

UNSIGNALIZED INTERSECTION SAFETY STRATEGIES



Improve Visibility of Intersections by Providing Enhanced Signing and Delineation

WHERE TO USE

Unsignalized intersections that are not clearly visible to approaching motorists, particularly approaching motorists on the major road. The strategy is particularly appropriate for intersections with patterns of rear-end, right-angle, or turning crashes related to lack of driver awareness of the presence of the intersection.



Photos by: FHWA

DETAILS

Many unsignalized intersections are not readily visible to approaching drivers, particularly drivers on major-road approaches that are not controlled by stop or yield signs. Thus, intersection crashes may occur because approaching drivers may be unaware of the presence of the intersection. The visibility of intersections and, thus, the ability of approaching drivers to perceive them can be enhanced by signing and delineation. Improvements may include advance guide signs, advance street name signs, warning signs, pavement markings, post-mounted delineators, and supplemental beacons on advance signs.

The *FHWA Older Driver Highway Design Handbook* encourages such improvements to contribute to a better driving environment for older drivers. In particular, the handbook addresses advance guide signs and letter height on guide signs as key issues for older drivers. Advance warning signs, such as the standard intersection warning sign, can also alert drivers to the presence of an intersection. Providing a break in pavement markings—including centerlines, lane lines, and edge lines—at intersections also helps to alert drivers to the presence of an intersection.



KEY TO SUCCESS

Select a combination of signing and delineation techniques appropriate to conditions on particular unsignalized intersection approaches. This engineering assessment should, where possible, be accompanied by a human factors assessment of signing and delineation needs.

Also, the ability and commitment of the highway agency to adequately maintain the signing or delineation is important.

ISSUES

Care should be taken not to overuse traffic signing, which could result in drivers not perceiving the presence of intersections.

TIME FRAME ●○○○

This strategy does not require a long development process. Signing and delineation improvements can typically be implemented in 3 months or less.

COSTS ●○○○

Costs to implement signing and delineation are relatively low. An agency's maintenance costs may increase.

EFFECTIVENESS

TRIED: Making drivers aware that they are approaching an intersection, through the use of enhanced signing and delineation, should improve safety at the intersection because drivers will be more alert to potential vehicles on the cross streets. This heightened awareness will quicken drivers' reaction times when conflicts occur.

One study concluded that installing double stop signs can reduce all crashes up to 11% and right-angle crashes up to 55%. The same study concluded that installing advance warning signs can reduce all crashes up to 30% at urban locations and 40% at rural locations.

Another analysis indicated a crash reduction of 70% when flashing beacons were installed on advance of 3-leg intersections and up to 39% at 4-leg intersections.

COMPATIBILITY

This strategy can be used in conjunction with most other strategies for improving safety at unsignalized intersections.

SUPPLEMENTAL INFORMATION

Signing in conformance with the *Manual on Uniform Traffic Control Devices* should be provided.

For more details on this and other countermeasures: <http://safety.transportation.org>

For more information contact:

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