

American Traffic Safety Services Association

High Friction Surfacing

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President, GTMA

(Chair of ATSSA's High
Friction Surfacing Council)



What is a High Friction Surface?



- $F_N \geq 65$
- Aggregate with resistance to polishing

High Friction Aggregates



Calcined Bauxite

High Friction Polymer Binders



Skid related crashes are determined by many factors:

- Road Geometry
- Driver Actions
- Weather Conditions
- Traffic Characteristics
- Vehicle Speeds



Friction Demand

Different Friction Demand



Why Install High Friction Surfacing?



Speed Mitigation



Current Safety Countermeasures

Signs, Markings, Microsurfacing



Virginia Department of Transportation

Horizontal Curve HFS Installation

Well-Designed Intersections



Why High Friction Surfacing?

FARS 2010

All fatal crashes: 30,443



Fatal Crash Percentages

Horizontal Curves & Intersections
(Roughly 50%)



Where Can High Friction Surfaces Benefit Roadway Safety?

1. Horizontal curves
2. Approach to intersections

When the pavement has:

- a) low friction
- b) marginal friction effected by weather
- c) Friction values not compatible with approach speeds and geometrics

High Friction Surfacing – Curves/Intersections Results

Bellevue, Wash: **45** crashes, **four** rollovers

Oldham County, KY: 8/1/07 thru 8/1/09: **59** Crashes
One Fatal and **23** Injury crashes

Pennsylvania SR 611: 1997 thru 2006: **22** crashes

Intersection/Curve: Bellevue, Washington



Provide Skid Resistant Pavement Surfaces

Intersection/Curve: Bellevue, Wash.

Installation of a HFS surface on a horizontal curve. Prior to the installation, this location had **45** accidents.



Installation by Hand

June 26, 2008 Oldham Era

Rain Increases Danger on KY. 22



Crews work to clear the roadway after a head-on collision during rush hour Friday on KY- 22 at Bridge Hill. The crash left four people injured. Another crash took place Sunday afternoon.

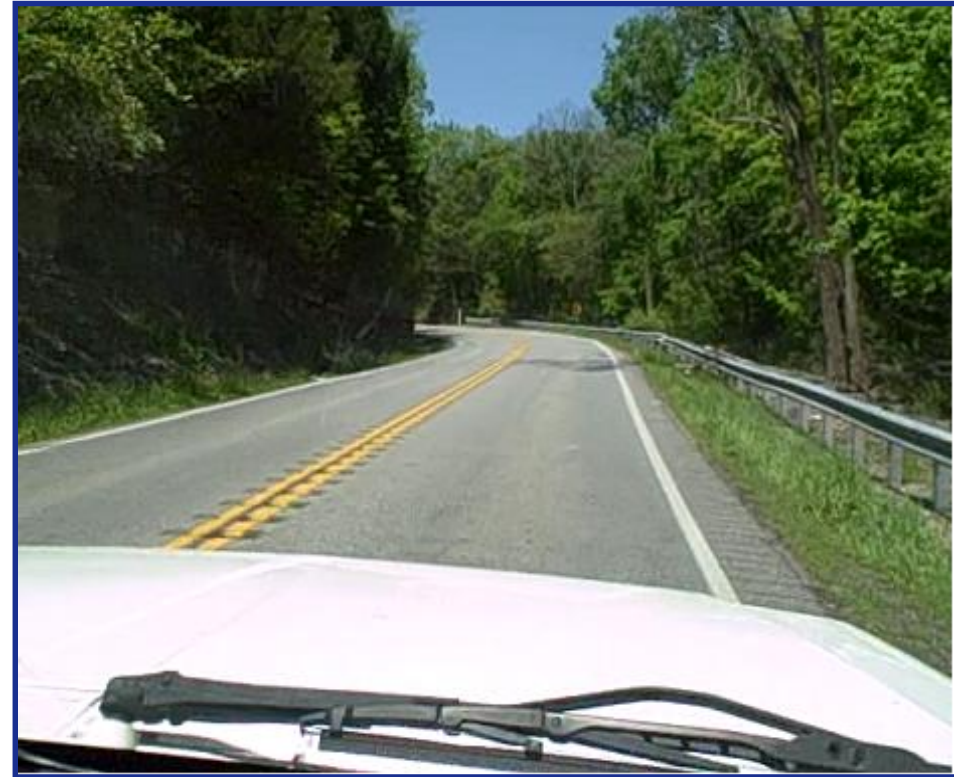
Bridge Hill - Oldham County, KY 22

Rural Curve - Bridge Hill – Oldham County, KY 22

One Fatal
23 Injury Crashes



Bridge Hill - Oldham County, KY 22



Since HFS Installation

Oldham County, KY 22,
8/1/07 thru 8/1/09: 59 total crashes
1 Fatal and 23 Injury crashes

5 crashes since

As of April 10, 2012

Pennsylvania SR 611

1997 thru 2006: **22** crashes

“**Three** Deaths
and **Four**
Injuries in
eight years...”



Pennsylvania SR 611



1:00 pm install complete
& 60% power swept



11:15 am almost 200 sy
completed

Since Installation – Zero Crashes



ATSSA's High Friction Surfacing Council

ATSSA Board Approved: April 2012

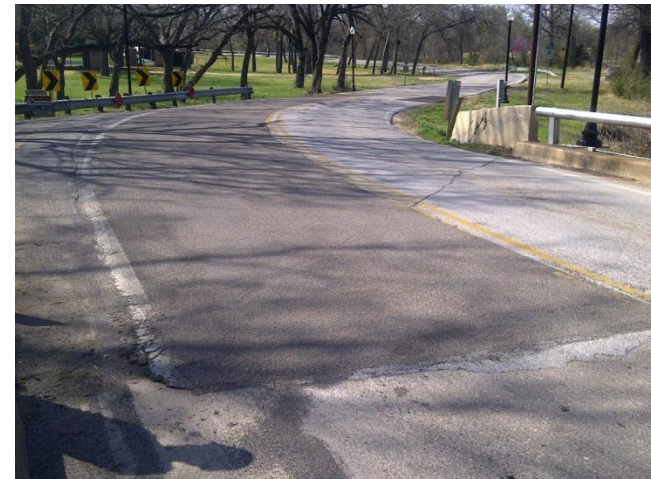


NTPEP Test Deck (Late Summer 2012)

- NTPEP Test Deck Installation – Summer 2012
- AASHTO SOM – Joint Committee (HFS Specification)
- FHWA Every Day Counts Initiative
- ATSSA HFS Booklet
- ATSSA HFS Installer & Inspection Training & Video
- ATSSA Website: highfrictionsurface.net

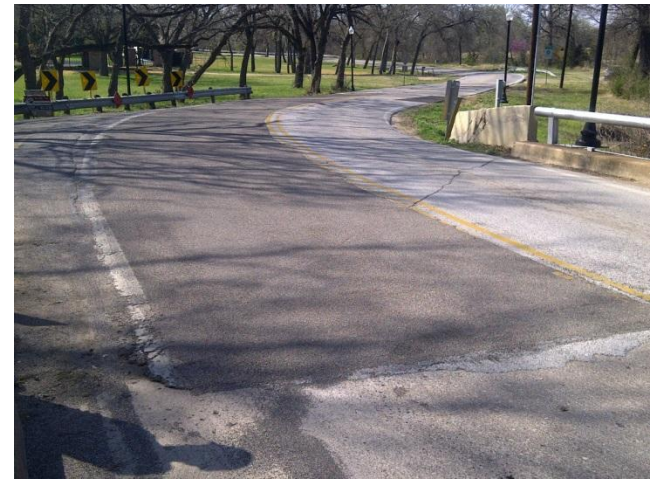
What's Next

- **Enhanced Friction Specification**
(Granite, Flint, etc.)
- **Color Lane Surface Specification**
(Purple, Red & Green)



Policy Initiatives

- **Amend HSIP Friction Language**
- **Pavement Friction Management Program**
- **Data Collection Eligibility – Friction**



Finding HFS Locations

- Horizontal Curves – A New Method for Identifying At-Risk Locations for Safety Investment (Howard Preston)
- Horizontal Curve Identification and Evaluation, September 2012
- SHRP 2 Naturalistic Driving Study & Utah Safety Initiative (ESRI & AAA Foundation)

SAVE THE DATE

JUNE 2-4, 2014

Hilton, Crystal City, VA

GTMA Annual Meeting and TransData Expo/ Datapalooza



www.gtma2014.com





Questions?