

SIGNALIZED INTERSECTION SAFETY STRATEGIES



Redesign Intersection Approaches

WHERE TO USE

Signalized intersections with safety problems related to sight distance that cannot be addressed with less expensive methods.



DETAILS

If other less expensive methods cannot be used or are ineffective, horizontal or vertical (or both) realignment of approaches may be a solution. Realigning both of the minor road approaches so that they intersect the major road at a different location, or a different angle, can help address horizontal sight distance issues.

This is a high-cost, longer-term treatment for the intersection, but if completed according to applicable design policy, it should help alleviate crashes related to sight distance. The *AASHTO Policy on Geometric Design of Highways and Streets* contains sight distance guidelines, and these guidelines should be considered when revising intersection approach geometry.

An intersection leg can be closed or can be made one-way away from the intersection in order to address sight distance issues related to that particular leg. Intersection relocation and closure, elimination of intersection skew, and offsetting of left-turn lanes are all strategies that involve improvements to approach alignment to improve sight distance.

KEY TO SUCCESS

There are significant right-of-way and property access issues involved in this strategy, and public information campaigns are vital to the success of the intersection improvements.



ISSUES

Owners of properties where access would be reduced, especially owners of commercial operations, may oppose this strategy. Thus, careful evaluation of the potential impacts of proposed improvements is needed to avoid or minimize such problems.

TIME FRAME ●●●●

This strategy requires a long implementation time. At least one year is necessary to work out the details of intersection approach realignment and to communicate the plan to affected businesses owners and residents. Where relocation requires right-of-way acquisition and/or demolition of existing structures, an extensive project development process of up to four years may be required.

COSTS ●●●●●

The costs to change the horizontal or vertical alignment of an intersection approach are usually high. Furthermore, additional right-of-way will generally need to be acquired.

EFFECTIVENESS

TRIED: Implementing any of these strategies should improve safety at signalized intersections. More research is needed to better quantify estimates of crash reduction for these countermeasures.

COMPATIBILITY

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

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

For more information contact:

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