



FDM 2-1-1 Project Management

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1.1 Originator

The Bureau of Project Development (BPD) is the originator of this chapter. Any questions or recommendations concerning this chapter should be directed to the BPD Proposal Management Section, DOT DTSD (Division of Transportation System Development) BPD Project Management mailbox. Terms and acronyms used in this chapter are defined in [Attachment 1.1](#) and [1.2](#).

1.2 Overview

This transportation project management chapter includes policies, standards, procedural requirements and guidelines used to deliver highway improvement projects undertaken by the Wisconsin Department of Transportation's DTSD.

Project management is using skills, knowledge, and resources to deliver the right project that meets the Division's and public's expectations for schedule, costs and serviceability. Project management is not the Facilities Development Process (FDP). The FDP is a series of activities which lead to the development of a highway improvement project. Project management is a means to allocate and control resources so the FDP is completed efficiently and timely.

Applying project management in accordance with the established policies, standards, procedural requirements and guidelines is required of everyone accountable and everyone responsible for providing safe and efficient transportation facilities. The breadth of project management includes establishing, defining, delivering, monitoring, managing changes and completing tasks required to deliver accurate and complete project documents and products that meet quality expectations for the transportation facility.

DTSD's project management begins at program development and carries through facility construction project closure. Project management methodology is applied throughout the following major phases:

- Project Initiation
- Design
- Construction (discussed in [FDM 2-15-1.7](#))

Each of these phases includes one or more processes to complete one or more products, services or projects.

The Project Management Institute (PMI) publishes the Project Management Body of Knowledge (PMBOK®). WisDOT's project management policies, guidelines, standards and practices are based on industry standards presented in PMI's PMBOK® and aligned with WisDOT's improvement program delivery requirements.

The PMBOK® definition of a project is "a temporary endeavor undertaken to create a unique product, service or result". [Project Management Institute. A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Fifth Edition. (2013). Copyright and all rights reserved. Material from this publication has been reproduced with the permission of PMI.] DTSD further organizes projects as the group of projects required to deliver the finished transportation facility. This group of projects is known as a design group and includes the design project, and one or more construction projects, as well as any projects required to clear the right of way for the highway projects, such as acquiring real estate, processing reimbursable utility and railroad adjustments.

The Division's highway improvement projects are grouped into programs funded through the transportation budget. More information about programs and funding can be found in the Program Management Manual (PMM). Detail Budget and Programming information can be found in PMM 06-010-10 - Budget and Programming. Management of each project in the project group within a program is essential to meeting Division program goals and expectations. The DTSD expects project teams to apply project management knowledge and skills to efficiently and effectively deliver projects on time within budget and with acceptable quality. The goal of the project manager is to continually improve the way projects are managed by using project management principles and philosophy.

Project Management offers many benefits to WisDOT. It brings a consistency to the management of scope, budget, and schedule for individual engineering projects across the department. In this sense it can serve as a training mechanism for new project managers, engineering, and technical staff. Project management is communication between the project manager and all project participants, and requires documentation of the project as it progresses through development. This documentation is a valuable asset in managing the project

through assessing status and progress in comparison to the approved plan, making adjustments and updating the plan. All of these benefits at the individual project level are multiplied when the data is looked at collectively. This accumulated project data builds a “knowledgebase” for the entire department and is used to manage program commitments. Delivery budgets and schedules based on project type can be examined over time, leading to better estimates and a more stable program. Complete and accurate project information can be used to assess the program at any given time, to see if the overall program is on time and within budget, or if adjustments will have to be made. Evaluations of lessons learned help ensure improvements in managing and delivering future projects. Documentation resulting from applying project management to delivering highway projects is beneficial in communications with the Division’s external business partners, such as the Federal Highway Administration during project authorization, or the Department of Natural Resources for specific reporting needs. Effective project management practices also provide statewide and program level summary reports needed by DOT managers. Effective project management practices help ensure accountability to the taxpayers.

The DTSD provides support for project management through the Transportation Project Management System (TPMS) which is developed, implemented and maintained by the Division’s Project Management Unit. The TPMS includes the applications, reports, training, processes, documentation, support, etc. that are needed to manage WisDOT improvement projects. The TPMS is based on industry standards for project management as established by the Project Management Institute and documented in the Project Management Body of Knowledge (PMBOK®). The PMBOK®’s knowledge areas, processes, tools and techniques provide the foundation that supports DTSD’s project management methodology. DTSD’s project management methodology is applying processes and procedures to advance projects through sequential phases that result in completing one or more products or services. This methodology includes application of knowledge and skills in managing the project plan, scope, schedule, costs, quality, team, communications, performance, risks and contracted services.

WisDOT’s project management plan consists of a collection of documents and recorded information for each of the following components (not all projects include documentation of all components):

- Change Management
- Scope
- Schedule
- Budget
- Quality
- Resources (In-house Staff)
- Procurement (Consultant services)
- Communication
- Risk Management
- Scope Baseline
- Budget Baseline
- Schedule Baseline

A WisDOT mega project (defined by the FHWA as a Federal “major” project) is one whose total estimated cost is \$500 million or more (Ref. Title 23, USC, Section 106(h)). This definition should not be confused with Wisconsin’s Major Project as defined in Wis. Stats. 84.013(1)(a). Mega projects must comply with Federal Highways specific mega project requirements for Cost Estimate Reviews (which include the Project Management Plan and the annual Financial Plan). Within the TPMS, corporate project data management tools are provided for documenting, monitoring, and managing plan components. The TPMS also supports the PMI’s standard for organizing project work and work flow through established process groups and knowledge areas.

Current accepted practice considers project management as a five-step process which has a logical sense of flow. The five steps are:

1. Initiating
2. Planning
3. Executing
4. Monitoring and Controlling, and
5. Closing

Interwoven into these five steps are several knowledge areas. Each knowledge area is an identified part of project management defined by its knowledge requirements and described in terms of its component processes,

practices, inputs, outputs, tools, and techniques. The current knowledge areas are:

- Change Management
- Scope
- Schedule
- Budget
- Quality
- Resources
- Procurement
- Communication
- Risk
- Stakeholders

The five step process and the knowledge areas are united under the Project Integration Management Process (refer to [FDM 2-15-1.1](#)).

1.3 Project Organization, Tools, Management and Reporting

The Department is responsible for a wide variety of improvement project types, from a simple resurfacing project to an extremely complex “mega” project. The project management efforts needed to complete a particular project successfully also vary widely. A Guidance Matrix was created to broadly show the differences between the project types and the myriad of program processes. This matrix lists key management resources and strategies that are critical to the success of any project while highlighting how those items differ between standard or typical improvement projects, higher profile projects and Mega projects. This matrix was intended to guide the Department's decision-making process as it considers the best approach to manage a growing number of high profile and mega projects.

The Project Types are defined as follows:

- Standard: Routine improvement projects that follow normal staffing and management procedures. Individual project characteristic(s) may be unique and at times justify additional resources, management tools and reporting.
- High Profile: Projects that are high cost, unusually complex or have a high level of public or congressional interest. Individual project characteristics may justify additional specialized staff and management positions, as well as additional processes and reporting tools to be used. Examples of these types of projects could be WisDOT's major projects, significant urban freeway rehabilitation or high cost bridges.
- Mega: Projects that meet the federal major project definition. These are typically a small number of the state's highest profile and highest risk projects. A mega project requires a larger investment of Department staff time, resources and reporting tools to ensure effective management and control of the project.

The Guidance Matrix is available at:

<https://wisconsindot.gov/rdwy/mega/02megaprojmat.pdf>

1.4 Program Controls

Program Controls (a concept initially implemented on Mega Projects) consists of proactive project management and begins managing the Mega Project corridor program in early design. The effort continues through construction, including finals and project closeout. Program Controls performs functions in the following four categories:

- Budget and Cost Management
- Schedule Management
- Issue Management
- Project and Document Management.

Program controls performs tasks that may exist in all WisDOT projects, but at a level of greater attention and detail, as well as additional tasks that become necessary either by requirement or simply by the size and complexity of Mega Projects. Program Controls provides tools and information to enable project management to make informed decisions. The deliverables of the Program Controls function are often key components and data sources of other Mega Projects best practices:

<https://wisconsindot.gov/rdwy/mega/megaprojguide.pdf>

One subset of program controls is document management. Properly managing project documents (by collecting, storing, and distributing information) allows timely and effective decision making on all projects. An important facet of document management is updating the project management plan (and the knowledge area management plans that comprise the project management plan).

1.5 Project Management Support

The Project Management Steering Committee (PMSC) is modal in representation and the sounding board for all important project management strategic directions and implementation efforts. Their mission statement is “To guide the implementation of the Transportation Project Management System in order to meet the corporate performance measures within the modal divisions. “ The evaluation and selection of the tools is the responsibility of the DTSD Project Management Steering Committee. Specific software tools used by WisDOT to manage the basic elements of a highway improvement project - scope, budget, schedule, communication - are found in [Attachment 1.3](#).

PMSC responsibilities:

- Provide a vision and direction for project management within the modal divisions.
- Develop a consistent definition of project management and related terms for the modal divisions to follow.
- Help the organization to understand the need for project management, including education, the process and people.
- Collect and identify the organization's project management expectations and informal needs based on the modal divisions' business needs.
- Work with constituencies to develop policies, processes and procedures for implementing project management.
- Provide recommendations to the modal divisions to maintain a priority level of project management effort.
- Seek necessary staff and financial resources to implement project management.
- Engage Bureau of Information Technology resources to implement and support the IT infrastructure of the transportation project management system (TPMS).

The Project Management Unit supports the PMSC by developing, implementing, maintaining and evaluating the TPMS. The Project Management Unit's mission statement is “Provide centralized leadership and administration for a standardized approach to project management practices and principles to achieve WisDOT's multi-modal project management goals.” The Project Management Unit envisions accomplishing this mission by leading development, implementation and maintenance of the applications, software, policies, processes, data management and reports required to provide an efficient and effective TPMS. The Unit also provides administrative and supportive assistance to Division resources applying project management practices and tools to delivering modal improvement programs.

Project Management Unit responsibilities:

- Identify opportunities for improving WisDOT's multi-modal project management policies and practices.
- Establish policies and employ best practices that meet accountability and transparency requirements.
- Recommend training curriculum and support approved courses
- Establish standardized documentation practices.
- Manage production of internal and external reports of WisDOT's multi-modal project delivery business.
- Provide corporate reports reflecting current and accurate information.

The Project Management Unit includes Project Management Support Specialists, a Program and Policy Analyst, and the Data Services Team members. The Project Management Support Specialists are responsible for developing, implementing, and supporting the TPMS, including the software tools listed in [Attachment 1.3](#). The Data Services Team is responsible for project management data sources and statewide corporate project management reports. The Program and Policy Analyst is responsible for program and policy development and review and report management.

LIST OF ATTACHMENTS

Attachment 1.1	Project Management Terms
Attachment 1.2	WisDOT Acronyms
Attachment 1.3	Project Management Software Tools