TIDC Transportation Infrastructure Durability Center AT THE UNIVERSITY OF MAINE

UTC Project Information – Project 2.1	
Project Title	Asphalt Mixtures with Crumb Rubber Modifier for Longevity and Environment
University	University of Rhode Island
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT: $ 124,040.56 URI Research Office: $ 125,327.06
Total Project Cost	$249,367.62
Agency ID or Contract Number	69A3551847101
Start and End Dates	7/1/18 and 6/30/2021
Brief Description of Research Project	The main research plan is to study new materials that will make some positive changes in the durability and longevity of the life of transportation infrastructure, e.g., new asphalt mixtures with Crumb Rubber Modifier (CRM). CRM is recycled rubber produced from waste scrap tires, and when it is incorporated into paving asphalt mixtures, CRM provides many positive improvements in deformation resistance, fatigue resistance and noise reduction Encouraged by successful laboratory study results, CRM became one of the popular materials to modify the properties of conventional asphalt paving materials for pavement longevity, e.g., No-agitation Tire Rubber Modified Bitumen (TR-MB). Since there are 1 billion tires stockpiled and 300 million annual increments of tires generated per year in the United States, CRM also could be the potential solution for the solid waste problem. TR-MB is quite a new technology leading to bituminous binders, such as polymer-modified bitumen, in terms of both rheology and required efforts during paving operations. Their manufacturing is strongly dependent on the selected processing variables as well as on the selected materials. This research will include studying the influence of processing conditions on the modification process, storage stability and overall properties of the final bitumen-tire rubber blends.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	This project is in its initial research phase. Implementation of Research outcomes will be reported upon completion of initial research.
Impacts/Benefits of Implementation (actual, not anticipated)	This project is in its initial research phase. Impacts and benefits of the research will be reported after the implementation phase.
Web Links • Reports • Project website	https://www.tidc-utc.org/kb/project-2-1-asphalt-mixtures-with-crumb-rubber-modifier-crm-for-longevity-and-environment/