CHARACTERIZATION OF HOT MIX ASPHALT PATCHING MATERIALS PRODUCED WITH MEDIUM-SCALE FIELD MIXING EQUIPMENT

Ben C. Cox
Research Civil Engineer, U.S. Army Engineer Research and Development Center (ERDC), 3909 Halls Ferry Rd, CEERD-GMA, Vicksburg, MS 39180, USA

John B. Sprouse
Research Civil Engineer, Applied Research Associates, Inc. (ARA) 104 Research Rd, Tyndall AFB, FL 32403, USA

ABSTRACT
Patching repairs are often a necessary component of asphalt pavement maintenance programs to address localized distress areas (e.g., fatigue cracking, potholes, utility cuts). Relative to cold mix asphalt, hot mix asphalt (HMA) is preferred for higher quality patches; however, challenges often exist in obtaining patching-size quantities of HMA and maintaining it at compaction temperatures, such as in rural locations that may be located far from asphalt plants. One solution is to field-produce small quantities of asphalt on-site at the repair location using medium-scale mixing equipment (e.g., a compact track loader (CTL) asphalt mixer attachment). This paper characterizes six materials with potential for field HMA production (e.g., pelletized asphalt, reclaimed asphalt pavement millings). These materials were prepared in 135 kg batches using a CTL asphalt mixer then used for subsequent specimen preparation and physical and mechanical property testing. Both rutting and durability results indicate materials tested would be suitable for patching.