

SIGNALIZED INTERSECTION SAFETY STRATEGIES



Remove Unwarranted Signal

WHERE TO USE

Signalized intersections where the traffic volumes and safety record do not warrant a traffic signal.



Photo by: FHWA

DETAILS

Traffic signals can remedy many safety and operational problems at intersections. However, signals often can adversely affect intersections. It is possible that a signal may no longer be warranted due to changes in traffic conditions. Problems created by an unwarranted signal, such as excessive delay, increased rerouting of traffic to less-appropriate roads and intersections, higher crash rates, and disobedience of the traffic signal can be addressed by removing the signal if doing so would not create worse problems.

Studies should be performed when considering removing a signal. This study should identify the appropriate replacement traffic control devices and any sight distance restrictions that may not have been an issue while under signalized control.

Once the new traffic control has been installed, the signal heads should be set to flash or should be covered for a minimum of 90 days to draw driver, pedestrian, and bicyclist attention to the change in control. After this period, the signal can be removed if the data collected during the study period support removal of the signal. The poles and cables may remain in place, however, for up to a year while additional analysis continues.

KEY TO SUCCESS

Keys to success include determining the appropriate traffic control to be used after the removal of the signal and removing any sight distance restrictions through the intersection.

Pedestrian and bicycle movements through the intersection should be considered when determining traffic control, geometric changes, and signing improvements that will be made when the signal is removed.



Keeping the public informed about the traffic control removal study will also lead to the success of this strategy.

ISSUES

Right-angle crashes may increase after the signal is removed. Removal of the traffic signals could delay the flow of pedestrians and bicyclists through the intersection.

TIME FRAME ●○○○

Implementation time can vary, depending upon the extent and nature of public involvement.

COSTS ●○○○

Since implementation of this strategy requires removing traffic signals and replacing them with signs, its cost would be low. Costs would be attributed to the equipment needed for signal removal and temporary traffic control while implementing the new traffic control method.

EFFECTIVENESS

PROVEN: Removal of an unwarranted signal will eliminate excessive delay and disobedience of the signal indicators at the targeted intersections if these conditions exist because the signal is no longer needed. Signal removal should also decrease the use of inappropriate routes used by drivers in an attempt to avoid the traffic control signals and decrease the frequency of collisions (especially rear-end collisions).

One study found a decrease in annual average crash frequency of greater than one crash per year when intersections are converted to all-way stop control.

In 2005, a study reported that removing unwarranted signals may result in a 24% decrease in all crashes, a 53% decrease in injury crashes, a 24% decrease in right-angle crashes, and a 29% decrease in rear-end crashes.

COMPATIBILITY

Removal of traffic signals is typically done when studies show that traffic patterns have changed significantly. This strategy is not usually associated with any other strategies.

SUPPLEMENTAL INFORMATION

Highway agencies should review their traffic engineering and design policies regarding the removal of traffic signals to ensure that appropriate action is being taken.

Policy guidance regarding the removal of traffic signals is discussed in the *Manual on Uniform Traffic Control Devices*. The *MUTCD* should be consulted if agency policy has not incorporated the information from the *MUTCD*.

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

For more information contact:

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