

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

Subcommittee on Right of Way, Utilities, and Outdoor Advertising Control

**TITLE**

An impact and value analysis of requiring utility installations to specific geo-spatial locations and provide accurate as builds

**BACKGROUND/NEEDS STATEMENT**

The public ROW continues to be more congested with increasing use by utility companies. The State DOT's are tasked with the responsibility to manage that ROW. However, the states are faced with a great deal of difficulty with effectively managing the ROW versus a requirement to accommodate utilities who don't know where their own or other existing facilities are located and don't install new or relocated facilities to specific geo-spatial coordinates. New permit applications often don't include a "Z" coordinate. Many DOT's don't have the manpower to provide the detailed inspection necessary to ascertain if the utility has installed to the permitted location. This leaves a lot of unknowns about where and what items are installed. Also, many utilities buy out other companies and the historical information (in both knowledge and records) may be lost.

The lack of usable and sufficient data of where utilities are located results in additional costs to effectively coordinate future projects. To begin design, states have to work with utilities to obtain locates at additional costs that would be unnecessary if the utility kept and provided accurate location information. This cost could be offset if utilities were required on a federal level to know where their facilities are, or constrained to provide that information with a reasonable notice. This is not intended to minimize or negate the need to always verify and properly use required call before you dig laws. Projects would develop much quicker with fewer assumptions and less risk if utilities were always installed to specific coordinates and or reliable as builds were required.

If this requirement was done on a national level the utilities would make the required adjustments to their procedures. These adjustments are projected to be to properly installed to surveyed locations during new installations or relocations. And also, the adjustments might be to provide good records and provide some level of SUE in response to new projects.

**RESEARCH OBJECTIVE**

The purpose of this research is to identify the reasons why utilities aren't required to install to specific geo-spatial coordinates and why FHWA and DOT's aren't requiring these coordinates-specifically the "Z" coordinate or elevation. The research may also investigate cost analysis for the utilities to install and provide as builds. The research may investigate the cost to DOT's to inspect the installations, manage the permit process, and the technical requirements of inspection and plan approval. The research may investigate the cost in time and money to coordinate new transportation projects because of the lack of knowledge of where utilities are currently located in "Y" and "Z" space.

## **WORK TASKS**

- Research the current situation with several state Utility Engineers to understand multiple state perspectives
- Research the implications to utility companies for utility relocation projects and when installing new facilities
- Research the cost implications for project development in the current and potential if this constraint was implemented
- Research the risk reduction and safety implications if utilities were installed to specific locations with as builds available
- Research the cost implications of requiring utility companies to have surveyors or purchase survey equipment
- Research the ability of DOT's to hold utilities accountable for not providing records sufficiently and timely; and to hold the utilities accountable for contractor claims when they have not installed to permitted locations.
- Compare and evaluate the development of the ASCE Utility As Built standard with potential delivery in 2016.

## **URGENCY**

Risk and perceived risk increases a state DOT's cost of both project development and project delivery. Any effort to reduce unknowns such as accurate placement of utilities should reduce the risk and therefore their cost.

## **FUNDING REQUESTED AND TIME REQUIRED**

It is estimated that this research will take 9 months to complete and will require \$100,000.

## **CONTACT PERSONS**

**Kenny Franklin, INDOT Director of Utilities, and Jennifer McCleve, Kentucky Utility Engineer**

