

UNSIGNALIZED INTERSECTION SAFETY STRATEGIES



Provide Offset Right-Turn Lanes at Intersections

WHERE TO USE

Unsignalized intersections with a high frequency of crashes between vehicles on the minor road that are turning left, turning right, or proceeding straight through, and vehicles on the major road.



Photo by: Iowa DOT

DETAILS

A potential problem in installing right-turn lanes at intersections is that vehicles in the right-turn lane on the major road may block the minor-road drivers' views of traffic approaching on the major road. This can lead to crashes between vehicles turning left, turning right, or crossing from the minor road and through vehicles on the major road. To reduce the potential for crashes of this type, the right-turn lanes can be offset by moving them laterally so that vehicles in the right-turn lanes no longer obstruct the view of the minor road driver.

KEY TO SUCCESS

Identify candidate locations where right-turn vehicles block drivers' views of approaching traffic. Any intersection with a pattern of crashes between minor-road vehicles and major-road vehicles with existing right-turn lanes (or where installation of right-turn lanes is being considered) should be checked to determine the amount of available offset.

ISSUES

A potential pitfall of installing offset right-turn lanes is that drivers initially may be confused by the change in traffic patterns, particularly in areas where offset right-turn lanes have not been used previously. This can be minimized by effective use of advance guide signing and pavement markings.



Installation of offset right-turn lanes increases the overall width of the intersection. Therefore, the additional width may cause potential problems for pedestrians crossing the intersection. A possible solution to this problem would be to provide a pedestrian refuge island between the offset right-turn lane and through lanes. However, it is not advisable to use raised islands on high speed approaches.

TIME FRAME ●●○

Intersections where offset right-turn lanes can be provided simply by restriping the roadway are relatively rare. Therefore, time for project development and construction is required. Where an existing right-turn lane and wide shoulder are present, offset right-turn lanes can usually be provided without purchasing additional right-of-way; in such cases, implementation in 2 years may be possible. If additional right-of-way is needed and substantial social and environmental impacts need to be evaluated, the implementation may take up to 4 years.

The implementation period can be reduced when an agency adopts this design by policy and implements it on projects in preliminary or final design.

COSTS ●●●○

Costs may be highly variable and depend on right-of-way needs.

EFFECTIVENESS

TRIED: No research has been conducted on offset right-turn lanes to determine their safety effectiveness. Safety effectiveness is likely to depend upon the traffic volumes of the conflicting turning and through movements and the amount of offset between the right-turn lanes at the intersection.

COMPATIBILITY

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

SUPPLEMENTAL INFORMATION

There is no formal policy on the use of offset right-turn lanes in the *AASHTO Policy on Geometric Design of Highways and Streets*. Highway agencies may consider incorporating a policy in their own design manuals and guides.

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

For more information contact:

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