

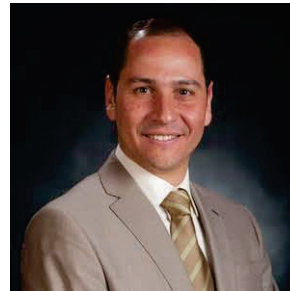
NIATT *Research Summary*

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Evaluating Performance of Concrete Overlays for Pavement Rehabilitation

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Sponsor

Missouri Department of Transportation (MoDOT)

Description

The main objective of this research study is to evaluate, assess, and identify alternative aggregate sources comparable to calcined bauxite that meet the MoDOT HFST aggregate criteria. This objective will be achieved through conducting a comprehensive laboratory experimental testing program following MoDOT's (NJSP-15-13B) criteria along with other proposed tests to assess the frictional properties of alternative aggregates. In addition, the team will evaluate blending calcined bauxite (at various fractions) with alternative aggregates to produce a blend that meet MoDOT's criteria for HFST. Finally, the researchers will also investigate the effect of gradation of alternative aggregates on their frictional performance. The frictional characteristics of HFST and alternative aggregates will be measured using state-of-the-art methods that prove to correlate well with field performance. The team completed several studies on the skid resistance of pavements and have equipment in house needed for the laboratory experiments of have to access to such equipment.



The outcome of this study shall assist MoDOT to identify possible alternative aggregates that provide comparable frictional characteristics to those of calcined bauxite or at least to produce a blend of calcined bauxite and other alternative aggregates that provide comparable performance. Such alternative aggregates or blends shall reduce

the demand on the calcined bauxite and utilize more locally available aggregates which would reduce the cost of HFST. In addition, this project will develop a procedure for future screening and testing of potential HFST aggregates. The successful completion of this study will assist MoDOT to enhance road safety by using more HFST at much reduced cost. Project: 900001