

UTC Project Information	
Project Title	MPC-695 – Durability and Volumetric Stability of Non-Proprietary Ultra High Performance Concrete Mixes Batched With Locally Sourced Materials
University	Utah State University
Principal Investigator	Srishti Banerji, Ph.D. Andrew D. Sorensen, Ph.D.
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Funding Source(s) and Amounts Provided (by each agency or organization)	<p>USDOT, Office of the Assistant Secretary for Research and Technology \$75,000</p> <p>Utah Department of Transportation \$75,000</p>
Total Project Cost	\$150,000
Agency ID or Contract Number	69A3551747108
Start and End Dates	October 11, 2022 to July 31, 2024
Brief Description of Research Project	<p>Ultra High Performance Concrete (UHPC) has received widespread attention for its ability to outperform traditional concrete in nearly every aspect. Due to its superior performance, the application of UHPC does not follow the traditional rules and expectations of standard cementitious materials. So far, commercial premixes, such as Ductal®, CEMTEC multi-scale, and CERACEM have dominated the construction industry when it comes to UHPC applications. Although the performance of these UHPC proprietary mixes is exceptional, they are very expensive. To counter this high cost, a significant amount of research has been performed on materials classified as UHPC, including non-proprietary mix designs developed by transportation agencies in other regions. Non-proprietary mix designs developed using locally available materials can result in significant cost savings by eliminating the need to purchase expensive proprietary UHPC mixes from specialized commercial suppliers. The research proposed herein is to examine the durability and volume stability of a locally sourced mix</p>

	design. These two items are of specific interest to local transportation agencies as the typical application of UHPC is for bridge closure pours.
Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here	The developed mixture is further being characterized and tested for development of mixture specifications through Utah DOT.
Impacts/Benefits of Implementation (actual, not anticipated)	The development of a non-proprietary UHPC mix for UDOT will decrease construction costs associated with the usage of UHPC and will also allow for UHPC to be more widely used. Non-proprietary UHPC mixes are at least 50% less expensive than proprietary mixes.
Web Links <ul style="list-style-type: none"> <li>• Reports</li> <li>• Project Website</li> </ul>	<ul style="list-style-type: none"> <li>• MPC Final Report – <a href="#">Durability and Volumetric Stability of Non-Proprietary Ultra-High-Performance Concrete Mixes Batched with Locally Sourced Materials</a></li> </ul>