OFFICE OF THE INSPECTOR GENERAL
MASSACHUSETTS

Short Guide to Project Management Recommendations from the Federal Acquisition Institute

Pandemic Funding Oversight Unit

February 2024

Jeffrey S. Shapiro, Esq., CIG
Inspector General
Office of the Inspector General
Commonwealth of Massachusetts

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JEFFREY S. SHAPIRO
Inspector General

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Good Day:

The Massachusetts Office of the Inspector General (OIG) has a statutory mission under Chapter 12A of the Massachusetts General Laws to mitigate and prevent fraud, waste and abuse of public funds and assets at the state and municipal levels. Pursuant to this authority, the OIG has summarized pertinent advice about project management gleaned from the Guide for Project Managers issued by the Federal Acquisition Institute.

The OIG created the Pandemic Funding Oversight Unit (PFO) in 2022 to coordinate the prevention and detection of fraud, waste and abuse of funds awarded to Massachusetts public entities in response to the COVID-19 pandemic. The PFO reviews administration and monitoring plans for programs that use pandemic funds, conducts trainings and issues guidance to assist jurisdictions in overseeing programs supported with pandemic-related public awards.

Project management skills are important because they ensure that public leaders identify and mitigate risks, manage resources effectively, ensure that projects are completed on time, and that solutions are effective at achieving the goals that led to their creation. This short guidance briefly summarizes advice about project management from the Federal Acquisition Institute, communicated in its Guide for Project Managers. This guidance breaks up the process of project management into discrete steps and provides a list of considerations that public leaders will find helpful as they approach projects.

If you have any questions about project management, please reach out to the OIG at 617-727-9140.

Sincerely,

Jeffrey Shapiro, Esq., CIG
Inspector General

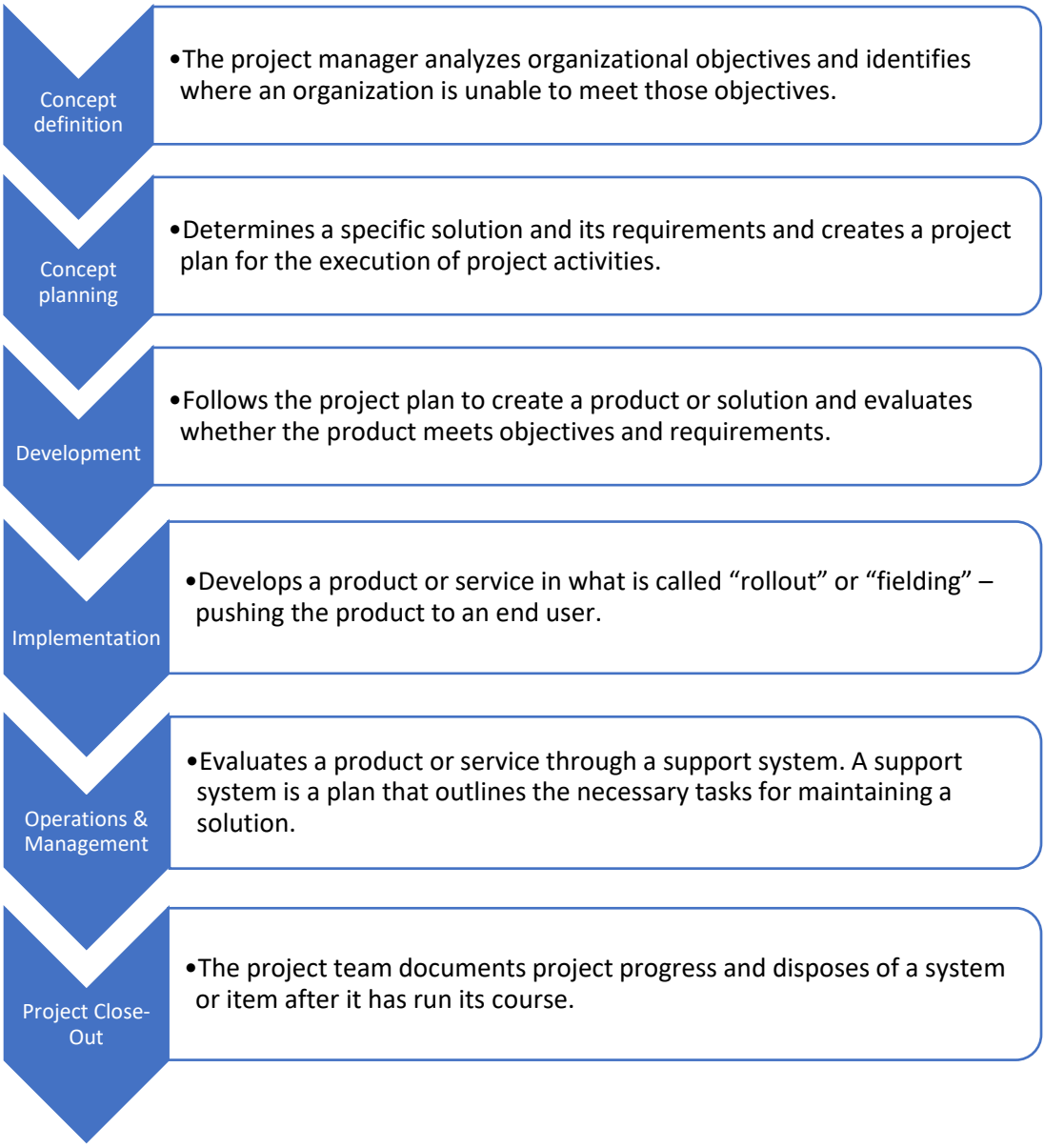
Short Guide to Project Management Recommendations from the Federal Acquisition Institute

In 2015, the Federal Acquisition Institute (FAI), which provides trainings and guidance to federal procurement specialists, created the Project Manager's Guidebook (Guidebook). Through the Guidebook, the FAI provides tools for federal employees to successfully manage projects. While these guidelines are tailored to federal-level project managers, many of the included strategies are applicable to project management at the state and municipal levels. The Office of the Inspector General (OIG) has summarized herein key takeaways for state and municipal project managers.

The Guidebook recommends three project management strategies: (1) developing requirements through strategic planning; (2) creating a budgeting and execution plan; and (3) managing the two phases of acquisition governance: the acquisition life cycle and the procurement cycle.[1]

These strategies apply to each stage of a project's life cycle. These stages include:

[1] Federal Acquisition Institute, Project Managers Guidebook (2015), p. 8, *available at* FAI-Project-Managers-Guidebook.pdf. *Also available at* https://www.fai.gov/content/project-managers-guidebook-now-available



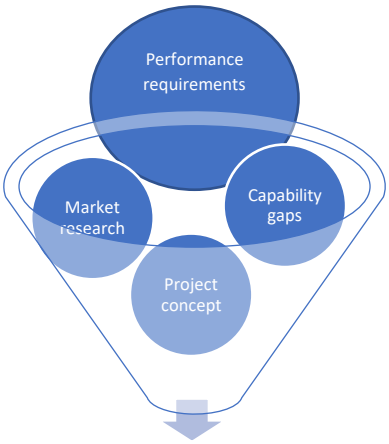
Developing Requirements

Effective project management requires the development of requirements – the conditions or capabilities that should be present in a product, service or result to satisfy its specifications.[2] Both the federal Government Accountability Office and several federal Inspectors General report that project requirements are far too often inadequately developed.[3] This leads to program challenges and failures resulting from increased costs, as well as schedule and performance risks. To develop strong

[2] *Id*. at 9.

[3] *Id*. at 20.

requirements, project managers must conduct strategic planning, consisting of a variety of steps. These steps include:



1. **Identifying and prioritizing capability gaps,** which are instances where an agency does not have the resources needed to complete a project.
2. **Conducting market research,** which includes collecting relevant information about potential concepts and strategies.
3. **Developing the project's concepts,** which includes formulating the necessary ideas to understand how a solution performs in addressing capability gaps.
4. **Developing performance requirements,** which describe the functions a desired solution must perform or attributes that a solution must possess. A project manager can devise performance requirements by asking a variety of informed questions such as "How fast must a solution work?" or "How reliable must the solution be?"[4]

Creating a Budgeting and Execution Plan

After developing clear requirements, the project manager should begin planning and executing a budget for the project. There are four distinct phases involved in the budgeting process: planning, programming, budgeting and execution.

During the planning phase, a project manager identifies all capabilities required to achieve the project's strategic goals. In programming, a project manager outlines the application of resources to achieve strategic objectives. In the budgeting phase, a project manager prices programs and justifies funding for those programs. Additionally, during budgeting, a project manager typically organizes a plan for executing the budget. Execution is the final phase of the cycle, where a project manager initiates and monitors projects.

Project managers should monitor projects throughout the project life cycle. The necessary level of monitoring can vary depending on the size and scope of the project at hand, but the basic monitoring process is applicable to every project. A project manager should monitor a project at each step of the project's life cycle; it is important the project manager does not wait until the project closeout stage to monitor project progress. If the project manager waits until the final stage of the project to monitor project progress, critical deficiencies could be missed from previous stages of the project life cycle. The

[4] *Id*. at 47.

project manager should think of monitoring a project in basic terms, like painting a house. If the house needs three coats of paint, the project manager should arrange site visits to monitor the project by checking the house after each separate coat of paint. If the project manager waits until the final coat has been painted, there could be critical parts of the house that were missed by the previous two coats. Instead, the project manager should monitor the progress of the project by inspecting the house after each coat of paint is completed.

The project manager should also follow the guidelines of the project as they are outlined. It is imperative that the project manager monitors each step of the project according to the contract's terms. This means the project manager must ensure the proper amount of work is completed for each phase of the project, and that it is done in the correct manner according to the specified contracted conditions.

In Massachusetts, the OIG recommends that parties document all contracts in writing. The project manager should maintain records of all materials and services procured with public funds throughout the project. It is essential that a project manager maintains a robust recordkeeping system in anticipation of an audit of any part of the project by any agency funding the project. This recordkeeping system is often referred to as a project file, where the project manager records all goods and services acquired during the project life cycle.

Acquisition Governance

Project managers are responsible for managing the procurement process – known as acquisition governance – from the start of a project to its closure. Acquisition governance consists of several tools project managers use to strengthen procurement practices. Acquisition governance includes two broad categories – the acquisition life cycle and the procurement cycle.

A. Acquisition Life Cycle

Throughout each phase of the project life cycle, project managers are responsible for measuring tasks, deliverables and milestones. One way project managers can measure project progress is by conducting gate reviews, which are reviews required by a project plan that must be completed before project managers authorize implementation of the next stage of the project plan. A gate review gives stakeholders the opportunity to review how the project progressed in the previous phase and plan work for the following stage.

Each stage of a project life cycle involves a specific form of acquisition governance. Different forms of acquisition governance may include:

1. **Systems engineering.** Systems engineering is a process where project managers use management skills, as well as a variety of scientific, engineering and technical skills, to research, develop and plan projects.

2. **Testing and evaluation.** During testing, a project manager is responsible for collecting data on different potential solutions. The project manager then evaluates test data to determine which solution is most effective.

3. **Scheduling.** Scheduling involves planning for all work throughout a project's life cycle. This includes developing planning documents such as a scope statement, project charter, team charter, and work breakdown structure that help project managers prepare for important events throughout a project's life cycle.

4. **Quality control and assurance.** A project manager should assess quality by measuring how well the solution meets requirements.

5. **Project baselines.** Project baselines are benchmarks the project management team uses to evaluate a project's progress. Project baselines are typically threshold- or objective-oriented. Threshold baselines are used by project managers to understand the least amount of work needed to complete a project. The project manager should generate additional project control measures or risk mitigation actions in the event of deviations or breaches of project thresholds. The tactics a project manager should use to create additional change or risk management measures will be discussed later in these recommendations. Objective baselines are values desired by the user that the project manager seeks to obtain. Objective values are used when the user specifies a requirement that will go beyond the level of the threshold. Objectives could represent operationally meaningful, time-critical or cost-effective values that will exceed thresholds. It is important to note that unless a specific objective is required by the user, objectives are the same as thresholds.

6. **Earned value management.** Earned value management is a tool project managers use to evaluate how much a project is worth, by comparing schedule, cost and scope.

7. **Risk management.** Risk management describes a plan the project manager creates to understand the uncertainties a project presents. The project manager should create a risk management plan – known as the risk register – that will list all identified risks hindering project completion and analyses of how to navigate those risks. The project manager should update the risk register as the project progresses through the project life cycle to account for any unforeseen risks the project team must deal with.

8. **Change management.** A project manager should create a change management plan that describes how the project team plans to deal with change, such as an unforeseen lack of available resources or staff turnover that could lead to a project delay. In the change management plan, the project manager should identify potential changes to begin preparing and planning for the effects on the project. The project manager can edit the change management plan throughout the project life cycle as changes occur so the project team can respond accordingly.

The Guidebook recommends that project managers develop and use several planning documents that will help the project manager understand and apply these tools, including the scope statement, project charter, team charter and work breakdown structure.[5]

The scope statement provides a narrative description of what the project aims to accomplish, and how the project team intends to achieve a solution. *See* Appendix A for a project scope statement template.

The project charter states the project's objectives, identifies success measures, and gives the project manager the authority to begin work on the project. *See* Appendix B for a project charter template.

The team charter provides rules for how the project team will work together. *See* Appendix C for a team charter template.

[5] *Id*. at 121.

The work breakdown structure (WBS) breaks down project work into smaller pieces. The work breakdown structure should be created following four steps – creating a list of all project requirements, identifying the deliverables for each requirement, dividing the work into small manageable pieces, and reviewing the work breakdown structure to ensure it includes all activities necessary to complete the project. The WBS is critical because it is the primary source for scheduling all activities and tasks in a project, which a project manager will use as an initial blueprint. *See* Appendix D for a work breakdown structure template.

B. The Procurement Cycle

The procurement cycle represents the second major aspect of acquisition governance and has four phases: pre-solicitation, solicitation, source selection and administration. A project manager begins the pre-solicitation phase of the procurement cycle by identifying needs and ensuring funding is available for contractor products or services, conducting market research and providing the procurement office with proper documentation so it can begin the requisite competitive process. These documents include a statement of work, a performance work statement, evaluation criteria if applicable, and an independent government cost estimate.

In the solicitation phase, the project team should consult municipal and state law to determine the appropriate procurement method, which may include requests for proposals, requests for responses, or invitations for bids. Once RFPs, RFRs or IFBs are posted, offerors are allowed to ask questions and make comments. In the final step of the solicitation phase, the project manager and the project team answer technical questions in coordination with state and local government.

In the source selection phase, the project manager and project team should evaluate proposals by identifying strengths, weaknesses and deficiencies from each proposal. The administration phase is the final phase of the procurement, where jurisdictions execute competitive procurement processes as required by applicable town bylaws, state law and federal rules.

Final Thoughts and Resources

State and municipal project managers should use these project management principles to help ensure the effective achievement of project goals. Using the concepts laid out by FAI will help project managers ensure the effective completion of projects and programs.

For more information on Massachusetts procurement, please see Chapter 30B of the Massachusetts General Laws, otherwise known as the Uniform Procurement Act, as well as the Massachusetts OIG's Chapter 30B manual. If you have questions, please use the Chapter 30B hotline provided by the OIG and the OIG's procurement bulletins. For more information on project management, please visit the Federal Acquisition Institute's website.

Appendix A: Project Scope Statement – Hypothetical Example

Project	Project Manager	Date
Painting houses in housing development in Municipality A.	Devin Barton	Insert the date of project conception here.

Scope Description

Project Scope Categories	Description
Project Description	• Municipality A decided to build a new housing development on an empty plot of land. After the development was finished, Municipality A outsourced the painting of the development to Company B, which sent a project manager to oversee the project's progress.
Project Deliverables	• The development's houses should be fully painted in 3 months. • Each house should be painted in a week. • It should take less than two days for each coat of paint to dry.
Project Exclusions	• Company B and the project team are not responsible for any upgrades to the houses' foundations • Company B is not responsible for painting anything other than houses, including, but not limited to welcome signs, street signs and mailboxes.
Project Constraints	• The project manager from Company B may run into supply chain disruptions leading to scarcity in certain colors and types of paint. • Company B may have problems acquiring manual labor. • Work may be slowed by the size of Company B's workforce.
Project Assumptions	• Company B anticipates painting all houses in Municipality A's development within three months. • Company B assumes it has a big enough workforce to complete the project on time. • Company B understands it may have to hire outsourced labor if its workforce is not large enough to complete the project. • Company B acknowledges it is only responsible for painting houses, and nothing else. • Company B's project manager understands that compliance with state and federal procurement regulations is required when acquiring materials.
Project Dependencies	• The on-time completion of the project depends on the Company B project manager acquiring the paint. • The on-time completion of the project depends on the workforce at the disposal of Company B.

Appendix B: Project Charter

Project Charter

1. **Project Purpose**
    - The project manager from Company B was hired to paint houses in a development recently built by Municipality A.
2. **Objectives and Success Criteria**
    - The project manager assigned to the project by Company B aims to paint the development in 3 months.
        - Each house should be complete in a week.
            - Completion of a house entails the final (third) coat of paint being applied.
    - Each house in the development needs three separate coats of the correct paint colors and type
3. **High-Level Requirements and Descriptions**
    - Each house must be painted in three separate coats.
        - The project manager will monitor each coat of paint, ensuring the project team has done a sufficient job of painting each coat.
4. **Identified Risks**
    - Company B does not finish painting houses on time.
    - Company B is not able to procure the right color or type of paint.
    - Company B does not correctly paint each coat on every house.
5. **Summary Milestone Schedule**
    - All houses should be completed within three months' time.
    - Each house should be painted and completed within a week.
    - Each coat of paint should take no more than two days to complete, at which time the project manager should monitor the coat.
6. **Summary Budget**
    - The project manager and upper management from Company B acknowledge that the project team will need X amount of dollars to complete the project.
    - That money will go toward acquiring resources to complete the project on time, such as paint and brushes.
7. **Project Approval Requirements**
    - Municipality A will send an inspection team to oversee the project once the project manager from Company B deems the project completed.
        - This inspection team will determine whether the project was successful or not.
    - The project manager will determine the completion of the project, but will consult with management from Company B before contacting Municipality A.
8. **Authorizations**
    - The project manager from Company B is authorized to oversee their workers. The project manager is also authorized to monitor paint coats and to determine whether they meet Municipality A's standards as well as Company B's standards.

Appendix C: Team Charter

Team Charter Components	Description

Background	• The project manager from Company B is responsible for painting each house in the development Municipality A built.
	  ○ The project manager identifies how each part of the workforce fits into the project, from laborer to CEO of Company B
	  ○ Next, the project manager identifies stakeholders involved, including management at Company B, public officials at Municipality A, workers under their management, and those individuals who will live in the new housing development.

Mission and Objectives	• The mission statement for this project, developed by the project manager, says that the project team from Company B will successfully and efficiently paint each house in Municipality A's development within the three-month window.
Roles and Responsibilities	• The project manager from Company B oversees the project. • Foremen and Workers underneath the project manager are responsible for completing the project.
Team Operations	• Company B's project manager operates their team through delegation. • The project manager delegates work to teams of painters who take on houses one at a time, coat by coat of paint.
Guide to Communication and Decision-Making	• Each team will report back to the project manager on progress and any setbacks throughout the project life cycle. • The project team will hold weekly progress meetings to understand how the project is progressing toward the final goal and whether the project is on schedule.
Signatures	• The final stage of the team charter occurs at a kick-off meeting where the project managers and all other workers sign the team charter, acknowledging their roles and responsibilities.

Appendix D: WBS

Work Breakdown Structure Components	Description
Goal 1: Planning and Foundation for Painting	• The project manager from Company B will split its workforce into teams to paint as many houses as possible in the development. • Similarly, the project manager will create a plan to delegate work to teams and the managers running those teams. • The project manager will work with Company B to acquire the correct amount of material (paint) to adequately complete the project.
Goal 2: Painting Housing Development	• The project manager specifies how to paint each house in a linear fashion to make the manager's monitoring duties easier. • After each coat of paint, each team will contact the project manager to conduct a coat review. • A house should be completed each week, and the project manager will conduct a monitoring review to make sure each house is painted in the way spelled out in the requirements.
Goal 3: Monitoring and Reporting	• The project manager devises a plan for monitoring the completion of each house. • The plan includes inspections after each coat of paint is completed and a final inspection upon completion of the third and final coat of paint. • The project manager will also devise a plan for reporting proper documentation to Company B and Municipality A.