



A Guide for Reducing Collisions Involving Utility Poles NCHRP Report 500-8

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

More than 1,000 Motorists Die Annually In Crashes Involving Utility Poles

Each year there are more than 1,000 fatal crashes associated with utility poles, a figure based on collision with a utility pole being the “most harmful event” in a fatal crash. Many more crashes in which one or more vehicles strike a utility pole are not classified as run-off-the-road or fixed-object crashes. In some cases, striking the utility pole is a “secondary event” —even though it may be as severe as, or even more severe than, the first harmful event, this can easily go unnoticed when accident reports only identify the first harmful event.

Nearly 40 percent of utility pole crashes involve some type of non-fatal injury. About 25 percent of pole crashes occur in adverse weather conditions, while another 25 percent occur under lighted conditions at night. Half occur in full daylight. Because of the structural strength and small impact area of utility poles, these crashes tend to be severe. The only object type more frequently struck in fatal fixed-object crashes is trees.

Utility poles represent one of the more substantial and most common objects that are intentionally placed on the roadside. With some 88 million utility poles on highway rights of way in the United States, clearly it is not possible to “fix” all the potentially hazardous poles immediately. Nevertheless, organized and targeted strategies over time to treat roadsides can

significantly reduce the likelihood of a vehicle striking a utility pole or of that event causing injuries.

This guide focuses on lower-cost strategies that can be implemented quickly – strategies that are focused on “spots” (poles or guy wires) or short sections of the roadway and that are aimed at reducing the harm in utility pole crashes after encroachment on the roadside has occurred. States and other agencies should also

consider long-term strategies to make gradual improvements in locations with less urgent or demonstrated needs.

Representative Countermeasures

- ✓ **Treat specific utility poles in high-crash and high-risk spot locations:** Remove or relocate poles in high crash locations; relocate poles in high crash locations farther from the roadway or to a less vulnerable location; shield drivers from poles in high crash locations; improve drivers’ ability to see poles in high crash locations; and apply traffic calming measures to reduce speeds and severity of injuries on high-risk sections.
- ✓ **Prevent placing utility poles in high-risk locations:** Develop, revise, and implement policies to prevent placing or replacing poles within the recovery area.





- ✓ **Treat several utility poles along a corridor to minimize the likelihood of crashing into a utility pole if a vehicle runs off the road:** Place utilities underground; relocate poles along the corridor farther from the roadway and/or to less vulnerable locations; and decrease the number of poles along the corridor.
- ✓ **Related strategies:** Public information programs, better enforcement of traffic laws, improved EMS and trauma systems, improving safety management systems, and strategies detailed in other emphasis area guides, especially those addressing ROR crashes.

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 discusses 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, the Self-Assessment Tool, and related documents, may be obtained on the Internet at <http://safety.transportation.org>.



Printed copies of the guides and the Integrated Safety Management Process can be obtained from:

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Implementing the AASHTO Strategic Highway Safety Plan