider to select from to perform specific services.

Respondent: a firm or a team of firms in a prime/sub relationship submitting a proposal in response to a properly advertised solicitation for professional services, such as an RFI, RFQ or RFP.

Retainage: a percentage of a progress payment withheld from each invoice by the owner until the contract is complete. This is a tool used by owners to ensure that performance of the full contract is met.

Retainer: a fee paid upfront on a periodic basis for a client to have access to an expert on a particular topic when needed. This is a common method of payment for legal and financial services.

Risk: the possibility that an uncertain event could cause an impact to a project.

Risk Analysis: the process of assessing the consequences and likelihood of risk.

Risk Management: the process of identifying risks and prioritizing them, then creating and implementing a plan to mitigate those risks.

Risk Register: a record maintained as part of a project file, most often a spreadsheet, that contains details related to project risks including causes, probability, impact and response.

Salary Caps: a policy that defines the upper limit of a rate for labor.

Schedule: a detailed account of tasks to be performed by duration, dates of deliverables, anticipated milestones and expected meeting requirements. Every schedule should include a start date and completion date.

Scope: a definition of the limits of work, specific tasks and deliverables, type of services, schedule of deliverable, and associated budget to complete the assignment.

Scope-Schedule-Cost: scope, schedule and cost impact each other throughout the duration of a project and therefore are referenced as one term.

Selection Committee: members of an agency which may include staff from within different departments identified for their technical expertise convened to develop criteria, evaluate and select a PSP; depending on the project, external experts or community representatives may also be brought into the committee either for the selection phase or throughout the duration of the contract.

Small Disadvantaged Business (SDB): a program administered by the Small Business Administration designed to assist socially and economically disadvantaged businesses compete in the federal procurement market.

Sensitivity Analysis: a technique of conducting "what if?" scenarios by adjusting specific variables in order to isolate their effect on profits or cash flows.

Solicitation: a formal document sent to prospective professional service providers by an owner requesting submission of an offer, quote, statement or other information necessary to perform the scope or service.

Stakeholders: individuals who have an active interest in the procurement and management of PSP. External stakeholders include financial, regulatory and approving authorities (e.g., FAA, TSA, municipal governments, outside boards and commissions), governmental agencies (i.e., federal, state and local), tenants (e.g., airlines, concessions, rental cars), and the general public (e.g., neighbors, advocacy groups, and the traveling public). Internal stakeholders include the executive administration, operating and maintenance, administrative, and technical departments, and any board of directors internal to the airport.

Sub-Consultant: a firm, or individual, has significant input and responsibility for certain aspects of a project and provides services under the guidance of a prime consultant.

Suspension: an administrative action less severe than a debarment taken by a client to exclude a consultant and/or contractor on a temporary basis from participating in contracts.

Tracking: a process using established mechanisms to follow a process and performance against agreed upon targets and measures.

Transparency: a managing principle where processes are clearly defined, decisions are well-documented and information is easily available to all participants.

Value Engineering: the analysis of the functions of systems, equipment, facilities, services, and supplies for the purpose of achieving the essential functions at the lowest life cycle cost consistent with required performance, reliability, quality, and safety, performed by qualified professional service provider or contractor personnel, directed at improving performance, reliability, quality, safety, and life-cycle costs.

Warranty: a promise or written affirmation given by a goods or service provider to an owner regarding the nature, usefulness, or condition of the supplies or performance of services furnished under the contract.

Acronyms

A/E	Architectural and Engineering
AAAE	American Association of Airport Executives
ACC	Airport Consultants Council
ACE	Acquisition Center of Excellence
ACEC	American Council of Engineering Companies
ACI-NA	Airports Council International – North America
ACIP	Airport Capital Improvement Plan
ACRP	Airport Cooperative Research Program
AGA	Advancing Government Accountability
AGA	Association of Government Accountants
AGC	Associated General Contractors
AIA	American Institute of Architects
AIP	Airport Improvement Program
AKDOT	Alaska Department of Transportation
ALP	Airport Layout Plan
ANC	Ted Stevens International Airport (Alaska)
AOPA	Aircraft Owners and Pilots Association
APG	Airport Purchasing Group
APTAC	Association of Procurement Technical Assistance Centers
APWA	American Public Works Association
AQL	Acceptable Quality Level
AR	Accounts receivable
ATA	Air Transport Association
BCAD	Broward County Aviation Department (Florida)
BIM	Building Information Modeling
BPA	Blanket Purchase Agreement
CAD	Computer Aided Design
CAGE	Commercial and Government Entity
CCR	Central Contractor Registration
CE	Categorical Exclusion
CEQ	Council on Environmental Quality
CFDA	Catalogue of Federal Domestic Assistance
CICA	Competition in Contracting Act of 1984
CIP	Capital Improvement Plan
CM	Construction Manager
CM@R	Construction Management at Risk
CMAR	Construction Management at Risk
CMR	Construction Management at Risk
COTR	Contracting Officer's Technical Representative
COTS	Commercial-off-the-shelf (software)
CP	Cost Plus
CPDA	City of Philadelphia Department of Aviation
DB	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DFW	Dallas-Fort Worth International Airport (Texas)
DOT	Department of Transportation
DQ	Documented Quotes
DSBS	Dynamic Small Business Search
DUNS	Data Universal Number System
EA	Environmental Assessment
e-Business	Electronic Business
EDI	Electronic Data Interchange
EIS	Environmental Impact Statement
EJCDC	Engineers Joint Contract Documents Committee
EPEAT	Electronic Product Environmental Assessment Tool
EPLS	Excluded Parties List System
eProcurement	Electronic Procurement
ER	Earnings Ratio

ERP	Enterprise Resource Planning
eSRS	electronic Subcontracting Reporting System
EVM	Earned Value Management
FAA	Federal Aviation Administration
FAI	Federal Acquisition Institute
FAR	Federal Acquisition Regulation
FARA	Federal Acquisition Reform Act of 1996
FASA	Federal Acquisition Streamlining Act of 1994
FBO	Federal Business Opportunities (FedBizOpps)
FFATA	Federal Funding Accountability and Transparency Act of 2006
FFP	Firm Fixed Price
FHWA	Federal Highway Administration
FPDS-NG	Federal Procurement Data System - Next Generation
FPE	Facility Performance Evaluation
FSS	Federal Supply Schedule
FTA	Federal Transit Administration
GAO	Government Accountability Office
GEC	General Engineering Contract
GFOA	Government Finance Officers Association
GIS	Geographical Information System
GM	Gross Margin
GMP	Guaranteed Maximum Price
GPO	United States Government Printing Office
GPRA	Government Performance and Results Act
GSA IAE	General Services Administration Integrated Acquisition Environment
GSA	General Services Administration
GWAC	Government-wide Acquisition Contract
IAA	Indianapolis International Airport (Indiana)
ICD	Interagency Contract Directory
ICE	Independent Cost Estimate
ICMA	International City/County Management Association
IDV	Indefinite Delivery Vehicles
IFB	Invitations for Bids
IPT	Integrated Project Team
ITMRA	Information Technology Management Reform Act
JTD	Job to date
LCPA	Lee County Port Authority (Florida)
LOC	Library of Congress
LOI	Letter of Interest
LS	Lump Sum
MAA	Maryland Aviation Administration
MAC	Multiple-Award Contract
MAS	Multiple Award Schedule
Massport	Massachusetts Port Authority
MBE	Minority Business Enterprise
MDE	Maryland Department of the Environment
MPIN	Marketing Partner Identification Number
MSCAA	Memphis-Shelby County Airport Authority (Tennessee)
MTD	Month to date
MWAA	Metropolitan Washington Airports Authority (District of Columbia)
NACo	National Association of Counties
NAICS	North American Industry Classification System
NASACT	National Association of State Auditors
NASAO	National Association of State Aviation Officials
NASCIO	National Association of State Chief Information Officers
NASPO	National Association of State Procurement Officers
NBAA	National Business Aviation Association
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NCMA	National Contract Management Association
NEPA	National Environmental Policy Act
NIGP	National Institute of Government Purchasing

NLC	National League of Cities
NPI	National Purchasing Institute
NTIS	National Technical Information Service
NTP	Notice to Proceed
O&M	Operations and Maintenance
OFPP	Office of Federal Procurement Policy
OH	Overhead
OMB	Office of Management and Budget
ORCA	Online Representations and Certifications Application
PAD	City of Phoenix Aviation Department (Arizona)
PANYNJ	Port Authority of New York and New Jersey Aviation Department
PBA	Performance-Based Acquisition
PBSA	Performance-Based Services Acquisition
PCA	Packaged Composite Applications
PDS	Project Delivery Systems
PDX	Portland International Airport (Oregon)
PHL	City of Philadelphia Department of Aviation (Pennsylvania)
PM	Program Manager
PM	Project Manager
PMC	Project Monitoring and Control
PMO	Project Management Oversight
POA	Power of Attorney
PPIRS	Past Performance Information Retrieval System
PPP (P3s)	Public Private Partnerships
PPPP	Principles and Practices of Public Procurement
PSA	Professional Service Agreement
PSC	Professional Services Council
PTAC	Procurement Technical Assistance Center
PWS	Performance Work Statement
QA	Quality Assurance
QAP	Quality Assurance Plan
QBS	Qualifications-Based Selection
QC	Quality Control
RFI	Request for Information
RFP	Request for Proposals
RFQ	Request for Qualifications
RIAC	Rhode Island Airport Corporation
RITA	Research and Innovative Technology Administration
RLDA	Richland-Lexington Airport District (South Carolina)
SaaS	Software as a Service
SAM	Supplier Agreement Management
SAM	System for Award Management
SARA	Services Acquisition Reform Act of 2003
SBA	Small Business Administration
SDB	Small Disadvantaged Business
SFO	San Francisco International Airport (California)
SLA	Service Level Agreements
SMAA	Sarasota Manatee Airport Authority (Florida)
SOO	Statement of Objectives
SOP	Standard of Practice
SOQ	Statement of Qualifications
SOW	Statement of Work
SSI	Sensitive Security Information
TCRP	Transit Cooperative Research Program
TLCat	Transportation Libraries Catalog
TRB RiP	Research in Progress
TRID	Transportation Research Integrated Database
TRIS	Transportation Research Information Services
TRR	Transportation Research Record
USDOT	United States Department of Transportation
VBS	Value Based Selection
VE	Value Engineering

VGP	Values and Guiding Principles
WBE	Women Business Enterprise
WBS	Work Breakdown Structure
WDOL	Wage Determination Online
YTD	Year to Date

APPENDIX C
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