

# Quantifying Utility Risk in Transportation Project Development

Roy Sturgill

Kentucky Transportation Center, roy.sturgill@uky.edu

Tim Taylor

University of Kentucky, Department of Civil Engineering, tim.taylor@uky.edu

Gabe Dadi

University of Kentucky, Department of Civil Engineering, gabe.dadi@uky.edu

While highways and utility facilities may seem different, they share in providing services expected by the public and are both ultimately funded by the public through taxes or user rates. They also frequently share physical location. Utility risks can include uncertainties in location, operational characteristics, structural characteristics, utility company priorities, and schedule and costs. Each of these risks affect a transportation agency's ability to deliver projects on time and within budget. Effective utility coordination and utility risk management can improve the delivery of transportation projects and reduce project risks posed by delays, safety hazards, and cost overruns. Utility coordination entails agreements, estimates, risk identification and management, reimbursements, and all other terms associated with these interactions. This research developed and tested a prototype tool and methodology to quantify and manage critical elements of utility risk affecting transportation project development and delivery. The tools and methodologies are presented in a format that affords project managers and designers the ability to quantify, document, and make informed decisions about uncertainties and risks in the management of utility issues. The approach presented relies on readily available project information that can easily be gathered in early project stages. The risk algorithm developed presents a quantitative measure of risk that can then be used for prioritizing utility coordination resources and risk management efforts or be used in determining the feasibility of consultant-led utility coordination among other utility practices on a project.

*Keywords:* Utility Coordination, Utility Risk, Risk Based Management