

Facilities Development Process (FDM Chapter 3)

Fall 2016



Presenters

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Questions

- ▶ Hold all questions until the end.

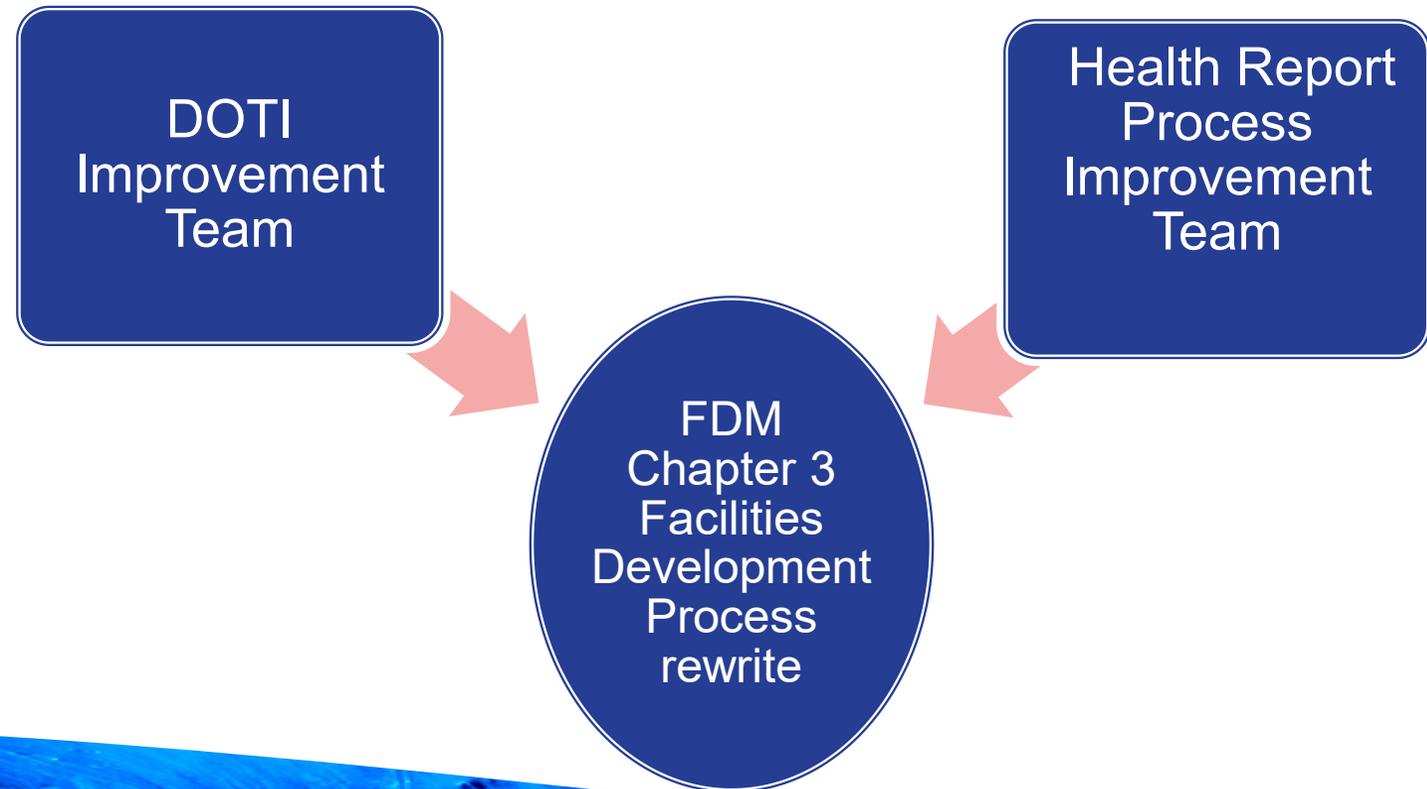


WHAT

- ▶ Facilities Development Process (FDM Chapter 3) has been rewritten to include uniform statewide definitions for the following:
 - ▶ Phases
 - ▶ Life Cycles
 - ▶ Milestones
 - ▶ Deliverables

WHY

- ▶ The need became evident as a result of work by two teams which included:





Identified Problems

- ▶ Consistent application of the process statewide.
- ▶ Time needed to mobilize resources.
- ▶ Scope changes.
- ▶ Projects started on time.



Other Considerations

- ▶ Planning/Programming performance measures.
- ▶ PMP 2.5 application upgrade.
- ▶ Guidance in FDM Chapter 3 outdated.

Solution

- ▶ Revise process outline.

- ▶ Provide a clear blue print of how we progress through the process.

First Step Update FDM Chapter 3



Refined - Process

Facilities Development Process - State Highway Rehabilitation (SHR)

Phase		Program Development	Project Management Plan	Project Resourcing	Preliminary Impact Review	Design Study	PS&E	Design Project Closeout		
Life Cycle (Construction ID)		00	10	11	12	15	20		40	
Milestone			Project Start	Project Management Plan Approved	Begin Design	Preliminary Impact Review Complete	Design Study Report Approved	PS&E Complete	Project LET	Project Award
Timeline		6 years prior to LET								
				6 months minimum for consultant resourcing (if required)	Begin Design start date based on scope elements of project					
Deliverables	Scope	*Program Level Scope	*Project Level Scope		*Project Level Scope reviewed	*Project Level Scope verified				
	Schedule	*Program Let Schedule	*Control Schedule *Detail Schedule *Let schedule date		*Control Schedule reviewed *Detail Schedule reviewed *Let schedule date verified *Non-let schedule dates	*Control Schedule verified *Let schedule date verified *Non-let schedule dates verified				
	Budget	*Program Level Construction Estimate	*Design Delivery Budget *Construction Estimate		*Construction Estimate *Non-Let Estimate	*Construction Estimate *Non-Let Estimate	*Construction Estimate	*Construction Estimate		
	Phase Deliverables	*Design ID Authorization * Improvement Type *Signed SMFA (design connect.hwy.)	*Purpose and Need *Scoping Intersection Control Evaluation (ICE) *Safety Screening Analysis (SSA) *Risk Assessment	*Assignments for resources *Executed consultant contract (if required) *Risk Assessment	*Alt. Intersection Control Evaluation (ICE) *Draft Preliminary Plan *Preliminary Structure Plan *Environmental Impacts *Utility Impacts *R/W Impacts *Railroad Proj. Submittal Package *Signed SMFA & SMMA (const.) *Risk Assessment	*Preliminary Plan *Preliminary Structure Plan *Signed Environ. document *Signed DSR *Preliminary Plat *Risk Assessment	*PS&E package *PS&E exceptions *Permits *Risk Assessment	*PS&E Exceptions *Plan check revisions *Advertisement for Bid *Addenda *Risk Assessment	*Review bids	
Phase Activities		see FDM Chapter 3 - attachment 1.2								
Change Management		Approved Project Management Plan establishes the original base line for applying Regional Change Management process.			Regional Change Management process in effect					
Link to Performance Measures										

Phase Elements

Phase	Program Development	Project Management Plan	Project Resourcing	Preliminary Impact Review	Design Study	PS&E	Design Project Closeout
Life Cycle (Construction ID)							
Milestone							
Timeline							
Deliverables	Scope						
	Schedule						
	Budget						
	Phase Deliverables						
Phase Activities							
Change Management							
Link to Performance Measures							

► Phase Name

- Correlates to work being done.

Phase Elements

Phase	Program Development	Project Management Plan	Project Resourcing	Preliminary Impact Review	Design Study	PS&E	Design Project Closeout
Life Cycle (Construction ID)	00	10	11	12	15	20	40

Milestone	
Timeline	
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
<small>Link to Performance Measures</small>	

▶ Life Cycle

- ▶ FIIPS accounting Life Cycle for the construction LET project.
- ▶ Tracks the refinement of the construction estimate and schedule date.

Phase Elements

Phase	Program Development		Project Management Plan		Project Resourcing		Preliminary Impact Review		Design Study		PS&E		Design Project Closeout					
Life Cycle (Construction ID)	00		10		11		12		15		20		40					
Milestone			Project Start		Project Management Plan Approved		Begin Design		Preliminary Impact Review Complete		Design Study Report Approved		PS&E Complete		Project LET		Project Award	

► Milestone

- Significant points identifying the start or end of a phase or event.

Timeline	
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
Link to Performance Measures	

Phase Elements

Phase	Program Development	Project Management Plan	Project Resourcing	Preliminary Impact Review	Design Study	PS&E	Design Project Closeout		
Life Cycle (Construction ID)	00	10	11	12	15	20	40		
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Timeline		6 years prior to LET							
			6 months minimum for consultant resourcing (if required)	Begin Design start date based on scope elements of project					

► Timeline

► Chart lists some general timeline information

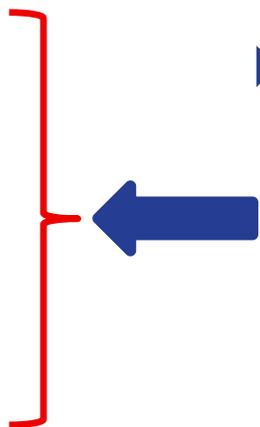
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
Link to Performance Measures	

Phase Elements

▶ Deliverables

- ▶ Required to be completed prior to advancing to the next phase.
- ▶ Scope, Schedule, Budget and Other Phase Deliverables

Phase	
Life Cycle (Construction ID)	
Milestone	
Timeline	
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
Link to Performance Measures	



Phase Elements

- ▶ Phase Activities
 - ▶ Task that may be occur during a phase.
 - ▶ FDM Chapter 3 attachment 1.2.

Phase	
Life Cycle (Construction ID)	
Milestone	
Timeline	
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
Link to Performance Measures	

see FDM Chapter 3 - attachment 1.2

Phase Elements

FDM 3-1 Attachment 1.2 Facilities Development Process Phase Activities - State Highway Rehabilitation (SHR)

- ▶ Phase Activities
 - ▶ FDM Chapter 3 attachment 1.2.

Project Management Plan phase

This is a list of activities that may occur during this phase. This list is not all inclusive. Some activities are listed under multiple phases. Improvement type will determine when activities take place and the level of effort required. Refer to appropriate FDM chapters and other manuals for specific guidance on activities.

Project Management Plan Phase Activity	Reference
Let schedule date	FDM 3-10-10 - Scheduling and Programming FDM 19-1-3 - Project Letting Process (PLP)
Public Involvement Plan	FDM 6-5-10 - Public Involvement Plan
Stakeholders list	FDM 6-5-10 - Public Involvement Plan Transportation Project Management System guidance (TPMS guidance)
Municipality and other agencies outreach	FDM 6-5-15 - Public Involvement Techniques
Initial data gathering and existing conditions: Asbuilts & field conditions Lane/shoulder widths Pavement slopes Side slopes Pavement thickness Right of way Access controls Permits Driveway Crosswalk Lighting Bike/pedestrian accommodations Bike plans	FDM Chapter 7 - Access Control FDM 11-5-5 - General Design Consideration - Access Control

Phase Elements

- ▶ Change Management
 - ▶ Follow Regional Change Management Process.

Phase					
Life Cycle (Construction ID)					
Milestone					
Timeline					
Deliverables	Scope				
	Schedule				
	Budget				
	Phase Deliverables				
Phase Activities	see FDM Chapter 3 - attachment 1.2				
Change Management	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 35%; padding: 5px;">Approved Project Management Plan establishes the original base line for applying Regional Change Management process.</td> <td style="width: 55%; padding: 5px;">Regional Change Management process In effect</td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> </tr> </table>	Approved Project Management Plan establishes the original base line for applying Regional Change Management process.	Regional Change Management process In effect		
Approved Project Management Plan establishes the original base line for applying Regional Change Management process.	Regional Change Management process In effect				
Link to Performance Measures					

Phase Elements

- ▶ Performance Measures
 - ▶ FDM Chapter 3 attachment 1.1 page 2.
 - ▶ Lists Performance Measures that directly correlate to the Facilities Development Process.

Phase	
Life Cycle (Construction ID)	
Milestone	
Timeline	
Deliverables	Scope
	Schedule
	Budget
	Phase Deliverables
Phase Activities	
Change Management	
Link to Performance Measures	



updated 6/27/2016/par

Facilities Development Process - State Highway Rehabilitation (SHR)

Phase		Program Development	Project Management Plan	Project Resourcing	Preliminary Impact Review	Design Study	PS&E	Design Project Closeout		
Life Cycle (Construction ID)		00	10	11		12	15	20	40	
Program Year			6	4					0	
Milestone			Project Start	Project Management Plan Approved	Begin Design	Preliminary Impact Review Complete	Design Study Report Approved	PS&E Complete	Project LET	Project Award
Performance Measures	Based on Program Year snapshot		★ Planning Program Loaded On-Time (PLOT)							
	Based on comparison of Program Year cost estimates		← Planning Program On-Budget at Scoping (POBS) →							
	Based on Program Year snapshot			★ Planning Program Scoped On-Time (PSOT)						
	Based on comparison of Life Cycle cost estimates			← Planning Program On-Budget at Let (POBL) →						
	Based on comparison of Life Cycle Let schedule dates			← PDS Delivery On-Time (DOT) →						
	Based on snapshot at quarterly PS&E date							★ TSS Achieving TSS milestones		
	Based on comparison of Life Cycle cost estimate to contractor bid							← PDS Engineering Estimate Accuracy →		
	Based on monthly snapshot							★ PDS Advertise with Holds		
	Based on annual snapshot									★ PDS Engineering Delivery Cost Index (EDCI)

update 9/16/2016

Division of Transportation System Development Performance Management website (for WisDOT employees)

<http://dotnet.dpsd/strategic/perfman/index.htm>

- Program Loaded On-Time (PLOT)** - is a performance measure assigned to the Planning functional area. This measure is a snapshot taken on July 15 of each year. The objective of the measure is to have Program Year 6 of the Region 3R Allocated Program be loaded with a financially balanced program meeting Program Effectiveness by the snapshot date.
- Program On-Budget at Scoping (POBS)** - is a performance measure assigned to the Planning functional area. This measure is a comparison of the construction estimates from Program Year 4 (Project Management Plan phase) to Program Year 6 (Program Development phase). The goal of this measure is to have the two construction estimates be within 10% of each other.
- Program Scoped On-Time (PSOT)** - is a performance measure assigned to the Planning functional area. This measure is a snapshot taken on July 15 of each year. The objective of the measure is to have 100% of projects in Program Year 4 of the Region 3R Allocated Program to have an approved Project Management Plan by the snapshot date.
- Program On-Budget at Let (POBL)** - is a performance measure assigned to the Planning functional area. This measure is a comparison of the construction estimates from Program Year 4 (Project Management Plan phase) to contractor bid at award (LC 40). The goal of this measure is to have the two construction estimates be within 10% of each other.
- Delivery On-Time (DOT)** - is a MAPPS performance measure assigned to the Project Development functional area. This measure is a comparison of the original fiscal year delivery schedule date determined in the Project Management Plan phase and captured with LC 11 snapshot to the actual delivery scheduled date submitted during the PS&E phase and captured with LC 20 snapshot. The goal of this measure is to have 90% of the project be within the same fiscal year.
- Achieving Technical Services Section (TSS) Milestones** - is assigned to the Technical Services functional area. This measure is based on a snapshot of clear projects at the quarterly PS&E submittals.
- Engineering Estimate Accuracy** - is a MAPPS performance measure assigned to the Project Development functional area. This measure is based a comparison of engineer's construction cost estimates submitted at PS&E Complete vs the low contractor bid at Project LET. The goal of this measure is to have 60% of the engineering estimates be within 10% of the contractors bids for the fiscal year statewide.
- Advertise with Holds** - is assigned to the Project Development functional area. This measure is a snapshot taken after each monthly Ad meeting. The objective of the measure is to have no more than 15% of total proposals advertised for letting with holds on them. "Advertise, hold for:" designations are required when a project does not meet all the requirements for letting/award at the time of advertising the project.
- Engineering Delivery Cost Index (EDCI)** - is assigned to the Project Development functional area. This measure is a fiscal year snapshot. The objective of this measure is to monitor the engineering delivery cost for both design and construction as a percentage of the total project cost. The goal is to keep EDCI below 25% for total project cost.

Facilities Development Process - State Highway Rehabilitation (SHR)

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Phase Activities		see FDM Chapter 3 - attachment 1.2								
Change Management		Approved Project Management Plan establishes the original base line for applying Regional Change Management process.			Regional Change Management process in effect					

[Link to Performance Measures](#)

Program Development Phase



- ▶ Phase at the beginning of the process
- ▶ Life Cycle: LC00
- ▶ Scope: Program Level
- ▶ Schedule: Program Let Schedule
- ▶ Budget: Program Level Construction Estimate

Program Development Phase



- ▶ Other Phase Deliverables include:
 - ▶ Design ID Authorization
 - ▶ Highway Improvement Type
 - ▶ Signed State Municipal Financial Agreement (SMFA) for the design of projects on connecting highways

Program Development Phase



- ▶ End of Phase
 - ▶ Move to LC10
 - ▶ Move to Project Management Plan Phase

Project Management Plan Phase

Program Development

Project Management
Plan

Project Resourcing

- ▶ Life Cycle: LC10
- ▶ Milestones: Project Start and Project Management Plan Approved
- ▶ Scope: Project Level
- ▶ Schedule: Control and Detail; Let Schedule
- ▶ Budget: Construction Estimate and Design Delivery Budget

Project Management Plan Phase



- ▶ Other Phase Deliverables include:
 - ▶ Purpose and Need
 - ▶ Scoping Intersection Control Evaluation (ICE)
 - ▶ Safety Screening Analysis (SSA)
 - ▶ Risk Assessment

Project Management Plan Phase



- ▶ The Project Management Plan is approved once all required business areas concur.
- ▶ ***The approved Project Management Plan sets baseline for performance measures and change management.***
- ▶ End of Phase
 - ▶ Move to LC 11
 - ▶ Move to Project Resourcing Phase.

Project Resourcing Phase



- ▶ Phase provides time in the delivery schedule to mobilize resources either in-house or consultant.
- ▶ Life Cycle: LC 11
- ▶ Milestones: Project Management Plan Approved and Begin Design
- ▶ Scope, Schedule and Budget unchanged.

Project Resourcing Phase



- ▶ Other Phase Deliverables include:
 - ▶ Assignments for resources
 - ▶ Executed consultant contracts (if required)
 - ▶ Risk Assessment

Project Resourcing Phase



- ▶ End of Phase
 - ▶ Life cycle remains at LC11
 - ▶ Move to Preliminary Impact Review Phase

Preliminary Impact Review Phase

Preliminary Impact Review

Design Study

- ▶ Life Cycle: LC11
- ▶ Milestones: Begin Design and Preliminary Impact Review Complete
- ▶ Scope, Control and Detail Schedule, and Let Schedule reviewed and verified
- ▶ Schedule: Non-Let schedules
- ▶ Budget: Construction Estimate and Non-Let Estimates

Preliminary Impact Review Phase

Preliminary Impact Review

Design Study

- ▶ Other Phase Deliverables include:
 - ▶ Alternative Selection Intersection Control Evaluation (ICE)
 - ▶ Draft Preliminary Plan
 - ▶ Preliminary Structure Plan
 - ▶ Environmental, Utility, R/W Impacts
 - ▶ Railroad Project Submittal Package
 - ▶ Signed State Municipal Financial and Maintenance Agreements
 - ▶ Risk Assessment

Preliminary Impact Review Phase

Preliminary Impact Review

Design Study

- ▶ End of Phase:
 - ▶ Move to LC12
 - ▶ Move to Design Study Phase.

Design Study Phase

Preliminary Impact Review

Design Study

- ▶ Life Cycle: LC12
- ▶ Milestones: Preliminary Impact Review Complete and Design Study Report Approved
- ▶ Scope, Schedule and Budget verified.

Design Study Phase

Preliminary Impact Review

Design Study

- ▶ Other Phase Deliverables include:
 - ▶ Preliminary Plan
 - ▶ Preliminary Structure Plan
 - ▶ Signed Environmental document
 - ▶ Signed Design Study Report
 - ▶ Preliminary Plat
 - ▶ Risk Assessment

Design Study Phase

Preliminary Impact Review

Design Study

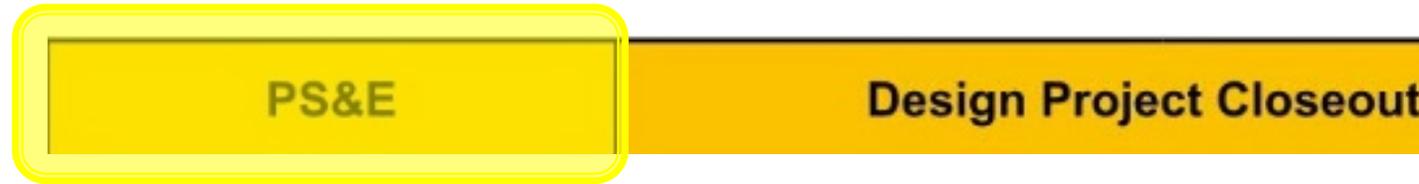
- ▶ End of Phase
 - ▶ Move to LC 15
 - ▶ Move to PS&E Phase

PS&E Phase



- ▶ Life Cycle: LC15
- ▶ Milestones: Design Study Report Approved and PS&E Complete
- ▶ Scope, Schedule and Budget should typically remain unchanged.

PS&E Phase



- ▶ Other Phase Deliverables include:
 - ▶ PS&E package
 - ▶ PS&E exceptions
 - ▶ Permits
 - ▶ Risk Assessment

PS&E Phase



- ▶ End of Phase:
 - ▶ Move to LC 20
 - ▶ Move to Design Project Closeout Phase

Design Project Closeout Phase



- ▶ Life Cycle: LC20
- ▶ Milestones: PS&E Complete, Project Let and Project Award

Design Project Closeout Phase



- ▶ Other Phase Deliverables include:
 - ▶ PS&E exceptions
 - ▶ Plan check revisions
 - ▶ Advertisement for bid
 - ▶ Addenda
 - ▶ Risk Assessment
 - ▶ Review bids



Direct Benefits

- ▶ Projects started on time
- ▶ Time needed to mobilize resources
- ▶ Scope changes
- ▶ Consistent application of the process statewide



Indirect Benefits

- ▶ A clear understanding of the expectations with flexibility for regional differences.
- ▶ Less stress on resources.
- ▶ Improved relations with internal and external partners.
- ▶ Overall improvement of performance measures not directly correlated to the Facilities Development Process.



What's Next?

- ▶ FDM Chapter 3 updates
- ▶ Update conflicting guidance
- ▶ Regional guidance to supplement the updated process

Resources

Link to Facilities Development Process documents @
<http://wisconsindot.gov/Pages/doing-bus/eng-consultant/cnslt-rsrces/rdwy/training-fdm3.aspx>

FDM Chapter 3 Section 1 Process Overview (narrative)

FDM Chapter 3 Attach 1.1 (deliverables & performance measures)

FDM Chapter 3 Attach 1.2 (phase activities)

FDM Chapter 3 Fall 2016 training webinar & slide show presentation

Q&A

