



A Guide for Addressing Run-Off-Road Collisions

One of a Series of Guides to Help States Improve Highway Safety

39 Percent of Fatal Crashes Involve Vehicles Leaving the Roadway

Nearly 4 of every 10 fatal motor vehicle crashes—well over 14,000—involve a single vehicle leaving the roadway.

There are more than twice as many run-off-road (ROR) fatal crashes on rural roads than on urban roads. Some 42 percent of ROR fatal crashes occur on curves (50 percent in rural areas). And the life-threatening events most likely to occur are rollovers (42 percent) and collisions with trees (25 percent).

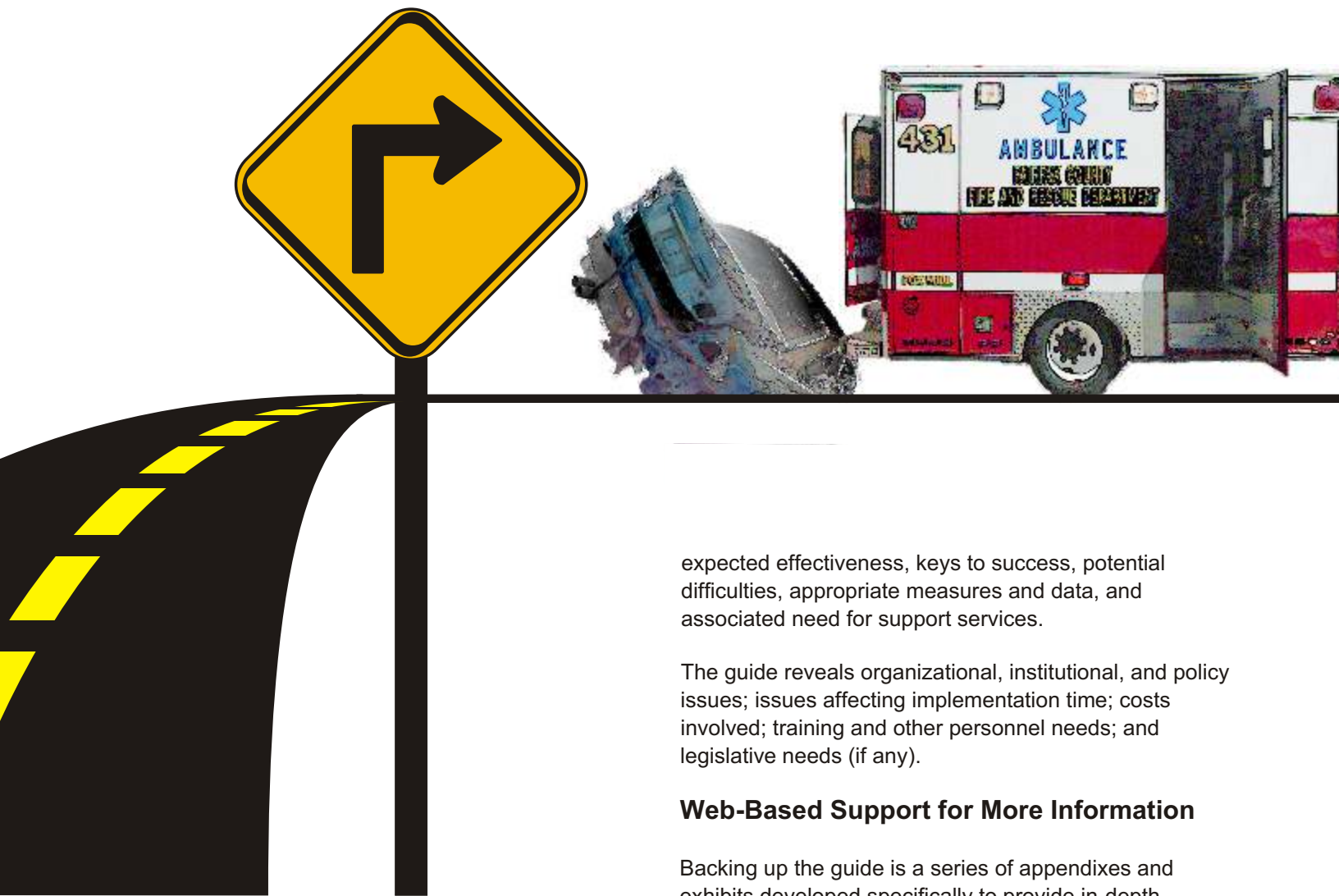
Representative Countermeasures

✓ **Keep vehicles from encroaching on the roadside:** Install shoulder rumble strips; install edgeline “profile markings,” edgeline rumble strips, or modified shoulder rumble strips on sections with narrow or no

paved shoulders; install mid-lane rumble strips; provide enhanced shoulder or in-lane delineation and marking for sharp curves; provide improved highway geometry for horizontal and vertical curves; provide enhanced pavement markings; provide skid-resistant pavement surfaces; and eliminate shoulder drop-offs.

- ✓ **Minimize the likelihood of crashing into an object or overturning if the vehicle travels beyond the shoulder of the road:** Widen and/or pave shoulders, design safer slopes and ditches to prevent rollovers, remove or relocate objects in hazardous locations, and delineate trees or utility poles with retroreflective tape.
- ✓ **Reduce the severity of crashes:** Provide crash-worthy roadside hardware and widen clear zones.





How the Implementation Guide Helps You

The guide lists practical countermeasure strategies, categorized by relative cost to implement. Many of these strategies have been formally evaluated to demonstrate effectiveness. Other strategies lack formal evaluation, but have been implemented with promising results.

The guide lays out the technical attributes of each countermeasure strategy in detail: target audience,

expected effectiveness, keys to success, potential difficulties, appropriate measures and data, and associated need for support services.

The guide reveals organizational, institutional, and policy issues; issues affecting implementation time; costs involved; training and other personnel needs; and legislative needs (if any).

Web-Based Support for More Information

Backing up the guide is a series of appendixes and exhibits developed specifically to provide in-depth information useful to anyone implementing this part of the Strategic Highway Safety Plan, together with a collection of general knowledge sharing documents providing background, data, and information of significant value to state and local implementers.

This guide is one in a series developed to assist states in their efforts to improve highway safety. Copies of the plan, the guides, the Integrated Safety Management System, Self-Assessment Tool, and related documents, may be obtained on the Internet at safety.transportation.org.



Printed copies of the guides can be obtained from:
Transportation Research Board

National Cooperative Highway Research Program
500 Fifth St., NW
Washington, DC 20001-2721

Telephone: 202-334-3213

Implementing the AASHTO Strategic Highway Safety Plan