

# Aligning Project Delivery for Success in a Program Management Environment

*By Jean Brittingham, CH2M HILL<sup>1</sup>*

Over the past decade, the knowledge of how to successfully manage extensive capital improvement programs (CIPs) has grown considerably. Innovative management information systems linked to project and program controls, enhanced delivery capability through the use of integrated owner-consultant teams, and the strengthening of project management within engineering divisions have provided real improvements and significant cost savings for program delivery. It has become evident that a clearly defined project management approach, consistently applied on all projects within the capital plan, may be the most important first step in preparing an organization for world class delivery of a capital program.

This is largely because it has become increasingly clear that there is a critical and dynamic inter-relationship between program management and project management. This relationship, and the concurrent interdependencies, should be understood prior to choosing a program management approach for delivering your Capital Plan. The purpose of this paper is to discuss and clarify the relationship between program management and project management, and define the attributes of a strong project management delivery approach.

## How Program Management and Project Management Relate To and Enhance Delivery of Large Capital Programs

While definitions for program management abound, it is unarguably an approach to delivering capital projects where the collective goal of the projects within that CIP is to deliver a vision that supports and achieves the long-term goals of the organization. While a collection of projects may figuratively represent the CIP from which capital funds are committed, many organizations have learned that unless all projects within the CIP are defined, prioritized, and included in the CIP because they are critical to achieving a stated vision, funds can easily be spent without realizing the desired results.

Because of this, project inclusion in the CIP is subservient to the organization's strategic goals as defined and prioritized by the leadership of the organization with considerable stakeholder consideration. A programmatic approach provides a consistent and defined structure (e.g., Work Breakdown Structure, business objectives, and performance indicators), sets a broad scope for each project, defines the interface among projects, ensures that funds are spent wisely and efficiently, and monitors compliance with program goals and standards.

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<sup>1</sup> Jean Brittingham is a Vice President in the Civil Infrastructure Group for CH2M HILL and the Global Technology Director for Program and Construction Management. In this role, she works with program teams across the enterprise to assess, capture and continually improve the methodologies and tools that support program management. She has developed a best practices approach to the deployment of these technologies for clients throughout North America and internationally. Jean is also involved in sustainable development and has co-developed and authored a model for applying sustainability principles to transportation and other infrastructure projects. Jean has an MBA with an emphasis in change management and leadership and is adjunct faculty to the University of Cambridge's Programme for the Environment.

## Programs Rely on Consistently Delivered Projects

Program management tools and processes ensure the dependencies among multiple projects are managed in a concerted manner to serve the strategic vision of the organization. At the same time, program success is highly dependent on the successful execution of the individual projects of the program. Because projects are the foundation of the program, if delivery fails at the project level, the overall program will eventually fail. For this reason, most organizations with critical CIP delivery challenges have chosen to formalize and institutionalize a consistent and rational approach to project delivery and management, including strong and consistent staff training in project management and delivery.

Since a project is defined as a temporary endeavor, with a clear beginning, middle, and end that results in the creation of a specific facility, product or service, project management focuses on the successful delivery of a work package to achieve those defined goals, milestones, and deliverables. There are a number of “right” ways to deliver *individual* projects, and a number of good approaches already developed. Large organizations often find that they have a number of practices within their project management approach that, if consistently applied, would result in better projects throughout the program. It is often the case that project delivery challenges occur not because the best practices do not exist, but because the existing best practices have not been formalized, standardized or trained.

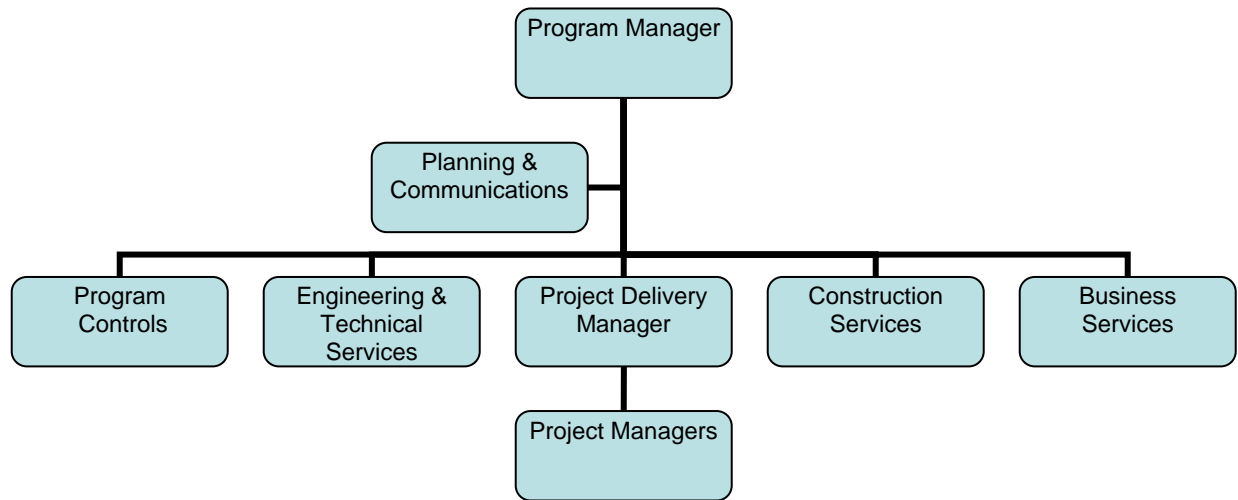
Organizations such as the Project Management Institute (PMI) have developed a basic approach to project management, captured in the Project Management Body of Knowledge (PMBOK™), that is modified and used extensively in far-ranging industries. Most infrastructure agencies have chosen to develop somewhat customized approaches, building from PMBOK™ or delivery approaches developed by others, such as CH2M HILL’s Project Delivery System.

## Consistency in Project Delivery Is Crucial to A Program’s Success

Despite various project delivery approaches, within the environment of a large program, the options for variance in the delivery of individual projects are decreased. With the need for integrated scheduling and reporting, fully understanding programmatic risks, and assuring quality across all projects in the program, a uniform and consistent approach to project management is paramount.

To address this issue, most agencies or organizations implementing projects within a program have chosen to highlight project management as a separate and distinct career path. This means that project managers are chosen for a specific skill set, trained in that skill set, and their accountabilities and authority are shifted from their past focus (usually technical in nature) to the focus on successful management of projects. A typical organizational structure for program management reflects this focus (see following page).

## SAMPLE PROGRAM MANAGEMENT ORGANIZATION STRUCTURE





## Clearly Defined Roles and Responsibilities Strengthen Program Performance

When shifting to a strong project delivery model in which empowered and capable project managers are reporting to a project delivery director at the program level, program and project roles must be clarified. Confusion is avoided by holding chartering sessions and providing training to help project managers, project team members, and support personnel understand how to be successful in their new and evolving roles.

One of the key contributors to “stall-outs” at program mobilization is a lack of consistent, direct and meaningful communication from management about the importance of various roles, recognition of the success factors for projects, and definition of how individuals will be evaluated in the program management environment.

A comprehensive and agreed upon RASI (**R**esponsible, **A**ccountable, **S**upport and **I**nform ) matrix created early in the development of the program can become a cornerstone of the program approach and can help to mediate the challenges of “who is doing what for whom” as they arise. The RASI matrix clearly identifies the person and organization that must take responsibility for decisions and how they will be supported by others. This clarification allows project managers and their teams to do what is necessary to get their projects done, meet the deliverables and schedules, and achieve the desired quality, while staying aligned with the overarching program and strategic goals.

Further clarity is provided by ensuring all employees understand the relationship between the projects being delivered and the planning and strategic focusing effort that results in the definition and support structure of the program. Typically, initial program accountabilities cascade in the following manner:

The Program Management Team 	Project Managers and the Project Teams 
Defines and articulates the vision and goals, and ties program goals to project outcomes through CIP validation and prioritization	
Assures and provides funding for projects	
Assigns the preliminary scope, budgets and schedule for projects	
Provides a set of common processes, procedures, and tools that are utilized by the individual projects of the program	Consistently uses and applies the agreed upon processes, procedures and tools for project delivery.
Provides quality assurance systems	Assures quality control in compliance with program QA system
Provides technical standards for all projects encompassed by the program	Produces projects within the program technical standards
Assembles staff, assigns them to projects, and handles their HR needs	Assigns specific responsibilities to team members and supervises their day-to-day activities
Monitors the schedule and budget of all projects through a program control function that reports at the programmatic level	Reports progress and Estimates at Completion in both time and money for each project on a regular basis
Provides overall planning of the whole program	Plans the individual projects in greater detail under the program planning umbrella
Provides coordination and optimization support that is not available at a project level. This support includes phasing and sequencing, scheduling of interdependent tasks, synchronizing inter-project deliverables, optimizing resources across projects, optimizing cost and finance utilization, managing program risk	Executes project delivery in a manner that meets project and program objectives while optimizing project resources and effectively managing project risk

## Project Management and Delivery

When the goals of individual projects within the program are defined, typically during the planning and studies phase, they are assigned unique project designations and numbers to track future assets and capture all project-related information for each project. Because projects are progressive and develop in steps that can be seen to align with functional organizations, the typical historical approach to projects was to assume that a project would progress through the functional phases (e.g., planning, pre-design, design, construction) effectively, assuming the good intent and attention of those assigned to the project in each functional area. While this approach does seem logical, in practical terms, it just does not work. Organizations with major capital programs are large, complex and busy. The demands on the employees, who are often assigned to multiple projects, are great. Therefore, the “important” is often sacrificed to the “urgent” and project deliverables, deadlines, and quality suffer.

For this reason, the PMI and the design and construction industry have acknowledged the need for “cradle-to-commission” project managers. A project manager is assigned to manage all aspects of the project from concept through construction to close-out and turn-over to the

owning or operating organization. For the most part, the project manager has a single mission – deliver the completed project. The project manager is responsible for forming a team to manage the entire process of project delivery for her/his projects. These resources are assigned from the functional areas shown in the typical program organization chart and other support groups within the organization. Best results are seen when the core teams on the most critical projects are consistent throughout the life of the project. These team members include project engineers, appropriate technical team members, construction and/or resident engineers and project assistants for large projects. The consultants and contractors under direct contract for the project also report to the project manager.

The project manager is responsible for the effective use of team resources throughout the lifecycle of the project. The program management organization assures support for project managers and project teams through training in the use of the tools and process (scope, cost, schedule, quality, controls) and key competencies (communications, risk management, collaboration) of project management. Through the use of reporting systems, “gate” or phase reviews, and lessons-learned debriefs, the practices of effective project management are reinforced in the organization.

Risks are managed at both the project and program level, but the risk type and magnitude are significantly different. Program risks tend to be political and financial, and create a ripple effect throughout the program. Project risks tend to concern technology choices, staffing, and project stakeholder expectations. A project manager is not expected to manage program risks and may not even be trained to do so. However, program managers are responsible for predicting programmatic risks and putting mitigation strategies in place in so that projects are not affected.

The most effective project management is achieved in those organizations that make project and program management distinct career paths within the organization. The shift to focusing on project needs in an integrated fashion is often difficult for even the best of employees when they have been educated, trained and rewarded for dealing effectively with technical issues. For this reason, a clear definition of the role of the project manager vs. the project engineer is critical to the success of both. Clear rewards and acknowledgement for success in these career areas supports the development of a capable cadre of program and project managers. Additionally, many organizations have learned that good project managers can be sourced from unusual places within the organization and do not have to be experts in the project’s technical area.

## Other Organizational Benefits of a Program and Project Management Delivery Approach

- A programmatic approach to applying lessons learned from project to project helps to decrease the incidence of the same type of problem resulting in the same type of mistake and creates the opportunity for a learning organization to emerge.
- A great body of knowledge that is agency-specific can be built to address potential loss of specific project history, knowledge, and expertise through retirement and other employee turnover. This typically requires a specific focus on development of a knowledge management system.

- Development of a project management approach and the tools that accompany it, including customized Project Management Manuals, allows for a more seamless transition when project managers change.
- Project management is a great training ground for the future leaders of the organization. Increasingly difficult projects and sub-programs can be given to high-achieving project managers to prepare them for future program or functional roles.
- Project management “demystifies” the relationship between projects, and increased reporting and transparency improves individual and organizational accountability as well as the business acumen of the employees.

## Conclusion

The world of project delivery has changed significantly over the last 30 years. In the last decade, a specific focus on practical approaches for successful project and program delivery has resulted in the development of many systems and tools to support the success of project managers. Working in an environment that is standardized and maintained by industry resources, project managers have the greatest opportunity to achieve success on their projects. Appropriately chosen projects, effectively delivered in the framework of programmatic control and oversight, create the highest probability for long-term success in delivering large and complex capital programs.