



## 1.0 Originator

The Chief of the Design Standards & Oversight Section is the originator of this chapter. Questions and comments on the contents of this chapter should initially be directed to the Region Program Control Design QA and then to the BPD Design Oversight Engineer.

## 1.1 General

The Facilities Development Process, as displayed in [Attachment 1.1](#) and as described in this chapter, is a comprehensive and effective system for the prosecution of improvement projects from inception to closeout. It encompasses the various phases and identifies the key milestones in the delivery of improvement projects.

The delivery of projects is a coordinated effort between the regions and statewide bureaus. Project management principles are applied to ensure quality projects are delivered on time and on budget.

## 1.2 Description

Projects move through four phases during the facilities development process as milestones are achieved. The phases and milestones are matched with accounting life cycles used in the management of WisDOT programs.

## 1.3 Process Outline

### 1.3.1 Project Phases

Phase names represent the activities being worked on during that phase. (i.e. Activities occurring on a project in the Project Delivery phase are working towards completion of the design study report.)

The four phases include:

1. Program Initiation
2. Project Definition
3. Project Delivery
4. Project Proposal Execution

Key elements related to each phase include:

- life cycle (Construction ID)
- milestones
- deliverables
- phase activities
- change management
- performance measures

### 1.3.2 Life Cycle (Construction ID)

For this process, life cycle (Construction ID) is referring to the Financial Integrated Improvement Program System (FIIPS) accounting life cycle of let construction projects. Life cycles track progression of a project through the phases.

### 1.3.3 Project Milestones

Milestones are significant points or events that must be accomplished to move a project through the Facilities Development Process.

### 1.3.4 Deliverables

Deliverables are products that are required to be completed before moving to the next phase or accomplishing a milestone. Deliverables listed for a particular phase may have been started in a previous phase but must be completed prior to advancing to the next phase:

Scope

- Scope is the work included in a project.

Schedule

- There are two types of schedules. One is the delivery schedule related to the design activities. The other type is related to the LET and non-let components.

Budget

- Budget is the financial resources needed to design and construct a project including non-let components.

Phase Deliverables

- Phase deliverables are specific items in addition to scope, schedule and budget that are required prior to completion of a phase.

### 1.3.5 Phase Activities

Phase activities are specific to a particular phase depending on a project's improvement type, scope of work and complexity. [Attachment 1.2](#) contains a list of phase activities that should be considered when developing a project. This list is not all inclusive. [Attachment 1.3](#) contains a summary of region-level approval delegation for documents created during the facilities development process.

### 1.3.6 Change Management

Change Management is a proactive process of tracking and administering changes during the delivery of a project. It includes specific policy, procedures, and performance measures for managing changes to the scope, schedule, or budget during the facilities development process. The purpose of change management is to first seek to eliminate, then control, and finally adapt to proposed changes without violating Departmental program goals or performance measures. Change management criteria differs based on program and region. WisDOT employees can refer to the Program Management Manual PMM 3-5-25 and region for guidance on monitoring the state highway rehabilitation (SHR) program, PMM 3-10-20 for SHR Large/High Cost Bridge, PMM 3-15-20 Backbone, PMM 3-1-20 Majors projects.

### 1.3.7 Performance Management

Performance management provides a powerful tool to inform the public and policymakers about the Department's progress in fulfilling our mission, demonstrating transparency, and being accountable for results. Performance management for the Facilities Development Process primarily measure the correlation to Departmental goals for adherence to schedules, appropriate delivery costs, accurate estimating, and quality throughout the process. WisDOT employees can find a full listing of performance measures, indicators, and business reports, along with a complete description on the [internal website](#).

Management on the website are organized by the functional area responsible for the management of the measure. Performance management measures and indicators that have a direct connection to the scope, schedule, budget, and quality within the facilities development process are displayed on page 2 of [Attachment 1.1](#) and include the following Table 1.1:

**Table 1.1 Performance Management for the Facility Development Process**

Performance Management	Name*	Description
Scope	<b>Program Loaded On-Time (PLOT)**</b>	Snapshot measuring if new Program Year (PY) 6 has been loaded to acceptable percent of allocated program levels and is compliant with Program Effective Measure requirements
	<b>Program Scoped On-Time at Scoping (PSOT)**</b>	Snapshot measuring percentage of dollars in program year 4 and 5 which have achieved Final Scope Certification Approved (LC 11)
	<b>Scope Adherence</b>	Measures the consistency of the project concept code from the initial scope stage (LC11) to the final design stage (LC20)
Schedule	<b>Design on Time</b>	Measures the ability of the department to deliver a project in the fiscal year that it is scheduled
	Program Life Cycle Report (APLP)	Monitors the program levels for the regular let and advanceable programs comparing to the established goals
	Delivery Risk Report	Used to identify, manage, and communicate region delivery risk for the State Highway Rehabilitation (SHR) program
	<b>Achieving PS&amp;E Milestones Measure</b>	Indicates if DNR, Corps of Engineers (COE), Traffic Management Plan (TMP), real estate (RE), railroad (RR), railroad real estate (RRRE) and utilities (UTL) are clear for letting by the PS&E due date for both scheduled and advanceable projects
	Advertise with Holds	Monthly snapshot of the number of projects to be advertised for bid with a hold of the award restriction placed on them.
Budget	Design on Budget Live (DOBL)	A tool to track and manage design delivery budget, which is eventually measured as the Design Delivery Cost Index (DDCI) as part of the Engineering Delivery Cost Index (EDCI) performance measure
	<b>Engineering Estimate Accuracy</b>	Compares the Department's construction cost estimate to the let (bid) estimate
	<b>Engineering Delivery Cost Index (EDCI)</b>	Delivery costs for a project expressed as a percentage of the let estimate. EDCI is made up of design delivery costs (DDCI) and construction delivery costs (CDCI).
Quality	<b>Quantities</b>	Measures the completeness and accuracy of the quantities provided annually to construction industry for upcoming construction season
	<b>Design Quality Index (DQI) (Addenda)</b>	Reflects the contractors and construction project leaders' evaluations of the completeness and constructability of the plan documents

\* Performance Measures are shown in **bold**. All others are either Performance Indicators or Business Reports.

\*\* DTIM Measures

**LIST OF ATTACHMENTS**

[Attachment 1.1](#)

Facilities Development Process

[Attachment 1.2](#) Facilities Development Process Phase Activities

[Attachment 1.3](#) Region Design Approval Delegation (SHR)

## **FDM 3-1-5 Project Initiation Phase**

November 30, 2018

### **5.1 General**

During the Project Initiation phase projects are incorporated into the program through an analytical process using a thematic approach that identifies a system need on a highway segment, prioritizes it for funding, and creates a project to address the need. WisDOT employees can refer to PMM 03-05-05.

### **5.2 Life Cycle**

The project starts at FIIPS Life Cycle 00 (LC00). The project moves to LC10 when conceptual scope, schedule and budget are determined.

### **5.3 Milestone**

There is no specific milestone associated with this phase.

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### **5.5 Deliverables**

#### **5.5.1 Scope**

Conceptual scope developed during this phase defines project limits, including structures, and highway improvement type.

#### **5.5.2 Schedule**

The conceptual schedule is set during this phase. It establishes the program let schedule which is the anticipated fiscal year for the construction project and the date for the project start milestone which allows enough time for the delivery of the necessary components to LET and award the project.

#### **5.5.3 Budget**

The construction estimate developed during this phase is a cost per mile level estimate with adjustments for known add-ons.

#### **5.5.4 Phase Deliverables**

Construction and design IDs are loaded.

Design ID is authorized.

Highway Improvement Type is identified.

Structures are identified.

Signed State/Municipal Financial Agreement (SMFA) for the design portion of the costs for connecting highway projects is obtained.

#### **5.5.5 Phase Activities**

Phase activities may occur in a particular phase depending on a project's improvement type, scope of work and complexity. [Attachment 1.2](#) contains a list of phase activities that should be considered when developing a project. This list is not all inclusive.

### **5.6 Change Management**

Change management is not in effect during this phase.

### **5.7 Performance Management**

Activities during this phase may impact performance measures that are recorded or reported during this phase which include:

- Program Loaded On-Time (PLOT)

See page 2 of [Attachment 1.1](#).

**10.1 General**

During the Project Definition Phase, existing conditions and known concerns are evaluated to develop the final scope, construction schedule and estimate, and delivery schedule and budget. Collectively these elements make up the Project Management Plan.

**10.2 Life Cycle**

The project is at FIIPS Life Cycle 10 (LC10) during this phase and moves to LC11 upon completion of this phase.

**10.3 Milestone**

The Project Initiation Complete milestone occurs at the beginning of this phase. Project start indicates the start of development of the project management plan which defines the final scope, schedule and budget.

The Preliminary Scope Complete milestone occurs during this phase. The preliminary scope is complete once the Safety Certification has been completed.

The phase ends with the Final Scope Certification Approved milestone. This includes completing necessary certificates along with the Final Scope Certification which documents the final scope, delivery and construction let schedules and delivery and construction budgets.

**10.4 This section left blank****10.5 Deliverables****10.5.1 Scope**

The final scope developed during this phase confirms the concept and identifies the specific work to be completed in the construction project.

**10.5.2 Schedule**

Milestone and work breakdown schedules are developed.

Schedules for LET and non-LET components are determined.

**10.5.3 Budget**

Construction estimates are major bid item (MBI) estimate with contingencies. Non-Let estimates are coordinated with the appropriate functional areas.

Design delivery budget is developed based on the scope and anticipated level of effort needed to complete the project within the Department's performance expectations for Engineering Delivery Cost Index and Design Delivery Cost Index (EDCI/DDCI).

**10.5.4 Phase Deliverables**

*(italics indicate certifications required for Final Scope Certification)*

Purpose and Need – [FDM Chapter 20](#)

*Safety (and Operations) Certification Document* - [FDM 11-38](#), [FDM 11-52-15](#)

*Bureau of Structure Certification Document* - [Bridge Manual](#)

Improvement Strategy Determination - [FDM 3-5](#)

Resource assignments - [FDM Chapter 8](#) (consultant contracts)

Project Development provides assignments to Section/Unit or/and consultant.

*Pavement Design Report (Certification)* - [FDM Chapter 14](#)

*Risk Based Environmental Scoping Template (Certification)* - [FDM Chapter 20](#) & [Environmental Document Forms and Tools](#)

Utility impact determination

Initial utility Impacts are estimated after the 1077 process is completed, and preliminary scope is defined to determine areas of potential utility impacts. The facilities which could be impacted are identified and the magnitude of the effort for relocation and costs are assessed.

**R/W impact determination**

The existing R/W limits are established, and the impacts are identified to the extent necessary to determine the magnitude of risk associated with schedule and scope. Typical deliverables include approximate number of parcels, approximate acreage, and type of interest needed.

**Railroad impact determination**

Railroad impacts and potential improvements are identified to the extent necessary to determine the magnitude of risk associated with schedule and scope. Typical deliverables include Railroad Companies names identified and the level of effort to complete the railroad coordination in consultation with the Region Railroad Coordinator.

**Signed SMFA and SMMA (State Municipal Maintenance Agreement)**

Items requiring cost share by the municipality are identified. Draft documents for SMFA and SMMA are prepared.

*Native American Lands of Interest (NALI) scoping determination (Certification) – [Working With Tribal Communities](#)*

*Resiliency - F4R (Certification) – [FDM 3-22](#)*

*Final Scope Certification - [FDM 11-4-3](#)*

**Risk assessment****10.5.5 Phase Activities**

Phase activities may occur in a particular phase depending on a project's improvement type, scope of work and complexity. [Attachment 1.2](#) contains a list of phase activities that should be considered when developing a project. This list is not all inclusive.

**10.6 Change Management**

Change management is not in effect during this phase.

**10.7 Performance Management**

Activities during this phase may impact performance measures that are recorded or reported during this phase which include:

- Program Scoped On-Time (PSOT)
- Program Life Cycle Report (APLP)
- Delivery Risk Report (DRR)

See page 2 of [Attachment 1.1](#).

**FDM 3-1-15 Project Delivery Phase**

May 16, 2023

**15.1 General**

Final scope is implemented with the delivery of the project documents.

**15.2 Life Cycle**

The project moves thru FIIPS Life Cycles 12 (LC12) and 15 (LC 15) during this phase. Upon completion of this phase, the project moves to LC20.

**15.3 Milestone**

The phase begins with the Final Scope Certification approved milestone.

The Resourcing Complete/Start Final Delivery milestone identifies when the project has been resourced and work on the final project delivery begins.

The Design Study Report Complete milestone identifies when the Design Study Report approval is accomplished according to [FDM 11-4-10](#).

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### **15.5 Deliverables**

#### **15.5.1 Scope**

Final scope should not change during this phase.

#### **15.5.2 Schedule**

Milestone and Work Breakdown schedules set during the Project Initiation phase are monitored and managed during this phase.

Let and non-let scheduled dates should not change during this phase.

#### **15.5.3 Budget**

Construction estimates at this phase include a detail breakdown with contingencies decreased from previous estimates.

Non-let estimates at this phase are detailed based on the project specific requirements.

Delivery budgets are monitored and managed during this phase.

#### **15.5.4 Phase Deliverables**

Final delivery resourcing, including executing consultant contract if not done previously.

Preliminary and final plans

Structure Survey Report - [Bridge Manual Chapter 6.2.1](#)

Preliminary and final structure plans

Environmental Document

Design Study Report

Railroad Project Submittal Package - [FDM 17-20-10](#)

Preliminary plat is completed to the point that it is considered in recordable condition and allows real estate acquisition activities to begin.

PS&E documents ([FDM Chapter 19](#) and region processes)

Exceptions to PS&E entered.

Required permits are received and approved. Permits may include traffic, operations, environmental, etc.

Risk assessment

#### **15.5.5 Phase Activities**

Phase activities may occur in a particular phase depending on a project's improvement type, scope of work and complexity. [Attachment 1.2](#) contains a list of phase activities that should be considered when developing a project. This list is not all inclusive.

### **15.6 Change Management**

Change management is in effect during this phase.

### **15.7 Performance Management**

Activities during this phase that affect the project scope, schedule and budget may have impacts on performance measures recorded, or reported during this or other phases which include:

- Scope Adherence
- Design On Time
- Program Life Cycle Report
- Delivery Risk Report (DRR)
- Achieving PS&E Milestone Measures
- Design On-Budget Live (DOBL)
- Quantities
- Design Quality Index (DQI)

See page 2 of [Attachment 1.1](#).

## **FDM 3-1-20 Project Proposal Execution Phase**

May 16, 2023

### **20.1 General**

During this phase project PS&E documents are reviewed by Bureau of Project Development and the project is advertised and let to bid.

### **20.2 Life Cycle**

The project is at FIIPS Life Cycle 20 (LC20) during this phase. The project moves to LC40 when the construction contract is awarded.

### **20.3 Milestone**

The PS&E Complete milestone marks the beginning of this phase. Project Let and Project Award milestones occur during this phase. Project Let is the date when contractor bids are open. Project Award is the date when the contract is awarded to the winning bidder.

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### **20.5 Deliverables**

#### **20.5.1 Scope**

Final scope should not change during this phase.

#### **20.5.2 Schedule**

The Milestone and Work Breakdown schedules should not change during this phase, unless the project is moved from an original programmed schedule date.

#### **20.5.3 Budget**

Changes to construction estimate during this phase are a result of plan checking or addenda.

#### **20.5.4 Phase Deliverables**

Plan check

Advertisement for bid

Addenda, if required

Risk assessment

Review bids

Design ID closed

#### **20.5.5 Phase Activities**

Phase activities may occur in a particular phase depending on a project's improvement type, scope of work and complexity. [Attachment 1.2](#) contains a list of phase activities that should be considered when developing a project. This list is not all inclusive.

### **20.6 Change Management**

Change management is in effect during this phase.

### **20.7 Performance Management**

Final reporting for the following performance measures that are recorded, or reported during this phase include:

- Achieving PS&E Milestone Measures
- Advertise with Holds
- Engineering Estimate Accuracy
- Engineering Delivery Cost Index (EDCI)

See page 2 of [Attachment 1.1](#).