UTC Project Information

Project Title	Designing Quieter Pavement Surfaces
University	The University of Texas at Austin
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Funding Source(s) and Amounts Provided (by each agency or organization)	$341,958 TxDOT
Total Project Cost	$341,958
Agency ID or Contract Number	TxDOT Project 0-6819
Start and End Dates	September 1, 2013 to January 31, 2016
Brief Description of Research Project	This project outlines a work plan for the design and maintenance of quieter asphalt and concrete pavements. A literature review will determine the state of the art in designing quieter pavements and contributing factors. An extensive pavement-noise database will be compiled, comprising a variety of asphalt and concrete surfaces with corresponding noise measurements over time. The effect of different overlay asphalt mixtures will be evaluated for flexible pavements (both open and dense mixtures will be considered) and the effect of different surface treatments (such as diamond grinding) for rigid pavements. This database will be analyzed using statistical techniques and will focus on identifying all relevant design parameters influencing noise. Laboratory design procedures to evaluate noise will be developed and correlated against mixture design parameters for a range of different asphalt mixtures. Close proximity and far-field noise tests in the field on both asphalt and concrete pavements will be correlated against laboratory measures towards establishing laboratory test procedures. Following these tasks, a set of preliminary guidelines will be developed to provide the districts with recommendations on and assistance in selecting appropriate candidate projects for low-noise

	surfaces and for designing surfaces to provide long-term noise reductions. A case study will be completed to recommend strategies for addressing noise complaints in an urban setting. In addition, a number of new and existing pavements across Texas will be monitored. Results from the case study and field tests will be used to validate and refine the District guidelines.
Describe Implementation of Research Outcomes (or why not implemented)	N/A
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	Noise is becoming a significant design variable in urban areas in Texas. This project will evaluate different maintenance treatment for both flexible and rigid pavement that will produce quieter pavement surfaces. The implementation of the findings of this research will provide the Texas Department of Transportation (TxDOT) and other state transportation agencies with a set of guidelines to be able to select the most efficient and effective maintenance treatment to maximize the potential for noise reduction and its performance over time.
Web Links • Reports • Project website	<www.chpp.egr.msu.edu>