

**NCHRP 20-7
Proposed Research Needs Statement**

Subcommittee on Right of Way, Utilities, and Outdoor Advertising Control
July 27, 2016

TITLE

Utility Coordination Efficiency, Safety, Cost, and Schedule Impacts using various Contracting Methods

BACKGROUND / NEEDS STATEMENT

As DOTs leverage alternative contracting methods to better execute road projects, it becomes more vital that the industry recognize and define expected impacts to the varied specialized processes held within the overall project. Utility coordination is an example of one such process housed within the project that may need to be conducted differently from the traditional design bid build (DBB) project.

The utility coordination process is an element of both project development and delivery that can be fundamentally influenced by the contracting process used. For example, one may expect a design build project to have the Design Build Team perform the utility coordination with only oversight by the DOT owner. Minimal research exists documenting the net cost of the utility coordination process, including relocation, remains consistent as a result of the selection of this contracting method.

Defining similar, quantifiable impacts to utility coordination based upon road project contracting method will help DOTs account for these factors in choosing the optimum contracting method. Four critical factors impacting project success include: utility coordination efficiency, safety, cost, and schedule. These criteria are definable and quantifiable, and will be the goals to be monitored in this study.

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RESEARCH OBJECTIVE

This research is to document reasonable expected outcomes in terms of utility coordination efficiency, safety, cost, and schedule when using various contracting methods on public transportation projects.

WORK TASKS

Tasks anticipated in this project include the following:

- Review the findings of NCHRP 20-7 Utility Coordination Best Practices for Design-Build and Alternative Contracting Projects
- Select the five most commonly accepted alternative contracting methods (ACMs) for study.
- Using prior research findings and a survey as needed, identify at least 5 states practicing the selected ACMs.
- Interview the selected states, finding at least five (5) case study projects for each ACM and DBB.
- Identify if the DOT experienced any utility damages or construction hazards that would have been unlikely to occur in a traditional DBB project.
- Identify if the DOT experienced any inefficiencies in the utility coordination process that would have been unlikely to occur in a traditional DBB project.
- Identify if the DOT experienced any inefficiencies in construction due to the utility coordination process that would have been unlikely to occur in a traditional DBB project.
- Document the DOTs expected utility coordination schedule and cost for the test projects.
- Document the DOTs actual schedule and cost for the test projects.

- Write and publish the results of the findings, using the traditional DBB project as a baseline for the expected outcomes of each ACM. These results document expected changes in outcome of: utility coordination efficiency, safety, cost and schedule. These findings should broadly consider variance in project size, complexity, and include a summary of the changes to the utility coordination process based upon the ACM utilized.

URGENCY

Many states are utilizing ACMs or are considering using them in the near future. As we grow to use alternative procurement more and more often this is an urgent need to collect and share successful experiences among all of the states. Further, we have research underway that will be a sound foundation for this next step. The research will give state transportation departments clearly defined impacts to anticipate which help optimize road project decision making.

FUNDING REQUESTED AND TIME REQUIRED

It is estimated that this research will take 12 months to complete and will require \$100,000.

CONTACT PERSONS

Larry Ditty
lditty@pa.gov

Jennifer McCleve, P.E.
Jennifer.McCleve@ky.gov