SURFACE TREATMENTS TO ALLEVIATE CRASHES ON HORIZONTAL CURVES

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“Sweet Sixteen” Presentation
Introduction

- Presenter
  - Rocio Perez, Research Section Manager, Research and Technology Implementation Office
  - Texas Department of Transportation

- Researchers
  - Mike Pratt, Srinivas Geedipally, Brooke Ullman
  - Texas A&M Transportation Institute
Problem Statement

- Objectives
  - Assess the effectiveness of high-friction surface treatments at improving curve safety. How well do they work?
  - Develop guidelines for application of high-friction surface treatments. When and where are they needed?

- Scope
  - Horizontal curves
  - High-speed roadways
Research Performed

- **Safety Data Analysis**
  - Crash trends on curves
    - All crashes
    - Wet-weather crashes
    - Run-off-road crashes

- **Operational Data Analysis**
  - Curve speeds in advance of, and throughout, the curve
  - Lane placement in the curve
Research Results

- Safety Data Analysis
  - Skid number CMF

- Operational Data Analysis
  - Curve speed models
  - Lane placement models & insights into path corrections

Spacek, 2005
Research Recommendations

Evaluate Curve using Margin of Safety Analysis

Low margin of safety at PC

Improved by treatment
Funding for High-Friction Surface Treatments Increased

- Added to Highway Safety Improvement Program
  - High-friction surface treatment (Curves)
  - High-friction surface treatment (Intersections)
- Can also get HSIP funding for repaving if skid number < 20
Value of Implementing the Research

- **Expected Benefits**
  - Reduction in crash and injury frequency (particularly in wet weather)
  - More effective diagnosis of curve safety problems
    - Location along curve
    - Adequacy of skid resistance in wet-weather conditions
  - Identification of more cost-effective curve treatments

- **Estimation of Benefits**
  - Crash reduction factor of 45% on curves and 20% at intersections
  - Service life of 5 years
Questions/Comments?

- For More Information
  - Darren McDaniel, Darren.McDaniel@txdot.gov, (512) 416-3331
  - Wade Odell, Wade.Odell@txdot.gov, (512) 416-4737
  - Mike Pratt, m-pratt@ttimail.tamu.edu, (979) 845-1907