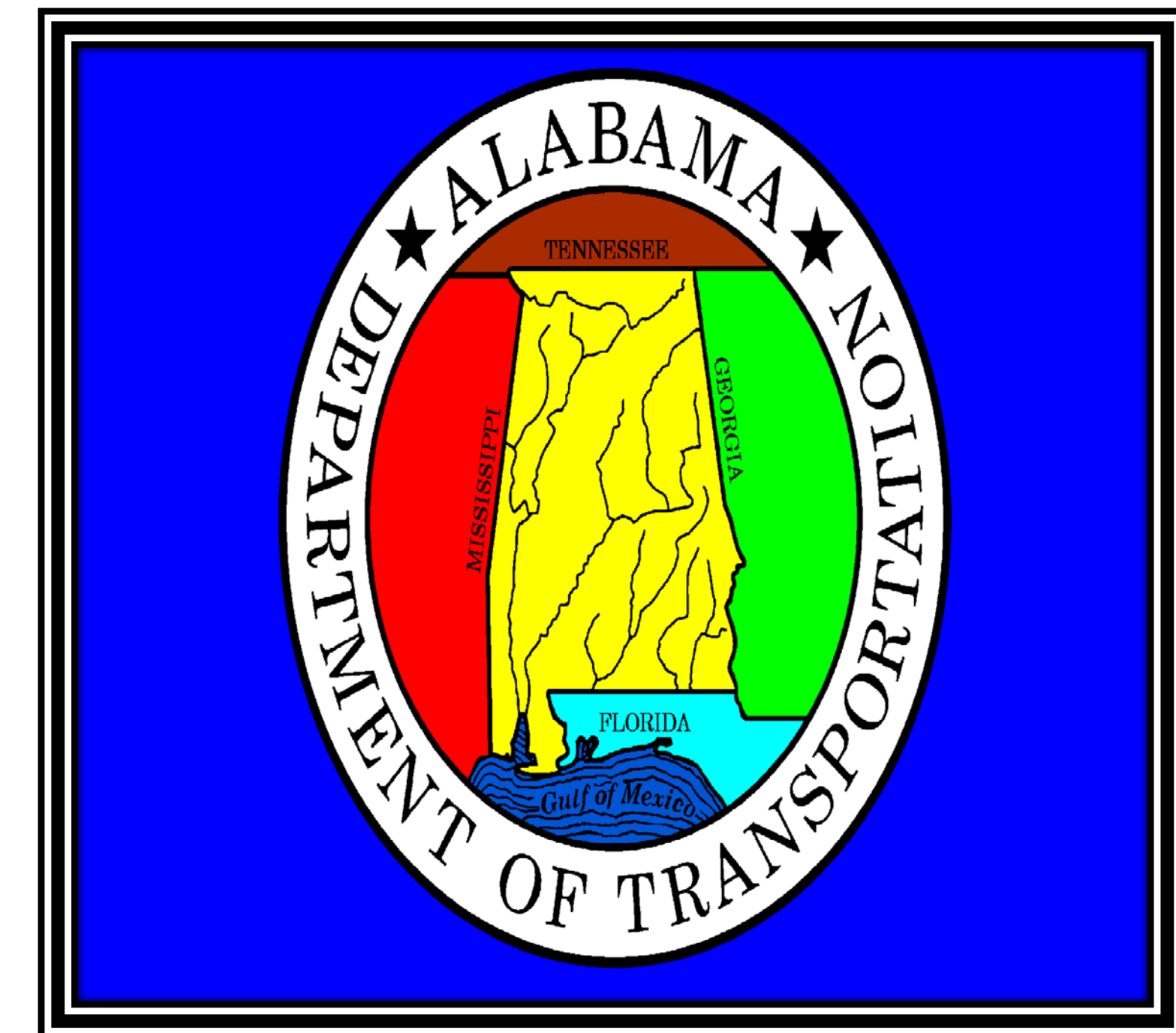




FRICION AND TEXTURE RETENTION OF CONCRETE PAVEMENTS AFTER DIAMOND GRINDING AND GROOVING

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PROJECT BACKGROUND

- Current Alabama Department of Transportation (ALDOT) specifications prohibit the use of carbonate coarse aggregates in mainline and ramp concrete pavements.
- This limitation developed after a number of existing concrete pavements (containing carbonate aggregates) were diamond ground and a significant amount of friction was lost.
- In order to re-introduce carbonate coarse aggregates as ALDOT approved materials for use in concrete pavements, concerns about friction retention after diamond grinding must be addressed.

PROJECT OBJECTIVE

- Investigate two potential solutions to address post-diamond grinding friction loss:
 - (1) Blending siliceous and carbonate coarse aggregates in the concrete mixture at construction
 - (2) Optimized diamond grinding and grooving textures during pavement rehabilitation

TASKS

- Specimen Fabrication
- Apply Grinding and Grooving Textures
- Wear Specimens and Characterize Friction
- Data Analysis
- Final Report and Provide Recommendations to ALDOT

ALDOT RESEARCH PROJECT #930-920

- This research project is being led by The University of Alabama (UA) in collaboration with UT-Austin and being funded by the ALDOT and the Portland Cement Association – Southeast Region.
- The research is focusing on laboratory testing. A second phase of research would focus on demonstration projects using test pavement sections in the field to verify the results of the laboratory work
- **Principal Investigator: Dr. Eric Giannini, Assistant Professor Department of Civil, Construction, and Environmental Engineering**
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