

UTC Project Information	
Project Title	MPC-629 – Evaluation of Density and Moisture Testing for Granular Materials
University	South Dakota State University
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology \$38,335 South Dakota Department of Transportation \$39,989
Total Project Cost	\$78,324
Agency ID or Contract Number	69A3551747108
Start and End Dates	August 6, 2020 to July 31, 2022
Brief Description of Research Project	Achieving field densities close to maximum dry density of the granular materials is of vital importance to pavement's performance and its longevity. South Dakota Department of Transportation (SDDOT), among several other DOTs, have been using the Ohio Highway Department's (OHD's) typical moisture/density curves for compaction quality control of granular materials and granular soils. However, the OHD curves were not developed for granular materials and use of them was observed to result in error and inconsistencies between the lab and field-measured densities. In response to a need for development of methods for compaction quality control of granular materials, a SDDOT-funded research project (SD2014-12) recommended that (1) OHD moisture/density curves to be replaced by those developed in SD2014-12 project; and (2) a strength-based method using the Dynamic Cone Penetrometer (DCP) should be applied for compaction quality control. The present study is being proposed to design an evaluation program to verify the moisture/density curves developed in SD2014-12 research project and the suggested DCP method as the strength-based approach. Also, a specification is proposed to be developed for successful implementation of DCP method, if this study shows that the DCP can be used as a strength-based method for screening the field compaction.
Describe Implementation of Research Outcomes (or why not implemented)	

Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none">• Reports• Project Website	