

Budget Estimation and Management for Mega Projects

May 17, 2012

Financial Management Plans and Estimate Development for Major Projects Program and FHWA

The Department's Mega projects shall be managed as part of the Major Program and Major Projects Peer Review process.

Projects that are defined as federal major / mega projects by FHWA require development and annual updates of a financial management plan.

All Department mega projects will complete the FHWA – approved Risk Assessment for Mega Projects. Projects in the Majors program completed a risk assessment ahead of enumeration for design and construction, as well as just prior to construction during the final design phase. A Major or stand-alone mega (ex. I-94 N-S and Zoo Interchange) project that is defined as a Mega project will complete the FHWA – approved risk assessment.

FHWA requires that a build-out (or not to exceed) budget be developed and that the agency be able to demonstrate that it has the financial ability to build the project to completion.

Estimate development also involves a level of certainty or amount of accepted risk associated with delivering a Mega project to its completion.

In Wisconsin the Department has adopted a policy of using a 70% level of certainty (Monte Carlo level of confidence) in developing cost estimates for Major program and Mega projects.

Project estimates are developed and estimated at the 30% completion point of the project, and at the time of the environmental document submittal. Thereafter, the project estimate is reviewed and updated twice per year (generally February and August), or as requested by the Department's Change Management Team.

Budget Development for Mega and Major Projects

When a new Mega or Major project is approved for environmental study by the Transportation Projects Commission (TPC) or through legislative action, a complete environmental study is carried out.

Prior to starting the environmental process for the planning study the project is put through a scoping process where initial needs, challenges, alternatives, and schedules are developed. This scoping effort forms the beginning of what will become the chosen alternative, which includes a project estimate.

A Major project, Mega or non-Mega Project, does not have approval to proceed to final design, non-let process, and project lettings until it has been enumerated for construction by the Governor and Legislature. This happens after the environmental study has been completed and a selected alternative has been identified. The project estimate is finalized simultaneously with the completion of the environmental document.

Alternative development, refinement, scope refinement, and estimate development are to utilize the typical project development process, recognizing that for Mega and High Priority projects this means providing updates and seeking input from the Division and Department levels. Mega Projects and some High Profile projects will often utilize the Secretary's Oversight Committee as a forum to share information and seek input.

Once a project has been enumerated by the Transportation Projects Commission (TPC) or identified in the Biennial Budget, the Mega Project budget and change management efforts will be monitored and overseen by the Major Projects Peer Review Team. The I-94 N-S project, Zoo Interchange project, Hoan Bridge project, and St. Croix Crossing Project all have budgets established outside of the TPC process. As long as these projects are kept within total project estimates, the Major Projects Peer Review Committee will be utilized as a knowledge sharing forum vs. a decision making forum.

The Change Management process is further defined in the Change Management for Mega Projects section.

Budget Estimation

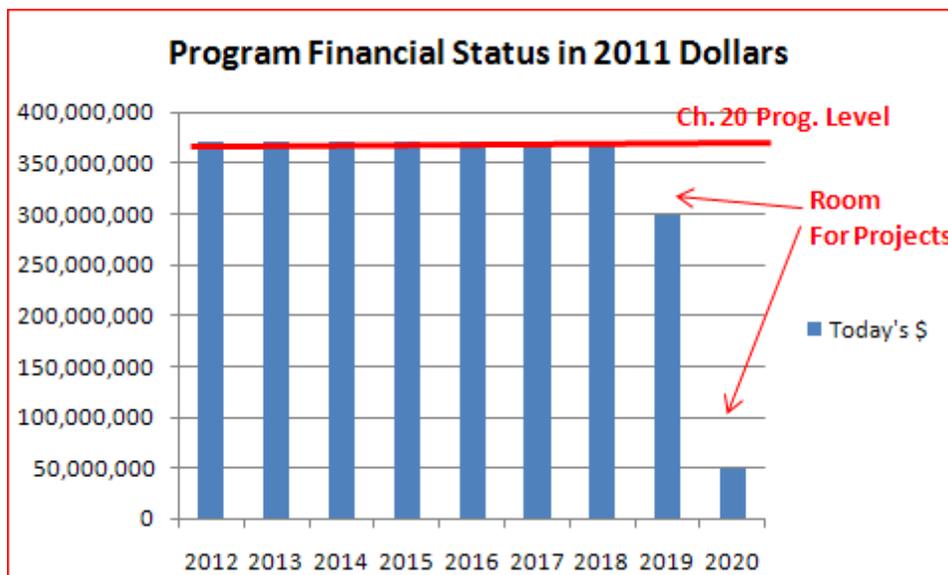
For Federal Major / Mega projects the Department has adopted the longstanding practice used for program development and management utilized for its other programs.

Estimates and costs for all Mega Projects, excluding the I-94 N-S Corridor and the Zoo Interchange are developed, programmed, and managed using current year dollars.

This practice:

- Ensures all current or new mega projects needs and projects are management consistently statewide. Please note that this excludes the SE Region's mega projects already underway (I-94 N-S and Zoo Interchange).
- Facilitates meeting statutory requirements for a financing proposal that demonstrates sufficient funding to start construction of all projects within 6 years.

The figure below demonstrates the likely need to begin new Major Project construction beginning as soon as 2019.



Example 1 (Program Financial Status in 2011 Dollars): Source November 2011 TPC meeting

The Department will continue to use the build-out budget to manage the program for the SE Region's current Mega Projects -- the I-94 N-S Corridor and Zoo Interchange.

All future Mega Projects, including those in Southeastern Wisconsin, will be estimated, programmed, and managed using current year dollar estimating.

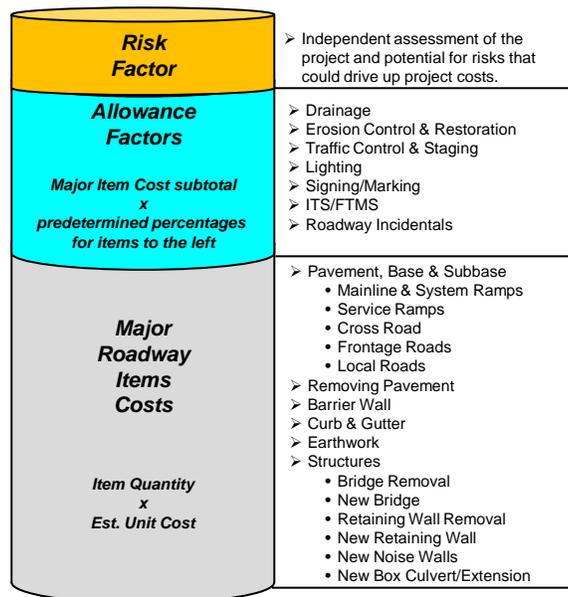
Cost Estimating Tools

It is recognized that project estimates will develop and evolve as a project goes through the environmental phase of the project, and proceeds to final design. It is expected that at the time a Mega Project reaches the completion of the environmental document preferred alternative stage that a final project estimate is in place. If the project is within the Statewide Majors program the estimate will be used as part of the presentation to the TPC. The TPC takes action on enumeration of the project through the construction phase. For projects in the SE Freeway Mega Project appropriation the estimate will be utilized for biennial budget issue paper development.

Projects submitted for TPC action or biennial budget issue paper development are typically at the 30% level of development. Estimates will be developed with a 70% level of certainty.

The department currently has estimating tools used for the Major Projects program. This includes a database, worksheets, establishment of project contingency, and other project allowances established. Project teams will utilize cost estimating tools developed and in place for current mega projects and the major projects program. Allowance factors for contingency development are started on a historical basis that then considers specific project issues and risks. A conceptual overview of the cost estimation process is included below;

Cost Estimating Tool – Conceptual Overview



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Example spreadsheets for functional plan and preliminary plan estimates are provided here:

- <http://roadwaystandards.dot.wi.gov/standards/mega/hidden/dtsd-prelim-estimate-template.pdf>
- <http://roadwaystandards.dot.wi.gov/standards/mega/hidden/dtsd-zoo-func-estimate-template.pdf>

Budgeting – Community Issues

The input of a Title VI component into the budget process can serve to further validate initiatives of the project with our other government and community partners as well as save much time by getting a head start on solving critical issues. This process should begin with a Title VI investigation stage which is geared towards outreach and the gathering of information from the following:

1. Environmental Justice Reports
2. Public Hearings
3. Surveys

- Step One: Should yield data on Title VI issues of the community including Environmental Justice, Americans with Disabilities Act, and Limited English Proficiency (EJ, ADA, LEP) issues.
- Step Two: Develop issues and consider public input into the project and also the budgetary impacts of those public issues.
- Step Three: Develop critical impact issues.
- Step Four: Ascertain non-critical issues that have a positive impact on the Department.
- Step Five: Build into the budget those aspects to be mitigated and Step 2 includes documenting in the budget how the outreach activities change the budget management aspects of the project and then develop data report to show projected additions and changes.
- Step Six: Communicate/articulate the results of the Title VI 3-Step Process in the 30% review meeting.