



**TriDurLE**

**National Center for Transportation  
Infrastructure Durability & Life-Extension**

UTC Project Information – National UTC TriDurLE	
Project Title	Implementing the LWD for MoDOT Construction Acceptance of Unbound Material Layers: Phase II
University	Missouri University of Science and Technology (S&T)
Principal Investigator	PI: Dr. Xiong Zhang; Co-PI: Dr. Jenny Liu
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Funding Source(s) and Amount Provided (by each agency or organization)	TriDurLE: \$100,000 MoDOT: \$100,000
Total Project Cost	\$200,000
Agency ID or Contract Number	
Start and End Dates	07/01/2023 – 06/30/2024
Brief Description of Research Project	Modulus-based quality assurance (QA) methods with Light-Weight Deflectometer (LWD) can easily measure the critical engineering properties of compacted soil in the field. The Phase I project has concluded that the LWD is a promising tool for construction acceptance evaluation of unbound material layers such as well graded sands and clay soils. However, limited number sites were tested since LWD could not be used on clay soil sites with much higher moisture content than optimum. In this Phase II project, more types of soils from different sites to develop representative testing specifications.
Describe Implementation of Research Outcomes (or why not implemented)	The project will develop testing specification for field compaction QA using LWD. The existing testing procedure will also be simplified to improve the testing efficiency and will be ready to implement. In addition, the highway agency will obtain important data of resilient behavior of typical Missouri unbound materials from lab LWD on mold, lab triaxial test, and field LWD and significant influencing factors for future design, construction, and management.
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	The implementation of the LWD testing methods and specifications will assure a better construction quality and provide the engineering properties critical for better understanding of the connection between pavement design and long-term pavement performance.

Web links

- Reports
- Project website