

# **DEVELOPMENT OF A UTILITY PRODUCTION SCHEDULING REFERENCE FOR FDOT CONSTRUCTION PROJECTS**

## **PROBLEM STATEMENT**

Utility companies often install their lines and facilities on the right-of-way of public roads and streets. This joint use of the right-of-way can be satisfactory when the surface is not disturbed for public use. However, right-of-way sharing often leads to conflicts between State Highway Agencies (SHAs) and the utilities occupying the right-of-way when construction, maintenance, or widening of highways is performed. Whenever delays in construction occur, the conflicts can be costly for the SHA, utility companies, and businesses adjacent to the construction site.

Relocations and additions to existing utility systems are common on Florida Department of Transportation (FDOT) construction projects. The type of utility work may vary considerably. FDOT projects can involve everything from fiber optic systems to conventional storm drainage. Often, many different utility systems are involved in a single project. Typically, the utility work is critical with regard to the overall project schedule. The effectiveness of the overall project schedule is largely dependent on accurately scheduling the project utility activities.

## **OBJECTIVES**

FDOT scheduling engineers need a reliable reference for estimating the duration of the different utility activities encountered on FDOT projects. The time estimates provided by the different utility organizations are often unrealistic and inaccurate. Currently the FDOT does not have a comprehensive information base for estimating utility production rates and activity duration. Thus, the objectives of this project include:

- Developing a complete listing of common utility activities encountered on FDOT projects.
- Conducting interviews with industry personnel and on-site visits to construction projects to obtain and validate ranges of times and influencing factors for the list of common utility activities.
- Analyzing and comparing data in FDOT relocation schedules with the activity durations given by industry representatives.
- Producing a *Utility Scheduling Reference Manual* as a stand-alone document for FDOT scheduling engineers.

## FINDINGS AND CONCLUSIONS

Comparisons between the relocation schedules and the utility companies' data indicate that the relocation schedules are generally a reasonable estimate of the time required to relocate utilities in FDOT construction projects. However, more information and cooperation is needed from the different utility industries in order to refine the information in the relocation schedules.

Inconsistencies revealed by the comparison of time requested on the relocation schedule and actual time required as indicated by the engineer's daily reports may be explained by the following:

- Relocation times requested by utilities include time allowances for preliminary activities such as permitting and engineering, in addition to the actual relocation time on site.
- Relocation times requested by utilities are conservative, including contingencies for unexpected events

The relocation of utilities remains a critical component of many FDOT construction projects. The management and coordination of utility relocation is a key factor in project success. The best possible estimate of relocation time is necessary for project scheduling.

Members of the Florida Utility Coordinating Committee (F.U.C.C.) suggested that FDOT create a hypothetical project with plans that highlight their main utility relocation concerns. F.U.C.C. members stated that they would be willing to mark plans and create relocation schedules for such a project, which would allow them to provide times for a specific situation within a mapped scenario rather than have to deal with a general list of activities.

Since the subject of utilities on FDOT projects involves many different project participants, researchers recommend that FDOT project personnel, the utilities, the contractor, and FDOT utility engineers all provide input towards the creation of a comprehensive strategy. Improvements are possible in all aspects of the process: by the utilization of coordination techniques, including setting the relocation time; by the improvement of utility instructions and information on the project plans and relocation schedules; and in the efficient use of Subsurface Utility Engineering.

Researchers have completed the *Utility Scheduling Reference Manual*, which will soon be available to scheduling engineers.

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