Introduction

All Major Projects are required to have a Project Management Plan (PMP) and FHWA provides ***PMP Guidance*** on their Major Projects website. Additional information on Major Projects may be found in ***PMG 405***. Project managers may find it beneficial to utilize a PMP on other non-major projects.

The PMP is a tool used to promote the efficient, organized, and timely completion of a quality work product according to schedule, budget and contract requirements. The PMP details the job scope, the work product, roles & responsibilities, task sequencing, budget, resource allocation, schedule, and risks. The PMP is intended to be a living document on how the project is to be managed. It continues growing in detail as a project progresses.

Project Managers in all project phases will benefit from the development of a PMP that addresses the criteria for a successful project. Although the following material is oriented primarily toward Planning, Project Development and Environment (PD&E) and Design projects, the concepts can also be applied to Construction and Maintenance projects. Some of the PMP elements, however, will not apply directly to all projects and the PMP will need to be modified or eliminated.

The Project Management Plan Concept

In general, the PMP answers these questions: What must be done? Who will do it? How will it be done? How long will it take? How much will it cost? What are the deliverables? How will quality be maintained? What is the schedule?

The PMP is intended to be an internal tool for both the Florida Department of Transportation (FDOT) Project Manager (PM) and the consultant PM. Each PM should have a plan developed from their perspective that addresses the needs of each organization. If a consultant is performing the project, the PMP does not replace the contract and scope of services; it helps the PM prepare these documents and complete their requirements. If the project is being done with in-house forces, the PMP becomes a “contract” between the PM and others within FDOT.

The format and level of detail of a PMP varies according to the author (FDOT PM or consultant PM) and the type, size, and complexity of the project. The suggested elements of a PMP discussed in this chapter should be modified to fit the project and the needs of the PM. Assembling these elements into one document as a management tool will help ensure that all the essential issues are considered and that the individual elements are planned in a consistent and complementary fashion. However, the intent of the PMP is not to replace project files, which will contain detailed documentation of most of the items discussed in this chapter. The PMP is intended to be a summary of the most important project records for handy, daily use by the PM.

The FDOT PM should develop a PMP when a project is first assigned, ideally when the project is first scoped. This plan will be very helpful in preparing the scope of services for the contract. The consultant PM should develop a PMP after selection but before notice to proceed. An initial PMP will be excellent preparation for contract negotiations for both parties. Once the contract is negotiated, a fairly detailed plan should be in place by notice to proceed on a contract.

PMP Outline

The following sections outline all the elements that should be considered for a PMP.

1. **Project Purpose, Goals, Objectives and Metrics**

    a. **Title and Identification** should include project titles and numbers to be used by the FDOT. For a consultant project, the consultant's contract number(s) should also be identified.

    b. **Purpose** should include the rationale for the project.

    c. **Goals** should include the long-term vision for the project.

    d. **Project Objectives** should address what this project is to accomplish and outline how it relates to the organization's mission and values. Who are the stakeholders and clients?

    e. **Metrics** should outline project targets and tracking requirements.

2. **Project Description**

    a. **Description** should be a brief narrative description of the project scope of work that can be used consistently in all project documents.

    b. **Map** should include the location of the project and the project limits (which should be the same as what appears in the work program).

    c. **Commitments** made in previous phases of work should be listed so they may be carried through the project phases until they are met.

    d. **Constraints and Assumptions** should help establish the "rules of the game." These may include technical issues, project hand-off issues from prior phases of work, public concerns and politically sensitive "hot buttons." List concerned local agencies and other stakeholders. A brief description of the pertinent history may help explain the constraints and assumptions. Other common project constraints include:

        - Construction access
        - Traffic
        - Environmental
        - Right of way
        - Geotechnical
        - Utilities
        - Other transportation modes (such as airports and railroads)

        The earlier constraints are identified, the more flexibility the PM will have in dealing with them.

3. **Project Procurement**

    a. **Procurement** should identify what services will be procured.

    b. **Scope of Services** should be referenced and may be attached to the PMP. Include all significant understandings and agreements reached during negotiations.

    c. **Expectations** are those desired outcomes that are not expressed in the scope of services. Examples may include the importance of submittal dates and timely reviews; the interrelationships with the next project in the work program pipeline; and, for a consultant firm, the potential for future business opportunities. The PM should clearly understand the expectations of their management.

    d. **Deliverables** should be specifically listed. Frequently, some deliverables are not specified in the scope of services, but they are required by reference to FDOT policies or manuals. For example, the FDOT Design Manual (FDM) contains requirements for deliverables that may not necessarily be

repeated in the scope of services. The PMP should list everything that must be delivered, delivery format, and other requirements.

4. Project Organizational Structure

This part of the plan defines the project team members (including representatives of all participating departments, agencies, and companies), identifies and quantifies personnel resources, and develops a hierarchy for problem resolution. Team members' qualifications should fit the needs of the project. The roles and responsibilities of the project team are described here.

a. An **Organization Chart** for both the FDOT and the consultant should be attached. Organization charts should be simple, showing clear lines of responsibility.

b. **Key Personnel** include the PM, their supervisor, and key assistants for both the FDOT and the consultant. A responsibility and contacts chart should be attached. For design and other engineering projects, the engineer in responsible charge of the work, as defined in ***Rule 61G15-18.011(1) F.A.C.***, should be clearly identified.

c. **Subconsultants** should be listed, along with a brief explanation of their role in the project and their key personnel.

d. **Staffing** may include important individuals by name or numbers of staff by categories. Staffing needs vary throughout the life of the project and may be illustrated in a Staff Level Requirements chart. Applying personnel resources to the schedule allows the PM to plan staff level requirements throughout the life of the project. Personnel experience and expertise should match project complexity. While it is almost inevitable that personnel will change during the course of a job, it is critical that equally qualified or better staff be substituted when changes occur. Possible substitutes should be identified as soon as changes are foreseen.

e. A **Delegation Plan** should identify the individuals who will be delegated certain responsibilities and the terms of that delegation, such as levels of authority or phases of a project. A PM cannot do everything on a project. Responsibility must be delegated in a clear, unambiguous manner. Managers of engineering projects should understand the provisions of ***Florida Administrative Code (F.A.C.), Rules 61G15-30.002, 005 and 006,*** pertaining to Professional Engineers, that explain the responsibilities of the Engineer of Record (EOR) and Delegated Engineers.

5. Project Management Controls

Project management controls should be described here. They include controls for Contract Administration, Scope, Cost, Schedule, Risk, and Quality. This section should also document how and when project performance is reported.

a. Contract Administration

The PMP should clearly identify how the project will be administered. This subsection should discuss how control contract administration activities will be documented and monitored. It should document processes and tools used for tracking and addressing contract requirements. Project controls for change management and claims management are two contract administration topics that should be clearly addressed in this section.

1. The **Responsible Office** should be identified for consultants.
2. **Administrative Staff** who will handle project actions such as filing, word processing, invoicing, and accounting should be identified.

3. **Project Files** should include a list of files to be used and the file numbering and naming system for both hard copies and computer files.
4. **Special Needs** such as travel procedures; vehicles, and special equipment should be included as appropriate.
5. The **Communication Plan** may be the most important administrative issue. How will the PM communicate with their counterpart, with the project team, subconsultants and others? The plan should include the use of e-mail, face-to-face meetings, phone calls and written correspondence. Objectives for frequency of consultant/client contacts should be identified. An example may be PM-to-PM phone contact at least weekly and firm principal contacts at least monthly. The plan could also include sample forms for letters, memos, transmittals, fax covers and other forms of written communication. Such samples will help ensure consistency in project titles and numbers and overall appearance of correspondence. A plan for communicating with the media is appropriate for complex or controversial projects.
6. A **Meeting Schedule** for consultant-client meeting, as well as internal team meetings should be included. Remember to include subconsultants in the meetings plan. Even though there may not be a specific agenda item dealing with a subconsultant, it may be advantageous for them to understand important project issues.
7. Routine **Internal Reporting** to both the FDOT and the consultant firm should be listed, as appropriate. Include distribution of internal reports.
8. **Progress Reports** should be submitted as required by the scope of services. Even if progress reports are not specifically discussed in the contract, they may be a useful communication tool for the consultant and the FDOT PM. Also identify the distribution of progress reports.
9. If the **Project Closeout Requirements** are not completed in a timely manner, administrative and financial problems can result. The requirements of both the consultant and the FDOT PM to close out the project completely should be listed. An index of archived files with specific instructions for retrieval should be included.

b. Scope

This subsection should document the criteria for defining, tracking, and controlling overall project scope. The discussion should include the processes for approving scope changes and for verifying that the planned scope of work meets the project requirements, including project permits and approvals. The Major Project Financial Plan is one tool used to document, monitor, and update project scope.

c. Cost

FDOT PMs and consultant PMs will have different approaches to material in this portion of the PMP.

1. **Contract Values** identify the amounts in the contract and include all contracted subtotals and limits.
2. **Method of Compensation** should also be identified whether lump sum, cost plus fixed fee, unit price or other. Any effect that the contract values and methods of payment will have on how the project will be managed should be discussed.
3. **Invoicing** should include the frequency, dates, task breakouts and invoicing directions for sub-consultants. Most consultant projects are invoiced through the Consultant Invoice Transmittal System (CITS). If the project is in CITS, the invoicing directions must be consistent

with the manner in which the contract data is loaded into CITS. If the project is not invoiced through CITS, the mechanism for invoicing should be explained.

4. **Optional Services** should be identified along with trigger dates for timely actions.
5. **Contingencies** available in the budget should be identified for the FDOT PM. The FDOT PM should discuss any contingency with both the work programs staff and the Professional Services Unit staff to fully understand all restrictions and requirements.
6. The **Budget** is perhaps the most important financial issue for the consultant PM. Project costs under the control of the consultant PM are labor, direct expenses and subcontracts. These costs must be controlled to achieve a profit. Each firm has its own project budgeting procedure that should be followed and included in the PMP.

d. Schedule

Every project should have a specific schedule. The complexity of a schedule will vary with the complexity and duration of the project. The schedules for small, quick turn-around projects may be as simple as a bar chart showing the duration of each project activity. Large, complex projects require very sophisticated critical path analysis.

1. The Schedule may be attached to the PMP. The schedule is one of the PM's most powerful management tools. The schedule should include all the required production activities and necessary quality control, printing, reviews, and revisions that are necessary for a project.
2. A list of the Critical Path Elements should be summarized in the schedule to help the PM plan for the more important work activities.
3. A list of Major Milestones will help the PM and the team to focus on important schedule events.

e. Risk

The hallmarks of a successful project normally are completing the project requirements on time, within budget, and with an acceptable quality. The PMP itemizes the elements of project management that will lead to success. However, with any plan there are risks. Risk assessment involves identifying the definition of success on a project and what may go wrong to jeopardize that success.

Risk is the measure of the probability and consequence of not achieving a defined project goal. Risk management is the act or practice of dealing with risk and includes planning, assessing, and monitoring risks throughout the project. Risk is inherent in all projects.

1. **High-Risk Elements** should be identified and included in the PMP.
2. A **Contingency Plan** should be developed and ready to implement in case it is needed. This plan will help deal with project issues in a more efficient manner.

f. Quality

Design Quality Control Plan requirements are addressed in ***FDM 124***. A project-specific Quality Control Plan is not required for Department (in-house) design projects; however, these projects must follow the procedures outlined in FDM 124. Every consultant project must have a Quality Control (QC) plan as described in FDM 124. Although this is the standard on design projects, it may be beneficial for other projects phases such as planning and PD&E. The project QC Plan should be attached to the PMP. If a formal QC plan is not required, a simple one

can be prepared as part of the PMP. A QA/QC Staffing Plan with specific QC Responsibilities should be attached Any Required Submittals related to the QC Plan should be listed.

6. Project Communication Management

The PMP should address processes and procedures to ensure effective communications among project team members and with stakeholders. Stakeholders may include but are not limited to the following: the traveling public, political officials, media, interest groups, and businesses. This section should cover how informal and formal communications will be conducted and managed.

7. Project Documentation & Reporting

This section describes how project records will be managed. This includes defining the document control and tracking systems as well as any project reporting procedures. This section should also discuss how lessons learned will be tracked throughout the life of the project and the final documentation of all lessons learned.

8. Project Closeout

This section of the PMP should outline the processes and procedures for contract closeout to ensure that all specified contract work is completed, record documents are maintained appropriately, and financial obligations are settled. This section should also discuss the requirements for a coordinated transition from the construction phase to the operations and maintenance phase. The project closeout plan should be developed to help ensure that all Federal, State, and local laws, regulations, rules, and applicable mandates are met.

9. Project Oversight

This section of the PMP should document the oversight roles and responsibilities to effectively manage the requirements applicable to the project, including review and approval actions. This section should reference program level stewardship and oversight agreements between the Department and FHWA (e.g. FHWA/ DOT Oversight Agreement) and any other project level oversight plans.

10. Management of the PMP

This section of the PMP should outline the processes and procedures for maintaining and updating the PMP. The process described in this section should outline how the project management team will ensure that the roles, responsibilities, procedures and processes in the PMP are current and being implemented. The team member responsible for managing the PMP should be identified.

11. Other

Other sections and/or appendices, such as civil rights, right of way, utilities, environmental monitoring, project agreements, and dispute resolution may be added to the PMP as appropriate. Identify any additional sections and appendices that enhance the project management and ensure that goals and objectives are met. For example, sections should be added for aspects of the project that pose a significant risk and/or require processes and procedures that are unique to the project.