

Better Traction Saves Lives

High Friction Surface Treatment



Connecticut's winding, rural roads carry about 10 percent of all vehicle traffic, but experience more than 30 percent of all traffic fatalities.¹ The majority of these deaths result from roadway departure crashes, defined as a crash that occurs after a vehicle crosses either an edge line or the center line, leaving the travel way, and hitting an object.² This crash type results in an average of 145 fatalities each year in Connecticut.³



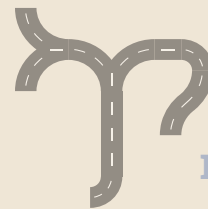
Know the Facts



79
DEATHS

Curve crashes account for 54 percent of the roadway departure fatalities, resulting in 79 deaths each year in Connecticut.

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6X
MORE LIKELY

Connecticut's rural roads are 6 times more likely to experience a fatality than all other Connecticut roadways.⁴

.....



12
LIVES LOST

Connecticut loses 12 lives in wet curve crashes every year.²

What is a High Friction Surface Treatment?



HFST Close-up Sample

A High Friction Surface Treatment (HFST) applies a highly durable aggregate to the pavement using a strong polymer binder to restore or maintain pavement friction. The textured aggregate provides a riding surface with superior pavement friction to keep vehicles on the roadway during times of high friction demand, such as through a deficient geometric design like a sharp curve with inadequate superelevation (i.e., banking of the curve) or on the approach to a high-speed intersection. It can also help compensate for conditions that reduce pavement friction, such as:

- Wet pavement
- Worn tires
- Polished surfaces caused by years of wear and tear
- Motorists driving too fast

By increasing the available friction, the treatment improves the connection between the vehicle's tires and the pavement surface and allows the vehicle to decelerate and stop quicker than a standard pavement surface.

1 Federal Highway Administration (FHWA). *Highway Statistics Series, State Statistical Abstracts 2015, Connecticut*. US Department of Transportation. Washington, DC. Accessible at: <https://www.fhwa.dot.gov/policyinformation/statistics/abstracts/2015/state.cfm?loc=ct>

2 Federal Highway Administration. *Roadway Departure Safety Homepage*. US Department of Transportation. Washington, DC. Accessible at: https://safety.fhwa.dot.gov/roadway_dept/

3 University of Connecticut (UConn). *Connecticut Crash Data Repository (CTCDR)*. Connecticut Department of Transportation (CTDOT). Newington, CT. Accessible at: <https://www.ctcrash.uconn.edu/>

4 TRIP: A National Transportation Research Group. *Rural Connections: Challenges and Opportunities in America's Heartland*. May 2015. TRIP. 3000 Connecticut Avenue, NW, Suite 208, Washington, DC. Accessible at: http://www.tripnet.org/docs/Rural_Roads_TRIP_Report_May_2015.pdf

HFST Cost

\$25-\$50
PER
SQUARE YARD
↓
10 YEAR
LIFE SPAN

HFST Effectiveness⁷

HFST reduces the total number of crashes by:

CURVES	24%
RAMPS	35%
WET CURVES	52%

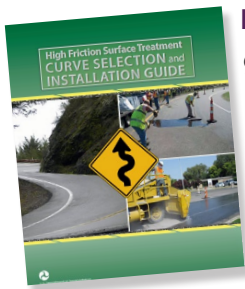
High Friction Surface Treatments Saves Lives

Results from many states show that HFST dramatically and immediately reduces crashes, injuries, and fatalities associated with friction demand issues. For example, Pennsylvania reported a total crash reduction of 87 percent at their HFST trial projects,⁵ while New York found the treatment reduced recurring wet road crashes by 50 percent and all crashes by 20 percent.⁶

Impressive Cost Efficiency

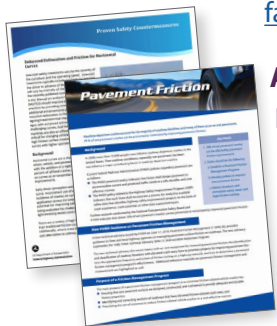
While installation costs are higher than conventional pavement, HFST exhibits a greater coefficient of friction than newly laid pavement and maintains high-friction readings for its entire life span. Compared to higher cost countermeasures (e.g., roadway realignment), HFST is much less expensive and can be nearly as effective, depending on the situation.

Learn More

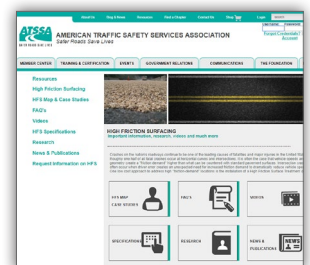


Federal Highway Administration's (FHWA) HFST Curve Selection and Installation Guide. This guide provides a procedure for selecting candidate curves for HFST. It also covers HFST aggregates, binders, installation methods, cost, life cycle, and funding. https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/faqs_links_other/hfst_guide/

FHWA's Pavement Friction Resource Page. This website provides fact sheets, guidance, FAQs, specifications, case studies, videos, and additional resources. https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/faqs_links_other/



American Traffic Safety Services Association's (ATSSA) HFST Resource Page. This website contains HFST related information, research, and videos. It was developed to help policymakers better understand how friction demand impacts the roadway safety and can improve safety at high-risk locations. <http://www.atssa.com/Resources/HighFrictionSurfacing.aspx>



- Musey, K., Park, S., and Kares, M. *Safety Impact of High Friction Surface Treatment Installations in Pennsylvania*. November 2016 Paper Submitted to the 95 38 th Annual Meeting of the Transportation Research Board 39 January 8-12, 2017, Washington, D.C. Accessible at: <http://docs.trb.org/prp/17-02448.pdf>
- Gan, A., Shen, J., and Rodriguez, A. *Update of Florida Crash Reduction Factors and Countermeasures to Improve the Development of District Safety Improvement Projects*, p. 139. Florida Department of Transportation. Tallahassee, FL. Accessible at: <http://www.lctr.org/Documents/CRFFinalReport.pdf>
- Merritt, D., Lyon, C., and Persaud, B. *Evaluation of Pavement Safety Performance: Table 39*. February 2015. US Department of Transportation. Washington, DC. Report No: FHWA-HRT-14-065. Accessible at: <https://www.fhwa.dot.gov/publications/research/safety/14065/14065.pdf>