



Project Delivery Manual 2013

Policy Statement

In the continuous effort to better serve its customers, the Louisiana Department of Transportation and Development (DOTD) periodically examines, evaluates, and modifies as needed, its existing program and project delivery process. This latest revision of the DOTD Project Delivery Manual was a combined effort of DOTD administration and specialized teams. All proposed modifications were carefully reviewed by the appropriate stakeholders and a list of substantive changes from the previous revision was developed to guide users of the document. Since this electronic version will continually be updated as necessary, users are encouraged to refer to it for the most current information.

The manual's purpose is twofold—theoretical and practical. Chapters 1, 2, and 3 describe the overall process and provide fundamentals of the management principles vital to its success. The remaining chapters and appended material provide detailed requirements for each segment of the process, thus serving as standard operating procedures for individuals with related responsibilities.

The approval of this document serves as executive endorsement of the content therein and supersedes any policy, procedure, and directive in conflict, effective July 1, 2013.



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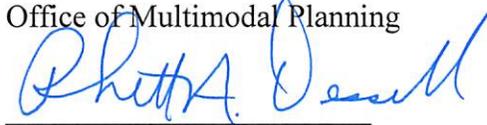
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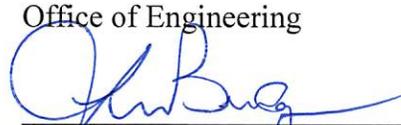
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Chapter 1: Introduction

Charged with the responsibility of providing an integrated and efficient transportation system for the citizens of Louisiana, the Louisiana Department of Transportation and Development (DOTD) views its mission as:

“To deliver transportation and public works systems that enhance quality of life and facilitate economic growth”

This mission statement not only relates transportation and economic development, but also requires that the Department’s activities enhance quality of life.

DOTD is comprised of the Executive Office of the Secretary, the Office of Management and Finance, the Office of Multimodal Planning, the Office of Engineering, and the Office of Operations. The officers of DOTD are the Secretary, Deputy Secretary, Undersecretary, Office of Management and Finance, Assistant Secretary, Office of Multimodal Planning, Chief Engineer, Office of Engineering, and Assistant Secretary, Office of Operations.

One of the major functions of the Department is its Project Delivery Process, which defines, classifies, and establishes annual and long-range programs and projects within the Department’s budget partition categories of:

- **Preservation**
 - Non-Interstate (Pavement)
 - Non-Interstate (Pavement NFA)
 - Contract Maintenance (Road)
 - Interstate (Pavement)
 - Bridge (On System)
 - Bridge (Off-System)
- **Operations**
 - Intelligent Transportation Systems (ITS) (Regular)
 - Roadway Flooding
 - Weigh Stations
 - Rest Areas
 - Movable Bridges
 - Ferries/Major Repairs
 - Traffic Control Devices
 - Access Management
 - Interstate Lighting
 - TSM

- **Safety**
 - State Highway Safety Improvements
 - Local Roads Safety Program
 - Safe Routes to Schools
 - Railroad-Highway Crossing Improvements (Upgrades & Grade Separations)
- **Capacity**
 - Regular Program
 - Corridor Upgrade
- **Dedicated Programs**
 - Urban System Program
 - Federal Earmarks (DEMO)
 - Enhancement Program
 - Recreational Trails
 - Demand Management
 - Intermodal Connectors
 - State Bonds
 - Urban Transit

For many years, DOTD has been directed by the provisions of RS 48:228-233 following a Priority Program of highway planning and construction. Each year, DOTD submits to the Legislature a “Program of Construction” to be commenced in the ensuing fiscal year. The “Program of Construction” is based upon the anticipated revenues to be appropriated by the Legislature and listed in order of priority for the projects in each of the budget partition categories. In addition, DOTD annually provides the legislature with a list of projects proposed to be commenced or currently in the various stages of planning and development for the following four years. This list is subject to change by DOTD until the project has obtained an environmental decision; an implementation funding plan is established; project plans and specifications are completed; right-of-way and utility agreements are obtained; and the project is ready for construction.

Program and Project Delivery Process

Committed to meeting the demands of its customers, DOTD embraces new processes developed by the divisions and sections that coordinate the program and the projects. The process defines the classification of projects to be included in the program, employs the concept of program managers, uses a team approach in the entire project delivery process, applies project management principles, and provides for feedback into the program by the system operators.

Projects are divided into the following classifications:

- System preservation

- Operations
- Safety
- Capacity
- Other

Each category and sub-category is labeled as a program containing several projects. Each category has an annual construction and design/development budget with a requirement that project costs do not exceed the annual budget. Chapter 3 outlines the project development process.

Key Terms

Although the entire DOTD Program Development and Project Delivery System is explained in detail in the remaining chapters of this manual, defining a few of the important functions and terms will improve the usefulness of the manual and help users fully comprehend the system.

Project Management: Project management is a systematic process of planning, budgeting, scheduling, staffing, directing, and controlling a set of related and interdependent activities to achieve a desired objective.

Program Manager (PGM): The term *program* refers to a set of projects that as a whole have a specific purpose and objective. For example, efforts to improve highway safety statewide are considered a program. Such a program usually will consist of a number of related projects that each have an independent utility and purpose but meet a much higher objective in combination.

The program manager (PGM) is responsible for meeting the overall goals of the program and its final delivery. While not directly responsible for each project that is part of the program (unless the PGM is also a project manager), the PGM must be aware of the status of each project and anticipate potential problems that could delay one of the projects in the program. The PGM should assist the project manager in resolving problems that could delay program delivery. At times when a particular project cannot be kept on schedule, it is the PGM's responsibility to review other projects in the program and take necessary steps in making schedule adjustments to ensure the overall goals of the program are not compromised. When conflicting priorities endanger the program's success, the PGM should involve upper level management in resolving the issues and putting the program back on track.

Project Manager (PM): The project manager is responsible for carrying out the individual projects by insuring that all project activities are completed in accordance with time and budget requirements and at the highest level of quality.

Project Team: The project team is an assembly of specialists that come together to work on a specific project. Each team member is selected because of their unique talents and capabilities.

DOTD Highway Project Selection Process: A formalized process through which competing projects are prioritized and funded.

Program and Project Management System (PPMS): A computerized system for project scheduling, monitoring, and control. The system tracks project time and cost, and produces reports on the project progress.

Project Plan: A document summarizing the necessary steps required for the successful management of a project.

Estimating Process: A formalized process for providing an accurate estimate of the project cost as it moves through the various stages of development.

Project Delivery Steering Committee: A standing committee that advises and makes policy recommendations to the DOTD Secretary with regard to all aspects of program finance and budget.

Project Delivery Date (PDD): Completion of all project development activities except the project proposal and standard specifications; i.e. plans and estimate, permits, right-of-way acquisition, utility permits, non-standard specifications, approved (NS-items), special agreements and Transportation Improvement Plan (TIP)/State Transportation Improvement Plan (STIP) alignment.

Chapters 2 and 3 of this manual provide an overview of the entire system and detail the theory and departmental philosophy that are critical for the success of this new system. Chapters 4 through 10 provide the details and supporting documents for the individual stages of the process and should be considered as the reference for all those involved in the process.

The appendices also provide critical information that should be referred to throughout the process. Appendix I describes the Project Plan, which is the framework for the entire project and should be referenced during all stages. The estimating process is discussed in detail in Appendix II, and Appendix III presents the objectives and procedures of the Project Delivery Steering Committee. Appendix IV provides details of the critical concept of Team Building, an organizational process in which a team of motivated and experienced members achieve more than the same number of individuals acting singularly.

Chapter 2: Project Management Principles

Project management is a systematic process of planning, budgeting, scheduling, staffing, directing, and controlling a set of related and interdependent activities to achieve a desired objective. According to the Project Management Body of Knowledge (PMBOK), project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. The requirements for each project should be identified and clear, achievable objectives be established at the outset of applying project management processes. The ultimate quality performance standard is to achieve all project goals, which may be defined as a goal that satisfies all of the needs and wants of the owners and users. However, project managers must balance the three primary constraints of scope, schedule, and budget that affect the quality of project to be delivered.

To effectively apply the project management concept, one prerequisite is a clear understanding of the process and its constituent components. There are five major components to the project management concept.

The Project

The PMBOK defines a project as a temporary endeavor to create a unique product, service, or result. It is temporary because every project has a definite beginning and end – the end being a point at which the project’s objectives have been achieved or it becomes clear that the project’s objects will not or cannot be met, or the need for the project no longer exists. For DOTD, the product is a transportation improvement which is unique because it fits within a context specific to its location. This definition of a project differentiates it from the ongoing, repetitive operations of the organization.

Successful projects share common characteristics:

- Develop realistic project goals balanced by scope, schedule, and budget
- Meet or exceed the expectations of all stakeholders
- Develop strong project plan which manages:
 - Scope
 - Schedule
 - Cost/Budget
 - Quality
 - Staffing
 - Communication

- Risk
- Change
- Resource procurement
- Skilled project management
 - Effective communication
 - Influences the organization
 - Leadership
 - Motivation of project team
 - Negotiation and conflict management
 - Problem solving
- Support of high-level management

Program Manager

A Program is a set of projects that as a whole have a specific purpose & objective. It usually consists of a number of related projects that have independent utility and purpose and meet a much higher objective in combination. The Program Manager is responsible for meeting overall goals of the program and its final delivery in each fiscal year. The Program Manager ensures projects are delivered when due so that projects are effectively distributed throughout the year as planned. They have close interaction and communication with the Project Managers. The Program Managers are not directly responsible for each project but must:

- Know the status of their program projects at all times
- Anticipate potential problems that could delay projects
- Assist the Project Manager in resolving problems that could delay project
- Take action in schedule adjustments to ensure overall goals of the program are met.
- Over program as required
- Monitor bid results
- When necessary, involve upper level management in resolving issues and putting program back on schedule.

The characteristics a successful Program Manger must possess are:

- Sense of urgency
- Pro-active
- Energetic
- Assertive
- Anticipate problems
- Problem Solver

- Forward thinker
- Budget savvy
- Flexible
- Team Builder
- Know when to get assistance

Project Manager (PM)

A successful project requires effective leadership from a project manager (PM). The PM is responsible for delivering the project by insuring that all project activities are completed in accordance with scope, schedule, and budget, and at the highest level of quality possible. To do so, the PM must assemble a project team of functional specialists (experts) to accomplish the individual tasks of the project. These functional experts are sometimes referred to as task managers.

As the undisputed leader of the project team, the PM has the ultimate responsibility for the success or failure of the project. The PM is a generalist rather than a specialist. Typically, the PM does not have the time or the skills to personally execute each detail within the project. Instead, a major responsibility of the PM is to develop a project plan (See Appendix I). The PM must then depend on the team members to have the necessary skills to get the job accomplished. The PM must provide overall direction, guidance, and motivation. The PM must:

- Take ownership of the project from the first day.
- Develop a concise, useful project management plan, no matter the size of the project.
- Develop a detailed schedule, preferably one based on critical path principles.
- Develop a budget for each task and be able to manage all budget changes.
- Be held accountable for project performance.
- Hold project team members accountable.
- Be given the ability to make decisions.
- Focus on the bigger picture.

A good project manager will do what it takes to complete the assignments and meet the overall project objectives.

The characteristics of a PM are:

- Can-do attitude
- Well-organized

- Instill a sense of urgency
- Proactive
- Resourceful
- Problem Solver
- Good listening skills
- Effective verbal & written skills
- Team Builder
- Facilitator
- Risk Manager

PMs should separate themselves from the day-to-day technical tasks and concentrate on effectively managing and controlling the many varied processes involved in delivering the project. Involvement of a functional expert on a project team may require oversight directly by the PM rather than their traditional senior functional managers to ensure success of the project.

The PM's efforts are generally concentrated on examining various situations and deciding what should be done to accomplish the desired end product. A successful PM will create goals that are satisfactory to DOTD, the project, stakeholders, and the project team.

A successful PM has self-motivation and skills to confront and challenge adversity. Their knowledge of functional areas will help in scheduling and directing the functional activities of the team members. They must consistently communicate and illustrate to the project team members how their assigned activities will affect the successful completion of the project. The PM's goal is to build a close-knit team working toward a common objective.

The expectations of a PM are:

- Identifying, tracking, managing, and resolving issues
- Proactively disseminating project information to all stakeholders
- Identifying, managing, and mitigating project risk
- Ensuring the solution is of acceptable quality
- Proactively managing the scope to avoid “scope creep” unless project changes are approved through scope management
- Defining and collecting metrics to give a sense of how the project schedule is progressing, whether the deliverables produced are of acceptable quality, and the level of performance of team members
- Managing the project plan to ensure work is assigned and completed on time and within budget

- Communicating issues to the Program Manager
- Procuring additional resources as needed for on-time completion

Project Team

The project team is an assembly of specialists (experts) that come together—from within and outside of the organization—for a limited time to work on a specific project. During this period, the team dedicates itself to the successful completion of the project under the leadership of the project manager. Each team member is selected because of their unique talents and ability to meet the specific requirements of project objectives. An astute PM attracts only the very best experts as team members. Project management requires active participation by members of the project team.

In DOTD, functional area team members will be assigned to a project by the manager of that section. While the PM does not have direct authority over the prospective team members, they have the right and responsibility to request the allocation of the best available talent to their team. Often, due to competing schedules, the PM may not be able to get a specific individual or group as part of the team. The final decision over what resources are provided rests with the various functional managers from which the team members are assigned. Assignment may be based on geographic areas, current workload, expertise, or other factors. Once assigned to a team, the individual team member is responsible for completing their assigned task in the timeframe designated by the PM.

**The project manager plans, schedules, and directs the project.
The functional specialist performs the assigned activity.**

An effective PM grasps the role of the team's functional specialists and recognizes them as the technical experts. If the specialists believe that certain technical portions of the PM's requirements are unsound, they have the responsibility, by virtue of their expertise, to present their case to the project manager and, if their opinions not heeded, elevate their concerns to their functional manager.

The most important responsibility of a PM is to generate interest and enthusiasm in the team members for meeting their project goals. The team members must adopt the project goals as their own. In developing detailed plans and schedules for project tasks and activities, the PM and functional specialists assigned to the team should work together to develop a plan that is acceptable to all. Ultimately, the PM's plan must become the team's plan.

Project Management Process

To have a successful project, a capable PM follows a project management process. Such a process must be sufficiently flexible and robust to allow adaptation to various project types. Nevertheless, there are four major functions that are fundamental to such a process:

- Project Planning
- Team Building
- Directing Function
- Control Measures

The degree of effort required for each function varies with the size and complexity of the project. For example, a simple pavement overlay project may require minimal effort in one or more of these areas, while major projects could require considerable effort. The PM must determine the appropriate amount of effort required in each area to insure the successful completion of the project. The following paragraphs provide further details for the four functions.

Project Planning

Planning a project is the process of deciding what must be done. It entails a series of activities designed to ensure that the project is completed on time, within budget, and with an outcome that meets stakeholder expectations. Project planning requires complete familiarization with all aspects of the project. It is the first step of the project management process. Regardless of the phase of the project—the project may be in feasibility, planning, funding, design/development, letting, or the construction stage—the result from project planning must ensure that the overall project objectives can be achieved. The outcome of the planning function is a document called the Project Plan. Appendix I provides details of a Project Plan.

Project planning includes considering schedules and budgets. Scheduling establishes timelines and milestones for the completion of tasks and activities that makeup the project. The project budget identifies the resources needed, when they are needed, and an understanding of the sources through which the project is to be financed. The following sections detail these two areas:

Project Schedule

Project scheduling addresses the issue of when the project will be done. It is the process of sequencing project activities in a logical and systematic way, setting target deadlines for each activity. Scheduling also determines milestones. Once a project schedule is established, the challenge is to allocate appropriate resources to each activity and task so that the project is completed according to the schedule. In the scheduling process, some critical activities will control the project completion date. Conversely, some activities will be float activities, meaning

that if they are delayed within their float period, the project will not be delayed. An experienced PM will constantly watch the critical activities. The critical path method (CPM), described later, is normally used to develop comprehensive schedules of critical and float activities.

Project Budget

Project budgeting deals with the question of costs and fund sources. Budgeting applies to the costs associated with each activity or task. As the project progresses, accumulated costs are compared to the established budgets, and in the case of cost over-runs, corrective measures are taken to adhere to budgetary requirements. At times, it may be necessary to update the budget figures but, ideally, budget figures should never be adjusted. A project will include a variety of costs, including material and labor, direct and indirect. Care must be taken to include all costs in the budgeting process.

Team Building

Building the project team (staffing process) means finding the right people to do specific tasks in a competent manner. It involves determining staff level requirements for each task, the duration of engagement for each team member, and where each team member is going to come from. The team members may come from inside the organization or from an external consulting firm, governmental agency, or other stakeholders. In fact, if services of a consulting firm are utilized, the entire staff of that firm can be considered as potential team members.

The team members assigned from within the organization are usually housed in specialized functional areas and tend to work independently within their areas of technical expertise. Once assigned a project task, a functional specialist is considered a team member of the project until completion of the task. These functional specialists perform similar tasks for many different projects.

The project manager and the functional manager must work together to establish priorities for the completion of the tasks on each project. In setting these priorities, the functional manager and the project manager should consider the need for involvement of the specialist on the project team as well as the involvement of the specialist on other project teams.

The following figure (2-1) depicts the interdependence of project management and the various functional areas within a functional organization. The functional areas serve as resources for the project manager. The PM is responsible for coordinating and integrating all activities across multiple functional lines and must be generally familiar with the operations of each functional area to successfully merge these resources with the project schedule.



Project Management in a Functional Environment

Figure 2-1

There are a number of individuals or groups that influence successful development of a project:

Upper Management: Continuous support and encouragement from upper management will be needed to effectively implement a project management process. They play a supportive role in providing adequate resources to the functional specialists and project managers. Members of upper management also play the role of facilitators by encouraging project teams to meet their objectives.

The Project Manager: The PM is responsible for the timely performance of the assigned project, but does not have direct authority over the functional personnel. The PM accomplishes the mission through effective communication and leadership of the project team.

Functional Managers: Managers and supervisors have responsibility for various divisions and sections in the organization. Each division maintains expertise in one or

more functional areas to provide the required services. As the PM organizes a project team, they must negotiate with functional managers for resources. Therefore, it is important that the PM maintains a positive interpersonal relationship with the functional managers to provide the best available personnel to the project team.

Task Managers (TM)/Functional Specialists: These experts perform detailed and usually technical tasks on a project. Often they have to cope with simultaneous deadlines and demands of several different projects with conflicting priorities and limited resources.

Consultants: The PM or the TM may determine that additional resources are needed to complete the project within the allotted time. When outsourcing is required, the PM or TM will determine the level of staff augmentation as needed to maintain sufficient resources for the project. Procedures for acquisition of consultant services are provided in the Consultant Contract Services Manual.

Cooperating Governmental Agencies: These agencies are usually state and federal agencies that have regulatory responsibilities over the impacts that a project may have. These agencies usually deal with environmental issues. Because the success of the project depends on the cooperation of these agencies, the project manager must be fully conversant with the regulatory requirements and policies that concern the project. For example, the PM must be knowledgeable of the environmental regulations governing all permits and authorizations.

Other Stakeholders: These public entities can consist of involved individuals, elected officials, citizen watch groups, non-governmental organizations, neighborhood associations and Native American tribes. Their involvement, while not necessarily regulatory or authoritative, can make or break the success of the project by outwardly influencing the scope, schedule and budget of the project. PMs should maintain a respectable and amicable tone when dealing with stakeholders and allow their review and input if requested, unless such would be specifically disallowed by regulations or other protocols.

See Appendix IV for additional information on Team Building.

Directing the Project

Directing is the process of guiding each activity to its timely completion within its assigned budget. Directing responds to the question of how something will be accomplished. Directing requires that the team members be familiar with the project and their individual responsibilities,

be knowledgeable about the technical issues, and dedicate themselves to successfully complete the project. To develop an effective directing function, the PM should:

- Direct all activities related to project management function - plan to meet all contractual obligations.
- Develop a strategy for team operation – establish written guidelines and clearly define responsibilities and restraints.
- Develop and implement decision-making processes within the project team – ensure that team members clearly understand who is authorized to make each project related decision.
- Establish performance goals for the project and members of the project team.
- Promote the growth and professional development of the project team members.
- Foster and develop a spirit of project team effort.
- Take an active role in conflict resolution between departments or groups.
- Maintain current knowledge of overall project status.
- Maintain effective communications with all partners, team members, participating governmental agencies, and others performing project work.
- Monitor project activities for compliance with the agency’s general policies, mission, and philosophy.
- Interpret, communicate, and require compliance with project procedures, contracts, the approved plan, and directives.
- Maintain personal control of adherence to contract requirements.
- Ensure adherence to time and cost schedules – take necessary steps to meet milestone targets.
- Closely monitor project activities for conformity to project scope provisions.

Control Measures

The control process consists of three distinct but related activities:

1. Monitoring the actual progress of the project; i.e., measuring the performance,
2. Evaluating the progress to ensure that the project objectives are being met; i.e., project is correctly scoped, on time, within budget, and at the desired level of quality, and
3. Taking corrective actions to put the project back on track when there is deviation from the schedules and budget.

The control process ensures that the project “is being done” in accordance with the objectives outlined in the project plan. The PM dynamically controls the project through constant monitoring and providing direction. The PM looks at what has been accomplished on the project

and compares progress with the original objectives. They then take necessary steps to overcome major variances between progress and the original requirements.

Project Management Tools

As previously described, two important issues in project management are scheduling and controlling. Through scheduling, time and resources are allocated to various activities that make up a project. The control function ensures that the project remains on track until completion without exceeding the allotted time or the budget. At times, there will be variances from the “game plan” for the project. Because the future holds some uncertainty, project plans will be inexact. In controlling a project, the question is not whether there are variances, but whether the variances are small enough to be acceptable in meeting project goals. When the variance is not acceptable, corrective measures must be taken to overcome it. In such a case, the project manager must quickly consider and analyze all related information and situations and implement corrective actions to place the project back on track.

Application of the project management process requires utilizing appropriate management tools. As everything will not go according to plans, midcourse adjustments will be necessary periodically. In deciding what course of action is most appropriate, the PM must perform a series of analyses to arrive at the best decision. The tools necessary to aid a PM in performing such analyses fall into three categories:

- Scheduling tools
- Financial tracking tools
- Management reporting tools

Scheduling tools are used to establish and track timelines for tasks or activities that make up a project. A scheduling system provides for timely information on the progress of a project and allows the PM and the project team to make the necessary adjustments so that the project can meet its established timeline. The following sections outline various scheduling tools.

Financial tracking tools keep track of project expenditures and compare the actual amounts to the budgeted amounts. Completing a project within its allotted budget is as important as finishing the project on time. Modern project scheduling tools are also capable of financial tracking and providing detailed financial reports.

Management reporting tools produce the time schedule and financial reports for the project. There are several levels of reports, from a very detailed task level report to highly summarized, upper level management reports. Normally, the level and types of reports are influenced by on

the complexity and size of the project. A robust project scheduling and management system will have the necessary capabilities to produce a variety of reports.

Gantt Charts

A Gantt chart is a simplified means to represent project activities, their dependencies, and each activity timeline in a graphical form. The chart consists of a time scale and wide bars representing activities and tasks. Each bar depicts when the task is to start, how long the task will take to accomplish, and when the task will be completed. Gantt charts are considered elementary project scheduling tools and are usually used for presentation purposes only. See Appendix I for an example.

CPM and PERT

The two most widely accepted methodologies for project scheduling and control are Critical Path Method (CPM) and Program Evaluation and Review Technique (PERT).

Today, the terms CPM and PERT are used synonymously to represent the CPM method. CPM is a powerful scheduling and management technique for all types of projects. It is deterministic; that is, project duration is determined based on information that is specified with certainty. CPM operates based on the principle of “management by exception.” It focuses attention on the activities that directly affect the overall duration of the project. By concentrating only on the critical activities—in contrast to all activities—ample opportunity is provided for the management to devote more time to project control and thus increase chances for project success.

Both CPM and PERT require that a project network be constructed first. This network is a schematic representation of the project activities and their interrelationships to each other. In other words, the project network is a topological representation of the project and establishes the sequence of events. A properly developed project network is used as the tool for defining all dependencies among various entities. It not only depicts the sequence of events and activities, but also provides the timelines that these activities and events are to be performed.

Next, the network is used to determine starting and completion time of each activity. The process identifies all critical activities and events that control the project completion date. The final use of the network is to establish how and when the available resources are to be allocated to various project entities. During the project execution phase, the network becomes the instrument for control. It permits the periodic review of activities as affected by the uncertainties of the planning phase and allows for reevaluating the incomplete tasks and initiating remedial measures.

Managing a Project through the DOTD Stages

Stage 0

- Develop Scope and Alternatives
 - Project manager participates in process
- Preliminary project cost estimate is established

Stage 1

- Project scope is better defined during environmental process through selection of preferred alternative
 - Project manager participates in process
- More detailed project cost is established, including design, right-of-way acquisition, utility relocation, environmental mitigation, and construction estimates

Stage 2

- Project Manager sets the project schedule with input from the project team;
 - Set delivery of project phases and final PS&E
 - Critical path should be identified
- Funding sources identified and approved, budget set up

Stage 3

- Project Manager is responsible for managing scope, avoiding “scope creep”
- Set up budget for all aspects of project with appropriate funding sources
 - Set up budget for all contracts
- Budget adhered to and monitored
 - Design
 - Right-of-Way
 - Utilities
 - Mitigation and Permits
 - Monitor & track all invoices
 - Access, understand, and manage financial data
 - Continuously compare budget versus actual cost & anticipated cost
 - Take action to manage within budget

If cost still begins to exceed budget, discuss with Program Manager

Stage 4

- Work with the DOTD Budget Section to set up budget for construction
- Understand coding

Stage 5

- Monitor budget
- Involved with change orders
- Track project through SiteManager

Chapter 3: DOTD's Project Delivery Process

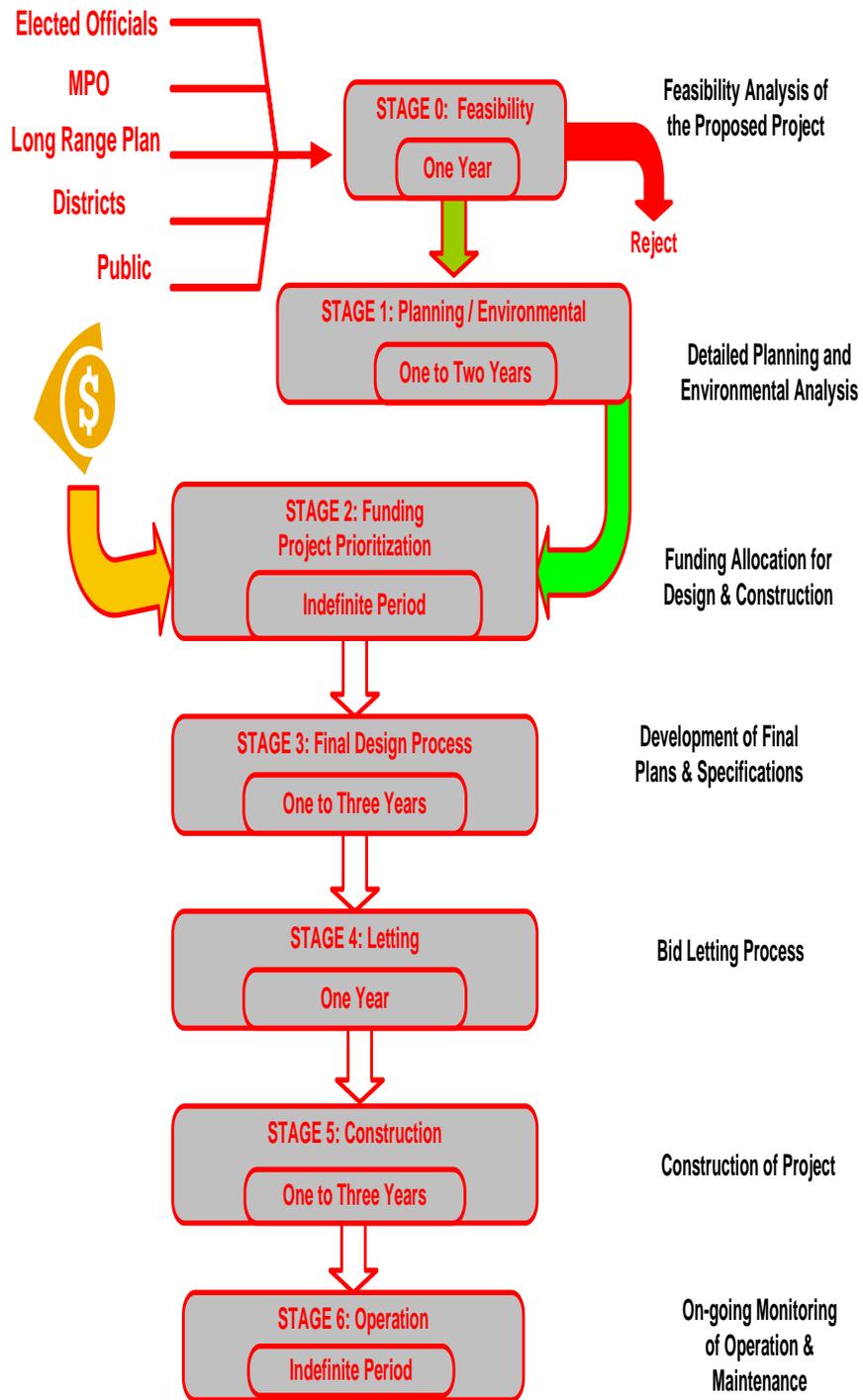
The people of Louisiana demand an accountable, speedy, and unobtrusive process to develop the state's transportation projects. In response to this demand, DOTD has a streamlined project delivery process.

The Department's project delivery process relies heavily on the principles of project management. The key element of the process is clear definition of the stages in the project development process while placing responsibility for specific outcomes from each stage. The process also demands accountability.

The central figure in this process is the project manager (PM). The PM is responsible for organizing a team and carrying out the project development from planning to construction.

Figure 3-1 on the next page defines the seven stages of the project development process. The sections that follow discuss activities to be performed in each stage and outline the team building procedures.

Chapters 4 through 10 of the manual provide the standard operational procedures for each stage.



DOTD's Project Delivery Process

Figure 3-1

Stage 0: Feasibility

Once a proposed project is identified, a feasibility analysis, or Stage 0 Study, must be performed to determine if the project merits further consideration. A timely undertaking of a Stage 0 Study is important, as any interested parties should be informed of the Department's decision to advance the project into subsequent stages. If the project is not to receive further consideration, good customer service policy dictates that interested parties should be informed of the decision as soon as possible, thus preventing the impression that the project will be implemented or that the Department is unresponsive.

The outcome of Stage 0 is a "go/no-go" decision regarding project advancement. A "go" project is deemed to be feasible and is carried through the Highway Project Selection Process subject to competition with other projects in the same category in order to continue through the project delivery process. The "no-go" project is not carried through the selection process and will either be retained for reconsideration in the future or dropped from further consideration. The basis for a "go/no-go" decision is founded on a base of information developed as a part of the Stage 0 Study.

It is anticipated that the majority of Stage 0 activities for a project will not require assembly of a project team. Rather, the above outlined activities will be performed by the project's proposer or various sections within DOTD, depending on the nature of the project (see Section 4.3, Responsibility Matrix). Overall, the Transportation Planning Section has the ultimate responsibility for Stage 0 implementation.

See Chapter 4 for details of the Stage 0 Standard Operating Procedure.

Stage 1: Planning and Environmental Process

Stage 1 takes a project through the planning and environmental assessment process. An Environmental PM is assigned during Stage 1. The outcome from Stage 1 will identify a preferred alignment for the project with a clear description of scope, budget, and major design features. As required by the National Environmental Policy Act, or NEPA, Federal-aid projects will be classified as an Environmental Assessment (EA) resulting in a Finding of No Significant Impact (FONSI), Environmental Impact Statement (EIS) resulting in a Record of Decision (ROD), or Categorical Exclusion (CE). For state-funded projects, the projects will be processed as an Environmental Exclusion (EE), Environmental Finding (EF), or Environmental Record (ER).

Stage 1 will culminate in an environmental closure (CE, FONSI, ROD, EE, EF, or ER) and a document named "Scope and Budget Memorandum" will be prepared for projects processed as

FONSI, ROD, EF, and ER. The Scope and Budget Memorandum signed by the Chief Engineer will include the following items:

- Description of the Project and Selected Alternative
 - Location, Preferred Alignment, and Major Design Features
 - Context-Sensitive Issues and Solutions
 - Value Engineering and/or Constructability Considerations
 - Maps and Exhibits, as necessary

- Funding for full project implementation
 - Estimates
 - Construction
 - Engineering
 - Real Estate Acquisition
 - Utility Relocation
 - Environmental Mitigation/Commitments
 - Traffic Management
 - Possible funding categories/mechanisms

- List of Commitments, Agreements and Permits required
 - Commitments which need to be incorporated into the Plans, Specifications, and Estimate (Stages 3 and 4)
 - Agency Agreements
 - Memoranda of Understanding
 - Memoranda of Agreement
 - Permits
 - Coast Guard (Section 9, General Bridge Act of 1946)
 - Corps of Engineers (Section 404, Section 10)
 - LA DEQ (Water Quality Certification and NPDES)
 - LA DNR (Coastal Use)
 - LA WL&F (LA Scenic Streams)

- Signatures
 - Recommendations
 - Project manager, Environmental
 - Project manager, Design
 - Overall Project Manager for selected projects
 - Approval
 - Chief Engineer, Office of Engineering

The decisions and project parameters documented in the Scope and Budget Memorandum cannot be changed in subsequent stages without the approval of the Chief Engineer.

See Chapter 5 for details of the Stage 1 Standard Operating Procedures.

Stage 2: Funding

Stage 2 deals with the programming of a project to proceed into Stage 3. A project reaching Stage 2 must have completed all Stage 1 requirements and have an assigned Design PM. This Design PM will be responsible for guiding the project through Stage 2 and ensuring that it is prepared for Stage 3. The programming function is accomplished when a source of revenue is identified to provide for all associated Stage 3 and Stage 5 activities costs.

If a project remains in Stage 2 for a long period of time (i.e., over three years with no action), NEPA documents prepared and approved in Stage 1 may require reevaluation according to FHWA regulation 23 CFR 771.

Three basic activities must be conducted in Stage 2. They are:

- 1. Update of Cost Estimate Developed in Stage 1:** It is conceivable that a considerable period of time may have elapsed between the time a project completed Stage 1 and entered Stage 2. In such cases, it is prudent to perform and update all cost estimates. The components of such a cost estimate must include design, right-of-way, utilities, construction costs, and environmental mitigation.
- 2. Allocation of Funds:** DOTD projects are funded through a variety of sources such as federal funds, state funds, local funds, bond funds, etc. An important Stage 2 function is to allocate an appropriate amount of resources for completion of the project. This function will entail identifying means of finance, the amount of available funds, and the timing for the availability of funds. Obviously, these funding factors will have a direct effect on the delivery schedule of the project.
- 3. Establishing Project Delivery Date (PDD):** PDD is defined as the project design and development completion date. It is the date the project leaves Stage 3 and enters Stage 4.

In establishing a PDD, the PM needs to have developed a project plan, reasonable project schedule, have all task managers assigned, and have all funding allocation issues resolved. The plan must establish a Stage 3 project schedule that can be met by all team members concerned. The establishment of the PDD is a highly critical task. All Stage 4 activities will be based on the announced PDD. Earning public trust will directly depend on our success rate in meeting the established PDDs.

See Chapter 6 for details of the Stage 2 Standard Operating Procedures.

Stage 3: Final Design Process

Stage 3 is the design and development stage. By the time a project reaches this stage, the project must already have an assigned PM, a project plan, and a project team.

The prior established PDD will be the deadline for all Stage 3 deliverables. This deadline must be strictly adhered to. The Stage 3 deliverables are:

1. Final plans including electronic formats
2. Plan QA/QC Documentation
3. Specifications and Proposal Package
4. All permits including railroad
5. All right-of-way acquired
6. Utility relocation agreements
7. Final cost estimates
8. Traffic management plan

See Chapter 7 for details of the Stage 3 Standard Operating Procedures.

Stage 4: Letting

Once a project is delivered to Stage 4, the project will be readied to be let for construction. DOTD's Contract Services unit is responsible for Stage 4 implementation and will work with the PM to successfully let the project.

Stage 4 activities include:

1. Development of the final financial plan
2. Preparation of letting documents
3. Establishing a letting date with due consideration for:
 - Geographic distribution of construction projects
 - Providing for adequate competition among contractors
 - Maintaining level monthly letting amount
 - Other factors
4. Preparation and signing of the construction contract

See Chapter 8 for details of the Stage 4 Standard Operating Procedures.

Stage 5: Construction

This stage involves the construction process. Once a contractor is selected, DOTD's Construction Division, the district's Construction Engineer, the district's Project Engineer, and the PM will meet with the contractor to plan the job. It is expected that these entities will cooperate to identify all special project related issues and will resolve possible difficulties.

During the construction period, the district Project Engineer will take over the project management responsibility. However, the Project Engineer must keep the Design PM abreast of any special issues that may arise during the construction period. Any design-related plan changes must be communicated to the PM for information and input. The PM will accept responsibility for all design-related plan changes and should ensure consistency with the decisions and project parameters documented in the Scope and Budget Memorandum.

The basic activities in this stage are:

1. Establishment of construction process, milestone events, work schedules, and timelines.
2. Implement environmental mitigation, if any.
3. Implement traffic control measures during the construction period.
4. Develop and implement a public information plan.

See Chapter 9 for details of the Stage 5 Standard Operating Procedures.

Stage 6: Operation

This stage deals with continuous monitoring of the project once it is placed in operation. Through a properly designed data collection and evaluation system, the utility of the existing project can be measured. This data will provide input for making modifications to design procedures to further improve the maintenance and operation of future projects.

See Chapter 10 for details of the Stage 6 Standard Operating Procedures.

Chapter 4: Stage 0 Standard Operating Procedures

Purpose

The purpose of Stage 0 (Project Feasibility) is to support a streamlined project delivery process by minimizing duplication of effort, promoting environmental stewardship, and reducing delay from the planning phase to project implementation. A baseline analysis of existing conditions must be conducted in order to reach a decision regarding the project's feasibility, to determine its funding eligibility, and ultimately transition it to Stage 1 (Planning and Environmental Process). Analysis results and any information collected as a part of Stage 0 should be documented in a manner consistent with the requirements of the National Environmental Policy Act (NEPA) to ensure that the planning documents can be utilized efficaciously. While Stage 0 activities will be conducted in various sections throughout DOTD depending on the nature of the project, the Transportation Planning Section is ultimately responsible for Stage 0 implementation. For detailed information regarding requirements of Stage 0 studies, see the Stage 0 Manual of Standard Practice.

Project Identification Process

DOTD uses two methods to identify highway project candidates. The first is a technical method that gathers and analyzes data regarding the physical condition, operational characteristics, safety performance, and congestion on state highways. The second method seeks input from DOTD customers – the general public, state and local elected officials, metropolitan planning organizations (MPOs), etc. In some cases, specific projects are identified by funds being earmarked by Congress or the Louisiana legislature. Once potential projects are identified, they undergo a feasibility analysis to assist in making a “go” or “no go” decision. For some types of projects, an initial screening may be necessary before proceeding with Stage 0 in order to reduce the number of candidate projects to a manageable level for the resources available.

Project Types

Highway Priority Program Projects: The Highway Priority Program consists of projects which are selected under the process defined in the Project Selection Manual. Most projects fall under this category. They can reasonably be funded under the annual Highway Priority Program, but are subject to competition with other projects within the same project category (i.e., preservation, operations, safety, additional capacity). Each year, all candidate projects for which Stage 0 studies have been completed will be submitted to the appropriate DOTD project selection teams. The teams will then decide which projects advance to Stage 1 within the respective budget constraints for each project category. Projects not selected can be shelved or retained for reconsideration the following year. For further information on the project selection

teams and the project selection procedures, refer to the “DOTD Highway Project Selection Process” Manual.

To provide adequate time for legislative approval of the Highway Priority Program and for project development, the project selection process must occur several years in advance of construction. The project selection teams are therefore making decisions as to which projects will be let to construction in a given future year. This future year for construction letting, in effect, establishes a preliminary project delivery schedule. Working backwards from the proposed construction letting year, a preliminary project delivery date (PDD) can be established as well as preliminary completion dates for Stages 1 and 2. This date will be established in coordination with the Environmental Section.

Federal/ State Earmark Projects: In a practice referred to as “earmarking,” the U.S. Congress sometimes designates funding for specific transportation projects in various legislative acts. The projects are often called “high priority” or “demonstration” projects. Similarly, the Louisiana Legislature earmarks funding for specific projects through the State Capital Outlay Bond Program. Stage 0 studies will be undertaken for each of these Federal and State earmarked projects. If sufficient earmarked funds remain following the completion of the Stage 0 study, the project will advance to Stage 1. If the remaining funding is not sufficient to complete Stage 1, the Stage 0 study will be forwarded to the appropriate project selection team to be considered for inclusion in the Highway Priority Program.

Special Category Projects: The DOTD administers federal highway funds for local governments and manages other special programs.

- **Urban Systems Program:** The MPO planning process determines which Urban Systems funded projects advance to Stage 1. Normally, the MPO staff will complete the Stage 0 studies and submit them to DOTD for review.
- **Off System Bridge Program:** Similarly, local governments make the decisions for off-system bridge projects. Stage 0 studies are completed by the local governments and then submitted to the DOTD for review.
- **Transportation Enhancement Program:** Enhancement projects are a unique case. A wide range of entities can submit applications for projects to be included in the Federal Enhancement Program. The DOTD districts review these applications and prioritize them within each respective district. In addition, the DOTD districts coordinate with their respective MPOs for those proposed projects located within metropolitan planning areas. The completed applications serve as the Stage 0 studies.

- **Congestion Mitigation and Air Quality Improvement (CMAQ) Program:** For projects qualifying for CMAQ funding, project sponsors must submit an application to the CMAQ program manager. Selection is subject to competition with other qualifying projects. The completed applications serve as the Stage 0 studies; projects selected to advance to Stage 1 are dependent upon available funding.
- **Local Road Safety Program (LRSP):** Local agencies prepare applications for projects which include cost estimates and scope of work. The LRSP staff evaluates the applications against established criteria to determine eligibility of the potential projects. A review and selection committee will prioritize the eligible projects and recommend them to DOTD's Safety Section for the final approval. Once approved, the completed applications act as Stage 0 studies.
- **Safe Routes to School Program (SRTS):** Similar to the LRSP and the Transportation Enhancement Program, local agencies will submit applications for projects to the State SRTS Coordinator. The projects are graded and ranked based on criteria established in the program guidelines. Qualifying projects are included in the program based on their rank and as funds allow. Completed applications serve as the Stage 0 studies.

Other Special Cases: For some types of projects, the preparation of the Stage 0 study and selection of projects to advance to Stage 1 occurs almost simultaneously. This is a result of the repetitive nature and extremely low frequency of adverse impacts to the natural or human environments. Project types that fall under this special case are pavement preservation projects, highway/railroad at-grade crossing improvement projects, and contract maintenance projects.

Regardless of the type of project, the Stage 0 study will be transmitted to the appropriate program manager to be considered for programming. If the project is selected, the program manager is responsible for sending a memorandum to the Environmental Section indicating that the project was selected and approved for further processing through Stage 1. It is the program manager's responsibility to gain approval of Stage 1 funding and obtain a project number if one has not already been assigned. Completed Stage 0 studies are stored electronically for future reference and are accessible on the DOTD's intranet.

Process Steps for All Project Types

The steps for completing a Stage 0 study are outlined in the following paragraphs. The results of these steps determine the "practical feasibility" of potential projects and provide much of the information needed to make rational decisions regarding the allocation of available funds among competing projects. "Practical feasibility" refers to the technical, environmental, and financial aspects of the project. Can the project be implemented from a technical standpoint? Are there

obvious environmental impacts that would preclude implementation? Is the project cost within the realm of possibility for current DOTD funding programs, or will special dedicated funding be required?

The complexity of the project will determine the level of detail and extent of documentation required for each step in the process. For example, those projects requiring right-of-way or having obvious major environmental impacts will require more information than comparatively simple routine projects. Even though the majority of public involvement will occur during the Stage 1 process, it will be necessary, on occasion, to involve the public during the Stage 0 process, particularly in those cases where a more detailed analysis might be required in Stage 1. The overall flow of project requests through Stage 0 and their ultimate disposition is illustrated in figure 4-1 (see page 37).

Preliminary Purpose and Need: The first step in the Stage 0 process is to develop a problem statement outlining the reason for proposing the project and the problem or issue to be corrected. The problem statement should form a substantial core of the Purpose and Need statement required under the NEPA process. Data that will inform the development of the Purpose and Need should be accumulated and documented. This could include, but should not be limited to, the following:

- a description of the existing facility,
- background/history of the project,
- air quality context,
- justification of need,
- multi-modal considerations,
- context sensitive concepts,
- roadway deficiency data,
- demographic data,
- transportation demand and traffic forecasts, and
- adjacent project identification

Project Alternatives: The next step is to identify and describe a range of alternatives that will address the Purpose and Need. Project descriptions should include the basic design criteria and major design features. Any design exceptions for project alternatives should be presented along with the rationale for them. Technical analyses such as safety, capacity, air quality, etc. should be provided depending on the complexity of the project. Any technical analysis performed as a part of Stage 0 should be done to a level of detail compatible with requirements for Stage 1, in order to ensure that the purpose of Stage 0, as it is defined in Section 4.1, is being achieved. Department policies such as Access Management, Context Sensitive Solutions, and Complete

Streets should be addressed to the extent appropriate. A Transportation Management Plan should be initiated in accordance with EDSM No. VI.1.1.8.

For major projects, or those project alternatives requiring right-of-way, aerial photographs with the proposed improvements and approximate required right-of-way limits superimposed should be included as part of the Stage 0 studies. The Real Estate and Utility Sections will conduct an investigation of the right-of-way and utility relocation impacts. Lastly, construction transportation management and maintenance of access to adjacent properties during construction should be described.

Potential Environmental Impacts: The third step is a preliminary review of the project alternatives with regard to the natural and human environment. This begins with defining the context of the area (adjacent land uses, community features, etc.) and then performing an initial check for potential impacts to the environment. This can generally be accomplished by conducting a windshield survey and researching a few websites. Commonly used websites are listed on the Stage 0 Environmental Checklist. If the project is chosen to advance to Stage 1, a detailed environmental review will be conducted. Thus, the purpose of the preliminary environmental review in Stage 0 is to identify known potential impacts that could affect the cost or feasibility of the project. A seamless flow between stages is an objective which can be accomplished by linking planning to the environmental process. Potential benefits include reduced time preparing and/or agreeing to the alternatives selected for detailed study, less time required to deliver transportation improvements, and lower project development and overall project costs. Should a more detailed environmental study be required, it is critical that all findings and analyses be sufficiently documented in order for the planning document to be incorporated into the NEPA process.

Preliminary Scope and Cost Estimate: The fourth step is to develop the preliminary cost estimate for the project alternatives. The project costs should include estimates for right-of-way, utility relocations, construction (including traffic management during construction), environmental studies, mitigation, and design engineering. Guidance on preparing costs estimates for each stage in the project development process, including Stage 0, has been prepared by the Project Development Division (see Appendix II: Estimating Process).

Also, a value planning/value engineering assessment and constructability review on selected projects considered to be “high risk” should be performed. Design proposals will be reviewed with respect to cost and impacts. Any foreseeable construction problems will be identified with recommendations for solutions.

Anticipated Funding Sources: The fifth and final step is to identify anticipated funding sources. If the project is being submitted for consideration under the DOTD’s regular

construction program, then “Highway Priority Program” is all that should be listed. However, if other funding is available to cover a portion of the cost, the source(s) and amount(s) should be listed as this can affect the priority the project is given by the project selection teams. If the project has its own funding (i.e., Federal/State earmark, Urban Systems, CMAQ, etc.), then the source(s) and amount(s) should be listed.

Exceptions to this process might be for project types described above as special cases.

Responsibility Matrix

For each project type, the responsibility for completing the Stage 0 study is outlined in the matrix on page 35 below. In addition, the responsibility for checking the Stage 0 study for completeness and giving final approval is also indicated.

Stage 0 Responsibility Matrix

Project Category/Subcategory	Prepare Stage 0 Study	Check Completeness/Approve Stage 0 Study
System Preservation		
Non-Interstate Pavement	Districts	Project Management Section
Interstate Pavement	Districts/Project Management Section	Project Management Section
Contract Maintenance	Districts	Project Management Section
Bridge (On-System)	Districts/Bridge Design Section	Bridge Design Section
Bridge (Off-System)	Local Governments	Bridge Design Section
Operations/Motor Services		
ITS	MPOs/ITS Section	ITS Section
Traffic Control Devices Replacement/Upgrade	Districts/Traffic Engineering Management Section	Traffic Engineering Management Section
Roadway Flooding	Districts	Hydraulics Section
Weigh Stations	Weight Enforcement Section	Weight Enforcement Section
Rest Areas	Road Design	Road Design
Movable Bridge P. M.	Bridge Maintenance and Facilities Maintenance Section	Bridge Maintenance and Facilities Maintenance Section
Access Management	Traffic Engineering Management Section	Traffic Engineering Management Section
Interstate Lighting	Bridge Design Section	Bridge Design Section
TSM	Districts	Districts
Highway Safety		
Highways	Districts/Road Design Section/ Highway Safety Section/ Transportation Planning Section	Highway Safety Section
Local Road Safety	Local Government	Highway Safety Section
Safe Routes to Schools	Local Government	Highway Safety Section
RR Grade Separations/RR Crossing Upgrades	Road Design	Road Design
Additional Capacity/New Infrastructure		
Regular Program	Districts/Road Design Section/ Transportation Planning Section	Transportation Planning Section
Corridor Upgrade	Districts/Road Design Section/ Transportation Planning Section	Transportation Planning Section
Other		
Enhancements	Project Applicant	Road Design Section
Urban Systems	MPO	Transportation Planning Section
CMAQ	Project Applicant	Transportation Planning Section
Demand Management	Traffic Engineering Section	Traffic Engineering Section
Urban Transit	MPO	Transportation Planning Section
Intermodal Connectors	Project Management Section/ Transportation Planning Section	Transportation Planning Section
Federal/State Earmarks (i.e., Demo, Bond)	MPO/Transportation Planning Section	Transportation Planning Section

Note: The Project Scoping Unit in the Transportation Planning Section is available to provide advice and assistance in preparing Stage 0 studies.

Checklists

To aid in the preparation of Stage 0 studies, the Stage 0 Preliminary Scope and Budget Checklist has been developed in accordance with the process outlined in the section above entitled “*Process Steps for All Project Types*” (See pages 38 through 41 for checklist).

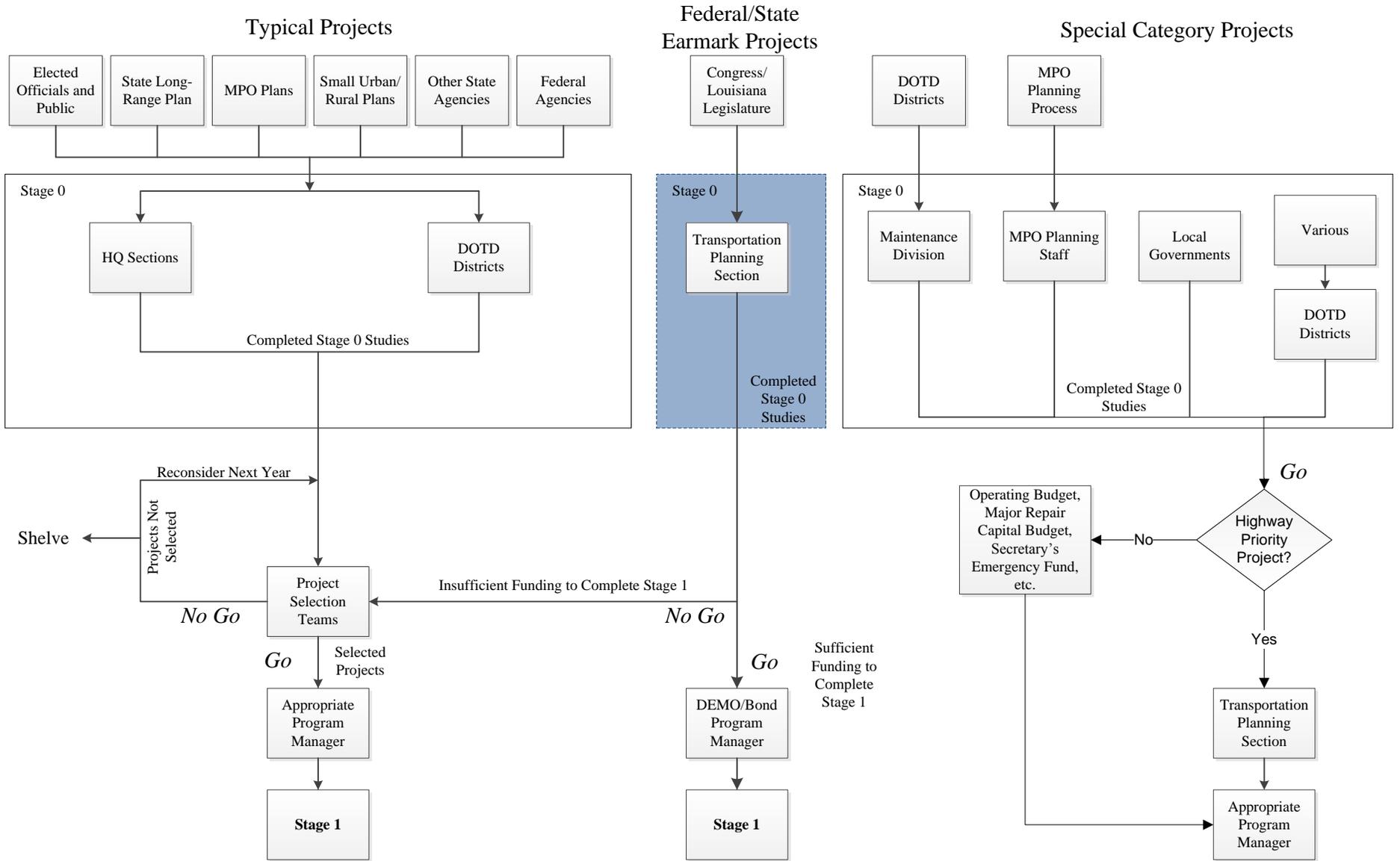
The Stage 0 Environmental Checklist (see pages 42 through 46), which follows the Stage 0 Preliminary Scope and Budget Checklist, was prepared to aid in the preliminary review of potential impacts to the natural and human environment. It begins with a series of items to help define the context of the area, followed by more detailed items to aid in the identification of potential impacts. A list of websites containing various environmental databases is included along with a general explanation of the relevance of each item in the checklist.

For minor or routine projects, the completed checklists can serve as the Stage 0 study document. For more complex projects, the checklists serve as an outline in preparing the Stage 0 study. For details of specific project types, see the Stage 0 Manual of Standard Practice.

Deliverables

- Once the decision is made to program a project, the chairman of the appropriate project selection committee will send a formal notification to the project sponsor. In the case of a project not being selected for programming, the notification should include the reasons for the decision.
- For any given project, the Stage 0 deliverable is complete feasibility study containing sufficient information so that rational decisions can be made regarding the allocation of available funds among competing projects. The information to be included is detailed in the Stage 0 Manual of Standard Practice.
- For those projects that are selected for addition to the Highway Program, the completed Stage 0 study must also contain sufficient information to advance to Stage 1. A memorandum is sent by the program manager to the Environmental Section indicating that the project was selected and approved for further processing through Stage 1.

Figure 4-1



STAGE 0
Preliminary Scope and Budget Checklist

A. Project Background

District _____ Parish _____

Route _____ Control Section _____

Begin Log Mile _____ End Log Mile _____

Project Category (Safety, Capacity, etc.): _____

Date Study Completed: _____

Describe the existing facility:

Functional classification: _____ Number and width of lanes: _____

Shoulder width and type: _____ Mode: _____

Access control: _____ ADT: _____ Posted Speed: _____

Describe any existing pedestrian facilities (ADA compliance should be considered for all improvements that include pedestrian facilities): _____

Describe the adjacent land use: _____

Who is the sponsor of the study? _____

List study team members: _____

Will this project be adding miles to the state highway system (new alignment, new facility)? If yes, has a transfer of ownership been initiated with the appropriate entity? _____

Are there recent, current, or near future planning studies or projects in the vicinity? _____

If yes, please describe the relationship of this project to those studies/projects. _____

Provide a brief chronology of these planning study activities: _____

B. Purpose and Need

State the Purpose (reason for proposing the project) and Need (problem or issue)/Corridor Vision and a brief scope of the project. Also, identify any additional goals and objectives for the project.

C. Agency Coordination

Provide a brief synopsis of coordination with federal, tribal, state, and local environmental and regulatory and resource agencies.

What transportation agencies were included in the agency coordination effort?

Describe the level of participation of other agencies and how the coordination effort was implemented.

C. Agency Coordination (Continued)

What steps will need to be taken with each agency during NEPA scoping?

D. Public Coordination

Provide a synopsis of the coordination effort with the public and stakeholders; include specific timelines, meeting details, agendas, sign-in sheets, etc. (if applicable).

E. Range of Alternatives – Evaluation and Screening

Give a description of the project concept for each alternative studied.

What are the major design features of the proposed facility (attach aerial photo with concept layout, if applicable).

Will design exceptions be required? _____

What impact would this project have on freight movements? _____

Does this project cross or is it near a railroad crossing? _____

DOTD’s “Complete Streets” policy should be taken into consideration. Per the policy, any exception for not accommodating bicyclists, pedestrians and transit users will require the approval of the DOTD chief engineer. For exceptions on Federal Aid highway projects, concurrence from FHWA must also be obtained. In addition, for any exception in an urbanized area, concurrence from the MPO must also be obtained.

- Describe how the project will implement the policy or include a brief explanation of why implementing the policy would not be feasible. _____

How are Context Sensitive Solutions being incorporated into the project? _____

Was the DOTD’s “Access Management” policy taken into consideration? If so, describe how. _____

Were any safety analyses performed? If so describe results. _____

Are there any abnormal crash locations or overrepresented crashes within the project limits? _____

E. Range of Alternatives – Evaluation and Screening (Continued)

What future traffic analyses are anticipated? _____

Will fiber optics be required? If so, are there existing lines to tie into? _____

Are there any future ITS/traffic considerations? _____

What is the required Transportation Management Plan (TMP) level as defined by EDSM No. VI.1.1.8? _____
Please attach documentation required for Stage 0 for this level TMP.

Was Construction Transportation Management/Property Access taken into consideration? _____

Were alternative construction methods considered to mitigate work zone impacts? _____

Describe screening criteria used to compare alternatives and from what agency the criteria were defined.

Give an explanation for any alternative that was eliminated based on the screening criteria.

Which alternatives should be brought forward into NEPA and why? _____

Did the public, stakeholders, and agencies have an opportunity to comment during the alternative screening process? _____

Describe any unresolved issues with the public, stakeholders, and/or agencies.

F. Planning Assumptions and Analytical Methods

What is the forecast year used in the study? _____

What method was used for forecasting traffic volumes? _____

Are the planning assumptions and the corridor vision/purpose and need statement consistent with the long range transportation plan? _____

What future year policy and/or data assumptions were used in the transportation planning process as they are related to land use, economic development, transportation costs, and network expansion? _____

G. Potential Environmental Impacts

See the attached Stage 0 Environmental Checklist

H. Cost Estimate

Provide a cost estimate for each feasible alternative:

- Engineering Design: _____
- Additional Traffic Analyses: _____
- Environmental Processing: _____
- Mitigation: _____
- R/W Acquisition:
(C of A if applicable) _____
- Utility Relocations: _____
- Construction (including const.
traffic management): _____

TOTAL PROJECT COST _____

I. Expected Funding Source(s) (Highway Priority Program, CMAQ, Urban Systems, Fed/State earmarks, etc.) _____

ATTACH ANY ADDITIONAL DOCUMENTATION

Disposition (circle one): (1) Advance to Stage 1 (2) Hold for Reconsideration (3) Shelve

**STAGE 0
Environmental Checklist**

Route _____ Parish: _____

C.S. _____ Begin Log mile _____ End Log mile _____

ADJACENT LAND USE: _____

Any property owned by a Native American Tribe?
(Y or N or Unknown) If so, which Tribe? _____

Any property enrolled into the Wetland Reserve Program?
(Y or N or Unknown) If so, give the location _____

Are there any other known wetlands in the area?
(Y or N) If so, give the location _____

Community Elements: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):

(Y or N) Cemeteries _____

(Y or N) Churches _____

(Y or N) Schools _____

(Y or N) Public Facilities (i.e., fire station, library, etc.) _____

(Y or N) Community water well/supply _____

Section 4(f) issue: Is the project impacting or adjacent to any (if the answer is yes, list names and locations):

(Y or N) Public recreation areas _____

(Y or N) Public parks _____

(Y or N) Wildlife Refuges _____

(Y or N) Historic Sites _____

Is the project impacting, or adjacent to, a property listed on the National Register of Historic Places? (Y or N) **Is the project within a historic district or a national landmark district?** (Y or N) If the answer to either question is yes, list names and locations below:

Do you know of any threatened or endangered species in the area? (Y or N)
If so, list species and location. _____

Does the project impact or adjacent to a stream protected by the Louisiana Scenic Rivers Act? (Y or N) If yes, name the stream. _____

Are there any Significant Trees as defined by EDSM I.1.1.21 within proposed ROW? (Y or N) If so, where? _____

What year was the existing bridge built? _____

Are any waterways impacted by the project considered navigable? (Y or N) If unknown, state so, list the waterways: _____

Hazardous Material: Have you checked the following DEQ and EPA databases for potential problems? (List names and locations of any potential problems.)

(Y or N) Leaking Underground Storage Tanks _____

(Y or N) CERCLIS _____

(Y or N) ERNS _____

(Y or N) Enforcement and Compliance History _____

STAGE 0
Environmental Checklist

Underground Storage Tanks (UST): Are there any Gasoline Stations or other facilities that may have UST on or adjacent to the project? (Y or N) _____

If so, give the name and location: _____

Any chemical plants, refineries, or landfills adjacent to the project? (Y or N) Any large manufacturing facilities adjacent to the project? (Y or N) Dry Cleaners? (Y or N) If yes to any, give names and locations: _____

Oil/Gas wells: Have you checked DNR database for registered oil and gas wells? (Y or N) List the type and location of wells being impacted by the project. _____

Are there any possible residential or commercial relocations/displacements? (Y or N)

How many? _____

Do you know of any sensitive community or cultural issues related to the project? (Y or N)

If so, explain _____

Is the project area population minority or low income? (Y or N) _____

What type of detour/closures could be used on the job? _____

Did you notice anything of environmental concern during your site/windshield survey of the area? If so, explain below.

Point of Contact

Phone Number

Date

STAGE 0 Environmental Checklist

General Explanation:

To adequately consider projects in Stage 0, some consideration must be given to the human and natural environment which will be impacted by the project. The Environmental Checklist was designed knowing that some environmental issues may surface later in the process. This checklist was designed to obtain basic information, which is readily accessible by reviewing public databases and by visiting the site. It is recognized that some information may be more accessible than other information. Some items on the checklist may be more important than others depending on the type of project. It is recommended that the individual completing the checklist do their best to answer the questions accurately. Feel free to comment or write any explanatory comments at the end of the checklist.

The Databases:

To assist in gathering public information, the previous sheet includes web addresses for some of the databases that need to be consulted to complete the checklist. As of February 2011, these addresses were accurate.

Note that you will not have access to the location of any threatened or endangered (T&E) species. The web address lists only the threatened or endangered species in Louisiana by Parish. It will generally describe their habitat and other information. If you know of any species in the project area, please state so, but you will not be able to confirm it yourself. If you feel this may be an issue, please contact the Environmental Section. We have biologist on staff who can confirm the presence of a species.

Why is this information important?

Land Use? Indicator of biological issues such as T&E species or wetlands.

Tribal Land Ownership? Tells us whether coordination with tribal nations will be required.

WRP properties? Farmland that is converted back into wetlands. The Federal government has a permanent easement which cannot be expropriated by the State. Program is operated through the Natural Resources Conservation Service (formerly the Soil Conservation Service).

Community Elements? DOTD would like to limit adverse impacts to communities. Also, public facilities may be costly to relocate.

Section 4(f) issues? USDOT agencies are required by law to avoid certain properties, unless a prudent or feasible alternative is not available.

Historic Properties? Tells us if we have a Section 106 issue on the project. (Section 106 of the National Historic Preservation Act) See <http://www.achp.gov/work106.html> for more details.

Scenic Streams? Scenic streams require a permit and may require restricted construction activities.

Significant Trees? Need coordination and can be important to community.

Age of Bridge? Section 106 may apply. Bridges over 50 years old are evaluated to determine if they are eligible for the National Register of Historic Places.

Navigability? If navigable, will require an assessment of present and future navigation needs and US Coast Guard permit.

Hazardous Material? Don't want to purchase property if contaminated. Also, a safety issue for construction workers if right-of-way is contaminated.

Oil and Gas Wells? Expensive if project hits a well.

Relocations? Important to community. Real Estate costs can be substantial depending on location of project. Can result in organized opposition to a project.

Sensitive Issues? Identification of sensitive issues early greatly assists project team in designing public involvement plan.

Minority/Low Income Populations? Executive Order requires Federal Agencies to identify and address disproportionately high and adverse human health and environmental effects on minority or low income populations. (Often referred to as Environmental Justice)

Detours? The detour route may have as many or more impacts. Should be looked at with project. May be unacceptable to the public.

STAGE 0 Environmental Checklist

Note: Websites change regularly. If the link does not work then go to the agency's home page and search for the information needed. The links below were in effect June 2012. You are not limited to the below listed sites when researching your project area.

Louisiana Governor's Office of Indian Affairs:

<http://www.indianaffairs.com/tribes.htm>

Louisiana Wetlands Reserve Program:

<http://www.nrcs.usda.gov/programs/wrp/states/la.html>

Community Water Well/Supply

<http://sonris.com/default.htm>

Louisiana Department of Wildlife and Fisheries – Wildlife Refuges

<http://www.wlf.louisiana.gov/refuges>

<http://www.fws.gov/refuges/profiles/ByState.cfm?state=LA>

<http://www.fws.gov/refuges/refugelocatormaps/Louisiana.html>

U.S. Fish & Wildlife Service – National Wetlands Inventory:

<http://www.fws.gov/wetlands/>

Louisiana State Historic Sites:

<http://www.crt.state.la.us/parks/ihistoricsiteslisting.aspx>

<http://kronos.crt.state.la.us/website/lahpweb/viewer.htm>

National Register of Historic Places (Louisiana):

<http://nrhp.focus.nps.gov/natreghome.do?searchtype=natreghome>

<http://www.nationalregisterofhistoricplaces.com/la/state.html>

National Historic Landmarks Program:

<http://www.nps.gov/history/nhl/>

Threatened and Endangered Species Databases:

<http://www.wlf.louisiana.gov/wildlife/louisiana-natural-heritage-program>

<http://www.wlf.louisiana.gov/wildlife/species-parish-list>

Louisiana Scenic Rivers:

<http://www.wlf.louisiana.gov/wildlife/scenic-rivers>

<http://www.wlf.louisiana.gov/wildlife/louisiana-natural-and-scenic-rivers>

<http://media.wlf.state.la.us/experience/scenicrivers/louisiananaturalandscenicriversdescriptions/>

<http://www.legis.state.la.us/lss/lss.asp?doc=104995>

Significant Tree Policy (EDSM I.1.1.21)

<http://notes1/ppmemos.nsf>

(Live Oak, Red Oak, White Oak, Magnolia or Cypress, aesthetically important, 18" or greater in diameter at breast height and has form that separates it from surrounding or that which may be considered historic.)

CERCLIS (Superfund Sites):

<http://www.epa.gov/superfund/sites/cursites/>

http://www.epa.gov/enviro/html/cerclis/cerclis_query.html

<http://www.epa.gov/superfund/sites/index.htm>

<http://www.deq.louisiana.gov/portal/DIVISIONS/WastePermits/SolidWastePermits/SolidWasteLandfillRepo rt.aspx>

**STAGE 0
Environmental Checklist**

ERNS - Emergency Response Notification System - Database of oil and hazardous substances spill reports:
<http://www.epa.gov/region4/r4data/erns/index.htm>

Enforcement & Compliance History (ECHO)
<http://www.epa-echo.gov/echo/>

DEQ – Underground Storage Tank Program Information:
<http://www.deq.louisiana.gov/portal/tabid/2674/Default.aspx>
<http://www.deq.louisiana.gov/portal/Portals/0/UndergroundStorageTank/LUST%2011-21-11.xlsx>
<http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2659>
<http://www.epa.gov/tri/index.htm>

Leaking Underground Storage Tanks:
<http://www.deq.state.la.us/portal/tabid/79/Default.aspx>

SONRIS – Oil and Gas Well Information & Water Well Information
<http://sonris.com/default.htm>

Environmental Justice (minority & low income)
<http://www.fhwa.dot.gov/environment/ej2000.htm>
<http://www.epa.gov/environmentaljustice/mapping.html>

Demographics
<http://www.census.gov/>

FHWA’s Environmental Website
<http://www.fhwa.dot.gov/environment/index.htm>

EPA Website (Good Reference and Maps)
<http://nepassisttool.epa.gov/nepassist/entry.aspx>

Additional Databases Checked

Other Comments:

Chapter 5: Stage 1 Standard Operating Procedures

Purpose

The objective of Stage 1 (Planning and Environmental Process) is to provide detailed planning and environmental analysis to produce the project scope, location, and major design features; a project cost estimate of engineering, right-of-way, utility relocations, construction, mitigation, construction administration, and a reasonable contingency, resulting in the overall project budget in current dollars; and documentation of the environmental decision. The completion of Stage 1 will result in documentation to move a proposed project into Stage 2 (Funding and Project Prioritization).

Process

All projects, regardless of classification (preservation, operations, safety, capacity, or other) and funding source, will be developed and carried through Stage 1 to accomplish the above purpose, using a combination of the appropriate level of preliminary engineering; social, economic, and environmental study; and coordination with all regulatory and affected agencies and local governing authorities. For larger projects, this process will be accomplished using a project team, comprised of the project manager and a group of staff made up of the necessary disciplines (geometrics, road design, bridge design hydraulics, traffic engineering, real estate, utilities, environmental specialists, planners, etc.) required to evaluate the project in its entirety. Under certain conditions, consultants may serve as project team members. (Refer to Appendix IV for more information on team building.)

Projects that are federally funded, or otherwise require a federal action in order to be implemented, will follow a process in accordance with the National Environmental Policy Act (NEPA). Projects developed in accordance with NEPA will provide one of the following types of environmental decision documentation:

- Categorical Exclusion (CE)
- Environmental Assessment/Finding of No Significant Impact (EA/FONSI)
- Environmental Impact Statement/Record of Decision (EIS/ROD)

Projects that may not initially be considered for Federal funding will be developed following a process closely adhering to the NEPA process. As state-funded only projects may be eligible for future Federal funding at subsequent stages of project development, this NEPA-like process can maximize funding options and minimize delay. Actions normally taken by the lead Federal

agency under NEPA will be the responsibility of the Environmental Engineer Administrator. Environmental documentation will be one of the following types¹:

- Environmental Exclusion (EE)
- Environmental Assessment/Environmental Finding (EA/EF)
- Environmental Impact Statement/Environmental Record (EIS/ER)

This Stage 1 standard operating procedure and the *Stage 1 – Planning/Environmental Manual of Standard Practice* will be used to guide the development of Stage 1 documentation.

To initiate Stage 1, a project must have been found feasible in Stage 0 (Feasibility), and the following deliverables (as applicable) provided:

- Preliminary Purpose and Need Statement – a preliminary description of the transportation problem or other needs that the proposed project is intended to address.
- Preliminary Alternatives and Feasibility Analysis – provides conceptual alternatives (including the “no build”) considered technically feasible.
- Value Planning/Value Engineering – identifying potential construction issues and recommended solutions.
- Preliminary Constructability Review – identifying potential construction issues and recommended solutions.
- Preliminary Environmental Review and Budget – identifies potential environmental impacts and issues, especially issues which are likely to stop implementation of the project; also creates a preliminary budget indicating the cost of implementing the project.
- Design Criteria and Exceptions – identifies AASHTO guidelines and DOTD criteria for construction of the project, including any exceptions required and why exceptions are needed.
- Access Management consideration (if any).
- Transportation Management Plan – the preliminary plan addressing traffic maintenance during construction developed for feasible alternatives during Stage 0.
- Future ITS and traffic operations considerations (if any)
- Interchange Justification Reports (IJR) or Interchange Modification Reports (IMR), if applicable, should be completed prior to, or concurrently with, Stage 1. These reports are the responsibility of the Traffic Engineering Development Section. Final approval for an interchange requires both environmental and access point approvals.

¹ Environmental Findings and Records are rare in Louisiana, as projects that may qualify for these designations will likely impact wetlands. NEPA is required for the issuance of a wetland permit regardless of funding. The Environmental Section will perform the work necessary to obtain the permit from the US Army Corps of Engineers who prepares the NEPA document.

At the beginning of Stage 1, the type of environmental action required for the project will be determined.

- Based on the Stage 0 determination of project feasibility and a contemplated action of a CE or EE nature, the assigned project manager or program manager prepares the estimated cost for Stage 1 processing and the authorizations required to initiate the Stage 1 process. Typically, the Environmental Section staff will produce deliverables following the CE process (see pages 51 through 55 for information). In some instances, another entity may prepare the CE and transmit the documentation to the Environmental Section for review and submittal to appropriate lead Federal agency.
- Based on the Stage 0 determination of project feasibility contemplating an EA/FONSI/EF or EIS/ROD/ER, a project team will be formed by the project manager. The project manager, with the assistance of the project team, will prepare an estimate of funding and authorizations required to complete the Stage 1 process. This request for funding will be coordinated with the Program Manager. The Stage 1 EA and EIS processes to be followed are included in this chapter (see pages 56 and 57 for information). In some cases, another entity may prepare the EA/FONSI/EF or EIS/ROD/ER with oversight from the project team and transmit the documents to the project team for review and submittal to the appropriate lead Federal agency.

For the Stage 1 process to be completed the project must be approved under one of the previously mentioned environmental processes and, for an EA/FONSI/EF and EIS/ROD/ER, a Scope and Budget Memorandum must be prepared. See the “Deliverables” section on pages 58 and 59 for the format and information necessary for the Scope and Budget Memorandum. The Scope and Budget Memorandum will be approved and signed by the Chief Engineer.

Figure 5-1 on the following page provides a flowchart that illustrates the basic steps of the Stage 1 Process.

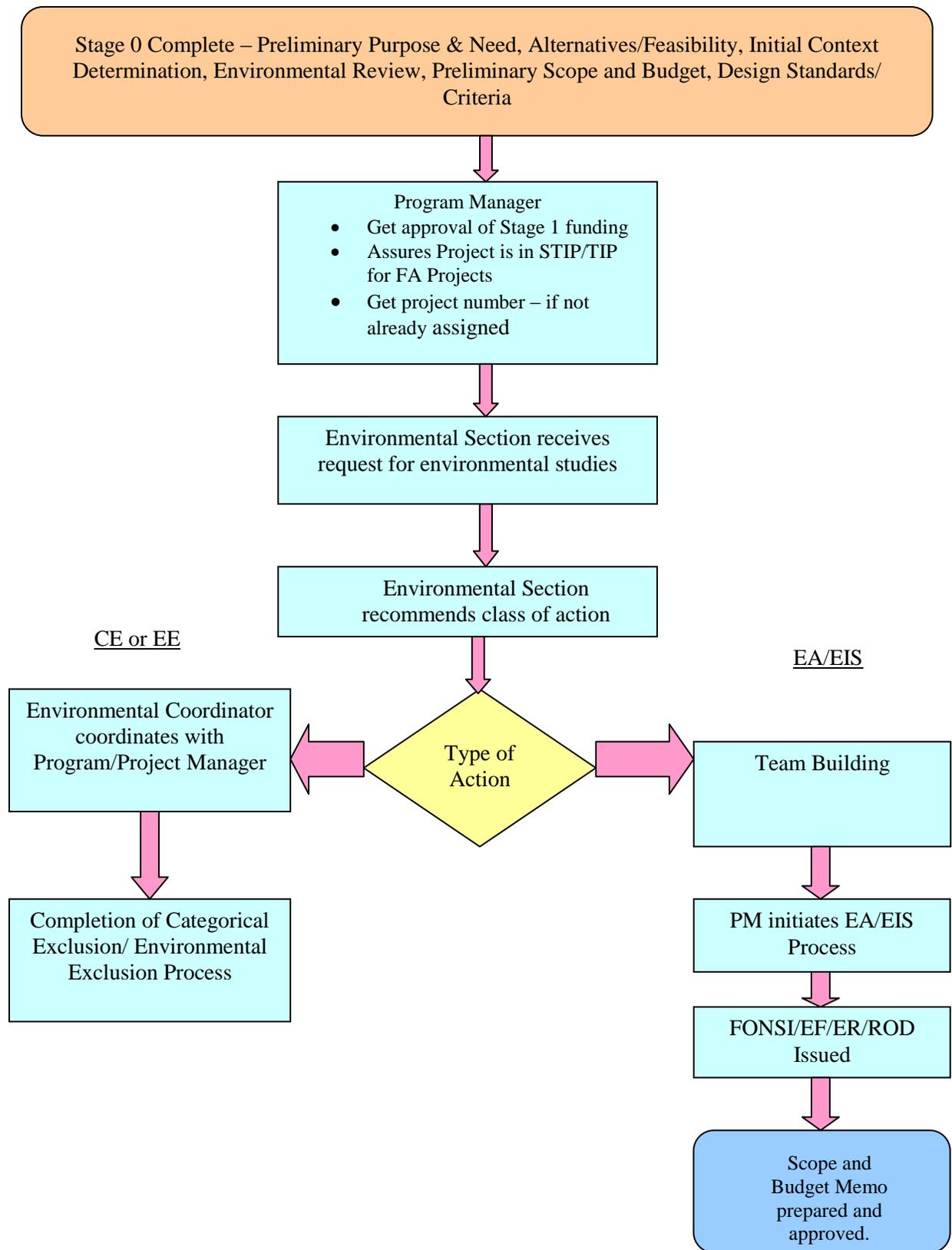


Figure 5-1

2.1 Responsibility Matrix

TASK	PLANNING/ SCOPING	ENVIRONMENT	DESIGN	TRAFFIC ENGR.	REAL ESTATE UTILITIES	DISTRICT
1. Preliminary Project Tasks						
a. Prepare NOI (EIS)		Responsible For				
b. Define Study Area	Provide Assistance	Responsible For	Review and Comment			Review and Comment
c. Develop Public Involvement Plan	Provide Assistance	Responsible For				Provide Assistance
d. Prepare SOV		Responsible For	Review and Comment	Provide Assistance		
e. Identify Stakeholders	Provide Assistance	Responsible For	Provide Assistance			Provide Assistance
f. Scoping Meetings	Provide Assistance	Responsible For	Provide Assistance	Provide Assistance	Provide Assistance	Provide Assistance
2. Purpose and Need						
a. Preliminary P&N	Responsible For	Provide Assistance	Review and Comment	Provide Assistance		Review and Comment
b. Preliminary Environmental Issues	Provide Assistance	Responsible For				Provide Assistance
c. Final P&N	Review and Comment	Responsible For	Review and Comment	Provide Assistance		Review and Comment
3. Alternatives Study						
a. Environmental Screening	Responsible For	Provide Assistance	Provide Assistance			Provide Assistance
b. Project Constraint Mapping	Provide Assistance	Responsible For	Provide Assistance			
c. Environmental Inventory		Responsible For			Provide Assistance	Provide Assistance
d. Preliminary Alternatives	Provide Assistance	Review and Comment	Responsible For	Responsible For IJR/IMR; Provide Assistance	Review and Comment	Review and Comment

TASK	PLANNING/ SCOPING	ENVIRONMENT	DESIGN	TRAFFIC ENGR.	REAL ESTATE UTILITIES	DISTRICT
e. Alternatives Analysis/Screening	Provide Assistance	Responsible For	Review and Comment	Responsible For IJR/IMR; Review and Comment	Review and Comment	
f. Public/Agency Involvement	Provide Assistance	Responsible For	Provide Assistance			Provide Assistance
g. Refine Alternatives	Review and Comment	Review and Comment	Responsible For	Provide Assistance	Review and Comment	Review and Comment
h. Preferred Alternative	Review and Comment	Responsible For	Review and Comment	Review and Comment	Review and Comment	Review and Comment
4. Environmental Documentation						
a. Draft Document	Review and Comment	Responsible For	Review and Comment	Provide Assistance	Provide Assistance	Provide Assistance
b. Distribute Draft Document		Responsible For				
c. Public Hearing		Responsible For	Provide Assistance		Provide Assistance	Provide Assistance
d. Technical Reports	Review and Comment	Responsible For	Review and Comment	Provide Assistance	Provide Assistance	Review and Comment
e. Address Comments	Provide Assistance	Responsible For	Provide Assistance	Provide Assistance	Provide Assistance	Provide Assistance
f. Selected Alternative	Review and Comment	Responsible For	Review and Comment	Review and Comment	Review and Comment	Review and Comment
g. Prepare Final Documents	Review and Comment	Responsible For	Review and Comment	Provide Assistance	Provide Assistance	Provide Assistance
i. Environmental Closure		Responsible For				
j. Scope and Budget Memorandum		Responsible For	Responsible For			

Documentation

Categorical Exclusions

Categorical Exclusions are minor environmental determinations concluding that projects will have no significant environmental impacts. These determinations are based on types of projects which have been shown historically to have little or no effect on the environment and would not otherwise be a candidate for an Environmental Assessment or Environmental Impact Statement. There are two categories, Categorical Exclusions (CE) or Programmatic Categorical Exclusions (PCE).

The types of projects eligible for environmental processing as Programmatic Categorical Exclusions are listed in the Consolidated Letter Agreement between the DOTD and Federal Highway Administration (FHWA) dated March 2, 1995, as amended by Consolidated Letter Agreement dated August 30, 1995, and the FHWA letter concerning changes to processing when properties on or eligible for the National Register of Historic places are involved, dated February 29, 2000. The types of projects which may be processed as Programmatic Categorical Exclusions and the information required in making this determination are as follows:

- Actions not leading or involving construction, such as planning and technical studies, grants, research, approvals of plans and programs – A written description of such studies should be sufficient to process these actions programmatically in Stage 1.
- Approval of utility installations along or across highway – A site diagram for the location of a utility across the highway right-of-way must be provided.
- Construction of bicycle and pedestrian paths, related facilities – The specific location, scope, and physical description (path routing and typical section) of these facilities must be provided.
- Highway Safety Planning activities – A description of the planning activity needs to be provided. If this is a highway safety project being funded by FHWA, then the specific location of the project and associated safety improvements must be provided for documentation.
- Transfer of Federal lands when not a FHWA action – A description of the land to be transferred and purpose of transfer needs to be provided.
- Installation of sound barriers or soundproofing of publicly-owned buildings – The location and physical description (height, length, and construction material) of the installation of the sound barriers or soundproofing must be provided.
- Landscaping – The location and physical description (physical limits, types of plantings, and maintenance requirements) of the landscaping must be provided.

- Installation of fencing, signs, pavement markings, passenger kiosks, traffic signals, and railroad warning devices with no substantial land acquisition or traffic disruption – The location and full description (including drawings) of these items must be provided.
- Emergency repairs – The location and full description (type of repair, physical limits, and emergency purpose) of the emergency repairs must be provided.
- Acquisition of scenic easements – The location (physical limits) and need (view shed) for the acquisition must be provided.
- Determination of payback for property previously acquired with FA participation – The location of property (physical and legal description), amount of payback, and reason for payback must be provided.
- Improvements to rest areas and weigh stations – The location and nature of the improvements (buildings, grounds, and systems) must be provided.
- Ridesharing activities – Information relative to the ridesharing activity must be provided.
- Alterations to facilities and vehicles for handicapped/elderly accessibility – The location and description of the facilities and/or vehicles (type of accessibility provided and compliance with ADA) to be altered must be provided.
- Track and rail bed maintenance and improvements inside existing right-of-way – The location and description (type of maintenance and physical limits) of the improvements must be provided.
- Promulgation of rules, regulations, and directives – A copy of the rules, regulations, or directives must be provided.
- Resurfacing, rehabilitation, or restoration of existing highway (no additional lanes) – The location, physical limits, and scope of the rehabilitation or restoration (typical section, construction, and right-of-way limits) of the highway must be provided.
- Minor widening/adding shoulders (no additional lanes) – The location, physical limits, and scope of the widening or shoulder addition (typical section, construction, and right-of-way limits) must be provided.
- Adding or lengthening turn lanes and intersection improvements – The location, physical limits (typical section, construction and right-of-way limits), and scope of the addition or lengthening of the improvement must be provided.
- Safety or traffic operational improvements (lighting, attenuators, barriers, guardrails, skid resistant surfaces, realignment of hazardous curves, glare screens) – The specific location, physical limits (typical section, construction and right-of-way limits), and scope of the improvement must be provided.
- Bridge rehabilitation, reconstruction, or replacement or grade separation to replace at-grade railroad crossings – The location, physical limits (alignment, plan and profile, typical section, construction and right-of-way limits), and scope of the improvement must be provided.

- Replacement or rehabilitation of culverts, inlets, and drainage pipes – The specific location, physical limits (construction and right-of-way limits), and scope of the improvement must be provided.
- Flattening slopes – The location, physical limits (construction and right-of-way limits), and scope of the improvement must be provided.
- Clear zone safety improvements (obstacle removal or relocation) – The specific location, physical limits, and scope of the improvements must be provided.
- Motorist aid or highway information systems – The location, physical limits (construction and right-of-way limits), and scope (coverage) of the system must be provided.
- Freeway traffic surveillance and control systems - The specific location, physical limits (construction and right-of-way limits), and scope of the system must be provided.
- Disposal of excess right-of-way or joint use/limited use of right-of-way – The location, physical and legal description of property, and scope of the disposal must be provided.
- Kiosks and facilities (enhancements) – The specific location, physical description (site map and drawings), and scope of the enhancement must be provided.
- Improvements to or rehabilitation of historic transportation facilities (enhancements) – The location, physical description (site maps and engineering/architectural drawings), and scope of the improvement must be provided.

Under the letter agreement, the FHWA has authorized the Environmental Section to review information and plans to determine the applicability of the use of programmatic approvals. If the project meets the requirements contained in the Consolidated Letter Agreement, as amended, the project may proceed without having to be submitted to FHWA for approval. The Environmental Engineer Administrator (EEA) certifies by signed approval that due consideration has been given for the project to be classified as a categorical exclusion.

For state-funded projects, or projects which may not otherwise require NEPA approvals, the EEA shall retain the authority to approve these projects types as listed, certifying that due consideration has been given for the project to be classified as an Environmental Exclusion (EE) (named so as to not be confused by terminology used in Federal law). Stage 1 for these projects shall be deemed complete upon the EEA's determination that the project meets the definition of a project which meets the above requirements.

The use of Programmatic Categorical Exclusions is predicated on the requirement that certain conditions do not occur on the project; i.e., if these circumstances do occur on a project under consideration, documentation must be provided to address these circumstances. The circumstances under which a Programmatic Categorical Exclusion determination may not be granted are as follows:

- Have unusual or controversial issues involved – public or agency involvement notes that the project is unusual or controversial.
- Use of properties protected under Section 4(f) (49 USC 303) or Section 6(f) of the Water Conservation Act – Public Outdoor Recreation Use - Section 4(f) applies to approval of a project requiring the use of publicly owned land of a public park, recreation area, wildlife and waterfowl refuge, or land of an historic site of national, state, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, recreation areas, refuge, or site) only if (1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuges, or historic site resulting from the use. Section 6(f) of the Land and Water Conservation Fund Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the Department of the Interior's (DOI) National Park Service. The Secretary (DOI) shall approve such conversion when assured the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.
- Adverse effect finding on properties listed on, or eligible for listing on, the National Register of Historic Places - The National Register of Historic Places is the nation's official list of significant cultural resources maintained by the Secretary of the Interior. Properties on or eligible for listing on the register include: prehistoric and historic districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture.
- Substantial impacts or other adverse comment on wetland issues from agencies - Section 404 of the Clean Water Act regulates the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry.
- Encroachments of a regulatory floodway or effect 100-year base floodplain elevations of a watercourse or lake - The regulatory floodway is the floodplain area that is reserved in an open manner by Federal, State, or local requirements that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without increasing the base flood elevation more than a specified amount. FEMA has mandated that projects can cause no rise in the regulatory floodway, and a one-foot cumulative rise for all projects in the base 100-year elevation.
- Construction in, across, or adjacent to National System of Wild and Scenic Rivers – In 1968, Congress created the National Wild and Scenic Rivers System, declaring that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve

other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

- Known hazardous waste sites or previous land use with potential for hazardous waste within the right-of-way – The Resource Conservation and Recovery Act describes the requirements for hazardous waste generation, identification, and disposal. Potentially responsible parties must pay for recovery and disposal of hazardous wastes unless “due diligence” studies are performed.
- Acquisition of more than minor amounts of right-of-way or any displacements
- Adverse effect on endangered or threatened species and their habitat – The purpose of the Endangered Species Act is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and provide a program for the conservation of such endangered species and threatened species.
- Action is not consistent with the State’s Coastal Zone Management Plan – The Louisiana Department of Natural Resources, Coastal Management Division, is responsible for the implementation of the Louisiana Coastal Resources Program (LCRP), an effort among Louisiana citizens, as well as state, federal, and local advisory and regulatory agencies to preserve, restore, and enhance Louisiana's valuable coastal resources by sound management.

If such projects do not involve significant environmental impacts, then a Categorical Exclusion (CE) determination may be granted if proper documentation is prepared to address these conditions. For projects requiring NEPA approvals, the Lead Federal Agency shall review and approve the environmental documentation and make a determination that the project is categorically excluded.

For state-funded projects, or projects which may not otherwise require NEPA approvals, the EEA shall make a determination, based on sound judgment of the impacts and conditions involved, that the project should be environmentally excluded (named so as to not be confused by terminology used in Federal law). Stage 1 for these projects shall be deemed complete upon the EEA’s determination that the project meets the definition of a project which meets the above requirements.

Environmental Assessments

When a project does not meet the definition of a categorical exclusion and does not clearly require the preparation of an Environmental Impact Statement, an Environmental Assessment should be prepared to determine (1) the presence of no significant impacts to the environment, or (2) that significant impacts to the environment will result, and an Environmental Impact Statement must be prepared.

The project manager and Environmental staff will review the results of the Stage 0. Based on this review, they will establish the disciplines that will comprise the initial project team. As the Stage 1 process continues, membership on the project team may include additional disciplines or exempt others as necessary to address the planning, environmental, design, and construction requirements of the project.

The results of Stage 1 shall identify the following:

- The social, economic, and natural environmental impacts of the alternatives considered
- The selected alternative, “the project”
- List of permits required to implement the project
- Location and major design features of the project
- Updated cost estimate, including engineering, construction, right-of-way, utilities, and environmental mitigation
- Mitigation and environmental commitments to be implemented in further stages of project development

For projects requiring NEPA approvals, the Lead Federal Agency shall review the environmental documentation and either (1) approve the Environmental Assessment by issuing a Finding of No Significant Impact, or (2) notify the DOTD that an Environmental Impact Statement must be prepared to address significant impacts to the environment.

For state-funded projects, or projects which may not otherwise require NEPA approvals, the EEA shall make a determination, based on sound judgment of the impacts and conditions involved, that the project should either (1) receive an Environmental Finding (named so as to not be confused by terminology used in Federal law), or (2) require the preparation of an Environmental Impact Statement and Environmental Record.

Stage 1 for these projects shall be deemed complete upon issuance of the FONSI or EF and the project manager’s preparation of a Scope and Budget Memorandum that is approved by the Chief Engineer.

Environmental Impact Statements

An Environmental Impact Statement must be prepared when it is likely that significant impacts to the environment will result from the implementation of the project.

The project manager and the Environmental staff will review the results of Stage 0. Based on this review, they will establish the disciplines that will comprise the initial project team. As the Stage 1 process continues, membership on the project team may include additional disciplines or

exempt others as necessary to address the planning, environmental, design, and construction requirements of the project.

The results of Stage 1 shall identify the following:

- The social, economic, and natural environmental impacts of the alternatives considered
- The selected alternative, “the project”
- Location and major design features of the project
- Updated cost estimate, including engineering, construction, right-of-way, utilities, and environmental mitigation
- Mitigation and environmental commitments to be implemented in further Stages of Project Development
- List of permits required to implement the project

For projects requiring NEPA approvals, the Lead Federal Agency shall review the Final Environmental Impact Statement and issue a Record of Decision (ROD).

For state-funded projects, or projects which may not otherwise require NEPA approvals, the EEA shall make a determination, based on sound judgment of the impacts and conditions involved, that the project should receive an environmental record (named so as to not be confused by terminology used in Federal law).

Stage 1 for these projects shall be deemed complete upon issuance of the ROD or ER and the Project Manager’s preparation of a Scope and Budget Memorandum that is approved by the Chief Engineer.

Deliverables

At the completion of Stage 1, the following deliverables are required to advance the project to Stage 2.

- Environmental Closure Document
 - Categorical Exclusion/Environmental Exclusion
 - Environmental Assessment/Finding of No Significant Impact/Environmental Finding
 - Final Environmental Impact Statement/Record of Decision/Environmental Record
- Scope and Budget Memorandum (for EA/FONSI/EF and EIS/ROD/ER)
 - Description of the Project and Selected Alternative
 - Location, Preferred Alignment, and Major Design Features
 - Context-Sensitive Issues and Design Exceptions
 - Maps and Exhibits, as necessary

- Status of access approval, IJR or IMR reports, if applicable
- Funding for full project implementation
 - Estimates
 - Construction
 - Engineering
 - Real Estate Acquisition & Relocations
 - Utility Relocation
 - Environmental Mitigation/Commitments
 - Traffic Management
 - Possible funding categories/mechanisms
- List of Commitments, Agreements, and Permits
 - Commitments which need to be incorporated into the Plans, Specifications, and Estimate (Stages 3 and 4)
 - Agency Agreements
 - Memoranda of Understanding
 - Memoranda of Agreement
 - Permits
 - Coast Guard (Section 9, General Bridge Act of 1946)
 - Corps of Engineers (Section 404, Section 10)
 - LA DEQ (Water Quality Certification and NPDES)
 - LA DNR (Coastal Use)
 - LA WL&F (LA Scenic Streams)
 - Levee
- Signatures
 - Recommendations From Project Team
 - Project Management Section, if applicable
 - Environmental Section
 - Design Section
 - Approval
 - Chief Engineer

Performance Indicators

Performance indicators for Stage 1 will be based on the timeliness and quality of the outputs of the process. Timeliness will be measured by the achievement of the following milestones as initially set by the project manager:

- CE/EE – Determination made by Lead Federal Agency or EEA
- EA/FONSI/EF – Issuance of FONSI or EF
- EIS/ROD/ER – Issuance of ROD or ER

Chapter 6: Stage 2 Standard Operating Procedures

Purpose

The purpose of Stage 2 (Funding) is to provide for funding of all project phases and to establish a project plan and project delivery date for projects that have completed Stage 1 (Planning and Environmental Process) and are ready to advance into Stage 3 (Final Design Process). The objectives of Stage 2 are to update the cost estimate and insure funding is available to proceed, develop the project plan (See Appendix I) and project delivery date (PDD), review the tentative program fiscal year that was established in Stage 0 (for the construction letting), and confirm the tentative funding source.

Process

Generally, the two types of projects that complete Stage 1 and advance into Stage 2 are 1) those that are initiated in the regular Highway Priority Program, and 2) those that are initiated by others with earmarked funds. There are also other less common types of projects (usually maintenance or emergency) that are funded by other sources. Scenarios for handling each of these types of projects are defined as follows.

Projects Initiated through Regular Priority Program

For a project to have progressed through Stages 0 and 1 in the regular Priority Program, the project selection team should have anticipated that the funding of the project would fall within the constraints of budget partition in the near future. Therefore, in general terms, projects that come through the priority program should be funded and should not be held in Stage 2 for long, unless the estimate increased significantly from the previous stages.

Once a project has completed Stage 1, the project manager should check/update the cost estimate. The project manager should review the scope and updated estimate with the program manager to insure the project still addresses the original intent and falls within the preliminary project budget and the budget constraints of the program. If the updated estimate reveals a funding problem, a decision will have to be made whether or not to continue with the project as is, go back to Stage 0 and reduce the scope, or coordinate with the Project Finance Subcommittee to develop a plan to secure additional funding. Ideally, most projects will proceed as is, since significant cost increases would have been reconciled with the project selection team and/or program manager during Stage 1.

At this point, the project manager will develop a preliminary project plan that lays out the tasks, timeframes, and personnel requirements. This preliminary plan should assume that funding and

personnel will not be a problem. Next, the project and program managers must determine when the project can be funded and update the tentative program fiscal year. The program fiscal year is the year the project will be let to construction. If necessary, the time frames in the preliminary project plan should be revised to match the funding time frame. Next, the project and task managers (Road Design, Bridge Design, Real Estate, etc.) must determine if personnel will be available to meet the proposed schedule. If personnel are available, a PDD can be established and the project can proceed into Stage 3. Note that the PDD must be in the fiscal year preceding the program fiscal year. If personnel are not available to meet the schedule, the use of consultants can be pursued, or the project plan, PDD, and program fiscal year can be revised to accommodate the availability of personnel.

Although the program manager has a budget to work within, specific sources of funding to be used for each project may not be known at the onset of a project. The program manager should work with the Highway Program Engineer to determine a tentative funding type, such as National Highway Performance Program (NHPP), Surface Transportation Program (STP), state cash, etc. Once the entire program is developed and funding requirements are reconciled with available funds, the Highway Program Engineer may change the specific funding type as needed.

At this point, the project should have a project plan, PDD, program fiscal year, a revised project budget, and an identified funding type. The Highway Program Engineer will insure that the project is programmed accordingly in the STIP and Highway Priority Program. The project manager will verify the project information is entered into Project Systems (PS).

If the project is projected to exceed the project budget after Stage 1, the project then goes to the program manager and Project Selection Team (if applicable) for consideration. The program manager will either send the project back to Stage 0, declare the project a “no go”, or fund the project. If the project is to be removed from the program, the project manager will notify the project sponsors.

Projects Initiated with Federal or State Earmarks

It is common for earmarked funds to be made available by Congress (or the Louisiana Legislature) to begin the feasibility and/or environmental studies for a project. If an earmark project completes Stage 1, the project manager, in conjunction with the program manager, should review the status of funding to determine how much is available to continue with the development of the project. The project estimate should also be checked and/or updated at this time.

The project manager should identify which activities (engineering, right-of-way, utilities, and construction) can be accomplished with the available funds. For example, if funding is only

available for engineering, the program manager should then be able to inform the project sponsors and the applicable Congressman or Louisiana legislator when additional funds will be needed. Therefore, a tentative project plan would be needed.

Activities for which funding is available should be programmed in the STIP and Highway Priority Program. The project manager should coordinate with the discipline to insure personnel are available to proceed with the project.

The program manager should inform the appropriate project sponsor, Congressman, and/or Louisiana Legislator of any additional funding needed to continue or complete the project. If no additional funds are expected, the program manager may then send the project to the appropriate project selection team for consideration of funding in the DOTD regular program.

If construction funding is not available, a letting date should not be established. If construction funding is available, a letting date should be established by the project and program managers.

Other Funding Sources

- **Major Repair Funds:** Cover repairs on facilities, such as minor repairs on movable bridges, pumping stations, tunnels and other electrical/mechanical repairs. The program manager for facilities is the DOTD Bridge Maintenance Administrator.
- **Ferry Products Funds:** Cover five-year mandated US Coast Guard dry docks and any repairs on ferries. The program manager is the DOTD Ferry Systems Engineer.
- **Operations Funds:** Usually cover maintenance contracts (mowing, guardrail, attenuators, cable barriers, etc.).
- **Secretary's Emergency Funds:** Usually cover any critical emergency repairs that do not have any other available funding source. The Secretary must sign a letter authorizing the use of these funds. The program managers for bridge and roadway repairs are the DOTD Bridge Maintenance Administrator and the DOTD Roadway Maintenance Management Engineer, respectively.

The program manager is responsible for the following:

- Ensure funding is available
- Request project numbers
- Request funding for projects

Responsibility Matrix/ Checklist

STAGE 2 STANDARD OPERATING PROCEDURE		
CHECKLIST AND RESPONSIBILITY MATRIX		
	TASK	RESPONSIBLE PARTY
1	IDENTIFY ORIGIN OF PROJECT (PRIORITY PROG/DEMO...)	HIGHWAY PROGRAM ENGINEER
2	IF ORIGIN IS PRIORITY PROGRAM:	
	A CHECK ESTIMATE, UPDATE IF NECESSARY	PROJECT MANAGER
	B REVIEW ESTIMATE, DECIDE GO OR NO/GO	SELECTION TEAM CHAIR/PROGRAM MANAGER
	C ESTABLISH PRELIMINARY PROJECT PLAN	PROJECT MANAGER
	D DETERMINE POTENTIAL PROGRAM FISCAL YEAR	PROGRAM MANAGER
	E ADJUST PREL. PROJECT PLAN TO COINCIDE WITH PROGRAM FY	PROJECT MANAGER
	F CHECK MANPOWER AVAILABILITY TO MEET PRELIMINARY PROGRAM PLAN	PROJECT MANAGER
	G REVISE PROJECT PLAN / PROGRAM FY AS NEEDED. ESTABLISH PDD	PROJECT & PROGRAM MANAGER
	H ESTABLISH TENTATIVE FUNDING SOURCE (NHPP, STPFLEX, STATE CASH, ETC.)	HIGHWAY PROGRAM ENGINEER
	I ENTER MILESTONE DATES, PDD, PROGRAM FY, ETC. IN PS	HIGHWAY PROGRAM ENGINEER AND PROJECT MANAGER
	J ENTER PROJECT INFORMATION IN PS SYSTEM	PROJECT MANAGER
	K CHANGES IN PDD WITHIN CURRENT FISCAL YEAR (WITH RECOMMENDATION OF PROJECT AND PROGRAM MGR)	CHIEF, PROJECT DEVELOPMENT DIVISION (FOR PROJECT MANAGERS UNDER ENGINEERING OR ASSISTANT SECRETARY OF OPERATIONS FOR PROJECT MANAGERS UNDER OPERATIONS)
	L CHANGES IN PDD OUTSIDE CURRENT FISCAL YEAR (WITH RECOMMENDATION OF PROJECT AND PROGRAM MGR)	CHIEF ENGINEER
3	IF ORIGIN IS EARMARKED FUNDS	
	B REVIEW STATUS OF FUNDING. DETERMINE AMOUNT AVAILABLE TO PROCEED	PROJECT AND PROGRAM MANAGER
	C IDENTIFY ACTIVITIES WHICH CAN BE ACCOMPLISHED WITH AVAILABLE FUNDS	PROJECT MANAGER
	D DEVELOP PRELIMINARY PROJECT PLAN IF THERE IS FUNDING TO PROCEED	PROJECT MANAGER
	E COORDINATE WITH TASK MANAGERS TO INSURE MANPOWER IS AVAILABLE. PROGRAM ACTIVITIES IN STIP AND HIGHWAY PROGRAM.	PROJECT MANAGER
	F PROCEED WITH STAGE 3 ACTIVITIES AS FAR AS FUNDS WILL ALLOW	PROJECT MANAGER
	G INFORM PROJECT SPONSORS, CONGRESSMEN, LEGISLATORS OF FUTURE FUNDING NEEDS	PROGRAM MANAGER
	H ESTABLISH LETTING DATE ONLY IF CONSTRUCTION FUNDING IS AVAILABLE	PROJECT AND PROGRAM MANAGER

Deliverables

Stage 2 for a project phase is not complete until all funding is available for that phase. Projects may advance to further phases without Stage 2 being complete.

The deliverables from Stage 2 are:

- Updated Cost Estimate
- Updated Project Plan
- Updated PDD
- Updated Program Fiscal Year (year of construction letting)
- Potential Funding Source Identified

Chapter 7: Stage 3 Standard Operating Procedures

Purpose

The primary purpose of Stage 3 (Final Design Process) is to execute the project development within scope, on schedule, and within budget, as described in the Project Plan (See Appendix I). The needed input from Stage 2 into Stage 3 is a well-defined scope and preliminary schedule and an up-to-date budget with funding sources identified, for all aspects of the project. The output of Stage 3 is signed final plans and an approved estimate ready for letting. In addition, the rights of way should be purchased, all required agreements secured (utility, railroad, cooperative endeavor, etc.), and all environmental and non-environmental permits obtained that are required for letting. The completion of the above activities defines the project delivery date (PDD).

The Project Builder transaction in the Enterprise Core Component (ECC) module in the LaGov application is the tool to monitor the project schedule. The Program Project Management System (PPMS), using project scheduling software, provides a tool for effective management of project schedules for new construction and major type projects.

Process

The Final Design process is accomplished by following these manuals and guidelines:

- Road Design Manual
- Bridge Design Manual
- Hydraulics Manual
- Location and Survey Manual
- Engineering Directives and Standards
- Pavement Preservation Manual

The goal of the Project Team should be to develop a Project Plan to accomplish Final Design; that is comprehensive, realistic, deliverable, and endorsed by all team members. Successful project delivery requires active management of the Project Plan including the following:

- An endorsed Project Plan
- Ongoing communication involving all team members to ensure the frequent and accurate transfer of information related to the project

(Example: Project Manager, District Permit Specialist and District Utility Specialist regarding utility permit requests)

- Regular monitoring and evaluation of the schedule and budget; revising them as appropriate to reflect actual progress.
- Regularly reporting of progress to customers and stakeholders
- Application of resources to meet schedule

The scope of work, schedule to deliver, and the estimated cost to complete a Highway Construction Program project (including engineering, right of way, utility, and construction phases) are developed by the project team during Stage 0 and 1 and finalized prior to beginning Stage 3. Once a Highway Construction Program project's scope, schedule, and budget have been established, any changes in scope that affect the project schedule (move to a different fiscal year) or budget (estimate changes by +/- 10%) will require a recommendation from the Program Manager and approval from the Chief Engineer through the use of change in the Scope and Budget Memorandum. In order to provide proper documentation, the Change Scope and Budget Memorandum should include the following sections:

- Project Overview- narrative of what the project is about.
- Original Project Scope- the project objective and scope.
- Change Project Scope- the revised objective and scope.
- Reasons- identify reasons for the change in scope and budget.
- Environmental Requirements, Context Sensitive, and Design Exceptions- outline any changes to the original Environmental Requirements, Context Sensitive, and Design Exceptions.
- Project Schedule- indicates any changes in the original project schedule and major milestones.
- Budget and Funding- identify changes in the project funding or timing affected by the change in scope or budget.

All projects in the Department's Highway Construction Program will maintain current schedules in Project Builder and will be updated frequently to ensure the project delivery date shown is accurate and can be met.

Intermediate and primary milestones can be found in Appendix I. Of these, the following are considered the primary milestones to be tracked:

1. Environmental Clearance date
2. Survey completion date

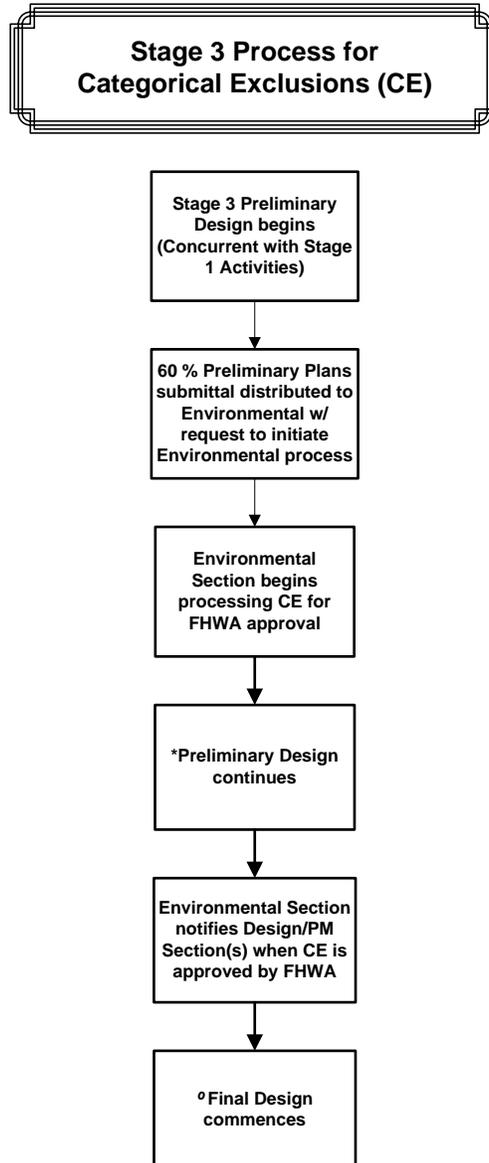
3. Preliminary Plans completion date
4. ROW Maps completion date
5. Final Plans completion date
6. ROW Clearance date
7. Utility Agreements date
8. Project Delivery Date
9. Plans, Specifications, and Estimate Date
10. Letting Date

Each of these major milestones require, as outlined in existing design manuals, significant reviews, including field reviews, and cost updates.

See the following flowcharts representing:

- Stage 3 process activities that may be performed concurrently with Stage 1
- Stage 3 activities that must be performed after the completion of Stage 1

Stage 1 CE Flowchart



Per 23 CFR §636.103:

* *Preliminary design* defines the general project location and design concepts. It includes, but is not limited to, preliminary engineering and other activities and analyses, such as environmental assessments, topographic surveys, metes and bounds surveys, geotechnical investigations, hydrologic analysis, hydraulic analysis, utility engineering, traffic studies, financial plans, revenue estimates, hazardous materials assessments, general estimates of the types and quantities of materials, and other work needed to establish parameters for the final design. Prior to completion of the NEPA review process, any such preliminary engineering and other activities and analyses must not materially affect the objective consideration of alternatives in the NEPA review process.

° *Final design* means any design activities following preliminary design and expressly includes the preparation of final construction plans and detailed specifications for the performance of construction work.

For additional information, refer to FHWA Every Day Counts, Clarifying the Scope of Preliminary Design website:

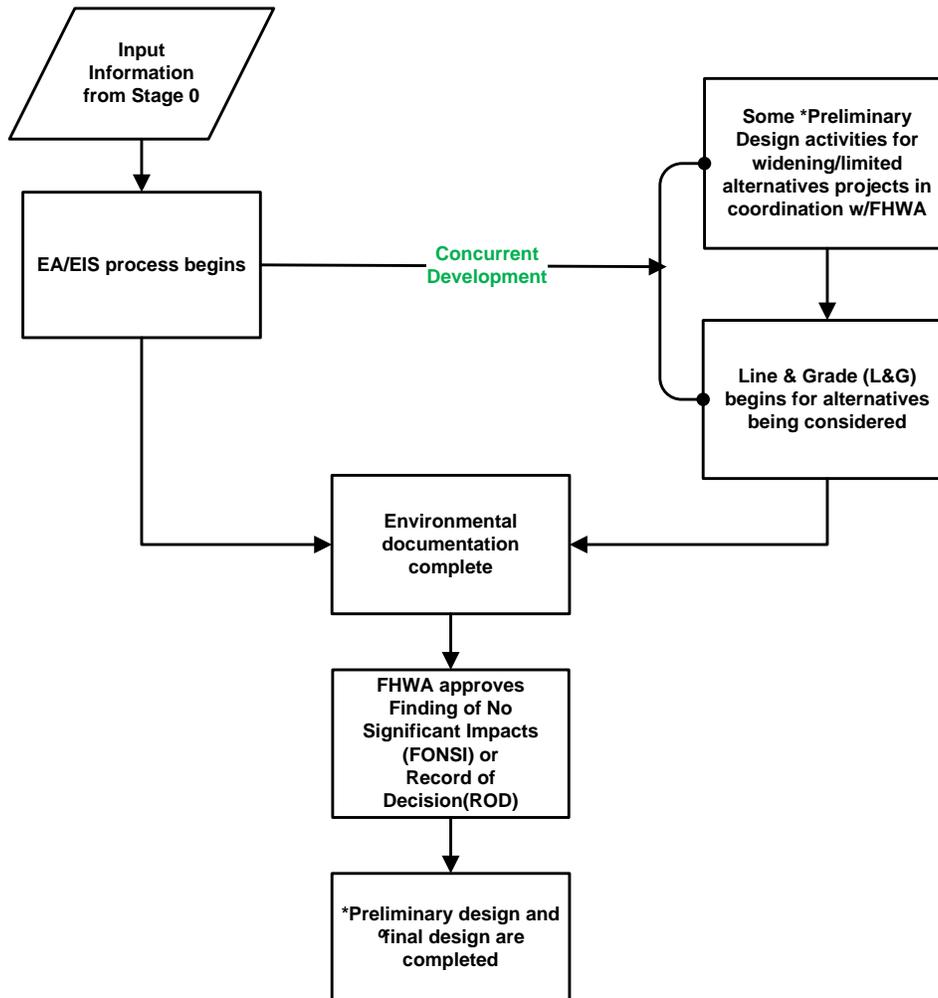
<http://www.fhwa.dot.gov/everydaycounts/projects/toolkit/design.cfm>

Also refer to FHWA Order 6640.1A Policy on Permissible Project Related Activities During NEPA Process

<http://www.fhwa.dot.gov/legregs/directives/orders/66401a.htm>

Stage 3 EA/EIS Flowchart

Environmental Assessments (EA) Environmental Impact Statements (EIS)



Per 23 CFR §636.103:

* *Preliminary design* defines the general project location and design concepts. It includes, but is not limited to, preliminary engineering and other activities and analyses, such as environmental assessments, topographic surveys, metes and bounds surveys, geotechnical investigations, hydrologic analysis, hydraulic analysis, utility engineering, traffic studies, financial plans, revenue estimates, hazardous materials assessments, general estimates of the types and quantities of materials, and other work needed to establish parameters for the final design. Prior to completion of the NEPA review process, any such preliminary engineering and other activities and analyses must not materially affect the objective consideration of alternatives in the NEPA review process.

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Also refer to FHWA Order 6640.1A Policy on Permissible Project Related Activities During NEPA Process <http://www.fhwa.dot.gov/legregs/directives/orders/66401a.htm>

Responsibility Matrix

The Stage 3 activities representative of the majority of DOTD projects are listed in the matrix below. Responsible parties are noted for each. In addition, the project types for which the activities should normally be performed are indicated by the use of the following symbols:

- “□” means the activity is always done for that type project
- “■” means some aspect of the activity is performed with some level of frequency

Note that the information contained in the matrix should not be considered all inclusive; individual projects are unique and thus stand on their own as defined in Appendix I.

Activity Description	Functional Responsibility	Maintenance		Preservation	New & Major Const.
		Ops	Eng		
Compile Project Assessment Data	Project Manager			□	□
Assemble Project Management Team	Project Manager				□
Consultant Selection Process (if applicable)	Project Manager and Consultant Contracts		■	■	■
Conduct Project Kickoff Meeting	Project Manager		■	□	□
Traffic Data & Analysis	Planning and Traffic Engineering	■	□	□	□
Sub-grade Soil Survey	District Lab, Pavement & Geotechnical, Materials and Testing, Project Manager	■		■	□
PH/Resistivity	Pavement & Geotechnical, Materials and Testing, Project Manager	■		■	□
Pavement Design	Pavement & Geotechnical, Project Manager			■	□
Conduct Pre-design Meeting	Project Manager			□	□

Activity Description	Functional Responsibility	Maintenance		Preservation	New & Major Const.
		Ops	Eng		
Topographic Surveys	Location & Survey			■	<input type="checkbox"/>
Develop Preliminary Design - Bridge	Bridge Design		■		■
Develop Preliminary Design - Roads	Road Design, District Design		■	<input type="checkbox"/>	<input type="checkbox"/>
Reviews Preliminary Design & Coordinates with Railroad(s) as Required	RR Unit			<input type="checkbox"/>	<input type="checkbox"/>
60% Preliminary Design Review	Geometrics, Road Design, Bridge Design, Hydraulics		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
District Evaluation of Traffic Signals	District Traffic Operations Engineer			■	■
DUS Reviews 60% Preliminary Design with Utilities as needed	District Utility Specialist			<input type="checkbox"/>	<input type="checkbox"/>
Environmental Solicitation of Views	Environmental				<input type="checkbox"/>
Property Survey, Title Work and ROW Map	Location and Survey	■			<input type="checkbox"/>
Conduct Environmental Studies and Develop Document	Environmental	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Decision on Traffic Signal Design	Traffic Engineering and Services		<input type="checkbox"/>	■	■
Address/Resolve 60% Preliminary Design & Review Comments	Project Manager		■	<input type="checkbox"/>	<input type="checkbox"/>
DUS Distributes 90% Preliminary Plans to Utilities as needed	District Utility Specialist				<input type="checkbox"/>
Address/Resolve Agency Comments	Environmental			<input type="checkbox"/>	<input type="checkbox"/>
Distribute Preliminary ROW Taking Lines	Project Manager				<input type="checkbox"/>
Agency Approval of Documents	Environmental			<input type="checkbox"/>	<input type="checkbox"/>

Activity Description	Functional Responsibility	Maintenance		Preservation	New & Major Const.
		Ops	Eng		
Chief Engineer Selects VE Team; Team Performs Study and Makes Recommendation to CE	Project Manager		■	■	■
Verify Topo - USTs, Contamination, Improvements	Real Estate				■
Chief Reviews VE Recommendation	Project Manager			■	■
Plan-In-Hand Meeting	Project Manager	■	■	■	□
Revise P/H (95%) Preliminary Design to Reflect Comments	Road Design, Bridge Design, District Design			■	□
Schedule and conduct Joint Review Meeting	Project Manager, Real Estate				□
Distribute 100% Preliminary Design Plans to DUS	Project Manager			□	□
Engineering Authorization/Blank Template Agreement Package to Utilities. (Contains 100% Preliminary Plans that Include Required ROW Lines). DUS Sends Whatever Project Information is Available if a Submission is Required Sooner Than 100% Preliminary Plans.	District Utility Specialist				□
Final Plans Notice to Proceed	Project Manager	□		■	■
Develop Final Plans	Road Design, Bridge Design, District Design	□	■	□	□
Develop Traffic Control Plans	District Traffic Engineer	□	■	□	□
Prepare Final ROW Maps	Location and Survey				□
Prepare ROW Cost Estimate	Real Estate				□

Activity Description	Functional Responsibility	Maintenance		Preservation	New & Major Const.
		Ops	Eng		
Prepare HQ Utility Cost Estimate, Sooner if Known	HQ Utilities				<input type="checkbox"/>
Confirm Required Environmental Permits and Number of Utilities	Project Manager	■		<input type="checkbox"/>	<input type="checkbox"/>
Prepare Applications for Required City/State/Interagency Agreements	Consultant Contracts	■		■	■
Prepare Railroad Applications for Required Agreements	Highway/RR Unit	■		■	■
Prepare and submit CE/CG/CZ, Scenic Stream Applications for Required Permits	Permits, Environmental	■		■	■
Request Funding for ROW Activities	Real Estate				<input type="checkbox"/>
Request & Rec. Fed. Auth. of Funds - ROW & Utilities	Project Manager				<input type="checkbox"/>
Review and Resolve Final ROW Map Issues	Location and Survey				<input type="checkbox"/>
Utility Company Signs and Returns Agreement Package to DUS	District Utility Specialist				<input type="checkbox"/>
Transmit Final ROW Maps to Real Estate	Location and Survey				<input type="checkbox"/>
Request Appraisals	Real Estate				<input type="checkbox"/>
Compile 60% Final Plan submittal	Project Manager				<input type="checkbox"/>
Review 60% Final Plan	Road Design, Bridge, Hydraulics, Traffic Engineering, Geotechnical		<input type="checkbox"/>		<input type="checkbox"/>
Prepare Property Valuation	Real Estate				<input type="checkbox"/>
Adjust Design for Permit Mitigation	Project Manager			■	■
Conduct Acquisition and Relocation Negotiations	Real Estate				<input type="checkbox"/>

Activity Description	Functional Responsibility	Maintenance		Preservation	New & Major Const.
		Ops	Eng		
Forward Agreement Package to HQ Utility for Review	District Utility Specialist				<input type="checkbox"/>
Approval of Agreements	HQ Utilities				<input type="checkbox"/>
Utility Release Letter Sent to Budget After All Utility Agreements Have Been Approved	HQ Utilities				<input type="checkbox"/>
Utility Workday Letter sent to Contracts and Specs (All Utility Agreements Have Been Approved)	HQ Utilities				<input type="checkbox"/>
Distribute 95% Final Plan for Review	Project Manager			<input type="checkbox"/>	<input type="checkbox"/>
Remove Improvements from Right of Way	Real Estate				■
Certify Project ROW Activities Are Complete	Real Estate				<input type="checkbox"/>
Develop Final Plans to 100% Complete	Project Manager	<input type="checkbox"/>	■	<input type="checkbox"/>	<input type="checkbox"/>
Issue Utility Relocation Work Orders (Notice to Proceed) to Utility Companies as Needed	District Utility Specialist				<input type="checkbox"/>
Prepare Final Estimate	Project Manager	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Signed by Chief Engineer	Project Manager			<input type="checkbox"/>	<input type="checkbox"/>
Develop Construction Proposals to 95% Complete ★	Contracts and Specifications			<input type="checkbox"/>	<input type="checkbox"/>
Develop Construction Proposals to 100% Complete ★	Contracts and Specifications	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Request & Rec. Fed. Auth. Funds – Construction ★	Project Manager			■	■
Advertise Project ★	Contracts and Specifications/Districts	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

★Stage 4 Activity

2/4/2014

Deliverables

Stage 3 concludes when “PDD complete” status is attained. The following items are the standard deliverables for Stage 3. They may vary depending upon the project type.

- Signed final plans included electronic formats
- Plan QC/QA Documentation
- Approved estimate ready for letting
- Rights-of-way purchased
- Required agreements secured (utility, railroad, cooperative endeavor, etc.)
- All environmental and non-environmental permits obtained
- Estimate of construction duration

Chapter 8: Stage 4 Standard Operating Procedures

Purpose

To provide the Department and our customers with an orderly, predictable mix and flow of projects which have completed the design process (Stage 3), and are advancing to the beginning the construction process (Stage 5). Stage 3 is considered complete when the PDD is 100%, which means all permits needed have been acquired, plans are signed, and the TIP and/or STIP has been updated so that authorization of funds can be requested. The PS&E will be completed two months before the project is let. When the PS&E is at 95%, funds can be authorized. Once the project is advertised for the letting, the PS&E can be considered complete.

Scope

Stage 4 processes will be utilized on all Headquarters let projects that are part of the Highway Priority Program including TIMED projects. Construction/Maintenance projects let in the Districts will not be subject to Stage 4 processes, but information from these projects may be taken into consideration during Stage 4. Projects let in the Districts (commonly called "Letter Bids") will be bid and awarded in accordance with the requirements of the most current edition of the Department's "LETTER BID AND CONTRACT GUIDELINES." Any deviation from this manual must be approved in advance by the Chief Engineer or the Assistant Secretary of Operations.

Goals

- During a fiscal year, let and award an optimized mix of project types reflective of the Budget Partition's sub-categories and funding levels
- During a fiscal year, let and award an optimized geographical mix of projects.
- During a fiscal year, let and award projects reflective of local and statewide priorities.
- During a fiscal year, let and award projects in a manner that tries to lessen negative socio-economic impacts to the traveling public and Louisiana business and industry.
- Level the monthly letting schedule based upon dollar value let and project type.
- Establish a baseline monthly letting schedule for annual dashboard measurement.
- Adjust and re-level the monthly letting schedule throughout the year as required due to project movement.

Benefits

The anticipated benefits of Stage 4 are typical of benefits inherent to stable, uniform, and predictable processes. These benefits are as follows:

- DOTD can announce with greater confidence when a project will be let and construction will begin.
- DOTD can make more informed/accurate budget decisions.
- The ability for DOTD to reduce adverse effects of construction on the public and local business.
- Public officials will be able to have more confidence in our letting and construction schedules enabling them to plan better and react accordingly
- Contractors will have a greater planning horizon, enabling them to conduct their activities with greater certainty.
- A reduction in “last minute” changes during the advertising period, resulting in better bids and less mistakes by contractors, i.e. reduced project costs and reduced conflict/litigation.
- The public can be better informed, and therefore be able to plan for and adjust to temporary inconveniences.
- Reasonable placement and adjustment of project letting dates in the annual letting schedule when required by project movement.

Establishment of the Annual Baseline Letting Schedule

Preliminary Work

The process begins in mid-February of a given state fiscal year (SFY) with the identification of projects scheduled for letting in that SFY that will not be let in that SFY due to funding limitations or Stage 3 completion issues. At approximately the same time, Project Control will request a copy of the list of projects sent to the State Legislature for funding in the next annual Highway Priority Program. These two lists will be combined to form a pool of available projects from which the next SFY’s baseline monthly letting schedule will be developed. All of these projects will be examined, prioritized, and scheduled for letting during the next SFY, within budgetary confines. The process will repeat itself each year. Completed Stage 3 projects that do not get let in the year that they were initially scheduled may be inserted in the next SFY’s schedule or may be placed back into the pool of Stage 3 projects awaiting prioritization. Project authorization (federal), advertisement, letting, award, and contract execution processes remains unchanged.

Baseline Letting Schedule

Beginning on or about the 1st of March each year, using the pool of available projects, the following steps will be performed in order to establish the baseline letting schedule of projects by May 1st, for the SFY that starts July 1st of that same calendar year:

NOTE: During the period of March through June the PDDs existing at the beginning of March should not be revised unless absolutely necessary. Any PDD change during this period of time should be approved by the Chief Engineer and coordinated through Project Control.

Step 1 –1st week (1 week duration)

While Project Delivery Dates (PDDs) should be always be up to date, Project Control will request that the PDDs for all projects not yet bid in the current SFY, or potentially in the next SFY's letting schedule, be updated.

Project Control will sort all projects that could potentially be let in the next SFY by program, and list the earliest possible month that a project could be let based on the PDD (These are not suggested letting dates).

Step 2 –2nd and 3rd weeks (2 week duration)

The lists sorted by program will be sent to the respective program manager for preliminary letting date order. If the list contains more projects than the program manager can budget, the program manager will determine which projects should be removed from the next SFY's letting schedule, either by moving them to the following SFY or by placing them back into the pool of Stage 3 projects awaiting prioritization.

Program managers can make specific requests for projects based on their knowledge of potential conflicts, project manager schedules, or any other information they have that will benefit their program. Program managers are specifically asked to consider and include district priorities at this time.

Project Control will work closely with program managers to accommodate as many requests as possible, and to find reasonable alternatives when specific requests cannot be met.

Step 3 – 4th week (1 week duration)

Project Control will set preliminary letting dates for projects based on the ordering received from program managers, and by establishing an approximately level dollar value per letting, using a mix of projects based on size, type, and location.

Step 4 – 5th week (1 week duration)

Project Control will send the preliminary list of letting dates, sorted by funding category, to Section 38 Budget for verification that federal funding is available for all projects scheduled from July through October from currently available federal apportionments (The federal fiscal year ends September 30). If specific project funding is not available, adjustments to the preliminary list of letting dates will be made. Where appropriate, alternate funding of projects, including advance construction designation, will be considered, rather than move project letting dates.

Step 5 – 6th week (1 week duration)

Project Control will send the adjusted list of project letting dates, sorted by district, to the respective District Administrator. Each district will be asked to review their list for any conflicts, needs or other specific problems that can be addressed by an adjustment to the letting schedule. Adjustments will be made as required.

Step 6 – 7th week (2-3 days duration, if needed)

With consideration for all requests and information received at this point, Project Control will move non-critical projects to re-balance the monthly lettings.

Step 7 – 7th through 8th week (10 days duration)

Project Control will send the draft final list of letting dates for projects to the PDSC/Executive Committee for review, and for any specific project letting date adjustments requested as a result of Committee or legislative action or input. The list will be sorted by letting date or by any other criteria requested.

Step 8 – end of April (2-3 days duration, as needed)

Project Control will send the final list of letting dates for projects to the Chief Engineer for review and approval (The Chief Engineer will also have already reviewed the draft final list in Step 7 above). This step must be completed by May 1st to allow adequate time to authorize funding and advertise the projects in the letting held during the first month of the next SFY. That letting will typically occur on the second Wednesday of the next July.

The annual baseline letting schedule is established upon the Chief Engineer's approval.

**RESPONSIBILITY MATRIX:
ANNUAL BASELINE LETTING SCHEDULE**

STEP	RESPONSIBLE	ASSISTING
PRELIMINARY WORK	PROJECT CONTROL	PROGRAM MANAGERS, PLANNING
1. SORT PROJECTS BY PROGRAM, PDD	PROJECT CONTROL	
2. PRELIMINARY LETTING DATE ORDER	PROGRAM MANAGERS	PROJECT MANAGERS, DISTRICTS
3. SET PRELIMINARY LETTING DATES, LEVEL DOLLAR VALUE	PROJECT CONTROL	
4. FINANCIAL REVIEW	BUDGET	PROJECT CONTROL, PROGRAM MANAGERS
5. REVIEW FOR LOCAL ISSUES, CONFLICTS	DISTRICTS	
6. RE-LEVELING OF LIST BY MOVING NON- CRITICAL PROJECTS	PROJECT CONTROL	DISTRICTS, PROJECT MANAGERS, PROGRAM MANAGERS
7. EXECUTIVE REVIEW AND ADJUSTMENT	PDSC/EXECUTIVE COMMITTEE	PROJECT CONTROL
8. LETTING SCHEDULE APPROVAL	CHIEF ENGINEER	

**STAGE 4
CHECKLIST**

Baseline Letting Schedule:

- **Project Control requests a review and list of projects scheduled in the current year that will not be let.**
- **Project Control requests a copy of the list of projects sent to the State Legislature for funding in the next annual Highway Priority Program.**
- **Project Control requests an update of PDDs for all projects not yet bid in the current SFY, or potentially in the next SFY's letting schedule.**
- **Project Control sorts all projects that could potentially be let in the next SFY by program, and lists the earliest possible month that a project could be let based on the PDD.**
- **Lists sorted by program will be sent to the respective program managers for preliminary letting date order.**

- **Program managers will determine which projects should be removed from the next SFY’s letting schedule.**
- **Program managers set preliminary letting date order.**
- **Program managers make specific requests for projects based on any information they have that will benefit their program.**
- **Project Control will set preliminary letting dates for projects and establish an approximately level dollar value per letting.**
- **Project Control will send the preliminary list of letting dates, sorted by funding category, to Project Financing.**
- **Budget will determine whether funding is available for all federally funded projects scheduled from July through October from currently available federal apportionments.**
- **Where appropriate, Budget will consider alternate funding of projects, including advance construction designation.**
- **Project Control will make adjustments to the preliminary list of letting dates where specific project funding is not available.**
- **Project Control will send the adjusted list of project letting dates, sorted by district, to the respective District Administrators.**
- **Districts will review their lists for any conflicts, needs or other specific problems that can be addressed by an adjustment to the letting schedule.**
- **Project Control will move non-critical projects to re-balance the monthly lettings, and create the draft final list of letting dates for projects.**
- **Project Control will send the draft final list of letting dates for projects to the PDSC/Executive Committee for review.**
- **Project Control will make any specific project letting date adjustments requested as a result of Committee or legislative action or input.**
- **Project Control will send the final list of letting dates for projects to the Chief Engineer for review and approval.**
- **Project Control publishes baseline letting schedule for the next SFY.**

Funding, Letting, and Pre-work Order Contract Administration

Contracts and Specifications will advertise and Project Control will let projects according to the approved project letting date. Authorization, award, DBE matters, and contract administration will continue under the current responsible sections and do not change.

Individual projects will be turned over to Stage 5 with the issuance of the “Notice of Contract Execution” letter to the selected contractor and the appropriate DOTD officials.

STAGE 4 CHECKLIST

Construction letting process:

- **Contracts and Specifications updates proposals based upon approved letting dates.**
- **Budget identifies exact funding source of project.**
- **Budget verifies through PS in LaGov that all required permits, agreements, etc. are in place.**
- **Budget gathers required data and requests federal authorization on federal-aid projects.**
- **Contracts and Specifications advertise projects and upload proposals to Department Website.**
- **Addenda/plan revisions are uploaded to Department Website.**
- **Questions and answers are conducted via Falcon.**
- **Project Control electronically downloads bid results from BIDX.**
- **Project Control uploads the apparent bid results to Department Website.**
- **Project Control received recommendation for Award/Reject bid from program Managers.**
- **Project Control electronically send apparent low bidder letter.**
- **Compliance contacts low bidder on DBE projects.**
- **Project Control prepares recommendations for award to Chief Engineer**
- **Contracts and Specifications prepare contracts.**
- **Compliance reviews and approves DBE submittals.**
- **Budget requests concurrence in award from FHWA, if required.**
- **Project Control requests concurrence in award from sponsor, if required.**
- **Budget requests and modifies project federal funding.**
- **Budget encumbers state and federal funds for project and vendor.**
- **Project Control awards contracts.**
- **Contractors execute contracts and supply bonding and insurance.**
- **Project Control checks contracts, bonds, and insurance.**
- **Project Control submits contract to administration for execution.**
- **Project Control issues “Notice of Contract Execution” letter to District personnel and contractor.**

Maintenance of the Letting Schedule

Throughout the year, it will sometimes be necessary to change a project letting date. Project Control will have a representative at the bi-weekly project status meetings to collect some of the necessary information to determine which projects may need letting date changes. These changes will not be made in the status meeting, but will be distributed to all concerned parties by email when the changes are made. Project Control will always attempt to have all letting date changes made before the next bi-weekly project status meeting.

Letting date changes can occur for many different reasons. Project Control will make these changes in coordination with the Chief Engineer, program managers, project managers, and others, as required. The reason for the change will typically set the procedure used to make the change. A list of the most common reasons to change the letting date, and the general procedure that will be used, follows:

PDD change: In some cases, a change in PDD will not require a letting date change. When a letting date change is required, Project Control will work with the project manager to determine the best new letting date. If a PDD change could potentially move the letting date out of the SFY, Project Control will work with the program manger to determine whether the project should stay in the current SFY, be tentatively moved to the next SFY, or if some other action is required.

NOTE: As shown below, some letting date movement will occur after the annual baseline letting schedule is set that does not result from PDD changes. For this reason, it is strongly suggested that project managers should not be evaluated based on meeting letting dates.

No bids received or all bids rejected: Project Control will check with the project manager to determine if the project should be re-advertised and let quickly with no significant changes or if the project will be re-scoped or otherwise delayed before re-advertisement. In the first case, Project Control will work with the project manager to determine the best new letting date. In the second case, Project Control will work with both the project and program mangers to determine whether the project should stay in the current SFY, be tentatively moved to the next SFY, or if some other action is required.

Project postponed from advertised letting: Projects can only be postponed by the Chief Engineer. A project can be postponed to the next scheduled letting date, or to a different letting date. By law, a project cannot be postponed more than 35 days from the originally advertised letting date. Postponed projects will be moved without consideration of the letting schedule.

Project withdrawn from advertised letting: Projects can only be withdrawn by the Chief Engineer. If a project would have been postponed, but cannot because of the 35 day limit in the law, Project Control will either work with the project manager to determine the best new letting date, or it may be re-advertised for the next available letting date without consideration of the letting schedule. If the project needs to be re-scoped or otherwise delayed before re-advertisement, Project Control will work with both the project and program mangers to determine whether the project should stay in the current SFY, be tentatively moved to the next SFY, or if some other action is required.

Project letting date moved by DOTD Executive action: It is sometimes necessary to move the letting date of a project at the direction of the DOTD Secretary, or as a result of action by the PDSC/Executive Committee. A project moved under this condition will be moved without consideration of the letting schedule; however, other projects may be moved in the letting schedule to accommodate this move.

Date change due to the movement of other projects: When large projects are moved in the letting schedule, or when a necessary move creates a conflict with other projects, some projects may need to be moved to re-balance the letting schedule or to remove conflicts. These project moves will be done with as much consideration for the project and program managers as possible. Project Control will need to determine whether a project will severely impact business/civic interests and local traffic. Project scope, construction procedures, traffic control plans, and anticipated project duration must be coordinated with area business/civic needs and other construction in the area. This task will require close coordination with District personnel, local authorities, and industry to determine and mitigate potential conflicts.

Process for Letting Emergency Projects

DOTD is often required to deal with emergency situations where maintenance of roads and bridges is required. Because it is not possible to plan for these types of projects through the standard project budgeting and scheduling procedures, processes have been established to provide for timely execution while meeting acceptable criteria for obtaining proper approvals, acquiring funding and establishing contracts. Refer to the **Emergency/Repair Guide** for additional information.*

*This guide is currently under development

Chapter 9: Stage 5 Standard Operating Procedures

Purpose

The primary purpose of Stage 5 (Construction) is to administer a construction project from receiving the approved contract from Stage 4 through the final acceptance of the constructed project and the delivery of the project to the operations staff (Stage 6). Detailed information for this stage maybe found in:

- Construction Memos – found through the Construction Home Page on the Intranet. These memos provide clarification of specifications.
[ConstructionMemos](#)
- EDSM – found on the DOTD Intranet and Internet
<http://webmail.dotd.la.gov/ppmemos.nsf>
- Contract Administration Manual – found on the DOTD Intranet and Internet
http://www.dotd.la.gov/construction/Contract_Administration_Manual_May_2011.pdf
- Material Sampling Manual and Testing Procedures– found on the DOTD Intranet and Internet. [Materials Lab](#)
- Quality Assurance Manuals - Provided through certification courses DOTD Intranet.
- Section 105 of the Standard Specifications provides the Precedence of Contract Documents

Process

The process described below and shown in the construction process flowcharts (see pages 87 through 91) provides an overview of the steps involved in constructing a DOTD project.

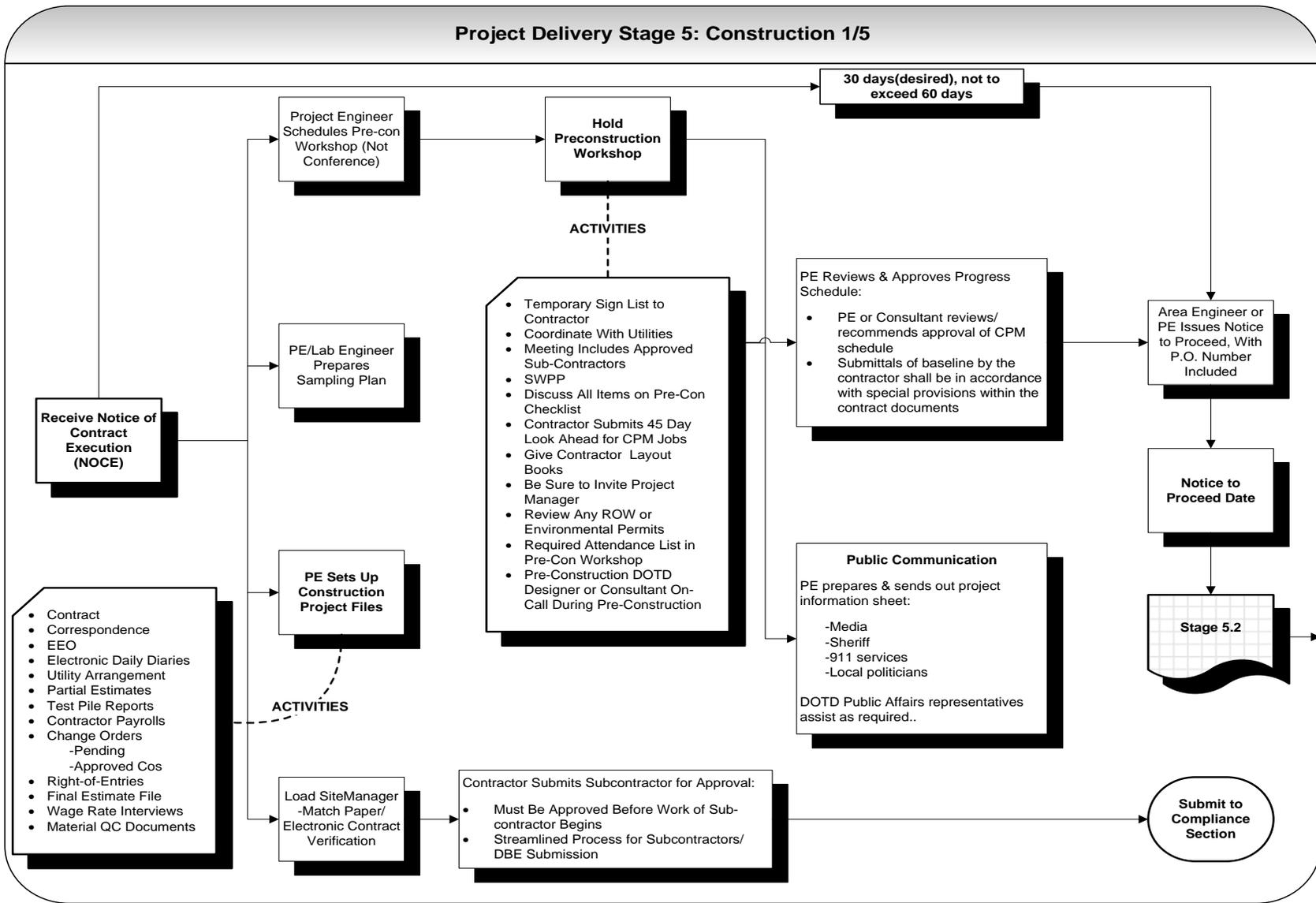
Notice to Proceed

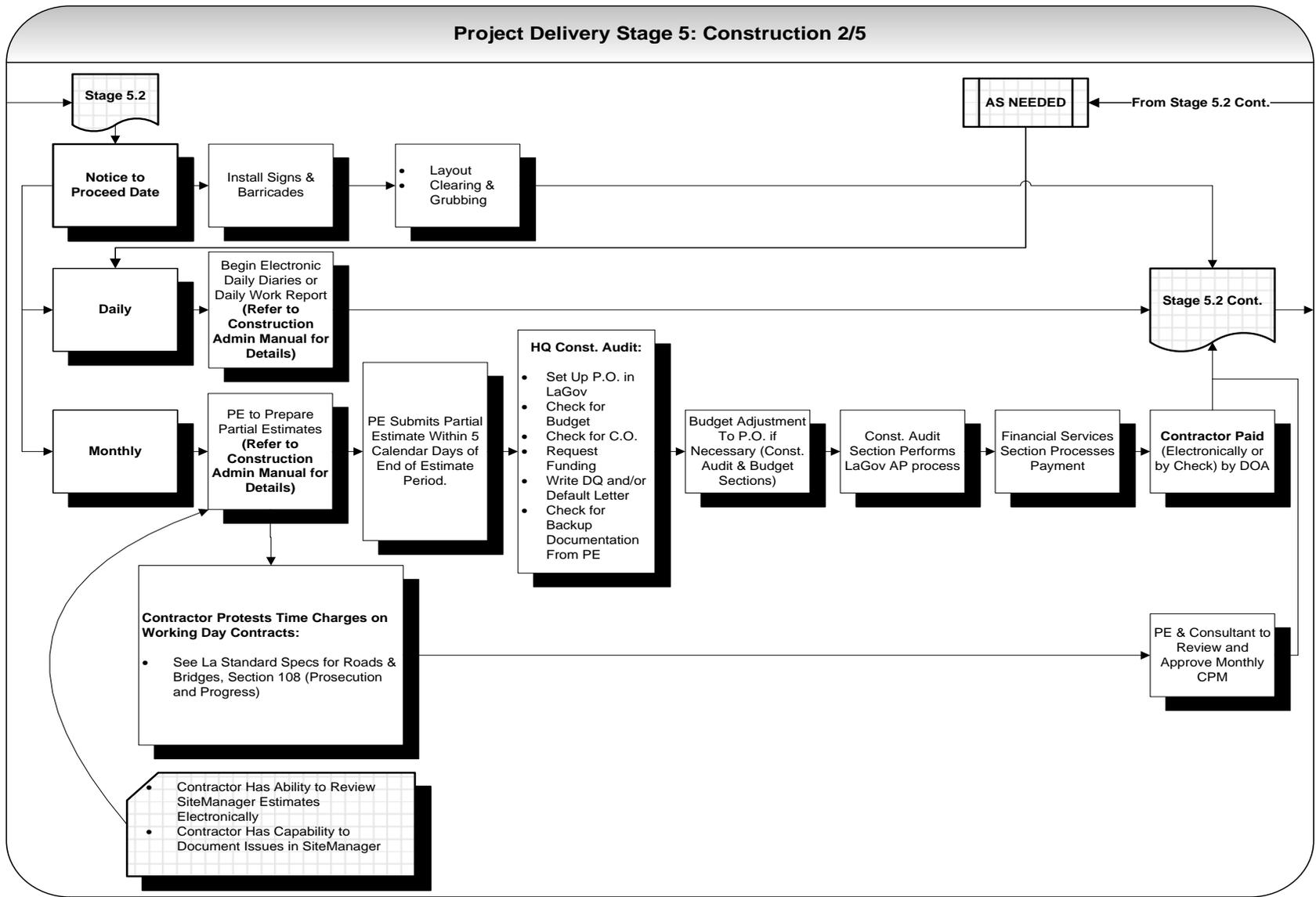
The Department issues the “Notice to Proceed,” directing the contractor to begin work or begin the activities covered under the contract.

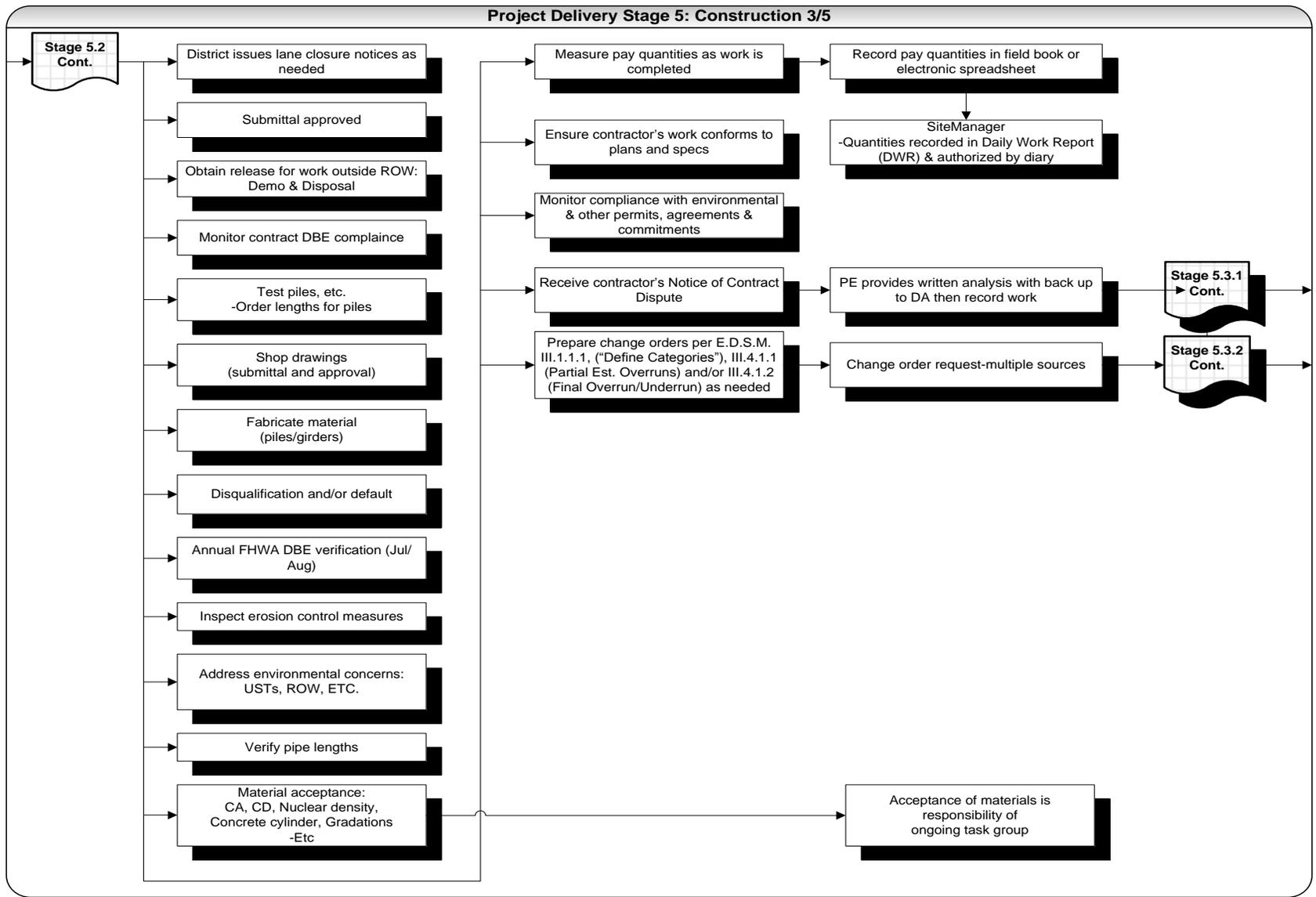
Notice Issued – Section 103 of the DOTD Standard Specifications and EDSM III.1.1.30 establish the procedure and conditions by which the Department issues the “Notice to Proceed”; they also establish the requirements and a uniform policy for the notice as well as other instruments directing the contractor to begin work or begin the activities covered under the contract.

DOTD Standard Specifications Section 108 establishes a uniform policy and authorization to be used when placing a contractor in default for failing to begin work.

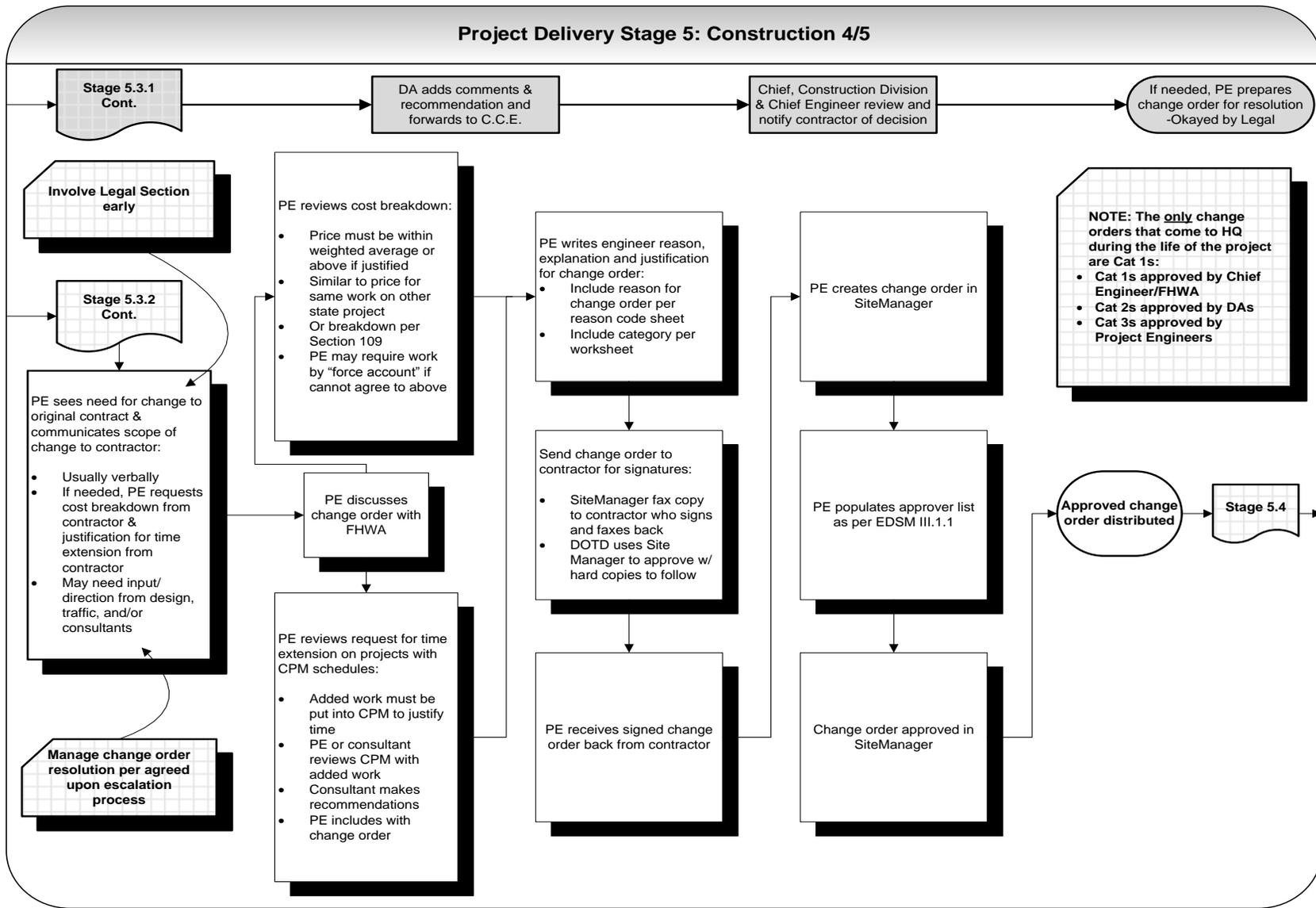
Project Delivery Stage 5: Construction 1/5



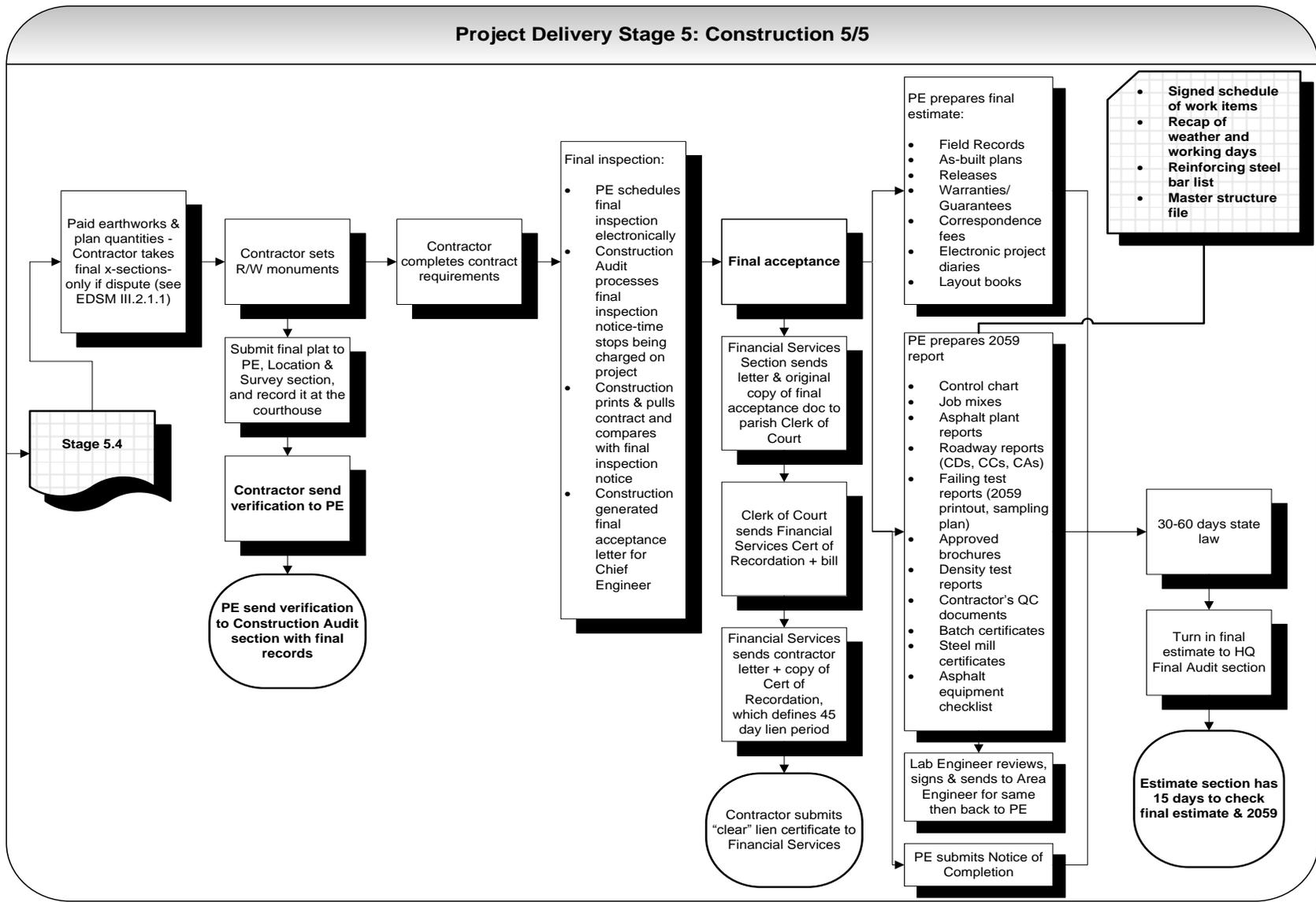




Project Delivery Stage 5: Construction 4/5



Project Delivery Stage 5: Construction 5/5



Preconstruction Conference

A preconstruction conference will be held on all projects. The conference will be held prior to the beginning of construction and scheduled sufficiently in advance to permit the attendance of all parties concerned. EDSM III.1.1.7 establishes a uniform policy for preconstruction conferences. The Project Engineer will contact the Project Manager to invite the appropriate individuals to answer design, environmental, right-of-way, and utility questions, etc. The Preconstruction Checklist can be found on the DOTD Internet site and completed for all projects. http://ladotnet/const/documents/Forms/PRECONSTRUCTION_CONFERENCE_CHECKLIST.pdf

Contract Administration

Project Schedule

The contractor is required to submit a construction progress schedule to the project engineer for approval. The provisions and policies described below allow for the revision of a previously approved construction progress schedule and define the process of charging contract time, reporting contract time, placing contractors in default, and disqualifying contractors.

- Construction Progress Schedule – DOTD Standard Specification Section 108 or the project Special Provisions establishes the guidelines and procedures for the contractor to submit a construction progress schedule to the project engineer for approval.
- Revised Construction Progress Schedules - When it is necessary or desirable that a previously approved construction progress schedule be revised, the procedure shall be the same as for the initial schedule.
- Contract Time - EDSM III.1.1.19 describes the procedures for charging contract time, reporting contract time, placing contractors in default and disqualifying contractors.

Contractor Responsibility

These policies detail the contractor's responsibility for the quality, prosecution, and progress of work.

- Contractor's Responsibility for Work – DOTD Standard Specification Section 107 requires the contractor to be responsible for and take precautions to prevent damage to work and the project until final acceptance.
- Prosecution and Progress – DOTD Standard Specification Section 108 establishes procedures and guidelines for subletting, commencement of work, construction progress schedule, prosecution of work, limitations of operations, determination and extension of contract time, failure to complete on time, and default and termination of contract.

Project Inspection

It is the duty and authority of project engineers to administer contracts on DOTD construction projects. Along with their inspectors, they inspect all work on or related to construction projects and are authorized to accept or reject work performed by the contractor.

- Authority and Duty of Project Engineer – DOTD Standard Specification Section 105 establishes the authority and duty of project engineers to administer contracts on construction projects.
- Authority and Duty of the Inspector – DOTD Standard Specification Section 105.10 authorizes the Department’s inspectors to inspect all work on or related to construction projects and establishes the authority for the inspection of work and materials.
- Inspection by non-DOTD Personnel on Federal Aid Projects - EDSM III.1.1.21 establishes a uniform policy for inspection and acceptance of projects financed with federal and/or state aid and administrated by DOTD where construction is supervised by municipalities, parishes, or other governing bodies or consultants.

Sampling and Testing

The sampling and testing procedures for quality assurance of all materials used in a DOTD project must be authorized. Guidelines for the acceptance of materials, the documentation of material quality on construction projects, and the examination of independent assurance samples and tests are discussed as follows.

- Control of Materials –DOTD Standard Specification Section 106 establishes procedures and guidelines for the acceptance of materials; i.e., source of supply and quality requirements, acceptance samples and tests, certificates, contractor quality control, plant inspection, field laboratory, handling materials, unacceptable materials, Department-furnished material, etc.
- Material Quality Assurance Documentation – EDSM III.5.1.2 describes the minimum requirements for documentation of material quality on construction projects.
- DOTD Record Tests – EDSM V.2.2.2 provides for the uniform policy of taking independent assurance samples and tests on DOTD projects where federal highway funding is not involved.
- Project Sampling and Testing Summary - Sampling and Testing Form 2059 (Recap of Sampling and Testing) requires that the project engineer either submit a Final Form 2059 with supporting documentation or a letter stating that no sampling and testing was required on a construction project prior to the final estimate being paid.

Partial Estimates

Procedures and guidelines are established for the measurement and payment of work on construction projects. Other policies establish procedures for allowing overruns on partial estimates, determining the due dates on partial estimates, and assessing stipulated damages.

- Measurement & Payment – DOTD Standard Specification Section 109 establishes procedures and guidelines for the measurement and payment of work on construction projects. This includes compensation for altered quantities, compensation for alterations of the contract, partial payments, payment for stockpiled or stored material, and acceptance and final payment.
- Partial Estimate Overruns - EDSM III.4.1.1 establishes procedures for allowing overruns on Partial Estimates.
- Final Estimate Overruns – EDSM III.4.1.2 establishes procedures for adjusting final quantities.
- Due Dates on Partial Estimates - EDSM III.4.1.3 establishes a uniform policy for determining the due dates on partial estimates.
- Preparing and Processing Estimates - Reference the Site Manager Manual and processes for partial and final estimates.
- Assessment of Stipulated Damages - DOTD Standard Specification Section 108 or project Special Provisions establishes the guidelines for assessing stipulated damages.

Creating and Processing Change Order

DOTD is authorized to order alterations in quantities and plans. However, a contractor can file a claim for additional compensation due for work, material, delays, inefficiencies, disruptions, etc. Cost savings due to a value engineering proposal can be shared with the contractor.

The project engineer has procedures and guidelines for the measurement and payment of work on construction projects, revisions in contract plans and specifications, work done on a force account basis, contract disputes, and the tracking by category of change orders.

- Alteration of the Contract – DOTD Standard Specification 104 establishes the authority for DOTD to order alterations in quantities and plans, as deemed necessary, to complete the work.
- Claims for Additional Compensation – DOTD Standard Specification 105 establishes the procedure by which a contractor can file a claim for additional compensation due for work, material, delays, inefficiencies, disruptions, etc.
- Value Engineering Proposals - DOTD Standard Specifications Section 105 establishes the provision to share with the contractor the cost savings generated on a contract as a result of a Value Engineering proposal, offered by the contractor and approved by the

Department. It also provides the guidelines and procedures for the VE proposal and the approval process.

- Measurement & Payment – DOTD Standard Specification Section 109 establishes procedures and guidelines for the measurement and payment of work on construction projects including compensation for altered quantities, compensation for alterations of the contract, eliminated items, partial payments, payment for stockpiled or stored material, and acceptance and final payment.
- Changing Contract Plans and Specifications - EDSM III.1.1.1 establishes a uniform policy for revisions in contract plans and specifications and establishes signature authority and routing for revisions.
- Force Account Work - EDSM III.1.1.15 establishes a procedure for doing work on a force account basis.
- Contract Disputes - EDSM III.1.1.28 establishes the procedure to be followed in the event of contract dispute.

Environmental Mitigation

According to DOTD Standard Specification Section 107, the Department must handle environmental issues encountered on construction projects using the DOTD procedures and guidelines, as well as federal, state, and local laws and regulations controlling pollution of the environment, including air, water, and noise.

The scope of the Environmental Mitigation is to provide an overview of the most common environmental issues that are encountered on construction projects and the procedures and guidelines for addressing those matters.

Underground Storage Tanks

- DOTD Standard Specification Section 202 establishes guidelines and procedures for handling underground fuel tanks, contaminated soils, and contaminated fluids. It also requires the use of a DEQ approved contractor to do the work and that all tanks shall be registered with DEQ by the Materials and Testing Section.
- DOTD Secretary's PPM No. 48 establishes guidelines and policy regarding underground storage tanks and contaminated sites. The policy is divided into four categories or phases of activity: pre-design, design, acquisition, and construction.

Sewer Effluent

- EDSM I.1.1.6 establishes the DOTD policy on control of sewer effluent discharge onto DOTD rights-of-way and applies to all new construction and reconstruction projects as well as existing roadways.

Trees

- EDSM.I.1.1.21 establishes a general policy governing the treatment of significant trees by the Department within the highway right-of-way, zone of construction, or operational influence.
- DOTD Standard Specification Section 201 establishes general construction requirements for the clearing and grubbing of the DOTD right-of-way on construction projects. Also, it tasks the engineer with designating which trees will be removed and directs the contractor to repair damaged trees, which are to remain.

Archeological

- DOTD Standard Specification Section 107 requires the contractor to cease operations in the area when archaeological or historical items are encountered.
- DOTD Standard Specification Section 107.27 establishes procedures for the engineer to use if the contractor encounters cultural artifacts or archaeological or historical sites; i.e., operations will be discontinued and the engineer will contact the proper authorities in order that an appropriate assessment may be made.
- EDSM III.1.1.22 states the procedure for the inspection and evaluation of borrow pit and muck disposal areas for cultural artifacts, archaeological and historical sites, and the reporting of the results of the inspection and evaluation.

Construction Public Information Plan

Effective communication is essential to the overall success of any major construction project. The goal of such communication is to provide timely and accurate information to motorists, emergency services personnel, business owners, landowners, public officials, commercial truck operators, the media, and all others who may be impacted by the construction. Complaints about construction projects will usually decrease if the stakeholders remain well informed of the project's schedule, delays, progress, alternate routes, etc.

- Media interactions must comply with Secretary's PPM No. 6: only DOTD authorized personnel may provide information to the media. As directed in the PPM, the HQ Public Affairs Office must also be notified of media requests for information about agency policy, controversial issues, or potential "news problems." District Administrators/section heads are responsible for ensuring that persons authorized to interact with media possess and are familiar with the referenced PPM and the "Media Relations" guide issued by HQ Public Affairs and clearly understand the extent of their individual authorization, i.e., provide factual information on project, etc.

- Project notifications to sheriffs, parish presidents, fire chiefs, and state legislators must comply with Act 103 of the 2003 Legislature, as directed by memo dated August 7, 2003, from the Assistant Secretary, Office of Operations.
- Prior to project completion, the District Administrator will determine local/State officials' interest in conducting a ribbon-cutting ceremony and advise HQ Public Affairs Office of such at least four weeks in advance of anticipated date of event. If an event is scheduled, HQ Public Affairs will coordinate the ceremony and issue a media advisory and press release on the event.

Construction Impact Mitigation

The Construction Impact Mitigation noted below is based on the future projects as the stages are completed and the “bin” of projects is ready for construction. This section will be broken down into construction funding, construction time, milestones, and traffic delays.

1. Construction Funding

- a. Change orders are coded based on reasons required per the Change Order Reason(s) Code Chart (see Construction Intranet Home Page). The chart is broken down into seven categories: 1) Quantity Errors or Omissions, 2) Differing Site Conditions, 3) DOTD Convenience, 4) Third Party Accommodations, 5) Contractor Convenience, 6) Untimely ROW/Utilities, and 7) Design Error.
- b. Category 1 Change Orders that meet the monetary conditions must be discussed and noted with the Project Manager for funding acquisition in accordance with EDSM III.1.1.1

2. Construction Time

- a. Projects are let with several different types of contract times: working day, calendar day, and with A+B calendar day. Cost plus time (A+B) bidding procedures and contract time on a calendar day basis will be used whenever practical, including, but not limited to, urban system projects and bridge replacement projects for both on-state-system and off-state-system roads. A+B bidding procedures will not be used on the following:
 - 1) Non-interstate pavement preservation projects and typical contract maintenance projects will be let as working day projects. These projects are simple in nature, allowing accurate contract time determination by the Department. A large portion of these projects require utility relocation, which may not be possible prior to the contractor beginning work. Working day projects allow easy suspension of contract time when utility conflicts are encountered.

- 2) Enhancement projects will be let as working day projects. These projects typically do not greatly impact traffic. If an adverse impact to traffic is predicted, A + B bidding procedures and/or calendar day contract time will be considered.
 - 3) Clearing and grubbing projects will be let as calendar day projects. These projects are simplistic in nature, allowing accurate contract determination by the Department.
- b. Calendar day projects will have a list of anticipated monthly holiday periods and adverse weather days. For A+B projects, contractors will include these “lost days” in their “B” bid. Contractors can request additional time if the actual adverse weather days exceed the anticipated days in the contract at the conclusion of the project. Contracts of this nature will have an estimated completion date that can be tracked monthly. A+B projects are usually high profile projects with large traffic counts, and may include incentives and disincentives. Making the contractor bid the number of days based on his resources, phasing operations, and work load will generally produce a tight timetable. The Department will set forth strict and precise specifications concerning the desired work hours, lane restrictions, and lane closures on these types of projects. These projects require a Critical Path Method (CPM) updated monthly showing any lost days. It is extremely important for the Department to be sure all utilities, right-of-way, and any other site conditions that may impede the contractor, are addressed before letting. All A+B calendar day projects will require a milestone schedule. The milestone schedule will include starting date, completion date, lane closure and re-openings for the project duration, and other pertinent events determined during the project development process. The contractor will adjust milestone dates as needed and issue new milestone dates monthly. The completion dates for these types of projects are easy to track. In all instances, change orders will be required to add days to any contract. The estimated completion date used by the different methods would adjust the completion date base on the type of contract.

3. Traffic Delay Mitigation

- a. A large part of this will be addressed in Stage 3 (Final Design Process). Lane reductions and lane restrictions will be addressed in the phasing of the project along with the specifications. Lane rental charges can be used on projects in which a lane must be removed from service for construction.
- b. In work zones, real time traffic data could be used to notify the motoring public of unexpected delays. With the use of radars placed in and before the work zone and variable message boards placed before alternate routes, motorists can be notified of

anticipated delays and alternate routes. This equipment and plan will be required in the contract as a pay item, or they will be owned by Traffic Services and installed by the Department.

Traffic mitigation will require a review of the traffic flow during the different phases of the project. Projects on new alignment will have minimal traffic disruption until roadways are tied in, whereas widening or reconstruction projects may affect traffic throughout the contract life. It will be important to note traffic delays prior to construction as several routes are over capacity at present.

Final Inspection

DOTD is authorized and has established procedures for the partial and final acceptance of construction projects including the final inspection of work and required project documentation.

- DOTD Standard Specification Section 108 establishes the authority and procedures for the Department to terminate a contract, by written notice, for reasons beyond either the department's or contractor's control.
- EDSM III.5.1.5 establishes a uniform procedure for acceptance of construction projects.
- EDSM III.5.1.6 establishes a uniform procedure for partial acceptance of construction projects.

Final Acceptance

DOTD is authorized and has established procedures for the final acceptance of construction projects and final payment.

- DOTD Standard Specification Section 105, subsection Acceptance, establishes the procedures for partial and/or final acceptance of work.
- DOTD Standard Specification Section 109, subsection Acceptance & Final Payment, establishes the procedure by which the work will be accepted and final payment made.
- EDSM III.5.1.5, Acceptance of Construction Projects, establishes a uniform procedure for acceptance of construction projects.
- EDSM III.5.1.6, Procedures for Partial Acceptance of Construction Projects, establishes a uniform procedure for partial acceptance of construction projects.
- District Let projects must be accepted by the District and recorded.
- Contracts between Local Public Agencies (LPA) and contractors must be accepted by the (LPA) prior to the Department accepting.

Final Audit

A standard system has been created to minimize complications and assist in the review of final estimates and other audit processes. To expedite processing, the system streamlines the preparation and checking of partial and final estimates.

- EDSM III.5.1.1 describes the filing system for project engineer's offices. It is to insure the development of a standard system that will minimize complications as a result of reassignments, and a system that will assist in the review of final estimates, Form 2059, and other acceptance and audit processes.
- EDSM III.4.1.1 streamlines the preparation and checking of partial and final estimates through consolidation, revision, or elimination of unnecessary documentation or reporting as well as computations that are repetitious in order to expedite processing.

Deliverables

The project engineer is responsible for delivery of the final estimate. Refer to the Construction Contract Administration Manual for details.

Post Construction Field Responsibilities

Under certain conditions, specific design features can impede efficient traffic operations. When traffic operations problems develop shortly after construction, the Department's public image suffers. To maintain the confidence of the motoring public, the project engineer needs to identify and document the features and conditions under which traffic operations problems occur, and share this information with the Project Manager and any other individuals and sections that could benefit from that knowledge. Through such a process, standard plans and details can be improved to facilitate efficient traffic operations and continuously improve the Department's overall performance.

Chapter 10: Stage 6 Standard Operating Procedures

Purpose

Stage 6 (Systems Operations and Performance) is characterized by post-construction activities such as disposing of excess right-of-way; documenting the addition of any utilities permitted on the right-of-way; ensuring compliance with post-construction environmental commitments; and instituting a feedback loop to provide input from the Department's Operations, Maintenance, and Traffic groups regarding material durability and performance and design features that complicate maintenance activities. These observations on system performance and operational issues are critical to the success of future projects and improve the cost effectiveness of the transportation system.

Process

A brief description of each of the post-construction responsibilities is provided below:

Disposal of Excess Right-of-Way

In acquiring right-of-way for projects, the Department often purchases entire properties, since purchasing only what is needed would leave the owner with an extremely small or land-locked parcel. The appropriate DOTD District representatives decide whether an excess right-of-way parcel should be retained for future considerations or disposed of. In the latter case, the Department serves the public interest by returning unneeded right-of-way to productive use rather than retaining and attempting to maintain it. The process for disposing of excess right-of-way is illustrated in Figure 10.1. The Real Estate Section is responsible for handling this function once construction has been completed and any interim need for the parcel, such as onsite storage of material or equipment, has been fulfilled. Reference is made to EDSM Number I.1.1.10: "Abandonment and Disposal of Unneeded Highway Right-of-Way."

Documentation of Utilities Permitted in the Right-of-Way

Maintaining accurate records of what utilities are located within the state highway right-of-way is a vital function in the project development and maintenance cycle. Because of the expense, difficulty, and public impacts of moving utilities, knowledge of the types of utilities and their approximate locations within the right-of-way can be a key factor in deciding if future projects should be undertaken. Furthermore, this information is critical to the process of defining project concepts and scopes.

Compliance with Post-Construction Environmental Commitments

In some instances, the Department will agree to post-construction environmental actions or monitoring for a limited period as a condition of a regulatory agency permit or commitment to a community. Examples of such agreements include post-construction erosion control, maintaining vegetation installed for mitigation purposes, monitoring water quality in an adjacent stream, or monitoring traffic following construction to determine if a particular traffic control device, such as a signal, is warranted.

In many instances, the Area Engineer will be the official charged with ensuring compliance with post-construction environmental commitments. However, in some instances, it may be the District Traffic Engineer or the Environmental Section. The Project Engineer is responsible for notifying the appropriate official(s) when construction has been completed and explaining the nature of post-construction environmental commitments, should they exist. The ADA of Operations will be kept informed of any significant related issues and will become involved in the process as needed to ensure conformity with all applicable regulations and commitments.

At the conclusion of the commitment, the official charged with compliance should notify the Environmental Section that the commitment has been fulfilled. The Environmental Section will in turn notify the appropriate regulatory agency or community officials.

Materials Durability and Performance Monitoring

The Department maintains an approved products list from which a contractor may select materials for use on state highway construction projects. Following construction, field monitoring of the durability and performance of these materials would obviously benefit the Department. The Materials and Testing Section should be advised of any materials that do not appear to perform well. The Material and Testing Section may in turn refer the matter to the New Products Evaluation Committee for consideration of removal of the product from the approved products list. Reference is made to EDSM Number V.4.1.1: “New Products Evaluation Committee.”

Identification of Design Features that Complicate Maintenance Activities

During the design of a project, insufficient consideration of post-construction facility maintenance can result in difficulties and inefficiencies in maintenance operations. Maintenance personnel must identify and document any design features that complicate maintenance activities, and share this information with the appropriate design section(s). Through such a process, standard plans and details can be modified to facilitate maintenance activities and improve the Department’s overall performance.

Responsibility Matrix

STAGE 6 – SYSTEM OPERATIONS AND PERFORMANCE RESPONSIBILITY MATRIX	
FUNCTION	RESPONSIBLE
Disposal of excess right-of-way	District Maintenance Section, District Design Section, Real Estate Section
Documentation of utilities permitted on the right-of-way	District Utilities Specialist with the District Permits Unit
Compliance with post-construction environmental commitments	District Maintenance Section, District Traffic Engineering Section, Environmental Section (depends on nature of commitment), Area Engineer
Materials durability and performance monitoring	District Maintenance Section, District Traffic Engineering Section, Area Engineer
Identification of design features that complicate maintenance activities	District Maintenance Section, Area Engineer
Project Closeout Meeting	Design Engineer

Appendix I: Project Plan

One of the first responsibilities of the project manager (PM) is to develop a Project Plan. The purpose of this plan is threefold: first, it defines the objective of the project and outlines the PM's plan and how the project is to be conducted; second, it is used as a checklist and a guide by the PM through the course of project development; and third, it is a document that will be shared, discussed, and refined with the participation of the project team and upper management. A sample Project Plan, Check List for Stage 3, is shown below.

PROJECT PLAN - CHECKLIST FOR STAGE 3, PRE-CONSTRUCTION/DESIGN PHASE

State Project No.: _____	Date: _____
Project Name: _____	
Project Manager: _____	PDD: _____
District/Parish: _____	Roadway Class: _____
Route: _____	Control Section: _____
Oversight Resp.: _____	MPO area: _____
Project Category: _____	Functional Class.: _____
Begin/End Logmile: _____	Project Length: _____
Env. Category: _____	ADT: _____
TMP: _____	_____
LOS: _____	Abnormal Crash: _____
Team Members:	
<i>Road Design</i> _____	<i>Pavement</i> _____
<i>Bridge Design</i> _____	<i>Geotechnical</i> _____
<i>Location & Survey</i> _____	<i>Real Estate</i> _____
<i>Traffic Engineering</i> _____	<i>Environmental</i> _____
<i>Utilities</i> _____	<i>Consultant(s):</i> _____

Project Scope & Description:

Project Milestones: (See Primavera Project Schedule no.): _____

Funding/Budget (DEMO, Surplus, etc) source(s): _____

Engineering Cost Estimate: _____

Utility Cost Estimate: _____

Right-of-Way Cost Estimate: _____

Construction Cost Estimate: _____

Contractual Agreements: _____

Environmental Requirements, Design Exception: _____

A project plan usually consists of the following sections:

1. **Project Overview:** This narrative will define the project’s purpose and relationship to the environment. The framework for such a narrative can usually come from the Purpose and Need Statement stated in the Stage 0 or Stage 1 documents.
2. **Project Scope:** Define project objective and develop a clear and concise scope for the project. This objective must include all constraints and requirements that the project must meet. These requirements and constraints are usually extraordinary conditions that may have been imposed on the project by external or internal entities due to particular issues associated with this project. Become completely familiar with all aspects of the project: know who the players are and the rules of the game.
3. **Environmental Requirements, Context Sensitive Issues, and Design Exceptions:** Identify all special issues regarding environmental issues, context sensitive consideration, and design exceptions that must be considered during stages of the project. This information should be readily available in the Stage 1 documents.
4. **Budget and Funding Sources:** Identify sources, amounts, availability, and timing of funds required during the life of the project.
5. **Project Schedule–Milestones:** Develop a project work breakdown schedule along with a Gantt chart that includes major project milestones. This schedule must be developed with consideration of the availability and timing of financial resources for design and construction of the project. (See Chapter 2, page 2-14, for an example of a Gantt chart).
6. **Project Team:** Identify functional areas needed for the project and develop a project team. Outline duties and responsibilities for each team member and coordinate efforts with functional managers to identify possible project team members. Periodically review the project and institute changes to the organizational structure and personnel, if necessary.

7. **Project Responsibility Matrix:** Develop a matrix of responsibilities for potential team members with specialized expertise. At this point, the matrix will not include specific team members' names; however, required specialized talents such as road design engineer, real estate agent, geotechnical engineer, district project engineer, etc. Refer to the "Sample Project Responsibility Matrix" below. The matrix lists the majority of intermediate tasks required to deliver a major pre-construction project and the appropriate party responsible for each task. The matrix is project specific; therefore, the required project tasks and the appropriate party responsible for each task will be negotiated during early stages of team development.
8. **Staffing Plan:** Develop a preliminary list of manpower requirements and staffing source for the duration of project. Include names of desired team members. This plan is to be finalized during the negotiation process with functional managers. On a preliminary basis, predict when and for how long each team member will be needed. The project schedule developed in Section 5 above can be used to accomplish this effort in this activity.
9. **Contractual Agreements:** Initiate permits, agreements, and financial and other contractual agreements affecting the project's success, such as STIP, TIP, PS, etc. Make provisions for updating and adhering to all terms and requirements of these agreements.
10. **Risk:** Identify all potential project risks and make provisions to address them, if and when they occur.
11. **Project Files and Data Warehouse:** Identify areas where project documentation will be stored.

Sample Project Responsibility Matrix

Task Description	Task Responsibility
Compile Project Assessment Data	Project Manager
Prepare Scope and Fee Package	Project Manager
Prepare Consultant Advertisement	Consultant Contracts
Advertise and Select Consultant	Consultant Contracts
Prepare Original Contract	Consultant Contracts
Request and Rec. Fed. Auth. of Funds - Consultant Engineering	Project Control
Develop Notice to Proceed	Consultant Contracts
Assemble Project Management Team	Project Manager
Conduct Project Kickoff Meeting	Project Manager
Request Traffic Data	Project Manager
Develop Traffic Data	Planning and Programming
PM Requests Traffic Analysis	Project Manager
PM Requests Subgrade Soil, PH/Resistivity and Pavement Design	Project Manager
Perform Preliminary Traffic Analysis	Geometrics
Prepare and Distribute Predesign Form	Project Manager
Conduct Predesign Meeting	Project Manager
Request Topographic Surveys	Project Manager
Develop Preliminary Pavement Design	Pavement and Geotechnical
Develop Preliminary Life Cycle Costs Analysis (LCCA)	Pavement and Geotechnical
Perform Topographic Surveys	Location and Survey
Develop Digital Electronic Survey Package	Location and Survey
Pavement Review Committee Process	Pavement and Geotechnical
Request Subgrade Soil Survey	Pavement and Geotechnical
Make Topographic and Utility Information Available	Location and Survey
Perform Subgrade Soil Survey	District Lab Engineer
Preliminary Plans Notice to Proceed	Project Manager
Develop 30% Preliminary Design - Bridge	Bridge Design
Develop 30% Preliminary Design - Roads	Road Design
Coordinate Preliminary Design with Railroad(s)	Highway/Rail Safety
Order Subsurface Investigation for Project	Pavement and Geotechnical
Develop 60% Preliminary Design - Roads	Road Design
Furnish All Subsurface Investigation Data for Project	Materials and Testing Section
Develop Final Pavement Design	Pavement and Geotechnical
Develop 60% Preliminary Design - Bridge	Bridge Design
Compile 60% Preliminary Design	Project Manager
60% Preliminary Design Geometric Review	Geometrics
District Evaluation of Traffic Signals	District Traffic Engineer
Conduct 60% Preliminary Design Review - Roads	Road Design

Task Description	Task Responsibility
Conduct 60% Preliminary Design Review - Bridges	Bridge Design
DUS Reviews/Confirms 60% Preliminary Design with Utilities	District Utility Representative
Environmental Solicitation of Views	Environmental
Prepare Work Effort for Property Survey	Location and Survey
Execute Supplemental Agreement	Consultant Contracts
Furnish Title Work and Perform Property Surveys	Location and Survey
Request Updated Title Work	Location and Survey
60% Preliminary Design Hydraulic Review	Hydraulics
Conduct Environmental Studies and Develop Document	Environmental
Update Title Work	Location and Survey
Decision on Traffic Signal Design	Traffic Engineering and Services
Address/Resolve General 60% Preliminary Design Review Comments	Project Manager
Develop Preliminary ROW Maps	Location and Survey
Submit Environmental Docs for Comments	Environmental
Address/Resolve Geometric 60% Preliminary Design Review Comments	Project Manager
DUS Distributes Preliminary Plans and Lists to Utilities	District Utility Representative
Address/Resolve Hydraulic 60% Preliminary Design Review Comments	Project Manager
Address/Resolve Agency Comments	Environmental
Distribute Preliminary ROW Taking Lines	Project Manager
Agency Approval of Documents	Environmental
Develop 90% Preliminary Design - Roads	Road Design
Develop 90% Preliminary Design - Bridge	Bridge Design
CE Selects VE Team, Team Performs Study and Makes Recommendation to CE	Project Manager
Verify Topo - USTs, Contamination, Improvements	Real Estate
Review 90% Preliminary Des. P/H - Roads	Road Design
Review 90% Preliminary Des. P/H - Bridges	Bridge Design
Chief Reviews VE Recommendation	Project Manager
Address/Resolve 90% Preliminary Design P/H Bridge Comments	Bridge Design
Address/Resolve 90% Preliminary Design P/H Road Comments	Road Design
Distribute Plan-In-Hand Doc. for Review	Project Manager
Plan-In-Hand Meeting	Project Manager
Revise P/H Preliminary Design to Reflect Comments - Roads	Road Design
Revise P/H Preliminary Design to Reflect Comments - Bridge	Bridge Design
Prepare Fee and Scope Final Plan	Project Manager
Prepare Final Plan Supplement	Consultant Contracts
Schedule and Prepare for Joint Review Meeting	Real Estate
Conduct Joint Review Meeting	Real Estate

Task Description	Task Responsibility
Final Plans Notice to Proceed	Project Manager
Develop 30% Final Plans - Roads	Road Design
Develop Traffic Control Plans	District Traffic Engineer
Develop 30% Final Plans - Bridge	Bridge Design
Prepare Final ROW Maps	Location and Survey
Prepare ROW Cost Estimate	Real Estate
Prepare HQ Utility Cost Estimate	HQ Utilities
Prepare Relocation Letter and Agreements for Utility Co	District Utility Representative
Confirm Required Permits and Agreements List	Project Manager
Prepare C/S/I Applications for Required Agreements	Consultant Contracts
Prepare Railroad Applications for Required Agreements	Highway/Rail Safety
Prepare CE/CG/CZ Applications for Required Permits	Permits
Prepare Applications for Required Scenic Stream Permit	Environmental
Develop Final Plan to 60% - Roads	Road Design
Develop Final Plans to 60% - Bridge	Bridge Design
Request Funding for R/W Activities	Real Estate
Request & Rec Fed. Auth. of Funds - R/W & Utilities	Project Control
Review and Resolve Final ROW Map Issues	Location and Survey
Modify ROW Maps to Reflect Final Comments	Location and Survey
Utility Company Signs and Returns Project Package	District Utility Representative
Transmit Final ROW Maps to Real Estate	Location and Survey
Submit CE/CG/CZ Permit Applications	Permits
Submit Scenic Stream Permit Application	Environmental
Address/Resolve CE/CG/CZ Permit Comments	Permits
Address/Resolve Scenic Stream Permit Comments	Environmental
Request Appraisals	Real Estate
Address/Resolve C/S/I Agreement Comments	Consultant Contracts
Address/Resolve Railroad Agreement Comments	Highway/Rail Safety
Compile 60% Final Plan	Project Manager
Review 60% Final Plan - Bridge	Bridge Design
60% Final Plan Hydraulic Review	Hydraulics
60% Final Plan Traffic Engineering Review	Traffic Engineering and Services
Review 60% Final Plan - Roads	Road Design
Prepare Property Valuation	Real Estate
60% Final Plan Geotechnical Review	Pavement and Geotechnical
Finalize CE/CG/CZ Permits	Permits
Finalize Scenic Stream Permit	Environmental
Adjust Design for Permit Mitigation	Project Manager
Address/Resolve 60% Final Plan Review Comments - Bridge	Bridge Design
Address/Resolve 60% Final Plan Review Comments - Roads	Road Design
Finalize C/S/I Agreements	Consultant Contracts
Finalize Railroad Agreements	Highway/Rail Safety

Task Description	Task Responsibility
Develop Final Bridge Design to 95%	Bridge Design
Develop Final Road Design to 95%	Road Design
Conduct Relocation Negotiations	Real Estate
Conduct Acquisition Negotiations	Real Estate
District Forwards Project Package to HQ for Review	District Utility Representative
HQ Utility Approval	HQ Utilities
Release Letter - Utilities	HQ Utilities
Distribute 95% ACP for Review	Project Manager
ACP Review Period	Project Manager
Address/Resolve ACP Comments	Project Manager
Remove Improvements from Right of Way	Real Estate
Certify Project R/W Activities Are Complete	Real Estate
Develop Final Plans to 100% Complete	Project Manager
District Issues Utility Work Orders	District Utility Representative
Prepare Final Estimate	Project Manager
Develop Final Life Cycle Cost Analysis	Pavement and Geotechnical
Develop Construction Proposals to 95% Complete	Contracts and Specifications
Signed by Engineering Chief	Project Manager
Develop Construction Proposals to 100% Complete	Contracts and Specifications
Request & Rec Fed. Auth. Funds - Construction	Project Control
Advertise Project	Contracts and Specifications

Appendix II: Estimating Process

Importance of Quality Cost Estimates

The reliability of project cost estimates at every stage in the project development process is necessary for responsible fiscal management. Unreliable cost estimates result in severe problems in DOTD's programming and budgeting, in local and regional planning, and leads to staffing and budgeting decisions that hinder the effective use of limited resources.

Goal

The goal of this document is to establish departmental guidelines and procedures for developing and maintaining accurate, consistent, and reliable project cost estimates. The level of accuracy and reliability of the estimates are to be consistently maintained throughout each stage of project development so as to avoid project cost overruns.

Accountability

Each Task Manager will be directly involved and held responsible for estimating their project cost components and submitting changes to their cost estimates in their area of expertise for approval. They will also be responsible for entering and updating their estimates into the current tracking system, as well as promptly advising the Project Manager of significant changes in the estimate and the reasons for the changes.

The Project Manager will be responsible for coordinating and ensuring that all the current cost estimates and their respective dates are updated and entered correctly into the current tracking system.

Consistent and Comprehensive Methodology

It is acknowledged that cost estimating is not an exact science. However, DOTD must strive for reliable project cost estimates, so that projects can be delivered "within budget." To this end, it is required that project cost estimates be prepared using a consistent and comprehensive methodology. Even with a consistent and comprehensive methodology, careful attention is needed to ensure a quality cost estimate. The cost estimator needs to research, compare, and, above all, use their professional judgment to prepare a quality cost estimate.

Identify Contract Items of Work

The identification of available funding allows the project to transition from the environmental and planning phase to the design phase. By Stage 2, all of the significant project features should be known and many contract items of work identified. In addition, the items of work identified and estimated during the project planning phase should now be better defined as design work progresses.

Staying Current

Cost estimates, in a sense, are never completed. For this reason, all cost estimates must be kept current. If allowed to remain static for extended periods of time, they will become outdated and unreliable. This may be for a number of reasons, both project related as well as non-project related. Examples of non-project related factors may be market trends and labor cost, availability of materials and contractors, or changes to either design or construction specifications.

Contingency Factors

Contingency factors for project cost estimates vary depending on what stage the project is in, the type of project, and the confidence of the estimator. Contingencies are intended to compensate for the use of limited information. The percentage should go down as the project becomes more defined and, thus, less unknown.

For moderate to high risk projects, even with limited information, risks can be identified and analyzed to more accurately determine contingency factors. On projects where a Risk Analysis was performed, the project risk registry in the Project Plan should include information about the identified risks that are to be taken into consideration when developing contingency factors. Each contingency factor should document which risks are being compensated for in order to prevent redundant consideration of the same risks by other contingency factors.

The level of detail in the Risk Registry depends on whether a Qualitative Risk Analysis or a Quantitative Risk Analysis was performed. If a Qualitative Risk Analysis was performed, the risk registry will include a ranking of identified risks based on their general impact and probability of occurrence. The information from this type of analysis can help narrow the range of possible contingency factors to use. If a Quantitative Risk Analysis was performed, the risk registry will include detailed statistics on the probability of occurrence and impact to costs and schedule. The information from this type of analysis can be used to specifically set contingency

factors, depending on the level of confidence required for the project. The level of confidence to be used will depend on the complexity of the project.

Contingencies are not intended to take the place of incomplete design work. Project alternatives and their associated cost estimates must be thoroughly compiled by diligently using all the available data, modifying that data with good judgment and using past cost estimating experience and appropriate contingency factors so that the cost estimates can be used with confidence.

Cost Estimating Using Historical Bid Prices

Using previous bid prices as a basis for cost estimating is probably the most common method and is, in most cases, the most practical method. When using this method, it is important to consider the following factors:

- Use current similar size projects and quantities for individual items.
- If there is a lack of current bid data, older bid data may be used; however, appropriate inflation factors must be applied to take into consideration the differences in the letting dates for individual items.
- Consider using data only from the 3 lowest bidders, or the second low bidder, or possibly applying an increase factor to the low bid.
- Discard Out-lying bid data.
- Lump sum bid prices or unit prices for items of work that include varying amounts of other related work should not be used.

Some historical unit bid price values can be accessed through the internet and local intranet. Careful consideration is to be taken as to what these values actually represent. For example, an average price may not accurately fit the conditions if there are relatively few data points of which some are outliers. Only an experienced estimator will readily recognize these price variations for what they are. In any case, regardless of how complete the history of an item may be, engineering judgment must still be applied.

For more information on estimating using historical bid prices, refer to Chapter 3, “Bid-Based Estimates,” of “A Practical Guide to Estimating: 2013, First Edition” by the AASHTO Technical Committee on Cost Estimating.

Software

Caution should be exercised when using software. Estimating software applications are typically used as a tool from the beginning to establish a budget based on very limited information.

The methods to determine a cost should be more sophisticated than using unit averages only since there are multiple relationships involved in the cost of any one item.

Throughout each stage, as more information is made available, someone with experience will make updates to reflect a more accurate and detailed cost estimate. Therefore, the quality and accuracy of the estimate is the responsibility of the person preparing the estimate and not the software.

Documentation

Typically, the planning and development process for a project occurs over a period of several years, with many decisions and agreements made. All too frequently during this time, project personnel, project site conditions, or philosophical position changes occur that can affect the continuity and accuracy of earlier project decisions. To help alleviate this situation, all project decisions, agreements, design criteria, and constraints should be thoroughly documented and retained in the project files. This philosophy also applies to notes, decisions, photos, and mapping used during field reviews of the project site.

Taking Risks into Consideration

Estimators are expected to prepare reasonable project cost estimates that represent the total cost to complete the project. Experience has shown that project cost estimators should consider all of the major risks that can affect the cost of projects. The following are just some of the typical major construction risk areas that can affect project costs. For a more complete listing of typical project risks, see the Project Risk Management Manual, which can be accessed via the Project Management Section site on the DOTD Intranet.

Traffic Conditions

Traffic Conditions have a significant effect on costs. Estimated prices should be adjusted to reflect difficulties, dangers, and risk due to exposures caused by traffic conditions. Considerable deliberation should take place to balance decisions affecting costs and traffic handling and safety.

Restrictive Work Hours or Method of Work

Restricting the contractors' working hours or the method of work on a project will usually have major effects on costs. The cost for work that is limited to short shifts, required to be completed in long shifts, or limited to nighttime operations should be increased to reflect the cost of

premium wages required for such work and for the general inefficiencies and decreased productivity that may result.

Quantities of Work

Small quantities of work typically have higher unit cost than identical work in larger quantities. This is due to mobilization as well as overhead and other such costs that must be distributed over a smaller base. Production rates are also less efficient and are usually lower for small quantities, which tend to increase unit costs.

Geographic Location/Site Conditions

Geographically remote locations usually result in higher costs. Consideration should be given to availability of skilled labor, suppliers, and materials. Environmental conditions and site specific accessibility factors may also contribute to higher unit cost. Urbanized areas with limited right-of-way can also result in higher costs.

Monitoring and Updating Cost Estimates

All project cost estimates are to be monitored and kept current. Following the initial estimate, the timing of the updates is guided by the following factors:

Annual Update

All cost estimates must be kept current by updating at least once a year. This annual update is only necessary if the estimate is not updated for any of the reasons listed below. If no new project information has come about and no changes in scope have occurred, this update would focus on unit price changes as a result of inflation or other market conditions.

Project Stage Cost Estimate

A current cost estimate is needed at the end of each stage of project development. This value is used during the course of the subsequent stage for up to one year or until something changes or more accurate project detail is known.

Significant Changes in Identified Project Costs

Other appropriate times to update the project cost estimate is when a project development workflow task supports the preparation of a more detailed cost estimate (i.e., when a task

involves an activity to review the project and create a cost estimate). Examples of this include when a preliminary site investigation more clearly identifies a hazardous waste problem, or when a materials report clarifies the foundation conditions.

The Project Cost Estimate

Types of Estimates

The “project cost estimate,” as used during the project development process, includes all capital outlay costs and is made up of five different types of cost estimates as follows:

- 1) **Construction Cost Estimate** – Includes contractor’s material and labor costs associated with the physical construction of the project.
- 2) **Engineering Cost Estimate** – Consultant costs associated with the design of the project and, depending on the consultant contract, may include the cost of developing plan and contract documents. There may be consultant costs during construction, such as inspection and construction related engineering work, which will also be included.
- 3) **Mitigation Cost Estimate** – Includes consultant costs and any expenses associated with obtaining the appropriate permits, approvals, and environmental clearances.
- 4) **Right-Of-Way Cost Estimate** – Includes consultant costs and any expenses associated with obtaining the necessary right-of-way for the construction of the project.
- 5) **Utility Cost Estimate** – Includes consultant costs and any expenses associated with mitigating utility conflicts.

All operating costs are excluded from these estimates and are in current year dollars. These estimates are used to determine the project cost estimate throughout each stage of project development. Year of expenditure costs are typically reserved for the Budgeting Process or for developing the Budget Estimate to be used in comparison with the established budget or available funding.

Project cost estimates should never be artificially reduced to stay within the funding limits, nor should they be reduced to provide the appearance that more projects can be funded. Likewise, project cost estimates should not be artificially raised beyond the contingency percentages provided in this appendix unless adequately justified.

Stages of Development

The project cost estimate is developed in four stages:

- Stage 0: Feasibility
- Stage 1: Planning and Environmental
- Stage 2: Funding
- Stage 3: Final Design

The project cost estimate during Stage 0 is sometimes referred to as the feasibility cost estimate, since it is used to determine the feasibility of a project. During Stage 1, the project cost estimate is further developed as more information is made available and used in setting the budget. In Stage 2, Funding, the estimate is simply updated based on changes that may have occurred while waiting for funding. At the end of Stage 3, the final project cost estimate is used to develop what is referred to as the Engineer's Estimate for use in the bidding process.

Stage 0 Cost Estimate

Initial Cost Estimate

For most projects, a feasibility cost estimate is intended to determine an order of magnitude for the project, and is required to determine financial feasibility and whether or not to proceed further with the development of the project. It is essential, therefore, that the project be adequately scoped with a clear understanding of the purpose and need, as well as a description of the proposed action. The "worst probable case" scenario should always be assumed, particularly on reconstruction projects. Existing facilities thought to be adequate may become inadequate because of changes to standards, new data, further deterioration prior to construction, etc. The estimates include the costs associated with engineering design, environmental actions, construction, right-of-way, acquisition, utility relocation, and contingencies.

Methodology

It is understood that for project cost estimates developed at the time of project initiation, sufficient data may not be available to prepare a detailed estimate. However, the need for project cost information at very early stages is necessary for "go/no-go" decisions. Although this information is not used for programming the project, it is vital that it be comprehensive, realistic, and consistent with known information.

In years past, when the majority of state highway projects were new roadways on new alignment with a very well defined scope, project feasibility cost estimates were prepared using a variety of methods. The most common method, mainly for construction and engineering costs, was a cost per mile basis for a particular type of facility. Today, the majority of projects either maintains or improves the operation of the existing system. Cost estimates for these projects are more difficult to scope. Therefore, field inspections are required during Stages 0 to 3, since they can reveal cost risks that significantly affect the estimate.

For large projects, more than one Program Manager may be responsible for determining feasibility. For more details on Stage 0 Standard Operating Procedures, see Chapter 4.

High Risk Items

A thorough understanding of the proposed action or project combined with “hands on” site reconnaissance surveys, with input from local district personnel and others, is necessary for projects with the potential for having high risk items. This will assist estimators’ awareness of high risk items that can impact the cost estimate, which must be quantified and considered throughout each stage of project development. High risk items may include mitigating hazardous waste and other environmental impacts, major utility relocation, noise barriers, retaining walls, major storm drains, transportation management plan, traffic handling, etc. This information may also be useful in developing the project risk management plan. For more information concerning risk, see the Project Risk Management Manual.

Right-Of-Way

The Stage 0 right-of-way cost estimate will be prepared by the Department’s Real Estate Section. The purpose of the estimate is to identify the potential costs of real estate associated with the various alternative candidate alignments that are being evaluated for selection. For each of the alignments, the cost estimate will identify the potential market value of land, the depreciated value of structural and site improvements within the alignment, the expected severance damages that may inure to certain properties’ remainders, the costs of curing severance damages when possible, and additional compensation as required by Louisiana state statute. The Real Estate Section relies on market data and construction cost data to develop the estimate.

Recognizing that a certain number of parcels on any project may need to be acquired in an expropriation proceeding, the cost estimate will include a line item for additional dollars that can be reasonably expected to be paid to property owners whose lands are expropriated. This item will be calculated based on the application of a percentage to the underlying

land/improvements/damages line item, with the percentage varying for each alignment based on the complexity and impacts of the takings associated with each of the alignments.

In addition, the cost estimate will include the anticipated cost of providing relocation assistance to those families and business entities that would be displaced in the event of the selection of the alignment under study. Finally, the cost estimate will incorporate costs that would be incurred in performing the various professional services necessary to clear the right-of-way alignment. Such costs would include costs of appraisal reports, appraisal reviews, title abstracting, and acquisition/relocation consultant services.

Further detail concerning the specific tasks and activities necessary in order to develop the Stage 0 right-of-way cost estimate can be found in the chapter on appraisal in the Operations Manual for the Real Estate Section.

Utilities

The total cost for utilities is the sum of the total agreements amount plus the total Utility Relocation Assistance Fund (URAF) agreements for each project.

For in-house feasibility studies, Planning contacts the Headquarters Utility Relocation Specialist and requests an estimate for utility relocation. Planning provides the Utility Section with the necessary available information for each alternative, such as the project description, aerial photographs with the proposed improvements, and approximate required right-of-way limits superimposed. With this information, the Headquarters Utility Relocation Specialist coordinates with the District Utility Specialist in estimating the utility relocation cost.

For consultant feasibility studies, the consultant is responsible for contacting their own utility experts for determining an estimate for utility relocation.

Once the cost of relocating the identified utilities has been estimated, a general 20% contingency must be applied to the estimate to account for the uncertainty of risks involved with the relocation of utilities that may or may not all be identifiable at this point. This is a general contingency added to any detail contingencies that may have been applied to specific utility relocation costs already.

Bridge Design

Initial project estimates for bridge design projects are usually developed based on historical data and parametric estimating methods. Parametric estimation is accomplished by identifying 90%

of the major components on the project and using historical data in estimating the cost of the items. An appropriate contingency factor is applied to the estimate to account for unknowns. When previously constructed projects with similar characteristics are known, the estimator can generate a more accurate base unit cost of the major items for the project.

Existing bridge structures are reviewed and a projection is made of the type, size, and location of the new structure along with any major construction-related items such as maintenance of traffic, site characteristics, construction phasing, special construction requirements, and contractibility issues that may impact the cost estimate.

A preliminary analysis is performed by the Bridge Program Manager to establish the feasibility of the proposed project. The development of the estimate is based on the proposed bridge improvement and the parametric estimate.

Major structures require an in-depth review to determine the requirements for navigation, navigational clearances, alignments studies, and traffic studies to determine bridge typical sections and maintenance of traffic needs. A site visit with knowledgeable local persons is necessary for most projects.

The development of the preliminary estimate is based on historical cost of major bridge components for the proposed bridge structure. A contingency factor of 10% - 15% of the project cost will typically be applied at this stage to account for unforeseen items.

Information available during this stage usually consists of the following:

1. Electronic Site visit
2. Proposed Design Criteria
3. Long range plan for the route
4. Stage 0 Structural Site Survey
5. Additional aerial photography if required
6. Anticipated maintenance of traffic scheme
7. Master structure files NBI data and existing bridge configuration
8. Preliminary navigational vessel data
9. Preliminary geotechnical data (if available)
10. Preliminary Traffic Information
11. Identification of preliminary alternates

Items that may be considered at this stage in the cost estimate are as follows:

Types of Structures

1. Slab Spans
2. Concrete girder spans on pile bents
3. Concrete girder spans on column bents
4. Steel girder spans on pile bents
5. Steel girder spans on column bents
6. Interchange with complex geometry
7. Moderate river steel spans with/without vessel impact
8. Major river steel spans with/without vessel impact
9. Railroad overpasses fill/cut section
10. Low/Mid/High level movable

Major Components of Project

1. Major Bridge Items – Estimate of the composition of each type of structural component on a square foot basis and the cost of the bridge structure based on FHWA cost per square foot of different types of structures; typically reported to FHWA by each state each year to establish a bridge cost for each state and restricted to specific bridge items only.
2. Other Bridge Items
 - a. Approach Slabs
 - b. Abutment Protection
 - c. Bridge Removal
 - d. Guardrail
 - e. Construction Haul Road / Bridge
 - f. Pier Protection
 - g. Movable Bridge Mechanical and Electrical
3. Site Preparation
4. Roadway Items (When it is exclusively a Bridge Project)
5. Maintenance of Traffic
6. Temporary Detour Roads and Bridges

7. Identifiable Additional Items
8. Mobilization

Other Considerations

1. Type of construction i.e., end-on, split slab, accelerated
2. Site access (site specific)
3. Hydraulic issues (site specific)
4. Geotechnical issues (regional specific)
5. Preliminary design criteria
6. Constructability

Road Design

Initial project estimates are based on the available information furnished, including the projected limits, proposed typical section, existing roadway configuration and other historical data concerning the route. The estimator needs to have an understanding of the proposed scope and purpose of the project. Road Design will establish a cost for the generally planned different types of improvement. The cost will be based on bid prices for similar type projects let to contract during the last year and over a three year period to develop trends in construction cost. This information will be based on a per mile basis and general interchange configurations.

Items that need to be considered are:

1. Number of proposed lanes
2. Existing roadway type and condition
3. Rural vs. urban design
4. Project traffic volumes
5. Anticipated construction restraints
6. Handling of traffic during construction
7. Required drainage improvements
8. Lighting/signalization

Stage 1 Cost Estimate

Cost estimates are prepared continuously throughout the development of alternatives in the environmental process. Since the project cost estimate is prepared as part of the project approval

process, it should be made after completion of the public hearing process, selection of the preferred alternative, and completion of the environmental document. The project cost estimate is prepared using the same format as used for the other project planning cost estimates. However, since the preferred alternative has been selected, the project cost estimate can now be more definitive; it is now tied directly to a specifically defined project scope and description, becoming part of the project scope and budget report.

Right-of-Way

The Stage 1 right-of-way cost estimate will be prepared by the Department's Real Estate Section. The purpose of the estimate is to identify the cost of the right-of-way phase of the project, such that an overall project budget in current dollars can be established. The contents of the cost estimate at this stage are the same as those of the cost estimate for Stage 0. Please refer to the discussion of the Stage 0 cost estimate in Section 6.4 for more detailed information.

Utilities

The original relocation costs will be updated based on more recent information as it becomes available.

The District Utility Specialist will make an onsite inspection to determine if there are any abnormal cost items for utility relocation and provide the estimated cost of these items. The District Utility Specialist will also estimate the number of utility companies involved with the proposed project.

The utility relocation cost estimate will then include the updated relocation costs plus the new information provided by the District Utility Specialist and a general 20% contingency due to the uncertainty of risks involved.

Bridge Design

A preliminary evaluation is performed by the Bridge Representative for the proposed bridge improvement. The estimate is updated based on the historical bridge cost data applied to the proposed improvement accounting for any additional information gained since Stage 0. During this stage, additional information is gathered by the Bridge Representative, creating a further definition of the bridge improvement. Information available during this stage usually consists of the following:

1. Site visit
2. Stage 0 Report
 - a. Scope and Budget Worksheet
 - b. Stage 0 Structural Site Survey
 - c. Environmental Check List
3. Proposed Design Criteria
4. Long range plan for the route
5. Additional aerial photography if required
6. Proposed maintenance of traffic scheme
7. Master structure files NBI data and existing bridge configuration
8. Navigational vessel data
9. Preliminary geotechnical data (special circumstances)
10. Traffic study
11. Environmental documentation and finding
12. Identification of selected alternate

During this stage of the project, traffic data is gathered, preliminary navigational clearances are identified, the alignment is studied, and the bridge structure type is refined. Consideration is given to match the construction technique to the maintenance of traffic and environmental conditions.

The estimate prepared in Stage 0 is revisited and adjusted to incorporate new information gained during Stage 1. The estimate is based on parametric estimation methods for the proposed bridge structure. The contingency factor may be adjusted to account for refinement of information. Estimate magnifiers should be applied to the estimate to account for cost increases due to known constraints or conditions.

Road Design

The cost estimate during this stage is based on major items such as average fill and/or cut, area of clearing and grubbing, mobilization, signs and barricades, base course items, pavement items, major cross drains, average size for subsurface drainage including catch basins based on a closer defined length of project, updated unit prices, and other information concerning detours and sequencing of construction phases if known. A major items multiplier of 1.4 is also applied to cover the cost of other items such as removals, stripping, construction layout, fencing, and other minor items. This estimate is then compared to the estimate prepared in Stage 0, retaining the highest.

Available information:

1. Defined limits of project
2. Aerial photography
3. Parish maps and/or city maps
4. Proposed typical section type, (overlay, replacement, widening)

Needed information:

1. Proposed scope (intersection improvement, adding two lanes to existing two lane, widening from two lane to three or five lane urban, complete new construction of two lanes or multi-lane, or building an interchange)
2. Existing and projected traffic volumes
3. Preliminary typical section design
4. Proposed vertical and horizontal grade
5. Geometric layout of intersections and interchanges

Stage 2 Cost Estimate

The process for developing a Stage 2 estimate is only applicable for projects that remain in this stage more than one year. If this is the case, the estimate should be reviewed to determine if any new pertinent information has come about, or if any department policies, design specifications, or criteria have changed that would impact the values and assumptions previously made in the estimate documentation. Inflation or increases in costs for other reasons may necessitate investigation and updating.

Stage 3 Cost Estimate

For most projects, the minimum level of project development that is necessary to accurately identify the costs and delivery schedule of a project occurs at the preliminary plans stage. A preliminary plan is required for every project. The plan is developed to show preliminary geometric details, and includes final design criteria, proposed line and grade, tentative right-of-way, preliminary intersection or interchange layouts, bypasses, and pertinent topographic features.

As with Stage 2 estimates, reviews/updates are required one year from the date of the last estimate or at completion of the final preliminary plans, whichever comes first. By the final preliminary stage, most controlling project information should be finalized, including limits of construction and required right-of-way, traffic control plan, plan quantities for all major items,

construction time, sequence of construction and limitations, environmental and hazardous waste mitigation, and utility relocation plans.

At this level of project development, preliminary plan quantities will be used together with historic cost data to produce the estimate of construction cost. A description of how the historic cost data is collected is described in the following sections. Right-of-way estimates will be based on the tentative right-of-way lines identified in the preliminary plans. Also at this point in the project development process, any unusual condition or costly items, such as major utility adjustments, should be identified.

When final construction plans reach the 95% Final Plan Stage, all construction bid pay items have been identified and a final cost estimate is prepared. The major pay items utilized in final preliminary plans are now final and the percentage values used for the remaining items are replaced with the actual pay quantities items.

Upon completion of the project final design plans, the Engineer of Record prepares the final cost estimate for the project prior to submittal of the plans to the Chief Engineer for signature. This estimate is prepared using the bid items and plan quantities derived from the completed final plans, and applying the applicable unit cost data. Anticipated bidding competition should be accounted for in the estimated bid prices. When the project delivery is complete, the plans, specifications, and estimate (PS & E) are transmitted to Project Control for authorization, advertisement, letting, and award of a construction contract.

This estimate becomes the basis for the engineer's estimate that is prepared by the project manager. The engineer's estimate is a tool that will be used to analyze bids received on the project. The engineer's estimate is completed just before project delivery and therefore considers the most current price data.

Right-of-Way

At the time of the Joint Plan Review, which is typically at 60% right-of-way maps, the cost estimate should be updated. If significant changes affecting cost are required for the right-of-way maps, the appraiser will wait to receive the revised right-of-way maps before finalizing the cost estimate. The Chief Appraiser shall assign a Review Appraiser to manage the project and a Staff Appraiser to perform a detailed cost estimate utilizing recent comparable sales to develop the land and improvement values and rental values. Further, cost data should be researched to address additional compensation. The cost estimate shall minimally contain the estimated damages from all sources, relocation cost, consultant fees associated with the appraisal process, additional compensation, contingencies, and any other related costs.

The Right-of-Way Review Appraiser will utilize the cost estimate developed by the Staff Appraiser and make the necessary adjustments for administrative cost (administrative settlements, legal settlements, court awards, legal consultant fees, expropriation costs, etc.) to finalize the total right-of-way cost. Then the cost estimate will be forwarded to the Chief Appraiser for review and acceptance.

Utilities

At 60% right-of-way maps, the Stage 1 relocation costs are again updated to reflect the most recent information available. Updates to the Utility Relocation Cost Estimate are not finalized until after the Revised Final Right of Way Plans have been distributed. It is important at this point to keep in mind that any changes to the design that may significantly affect the relocation of utilities can cause difficulties in estimating their costs due to the disruption of coordination efforts with all entities involved.

The District Utility Specialist will provide a better estimate on the number of utilities involved, which may be accomplished by consulting with LA One Call and local utility owners. Also, the District Utility Specialist will identify and evaluate the abnormalities that drive the utility relocation costs. The abnormalities are pipeline crossings, electric substation units, electric transmission lines, or any structures for which the cost would be 100% state/federal funded.

The Utility Relocation Cost Estimate will include the most recently updated relocation costs, costs provided by the District Utility Specialist or consultant, plus the general 20% contingency which is applied to the total estimated Utility Relocation Cost to account for risks, such as late discovery of other utilities that need to be relocated and/or conflicts that might prohibit relocation.

The Final Utility Relocation Cost Estimate is used for obtaining approvals, permits and to prepare contractual agreements for the relocation of utilities as required for the construction of the associated projects.

Bridge Design

Cost estimates for the bridge plan portion of projects and related structures are developed based on final preliminary plans that will include estimated quantities for major items or a refinement of the parametric estimate. At this time, the final design criteria establish the bridge typical section, bridge length, and type as well as the construction sequence and technique. Hydraulic

information including predicted scour and back water has been incorporated into the bridge type, size, and location of structure.

Upon completion of final design, the bridge portion of the project is defined and the geotechnical data has been received. A foundation plan (when applicable) has also been developed. The need for a pier protection system and maintenance of marine traffic has been considered. Magnifiers will be used to compensate for various conditions of the project such as project size and complexity. At this point, no contingency factor will be used.

Road Design

At 95% preliminary (pre plan-in-hand), a new estimate should be prepared based on major items that will be included in plans such as earthwork, paving, drainage items, permanent signing, lighting signals, mobilization, temporary signing, and any special sequencing and items for handling of traffic. This estimate should be based on the latest available unit prices. Multiply cost of major items by 1.25 to cover the cost of all other unknown items. Compare this estimate to the previous estimates to make sure that all items are covered.

At ACP stage, another cost estimate should be prepared based on all items using the latest unit prices. A revised estimate should be prepared after all ACP comments have been addressed. A contingency of 10% is recommended.

Appendix III: Project Delivery Steering Committee and Project Finance Subcommittee

Purpose and Scope

This policy will establish the DOTD Project Delivery Steering Committee (PDSC) and the Project Finance Subcommittee (PFC), which will be standing committees. The PDSC will advise and make policy recommendations to the DOTD Secretary on all aspects of program and project delivery along with capital outlay finance and budget, including annual program budget partitions, revenue projections, revenue enhancements, innovative financing alternatives, means and impacts of funding major projects, and both short-term and long-range fiscal planning for programs.

http://www.dotd.la.gov/mgmt_finance/PDSC_Policy_20070601.pdf

Project Delivery Steering Committee Responsibilities

The charge of the PDSC is to provide DOTD with an executive level integrated Capital Outlay Management and Decision Support Structure for program and project management that will facilitate control of scope, schedule, and budget. DOTD's program and project finance system will fulfill this objective by facilitating or providing the following:

- Approval of the DOTD Priority and Capital Outlay Programs.
- Establishment of DOTD budget partitions.
- Oversight and review of capital outlay funding sources, including federal and state sources, bonds, tolls, and others.
- Oversight and review of the timing of expenditures and revenues to control cash flow requirements.
- Review of significant project changes and the reasons for them that affect an approved program, throughout a project's lifecycle.
- Review of program-level financial and schedule information.
- Establishment and monitoring of project delivery goals, objectives, and performance measures for the Department.
- Establishment of policies and procedures supporting the project delivery process.
- Oversight and review of project-level scope decisions that affect or establish departmental policy.
- Approval of innovative finance initiatives.
- Establishment and monitoring of project delivery performance measures.

Project Delivery Steering Committee Membership

The Undersecretary, Office of Management and Finance, shall chair the PDSC which will be comprised of the following voting members:

Deputy Secretary
Undersecretary
Assistant Secretary, Office of Multimodal Planning
Chief Engineer
Assistant Secretary, Office of Operations

Project Finance Subcommittee Responsibilities

The Project Finance Subcommittee (PFC) is created within the PDSC. The PFC provides summarized financial departmental and program reports, and provides guidance and direction for the capital outlay program.

The subcommittee is the focal point for managing funds and projects associated with the highway capital program. The PFC will be the working group that supports the PDSC and will:

- Recommend fiscally constrained DOTD Priority and Capital Outlay Programs within PDSC established budget partitions.
- Coordinate and report on capital outlay funding sources including federal, state, bonds, tolls, and others.
- Coordinate and report on the timing of expenditures and revenues to control cash flow requirements.
- Report on significant program and project changes and the reasons for them that affect an approved program.
- Report on program-level financial and schedule information.
- Review and provide recommendations of project-level scope decisions that affect or establish departmental policy.
- Recommend innovative finance initiatives.
- As assigned by the PDSC, research and advise on the program and financial impacts of non-programmed initiatives.

The PFC will be supported by the Manager of Strategic Planning and Reporting, who is responsible for compiling financial reports used by the subcommittee. As staff to the Project Finance Committee, duties include:

- Compilation of financial reports prepared by all other offices and sections in the department
- Preparation of all ad hoc reports required for decision making
- Development of the agenda for the PFC and all supporting documents for decision-making
- Preparation of committee meeting minutes
- Preparation of recommendations of the PFC for review and approval by the PDSC
- Researching and preparation of position papers for the PDSC and PFC use in decision-making regarding project funding and project delivery

Project Finance Subcommittee Membership

The subcommittee shall be comprised of the following members:

Deputy Undersecretary (Chair)
 Administrator, Transportation Planning Section
 Director of Project Development
 Financial Services Administrator
 Budget Administrator
 Federal-Aid Manager
 Contract Services Administrator

Meetings

The PDSC shall typically meet each month. Additional or fewer meetings shall be held at the discretion of the Chairman. The PFC will typically meet a few days prior to the PDSC meeting. An agenda for each meeting will be prepared by the Manager of Strategic Planning and Reporting delivered to the members of the committee at least two working days prior to each meeting. The Committees may also invite additional staff to present information pertaining to individual agenda items on an as-needed basis.

Documentation

The proceedings of each PFC meeting will be duly recorded by the Manager of Strategic Planning and Reporting or designee and copies distributed to each committee member. A specific recommendation memorandum will be prepared and submitted to the Secretary for approval.

Appendix IV: Team Building

Team building is an organizational process in which a team of motivated and experienced members achieve more than the same number of individuals acting singularly. This process, in which the synergy of the group achieves more than the individual, is a desired and necessary part of the Project Management philosophy as adopted by LA DOTD.

At the heart of the Project Team is the Project Manager (PM). The PM's primary purpose is to deliver a project within its established scope, budget, and schedule. Their primary challenge in providing this service is that while they have a small or no supervisory role in the vertical organization (i.e., within their "office" or "section"), they are required to have authority in "cross cutting" along several vertical organizational structures within the Department.

The other individuals who make up the Project Team under the PM are the Task Managers. They provide their experience and expertise in specific disciplines to assist the PM in successfully delivering the project within the many laws, codes, procedures, and guidance which can influence the project.

PMs must also be able to effectively interact with stakeholders who are outside of LA DOTD. Some of these stakeholders are citizens, community representatives, and elected officials. They may also include personnel in other resource agencies who may be required to review, approve, or permit activities associated with the project.

PMs should strive to achieve the following skill set in order to be effective within the LA DOTD organization:

- Know The Process – Have a thorough understanding of their role while also having a basic understanding of what each Task Manager does to successfully complete a project
- Effectively Communicate – Create a meaningful exchange of information with both the Project Team and external stakeholders
- Organizational Influence – Have the innate ability to get things done within the organization
- Leadership – Keep team members motivated and focused by developing a clear objective and strategy for completing a successful project
- Conflict Management – Understand that some team members and stakeholders may have varying objectives and opinions, all of which must be appropriately considered to reach a consensus

- Problem Solving – Define real and potential issues, develop alternative solutions, and analyze and utilize collaboration with team members and stakeholders to make decisions effectively and efficiently

Stage 0: Feasibility

Stage 0 comprises a decisionmaking process by which a conceptual project is deemed either feasible and should then be prioritized and advanced in the LA DOTD Highway Program, or is not feasible. This is termed the “go/no-go” decision. Stage 0 studies vary considerably by the type and magnitude of the project being studied. Each Program has its own methodology for developing, reviewing, and approving Stage 0 studies for program projects. See Chapter 4 for details. The Office of Planning and Programming maintains a Stage 0 Manual of Standard Practice, found on the LA DOTD internet site [La DOTD - Project Delivery / Project Finance - Stage 0 - Manual of Standard Practice](#).

In Stage 0, the leader is either the Program Manager, District staff, or the Transportation Planning Section in the Office of Planning and Programming; the leader *is not* a PM, as the concept is not officially a “project” until completion of Stage 0. The leader may involve team members from any Section in the organization and external stakeholders who can effectively contribute to the “go/no-go” decision. For a large majority of projects, this involvement includes relatively few individuals; however, the most complex Feasibility Studies could involve several internal team members to serve as subject matter experts in making the decision and include engaging external stakeholders through public and resource agency involvement initiatives.

Stage 1: Planning/Environment

Stage 1 provides detailed planning and environmental analysis to identify the project scope, location and major design features, and a budget which details the costs of design, construction, environmental mitigation, right-of-way acquisition, utility relocations, contract administration, and contingencies. For Federal Aid projects or projects requiring other Federal actions, this is performed by the process in accordance with the National Environmental Policy Act (NEPA). For projects with no Federal involvement, a NEPA-like process will be followed, which will provide a similar level of environmental analysis and documentation. See Chapter 5 for details. The Environmental Section maintains a Stage 1 Manual of Standard Practice, found on the LA DOTD internet site [La DOTD - Environmental Documents](#).

Transportation projects vary considerably in type and complexity. Federal regulations promulgated by the Department of Transportation and Federal Highway Administration (23 CFR

771.115) identify the following classes of action based on significance of impacts and level of documentation:

- Class I (Environmental Impact Statement or EIS) – actions which significantly affect the environment. Leads to issuance of a Record of Decision (ROD)
- Class II (Categorical Exclusion or CE) – actions which do not individually or cumulatively have significant environmental effects
- Class III (Environmental Assessment or EA) – actions for which the significance of the environmental impact is not clearly established. Leads to issuance of a Finding of No Significant Impact (FONSI) or preparation of an EIS

The significance of potential impacts is based on the context and intensity of the impacts (40 CFR 1508.27).

As stated previously, projects with no Federal participation must follow a NEPA-like process that involves the use of similar analyses and documentation. These environmental documents are as follows, with their Federal equivalent shown in parentheses:

- Environmental Exclusion or EE (CE)
- Environmental Finding or EF (EA/FONSI)
- Environmental Record or ER (EIS/ROD)

The selection of a PM at Stage 1 will depend on the level of complexity of the environmental document. The more complex documents, such as EIS and some EAs, will require a PM in the Environmental Section with coordination from designers and/or a PM from the Project Management Section.

There are no easy rules to determine the class of action, and such determination should be made through proper coordination with the Environmental Section. For most projects required to be processed by an EA, EF, EIS, or ER, the PM should be chosen by the Environmental Engineer Administrator for Stage 1. Otherwise, the project may move into Stage 2 or Stage 3 and a PM chosen during those stages. Due to the nature of the NEPA process for these classes of action, the scope and budget will largely be defined during Stage 1; therefore, it is important that the PM in this stage have expertise in processing these document types and handling any necessary consultant contracts. If the PM chosen for Stage 1 is someone other than the PM for subsequent stages of the Project Development Process, then one of the team members of the Project Team should be that person who will be the PM for the subsequent stages. These two individuals shall act as co-PMs for the project, with the Stage 1 PM taking the lead role during Stage 1. Decisions on scope, schedule, and budget should be shared between the co-PMs.

Prior to beginning of work on the environment documents, the co-PMs should meet to define their responsibilities during Stage 1. The Project Team should consist of Task Managers chosen to advise the co-PMs on issues which are likely to arise during Stage 1, participate in the preparation of the scope and man-hours for consultant contracts, participate in review of the NEPA and related documents, and can also serve as Task Managers during subsequent stages. Section Heads for each task should be consulted and approve the staff member to serve as their representative (Task Manager) on the Project Team. Task Managers commonly involved in Stage 1 include planning, design, right of way, utilities, permits, and District personnel, though there can be any number of other tasks involved which may require the involvement of other Task Managers. It is also common that Task Managers be added after initial selection of the Project Team.

Stage 2, Funding through Stage 4, Letting:

The PM for these Stages of the Project Delivery Process will be chosen in accordance with the table below:

Program Category/Subcategory	Project Manager selected by...
System Preservation/	
Non-Interstate Pavement (PR-NI, NFA)	Program Manager
Interstate Pavement	Program Manager
Contract Maintenance	Program Manager
Bridge (On-System)	Project Development Administrator
Bridge (Off-System)	Program Manager
Bridge Preventive Maintenance	Program Manager
Operations/	
ITS/MAP	Program Manager
Traffic Control Devices	Program Manager
Access Management	Program Manager
Roadway Drainage	Program Manager
Weigh Stations	Program Manager
Rest Areas	Program Manager
Interstate Lighting	Program Manager
Movable Bridge Rehabilitation	Program Manager
Ferries	Program Manager
Transportation System Management	Program Manager
Safety/	
Regular Program	Program Manager

Local Roads Safety Program	Program Manager
Safe Routes To School	Program Manager
Railroad Grade Separations	Project Development Administrator
Railroad Crossings	Program Manager
Additional Capacity/New Infrastructure/	
Regular & Corridor	Project Development Administrator
Miscellaneous/	
TIMED	Project Development Administrator
Transportation Enhancements	Program Manager
Urban Systems & CMAQ	Program Manager
Federal Earmarks (DEMO)	Project Development Administrator
Intermodal Connectors	Project Development Administrator
Road Transfer	Project Development Administrator
Other	Project Development Administrator

The PM should choose the Project Team as needed to deliver the project within scope, schedule, and budget. Section Heads for each task should be consulted and approve the staff member to serve as their representative (Task Manager) on the Project Team. Task Managers commonly involved in these stages include planning, environmental, design, right of way, utilities, permits, and District personnel, though there can be any number of other tasks involved which may require the involvement of other Task Managers. It is also common that Task Managers be added after initial selection of the Project Team.

Stage 5 - Construction

During project construction, the Project (or Resident) Engineer, acting as the duly authorized representative of the Chief Engineer, controls the work of the contractor in accordance with Section 105 of the *Standard Specifications for Roads and Bridges*. During construction, the Project Engineer may need assistance from the PM in order to interpret the plans and specifications, or request a plan change (change order). The PM should utilize to the extent possible the original Project Team's Task Managers to assist him in advising the Project Engineer. Significant or Category 1 change orders should be coordinated by the PM through the relevant Program Manager when an overrun created by the change order might affect their program's maximum funding target or other program projects. Also, changes in work which are different from those permitted by resource agencies should be coordinated through the appropriate Task Manager.

Appendix V: Relevant Policy Considerations

Plan Quality

Achieving the highest quality project as constrained by scope, schedule, and budget is the ultimate goal of the Project Manager and their team. However, once a project is let to construction, the overall quality of the plans can negatively impact the overall project goal by causing cost overruns and additional construction time. Though the best laid plans cannot account for all variables, many can be managed effectively by implementing quality control and quality assurance principles.

Quality Control is defined as the operational techniques and the activities used to keep the quality of inputs or outputs to specifications; to fulfill and verify requirements of quality. Quality Assurance refers to those actions, procedures, and methods employed at the management and senior technical levels to observe and ensure that prudent quality procedures are in place and are being carried out, and that the desired result of a quality product is achieved.

The DOTD Plan Quality Control/Quality Assurance Manual is found at:

http://www.dotd.la.gov/highways/project_devel/design/documents/Const_Plans_QC-QA_Manual.pdf

This manual builds on the following characteristics, known as the 5Cs, which can provide an indication of the quality of the plans:

Complete

- The plans will be an accurate and thorough representation of the existing project site and terrain features.
- The plans will be an accurate and thorough representation of the proposed project features and details to be constructed.
- The plans will be supported by a thorough and detailed documented development process.
- The plans will be developed with the active involvement of all affected parties and developmental stage owners throughout all stages of development.

Consistent

- The plans will be consistent with other plans developed by and for LADOTD and will comply with all standards and guidelines set by the LADOTD design manuals, AASHTO design guidelines, and electronic standards.

Clear

- The plans will not contain any design errors or omissions which will require more than one addendum during the project advertisement period.

Correct

- The plans will not contain any design errors or omissions which will cause the delay, postponement, or cancellation of the project letting.

Constructible

- The plans will not contain design errors or omissions that require more than two change orders throughout the construction phase which individually causes an increase or decrease of more than 3% of the original contract bid award amount or causes an increase or decrease in the contract time by more than one day.

Additionally, the Project Manager should be prepared for change orders during construction. All Category 1 Change Orders must be communicated to the Project Manager by the Project Engineer. When a consultant is involved in the design of a project and a change order resulting from plan or design error occurs, the consultant should be notified and given the opportunity to be involved in the resolution of the change order. Change orders caused by consultant plan or design errors may be recouped if such errors lead to additional project costs or delays.

Context Sensitive Solutions

The public demands that the Department look for solutions to issues important to the community. The public expects these issues to be addressed in harmony with traditional issues such as cost effective transportation, mobility, and safety. To meet this demand, DOTD will employ “context sensitive solutions” principles during all stages of the project delivery process. The extent of the application will depend on the complexity of the project and the importance of the issue to the community.

Context sensitive solutions (CSS) are developed from an interdisciplinary approach, such as that offered by the Project Team, to fitting projects into their physical setting while preserving community values, enhancing the natural environment, and maintaining safety and mobility. CSS principles require Project Managers to work with communities, resource agencies, and local officials, and to incorporate feedback from the communities to ensure the project meets their local needs. CSS principles encourage creativity and flexibility in the design of projects.

The DOTD Policy on CSS is found at:

http://dotdweb/policies/DOTD_CSS_Policy_20060526.pdf

Additional CSS resources can be found at the Federal Highway Administration's CSS Page at:

http://contextsensitivesolutions.org/content/topics/what_is_css/

Complete Streets

The public also demands that the Department take the lead in implementing a comprehensive, integrated, connected transportation network that balance access, mobility, health, and safety needs of motorists, transit users, bicyclists, and pedestrians of all ages and abilities, including users of wheelchairs and mobility aids. Accommodating these needs and uses into the same transportation corridor can be challenging; however, the benefits of implementing a Complete Streets policy can include:

- Reduced pedestrian and bicycle injury and fatality rates
- Increased mobility and safety for children
- Improved mobility for people with disabilities
- Increased mobility and independence for older citizens
- Increased healthy activities
- Reduced greenhouse gas and noxious emissions
- Support local economic development efforts
- Lower household transportation costs

The DOTD Complete Streets Policy is found at:

http://www.dotd.la.gov/administration/policies/Signed_Complete_Streets_Policy_20100718.pdf

Project Managers should be aware that the policy requires the consideration of all users be integrated into the Project Development Process for the entirety of all projects. While the policy includes conditions where it is generally inappropriate to provide bicycle and pedestrian facilities, any exceptions for not accommodating bicyclists, pedestrians, and transit users will require the approval of the DOTD Chief Engineer.

FHWA/DOTD Stewardship Agreement and Funding Requests

Administration of the Federal Aid Highway Program is vested by law to the Federal Highway Administration (FHWA). The FHWA may delegate under Federal statutes certain responsibilities to the Department. To this end, an agreement has been entered into between DOTD and FHWA and may be found at:

http://www.dotd.la.gov/about/FHWA_Stewardship.aspx

Project Managers must be aware of those delegated and non-delegated projects and responsibilities in accordance with the agreement. These responsibilities are inherent in application for Federal Authorization Funding Requests, which must be certified by the Project Manager. The form for these requests is found at:

http://dotdweb/documents/Federal_Authorization_Funding_Request.pdf

Dual Co-Project Managers during the NEPA Process

The Manual of Standard Practice for Stage 1 (Planning/Environmental) allows for the use of dual Project Managers during the preparation of Environmental Assessments and Environmental Impact Statements. During Stage 1, a Project Manager from the Environmental Section serves as to guide the Project Team through the NEPA process, while the Project Manager who will take the lead subsequent to Stage 1 is a member of the Project Team. Following the issuance of the Finding of No Significant Impact or Record of Decision, the Project Manager from the Environmental Section would become part of the team while the overall Project Manager takes the lead.

Such a process has several benefits:

- Provides an expert to make crucial decisions required during the NEPA process
- Allows expert consideration of process streamlining, interagency coordination, and context sensitive solutions
- Provides continuity in project decisions, especially on following through in commitments during subsequent stages and mitigation/monitoring activities

The Stage 1 Manual of Standard Practice can be found at:

[La DOTD - Environmental Documents](#)

Major Projects

Federal regulations define a major project as “a project with a total estimated cost of \$500 million or more that is receiving financial assistance.” To be eligible for Federal funds, all major projects must have the following:

- A Cost Estimate Review prior to NEPA approval and again prior to construction authorization
- An Initial Financial Plan prior to construction authorization and updated annually thereafter until construction completion
- A Project Management Plan, the draft due prior to NEPA approval, the final required 90 days after issuance of NEPA approval, and updated 90 days prior to the start of a new phase or if a significant change has occurred

Appendix VI: Glossary

A

Actual Cost (AC) – Total cost incurred and recorded in accomplishing work performed for a schedule activity or work breakdown structure component.

Activity Duration Estimating – The process of estimating the number of work periods that will be needed to complete individual schedule activities.

B

Budget – The allotted cumulative funding for all project phases.

Budget Partition – The allotted funding for a program.

C

Categorical Exclusion (CE) – A category of actions which do not individually or cumulatively have a significant effect on the human environment.

Construction Memos – Instructions issued by the Chief, Construction Division to provide direction to operations personnel on addressing construction issues.

Consultant – A private firm employed to supplement and complement in-house staff

Context Sensitive Solutions (CSS) - A collaborative, interdisciplinary, holistic approach to the development of transportation projects that involves all stakeholders in providing a transportation facility that fits its setting.

Cooperative Endeavor Agreement (CEA) – Now called Entity-State Agreement, formerly called City-State Agreement or Sponsor-State Agreement

Critical Path Method (CPM) – A technique for project planning which includes all activities required to complete the project, time frame for each activity, and the dependency between each activity.

D

Damage Inspection Report (DIR) – Report intended for use in all Army Corps of Engineers' inspections of levee and floodwall systems and flood damage reduction channels.

Design-Build – A method of project delivery in which one entity – the design build team – works under a single contract with the project owner to provide design and construction services.

Disadvantaged Business Enterprise (DBE) – A certified for-profit business entity owned and controlled by one or more US citizens or permanent residents who are both socially and economically disadvantaged.

E

Engineering Directives and Standards Manual (EDSM) – A manual containing directives and standards issued by the Chief Engineer

Enterprise Core Component (ECC) - An enterprise-wide information system created by SAP designed to coordinate all the resources, information, and activities needed to complete business processes.

Environmental Assessment (EA) – An environmental document prepared when the significance of impacts of a transportation project is uncertain

Environmental Exclusion (EE) – A DOTD-only document, approved by the Environmental Administrator, which serves the same function as a Categorical Exclusion for projects with no Federal actions

Environmental Finding (EF) - A DOTD-only document, approved by the Environmental Administrator, which serves the same function as a Finding of No Significant Impact for projects with no Federal actions

Environmental Impact Statement (EIS) - A full disclosure document that details the process through which a transportation project was developed; includes consideration of a range of reasonable alternatives, analyzes the potential impacts resulting from the alternatives, and demonstrates compliance with other applicable environmental laws and executive orders.

Environmental Record (ER) - A DOTD-only document, approved by the Environmental Administrator, which serves the same function as a Record of Decision for projects with no Federal actions

Estimating Process – A formalized process to provide an accurate estimate of the project cost as the project moves through various stages of development.

Executive Committee – A committee of the administrative-level positions at DOTD, which includes the Secretary, Deputy Secretary, Undersecretary, Chief Engineer, Assistant Secretary for Multimodal Planning, and the Assistant Secretary for Operations.

F

Feasibility Study – A document prepared to assess the technical, environmental and financial aspects of a project, resulting in a Go/No Go decision.

Federal Fiscal Year – The budgetary year beginning on October 1 of a calendar year and ending on September 30 of the following calendar year.

Federal Management Information System (FMIS) - Information technology to improve the use and dissemination of information in the operation of Federal programs.

Finding of No Significant Impact (FONSI) - Issued when environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment.

Functional Manager – A supervisor or manager who oversees the daily work operations of a functional specialist

Functional Specialist – See Task Manager

G

Gantt Chart – A bar chart which illustrates the time elements of a project according to tasks in the Work Breakdown Structure.

Go/No Go Decision – A decision to either advance or not advance a project in accordance with the Feasibility Study during Stage 0.

H

Highway Bridge Replacement and Rehabilitation Program – Replacement and rehabilitation of deficient bridges that are located off the state and interstate system of highways.

Highway Project Selection Process – A formalized process through which competing projects are prioritized and funded.

Highway Safety Hardware Design – Information on design and details for highway guardrail and bridge rail, ground mounted and overhead signing structure and other highway safety hardware.

Highway Miles – DOTD is responsible for more than 16,683 miles of roadway and 894 miles of interstate.

I

Incidental Work – Work required by the contract that is not directly measured and for which no specific pay item is provided.

Intermodal Surface Transportation Efficiency Act – Adopted to develop a National Intermodal Transportation System that is economically efficient, environmentally sound, provides the foundation for the Nation to compete in the global economy, and moves people and goods in an energy-efficient manner.

J

Joint Plan Review (JPR) – Jointly developed regulations, guidance, and outreach to ensure effective, accountable administration

K

L

Letting – To award a project, normally after bids have been submitted.

M

Metropolitan Planning Organization (MPO) - Federally mandated and federally funded transportation policy-making organization that is formed from representatives from local government and governmental transportation authorities.

Milestone – A significant point or event in the project.

N

National Environmental Policy Act (NEPA) - Requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. To meet this requirement, federal agencies prepare a detailed statement known as an Environmental Impact Statement (EIS). EPA reviews and comments on EISs prepared by other federal agencies, maintains a national filing system for all EISs, and assures that its own actions comply with NEPA.

National Bridge Inspection Standards – Sets the national standards for the proper safety inspection and evaluation of all highway bridges

National Cooperative Highway Research Program (NCHRP) – Conducts research in problem areas that affect highway planning, design, construction, operation, and maintenance nationwide.

Notice to Proceed – DOTD or project administration entity officially advises contractor to begin construction operations.

O

Off-System Bridge - A vehicular bridge owned and maintained by a county, city, or other local or regional governmental unit, and not on the DOTD-designated highway system.

P

PERT Chart (Program Evaluation and Review Technique) – A chart of a project’s schedule, showing the sequence of each task and its relationship to other tasks, including the critical path upon which the project’s deadline is based.

Plans, Specifications & Estimate (PS&E) – The final plans, engineer’s estimate, and specifications package upon which the project is to be bid.

Program – A group of projects with similar scope budgeted through the same partition.

Program Project Management System (PPMS) – A software module for tracking project schedules and budget, developed by Primavera Systems, Inc.

Program Manager – The overall manager of a specific program, responsible for budgetary and delivery goals

Project – A singular transportation infrastructure improvement

Project Builder – A module within the LaGov ECC to track project schedule

Project Delivery Date (PDD) – The date when all activities of project development have been completed, including final plans, engineer’s estimate, permits, right-of-way acquisition, utility agreements, non-standard items and specifications, special agreements, and TIP/STIP approval.

Project Delivery Steering Committee (PDSC) - A standing committee for the purpose of advising and making policy recommendations to the DOTD Secretary on all aspects of program finance and budget.

Project Finance Committee – A part of the PDSC, which provides financial reports and guidance to the Committee.

Project Management - A systematic process of planning, budgeting, scheduling, staffing, directing, and controlling a set of related and interdependent activities to achieve a desired objective.

Project Manager – The person responsible for carrying out the individual projects by insuring that all project activities are completed in accordance with time and budget requirements and at the highest level of quality.

Project Plan - A document summarizing the necessary steps required for the successful management of a project.

Project Team – A group headed by the project manager and consisting of several task managers working on a specific project.

Q

Quality Assurance – A process (i.e. standards and specifications) implemented so that quality requirements for a material or service can be fulfilled.

Quality Control - Activities (i.e. testing and inspection) by which the quality of a material or service are reviewed and verified.

Quality Risk Analysis – The process of numerically analyzing the effect on overall project objectives of identified risks.

R

Risk Management Planning – The process of deciding how to approach, plan, and execute risk management activities for a project.

Record of Decision – A document prepared to provide formal approval of an Environmental Impact Statement.

S

Schedule – The finite time frame in which a project is delivered.

Scope – The specific design features of a project, defined by its relation to the budget.

Scope Creep – The expansion of the scope of a project, usually without consideration of its affect on the budget.

Stage 0 – The stage of the project development process concerning the feasibility of a project.

Stage 1 – The stage of the project development process concerning the environmental evaluation of a project.

Stage 2 – The stage of the project development process concerning the availability of funding for subsequent project stages.

Stage 3 – The stage of the project development process concerning all pre-construction activities to prepare a project for bid

Stage 4 – The stage of the project development process concerning bidding a project for construction.

Stage 5 – The stage of the project development process concerning construction of a project.

Stage 6 – The stage of the project development process concerning the maintenance of the highway system.

State Fiscal Year – The budgetary year beginning July 1 of the calendar year and ending on June 30 of the following calendar year.

Statewide Transportation Improvement Program (STIP) - A staged, multiyear, statewide, intermodal program of transportation projects which is consistent with the statewide transportation plan and planning processes and metropolitan plans, TIPs, and processes.

T

Task Manager – A functional specialist which is part of a project team.

Traffic Cameras - Allow traffic engineers to monitor and gauge the flow of traffic to determine where optimization measures are necessary. In addition to this, the cameras reduce incident response time by allowing accurate verification of incident characteristics such as location and severity, with the added benefit of managing incidents from a central location

Transportation Improvement Program (TIP) - A staged, multiyear, intermodal program of transportation projects which is consistent with the metropolitan transportation plan.

U

Utilities Relocation Assistance Funding (URAF) – Provides assistance when a publicly owned, non-profit utility is not able to bear its share of the cost for adjusting its facilities to accommodate a highway project.

Urbanized Area - Denotes an urban area of 50,000 or more people.

V

Value Engineering - A systematic method to improve the "value" of goods or products and services by using an examination of function.

W

Warranty - Contractual agreement between an approved contractor/vendor and the agency soliciting bids, that uses specific performance measures to protect the agency from responsibility of repair due to premature defects in material and/or workmanship.

Work Breakdown Structure (WBS) – A deliverable oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables.

Work Zone – A segment of highway with ongoing construction, maintenance, or utility work activities.