
Utility Delays in Highway Design and Construction

■ PAUL C. KACZOROWSKI

Utility and transportation services are both essential in today's high-tech society. We are highly dependent upon the water, sewer, electrical, and communication services provided by public or privately owned utilities. We are also highly dependent upon today's modes of transportation, which allow us to travel long distances within time frames unimagined less than 100 years ago.

The need to address the impacts utility and transportation programs have on one another is not a new problem.

The public agencies responsible for transportation, the construction industry, the property owners adjoining the public rights of way, and, of course, the traveling public are all either directly involved with or impacted by the relationships and dependencies existing between utilities and the transportation processes. Many engineers and managers have sought solutions to the problems existing in all phases of the transportation process in which utilities are involved; especially the permitting and design safety criteria, in particular, clear zone requirements and the planning, design, construction, and maintenance processes. The utility owner and transportation agency relationship can best be described as what results from a shotgun wedding. We are forced together by the need to serve the public and divorce is out of the question. Solving our problems under these conditions obviously presents a major challenge.

In Florida we have ambitious initiatives in process to identify and implement ways to

reduce the time historically required to develop, design, and construct transportation improvements. This program includes examining all phases of our process to identify ways to save time, which includes the effects utilities have on the design and construction process. Our Secretary has labeled this program "T over 2," or cutting in half the time required from "concept to concrete." All traditional procedures and processes are being examined to determine what can be done to save time.

The obvious question is, how do we intend to save time? I'll provide a few of the major areas being explored.

- A change we feel is extremely important to improving our design and construction process is decentralizing the decision making, allowing decisions to be made at the lowest possible level. Decisions for making contractual changes requiring supplemental agreements, and the granting of time extensions are examples of areas already decentralized.
- We are examining ways to reduce construction time. We are updating the production rates and other methods used to establish contract time. We are generally tightening up our construction management practices, including stricter enforcement of contract provisions for delinquency and liquidated damages.
- We are examining our material sampling testing process to speed up the time required to get samples from the job site to a testing laboratory. The frequency of many material tests are being reduced where found to be feasible without risk to product quality standards.

- An area considered fertile for improvement is the design, utility, and construction AND process. Our records show that utility related delays are the third largest cause of delays during construction, exceeded only by design changes occurring after award of contracts and construction delays caused by the effects of inclement weather.

When you ask the question "What causes utility delays," the answer depends a lot upon whom you ask. If you ask utility representatives to define the problems causing delays, you get a different answer than if you present the same question to contractors or designers or construction field engineers. In an effort to identify common problems and their solutions, a special task force was formed. This task force was made up of 15 representatives from both public and privately owned utilities, and eight construction industry representatives from throughout the state. The Florida DOT had only one representative on the task force. He served as the chairperson and had support from seven design utility coordinators located throughout the state. They in turn coordinated with the principal design and construction engineers within the state agency.

A total of 16 problems and 32 recommendations were formalized in the task force's final report. Our agency is in the process of implementing changes in rules, specifications, procedures, and operating practices resulting from these recommendations. Time will not permit me to provide a detailed description of all the changes being made. However, I will describe several major changes we expect to have the most impact on our process.

1. The first calls for improved procedures for verification of the location of existing major utilities. The new procedures require the utility owner to either submit certified as-built drawings or to uncover and survey the facility at predetermined locations. The locations verified are designated on the design drawings by symbols, and the surveyor's field notes are made available to the field engineer at the beginning of a construction project.

2. The second change emphasizes the importance of accomplishing as much utility work as possible before construction begins. Minimizing delays during construction can best be achieved by the adoption of a policy to maximize accomplishment

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of utility work in advance of construction whenever possible.

3. The third improvement requires a commitment to better scheduling of utility work during construction. This commitment begins during the design process and requires a formal agreement providing details on:

- the utility work that needs to be done
- the locations on the project utility work
- the duration required to accomplish each phase of the utility work
- the advance notice needed by the utility owner for material acquisition and mobilization purposes
- what the contractor must do to accommodate the utility work.

This emphasis on improved scheduling of utility work and the inclusion of this information as part of the construction contract is coupled with new specifications that require construction contractors to develop and maintain a detailed work plan and schedule. The contractor's schedule reflects the utility schedules.

Accountability will be addressed based upon the evidence of each parties' performance.

4. The fourth improvement calls for increased use of Joint Project Agreements, which arrange for utility work to be made part of the state's construction contract. This arrangement allows contractors to better control their own work schedule since utility work is their own responsibility.

Added emphasis upon using joint project agreements received support from our state legislature. Statutory provisions were approved by our 1987 legislature that gave the Florida DOT the option to pay that portion of the bid amount for utility work in excess of 110% of the agency's official engineer's estimate. These provisions are intended to reduce the frequency of utility owners electing to back out of joint project agreements and seek lower costs through their own contracting process once the competitive bid results are known.

The intent is to allow the DOT to make a business decision. If it is wise to pay a share of the unexpected high bid cost for utility work rather than risk a serious delay to construction while the utility company arranges for another contractor to do the work, we now have the option to participate in the extra unanticipated cost.

5. The last improvement I'll cover calls for a strong commitment by the top management of the utility industry. This top level commitment is essential if we are to successfully reduce the impacts utilities have on the design and construction process. Our utility staff frequently receives feedback from the middle managers and engineering staff they work with indicating that their responsiveness is constrained by resource or budgetary problems. In many cases, it is apparent that top management for utilities may need to better recognize the importance of the concerns and priorities voiced by their own staff. In many other cases, utility industry top managers are controlled by limitations imposed by the Public Service Commission or in the case of public owned utilities, controls are imposed by the governing body. To address these problems, the Secretary of the Florida DOT has initiated an awareness program to inform the top management within the utility industry on our goals and objectives for meeting the transportation needs of our state. Statewide high level meetings have been held to inform utility top managers of the need to address their internal resource and budget plans to meet the increased demands for reducing the time required to accomplish an expanded transportation program.

Florida's program for providing transportation services is back logged. We simply are not keeping pace with growth in our state.

- Florida currently has approximately 12 million residents and more than 35 million annual visitors. Our state recently replaced Pennsylvania as the fourth most populated state in the country.
- By the turn of the century, we expect to have approximately 17 million residents and more than 60 million annual visitors.

Many states are facing these or similar problems resulting from rapid growth, urban sprawl, and demands for new or rehabilitated infrastructures. If we are to successfully meet current and future demands, utility and transportation interests must combine forces and address mutual concerns over the effects utilities and transportation programs have on one another. We are very fortunate in our state to have a cooperative, professional working relationship between the utility industry and our agency.

Although it is premature to declare our efforts in Florida a major success, early indications provide a positive outlook and we intend to continue exerting whatever effort, at whatever level necessary to ensure our success in improving our process. (IRWA)

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