

Full document details: AASHTO CCC-1-2008

GUIDE FOR CONSULTANT CONTRACTING



MARCH 2008



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**AMERICAN ASSOCIATION OF STATE HIGHWAY
AND TRANSPORTATION OFFICIALS**

GUIDE FOR **CONSULTANT CONTRACTING**



MARCH 2008



**AMERICAN ASSOCIATION OF STATE
HIGHWAY AND TRANSPORTATION OFFICIALS**

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Publication Code: DS-GCC-1

ISBN: 978-1-56051-401-5



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Executive Summary

The use of engineering consultants by state transportation agencies continues to be important in providing the appropriate solutions to transportation needs. This publication replaces the *Guide for Contracting, Selecting and Managing Consultants in Preconstruction Engineering*, published by AASHTO in 1996.

In order to assess current practices, questionnaires were developed for both state and consultant practitioners. The responses showed significant growth in the volume of work done by consultants and in the range of services provided by consultants. The results of these surveys, along with the collective experience and expertise of the technical committee membership, were used to restructure much of the guide and to update and expand the discussion of current practices for the effective use of consultants.

Transportation agencies are challenged to adjust to dynamic programs and large fluctuation in workload. They face more complex projects that carry increasing traffic volumes, through environmentally sensitive, restricted, or highly developed corridors. As such there is an increased focus on context sensitivity to provide solutions that least disrupts the public or natural environment. In addition, agencies are facing significant technological changes in how business is conducted. Staffing limitations, hiring freezes, and other constraints are adding pressures to the expectations of delivering high quality projects on time and within budget. Engineering consultants are a key resource that can supplement the agency's own professional staff to work through these dynamics and deliver transportation improvement programs.

All transportation agencies use consultants to some degree. Each agency has developed processes, procedures, and policies to address the selection, contracting issues, and management of consultants. These processes and practices may be mandated by state law or influenced by federal requirements. Whether the transportation agency is centralized or decentralized, organized to manage projects within the functional units or as a separate responsibility, the expected results are the same. Agency leaders expect that project development will be seamless regardless of whether it is accomplished by in-house staff or by use of consultant resources.

Transportation agency leaders generally do not consider the use of consultant services to be a cost saving measure but rather a necessary response to having limited in-house staff available to deliver the transportation program. Much attention should be given to the contracting issues to ensure that a quality product is delivered in a cost effective manner. Therefore, considerable attention is given to the processes for selecting a consultant, developing and agreeing on a contract, and then managing that contract and the associated project work activities.

This guide is a reference for agencies to use in further developing their consultant program, organizing and training their staff, selecting consultants, developing consultant contracts, and managing their consultant program. An underlying principle of this guide is that every step of the consultant contracting, selection, and management process is directed toward producing a quality project. While principally focused on the project development process, the wide range of issues involved in selecting and managing consultants have application to many areas in transportation.

The design-build concept is being used by some state departments of transportation as an alternate delivery method. Due to the growing use of the design-build approach, the "AASHTO Joint Technical Committee on Design Build" has been directed to focus on design-build and the many issues associated with this project delivery process. As a result, this document does not address procurement of consultants for design-build projects. This document focuses on the use of consultants in the conventional design-bid-build approach where the Department contracts directly with the consultant.

As this guide was updated, the common thread which was most often mentioned as being important in all aspects of the transportation agency-consultant relationships was that of having skilled and knowledgeable professionals in both the public and private sector. Inexperience on either side of the relationship is often a factor that contributes to problems with the services provided and problems with the contract for services. While training can be a surrogate for practical experience, it is preferred that it be a supplement. Practical experience, in developing designs, in understanding the project development process, in managing a project, in understanding the agency policies and practices, in developing a contract, in meeting project schedules, and in coordinating all the other activities related to the contract, is of high importance.

A major consideration for any agency in developing or revamping a consultant usage program is the staff needed to execute and manage the program. This guide was developed in recognition of the fact that variations in the size and organizational structure will continue to exist across the nation. It provides a discussion about important considerations along with examples of effective organizational configurations.

It is important that the agency have clearly defined policies and procedures which provide a fair and equitable selection process open for all. This guide outlines some processes that are in predominant use throughout the country. One element of the selection process can be the use of a prequalification process. When developed to provide for the fair consideration of a broad cross section of the available consultant resources, these processes have been well received by the consultant community. Prequalification can eliminate unnecessary duplication and result in a savings in time as well as cost to the consultant.

Consultant contracts should clearly outline the terms and conditions under which the consultant is expected to function, the services and products to be delivered, the responsibilities of the parties to the contract, and the time frame in which to perform. In return, the consultant is entitled to fair compensation. Reaching agreement on the contract should involve those who technically and professionally understand the work effort needed and

those who understand the negotiation process. While agencies may have the technical and professional expertise to evaluate the work effort, many report that they do not provide formal training for those involved in the negotiation process.

A single point of contact within an agency is a generally considered beneficial. Some transportation agencies successfully manage projects by having engineering professionals within the agency functional units oversee the work. Others have set persons aside in their organization to oversee the contract details and payment, and help with coordination of the overall process. Yet others have utilized the engineering professional as the project leader or manager with a smaller support staff to prepare and support the resolution of contract management issues. Regardless of what overall strategy is utilized, the common concern expressed by both transportation agency staff and the consultants is that those within the agency identified as the project leader or manager should be skilled and experienced practitioners.

Finally, accountability in terms of dealing with errors and omissions is of considerable interest to the transportation agency officials. While agencies generally have a plan of action for dealing with errors and omissions made by consultants, many are addressed on a case by case basis. A document outlining best practices in dealing with errors and omissions may be the focus of a future assignment for the Preconstruction Engineering Management Technical Committee.

Most transportation agencies foresee an increase in the utilization of consultant services to supplement the project development capabilities of their staff. Improvement in the processes to effectively manage these contracts will be of increasing importance.

Chapter 1: Introduction— Using Consultants

The AASHTO Preconstruction Engineering Management Technical Committee was assigned to study, evaluate, and update a guide originally published in 1996 for the procurement and management of engineering consultant services. The committee had four goals:

- Update a questionnaire and survey the states concerning issues relating to procuring, managing, and using engineering consultants;
- Update a questionnaire and survey consultants performing services for state transportation departments;
- Develop an AASHTO position and recommend guidelines for effective management of consultants and the contract process, based on current information and data;
- Develop and distribute an updated publication that will provide guidance in organizing, developing, and effectively managing a consultant program for use by AASHTO members and related government agencies.

1.1 State Surveys

The Committee prepared questionnaires in 2005 to update the prior studies. Using an NCHRP Project 20-07, Task 224 funded work program to evaluate the surveys, the most significant finding from the 2005 surveys was the consistency in the responses in the 1992 and 2005 surveys. While there was considerable growth in consultant usage, and expansion in the range of services provided, the new surveys confirmed the views and preferences previously expressed with respect to procurement, selection, management, and compensation.

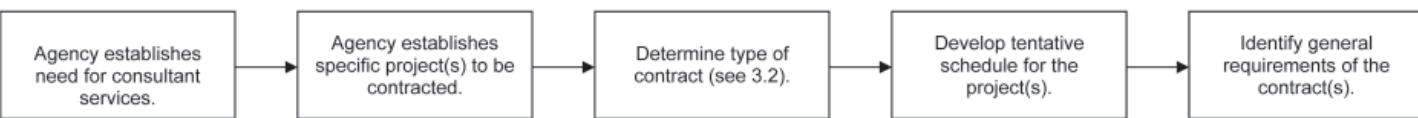
Analysis of the responses to the state surveys conducted in 1992 and 2005 led to two principal conclusions:

1. The relationship between state transportation agencies and consultants providing engineering and design services has matured, as evidenced by:
 - Consultants are essential to the timely delivery of design contract packages in most states. In over 80 percent of states, consultants design work comprising between 20 percent and 80 percent of program value. Almost half of the states each award more than 70 engineering and design services contracts annually.
 - The range of services offered by consultants has increased. In addition to routine engineering and design work, consultants are used for emergency and controversial projects. They also provide specialized technical services that may not be available in-house.
 - The constraints on hiring in-house staff in many states means the trend towards greater use of consultants is continuing.





Planning



Procurement

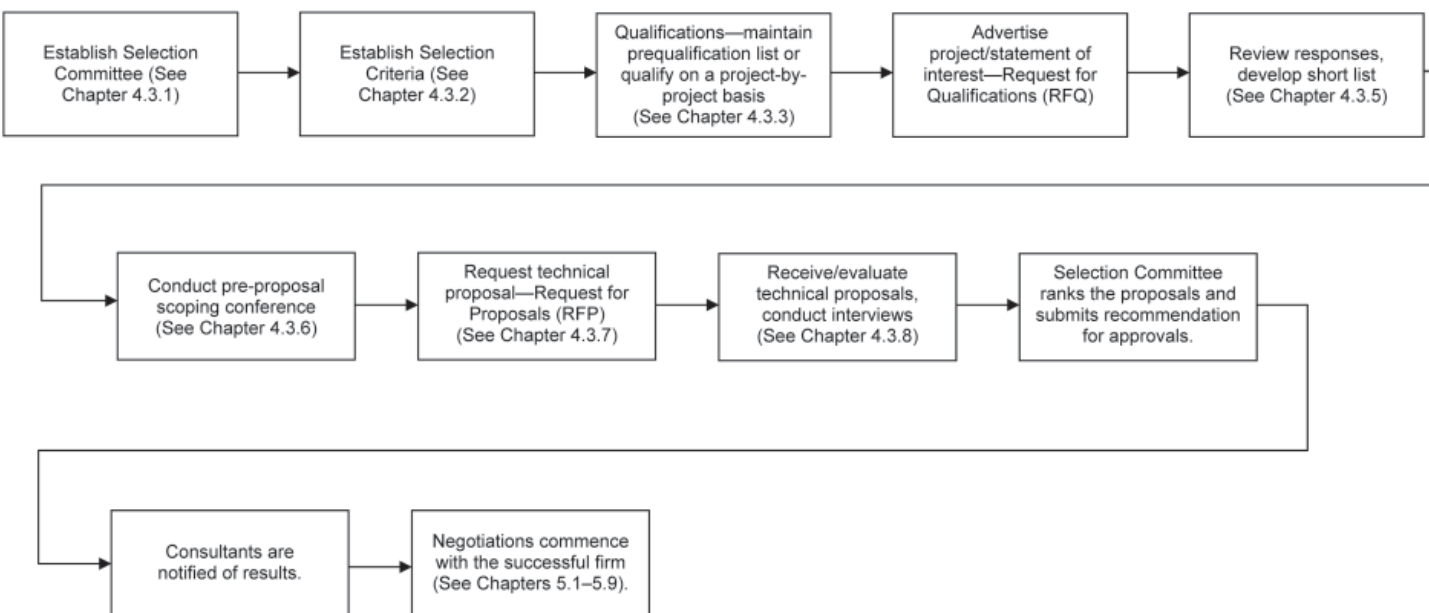


Figure 1-1. Consultant Selection Process

- States have developed effective processes for procurement, selection, contract negotiation, and management of consultants. In part, this was a product of necessity because of the large number of engineering assignments that must be processed, and many are of relatively small monetary value.
 - In-house staff has been trained in oversight and project management. Consultants have gained experience with transportation agencies as clients. Consultants are viewed as part of the team, but are also accountable for the quality of services provided.
 - Liaison groups have been established in nearly all states to exchange information and ideas, identify and resolve problem areas, and work on issues of mutual interest.
 - Holdbacks on payments have been reduced.
2. The workplace changed between 1992 and 2005 as a result of advancements in computers and electronic communications, and this changed the contractual and working relationships as evidenced by:
- Use of electronic billing and funds transfer;
 - Universal use of design software and deliverables that include electronic files;
 - Use of electronic communications for filing such items as progress reports and schedules; and the use of project management software;
 - Electronic access to state documents such as standards, design drawings, specifications, and special provisions; and
 - Electronic submissions of qualifications and proposals are common.

A detailed summary of the results of the State Survey is posted on the AASHTO Subcommittee on Design web site <http://design.transportation.org/>. Results can be found under the Technical Committee on Preconstruction Engineering Management folder.

1.2 Consultant Surveys

The trends from the Consultant Surveys are not as clear as from the State Surveys because the correspondence between the questions asked in the 1992 and 2005 Consultant Surveys was not as strong as for the State Surveys. However, there is ample evidence to confirm the trends recorded in the State Surveys:

1. The relationship between state transportation agencies and consultants providing engineering and design services matured, as evidenced by:
- The range of services provided by consultants increased. While design services still account for slightly more than half the work, there was an increase in the number of firms providing traditional specialist engineering services such as geotechnical, materials, and structural engineering; as well as others involved in less traditional areas such as environmental assessments, safety, or cultural studies. There was also an increase in the number of firms providing project management, program management, and design-build services, though the volume of work in these areas remains a small proportion of the consulting work awarded by state transportation agencies.
 - State transportation agencies are perceived by many consultants as an important, though not necessarily the dominant client. Work for state agencies was less than 50 percent of the





workload for more than 70 percent of the consultants' offices/locations responding to the survey. This can be interpreted as a healthy situation because there is a pool of consultants available to state transportation agencies, and a consulting industry with the broad client base necessary to survive the cyclical nature of the business. It also means that experience gained on DOT projects is transferred to municipal and private sector clients, and vice versa.

- Consultants expressed a strong preference for a Qualifications Based Selection process. The level of expertise of the project team, and past performance, were viewed as the most important selection criteria.
 - Consultants want to be viewed as equal partners in a contractual relationship. They want input to contract scoping, to be managed in a professional manner by well-qualified state transportation agency staff, and to be accountable for the quality of the final product.
 - There was a significant growth in the level of participation and support for state level liaison meetings, and also a change in the focus of meetings. In 1992, meetings were seen as primarily an opportunity for building relationships; in 2005 they were seen as a forum for providing input and resolving issues of mutual interest.
2. The workplace changed between 1992 and 2005 as a result of advancements in computers and electronic communications.
- The main evidence in support of this statement is that the 1992 survey included two questions concerning the preparation of contract documents in computer aided design and drafting (CADD) formats, and the preferred method of allocating CADD charges. Some responses stated it would be very difficult to develop contract documents in CADD, and there was no consensus on the preferred method of payment. The 2005 survey did not include any questions relating to CADD because it is now an integral part of conducting business.
 - There were several suggestions for further efficiencies and improving communications through the increased use of electronic media for items such as progress meetings, updating schedules, and submitting reports.

The responses to the 2005 Consultant Survey also included several suggestions and recommendations for streamlining the procurement process and improving contractual relationships. The strongest criticism concerned management techniques, and particularly DOT staff who are inexperienced, or those who attempt to micromanage the consultant instead of focusing on the deliverables identified in the contract. Suggestions were also made for improving the effectiveness of liaison meetings. Recommendations were constructive and the response by the consulting community to the 2005 survey was positive.

A detailed summary of the results of the Consultant Survey is posted on the AASHTO Subcommittee on Design web site <http://design.transportation.org/>. Results can be found under the Technical Committee on Preconstruction Engineering Management web page.

1.3 Chapter Overviews

The remainder of this chapter introduces the material included in this document and provides a brief summary of the contents of each chapter.

Chapter 2 discusses some agency considerations. It provides a brief overview of some factors to be considered when utilizing consultant services. Identifying the need for consultant services is discussed. Identifying the roles and responsibilities of participants, mention of the added resources to support the consultant and their management, the added business processes, and the training and skills which may be appropriate are also mentioned. In addition, some of the organizational structures which might be utilized are mentioned. To assure that the in-house organization will be able to perpetuate the experience and skill levels required, each agency should examine its long-range plan. A program that includes a sufficient number of in-house projects results in staff having both leadership skills and the technical knowledge to conduct effective oversight of consultants.

Chapter 3 broadly discusses the Consultant Program and reasons for retaining consultants and issues relating to the programming and funding of consultant work. One item of major concern in justifying the use of consultants is cost. Cost-effectiveness continues to be brought forward as a criterion for use of consultants. While it can be shown that the use of consultants can be a very cost-effective decision to meet peak workloads or to do specialty work, it may not be less costly for routine work.

Chapter 4 provides considerations for selecting consultants. Selecting the best available consultant engineering or related firm and negotiating for compensation requires hours of research, organization, evaluation, and responsible decision-making. The goal of most procurement officials is "total value," a result which occurs when the most competent consultant firm, engaged at a fair and equitable cost, develops a project design or study that serves the client's best interest in quality, construction cost, and life-cycle cost of the facility.

This guide covers a wide range of issues involved in the process of selecting and managing consultants for preconstruction engineering. Any such process must recognize and be consistent with a myriad of federal, state, and local legal, regulatory, or administrative requirements. In this updated guide, the Technical Committee on Preconstruction Engineering Management has attempted to identify and discuss some methods to establish and manage this process in order to have an efficient delivery of high quality products.

Although not continually referred to throughout this updated guide, its underlying principle is that every step of the consultant selection and management process is predicated on the goal of producing a quality product for the public. There are costs involved in ensuring that in-house staff who provide oversight, and consulting staff who provide services, are experienced and well trained. However, expenditures in the preconstruction phase of a project have been shown to be the most effective method of avoiding delays and cost overruns during the construction phase.

Chapter 5 presents a discussion of negotiating and contracting for consultant services. Various contract types, methods of payment, and the basis of payment are presented. The development of a Scope of Services, the negotiation of a contract, and a broad range of contract considerations are presented.





Chapter 6 focuses on how the transportation agency deals with the managing of the contractual, functional, and technical aspects of consultant services. A brief discussion of the responsibilities of agency staff as related to contract oversight and technical monitoring is provided. Tracking systems and reporting, performance evaluations, and budget control are mentioned. Reminders of the many steps to be considered, or processes to be performed, are provided. Also discussed is the importance of having a clear understanding of the roles and responsibilities in project development which are essential to avoiding disputes in the administration of the contract.

1.4 Conclusion

This publication is intended to aid in creating or strengthening a public-private team, to establish guidelines for the most appropriate and best way to manage this public-private team for the benefit of all and, most importantly, to develop a cohesive partnership between consultants and states at all levels in the organization. In today's environment a strong, effective, public-private team is essential to meet the goals of transportation agencies.

Chapter 2: Agency Considerations

One of the key considerations in managing a consultant program is the type of organizational structure that will be necessary to meet the agency's plan for using consultant services. Other chapters of this guide will focus on individual contract considerations.

This chapter addresses the need for developing the most effective organization for using consultants as well as agency roles and responsibilities, agency policies, ideas for training (both agency staff and the consultant staff), and understanding why an agency uses consultants.

The way a transportation agency organizes for the use of consultant services is linked to how the agency is staffed for delivering transportation projects, and how work is completed on individual projects. There are times when the entire project is given to the consultant to complete all the required activities. Other times an agency will decide to use a consultant to complete one activity in a project. An individual project could also include multiple consultant contracts to cover the various parts required for delivery because some projects can take several years to complete.

This guide is mainly used to decide the agency outsourcing needs of preconstruction functions such as designing construction plans, preparing environmental documents, performing land surveys, performing traffic analysis, performing the public involvement process, collecting soils data and testing and various others. However, many of the suggestions and steps in this guide can be applied whenever an agency decides a professional service is being considered.

2.1 Need for Consulting Engineering Services

A transportation program is often developed by an agency, setting forth the program objectives. Based on the program the agency identifies projects as well as project schedules and priorities. The agency staff reviews their available human resources versus the schedules and priorities of the statewide transportation program. From this review, the need for consultant services is identified.

These are important steps for the agency to have completed because it provides justification as to why a consultant is being hired. Government employees, the media, the public, and the legislative body need to understand that there can be times when it is necessary to outsource some of the work. Due to peak work demands, the only way to complete all the work in the allotted time is to outsource some of the work to consultants. There can also be highly specialized intermittent work that will need to be outsourced. Due to the sporadic need for this work or expertise, it may not prove cost effective to have a governmental employee on staff fulltime to do this work. Also there may be instances when the agency needs to hire a consultant to provide independent analysis or opinion related to sensitive issues or to provide expert advice to the agency.





Some states may find that the process of identifying and deciding to use professional services may require some interface with unions representing employees of the agency.

It is important to realize that policies can change over time and with a change in State vision/direction or through a quality improvement process. This can also happen with an agency leadership change. Policies are always open to review and modification.

2.2 Structure Types

There are many variables to consider in structuring the organization of the agency for consultant oversight. It is imperative to approach an organizational structure in a flexible manner to allow merging with any plan or need of the transportation agency. The main approaches to consider are:

- Centralized for Contract Administration only
- Centralized for all aspects of contracting
- Decentralized for all aspects of contracting
- Consultant Managed Contracting
- Combinations of the above

2.2.1 *Centralized for Contract Administration Only*

The administration of consultant contracts is performed by one office in a central location. Using this approach, a work unit skilled in the development of contracts oversees the financial or contractual relationship with the consultant. They develop the contract documents, arrange audits, obtain legal reviews, process invoices, and may act as a clearing house for general performance reviews.

The management of the work to be performed by the consultant may be handled by the functional area that oversees and approves the work. This functional area may be either a headquarters unit or some regional unit.

2.2.2 *Centralized for All Aspects of Contracting*

All the duties are performed by one office in a central location. This office is assigned to administer and manage the consultant contract as well as oversee and approve the services the consultant performs for the transportation agency.

2.2.3 *Decentralized*

All the duties are performed by the functional area that determined the need for the consultant service. The specific functional area will administer and manage the consultant contract as well as oversee and approve the services provided.

2.2.4 Consultant Managed Contracting

A transportation agency may sometimes contract with a consultant to oversee and manage the outsourcing of professional services to other consultants. With this approach, the consultant performs the functions that are ordinarily those of agency staff. The transportation agency staff manages a consultant who in turn manages individual consultant contracts on behalf of the agency. With this approach, the firm that performs the Consultant Management function is normally precluded from competing for any other work that is outsourced while they are under contract.

Contracts for retaining consultant management functions are sometimes predicated on a very large project or series of projects such as a corridor of associated transportation improvements.

2.2.5 Combination

A mixture of the options is used in this approach. Some agency staff oversees the administrative duties related to the qualifications and hiring the consultants. The technical review and quality assurance are usually done by the functional areas. Also, some transportation agencies may have the need for a short-term program management function that will be done by consultants. The combination of organizational structures may prove beneficial in ensuring qualifications and selection procedures are carried out uniformly within the agency. This also removes the administrative work from the technical staff who will be reviewing the consultant's work for quality and accuracy.

2.3 Roles and Responsibilities

The consultant is most often viewed as an extension of the agencies' work force. Agency personnel often include a project manager, functional area experts, and other qualified agency staff persons needed to facilitate, administer, and oversee the consultant contract. The agency usually identifies the consultant services required, the timelines for delivering the work, and the sequence of the work performed by the consultant. The consultant will coordinate and work with identified transportation agency staff to complete the contracted work in the designated timeframe.

On some contracts the consultant may need to hire another firm as a subconsultant. The original firm is normally known as the prime consultant. When a firm hires a subconsultant, the agency contract remains with the prime consultant. The prime consultant and the subconsultant will execute their own contract for the portion of work done by the subconsultant. The subconsultant takes direction from the prime consultant. The agency holds the prime consultant responsible for delivering the contracted work.

It is important to create a positive environment within the agency for outsourcing work to consultants as well as maintaining a positive relationship between the agency and the consultant community. Many agencies view consultants as an extension of their staff. By





working closely together, joint goals and missions are established between the agency and the consultant. To strengthen these relationships, many agencies have found it beneficial to schedule regular meetings with local representatives of the American Council of Engineering Companies (ACEC).

Regularly scheduled meetings with representatives of ACEC and the agency's leadership offer the opportunity for both groups to jointly discuss items of interest, concerns, new programs or procedures, and identify ways to deliver quality transportation products and the program more efficiently. These meetings help maintain open lines of communication between the agency and the consultants. In many instances, joint subcommittees or working groups are formed to discuss specific areas where change is occurring or change may be needed. Through joint work and open communication a stronger partnership is formed between the agency and the consultant. Also, through the formation of good partnerships, trust, teamwork, and professional respect are fostered. This leads to an enhancement of the transportation delivery, business, and procurement processes within the agency.

2.4 Resource Requirements

Each agency will need to determine the number of people required to implement and maintain a consultant work program. The assigned staff is given duties which assist and support project delivery. Other internal staff is considered necessary in supporting the agency's consultant program and the internal project manager. Examples of these staff members are: an attorney to ensure all the legal requirements are included in the contract, an accountant to make sure the consultant firm has an accounting system that can aggregate and segregate costs by project, contract writers to prepare the documents for signatures, pay clerk to make partial and final payments to the consultant firms, an auditor to review the closing of the contract, technical experts to review the scope of services for completeness, and technical/professional experts to confirm that results are appropriate.

There can be multiple numbers of each of these specialty staff people in relationship to the numbers of contracts that get executed during the year. If specialty staff are not available within the agency, there may be sister agencies that can provide the expertise for some of these duties. Otherwise, the agency will need to contract for some of these specialty skill areas. This decision will also need to be made if an agency decides to set up an organizational structure that utilizes a consultant with the Consultant Managed Contracting approach.

2.5 Training

Training programs are necessary for internal staff as well as consultants. A highly trained staff is not only essential to oversee, supervise, and manage an agency's in-house program, but also to manage and oversee the consultant contract program. The agency's functional area that understands the contracting process is often best equipped to provide the training for in-house agency staff. For those instances when the agency needs to train

consultants on the agency's expectations for an acceptable product, the training will need to be delivered by the agency's expert functional area. By using these two approaches, a consistent message is given each time the training is provided.

Internally, the agency staff should understand the timeframe required to get a consultant under contract, the legal requirements from the agency and federal perspectives, ethical issues, who has authority over the consultant's work, payments to the consultant, dispute resolution methods, and the ownership of the consultant products that are completed within the contract. The agency staff also needs to understand that a comprehensive scope of services is important to defining the work to be accomplished by the consultant. It is also important that the consultants understand the scope of services so they can submit appropriate letters of interest to the advertisements for the work.

After a consultant is selected, the agency proceeds with the negotiation of the contract. The agency staff needs to understand the scope of the negotiations in order to come to terms with the consultant on a fair and equitable price for the consultant's work. The negotiation step goes smoothly when the agency sets reasonable expectations. The negotiation needs to be balanced with not only the cost and time elements, but also the quality of the products being provided. If agency staff is properly trained in oversight methods and procedures, the consultant staff can more easily follow the direction of the agency staff and provide. This will help to ensure a quality product.

The extent of training and who will be trained depends on the type of structure the agency implements, staff turnover, and if there are any new policies/laws that will affect the contracting process. Training can be divided into differing modules so only the items with a direct bearing on the employees work need be explained to them.

Consultant training should be in two areas. The first area is the general consultant contract procurement process, laws, and procedures the agency uses when the decision is made to outsource some of the work. Consultants need to understand the format and forms that the agency requires in the submittals. There are administrative details that consultants need to understand to ensure work performance for the agency goes as smoothly as possible.

The second area is the technical work the agency will be asking the consultants to perform. Consultants need to understand the criteria the agency utilizes and know that the same criteria will apply when similar work is being performed by the agency staff. The agency should expect the consultant to perform at the same level or standard that is expected of their own staff. Again, the consultant needs a clear understanding of the work required within the contract and what finished product is required by the agency.

Finally, the agency will need to decide how to address problems and substandard work from individual consultant firms. When the consultant does not deliver the work product or quality of work that is required, the agency has several options. The agency could suggest the consultants obtain additional training in their deficient area, hold the consultant accountable for completing the assignment, suggest the consultant hire a subconsultant





or team with other consultants until the prime consultant can demonstrate they increased their skills, or terminate the contract with the consultant.

Quality and continuing improvement to quality are the focus of transportation today. An important element in achieving quality is staff excellence. This includes both agency staff and consultant staff. Staff excellence can be best assured by comprehensive training and education. When a transportation agency's program calls for a mixed workforce of consultants and in-house staff, emphasizing and encouraging training and education of both will create an environment in which continuing improvements in quality will occur.

Those who manage consultants need a broad range of training which might include management skills as well as technical and professional skills if they are to be well equipped to deal effectively in the consultant relationships. To assure that the in-house staff will be able to perpetuate the experience and skill levels required, each agency should examine its long-range plan. A program that includes work on a sufficient number of in-house projects, as part of their overall training regime, provides staff with opportunities to develop leadership skills and the technical knowledge needed to effectively oversee consultants.

Brief mention is given in Appendix E to some possible areas for training.

Chapter 3: Consultant Program

Transportation agencies are mandated to provide sustainable, economical, and value-added infrastructure and services to support the mobility of people and goods. In today's environment of changing priorities and fluctuating budgets, the agencies are constantly faced with the challenge of providing infrastructures and services with limited lead-time, resources, and staffing. There is also the desire to maintain a stable workload and staffing levels in the long run for delivering capital projects with timely planning, design, and construction activities. Outsourcing of work to qualified consultants may assist in achieving the above objectives.

An agency may use consultants to deliver substantial portions of the work program. The use of consultants can allow an agency to provide services on specialty areas, forensic, sensitive, or contentious issues not encountered routinely. These services may be associated with conducting special assignments, adjusting to peak workloads, or simply augment agency staff with completing program functions.

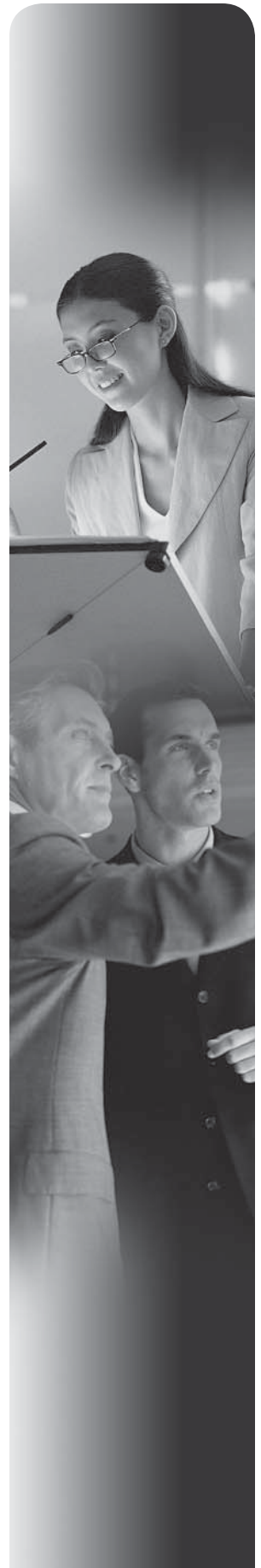
3.1 Setting Up a Consultant Program

An agency should set up a program of consultant services including qualification or pre-qualification of service providers and applying an open, transparent competitive selection process. To demonstrate clear accountability and audit trail, each step should be followed and tracked diligently. Internal agency approvals are usually required for advertising an assignment and for short-listing and award. Approvals supported by project information and justification are usually sought from the Chief Engineer, Director, or Deputy Secretary of an agency.

A clearly defined and transparent process should be applied to manage consultants. The roles and responsibilities of a consultant and the agency staff, including risk and liabilities, should be clearly understood by both parties to ensure complete, efficient, and quality delivery. Standardized legal agreement templates are usually used to define and bind both parties for the scope of services, roles and responsibilities, schedule, deliverables, compensation, incentives, and penalties.

For Federal-aid highway funded grants that go directly to states, federal regulations are applicable and require the state to use the procurement procedures that it would use for contracts using federal funds. The state is to ensure that every purchase order or other form of contract includes the clauses required by Federal statutes and executive orders and their implementing regulations. If a state sub-allocates Federal-aid highway funds, the state is responsible to administer the sub-grant by its own procedures.

The state has oversight responsibility for all Federal-aid highway funds it sub-allocates in the form of subgrants to local government agencies or "other legal entities" to ensure





they comply with the appropriate Federal laws, regulations and accountable to the grantee related to the use of these funds.

3.2 Types of Consulting Services

Each transportation agency's capital and operations program and delivery may vary from year to year, based on the commitments and funding available. The approach for delivery may depend on the agency outlook, organizational structure and staff size, the governance structure, resources available in consulting and construction marketplace, and other related factors. Various types of contracts employed for consulting services are briefly outlined below and described in detail in other chapters.

The contracting and management of consultant services may involve different offices and types of services within an agency. The services may involve types of procurement methods, selection procedures, contracts, special provisions, and payment methods. The services may include but not be limited to legal, real estate, roadway maintenance, traffic control, transportation planning, roadway development and design, surveying, construction management and inspection, special projects, peer reviews, and other types of projects. The agency's consultant program should provide direction, coordination, and support for these different procurement and project management activities that may be performed to ensure consistency, improve efficiency, and comply with applicable laws and regulations (e.g., Federal, state, local).

The type of services, project, and source of funding will determine procurement method, contract type, and how it may need to be managed. Project specific consultant services contracts allow for a project with a specific scope, deliverables, and schedule outsourced to a consultant. Such contracts may be cancelled, extended, or modified as required and at the discretion of the agency.

Multiphase Contract is similar to Project-Specific Contract except that the work may extend through more than one phase of a project. Under a multiphase contract, the subsequent phases can be negotiated and the work authorized, as required. A multiphase contract is helpful for a complex project where a complete scope of work cannot be determined at the start. These contracts can allow an agency to initiate complex projects but require negotiations for each phase as the work progresses. A multiphase contract also allows an agency the flexibility to terminate a contract at the end of a phase without a disagreement with the consultant.

On-Call Contracts are used for work where specific scope of services to be provided is not yet determined. These contracts contain the basic contractual requirements with the provision of including any project specific requirements at a later date. However these contracts do define the specific types of services to be provided, length of contract, overall level or effort, and maximum contract amount to be charged for these services. The consultants are retained on On-Call Contracts through a competitive process. On-Call Contracts may be established to handle one or more projects or for any specialized services that may

be required. On-Call Contracts can also be used when a specialized service is needed for a number of different projects. Generally, On-Call Contracts can run for a period of several years. Such contracts can allow for agreed upon rates of payment within the maximum ceiling price.

With an On-Call Contract in place, a consultant can be retained for a specific work with a minimal amount of time as the majority of the selection process has already been completed. As project specific needs arise, a work order contract is negotiated.

3.3 Consultant Selection

The agency and consulting industry benefit when only qualified companies compete for work. Consultant qualification or pre-qualification by an agency normally serves as the first step towards an open and competitive selection process.

Many agencies follow a qualifications based process requiring a formal submission by the consultants including their expertise/experience for the specific work areas. Another approach used is the pre-qualification of consultants on project-by-project basis. An agency may solicit for pre-qualification of consultants by advertising in the newspapers or on the web. The information provided by a consultant is evaluated by the agency to ensure the consultant meets the requirements advertised.

According to Qualification-based Selection (QBS), a firm is selected based on their superior technical expertise, past experience, adequate staffing, and other criteria pre-established by the agency. Price for services is not a direct consideration in QBS. The submittals received are evaluated and ranked for qualifications and the negotiations for the detailed scope and price are held with the highest ranked firm. If negotiations are not successful within a pre-set time frame, the agency may proceed to negotiate with the next firm in the ranking.

3.4 Legal Contract

Once a consultant firm has been selected, the firm and the agency sign a legal contract including the scope of services required, staffing, deliverables, schedule, price, and the roles and responsibilities of the both parties. The price for a contract may be agreed as cost plus fixed fee, lump sum, cost per unit of work, or any other specific rates of compensation.

It is common practice to use standardized legal contract templates with fill-in areas covering aspects such as, roles and responsibilities, deliverables, payment for services, defaults and remedies, indemnification, incentives and penalties, and dispute resolution. A contract should clearly outline the terms and conditions under which a consultant is expected to perform. A contract is a legally binding agreement, and care should be taken to ensure that all parties fully understand the terms and conditions.





Consultant firms are routinely required to provide proof of insurance to cover General Liability, Errors and Omissions, Occupation Health and Safety, Environmental, and any other required coverage such as warranties.

3.5 Consultant Audits

Agencies routinely carry out audits of the consultant firm including Pre-Award and Final Audits. In some cases, subconsultants may also be audited. Audits would include, but not be limited to, monetary records and bookkeeping practices, salary structure, overhead rates, and final payments.

3.6 Managing Consultant Program

The management of a consultant program including contract oversight is critical for the successful delivery of highway infrastructures. This includes technical compliance, progress reporting, milestone reviews, the consultant's in-house quality control, scope changes, budget control, timely payments for work, performance evaluations, compliance with the contract, coordination and cooperation, claims, and dispute resolution.

An agency may manage a consultant program through in-house resources and staffing or outsource consultant management to another consultant firm.

3.7 Industry Liaison

It is important that an agency keeps connectivity and liaison with the consulting industry including liaison meetings with Consulting Engineers Associations or other such groups. Periodic meetings involving local Consulting Engineers Associations' representatives and upper level agency officials and management have proven to be effective in keeping important lines of communication open and productive. These meetings, preferably held monthly, should follow jointly prepared agenda items of interest to both parties. They should be kept short and not serve as a complaint forum for either party. The meetings provide excellent opportunity to develop partnership in keeping with the agency's consultant program. Joint training opportunities or joint technical and procedural subcommittees may be used to resolve issues or explore opportunities to enhance both the quality of product and working relationship.

Chapter 4: Selecting Consultants

The consultant selection process is initiated once a transportation agency establishes the need to secure consulting services to augment existing agency staff. This process must comply with federal, state, and local legal, regulatory, or administrative requirements. Chapter 4 addresses the methods and steps necessary to successfully accomplish consultant selections successfully.

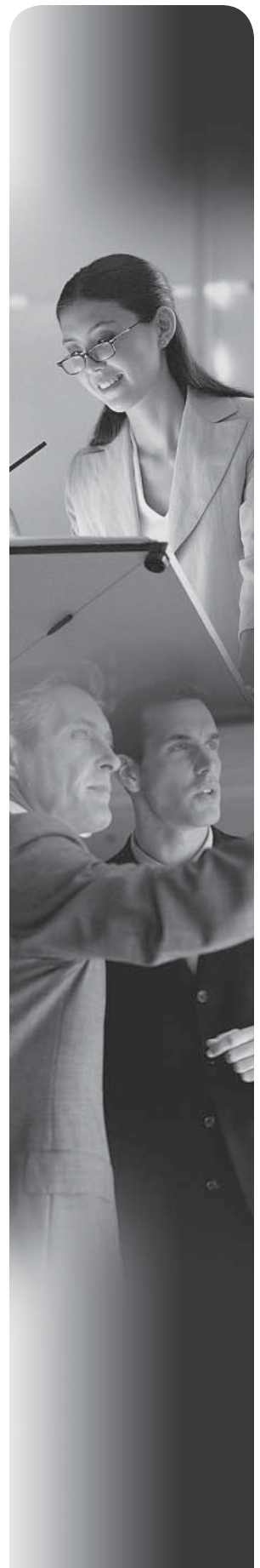
4.1 Selection

There are several methods of selecting a firm to provide consultant services. Unless a state is legislatively exempt, federal regulations and statutes establish the method of selection.

Title 23 U.S.C. 112(b)(2), as amended by section 111(b) of the Surface Transportation and Uniform Relocation Assistance Act of 1987, requires the award of engineering and design service contracts using Federal-aid highway funds to be in accordance with the "Brooks Act" (Federal Property Management Improvement Act of 1988, Public Law 92-582, 86 Stat. 1278 (1972), 40 U.S.C. 541, et seq.). The "Brooks Act" provisions require that all applicable contracts be awarded pursuant to a fair and open competitive negotiation process on the basis of demonstrated competence and qualifications. The 23 CFR 172, "Administration of Engineering and Design Related Service Contracts," is the Federal Regulation applicable to Federal-aid highway projects. It should be noted that some non-engineering services (such as, right-of-way processes) might be selected by means other than the "Brooks Act" provisions.

Section 174 of the FY06 Appropriations Act requires engineering and design (A&E) services contracts directly related to a construction project that use Federal-aid highway funding be awarded in the same manner as A&E services are negotiated under the Brooks Act provisions contained in Chapter 11 of 40 USC. As a result, State and local agencies are no longer allowed to procure these services using alternative or equivalent procurement "Brooks Act" procedures on contracts for engineering and design services (directly relating to construction) that use Federal-aid highway funding. State and local agencies are also required to use the indirect cost rates established by a cognizant audit (23 CFR 172.7) based on the cost principles contained in 48 CFR part 31 for the consultant, eliminating the placing of caps on indirect cost rates, except for the two exemptions included in the FY06 Appropriations Act for Minnesota and West Virginia.

Once an agency enters into negotiation with the highest rated firm based on an evaluation of their qualifications, the negotiation of price on a contract may begin. The consideration of cost should come after the top firm is selected and negotiations begin around arriving at a fair and reasonable price considering "the scope, complexity, professional nature, and estimated value of the services" as per 40 U.S.C. 1104(a). The consideration of di-





rect salary costs could occur in these negotiations, if it is done in a manner that is consistent with determining a fair and reasonable price, following a price analysis process described in the Federal Acquisition Regulations (FAR), section 15.404-1(b).

Note that the above requirements apply to State transportation agencies and all local agencies that may use Federal-aid highway funding for engineering and design services contracts (directly relating to construction) that use Federal-aid highway funding. Projects utilizing Federal-aid highway funding that cost \$100,000 or below are allowed to follow the small purchase procedures contained in 23 CFR 172.5(2) which allows projects to be procured following State laws and procedures.

State and local agencies may place limits on both direct salary and indirect cost rates if they procure A&E contracts that do not use Federal-aid highway funding.

4.2 Selection Methods

It is a common practice by transportation agencies to use competitive processes for the selection of consultants unless it can be justified otherwise. In rare instances, noncompetitive selections may be appropriate to retain single-source or sole-source consultants for emergency work, unique, or specialized services not available through an open competition.

The method of selection, while conforming to statutory requirements, should take into account the value of work to be awarded. The results of the 2005 surveys showed that there are a very large number of capital contracts with a value of less than \$2,500,000, and a corresponding number of design services contracts with a value of no more than \$500,000. This means that the selection process should be efficient such that the total cost of in-house staff and consultants participating in the selection process is only a small percentage of the value of the design services contract.

4.2.1 Competitive Selection

The process for competitive selection may take one or two steps. A one-step selection process is generally used for simple, short-duration contracts. A two-step process may be used for complex, long-duration, or multi-phase contracts. In a two-step process, the first step is to short-list the consultants to narrow down the list to the most qualified firms, usually three to five. This may be accomplished by advertising a Request for Qualifications (RFQ). The second step involves advertising a Request for (Technical) Proposals (RFP) and leads to the selection of a firm through a detailed submission, an interview, or both.

Under this method, firms are selected according to factors other than cost. Such factors as technical expertise, previous experience, capability to adequately staff the project, location of the firm with respect to the project, and other factors as determined by the agency should be considered. Only after the final ranking has been developed and approval obtained does the negotiation process start. At that point, the negotiation com-

mences with the first choice selection. If the transportation agency is unable to successfully negotiate with the top firm, negotiations should stop and proceed with the second choice selection. This procedure is the recommended method for consultant selection.

4.2.2 Noncompetitive Selection

This method is appropriate when obtaining services from a sole source or under a direct select dollar limit. Sole source includes specialized services only available from one firm or services provided by another governmental agency such as a city, county, or state university. Federal and state statutes may provide for direct selection of consultants if the contract value is under a designated dollar threshold. If this selection method is used, once the need is determined, the agency proceeds to the negotiation process.

Noncompetitive selection is usually used to retain a sole-source consultant for emergency work or specialized services not commonly available through open competition. Agencies must submit justification and receive approval from the FHWA Division Office to use this form of procurement on engineering and design services contracts that utilize Federal-aid highway funding that are directly related to a highway construction project. Circumstances under which FHWA may approve a contract for non-competitive negotiations are limited to: service only being available from one source; an emergency does not permit the time necessary to conduct competitive negotiations; or after solicitation of a number of sources, and competition is determined to be inadequate.

4.2.3 Selection/Assignment of "On-Call" Contracts

The selection process for "on-call" contracts is generally the same process described for competitive or noncompetitive selection. Matching projects to the selected firm(s) may be accomplished by assigning work in specific regions to a consulting firm. Work may also be matched with a consulting firm based on special expertise, by rotation of firms, or by other methods as developed by the agency.

4.2.4 Competitive Bidding

This is a method whereby the contract is awarded to the lowest bidder. Transportation agencies that have tried competitive bidding have seen a wide variance in bids. It should be noted that engineering costs represent a minor portion of the overall project cost. Also, the quality of the design can affect the overall cost of the project, both in initial construction and long-term maintenance. Under this concept, there is little incentive for the consultant to develop the best design but rather develop a design with the lowest design effort/cost and that still meets engineering standards. This method does not provide opportunities to improve upon the overall design within the contract. It also usually results in a contract that will have to be amended (at higher cost) to achieve the desired goals. Price cannot be used as a criterion during the evaluation phase of the selection process when procuring engineering and design services contracts that utilize Federal-aid highway funding (23 C.F.R. 172.5(a)(1)).





4.2.5 Value-Based Selection

The value based selection approach is similar to competitive bidding in that quotes are requested as part of the Request for Technical Proposal (RFP) submittal. Generally, transportation agencies develop a short list based on qualifications and then use the quote as a factor in determining final ranking in order to award the contract. Specific procedures vary among agencies as to the extent cost is considered. In some states, state law requires cost be considered. Some use cost as a final selection criterion in ranking firms, while others use it as a weighted factor along with other selection criteria. Several agencies use the "two envelope" system. The second envelope, containing the proposed engineering costs, is opened and contributes to the selection only after the firms have been ranked based on their technical proposal. When cost is a predetermined (even minor) factor in the selection process, the disadvantages cited above under competitive bidding may result. As with competitive bidding, price cannot be used as a criterion during the evaluation phase of the selection process when procuring engineering and design services contracts that utilize Federal-aid highway funding.

4.3 Identify Need, Establish Preliminary Scope and Schedule, and Procure Consultant

A statewide work program is developed by an agency, which compares transportation objectives, agency capabilities, its staff availabilities, and funding resources. From this, project schedules and priorities are established and the need for consultant services is identified.

Following project identification, the needed consultant services and agency responsibilities are outlined. A schedule for the project is also tentatively established. General requirements that the consultant needs to follow to deliver a quality product should be identified at this point in the process.

After the agency has identified the work to be contracted, the type of contract needs to be determined so that the scope of services expected of the consultant can be prepared and a proposal elicited (refer to Chapters 3 and 5 for types of contracts).

Once preparation for consultant services is finalized, the selection process may begin. The following steps are typically utilized in the process to select consultants:

- Establish Selection Committee
- Establish Selection Criteria
- Qualifications/Pre-Qualifications
- Request Statement of Interest or Qualifications (RFQ)
- Review Responses/Develop Short List
- Detailed Pre-Proposal Scoping Conference
- Request for Technical Proposal–Request for Proposals (RFP)

- Receive and Evaluate Technical Proposals/Conduct Interviews (Optional)
- Final Rankings/Approval and Notifications

A Consultant Selection Process flow chart is provided in Figure 1-1.

4.3.1 Establish Selection Committee

It is recommended that a selection committee be established for the purpose of reviewing and evaluating the statements of interest or the proposals submitted by the consulting firms. Selection committees should generally be composed of an odd number of individuals (e.g., three or five) for voting purposes. Members may come from diverse backgrounds and represent various disciplines (e.g., financial, engineering, administrative) commensurate with the services advertised. However, it is also essential that the committee have more than one representative who has technical expertise in the area (e.g., design, structures, right-of-way, etc.) in which services are being contracted. Some transportation agencies believe it is best not to involve the contract administrator in the selection process to eliminate the perception of a conflict of interest. This committee may be the final selecting authority or make their recommendations to higher authorities.

There are generally two methods used for establishing selection committees: one utilizing fixed membership, the other forming committees with a rotating membership.

Transportation agencies opting for fixed membership on selection committees often utilize top management, such as department, division, or office directors. However, middle-management or appropriate staff may also participate. One of the prime advantages of maintaining a fixed membership committee is the reduced time to establish the committee. Also, selection committee members become more knowledgeable of consultants' prior performance and can make appropriate evaluations more quickly. Agencies may use a rotating membership on the selection committee consisting of top management, staff persons, or a mix. By rotating the membership, the transportation agency is in a better position to avoid being criticized for favoritism. Some agencies have found that keeping selection committee membership confidential helps reduce excessive promotional activities by consultants.

4.3.2 Establish Selection Criteria

General criteria guidelines should be established for consultant selection. The criteria may be established by the selection committee or some other committee or group established for the specific task of developing the criteria. Some agencies also establish appropriate weights for each criterion. It may be necessary to modify the criteria to fit specific cases. When a request for statements of interest or a Request for Proposals (RFP) is sent to the consultant firms, it should state the criteria that will be used in the selection process.

Criteria for evaluating statements of interests or proposals, depending on funding sources, may include:



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- Special expertise and experience of the firm's key employees and their availability and time commitment to the project;
 - Proposed staffing for the project and previous experience of those identified;
 - Experience of the firm and their personnel on previous projects similar to the one under consideration;
 - Understanding of the project by the firm as demonstrated by their approach to organizing and management of the work;
 - Current workload of the firm and their ability to meet the proposed project schedule;
 - Location of the firm's office where the work will be done;
 - Quality of previous performance by the firm with the transportation agency;
 - Use of subconsultants to accomplish work on the project;
 - Equipment the firm has available and proposes to use on the project such as compatibility with Computer-Aided Drafting and Design (CADD) and other equipment proposed to be used in accomplishing the work;
 - The need for specific software requirements should be considered when developing Request for Proposals (RFP) and should be specifically documented in the contract language. Identifying necessary software requirements in the RFP will eliminate the need to review and evaluate proposals of consultants who do not meet these requirements. Contractual language should be very specific to identify all the necessary software standards, versions, deliverable formats and other specifications as necessary to ensure that a proper deliverable is received.
 - Familiarity with federal, state, and local codes, requirements, standards, and procedures.

The specific criteria used will depend upon whether federal, state, or local funding is involved, and should be consistent with the funding agencies' requirements.

When procuring engineering and design services contracts that utilize Federal-aid highway funding, the following criteria cannot be used in the evaluation and selection process:

- Price;
- Indirect cost rate;
- In-state preference; and
- Set-aside and quotas of contracts for DBEs or SBEs is prohibited (49 CFR 26.43).

The FHWA does permit the following criteria to be used in the evaluation and selection process on contracts that utilize Federal-aid highway funding:

- Locality preference of between 5 and 10 percent may be used on a project by project basis where it is not based on political boundaries; and
- DBE and SBE preference of no more than 10 percent may be used. If a state establishes a DBE contract goal on a consultant services contract that has subconsultant contract possibilities, the implementation of the contract goal must comply with 49 CFR Part 26.

4.3.3 Qualifying/Pre-Qualifying

In an effort to ensure quality performance and results, a consultant should be required to meet certain minimum qualifications to be eligible for consideration in the selection process.

One prequalification process many transportation agencies use is to develop and maintain a file of consultant firms by specific work categories or areas of expertise. This data file or interest list is usually updated annually. Some agencies solicit this information by advertising in national, state, and local publications. The collection of data for the purpose of pre-qualifying consulting firms may be accomplished by requiring submission of Federal Form 330 or a special state form. The form should list consulting firm details, names of principals, office locations, personnel by discipline, project experience and examples, current workload, types of service the firms are qualified to perform, and previous performance. Also, resumes of key persons, specialists, and other associates that may be assigned to the project or projects should be included. This information should be the basis for evaluating and placing a consulting firm on a general prequalification list.

Another practice is to qualify consultants on a project-by-project basis. This is accomplished for some agencies by advertising or publishing notices in national, state, and local publications for needed services for specific, individual projects. These notices include a precise project location, a defined preliminary scope of services to be performed, a specific schedule within which the work is to be completed, and a list of products and deliverables to be provided by the consultant. Specific project advertisements usually are published when the proposed project is large and complex, in-house resources are not available, special expertise is required, or the objectivity of an outside authority is desired.

In both cases above, data received is evaluated by the agency to assure compliance with the criteria for the selection for a specific project or several projects. The consulting firms are then grouped or ranked based on the criteria established prior to the selection process.

4.3.4 Request Statement of Interest or Qualifications (RFQ)

The need for services of a consulting firm may be advertised in appropriate national, state, and local publications and web sites. Notices can also be sent to firms known to be qualified to do specific work, to professional societies, and to recognized Disadvantaged Business Enterprises (DBE) organizations. The advertisements and notices seek statements of interest and qualifications from consultants who are interested in the project.

Appropriate Federal Aid requirements should be complied with on Federal Aid projects.





4.3.5 Review Responses and Develop Short List

All statements received should first be reviewed for completeness. Each response must contain all required forms and any other information requested in the advertisement. The response may be considered incomplete and rejected without further evaluation if all required information is not provided or if the submittal is late.

The qualifications of all responding firms are then reviewed according to established evaluation criteria or factors. For information concerning statement of interests or proposals evaluation criteria, see Section 4.3.2 “Establish Selection Criteria”.

The agency then establishes a short list of at least three consultants that are determined to be the most highly qualified to perform the required work. Firms not selected should be notified in writing.

4.3.6 Pre-Proposal Scoping Conference

For complex projects, it is suggested that a pre-proposal, scoping meeting/conference be held by the agency in order to share with all involved firms pertinent technical information and objectives, administrative requirements, and time frames for the work, as well as to clarify general or specific project details, roles, and responsibilities. This assures that all short-listed consultants receive the same message and start from the same base to prepare their individual proposals. If such a meeting is to be held, the time and place is usually specified in the Request for Proposals. Failure to appear at the scoping conference may be grounds to eliminate the consultant from further consideration.

4.3.7 Request for Technical Proposal—Request for Proposals (RFP)

An RFP is sent to the short-listed firms. The RFP should indicate the content of the proposal, technical review procedures, anticipated schedule of activities, scope of work, project description, where the proposals are to be delivered, the number of copies required, and the due date.

Some agencies receive the technical proposal orally as part of an interview conducted for this purpose. In these cases, written documentation may not be required.

Items typically required in a technical proposal include:

- Work plan,
- Organization plan,
- Schedule for meeting time frame,
- Available computer equipment and programs,
- Staffing plan and resumes including subconsultants,
- Pre-award audit/financial package information (if deemed appropriate),

- Examples of similar work previously completed, and
- Subconsultants, DBE, their proposed participation, and other related information.

4.3.8 *Receive and Evaluate Technical Proposals/Conduct Interviews (Optional)*

The agency selection committee will evaluate all acceptable proposals according to established criteria, which may include weighted factors. Technical proposals and evaluation criteria should generally include project understanding, demonstrated competence, innovative concepts, approach to quality control, comprehensiveness of proposal, staffing quality and availability, staffing leadership and experience, reasonableness of work schedule to fit agency time frame, and past performance on similar projects of the prime and subconsultants, including Disadvantage Business Enterprises (DBE).

Interviews, if necessary, should be structured and conducted in a formal manner with a specified time limit. Interviews give firms the opportunity to present their qualifications and state how they intend to provide the necessary personnel and services to complete the project. The agency can request competing consultants to bring additional information or examples of their work to the interviews if such information will contribute to the evaluation process. Specific questions may be asked of each consultant by the selection committee to clarify qualifications, written proposals, or oral presentations.

4.3.9 *Final Ranking, Approval, and Notifications*

The selection committee should evaluate and document the strengths and weaknesses of each consultant. Thereafter, a final ranking of the short-listed firms is developed.

After the firms have been ranked, their ranking, the factors on which the ranking is based, and a recommendation should be submitted through the agency's approval process. Short-listed firms that submitted RFPs should be notified of the final selection. Debriefings may be given to consultants if requested. Identifying areas of concern (such as, staff qualifications, high work load, or problems with past performance, etc.) may help consultants identify improvement opportunities.

4.4 Other Selection Methods

Some transportation agencies have rules and policies, which allow them to modify and vary from the aforementioned selection process. Alternative selection methods are usually dictated by factors such as funding source, project complexity, engineering costs, emergency situations, time constraints, and statutory requirements, state laws, and other specialized characteristics.

One variation is to short list at least three firms directly from a list of pre-qualified consultants. This allows an agency to move directly into requesting technical proposals without advertising. The remainder of the process is similar to the one described above.





An even simpler process is to make a direct selection, from a pre-qualified list, of a firm that is available and qualified to produce a quality product based on an agency's needs. This process is generally followed when the need is specialized or well-defined and engineering costs will be relatively small. This allows an agency to move directly into negotiating an acceptable contract.

Chapter 5: Negotiating and Contracting

After finding that consultant engineering services are needed, agencies will proceed to determine contract types and associated payment methods. Throughout the life of a consultant contract, agencies will conduct financial audits of the consulting firms.

The agency will prepare a detailed scope of work (services) that will form the basis of negotiating a contract with the consultant for the various methods of payment. Consultant contracts follow contract language that is legally reviewed and results in a fully executed contract.

5.1 Contract Type

Per the Federal Acquisition Regulations (FAR), the agency should consider many factors in selecting the contract type. These factors include price competition, price analysis, cost analysis, type and complexity of the requirement, urgency of the requirement, period of performance or length of contract, consultant's technical capability and financial responsibility, adequacy of the contractor's accounting system, concurrent contracts, extent and nature of the proposed subcontracting, and acquisition history.

As discussed in Chapter 3, prior to beginning the selection process, the type of contract needs to be determined. Contract type refers to the method in which the contract is structured to cover the work, such as:

- Project-Specific Contracts
- Multiphase Contracts
- On-Call Contracts

5.1.1 Project-Specific Contracts

Project-specific contracts provide for all the work associated with a specific project that is desired to be contracted with the consultant firm and requires detailed scopes of services. These contracts may provide for all work to be placed under contract at the same time depending on availability of funds.

A project-specific contract is the traditional type of consultant contract between the agency and a consultant for the performance of a fixed Scope of Work related to a specific project or projects.





5.1.2 Multiphase Contracts

Multiphase contracts are similar to project-specific contracts except that the work is divided into phases such as survey, environmental, design, and right-of-way. Individual phases are negotiated and the work authorized while future phases may wait until later in the contract period before completing negotiation and authorization. Multiphase contracts give the agency some latitude in determining to what extent the consultant firm continues with the contract. They are also helpful for complex projects where the scope of a future phase is not well defined. They allow the agency to get complex projects under contract in a minimal amount of time but require continual negotiations as each phase approaches. Multiphase contracts permit the agency to terminate a contract at the end of a phase without the effort and possible disagreement associated with using the termination clauses in the contract.

A Multiphase contract incorporates the work order concept for a specific project. The consultant contract is based on a general scope of work with a maximum dollar value and specifies the expertise needed for the project. A work order is generated for the portion of the project where main and detail tasks can be identified.

5.1.3 On-Call Contracts

On-Call Contracts cover basic contractual requirements without defining specific projects. They are set up to handle a number of projects or specialized services which are established during the contract period. Generally, these contracts run for a period of several years. The base or general contract sets up specific agreed rates, services to be provided, length of contract, and maximum dollar amount of the contract.

The biggest advantage to this type of contract is the ability to get a specific project under contract in a minimal amount of time because much of the selection process has already been completed. Typically, On-Call Contracts are used when a specialized service will be needed for a number of different projects, e.g., field survey, wetland determination, and hazardous waste analysis. This is a very popular form of contract with many agencies. These contracts can range in scope from full service to single discipline functions.

A standard On-Call Contract requires a consultant to provide work and services on an as-needed or on-call basis. Work orders are generated to stipulate what work and services are required for specific projects. An on-call contract provides for the repetitive performance of a specific work task for items such as surveying and utility designations and locating.

5.2 Payment Methods

There are two basic categories of payment for consultant services: Negotiated Price and Cost Reimbursement. The primary difference between these two categories is that with the use of a Negotiated Price agreement, the consultant is assuming the cost risk of performance, whereas with the Cost Reimbursement category, the agency assumes the risk.

Negotiated Price contracts are most appropriate when the scope of services is well defined. On the other hand, Cost Reimbursement contracts should be used when such definitive requirements do not exist and the cost uncertainties of performance are high.

Within the above-named broad categories, the most frequently used payment methods are:

- Cost plus fixed fee—cost reimbursement
- Lump sum—negotiated price
- Cost per unit of work—cost reimbursement
- Specific rates of compensation—cost reimbursement

These are also the only methods of compensation allowed on Federal-aid highway projects. A single contract may contain different payment methods as appropriate for different elements of the work.

5.2.1 Cost Plus Fixed Fee

Cost Plus Fixed Fee is a Cost Reimbursement payment method. Once negotiated, the fixed fee does not vary, even though the actual cost may. However, it may be adjusted, through negotiation, as a result of significant changes in the work, services, or duration to be performed. Because the fixed fee does not vary in relation to the consultant's ability to control costs, the cost plus fixed fee contract provides for a low risk to the consultant and provides only a minimal incentive for effective cost management. Therefore, an audit at the completion of the work is very important. The fixed fee is based on the scope, complexity, degree of risk, and specialized expertise associated with the project.

This type of payment method is suitable for the performance of research, or preliminary exploration or study, where the required level of effort cannot be well defined. It is the most commonly used payment method for preliminary engineering and design. However, if preliminary studies and other information are sufficient to allow the development of a well-defined and specific scope of services, the lump-sum method might be more appropriate.

The Cost Plus Fixed Fee method is used when the Scope of Work is fairly well-defined, but the total engineering effort required to complete the work cannot be estimated precisely. The consultant is paid an agreed-upon amount for a fixed fee, based on actual Scope of Work completed, together with all actual costs incurred in the performance of the work and services. Once both parties have agreed to the work effort in an executed consultant contract, a change in the amount of fixed fee can be made if the scope of work or duration changes.





5.2.2 Lump Sum

Lump Sum is a negotiated payment method. Along with cost plus fixed fee, it is the next most commonly used method of payment. It provides for a price which is not subject to any adjustment because of cost changes the consultant might encounter in the performance of the work. Because the consultant assumes full responsibility, in the form of profits or losses, for all the costs under or over the firm negotiated price, it has a maximum profit incentive for effective cost control in contract performance. This type of payment method imposes a minimum administrative burden on the contracting parties. The Lump Sum method of payment is suitable when reasonably definite design or performance specifications are available and whenever fair and reasonable prices can be established and agreed to at the outset.

The Lump Sum method is used when the Scope of Work is well-defined and the total engineering effort can be estimated accurately. Once both parties have been agreed to the work effort in an executed consultant contract, a change in the amount of lump sum can only be made if the scope of work changes materially.

5.2.3 Cost per Unit of Work

This is a Cost Reimbursement payment method that provides for the payment to the consultant of allowable costs incurred in the performance of the contract, to the extent prescribed in the contract. This method of payment is suitable for use when the effort per unit of work is well-defined but the number of units is uncertain. It is essential that the consultant have a record of the actual work completed.

5.2.4 Specific Rates of Compensation

This Cost Reimbursement payment method provides for the acquisition of supplies or services on the basis of direct labor hours at specified fixed hourly rates (rates include wages, overhead, general and administrative expense, and profit), and material at cost.

This payment method should be used only when it is not possible at the time of contracting to estimate the extent or duration of the work or to anticipate costs with any reasonable degree of accuracy. This type of contract does not encourage effective cost control and requires almost constant monitoring. It can be used in the acquisition of engineering and design services and work to be performed for On-call contracts and in emergency situations. Examples include expert witnesses, some surveying requirements, geotechnical services, and other small, open-ended tasks.

The Specific Rate of Compensation method is used when the Scope of Work and the required work effort cannot be determined at the time the consultant contract is executed. A specific rate of compensation is established for each labor class or employee by multiplying the wage rate by the specific rate factor established in each consultant contract.

5.2.5 Variances

Variances to the above payment methods include the following items:

- **Cost Limitations.** Contract cost elements include direct labor costs, direct project expenses, overhead (indirect labor and expenses), and a fixed fee. In an effort to control contracting costs, some states have placed limitations on some of these costs.
- **Maximum Amount Payable.** The contract should specify a dollar amount within which the consultant will complete all tasks in the scope of services.
- **Retainage.** Many agencies use retainage or other forms of guarantee for various reasons. The terms and conditions of the contract should clearly define these requirements, including periodic reduction in retention and the conditions for release of retention.

5.3 Audits

Agencies are required to complete audits for consultant contracts. These audits may include Preaward Audits, Audits of subconsultants, and Final Audits. Also audits may be conducted for indirect rates determination on an annual basis. Additional information and guidance on the auditing and reporting of the indirect cost rates of consultants can be accessed in the AASHTO Uniform Audit and Accounting Guide.

5.3.1 Pre-Award Audits

Financial audit of a consultant's accounting records which are conducted prior to contract initiation, are referred to as "preaward audits." Such audits are necessary when the agency has selected a firm it has not recently retained. The audit unit reviews the monetary records and bookkeeping practices of the firm to evaluate its financial strength and to ensure that the firm possesses the means to carry out the selected assignment. (Also see Chapter 3.5)

The audit unit also reviews the salary structure of the firm and evaluates its ability to segregate costs, by project, for billing purposes. The audit also establishes the indirect cost rate for the firm. This is essential because the predominant method of contract payment is cost plus fixed fee, where the reimbursement will be primarily direct labor costs plus a multiplier for indirect rates.

5.3.2 Audits of Subconsultants

Subconsultants may be audited when they are paid by the cost plus fixed fee method—the same as prime consultants. However, if the subconsultant is to provide a specific product, and compensation is to be at a fixed price, then the subconsultant may not need to be audited. Examples include photogrammetry (where maps are supplied) and special reports, for an agreed-upon price.

The audit requirement can be particularly burdensome for small firms; thus, efforts should be made to reduce the impact on their operations.

