



U.S. Department of Transportation
Federal Transit Administration



Market Conditions Research

Recommendations for Improving Transit Industry Cost Estimation

Background

The Federal Transit Administration (FTA) is responsible for administering capital grants and loans to state and local transit agencies to support the financing, acquisition, construction, reconstruction, and capital improvement of the nation's public transit infrastructure. Federal funds for qualifying projects are appropriated annually through a portfolio assessment process, which is subject to Congressional approval and administered through execution of multi-year grant agreements. Often, these agreements, and the cost assumptions and funding commitments therein, are finalized before testing local construction markets for competitive pricing or project risk. FTA's Office of Program Management initiated a research study in Summer 2017 to review the cost estimating methodologies and cost control measures of select Capital Investment Grant (CIG) program New Starts projects.

Objectives

The objective of this study was to evaluate transit cost estimates vs. bid pricing across 1995–2015, which spans two significant periods of economic turmoil and a large range of project conditions. Federal funding for transit capital projects is based on cost estimates provided by project sponsors and is reviewed by FTA, usually before construction bids are received. Accurate estimating is required to reliably establish these Federal grants.

Findings and Conclusions

This report summarizes FTA's efforts to identify practical measures for avoiding cost growth issues; anecdotal evidence shows that overall economic conditions or patterns of project conditions may affect the ability of cost estimators to accurately forecast project costs.

Given the unique nature of major public capital transit projects, FTA projects have encountered project-specific conditions that have driven cost growth and delayed schedules, issues that are likely to persist. To determine drivers behind cost growth from the transit industry perspective and to identify tools, processes, and recommendations for improving FTA's ability to provide technical guidance during early project development, specifically related to cost estimation and risk management, 16 completed or under construction CIG projects across 4 modes of transit were selected to perform a quantitative analysis focused on identifying cost growth trends at the Standard Cost Categories (SCCs) level.

Based on the findings and insights from these activities, three overarching recommendations were identified for achieving FTA's target outcomes:

1. Improve accuracy of Grantee cost estimating practices and guide development of project estimates.
2. Enhance Grantee cost management and cost control of project budgets during construction, including modification of procedures related to risk management and reporting.
3. Enhance emphasis on creating an environment of continuous improvement, including modification of procedures to provide more insights to benefit future Grantees.

Benefits

The research is aimed at improving cost estimating by the transit industry. The recommendations presented vary in terms of breadth, depth, and ease of implementation, and many focus on updates/modifications to operating procedures, which should be considered during regular updates.

Project Information

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This research project was conducted by Rizwan Shah, Haley S. Orvedal, and Matthew Gilstrap of Guidehouse (formerly PwC Public Sector LLP) and Maya Sarna of the FTA Office of Program Management. For more information, contact Maya Sarna at (202) 366-5811, maya.sarna@dot.gov. All research reports can be found at <https://www.transit.dot.gov/about/research-innovation>.