

**U.S. DOT Federal Railroad Administration  
Office of Passenger and Freight Programs**

**Monitoring Procedure 20 - Project Management Plan (PMP) Review**

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**1.0 PURPOSE**

FRA expects the Grantee to develop and complete its rail project(s) using sound project management strategies. The Monitoring and Technical Assistance Contract (MTAC's) PMP review will help FRA determine whether the Grantee's legal, administrative, management, technical capacities, and capabilities are adequate to effectively and efficiently carry out all aspects of the project, and will identify where improvements may be made.

**2.0 KEY PRINCIPLES**

The PMP is the Grantee's overarching project implementation plan that spans the entire project period. It should be a guide for action. The PMP should describe the Grantee's authority, capacity, policies, practices, and procedures related to all phases of the project, and should set forth the specific action plan for implementing the project, and managing the scope, cost, schedule, quality, and associated risks.

The expectations set forth in this Monitoring Procedure mirror the following requirements:

49 U.S.C., United States Code, 2011 Edition.

Title 49 – TRANSPORTATION, SUBTITLE V - RAIL PROGRAMS

PART C - PASSENGER TRANSPORTATION, CHAPTER 244 - INTERCITY PASSENGER RAIL SERVICE CORRIDOR CAPITAL ASSISTANCE Sec. 24403 - Project management oversight

(a) Project Management Plan Requirements.—To receive Federal financial assistance for a major capital project under this chapter, an applicant must prepare and carry out a project management plan approved by the Secretary of Transportation. The plan should provide for—

- (1) adequate recipient staff organization with well-defined reporting relationships, statements of functional responsibilities, job descriptions, and job qualifications;
- (2) a budget covering the project management organization, appropriate consultants, property acquisition, utility relocation, systems demonstration staff, audits, and miscellaneous payments the recipient may be prepared to justify;
- (3) a construction schedule for the project;
- (4) a document control procedure and recordkeeping system;
- (5) a change order procedure that includes a documented, systematic approach to handling the construction change orders;
- (6) organizational structures, management skills, and staffing levels required throughout the construction phase;
- (7) quality control and quality assurance functions, procedures, and responsibilities for construction, system installation, and integration of system components;
- (8) material testing policies and procedures;
- (9) internal plan implementation and reporting requirements;
- (10) criteria and procedures to be used for testing the operational system or its major components;
- (11) periodic updates of the plan, especially related to project budget and project schedule, financing, and ridership estimates; and
- (12) the recipient's commitment to submit periodically a project budget and project schedule to the Secretary.

### 3.0 REQUIRED DOCUMENTS

The MTAC will review the Grantee's PMP and PMP sub-plans such as Management Technical Capacity and Capability Plan; Safety and Security Management Plan; Real Estate Acquisition and Management Plan, etc.

### 4.0 SCOPE OF WORK

The MTAC should review the Grantee's PMP submittal, typically provided once per project phase, although interim submittals may be required for particularly long phases or gaps between phases; changes in policies, procedures, or procurement methods; changes in organization leadership or responsibilities; and program, logistics, or scope changes.

Appendix A below includes a PMP Table of Contents (TOC). Using this TOC as a guide, the Grantee should provide FRA with a PMP developed to the level of completeness shown for each phase. Also, the Grantee should appropriately scale the PMP to the complexity and size of the project.

The PMP should demonstrate the Grantee's technical capacity and ability to:

1. Effectively and efficiently manage the proposed project
2. Recognize and cooperate with project oversight activities by FRA/MTAC
3. Provide directly or by contract:
  - a. Adequate professional and technical expertise for project design and construction
  - b. Qualified services for testing and start-up work
  - c. Qualified services for construction inspection and supervision
4. Ensure the project conforms with:
  - a. Grant agreements
  - b. Applicable statutes
  - c. Regulations, codes, and ordinances
  - d. Safety standards
5. Establish and maintain adequate internal controls for:
  - a. Scope, cost, schedule, risk, as related to design and construction
  - b. System operations and service schedules
  - c. Financial planning and reporting for capital and operations

For Grantee PMP submissions during each phase, the MTAC will characterize and assess it; provide findings; conduct analyses as required; provide professional opinions and recommendations for improvement, considering the following:

1. Usefulness as an overarching project implementation plan
6. Adequacy and soundness of PMP elements and sub-plans
7. Level of completeness for current phase, and readiness for the next phase
8. Indication of PMP elements and sub-plans recommended for acceptance or revision

For each phase below, the MTAC should review and summarize its findings, professional opinions, and recommendations for improvement, considering the adequacy and soundness of the Grantee's PMP for this phase and readiness for the next phase. The MTAC should provide suggestions and recommendations to the Grantee to help resolve issues that arise.

#### 4.1 Cursory Review

After receiving the Grantee's PMP submission, the MTAC will quickly scrutinize the PMP for adequacy and completeness. If the PMP is unsatisfactory the MTAC will notify the appropriate FRA Regional Manager in the Office of Passenger and Freight Programs with recommendations for improvement. If directed, the MTAC will provide technical assistance to the Grantee. The Grantee will then complete necessary revisions and resubmit.

#### 4.2 Planning and Conceptual Design

1. Early Workshop:
  - a. FRA or its MTAC may recommend that the Grantee conduct a PMP workshop to establish an atmosphere of partnership and collaboration and help define baseline standards of performance for project management. Collaboration among the Grantee's leadership and project teams, FRA, host railroads, other transportation agencies, and other relevant third parties early in the project life increase understanding of requirements, responsibilities, and authorities. Vital project implementation topics can also be fully explored. FRA can share Federal requirements for a major capital project and explain the oversight process. Discussion topics may include:
    - Elements and sub-plans of the PMP
    - Agreements required
    - Real estate requirements; eminent domain authority and protocols
    - Service planning methods
    - Environmental process, and permitting requirements and protocols
    - Delivery methods, authorities, and protocols
  9. The MTAC should review the PMP for the Grantee's description of its intended management approach to:
    - a. Planning and concept design (**see MP 32A**)
      - Establishment of project rationale, goals, objectives, and desired outcomes
      - Establishment of the range of alternatives; screening and selection; Alternatives Analysis Report
      - Service planning criteria and analysis; Service Development Plan
      - Agreements among project stakeholders
      - Ridership analysis
      - Criteria for station location, infrastructure design
      - Environmental analysis; Tier I NEPA, Service NEPA
      - Public participation
      - Financial planning
    - b. Roles and responsibilities and the interaction of various project participants

#### 4.3 Agreements among Project Stakeholders

The MTAC should discuss with FRA the expectations for agreements within individual projects and then proceed with monitoring and technical assistance accordingly. Agreements are required to be complete and approved by FRA prior to start of final design and/or construction or the related expenditure of funds for final design and/or construction.

- **Construction and Maintenance Agreements**  
These agreements set the terms for the construction of the project including all appropriate Federal flow down requirements, commitment to construct the project, and terms for long term maintenance. The agreements are between the Grantee/Rail Project Sponsor and Host Railroad or any railroad owning property on which the Project is to be undertaken.
- Any Agreements necessary to Operate Service over the infrastructure improved with FRA grant funding (e.g. Operating Agreement between the Passenger Train Operator and the Host Railroad).
- Service Outcome Agreements (SOA), as required at the direction of FRA, are for a 20-year term for quantified performance benefits such as additional daily round trips, improved on-time performance or fewer minutes of delay, reduced scheduled trip times, and increased capacity. The agreements include provisions on enforcement and dispute resolution, the term of the agreement, modification procedures, and, at a high-level, maintenance and operations commitments related to the project. Each Service Outcome Agreement (SOA) is uniquely tailored to the parties and project conditions, however all SOA contain enforceable written commitments made by project stakeholders to ensure the successful improvement of passenger rail service through an FRA-funded project. Usual signatories include the Grantee, the service operator, and the host railroad or owner of the rail line.

#### **4.4 Preliminary Engineering / NEPA (refer also to MP 39)**

1. The MTAC should assess the Grantee's project management approach PE (**see MP 21**). The PMP should demonstrate a well-conceived plan for the design process and project controls.
  10. The MTAC should review the adequacy and soundness of the Grantee's PMP for:
    - a. Demonstration of Technical Capability and Capacity to perform the work of this phase and adequately prepare for the next, including leadership and sufficient professional expertise to complete the work.
    - b. National Environmental Policy Act Coordination: Verify that the Grantee's environmental review is consistent with FRA policy, and that plans for managing and implementing environmental mitigations are incorporated into design documents, cost estimates, and schedules.
    - c. Design Control:
      - Confirm the Grantee's plans and procedures are appropriate for design control, including establishment of design criteria; reviews for consistency with the service plan goals; value engineering; life-cycle cost; and safety/security considerations.
      - Confirm procedures for incorporating comments/changes to drawings and specs
      - For Design Bid Build or Design Build, confirm the PMP stipulates an appropriate level of completion of drawings and specifications
    - d. Project Control:
      - Review the Grantee's control procedures for documents, cost, and schedule with the project team and third parties and assess how well they are followed
      - Review the Grantee's baselines for the capital cost estimate and schedule

- Verify that a risk assessment has been conducted before PE completion, including risk identification, assessment, mitigation, and development of adequate contingency amounts for cost and schedule at project hold points
- e. Project Delivery and Procurement:
- Review the Grantee’s plan for selecting the project delivery and procurement methods; verify the selected methods are reflected in project schedules and cost estimates; for Design Build, confirm that Grantee is implementing appropriate plans and procedures for project delivery and procurement.
  - Evaluate the Grantee’s proposed approach to construction management, bidding/awarding contracts, and procuring materials, equipment and vehicles
- f. Review PMP sub-plans for adequacy and soundness. Sub-plans include:
- Grantee Technical Capacity and Capability (MP 21)
  - Quality Assurance/Quality Control (MP 24)
  - Safety and Security Management (MP22)
  - Real Estate Acquisition and Management (MP23), esp. as related to ROW and utilities; consistency with The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act)
  - Vehicle Acquisition and Management (MP 38)
  - Finance Plan (MP 49) review for funding sources and cash flow relative to schedule

#### 4.5 Final Design Review

1. The MTAC should assess whether the Grantee’s project management approach is suitable to carry the project through bid, award, construction, and into revenue operations. For Design Bid Build, the Grantee’s design team will conduct final design (see MP 39).
11. The MTAC should review and summarize its findings and opinions, and provide recommendations on the adequacy and soundness of the Grantee’s PMP for:
  - a. Demonstration of Technical Capability and Capacity to perform the work of this phase and adequately prepare for the next, including adequate leadership and sufficient professional expertise to complete schematic design/design development for track, structures, signals, and stations.
  - b. National Environmental Policy Act (NEPA) Coordination - Verify Grantee incorporates mitigation work into the design documents, cost estimates, and schedules
  - c. Design Control - Confirm that the Grantee has implemented appropriate plans and procedures for design control. In particular, confirm that:
    - Plans and procedures are consistent with design criteria
    - Coordination and change control procedures are in place across design disciplines
    - Soil testing and site surveys are complete and adequate
    - Coordination with third parties is adequate
    - For Design Bid Build, project documents for bidding are complete
  - d. Project Controls - Confirm that Grantee is implementing project controls in all aspects, including procedures for:
    - Cost and schedule control
    - Risk management (see that a risk assessment “refresh” is conducted during Final Design, including risk identification, assessment and mitigation, and development of adequate contingency amounts for cost and schedule at project hold points)

- Dispute resolution during construction
- e. Project Delivery and Procurement: (refer to MP 32D)
  - Confirm Grantee's plans and procedures for project delivery and procurement.
  - Review Grantee's schedule for bidding construction/procuring vehicles.
  - Review division of labor between railroad forces (Force Account) and contractors
- f. Labor Agreements, Labor Policies
- g. Review the following PMP sub-plans as noted for PE above
- h. Assess plans and procedures for readiness to start construction of fixed infrastructure:
  - Construction administration
  - Construction management
  - Construction inspection
  - Coordinating construction work by third parties
  - Construction phasing plans – sequencing the work
  - Staging plans - site logistics
  - Construction change order and shop drawing document flow
- i. Assess the Grantee's plan for readiness for Startup and Operations, including:
  - Testing of systems and equipment
  - Coordination with other transportation entities
  - Training of train engineers and crews, station attendants, personnel for maintenance facilities, track, signaling, and roads
  - Commissioning of stations, maintenance facilities
  - Closeout of construction contracts

#### **4.6 Construction**

1. The MTAC should review the construction portions of the PMP in final design, as noted above, at 40 percent bid (mid-stream to allow course correction if needed), and at 50 percent constructed (again mid-stream to allow course correction if needed).
2. The MTAC should update its evaluation of the Grantee's application of the following:
  - j. Technical capability and capacity to perform the work of the construction phase and adequately prepare for operations; including evaluation of adequacy of railroad force account work – scheduling of crews, types and numbers of crews
  - k. Implementation of environmental mitigation measures as part of construction
  - l. Implementation of its procedures for configuration and control during construction of contract documents / shop drawings / change documents
  - m. Use of project controls - for documents, cost, schedule, risk, and dispute resolution
  - n. Adequacy of construction inspection and administration
  - o. Compliance with labor agreements and related policies
  - p. Use of construction management and administration procedures
  - q. Follow through on plans and procedures in PMP sub-plans

#### **5.0 REFERENCES - SEE MP 01**

**APPENDIX A**

**PMP Table of Contents**

**KEY**

- P – Preliminary or draft
- C – Required to be complete
- M – Modification is required

PMP Table of Contents					
	Elements	Planning	PE	Final Design	Construction
<b>1.0</b>	<b>Introduction</b>				
	Purpose of the Project Management Plan	C	M		
	Project History	C			
	Project Scope	P	C		
	Schedule	P	C	M	M
	Budget	P	C	M	M
	Finance Plan (see Sub-Plan below)	P	C	M	M
	Delivery Strategies	P	C		
<b>2.0</b>	<b>Project Leadership and Team Organization</b>	P	C		
	Grantee Leadership Organization Chart, roles/responsibilities	C			
	Project Team Organization Chart, roles/responsibilities	C	M	M	M
	Contact information for all project personnel	C	M	M	M
	Plan to provide Technical Capacity and Capability (see Sub-plan below)	P	C	M	
<b>3.0</b>	<b>Government/Community/Labor Relations and Railroad Agreements and other Third Party Agreements</b>	C			
	Plan for management of: <ul style="list-style-type: none"> <li>• Legislative and government relations</li> <li>• Intergovernmental and utility agreements</li> <li>• Stakeholder communications, public participation</li> <li>• Agreements with host railroads and other transp entities</li> <li>• Labor relations including project labor agreements, establishment of wage rates and classifications, wage and hour requirements, and adherence to state and local requirements, etc.</li> </ul>	P	C	M	M
<b>4.0</b>	<b>Planning/Concept Design</b>				
	Plan for management of Alternatives Analysis including: <ul style="list-style-type: none"> <li>• establishment of project rationale</li> <li>• identification and selection of alternatives</li> <li>• management of development of infrastructure and service plans</li> <li>• management of process to achieve service outcome agreement</li> </ul>	C			

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	Elements	Planning	PE	Final Design	Construction
<b>5.0</b>	<b>Environmental Analysis</b>	P	C		
	Description of approach to environmental analysis including: <ul style="list-style-type: none"> <li>• development and management of alternatives</li> <li>• management of resource agency permit acquisition</li> <li>• management and implementation of mitigation actions</li> </ul>	P	C	M	
<b>6.0</b>	<b>Design Control</b>				
a	Description of relationship between service plans and infrastructure -- capacity, operations, stations, support facilities; <ul style="list-style-type: none"> <li>• plan for management of service outcome agreement</li> <li>• plan for management of other agreements related to service and operations</li> </ul>	P	C	M	
b	Plan for Design Standards and Criteria	P	C	M	
c	Plan for investigation and testing including site surveys, geotechnical and materials investigation before and during design, and during construction	P	C	M	M
d	Plan for Preliminary Engineering	P	C		
e	Plan for development and management of Final Design		P	C	
f	Plan for safety and security (see Sub-plan below)	P			
g	Plan for QA QC (see Sub-plan below)	P	C		
h	Plan for real estate RAMP (see Sub-plan below)	P	C		
i	Plan for vehicles (see Sub-plan below)	P	C		
j	Plan to manage changes, config control for design/const	P	C	M	M
k	Plan for management of design reviews including: <ul style="list-style-type: none"> <li>• Value Engineering</li> <li>• Coordination Reviews</li> <li>• Constructability Reviews</li> <li>• Reviews for Operations and Maintenance</li> <li>• Other peer or industry reviews</li> </ul>	P	C	M	

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	Elements	Planning	PE	Final Design	Construction
<b>7.0</b>	<b>Management and Project Controls</b>				
a	Scope Control and Configuration - approach to mgmt	P	P	C	
b	Budget and Cost Control - approach to mgmt including descriptions of cost estimating methodologies and assumptions	P	P	C	
c	Schedule Control - approach to management including descriptions of scheduling methodologies and assumptions	P	P	C	
d	Risk Control - approach including risk identification, evaluation, management; including contingency control,	P	P	C	M
e	Overall Project Tracking and Reporting	P	C	M	
f	Document Control and Records Management including approach to review, track changes, distribution, storage	P	C	M	
g	Dispute / Conflict Resolution Plan	P	P	C	
<b>8.0</b>	<b>Project Delivery, Procurement, Contract Administration</b>				
	Contracting Authority	C			
	Procurement Strategy - selection of delivery methods	P	C		
	Procurement Procedures (for design, legal, const contracts)	P	C		
<b>9.0</b>	<b>Construction Management</b>				
	Construction Management Plan including: <ul style="list-style-type: none"> <li>• Independent Verification and Validation</li> <li>• Construction Inspection including Materials Testing Procedures</li> <li>• Site Logistics Plan incl Maint. of Traffic/Ops</li> <li>• Coord w Third Parties affected by construction</li> </ul>		P	C	M
	Construction Contract Administration including plan for: <ul style="list-style-type: none"> <li>• Processing shop drawings, bulletins, RFIs</li> <li>• Negotiating and approving change orders and claims</li> <li>• Establishing substantial completion and final completion</li> <li>• Coordination with Third Parties interested in construction</li> </ul>			C	M
<b>10.0</b>	<b>Start Up, Revenue Operations, Construction Close Out</b>		P	M	C
	Plan for testing and start-up			C	M
	Plan for training of staff, train operators, others			C	M
	Construction contract closeout, including obtaining warranties, testing results, O&M manuals, spare parts, etc.			C	M
	Administrative closeout			C	M

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	<b>PMP SUB-PLANS</b>	Planning	PE	Final Design	Construction
<b>11.0</b>	<b>Management and Technical Capacity /Capability Plan (MP 21)</b>	P	C	M	
<b>12.0</b>	<b>Quality Assurance, Quality Control Plan (MP 24)</b>	P	C	M	
<b>13.0</b>	<b>Safety and Security Management Plan (MP 22)</b>	P	C	M	
<b>14.0</b>	<b>Real Estate Acquisition and Management Plan (MP 23)</b>	P	C	M	
<b>15.0</b>	<b>Vehicle Acquisition and Management Plan (MP 38)</b>	P	C	M	
<b>16.0</b>	<b>Risk and Contingency Management Plan (RCMP) (MP-40)</b>	P	C	M	M
<b>17.0</b>	<b>Finance Plan (MP 49)</b>	P	C	M	M