

DEVELOPMENT OF IMPROVED STRATEGIES FOR AVOIDING UTILITY-RELATED DELAYS DURING FDOT HIGHWAY CONSTRUCTION PROJECTS

PROBLEM STATEMENT

As transportation, communication, and utility networks continue to grow in complexity and in size, the likelihood of two or more networks occupying a common right-of-way or intersecting each other increases. Conflicts arise when one network or another decides to perform construction or maintenance on its facility. Every year, Departments of Transportation (DOTs) and the various County Road Departments in the United States spend millions of dollars on problems that arise due to utility conflicts. Historically, the problems that arise are varied and numerous. Each DOT and each county has its own approach to mitigate the effects of utility conflicts, which nevertheless continue to be a leading cause of construction delays and cost overruns.

In a significant number of Florida Department of Transportation (FDOT) construction projects, many utility-related concerns evolve into disputes and problems. Often, delays occur due to utility relocation, and conflicts arise because of confusion with the location of utilities and the responsibility between the contractor and the utility company.

Many research projects have made extensive efforts to solve these problems; however, the majority of these solutions have been vague and impractical.

OBJECTIVES

The purpose of this research project was to develop practical solutions that can be integrated into construction projects. Using a unique approach, researchers devised improved strategies for avoiding utility related-delays during FDOT highway construction projects. This project is part of a larger study being conducted by the University of Florida Civil Engineering Department, which is investigating the management of utilities during FDOT construction projects.

FINDINGS AND CONCLUSIONS

This study takes an in-depth look at how the FDOT, other DOTs across the United States, and the sixty-seven (67) counties in Florida handle the problem of utility conflicts. It also examines both the various technological tools being used to help offset the problem and the Federal Highway Administration's (FHWA) recommendations for dealing with it. Researchers also investigated the processes of the Design-Build (DB) delivery system and how it has been regarded by contractors, utility companies, and FDOT.

Past efforts in developing solutions have been only partially successful. Good practical solutions are only possible with input from all the major project participants and must consider all aspects of the project delivery process, including design, relocation activities, and construction. Therefore, this project resulted in the establishment of an Advisory Committee. The Advisory Committee is a

working group that provides experienced input into the research process. It assisted with the identification of the sources of problems and the development of solutions. Additionally, the research team worked closely with the Florida Utility Coordinating Committee and sought input from the committee during each step of the research.

The nature of utility problems encountered by FDOT generally fall within three broad categories: the quality of location information, the availability of resources for relocation, and the coordination and scheduling of relocations with contractors and utility companies.

FDOT's recent experience with DB projects was studied because of the unique arrangement for managing utility work within the limits of construction during construction and upon satisfactory completion of the work. The DB firm is responsible for coordinating activities, meetings, and schedules, for locating utilities, and for any delays caused by utility relocations. FDOT has enjoyed using DB thus far, since it can transfer the responsibility of dealing with utility relocation to the DB firm. This increase in responsibility for the DB firm gives it motivation to do a thorough and high quality job on the project. Some DB firms like this method because it gives them the latitude to design and schedule to the benefit of both the contractor and the utility company without FDOT's intervention. Furthermore, the DB firm has far superior insight into constructability and facilities issues at particular locations, as well as the benefit of reviews made by consultant inspection staff. There is little focus in FDOT on coordinating utilities; however, coordination is increased with DB because of improved communication between the DB firm and the utility companies.

Utility issues are complex and involve a wide range of technologies and a variety of project participants. Given the degree of complexity, no single solution will solve the utility conflict and delay problem. A comprehensive effort that includes many strategies is required. The following are specific suggestions for improvement:

- bind the contractor into dealing directly with the utility companies
- incorporate ASCE Guidelines as standard practice for FDOT
- incorporate FHWA's Guidelines for Reducing Utility-Related Construction Delays
- continue use of "Utility Work by Highway Contractor Agreement," whenever possible
- continue to perform as much utility relocation in advance of construction as possible

BENEFITS

The results of this project can result in the mitigation of utility delays as a frequent cause of transportation construction project delays. The benefits, consequently, would include potential significant cost and time savings, as well as a reduction in inconveniences to the driving public.

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