



Project Title: Determining Ways to Mediate Inaccurate Utility Estimates for Planning, Design, and Bid Prices at Letting

Problem Description

Over the past decade and a half, the State of Tennessee has witnessed a remarkable surge in its population, unprecedented in its history. This rapid growth has not only resulted in a significant increase in traffic volume but also in the accelerated degradation of state routes and the burgeoning development along these crucial corridors. In response to these challenges and to accommodate the burgeoning demands of its growing population, the state legislature passed the Transportation Modernization Act. This landmark legislation has earmarked billions of dollars for the enhancement of Tennessee's roadways and infrastructure, aiming to elevate the infrastructure across various types and levels of service on Tennessee roadways to meet current and future needs.

Research Objectives

The State of Tennessee has witnessed significant growth over the past decade, which has led to increased traffic, accelerated wear on state routes, and a surge in utility infrastructure within state highway rights of way. The TDOT faces challenges in coordinating the relocation of these utilities due to inaccurate preliminary cost estimates, leading to project delays, cost overruns, and disputes with utility companies. This proposal introduces an innovative solution: the development of **an Artificial Intelligence (AI)-based tool designed to provide accurate utility relocation cost estimations**. This tool aims to streamline budgeting processes, reduce discrepancies between estimated and actual costs, and minimize project delays and disputes.

Potential Implementation and Expected Benefits

The final phase involves rigorous testing of the developed tool in a series of real-world scenarios to validate its accuracy and effectiveness. This will include pilot testing with a select group of TDOT projects to gather feedback and make necessary adjustments to the tool and the underlying AI models. Following successful testing, the tool will be rolled out for widespread use across TDOT's regional offices and utility departments. Continuous monitoring will be implemented to assess the tool's impact on project planning, budgeting, and execution, with a commitment to ongoing refinement and improvement based on user feedback and evolving project needs. This phase ensures the tool not only meets the current requirements but is also positioned to adapt to future challenges and technological advancements in utility management and infrastructure development.

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Project Term:

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