

0-7077: Evaluation Selection Criteria for TxDOT Form 2088, Surface Aggregate Selection Form

Background

Since 1999, the Texas Department of Transportation (TxDOT) has followed a formal program that provides engineers a framework for identifying existing pavement friction, tools for specifying new pavement surfaces that meet project-specific friction demand, and a means to track the effectiveness of the program. The program was originally named the Texas Wet Weather Accident Reduction Program but then was renamed the Wet Surface Crash Reduction Program (WSCR) in 2011. Wet-weather accident analysis, aggregate selection, and skid testing are three interrelated phases of the program. Form 2088 was created as a tool to help designers evaluate the friction demand and proposed available friction of a new pavement. This form includes selection of a coarse aggregate through the surface aggregate classification system.

What the Researchers Did

The researchers performed a synthesis study to evaluate the factors and criteria included in Form 2088. The current state of the practice and emerging research for the criteria used to determine pavement friction demand and availability were evaluated for flexible pavement surfaces. The researchers prepared and distributed a survey to TxDOT and other state departments of transportation to assess the state of the practice involving the criteria used to:

- Determine friction demand for aggregates used on the surface of flexible pavements.
- Determine the friction available on a proposed pavement surface.
- Select aggregate properties to meet the friction criteria for flexible pavements.

Figure 1 shows the locations of the survey and specification review. The survey request's locations are shown in light blue, and the respondents are shown in darker blue.

What They Found

Form 2088 does not provide adequate guidance for TxDOT designers. Some districts select the same surface aggregate classification (SAC) on all projects, regardless of the Form 2088 designated SAC. The researchers provided interim changes to Form 2088. Future research was also identified, and further recommendations to improve Form 2088 were developed.

What This Means

Improvements to the WSCR will provide designers with the guidance needed to select the appropriate aggregate to help reduce the risk of wet-weather crashes.

Research Performed by:

Texas A&M Transportation Institute

Research Supervisor:

Darlene Goehl, TTI

Researchers:

Eun Sug Park, TTI

Charles Gurganus, TTI

Project Completed:

8-31-2021

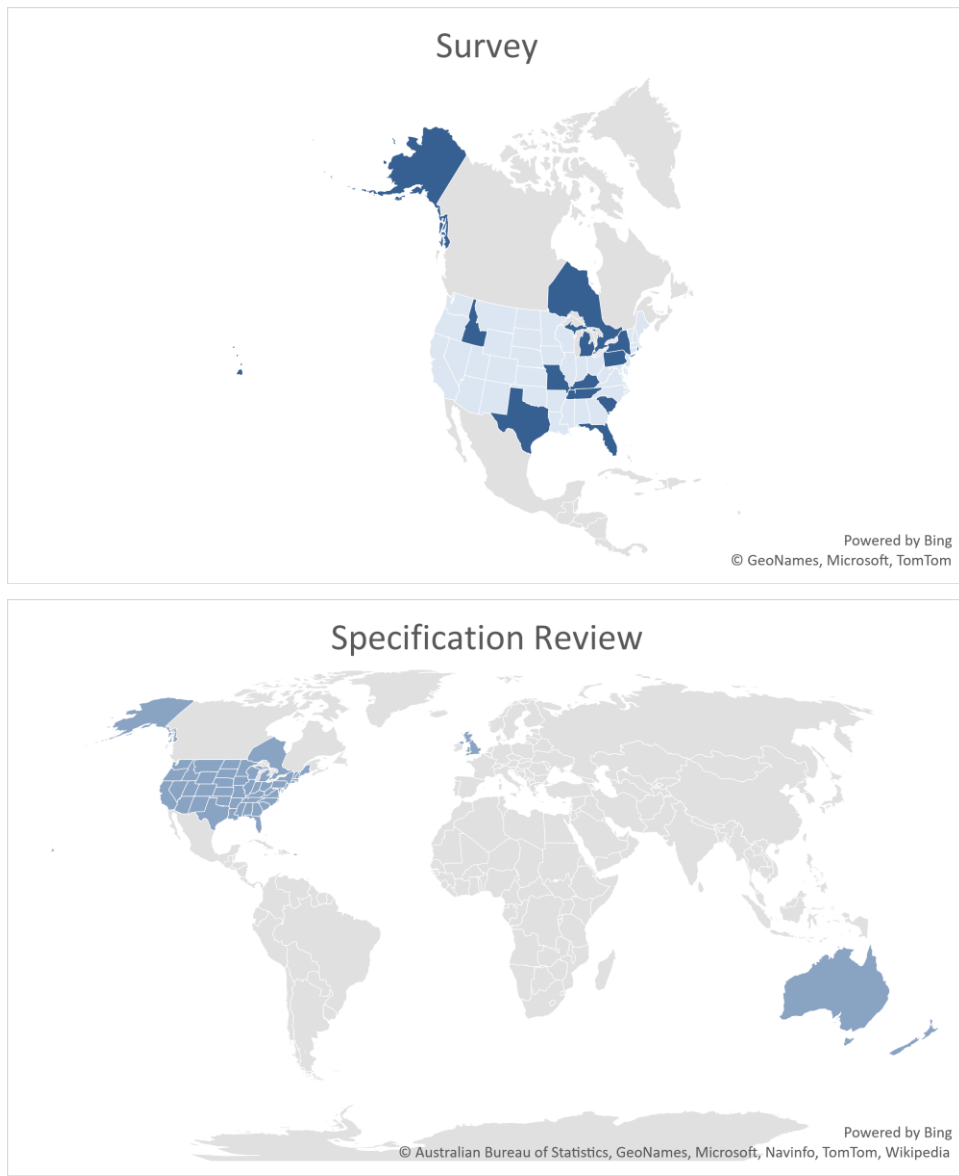


Figure 1. Survey and Specification Review.

For More Information

Project Manager:

Tom Schwerdt, TxDOT, (512) 466-4186

Research Supervisor:

Darlene Goehl, TTI, (979) 317-2329

Technical reports when published are available at <http://library.ctr.utexas.edu>.

Research and Technology Implementation Office

Texas Department of Transportation

125 E. 11th Street

Austin, TX 78701-2483

www.txdot.gov

Keyword: Research

This research was performed in cooperation with the Texas Department of Transportation and the Federal Highway Administration. The contents of this report reflect the views of the authors, who are responsible for the facts and accuracy of the data presented here. The contents do not necessarily reflect the official view or policies of FHWA or TxDOT. This report does not constitute a standard, specification, or regulation, nor is it intended for construction, bidding, or permit purposes. Trade names were used solely for information and not for product endorsement.