

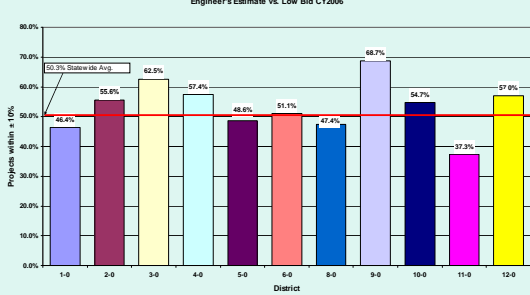
Construction Cost Estimating

Current Policy - DM-1A 3.1.C

Cost Containment – “*One of the most important responsibilities of a Project Manager is the careful management of Projects Costs.*”

Construction Cost Estimating

Eng. Estimate vs. Low Bid – CY06 (%)



Timeliness

Regular Project Cost Reviews
DM-1A 3.1.C

- Following E & E Scoping
- At the Design Field View – Detailed cost estimate due shortly after DFV
- After the Final Design Office Meeting
- Prefinal PS&E

Estimate Development

- Starts with emphasis at Scoping Field View
 - Get the right participation in the field
 - Identify “Cost Drivers”
- Greater attention at Design Field View
 - BOD to focus on Moderate and Complex Projects
 - Evaluate/Validate Cost Drivers
- Continue focus through Final Design

Cost Drivers

- Labor, Material, & Equipment
- Site Conditions
- Market Conditions
 - Market Analysis by PennDOT
 - Overall Department Let Schedule
 - Material Volatility
 - Heavy Bridge Market: now & for foreseeable future

Cost Drivers

- Think like a contractor:
 - Contractor's specialty / strength
 - Project Manager – Contractor
 - Project Manager – Department
 - Contractor's approach vs. dictated approach
 - Ambiguous information
- Number of Special Provisions
- Schedule
- Maintenance and Protection of Traffic
- Incentives / Disincentives or Penalties

Estimating Documentation

- Basic Management Steps for Estimate Updates & Reviews:
 - Monitor project scope and conditions
 - Evaluate potential impact of change
 - Adjust cost estimate
 - Obtain appropriate approvals

Estimate Documentation

- Proper documentation throughout the project development process is critical
- Document:
 - Estimated quantities and unit prices for all stages of the project development.
 - How the project specific conditions would affect quantities and unit prices for certain types of work.
- Lead to a quality estimate that is in line with market considerations and low bid.

Estimate Documentation

- Provide at each milestone:
 - Describe how the item's costs were estimated.
 - Impacts from Cost Drivers
 - How lump-sum items are handled.
 - Base year of the cost calculation.
 - Contingency Used.
 - If extraordinary conditions exist that call for higher contingencies, the rationale will be documented.
 - Cost traceability.
 - When a prior cost estimate exists, provide a concise explanation for any cost change from the prior estimate.

Review Estimate

- Conduct at each project milestone
- Determine the level of review
- Review estimate and assumptions
- Verify completeness and use of estimating information and data
- Reconcile the current estimate

Review Estimate

- Review items:
 - Confirm cost matches scope
 - Confirm unit prices are valid
 - Based on bid tab data, recent projects in the area and the documented cost drivers for the project.
 - Identify / understand contingency (internal & external)

Department Goal

- 70% of all Projects within 10% of the Estimate

Contingencies

- Cover events/problems not specifically identified (uncertainties)
- Do not compound multiple contingencies
- Account for a lack of project definition (unknowns).
- *Not meant to cover added scope or project cost overruns.*

Inflation Factor

- Independent from contingency costs and cost drivers.
- Consultant estimates should reflect current year costs.
- Department will apply inflation and year of expenditure adjustments.

Review

- Milestones
- Accountability
- Cost Driver Summary
- Quality Assurance
- Specification Development
- Inflation applied by the Department, not Consultant

??? QUESTIONS ???
