

0-6762-01: Maximizing Mitigation Benefits

Background

Tracking environmental costs in the project development process has been a challenging task for state departments of transportation (DOTs). Previous research identified the need to accurately track and subsequently estimate project costs resulting from environmental mitigation requirements. There is currently no single source or management system for capturing and/or estimating the Texas Department of Transportation's (TxDOT's) project-related mitigation costs statewide.

The purpose of this continuation project is to determine types of mitigation costs for TxDOT projects; identify the funding sources, mechanisms, and processes for acquiring funding and administering payment; and conduct a synthesis of mitigation cost tracking and estimating at selected state DOTs.

What the Researchers Did

The research team:

- Reviewed methods, techniques, and processes at select state DOTs for estimating mitigations costs for the following states: Arizona, California, Colorado, Florida, New York, North Carolina, Ohio, Oregon, Pennsylvania, and Virginia.

- Identified, collected, queried, and reviewed data from TxDOT information systems.
- Met with staff from the TxDOT Project Management Office and environmental divisions at the state and district level to determine which TxDOT systems capture elements of mitigation cost and funding sources, and how these elements are stored, entered, and modified throughout the project development process.
- Developed a framework based on an existing TxDOT estimation spreadsheet designed to capture data from various TxDOT sources (ROWIS, ECOS, DCIS, and PeopleSoft) that indicates the mitigation cost categories, cost estimates, and actual costs.

What They Found

All DOTs have developed accounting systems to track environmental cost at some level, including systems for tracking work, commitment, and

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workflows; improved project management; financial information management; and contractor/consultant contracts. Mitigation costs are sometimes tracked as part of these systems. The states reviewed for this project each track/inventory mitigation projects, environmental commitments, and mitigation measures used, but actual mitigation costs are either not reported or not available.

Multiple data systems and processes at TxDOT collect actual mitigation costs in a variety of formats. *This research effort revealed that while the Environmental Division does set guidelines for tracking mitigation costs, districts track their own mitigation costs and have their own tracking mechanisms and process for any cost tracking requirements. There is not a uniform statewide method to track mitigation costs.*

With the mitigation cost tracking framework developed by the research team, information can be used to communicate to the project manager how close mitigation cost estimates match the actual costs for mitigation. The research team attempted to capture cost and pay items from actual projects, but that effort exceeded the scope and budget of the original work plan.

What This Means

Mitigation cost tracking and estimating involves monitoring numerous project information systems and data sources. It can be difficult to identify and quantify mitigation costs that are directly attributed to the different types of mitigation activities within those project information systems. Even when mitigation costs are identified, the cost and payment amounts may have been made for several different projects combined.

This research effort focused on mitigation costs associated with easily quantifiable data found within the Right of Way, Environmental, Planning, Design, and Finance Divisions of TxDOT. Any framework and guide to track mitigation costs should capture and describe the complexity and order of interactions between activities, resources, and data systems that cover the extent of TxDOT environmental mitigation activities. Any effort to develop a system that captures all environmental mitigation activities must involve the Finance Division for basic cost data and the remainder of the data systems for environmental resource-level details.

For More Information

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