

The Safety Edge: Preventing Crashes Caused by Unsafe Pavement Edge Drop-offs

Problem: Unsafe pavement edges are a serious safety problem.

Unsafe edge drop-offs cause crashes. An estimated 11,000 Americans suffer injuries and 160 die each year in crashes related to unsafe pavement edges, at a cost of \$1.2 billion. The true extent of the problem is difficult to assess because the role of the hazardous pavement edge in the sequence of events leading to a crash often is not documented.

In addition, tort liability claims resulting from pavement edge drop-offs cost highway agencies millions each year. In one case, the court awarded \$6 million for injuries caused by a low, defective shoulder drop-off.

What is the Definition of an Unsafe Pavement Edge?

Drop-offs of three or more inches are unsafe if the roadway edge is at a 90-degree angle to the shoulder surface.

How do Unsafe Edges Cause Crashes?

Drivers who slip off a resurfaced road onto an unimproved shoulder are likely to lose control as they attempt to climb onto the roadway. The pavement edge creates a “scrubbing” condition that must be overcome through over-steering. As drivers oversteer to reenter the roadway, they are prone to lose control of the vehicle. Compounding the danger, the rear wheel may catch the edge of the shoulder, swinging the car around. These actions may cause the car to veer into the adjacent lane, where it may collide or sideswipe oncoming cars, overturn, or run off the road and crash.

Solution: Adopt the “Safety Edge” pavement edge treatment in building projects.

Adopting a standard contract specification requiring a 45° angle asphalt fillet “Safety Edge” along each side of the roadway in all resurfacing projects is a simple and cost-effective way to assure pavement edge safety.

The asphalt fillet provides a safer roadway edge, and a stronger interface between the roadway and the shoulder. The cost of an asphalt fillet is minimal in comparison to the total amount of the resurfacing contract, and pays back in countless dollars saved from reduction of fatalities, injuries, property damage and lawsuits. The fillet ties the

existing shoulder into the resurfaced roadway and allows a vehicle to reenter the roadway safely. Highway agencies are able to restore the shoulder after the resurfacing project is completed.

Safety Edge Benefits:

- Saves Lives
- Reduces Tort Liability
- Reduces Maintenance Expense
- Costs Less than 1% of Pavement
- Resurfacing Budget

Currently, the Georgia Department of Transportation is working with the FHWA to demonstrate the “Safety Edge” and to gain more experience in construction of the edge with various types of equipment and in various construction conditions.

Solutions to the pavement edge drop-off hazard are to:

- Require a 45° angle asphalt fillet “Safety Edge” as a contract specification in all pavement resurfacing projects; and
- Routinely resurface shoulders when roadways are resurfaced.

For more detailed information about specifying and placing the “Safety Edge,” contact;

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