Project Management Essentials Overview

Texas Department of Information Resources

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# Section 1. Overview

## Texas Administrative Code (Title 1, Part 10, Chapter 216)

### Policy

(a) Each state agency shall institute, approve, and publish a methodology that communicates an agency-wide approach for project management practices. At a minimum, the methodology will:

  (1) Identify components and general use of project management practices, citing sources of reusable components adopted from industry standards, best practices, another agency or institution of higher education that satisfy requirements specified under §216.11 of this subchapter; and

  (2) Be approved by the agency head or designee.

(b) Each state agency shall include in its agency strategic plan under Texas Government Code §2056.002, a description of the extent to which the agency uses its project management practices.

### Requirements

Each state agency shall manage information resources projects based on project management practices that meet the following criteria:

1. Include a standardized and repeatable method for delivery of information resources projects that solve business problems;
2. Include a method for governing application of project management practices;

1. Be documented and include a single reference source (e.g., handbook, guide, repository);
2. Include a project classification method developed by DIR the agency, or another source that:

(A) Differentiates and categorizes projects according to level of complexity and risk

(e.g., technology, size, budget, time to deliver); and

(B) Defines how to use the project classification method to establish, scale, and execute the appropriate level of processes;

1. Include a method to periodically review, assess, monitor, measure, and improve the impact of organizational project management practices on the agency's ability to achieve its strategic objectives and deliver business value;
2. Align with use of the Texas Project Delivery Framework for major information resources projects;

1. Accommodate use of other practices and methods that align with application of project management practices; and

  (8) Be reviewed and updated at least every two years to facilitate continuous process improvement.

### Standards

Each state agency shall identify and adopt one or more standards as a basis for project management practices to meet project requirements in a minimum of the following knowledge areas:

1. integration management
2. scope management
3. schedule management
4. cost management
5. quality management
6. human resources management
7. communications management
8. risk management
9. procurement (acquisition) management; and
10. stakeholder management.

## Description of PM Essentials

PM Essentials (Project Management Essentials) is a project management methodology made up of guidelines, practices, and techniques specific to the discipline of Project Management. These principles are meant to be applicable to projects of varying size or complexity. The primary goal of this methodology is to deliver the desired product and/or end result within the timeframe and cost parameters established in the initiating and planning stages of the project. A secondary goal is to achieve the same in the most efficient and effective manner possible. PM Essentials is based on the Project Management Institute’s (PMI) global, widely-accepted, standards outlined in the “A Guide to the Project Management Body of Knowledge” (PMBOK). The principles of PMBOK are comprehensive and adaptable to almost any project, including technology, procurement, integration, and process improvement efforts. The PMBOK principles also accommodate any methodology whether waterfall, agile, or other.

### What PM Essentials is not

It is important to note that PM Essentials is not meant to be a step-by-step procedure that one can follow to ensure a successful project. Each project is unique and may require an approach, processes and/or procedures specific to a given project.

PM Essentials is also not a replacement for, nor an alternative to, the Texas Statewide Project Delivery Framework. Both are designed to capture and use information that help projects stay on track and achieve desired results. The difference between the two is their scale. The Statewide Project Delivery framework is to be used on any project meeting Texas’ [Criteria for a Major Project.](http://dir.texas.gov/View-Resources/Pages/Content.aspx?id=24#MajorProject) For projects smaller in scale, other methodologies and templates may be used as long as they meet the criteria of TAC 216. PM Essentials is designed to be scalable for smaller projects, with enough flexibility included to also handle larger projects.

## 1.3 Uses

Anyone managing a project should account for the following aspects of a project, also called knowledge areas, and consider leveraging the processes and tools available under PM Essentials. This section document outlines the relationship of certain activities to the respective knowledge areas. It also highlights some of the tools that can be used to manage/facilitate those activities.

* Integration Management
  + Develop a Business Case – Project Charter
    - The Business Case captures the reasoning for initiating a project or task.
    - AProject Charter documentissued by the project initiatoror sponsorand formally authorizes the existence of a project, and provides the projectmanagerwith the authority to apply organizational resourcesto project activities.
  + (Optional) Develop a Project Management Plan
    - Project Management Planisa formal, approved documentthat defines how the projected is executed, monitored and controlled. It may be summary or detailed and may be composed of one or more subsidiary management plans and other planning documents.
  + Direct, Manage, Monitor and Control Project Work
  + Formally Close
* Scope Management
  + Define Scope, Collect and Organize Requirements, and Create a Work Breakdown Structure.
    - Work Breakdown Structure (WBS)- A deliverable-oriented hierarchical decompositionof the work to be executedby the project teamto accomplish the project objectivesand create the required deliverables. It organizes and defines the total scopeof the project. Each descending level represents an increasingly detailed definition of the project work. The deliverable orientation of the hierarchy includes both internal and external deliverables.
    - Requirement
      * A condition or capability needed by a stakeholder to solve a problem or achieve an objective
      * A condition or capability that that must be met or possessed by a system, product, service, result, or component to satisfy a contract, standard, specification, or other formally imposed documents.
  + Control and Validate Requirements
  + Note – In developing a scope statement, there are some questions that you may wish to include or preemptively address:
    - What business processes and/or business capabilities will be impacted?
    - Who will use the end product? Examples are internal only, internal and external, external only? Is it human or a system?
    - Have the funds been allocated?
    - Is there a desired timeframe?
    - What kind of product development approach should be used?
    - What are the known risks, assumptions and/or constraints?
    - In the case of software development projects:
      * How many environments will be required?
      * Will any interfaces (data exchanges) be required?
      * Are there any data classification, information security and/or accessibility requirements to be met?
      * Are there any reporting requirements?

* Schedule (Time) Management

Work Breakdown Structure (WBS) is mentioned under Scope Management, and is applicable to Schedule Management as well.

* + Define Project Activities
    - As project deliverables are decomposed in the Work Breakdown Structure (WBS), project activities may be about output of or derived from the WBS.

Schedule Activityis a discrete scheduled component of work performed during the course of a project. A schedule activity normally has an estimated duration, an estimated cost, and estimated resource requirements. Schedule activities are connected to other schedule activities or schedule milestones with logical relationships, and are decomposed from work packages.

* + Sequence Activities
  + Estimate Activity resource (people, tools, etc.) needs
  + Estimate Activity Duration
    - Note – Estimates for Activity Duration and/or Costs are more accurate with input from or derived from the (human) resources closest to the activity. It’s suggested that one engage these people when developing estimated durations and costs.
  + Monitor and Control Schedule Activities
* Cost Management
  + Estimate Costs / Project Expenditures
    - This should include effort (hours) required of internal labor.
    - This may also include external costs (goods, professional services, fees/dues, etc.)
  + Control Costs
    - This should include the capturing / documentation / tracking of expenditures against the project budget (Estimates).
* Quality Management

Quality can be viewed from two perspectives;

* + - Project Quality – This is looking at the project’s health in terms of adherence to schedule and budget.
    - Product / Deliverable Quality – This is looking at adherence to the requirements outlined in the project’s scope and measuring the quality of the project’s end product/result.
  + Whether one is describing project quality or product quality, the same activities should occur in any project:
    - Plan for measuring quality
    - Perform Quality Assurance and Control
* Human resources Management
  + Develop Project Team (including the procurement of contracted professional services, when/if applicable)
  + Managing the Project Team includes ensuring that personnel have the resources needed to produce project deliverables and a good deal of coordination. Coordination includes balancing operational vs project work, and ensuring collaboration and communication amongst the team.
* Communications Management
  + Plan, Manage and Control Communications

Note: There is more than one form/category or communications when it comes to projects and project delivery.

* + - Project related communications includes information about the progress and health of the project (current status, project performance in terms of variances from baselined schedule, budget and scope, etc.)
    - Product / end result related communications of a project. These kinds of communication can include, but are not limited to, advertisement of the new product, training in the use of the new product, or service or event that will result from the project. This form/category of communication may relate more to Stakeholder Management.
    - In any/all cases of communication, it is important for the person or group responsible for the various communications know their role and deliver what they are responsible for.
* Risk Management
  + Identify and Analyze Risks
    - Quantitative Risk Analysis- The process of numerically analyzing the effect on overall project objectives of identified risks.
    - Qualitative Risk Analysis -The process of prioritizing risks for subsequent further analysis or action by assessing and combining their probability of occurrence and impact.

Note: Circumstances exist where project risks may not be proactively mitigated. When the impact and/or probability of a risk coming to fruition is low enough, a project team may elect to not take action to prevent particular risks from becoming issues. It’s important that these risks are identified and documented, and that the decision to not mitigate a given risk is a conscious one.

* Procurement (acquisition) Management

It’s important to note that the State of Texas and State agencies have procurement laws, policies and processes. These *must* be adhered to during project execution.

* + Identify (Plan for) goods and services required to deliver a project.
  + Document, Track and Control procurements. This includes the accounting of project related procurements.
  + Close Procurements.
* Stakeholder Management
  + Identify Stakeholders and analyze/plan for the tasks and activities related to Stakeholder Engagement.
  + Stakeholder - Persons and organizations such as customers, sponsors, performing organization and the public, that are actively involved in the project, or whose interests may be positively or negatively affected by execution or completion of the project. They may also exert influence over the project and its deliverables

## 1.4 Key Activities

When the preceding knowledge areas are recognized and addressed in a project, the projects often share characteristics regardless of the type, methodology, organization, environment, or product. Below are some of the key activities that project managers will engage:

* Review lessons learned from similar past projects
* Identify project risks and constraints
* Define expected outcomes and end-results
* Define high-level scope, schedule, and costs
* Identify stakeholders
* Identify resources, roles and responsibilities
* Identify project/product requirements as well as project metrics and key performance indicators
* Develop the project schedule and milestones
* Assign project tasks
* Solidify the project team
* Outline specific plans for key components of the project, such as communications plan and/or quality management plan
* Track project status, and communicate project progress, issues, etc.
* Monitor project health and status
* Transition project to “operations”
* Formally close the project; ensure that any contracts/purchase orders are closed, archive project artifacts, document lessons learned and plan for post mortem.

# Section 2. PM Essentials Templates

The following PM Essentials templates will aid in the key activities described, regardless of project size or complexity. These documents (templates) can be found on the DIR Website at [PM Essentials](https://dir.texas.gov/project-management-essentials-pm-essentials). Those in **bold** are the minimum recommended tools to be used in any project.

* [**Business Case**](https://dir.texas.gov/resource-library-item/pm-essentials-business-case-0)

This template is used to identify the business issue and the expected business outcome as well as the key resources necessary for the project. It defines how the project will align to the goals of the agency and/or state.

* + In this document, the focus should be on identification of business issues and/or opportunities (e.g. Business processes that could be more efficient, or products and/or services that could be more effective) and less about the execution plans for the project.
  + High level time and cost estimates can be and should be estimated for the purpose of comparing potential projects costs to the expected benefits of doing the project. In early stages of a project, these estimates may not be very accurate, and this is to be expected. More detailed planning should occur as the project progresses.
  + The Project Sponsor or Business Owner should have significant input into this document, possibly even author it.
* [**Project Charter**](https://dir.texas.gov/node/436047)

The Charter is where the scope of work is defined. More detailed plans and estimates related to the project’s timeline and budget are expanded upon within this project artifact. However, this information may still be relatively high level. The intent of this document is to develop a clearer picture of the effort and cost associated with delivering the project’s expected benefits outlined in the Business Case and ensure that, with the revised estimate, the project will still return a positive yield on the investment. Approval of the Charter authorizes the Project Team to begin work on the project.

* + Note – There is a good deal of overlap between the Business Case template and the Project Charter templates. If desirable, it is perfectly acceptable to insert sections from the Business Case into the Charter or vice versa.
  + While approval of the Project Charter formally authorizes the project to begin and allocates resources, it’s recommended that there be periodic “check ins” with the governing body that approves the Charter. Specifically, it is suggested that this person or group be informed if/when project estimates change. Aspects of a project (schedule, cost and/or scope) often change, get refined and/or evolve as more detailed planning and design activities are done.
* [**Project Toolkit**](https://dir.texas.gov/node/443239)

This file provides multiple templates for managing a project. For many projects, whether small, medium, or even large, this may be the only tool necessary. The All-in-One Tool includes the following:

* + Project Team Roles and Responsibility
  + Deliverables
  + Schedule
  + Costs and Benefits
  + Risk Log
  + Issue Log
  + Project Changes
  + Questions
  + Communication
  + Lessons Learned and Notes
  + Glossary

If more elaboration is needed, other templates following are provided.

* [**Project Schedule**](https://dir.texas.gov/node/432636)

The Schedule provides the time parameters in which specific tasks and milestones are to be achieved. It is usually based on the project work breakdown structure (WBS), to which time frames are applied. The schedule templates below outline the phases, deliverables, milestones, tasks and activities of a “waterfall” project management approach. These templates do not contain any items related specifically to the product or service that result from the project. A breakdown of the project’s end product, desired output, needs to be added.

* [**Lessons Learned**](https://dir.texas.gov/node/443242)

The Lessons Learned document is used to identify and preserve the lessons learned on each project. The purpose of this document is to help the project team share knowledge gained from their experience. A successful Lessons Learned program will help future project teams repeat desirable outcomes and avoid deficient outcomes.

* + Lessons can be captured throughout the life of the project. It is not required (nor recommended) to wait until the end of the project to collect Lessons Learned.
* [**Project Closure**](https://dir.texas.gov/node/432645)

Before “closing” a project, releasing the project team, and moving on to the next thing, it’s important to validate that the project has delivered everything outlined in the WBS, that project related contracts and/or purchases are closed out, and (perhaps most importantly) that the project’s customer(s) and key stakeholders agree the project has delivered what it was meant to.

* + As part of this process, it’s recommended that a project “post mortem” is planned for some point in the future, to determine if the project has delivered the business value outlined in the Business Case. (It’s often difficult to determine this immediately after project is “launched”)
* [Project Management Plan](https://dir.texas.gov/resource-library-item/pm-essentials-project-management-plan)

The project management plan provides the details of the work that is to take place to achieve the desired end result or release of product. Depending on the size of the project, a plan can be abbreviated for small projects (such as the Project Monitoring Register), or include other plans for large projects.

* [Requirements](https://dir.texas.gov/node/432632)

A requirements document identifies the specific end results needed by the customer. Because requirements can be extensive or complex, especially in software development efforts, a requirements template helps elicit, clarify, and record what the customer is seeking at the end of the project. It also helps with testing during verification of the end result. Much of the scope of a project can be found in the requirements.

* [Agile Backlog](https://dir.texas.gov/node/432633)

A product backlog is a list of the new features, changes to existing features, bug fixes, infrastructure changes or other activities that a team may deliver in order to achieve a specific outcome.

* [Project Status Report](https://prod.dir.texas.gov/resource-library-item/pm-essentials-status-report-template)

Almost all projects require ongoing, regular communication regarding the progress it is making. A template helps with the communication by making the format predictable and complete.

* [Project Change Request](https://dir.texas.gov/node/436049)

Projects may undergo changes in scope (or requirement), schedule, or cost, at any time. A template helps formalize the request so that the request is recorded, impact can be reviewed, and the request itself approved/disapproved, by appropriate stakeholders.

* [Meeting Notes](https://dir.texas.gov/node/432642)

Project teams will benefit from having their decisions, issues and their resolution, new risks, new issues, and progress being made, recorded and distributed after a meeting. This template provides a structured way to capture such content.

* [Test Planning](https://dir.texas.gov/node/443240)

Verifying quality, especially if the result or product is large, complex, and/or requires multiple participants, usually requires planning. This template focuses on information technology test planning so that environments, resources, scripting, and testing are coordinated.

* [Testing](https://dir.texas.gov/node/432640)

Testing and test scripting enables the project team to assure that all requirements are met through a verification process.

* [Transition](https://dir.texas.gov/node/432643)

The delivery of a new product or result can significantly impact existing operations. The Transition Plan template provides an information technology-oriented blueprint on areas of readiness, cutover, communication, hypercare, knowledge transfer, and rollback, to maximize the positive impact of the go-live event.

# Section 3. PM Essentials Process(es) and Methodologies

There are many methodologies, or approaches, to delivering projects (a *methodology* is a system of practices, techniques, procedures, and rules used by those who work in a discipline). Some common methodologies in use today are Agile (such as Scrum), Waterfall, Critical Chain, Kanban, and Six Sigma.

PM Essentials recognizes that there is often not one way of doing things that fits perfectly. On many occasions pieces of any methodology can be applied to a given project. Therefore, PM Essentials does not advocate one approach over another. In the fast paced, ever-changing world that we live in, PM Essentials encourages an approach or mixture of approaches that delivers benefits to the customer in the quickest, most efficient and effective manner possible. The following provides direction on DIR projects that employ two of the methodologies:

### [PM Essentials Agile](https://dir.texas.gov/node/432628)

Agile Document instructs Project Managers how to use the PM Essentials templates to plan and execute a project using an Agile approach. For more information about Agile, please request access to the Application Development Decision Framework

### [PM Essentials Waterfall](https://dir.texas.gov/node/436045)

The Waterfall Document instructs Project Managers on how to use the PM Essentials templates to plan and execute a project using a more traditional, waterfall, approach.

# Section 4. Feedback

If you have any questions on PM Essentials or on project management practices, please contact DIR’s PPMO at [ppmo@dir.texas.gov](mailto:ppmo@dir.texas.gov).