

LARGE PROJECT MANAGEMENT AND OVERSIGHT

**Report to
The Senate Subcommittee on Transportation, Treasury
and General Government
The House Subcommittee on Transportation, Treasury
and Independent Agencies**

Prepared by:

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Purpose:

This report responds to the large project management and oversight issues identified by Congress and covers broad agency-wide initiatives and specific activities related to large Federal-aid highway projects.

Requirement for the Report:

The Joint Explanatory Statement of the Committee of Conference accompanying the Consolidated Appropriations Resolution, 2003, requested the Federal Highway Administration (FHWA) to develop a strategy for achieving a more multi-disciplinary approach towards large project management and oversight activities, and to report on this strategy by May 15, 2003. The specific language in the report (House Conference Report No. 108-10 at 1263, 2003) follows:

“Large Project Management and Oversight—As evidenced by the high profile difficulties that have plagued the Central Artery, Woodrow Wilson Bridge, and Springfield Interchange projects—including dramatic cost increases and significant schedule delays—the need for improvement of FHWA’s financial oversight and accountability on large projects cannot be overemphasized. Although the FHWA has made notable progress in converting these difficulties into constructive catalysts for change, the conferees remain concerned about project management. The Inspector General has noted that FHWA’s traditional engineering focus has inhibited the effective scrutiny of other major project drivers such as financing, cost controls, and schedule performance. To successfully refocus on the evaluation of each State’s processes for managing and overseeing projects, the FHWA will need to evaluate the range of disciplines and skills within its staff. Specifically, the conferees direct the FHWA to develop a strategy for achieving a more multidisciplinary approach towards its oversight activities, to include: identification of staff with private sector management skills, such as financing and cost estimation; streamlining and delegation of project-level approvals to facilitate greater emphasis upon oversight of higher-level management and financial issues; and implementation of a planned data collection system for trend analysis. The conferees further direct FHWA to deliver this strategy no later than May 15, 2003.”

Strategies:

The FHWA is engaged in a number of activities that are intended to improve large project management and oversight. The attached matrix (Appendix A) outlines these activities in four key areas: optimizing internal staffing, effective recruitment, maximizing training, and stewardship/oversight initiatives. For each of the areas, specific activities are identified with associated status reports. We feel these strategies will help FHWA achieve a more multi-disciplinary approach to large project management and oversight and provide for a greater emphasis on oversight of higher-level management and financial issues.

In addition, we would like to highlight the following initiatives that are directly related to the improvement of large project management and oversight:

1. Sound project management plans are a key in providing the framework for managing major projects and are critical to the success of any project. The Major Projects Team and our Division Offices have been working very closely with the States to encourage them to develop project management plans that will respond to the needs of the project to assure success. In our view, such plans also serve an important role in properly managing expectations with the general public and maintaining their trust. We have recently developed draft project management guidance to achieve these goals. This guidance will outline roles and responsibilities for managing all aspects of a major project, including cost containment strategies, quality control, safety and security, traffic management, and media relations/public information. The guidance will be included as a key chapter in our Major Projects Resource Manual. We will also be issuing a project management plan template that will build on the guidance and serve as a sample plan for future projects. We are working with State personnel from Kentucky and Indiana to develop a project management plan that will respond to the needs of the Ohio River Bridges project and serve as a national template for other major projects. In addition, in the Administration's reauthorization bill we have included a requirement for project management plans for large projects (major projects and projects over \$100 million).
2. We are using our work in the development of project management plan guidance as a springboard to develop broader project delivery guidance in managing a project through the project continuum – from concept to completion. The project continuum includes the planning, environment, design, property acquisition, and construction stages. It is our goal to establish project delivery mechanisms that are effective in creating the appropriate overlap for each element of project delivery, thus creating a project continuum where there are seamless transitions within the project delivery team. In this way, all members of the project delivery team are able to follow-through on project commitments throughout the continuum. We are also working very closely with the American Association of State Highway and Transportation Officials (AASHTO) Project Oversight Task Force to further develop this concept. Internally, we are structuring the Major Projects Team to serve as the oversight “umbrella” for all major project delivery activities. Ultimately, we expect to have a “toolbox” which will present various mechanisms the States can use to address projects in this manner.
3. Accurate and reasonable cost estimates are an absolute must in maintaining public confidence and trust throughout the life of a large project. The FHWA is currently evaluating cost estimating processes on a nationwide level. We are accomplishing this by assessing current estimating practices in the States and developing strategies to improve current practices. We are working with our Division Offices to determine what practices are being used to estimate costs through the project continuum, from concept to completion. In doing so, we are also collecting information about Division Office process reviews that may have addressed local estimating practices. This information will be used to formulate national best practices and guidance for cost estimating. We are also fully supporting an ongoing National Cooperative Highway Research Program (NCHRP) study entitled “Best Practices and Development Guidelines for Cost Estimating,” which was recently released in draft form. This study will

specifically address the expressed concern of national guidelines in this area of project development. We are also working with our Office of Professional Development in developing future training opportunities, which would compliment the guidance developed. We will build upon the provision of Title 23, CFR 630.205, which sets forth requirements for estimates of construction costs on projects and what such estimates must reflect. The information gleaned from all the above activities will be used as a basis to develop cost estimating best practices and guidance. In addition, the Major Projects Team has been active in reviewing cost estimates for various major projects, and most recently led a review of the Ohio River Bridges project which resulted in a more accurate and reasonable estimate.

4. The FHWA is actively identifying problem areas and developing solutions to cost growth issues on large projects. In 2002, an effort was begun, as part of FHWA's Corporate Dashboard activities, to track cost growth on all projects greater than \$10 million. The initial efforts have identified projects authorized in Fiscal Years 2000, 2001, and 2002 and a baseline is being established of the costs of the projects at the time of approval of the Engineers' Estimate. The FHWA is also beginning a process of determining cost growth on all projects, measured from the point of contract award. This process is running concurrently on a State level whereas the Corporate Dashboard is reviewing data on a national level. Preliminary analysis of the data indicates that projects are, generally, awarded at less than the Engineers' Estimate cost but there is a gradual growth to the projects as they move to completion. We will be developing tools to identify critical milestones in the process and when countermeasures should be enacted.
5. The FHWA is strongly engaged in determining the appropriate use of risk assessment/risk management approaches in shaping its stewardship/oversight responsibilities. In March 2001, an internal Stewardship/Oversight Task Force recommended that FHWA offices conduct risk/benefit assessments to evaluate the implementation of the FHWA programs and to develop work-plans consistent with the findings of the risk/benefit assessments. The risk assessments would enable agency managers to better focus on, manage, and direct our limited resources, in order to mitigate potential risks and improve the implementation and effectiveness of FHWA programs. On June 22, 2001, the FHWA Deputy Executive Director issued a memorandum, "Policy on Stewardship and Oversight of the Federal Highway Programs," calling for each FHWA office to conduct risk/benefit assessments to evaluate the implementation of the FHWA programs, and to develop workplans consistent with the findings of the risk/benefit assessments.

To address agency progress in implementing the risk assessment/risk management initiative, a two-phased approach was developed. In Phase I, a team of FHWA employees evaluated the use of risk assessments in the Division Offices and their use in defining stewardship/oversight activities. In addition, the team identified best practices in the risk assessment techniques being used. This phase is complete and the results distributed. In Phase II, a corporate risk management approach will be developed. This phase will build upon the results of Phase I and outline a systematic risk management program for the agency, including

approaches for incorporating risk management concepts in agency performance and resource planning processes. The final product – a corporate risk management framework – will serve to guide agency stewardship/oversight activities at all levels in the agency and the associated resources. The use of risk assessment/risk management is also a key component of the Administration’s reauthorization bill proposal to establish a stewardship/oversight program that is responsive to all areas related to financial integrity and project delivery.

We also wish to highlight several broader human resources-related FHWA initiatives underway that will also help address the same concerns outlined in the Conference Report which are directly related to achieving a multi-disciplinary work force for large project management and oversight:

1. The FHWA Professional Development Program (PDP) is currently seeking to expand its scope to include new hires from a variety of disciplines. In the past, the PDP participants in the program delivery track have been traditionally designated as a Transportation Engineer or Area Engineer, which have primarily focused on project level delivery of the Federal-Aid Program in our Division Offices. Recognizing that FHWA’s role has shifted from project level engineering and construction quality oversight to a broader process and performance management responsibility, we realize that it is time for us to begin to create a more multi-disciplinary staff to address a broader range of responsibilities. The PDP staff is actively working with our Division Offices and Headquarters Program Offices to begin recruiting and developing a new generation of program delivery staff from a variety of disciplines. We are currently examining and evaluating our workforce to assure that we can effectively carry out our responsibilities, now and into the future.
2. On February 11, 2003, FHWA established a Workforce Planning Advisory Committee. The committee is charged with the oversight responsibility for workforce/human capital planning for the agency. The committee will:
 - a. Define the boundaries and processes of the FHWA workforce planning system.
 - b. Provide a conduit to the FHWA Leadership Team and other FHWA Management/Leadership groups.
 - c. Formulate workforce/human capital strategies for presentation to the Leadership Team.
 - d. Interpret management priorities as they relate to workforce/human capital planning.
 - e. Champion the workforce/human capital planning process and issues throughout the FHWA.
 - f. Assist in the development of a corporate vision of the future workforce.
 - g. Review and evaluate the effectiveness of the agency Workforce/Human Capital Plan

We feel this committee will serve a key role in helping to shape the future workforce of the agency which will help us better respond to our changing mission. The committee will remain in effect indefinitely.

3. A Human Capital Work Plan has been developed which addresses the DOT strategic planning goals, including the FHWA “vital few” areas of interest: safety, mobility, and human and natural environment. Also included in the Plan is a performance goal of improving major project oversight. The strategies identified are:
 - a. Streamlining recruitment and selection processes by procuring and implementing automated recruitment tools.
 - b. Expanded use of Human Resource flexibilities including: recruiting and relocations bonuses, and retention allowances for mission critical occupations.
 - c. Expanded use of paid advertising and web-based job information to reach a broader applicant pool.
 - d. Training selecting officials in behavioral interviewing techniques for improved selection and employee performance.

All of these activities will support our desire to diversify our staff and provide the appropriate skill sets to respond to our stewardship/oversight roles. It should be noted that other human resources related activities are also included in the attached matrix.

4. The FHWA has made a strong commitment to our leadership role in stewardship/oversight and leadership development with all employees. In February 2002, an internal FHWA Leadership Development Team issued a report entitled “Leadership is Everyone’s Business.” The report outlines specific strategies that will help the agency develop leadership skills in all employees. We are starting to implement several strategies in the report, such as the development of a leadership training initiative for new or potential supervisors. The report also outlines a Leadership Development Model, which can be used by all employees as a tool to improve leadership skill sets.

Conclusion:

The FHWA believes the diverse initiatives identified in this report are essential to improve large project management and oversight. By implementing these approaches, and utilizing a strong knowledge sharing network of all transportation officials at the Federal, State, and local levels, the desired state of public confidence and trust in our ability to administer large projects can be achieved. In addition, the FHWA strongly believes in the importance of continual evaluation of workforce needs to best fulfill the mission and goals of the agency, and the importance of workforce planning to meet those needs. A mix of disciplines provides us with the strength and capability to carry out our program as we know it today, and to meet new challenges as they arise. Certainly, engineering expertise continues to be a critical part of a multidisciplinary approach to managing the Federal-aid highway program. But, we also recognize the need to supplement our strong engineering capabilities with expertise in other areas. As roles and responsibilities in the administration of the Federal-aid highway program evolve to meet the needs of the 21st century, we are carefully examining and evaluating our workforce to assure that we can effectively carry our responsibilities, now and into the future.

**STRATEGIES FOR FHWA TO IMPROVE LARGE PROJECT
MANAGEMENT AND OVERSIGHT**

Strategy	Activity	Status
Optimizing Internal Staffing	Staff Major Projects Team with appropriate skill sets.	The current Team has a cumulative background in engineering, business, finance, conflict management, project management, cost estimating, and marketing. Two additional positions to be added which will provide structural, technology sharing, and planning/environment expertise.
	Provided additional FTEs for Division Offices with major projects for oversight activities.	Currently, there are 11 FTEs assigned to our field offices that have been applied to major project oversight positions. In keeping with FHWA's commitment to provide at least one project oversight manager for every major project, we have requested 12 additional FTEs for FY 2004. We expect the level of major project activity to double by the year 2007.
	Develop core competencies for major project oversight managers (POMs).	Core competencies have been completed and issued. The competencies include both technical and non-technical skill sets.
	Develop Professional Development Program (PDP) training opportunity with the Major Projects Team.	A PDP training opportunity has been created with our Office of Human Resources. PDP participants can select that assignment as part of their career development.

	Use core competencies in the selection of POMs.	The POM core competencies are being used by our selecting officials in selecting POMs.
	Train POM selecting officials in the use of emotional intelligence concepts and behavioral interviewing techniques.	Ongoing activity.
	Develop organizational career track for POMs.	To be accomplished in FYs 2004-2005.
Effective Recruitment	Actively recruit POMs at entry and mid-career levels.	To be accomplished in FY 2004.
Maximizing Training	Develop Major Projects Team Marketing Plan which includes a capacity building element.	Plan complete and being utilized to guide the activities of the Major Projects Team.
	Identify training and development opportunities for POMs which respond to the core competencies, including engineering, management, and business.	Training and development opportunities have been identified.
	Identify individual training and development gaps for POMs which respond to the core competencies.	To be accomplished in FY 2004.
	Develop and implement strategies to respond to POM training and development gaps.	To be accomplished in FY 2004.
	Develop standard reference materials package to give current and new POMs.	Initial package to be distributed in FY 2004, ongoing thereafter.
	Develop major project management training activity for executive levels.	To be delivered in FY 2004.
	Develop collaborative leadership/expectations workshop.	Now available, to be included in annual POM meetings.
	Develop conflict management workshop.	Now available, to be included in annual POM meetings.
	Host financial management PDP participants.	Major Projects Team scheduled to host one person in FY 2003.

	Host highway engineering PDP participants.	Ongoing activity.
	Participate in new employee orientation.	Ongoing activity.
	Develop training opportunities for risk assessment/management and performance measures.	Training approach to be developed in FY 2004.
Stewardship/Oversight Initiatives	Develop Project Management Guidance for use by the project delivery team.	Draft guidance complete, final will be issued in FY 2003.
	Develop Project Management Plan Template (sample).	To be accomplished in FY 2004.
	Develop an oversight program that monitors effective use of all funds, which at a minimum includes areas related to financial integrity and project delivery. Risk assessment tools will be used as the foundation for the program.	Program developed in FY 2004-2005 after reauthorization bill.
	Development of an agency-wide risk management approach (Phase II of our ongoing risk assessment study) which will target stewardship/oversight activities.	Risk management study design to be completed in FY 2003. Consultant study to be completed in FY 2004.
	Development of risk assessment analytical tools for agency-wide use, particularly for the field offices.	Ongoing activity to begin in FY 2004.
	Development of new generation of stewardship/oversight performance measures to help the agency manage risks and expectations.	To be completed in FYs 2004-2005.
	Development of cost growth countermeasures which will respond to cost growth issues identified through the dashboard effort for large projects.	To be completed in FYs 2004-2005.

	Continue to delegate project level approvals when appropriate based on local elements of risk.	Ongoing. Subject will be revisited after reauthorization.
	Establishment of an FHWA major projects independent cost estimating program that will also provide the appropriate cost estimating tools for field offices.	Program to be established in FY 2004. Ongoing thereafter.
	Develop of a cost estimating training activity for the States (after our cost estimating standards are issued).	Activity to be developed in FY 2003. Delivered in FY 2004.
	Establishment and coordination of a national major project best practice program, which builds on the Central Artery/Tunnel best practice/lessons learned effort.	Program to be developed in FYs 2004-2005.
	Continue to track major projects using existing monitoring system. Utilize major project finance plans and their updates to establish trends in major project activity. Establish database to track the trends.	Ongoing. The database to track trends for major projects will be established in FY 2004.
	Use existing FHWA human resources database for trend analysis.	Ongoing.