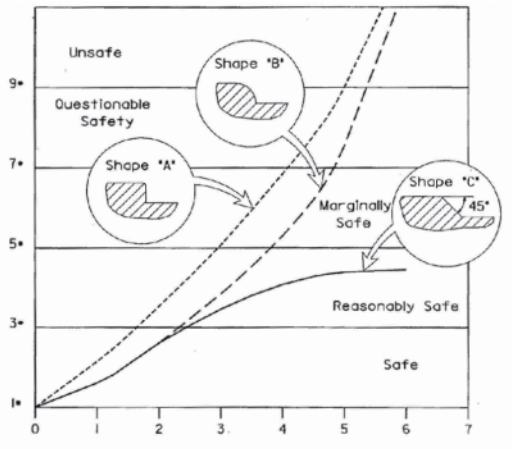
Relative Safety of Various Edge Elevations and Shapes

The chart below shows how various edge shapes relate to safety.



Longitudinal EdgeElevation Change (inches)

** These numbers are subjective severity levels.*

Zimmer and Ivey, Texas Transportation Institute, 1982]

Asphalt pavement contractors can use a special edging device on resurfacing equipment to install the "Safety Edge" while resurfacing. The roadway shown above was placed by the FHWA Central Federal Lands Divison using the "Safety Edge."

Call FHWA for More Information about the "Safety Edge"

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.

For more detailed information about specifying and placing the "Safety Edge," contact the Federal Highway Administration (FHWA).

Contact

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U.S. Department of Transportation
Federal Highway Administration

You Can Prevent Crashes Caused by Unsafe Pavement Edge Drop-offs

THE SAFETY EDGE

Pavement Edge Treatment

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

Unsafe Pavement Edges are a Serious Safety Problem

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.

What is the Definition of an Unsafe Pavement Edge?

Unsafe edge drop-offs cause crashes.

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 over-steer 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.

PAVEMENT EDGE HAZARDS AND TORT LIABILITY

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.

Be Part of the Solution by Specifying the "Safety Edge"

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

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.

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.

An inexpensive way to assure pavement edge safety is to specify a 45° angle asphalt fillet "Safety Edge."

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.