



**TriDurLE**

**National Center for Transportation  
Infrastructure Durability & Life-Extension**

UTC Project Information – National UTC TriDurLE	
Project Title	Use of Recycled Plastics in Asphalt Pavements (Yr 1)
University	Missouri University of Science and Technology (S&T)
Principal Investigator	Dr. Jenny Liu
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Funding Source(s) and Amount Provided (by each agency or organization)	TriDurLE: \$54,226 Missouri S&T: \$54,226
Total Project Cost	\$108,452
Agency ID or Contract Number	
Start and End Dates	5/1/2020-6/30/2021
Brief Description of Research Project	The goal of this study is to conduct a preliminary laboratorial investigation to explore the viability of using recycled plastics in asphalt in the state of Missouri. The recycled plastics will be incorporated into asphalt through wet process. Binder and mixture performance tests will be conducted to evaluate the effects of different recycled plastics on the properties/performances of asphalt binders/mixtures. The appropriate methods (e.g. special pre-treatments to recycled plastics or addition of other additives (e.g. sulfur and polyphosphoric acid as cross-linker) for incorporating different recycled plastics into asphalt will be determined. The results of this study are expected to identify if recycled plastics can be successfully incorporated into asphalt with improved properties/performance. The issues that the recycled plastics modified asphalt binders/mixtures could have will also be identified.
Describe Implementation of Research Outcomes (or why not implemented)	The expected research results will be preliminary findings and recommendations on potential of using recycling plastics in asphalt mixtures and associated issues and challenges to be addressed in future studies. Further phases of studies including comprehensive lab and field performance evaluation, relevant specifications, life cycle cost analysis, and environmental impact assessment before implementation and practice.
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	If the results are promising, the potential benefits will be improved pavement performance with substantial saving on maintenance and repair while eliminating the growing amount of waste plastics being landfilled or polluting the environment through litter.

Web links <ul style="list-style-type: none"><li>• Reports</li><li>• Project website</li></ul>	
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