

The Safety Edge

An Easy and Low-Cost Treatment for Pavement-Edge Dropoff

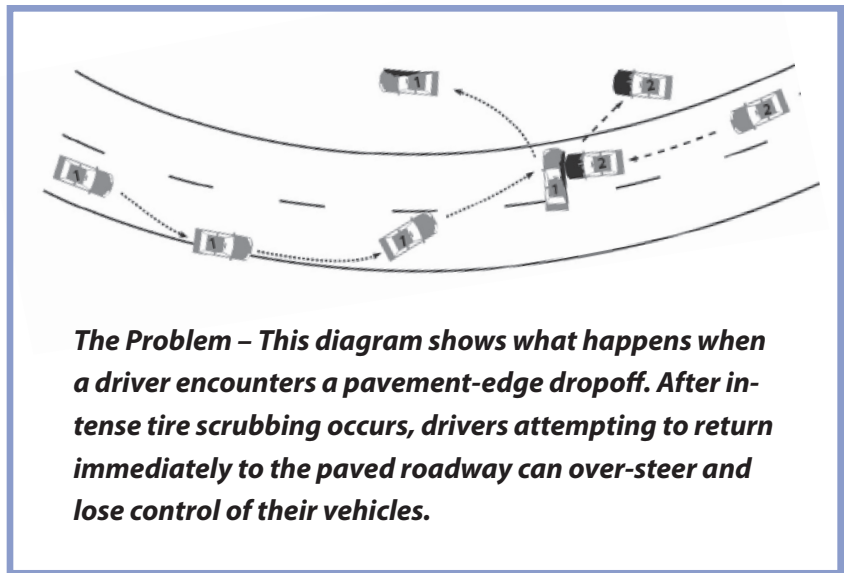
Roadway departures account for more than half of fatal crashes nationwide. One cause of crashes following roadway departures, especially on rural two-lane roads, is pavement-edge dropoff, the uneven and sometimes vertical edge between the paved travel lane and the unpaved shoulder.

What is the Problem?

When a vehicle leaves the pavement and straddles the unpaved shoulder, the vertical edge can make it difficult for a driver to safely reenter the paved travel lane. In some cases, drivers attempting to return immediately to the paved roadway over-steer and lose control of their vehicles.

The resulting crashes tend to be more severe than other crash types, sometimes resulting in vehicles overturning or hitting an oncoming vehicle. Or the vehicle may cross the lane and run-off the other side of the road and hit a fixed object or overturn on a slope.

The problem of pavement-edge dropoff begins at the time of conventional construction. The additional asphalt creates a vertical edge until the unpaved shoulder is regraded flush with the pavement. But within about 2 months or so the unpaved shoulder begins to settle or erode, exposing the vertical pavement edge once again. The new exposed pavement edge may also start to crumble and break off.



The Solution – A 30-degree angled pavement edge, called the Safety Edge, is shown here in the main photo immediately after construction. After the unpaved shoulder is regraded flush with the pavement, shown in the inset photo, the Safety Edge creates a more durable pavement edge and makes recovery from any future dropoff much easier and safer.

What is the Solution?

A relatively easy and inexpensive countermeasure to pavement-edge dropoffs is to change the way the edge of the pavement is constructed. Studies have shown that creating a 30-degree angled wedge at the pavement edge eliminates tire scrubbing, making it easier for motorists and cyclists to safely recover after encountering a dropoff.

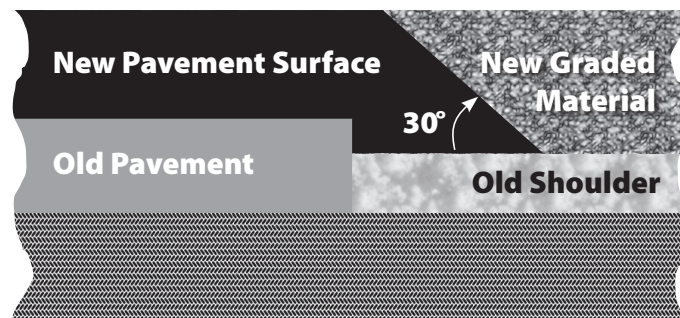
This angled edge is called the Safety Edge. It can be installed along the pavement edge during any paving project. A special, commercially available attachment or shoe is bolted to the paving machine. The shoe acts as a screed extension and extrudes the asphalt, forming a durable pavement edge at a 30-degree wedge shape. Installing the Safety Edge adds little or no cost to pavement projects.

The Safety Edge provides several benefits:

- Improved safety for motorists and cyclists
- Easy to install at very low or no cost
- Creates a stronger and more durable pavement edge



The safety wedge shoe shown here acts as a screed extension and extrudes the asphalt, forming a compacted pavement edge at a 30-degree angle. The Safety Edge also can be applied during concrete paving projects.



This diagram shows how the Safety Edge is created during a repaving project. As the "new graded material" begins to settle or erode, the angled and more durable Safety Edge prevents a vertical edge from forming, making the pavement edge safer for drivers and cyclists.

For More Information

On the internet: http://safety.fhwa.dot.gov/roadway_dept/

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