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| **UTC Project Information** | |
| Project Title | MPC-539 – Ultra-accelerated Method to Evaluate Recycled Concrete Aggregate in New Construction |
| University | University of Wyoming |
| Principal Investigator | Jennifer Tanner |
| PI Contact Information | Associate Professor  University of Wyoming  Phone: (307) 766-2073  Email: tannerj@uwyo.edu  ORCID: 0000-0002-8279-6289 |
| Funding Source(s) and Amounts Provided (by each agency or organization) | USDOT, Research and Innovative Technology Administration  $52,834  Wyoming Department of Transportation  $129,881 |
| Total Project Cost | $182,715 |
| Agency ID or Contract Number | 69A3551747108 |
| Start and End Dates | November 2, 2017 to July 31, 2022 |
| Brief Description of Research Project | The Rocky Mountain Region has experienced considerable difficulty due to the presence of alkali-silica reaction (ASR) in concrete construction. Several sources of aggregate that have produced poorly performing concrete have been removed from service. As an example, DIA runways were damaged by ASR and the repair cost exceeded 30 million. On a positive note, Wyoming Department of Transportation (WYDOT) was successful in using RCA on Interstate 1-80 and with limited ASR damage. In this portion of the road, WYDOT observed a 30 year service life. This performance, coupled with data from a previous study help confirm that using RCA combined with natural aggregates produces durable long-term concrete that will benefit the transportation network in this region. This study intends to provide experimental data that permits RCA to be used in applications beyond base fill for roads. |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | The research outcomes were met. |
| Impacts/Benefits of Implementation  (actual, not anticipated) | This research was intended to promote the use of recycled-concrete aggregate (RCA). The limited variability of results should alleviate alkali-silica reaction concerns for those who wish to use RCA. |
| Web Links   * Reports * Project Website | * [MPC Research Report](https://www.ugpti.org/resources/reports/details.php?id=1022) |